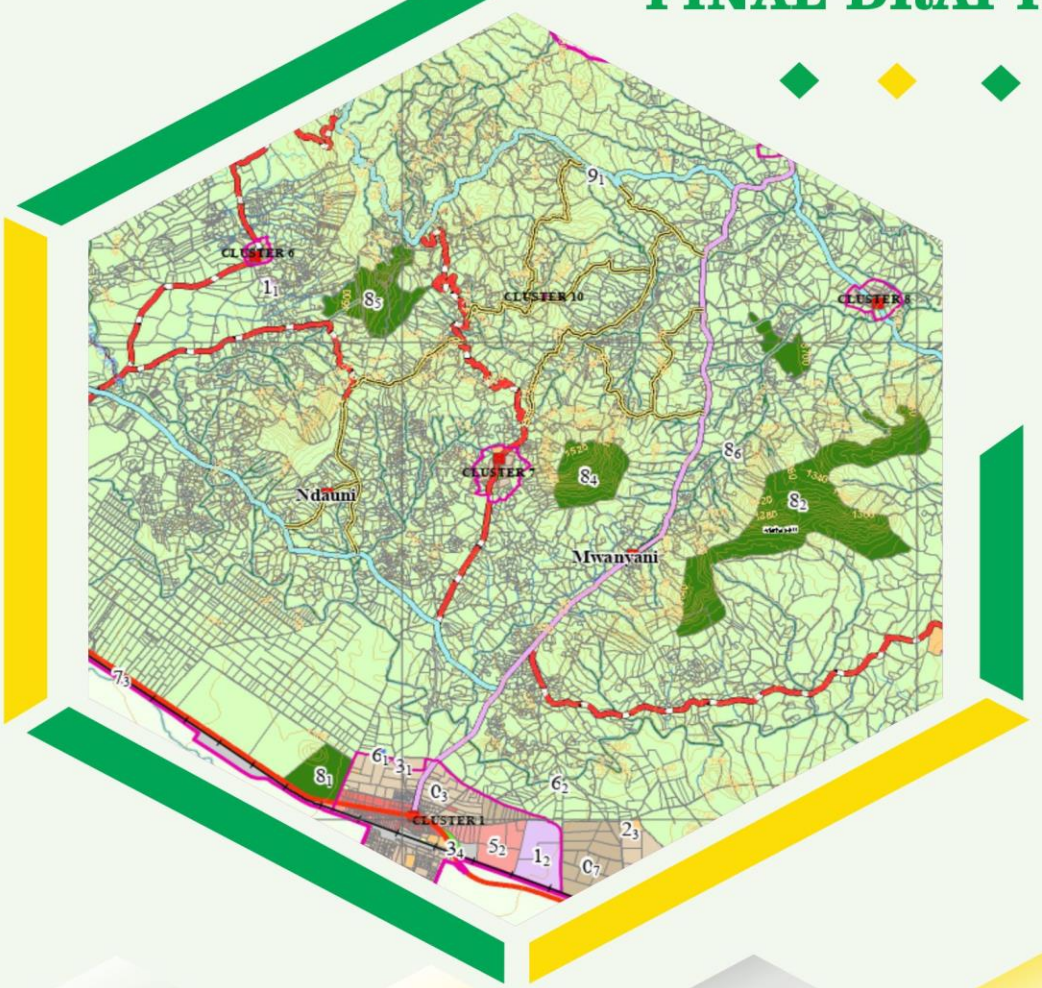
GOVERNMENT OF MAKUENI COUNTY

EMALI-SULTAN HAMUD MUNICIPALITY LOCAL PHYSICAL AND LAND USE DEVELOPMENT PLAN (2026 - 2035)

FINAL DRAFT PLAN



Certificate

I certify that the plan has been prepared and published as per the requirements of the County Government Act, 2012 (amended, 2020), Urban Areas and Cities Act, 2011 (amended, 2019), Physical and Land Use Planning Act No. 13 of 2019 and Planning Standards & Guidelines

……..... .....

Signed Date

Name: ……..

County Director in charge of Physical and Land Use Planning

Certified

CEC Member in charge of Physical and Land Use Planning

……..... .....

Signed Date

Name:

……..…….....

Approved

Government of Makueni County Assembly Hansard No…..…..... Date …….....

Endorsement

……..… .....

Signed Date

Name: …….……..…….....

H.E Governor, Makueni County

APPROVED PLAN No.....

Executive summary

The Emali -Sultan Hamud municipality local physical and land use development plan is a 10 year plan (2026-2035) that provides a spatial framework to promote coordinated development and ensure provision of adequate social and physical infrastructure. The plan was prepared in line with the constitution of kenya, 2010, county government act, 2012(amended, 2020) physical and land use planning act, 2019, urban areas and cities act, 2011 (amended, 2015) among other relevant frameworks. The plan was prepared through a consultative process from inception to final plan preparation engaging stakeholders through various methods such as workshops, focus groups discussions, key informant interviews and administration of questionnaires. This ensured all the aspirations of the stakeholders are incorporated in the plan. The plan has been categorized into seven chapters:

Chapter One: One provides the foundational context for the Emali–Sultan Hamud Municipality Local Physical and Land Use Development Plan (2026–2035) by outlining the background to the plan, its vision, objectives, scope, and guiding principles. The chapter further defines the geographical coverage of approximately 729.21 km² and underscores the planning principles of sustainability, inclusiveness, efficiency, resilience, and participatory development. It also briefly describes the methodology adopted in preparing the plan, setting the stage for the subsequent chapters that detail the situational analysis, spatial proposals, sectoral interventions and implementation framework.

Chapter Two outlines the planning context of the Emali–Sultan Hamud Municipality by situating it within the broader geographical, administrative and institutional framework. The municipality is located in Makueni County in the south-eastern region of Kenya, bordering Machakos County to the north, Kitui County to the east, Taita Taveta County to the south, and Kajiado County to the west. It lies along the strategic A109 Nairobi–Mombasa Highway and spans parts of Kilome, Kibwezi West, and Makueni Sub-Counties. Administratively, the municipality covers sections of Makueni, Kibwezi West, and Kilome Sub-Counties, encompassing the entirety of Kasikeu, Mbitini, and Emali/Mulala Wards, as well as portions of Nguu/Masumba and Nzaui/Kilili/Kalamba Wards. The chapter further highlights the key urban centres within the municipality that drive economic and social activities. It also reviews the relevant policy and legal framework guiding planning and development, and outlines the

stakeholder mapping and engagement processes undertaken to ensure inclusive, participatory and coordinated planning.

Chapter Three provides a comprehensive assessment of the existing conditions within the Emali–Sultan Hamud Municipality, forming the basis for informed planning and decision-making. The chapter examines the physical and natural environment, including topography, climate, soils, and natural resources, and their implications on land use and development. It further analyses the status of social services and amenities, with particular emphasis on the distribution, accessibility, and adequacy of educational facilities within the municipality. The chapter also evaluates the local economic development structure, highlighting key economic activities, growth sectors, and livelihood systems. In addition, it reviews the state of urban infrastructure and services, including transport, water supply, sanitation, energy, and waste management systems, identifying existing gaps and challenges. It also provides analyses on land, housing, and settlement patterns, focusing on land use dynamics, tenure systems, housing typologies, and emerging urbanization trends.

Chapter Four defines the spatial structuring framework and evaluates alternative development models to guide the future growth of the Emali–Sultan Hamud Municipality. The chapter identifies key structuring elements that influence spatial organization, including the road network hierarchy, cadastral boundaries and existing physical development plans, major urban centres and settlement patterns, and critical natural features such as rivers, topography, and environmentally sensitive areas. These elements form the basis for organizing land uses, infrastructure provision, and development control. The chapter further analyses and compares various development models, including the linear development model aligned along transport corridors, the radial model centred on major urban nodes, and the compact/densification model aimed at optimizing land use efficiency and service delivery. Based on technical evaluation and local context, the integrated development model is adopted as the preferred scenario, promoting a balanced approach that enhances connectivity, supports nodal growth, encourages densification in strategic areas, and ensures sustainable utilization of land and environmental resources.

Chapter Five outlines the detailed spatial framework for guiding land use allocation and development within the Emali–Sultan Hamud Municipality. It presents key design considerations including urban nodes, environmental protection and riparian buffer zones, transport and development corridors, stormwater drainage systems, urban support

infrastructure, economic activity areas, infrastructure and service networks, eco-tourism and recreational spaces, and defined land use zones. The chapter further provides localized physical and land use development plans for market centres, together with development guidelines for residential and commercial land uses to ensure orderly growth, environmental sustainability, and efficient service provision.

Chapter Six outlines sector-specific development strategies and the implementation framework for guiding coordinated delivery of the plan, covering physical infrastructure, social infrastructure, local economic development, agricultural development promotion, sanitation, environmental conservation, urban disaster and risk management, and housing and urban planning

Chapter Seven presents the Capital Investment Plan (CIP), which identifies, prioritizes, and phases key infrastructure and development projects derived from the strategies outlined in Chapter Six. It provides a structured framework for resource mobilization, budgeting, and allocation of investments to support the implementation of priority interventions that enhance service delivery, promote sustainable urban growth, strengthen economic development, and improve environmental management within the municipality.

Chapter Eight outlines the framework for implementation, monitoring, and evaluation of the plan, focusing on monitoring and evaluation concepts, as well as data collection, analysis, and reporting mechanisms

TABLE OF CONTENT

LIST OF TABLES x
LIST OF MAPS xi
LIST OF PLATES xii
CHAPTER ONE: INTRODUCTION 1
1.1 Background of the Plan 1
1.2 Vision Statement 1
1.3 Objectives 1
1.3.1 Specific Objectives 2
1.4 Scope of the Plan 2
1.5 Principles of the Plan 2
1.6 Execution Methodology 3
CHAPTER TWO: PLANNING CONTEXT 6
2.1 Location 6
2.2 Administrative Structure 9
2.2.1 Area Coverage by the Sub-County Administrative Units 9
2.2.2 Area Coverage by the Ward Administrative Units 10
2.2.3 Urban Centres within the Municipality 11
2.3 Policy and Legal Framework 13
2.3.1 Policy Framework 13
2.3.1.1 Sustainable Development Goals, 2015 13
2.3.1.2 The Kenya Vision 2030, 2008 14
2.3.1.3 Urban Land Use Planning and Oversight Guidelines (National Land Commission) - 2016 15
2.3.1.4 National Land Use Policy, 2017 15
2.3.1.5 National Spatial Plan 2015 – 2045 (NSP), 2017 15
2.3.1.6 The National Land Policy, Sessional Paper No. 3 of 2009 16
2.3.1.7 National Housing Policy, Sessional Paper No.3 of 2004 16
2.3.1.8 Integrated National Transport Policy, 2012 17
2.3.1.9 Poverty Reduction Strategy Paper (PRSP), 2005 17
2.3.1.10 The National Urban Development Policy (NUDP) (Sessional Paper, 16, 2016) 17
2.3.2 Legal Frameworks 17
2.3.2.1 The Constitution of Kenya, 2010 18
2.3.2.2 County Governments Act, No 17 of 2012 (Amended, 2020) 18
2.3.2.3 Urban Areas and Cities Act, No. 13 of 2011 (amended, 2019) 19

2.3.2.4 Physical and Land Use Planning Act, No. 13 of 2019 19
2.3.2.5 Land Act No.6 of 2012 (amended 2016) 19
2.3.2.6 Environmental Management and Coordination Act (EMCA) CAP 387 of 1999, (amended, 2015). 20
2.3.2.7 Water Act, CAP 372 of 2016 20
2.3.2.8 Survey Act CAP 299 (Revised Edition 2012 [2010]) 21
2.3.2.9 Public Health Act, Cap 242 (Revised Edition 2012 [1986]) 21
2.3.3 Municipal Spatial Plan Linkages to County Government Documents 22
2.4 Stakeholder Mapping and Engagement 31
2.4.1 Importance of Public Participation 31
2.4.2 Role of Stakeholders 31
2.4.3 Stakeholder Analysis and Engagement Process 32
2.4.4 Stakeholders concerns 38
CHAPTER THREE: SITUATIONAL ANALYSIS 39
3.1 Overview 39
3.2 Physical and Natural Environment 39
3.2.1 Climatic Conditions 39
3.2.2 Topography and Slope 40
3.2.3 Hydrology and Drainage 41
3.2.4 Soil Characteristics 43
3.2.5 Agro-ecological zones 45
3.2.6 Vegetation 47
3.2.7 Emerging Issues 48
3.3 Socio - Economic Characteristics 50
3.3.1 Population Size 50
3.3.2 Municipality Social Services and Amenities 52
3.3.3 Municipality Local Economic Development 73
3.4 Urban Infrastructure and services 84
3.4.1Transport 84
3.4.2 Parking Lots 89
3.4.3 Storm Water Drainage 90
3.4.4 Non-Motorized Transport 91
3.4.5 Water Supply 91
3.4.6 Sanitation 95
3.4.7 Energy 98
3.4.8 Streetlights and flood lights 99

3.4.9 Information and Communication Technology 101
3.5 Land, Housing and Settlement 101
3.5.1 Land Tenure 101
3.5.1 Land Use and Urbanization Trend 104
3.5.2 Housing Characteristics 107
3.5.3 Emergence of Informal Settlements 109
CHAPTER FOUR: STRUCTURING ELEMENTS AND DEVELOPMENT MODELS 111
4.1 Overview 111
4.2 Structuring Elements 111
4.2.1 Road Networks 111
4.2.2 Cadastral Boundaries and Existing Physical Development Plans 113
4.2.3 Major urban centers and settlement patterns 115
4.2.4 Natural features 117
4.3 Development Models 119
CHAPTER FIVE: DETAILED LAND USE PLAN 123
5.1 Overview 123
5.2 Design Considerations for the Detailed Land Use Plan 123
5.2.1 Urban Nodes 123
5.2.2 Environmental Protection and Riparian Buffer Zones 124
5.2.3 Transport and Development Corridors 126
5.2.4 Storm Water Drainage 130
5.2.5 Urban Support Infrastructure 130
5.2.6 Economic Activities 132
5.2.7 Infrastructure and Service Networks 134
5.2.8 Eco-Tourism and Recreational Areas 134
5.2.9 Land Use Zones 135
5.3 Local Physical and Land Use Development Plans for Market Centres 141
5.3.1 Mutyambua Market Centre 141
5.3.2 Kima Junction Market Centre 144
5.3.3 Kyeeko Market Centre 146
5.3.4 Kikumini Market Centre 148
5.3.5 Mulala Market Centre 151
5.3.6 Review and Adoption of the Proposals from the Previous Local Physical and Land Development Plan 154
5. 4 Development Guidelines 159
5.4.1 Residential Land Use Development Guidelines 159

5.4.2 Commercial Land Use Development Guidelines 161
5.4.3 Industrial Land Use Development Guidelines 164
CHAPTER SIX: DEVELOPMENT STRATEGIES AND IMPLEMENTATION FRAMEWORK. 166
6.1 Overview 166
6.2 Physical Infrastructure 166
6.3 Social Infrastructure 186
6.4 Local Economic Development 194
6.5 Agriculture Development Promotion Strategies 199
6.6 Sanitation 202
6.7 Environmental Conservation 207
6.8 Urban Disaster and Risk Management 211
6.9 Housing and Urban Planning 213
CHAPTER SEVEN: CAPITAL INVESTMENT PLAN 218
CHAPTER EIGHT: IMPLEMENTATION, MONITORING AND EVALUATION 225
8.1 Overview 225
8.2 Monitoring and Evaluation Concepts 225
8.3 Data Collection, Analysis and Reporting 226
8.4 Municipality Monitoring and Evaluation System (MMES) 226
References 227
Appendix 1: Previous Local Physical and Land Use Development Plans 228

LIST OF TABLES

Table 1: Area Coverage by the Sub-County Administrative Units 9
Table 2: Area Coverage by the Ward Administrative Units 10
Table 3: Urban Centres within the Municipality 11
Table 4: Stakeholder Engagement Matrix 33
Table 5: Climatic Analyses 39
Table 6: Soil Characteristics 44
Table 7: Agro-Ecological Zone Description 46
Table 8: Municipality Population-2019 51
Table 9: Municipality Population Projection 51
Table 10: Municipality Population Density 52
Table 11: Number of learning institutions in the municipality 52
Table 12: Comprehensive schools Land Requirement 55
Table 13: Land Requirement for Secondary Schools 60
Table 14: Tertiary Institutions within the Municipality 63
Table 15: Educational Facilities Requirement 64
Table 16: Health Facilities Requirement 69
Table 17: Health Facilities and Land Requirement within the Municipality 70
Table 18: Markets within the Municipality 78
Table 19: Emerging Issues per Local Economic Development 82
Table 20: Bus Termini within the Municipality 87
Table 21: Matatu Saccos Municipality 88
Table 22: Designated Boda Boda Sheds within the Municipality 89
Table 23: Municipality Population Projection 95
Table 24: Waste Collection Status in Urban Centres 96
Table 25: Source of energy for cooking and lighting 98
Table 26: Number of Streetlights in Urban Centres 100
Table 27: Number of Floodlights in Urban Centres 101
Table 28: Existing Municipality Land Use Budget Percentages 102
Table 29: Major Urban Centres Growth Dynamics, Land Use Patterns and Infrastructure Constraints 105
Table 30: Average Monthly Rental Rates 108
Table 31: Land use zone codes and colors 123
Table 32: Transport Network Hierarchy and Planning Interventions 127
Table 33: Land Use Clusters and Coverage 135
Table 34: Detailed Land Use Plan Budget 136
Table 35: Proposed Land use 137
Table 36: Land Use Zone 141
Table 37: Land Use Zone 144
Table 38: Kyeeko Market Centre Land Use Zone 146
Table 39: Kikumini Market Centre Land Use Zone 148
Table 40: Mulala Market Centre Land Use Zone 151
Table 41: Sultan -Hamud Town Proposed Land Uses 154
Table 42: Standard Residential Plot Sizes 159
Table 43: Proposed Residential Building Line 159
Table 44: Residential Land Use Development Guidelines 160
Table 45: Proposed Commercial Building Line 161
Table 46: Commercial Land Use Development Guidelines 162
Table 47: Industrial Land Use Development Guidelines 164

Table 48: Physical Infrastructure Improvement Strategies and Implementation Framework 167
Table 49: List of Water Pans to be rehabilitated 183
Table 50: List of boreholes to be rehabilitated 184
Table 51: Social Infrastructure Improvement Strategies and Implementation Framework 186
Table 52: Local Economic Development Strategies and Implementation Framework 195
Table 53: Agriculture Development Promotion Strategies and Implementation Framework 199
Table 54: Sanitation Improvement Strategies and Implementation Framework 202
Table 55: Environmental Conservation Strategies and Implementation Framework 208
Table 56: Urban Disaster and Risk Management and Implementation Framework 212
Table 57: Housing and Urban Planning Strategies and Implementation Framework 214
Table 58: Capital Investment Plan 218

LIST OF MAPS

Map 1: National and Regional context 7
Map 2: Local Context 8
Map 3: Sub-County Context 9
Map 4: Ward Context 10
Map 5: Urban Centres within the Municipality 12
Map 6: Contour Map 40
Map 7: Triangular Irregular Network 41
Map 8: Hydrology and Drainage Map 43
Map 9: Soil Characteristics 45
Map 10: Agro-Ecological Zone 47
Map 11: ECDE Accessibility Index 54
Map 12: Comprehensive School Accessibility Index 59
Map 13: Comprehensive School Accessibility Index 62
Map 14: Level 4 Health Facilities Accessibility Index 66
Map 15: Level 3 Health Facilities Accessibility Index 67
Map 16: Level 3 Health Facilities Accessibility Index 68
Map 17: Existing Road Network 85
Map 18: Municipality Water Sources 94
.Map 19: Municipality electricity network 99
Map 20: Municipality Existing Land Use 103
Map 21: Settlement Pattern 104
Map 22: Existing Transportation Network 112
Map 23: Cadastral Boundaries and Existing Physical Development Plans 114
Map 24: Major urban centers and settlement patterns 116
Map 25: Major urban centers and settlement patterns 118
Map 26: Environmental Conservation Areas 125
Map 27: Proposed Transportation Plan 129
Map 28: Economic Activities 133
Map 29: Municipality Local Physical and Land Use Development Plan 140
Map 30: Mutyambua Market Centre Local Physical and Land Use Development Plan 143
Map 31: Kiima Junction Market Centre Local Physical and Land Use Development Plan 145
Map 32: Kyeeko Market Centre Local Physical and Land Use Development Plan 147
Map 33: Kikumini Market Centre Local Physical and Land Use Development Plan 150
Map 34: Mulala Market Centre Local Physical and Land Use Development Plan 153

LIST OF PLATES

Plate 1: Public Engagement Forums 37
Plate 2: Stakeholder Engagement Forums 38
Plate 3: Rivers within the Municipality 42
Plate 4: Soil Erosion 50
Plate 5: Akamba Cultural Centre and Museum 72
Plate 6: Livestock Production Systems (Cattle & Goats) 74
Plate 7: Some of the Formal Commercial Activities in the municipality 77
Plate 8: Some of the financial institutions in the municipality 77
Plate 9: Emali Market 79
Plate 10: Designated Jua Kali Sites in the municipality 80
Plate 11: Slaughter house in the municipality – Emali Town 81
Plate 12: SGR Emali Terminus 86
Plate 13: Emali Bus Terminus 88
Plate 14: Existing Lorry Park –Sultan Hamud Plate 15: Lorry parking inn undesignated parking lots 90
Plate 16: Poor Storm water drainage channels 91
Plate 17: Solid waste management at Emali Bus stage 97
Plate 18: Poor waste management at Kavuthu urban centre 97
Plate 19: Open dumping site at Kambi Somali in emali 98
Plate 20: Streetlights 100
Plate 21: Urban housing typology 108

CHAPTER ONE: INTRODUCTION

1.1 Background of the Plan

The Emali–Sultan Hamud Municipality Local Physical and Land Use Development Plan (2026-2035) has been prepared in accordance with the provisions of the Constitution of Kenya, 2010; the County Governments Act, 2012 (as amended in 2022); the Physical and Land Use Planning Act, No. 13 of 2019; and the Urban Areas and Cities Act, No. 13 of 2011 (as amended in 2019).

The Municipality of Emali–Sultan Hamud was formally established through the granting of a Municipal Charter, following approval by the County Assembly of Makueni and assent by H.E. the Governor of the Government of Makueni County on 20th December 2022, in line with the provisions of the Urban Areas and Cities Act (2011, as amended in 2019). This confers legal status to the municipality as an urban governance unit with defined planning and administrative functions.

In line with the above legislative framework, the plan provides a strategic and statutory basis for guiding the spatial growth and development of the municipality. It seeks to address emerging urban challenges, including rapid population growth, informal developments, inadequate infrastructure, and environmental degradation. The plan further establishes a framework for development control, investment planning, and the coordinated implementation of projects, thereby promoting sustainable, inclusive, and well-managed urban development within Emali–Sultan Hamud Municipality.

1.2 Vision Statement

The Municipality's Vision is "**A well-planned, economically resilient, and green municipality with a high quality of life**," which was developed through a consultative and participatory process involving key stakeholders, including residents, government agencies, the private sector, and community organizations. The vision reflects the collective aspirations of the people of Emali–Sultan Hamud Municipality for sustainable urban development, improved livelihoods and enhanced environmental stewardship.

1.3 Objectives

The main objective of this plan is to prepare a GIS-based Local Physical and Land Use Development Plan for Emali–Sultan Hamud Municipality to guide spatial growth and development in a coordinated, sustainable and integrated manner.

1.3.1 Specific Objectives

- To develop a comprehensive spatial planning framework that promotes economic growth and investment within the municipality.
- To enhance efficient, transparent, and accountable management of municipal affairs.
- To establish governance mechanisms that facilitate public participation in decision-making on social services and regulatory frameworks.
- To harness and promote available development opportunities while ensuring public order and the provision of adequate civic amenities to improve the quality of life.
- To ensure cost-effective provision of high-quality social and physical infrastructure services to residents.
- To promote social cohesion, civic responsibility and stakeholder collaboration towards building a harmonious and stable community.
- To provide and improve service delivery across all sectors for the benefit of the municipality.
- To foster sustainable economic, social, and environmental development within the municipality.

1.4 Scope of the Plan

The plan covers the entire Municipality measuring approximately 729.21 KM2. The plan provides a comprehensive framework for guiding spatial development and land use management within the municipality. The scope of the plan includes the preparation of the following key outputs:

- A GIS-based Local Physical and Land Use Development Plan for Emali–Sultan Hamud Municipality.
- A Structure Plan to guide the overall spatial organization and growth of the municipality
- Sectoral development strategies covering major thematic areas such as infrastructure, environment, housing and economic development.
- A comprehensive GIS database to support planning, monitoring, and decision-making
- A Capital Investment Plan (CIP) to prioritize projects and guide resource allocation and implementation over the planning period.

1.5 Principles of the Plan

The Emali-Sultan Hamud Municipality Local Physical and Land-Use Development Plan is guided by the following principles:

- **Sustainability** – The plan guides development to minimize environmental degradation, protect natural resources, and promote long-term economic growth that does not compromise future generations. For example, it zones sensitive ecological areas for conservation while directing urban growth to less vulnerable areas.
- **Equity and Inclusiveness** – The plan ensures that all residents, including marginalized groups, women, and youth, have access to land, basic services, and development opportunities. This is achieved through inclusive consultations and planning for social amenities in all neighborhoods.
- **Efficiency** – Land use is optimized by clearly designating zones for residential, commercial, industrial, and agricultural purposes. This reduces conflicts between competing uses and ensures infrastructure and services are effectively delivered.
- **Resilience** – The plan incorporates climate adaptation and disaster risk reduction measures, such as floodplain management, climate-smart agriculture zones, and resilient infrastructure design, to reduce vulnerability to hazards.
- **Participatory Planning** – Communities and stakeholders were actively engaged in the planning process through workshops, public hearings, and feedback mechanisms, ensuring that local needs and priorities shape development decisions.

1.6 Execution Methodology

The plan was developed through a consultative process involving all categories of stakeholders and in accordance with the Physical and Land Use Planning Act, 2019, as well as the guidelines of the National Land Commission. The preparation followed a structured approach comprising the following key steps:

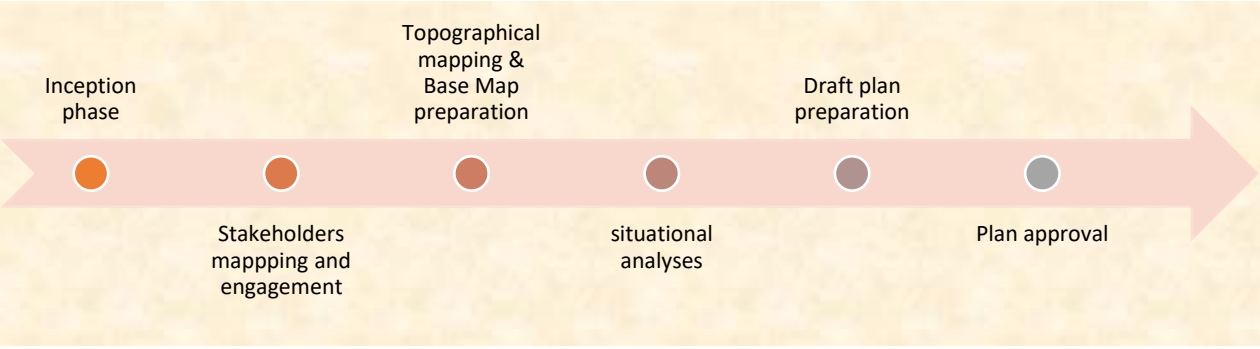


Figure 1: Summarized Execution Methodology

Inception phase- During this phase, a commencement meeting was held to discuss the modalities of engagement and communication channels, which were agreed upon by all parties. An inception report was prepared detailing the execution methodology, work plan, project objectives, and scope. The report was presented to the technical supervisory team for validation.

Stakeholders mapping and engagement – Stakeholder identification and analysis were undertaken through a consultative process involving the Municipal Manager and the municipality planners. Stakeholders were categorized into primary and secondary groups based on their roles. Key stakeholders included: Municipal Manager, Municipality Board Members, Municipality Officials, County Government Officials, National Government Representatives, Kenya Power Limited Company (KPLC), market representatives, farmers, business community members, community members, farmer representatives, matatu and boda boda representatives, youth, and women representatives. A stakeholder awareness and sensitization workshop was conducted on February, 2026 to inform participants about the importance of the project and their role in its successful implementation.

Topographical mapping & Base Map preparation – This phase involved the acquisition of high-resolution satellite imagery, Registry Index Maps (RIMS), previous development plans, and market layouts. These datasets were georeferenced and digitized. Ground surveys were conducted to capture features not visible in the imagery, such as social and physical infrastructure. The collected and georeferenced layers were overlaid to produce the base map, which included: cadastral layers, social and physical infrastructure, terrain, vegetation, power lines, and buildings. The base map served as the foundation for the formulation of development proposals.

Situational Analyses – A detailed field survey was conducted to collect thematic data on the environment, socio-economic conditions, and social and physical infrastructure. Data collection methods included: key informant interviews, administration of questionnaires using KoboCollect, focus group discussions, and participatory mapping. The collected data informed the situational analysis findings, highlighting existing conditions, challenges, and opportunities for development.

Draft plan preparation – This phase involved synthesizing the findings from the situational analyses to formulate alternative development scenarios, sectoral development strategies, and planning proposals. Development standards and guidelines were established to guide future land use and infrastructure development within the municipality. The plan was presented to the stakeholders on 9th April 2026 for comments and validation. The same was presented to municipal board members and to the members of county assesmbly on 10th April 2026 for ccomments. The comments were incorporated to form the final draft plan. The plan will be published in the Kenya gazette and two widely circulated newspaper and circulated to the relavnt government agencies for wider stakeholder's comments. All the comments from the circulation and gazettement will be incorporated to form the final plan.

Plan approval – through the County Executive Committee Member in charge of Physical Planning and Land Use Planning the final plan will be submit to the County Assembly for approval, and thereafter forwarded to the H.E. the Governor of Makueni County for endorsement.

CHAPTER TWO: PLANNING CONTEXT

2.1 Location

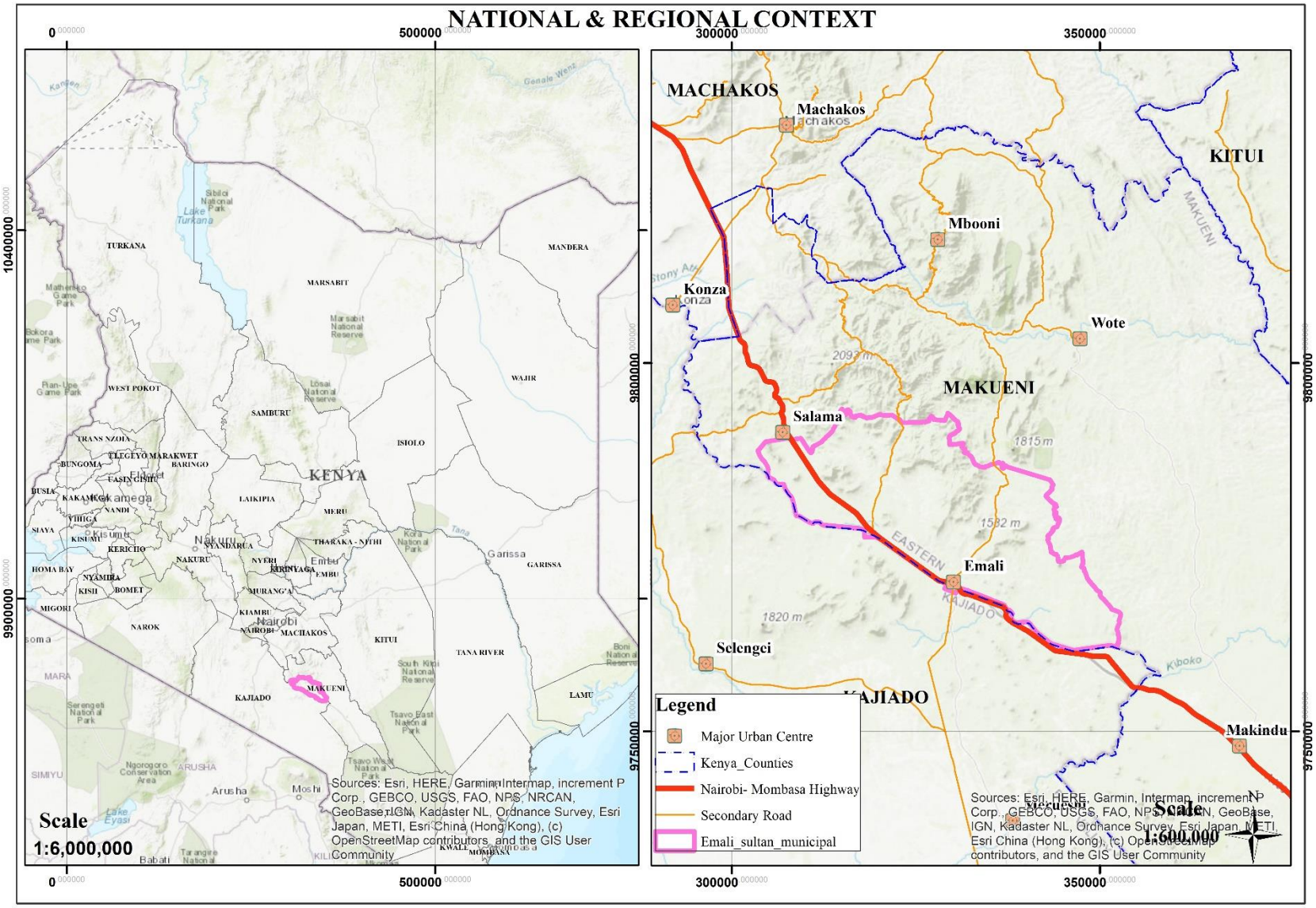
The Emali-Sultan Hamud Municipality is located within Makueni County which is situated in the Southern-Eastern part of the country bordering Machakos County to the North, Kitui County to the East, Taita Taveta County to the South and Kajiado County to the West. It lies along the A109, that is, the Nairobi-Mombasa Highway partially covering Kilome, Kibwezi and Makueni Sub-Counties. The Nairobi-Mombasa Highway is a primary distributor connecting two major cities in Kenya, Nairobi, Kenya's capital and largest City and Mombasa, the country's largest port city and also plays a regional role of connecting the country to the East African Region.

The municipality also connects to Tanzania through the Emali-Loitoktok Road (C102). The standard Gauge Railway also play a key role in the growth and development of the Municipality and especially from the influence of the Emali SGR station. Therefore, the Emali-Sultan Hamud municipality is strategically located and if well planned it could contribute greatly to the economic growth of the region and the country at large. In terms of Urban development, the Makueni CSP identifies Emali among the major urban centres in Makueni County.

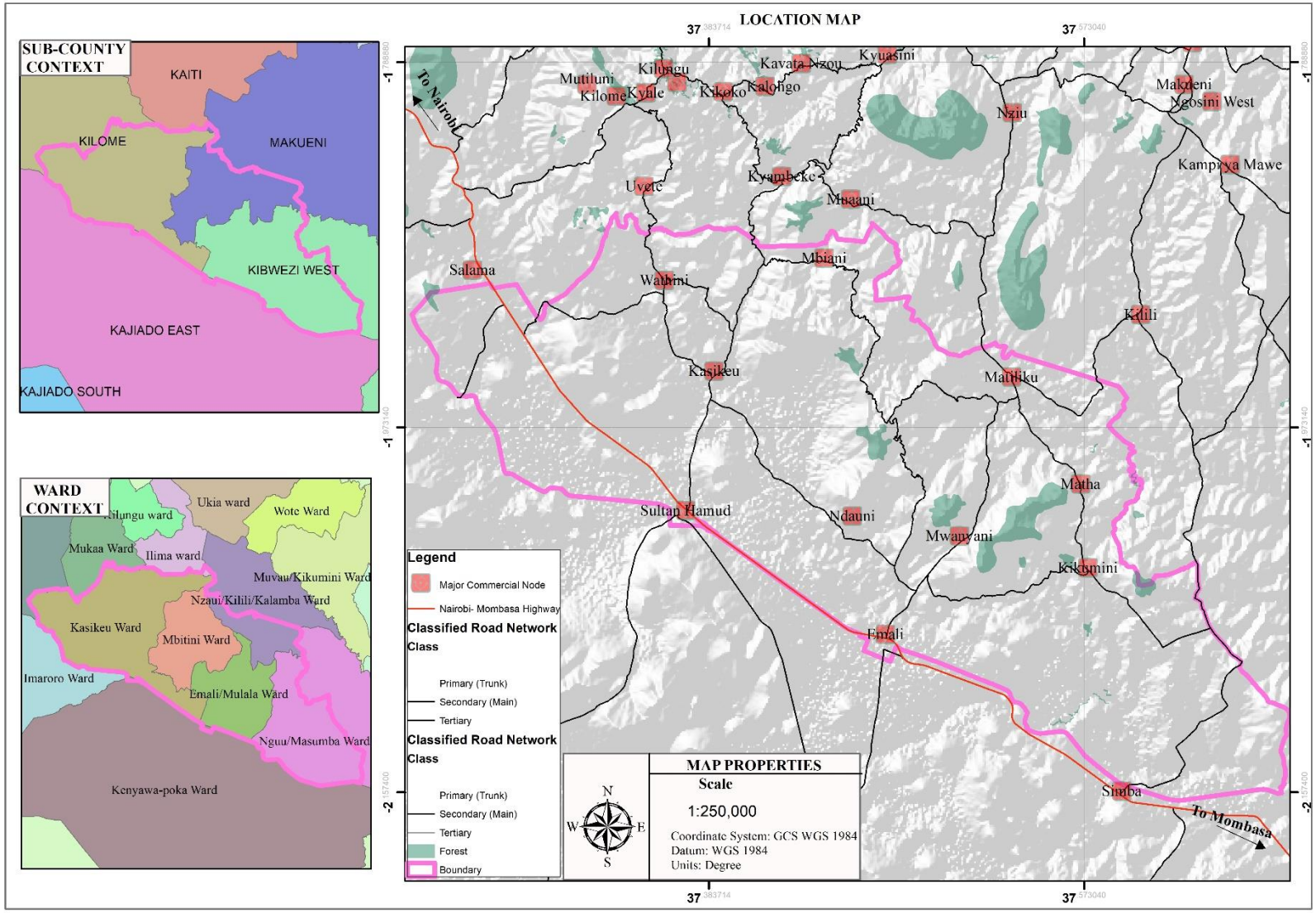
Regionally, the municipality connects to Machakos County via the Nairobi-Mombasa Highway (A8) and Emali-Ukia road (C99) and to Kitui County via the Nairobi-Mombasa Highway through Emali to Kibwezi and Kibwezi -Kitui Road. In the Makueni County context, the municipality is designated as an Industrial Zone[1] and therefore this plan would seek to enhance this function.

The maps below shows the municipality's national, regional and local context

[1] Makueni County Spatial Plan 2019-2029 on desired structure of economic functions



Map 1: National and Regional context



Map 2: Local Context

2.2 Administrative Structure

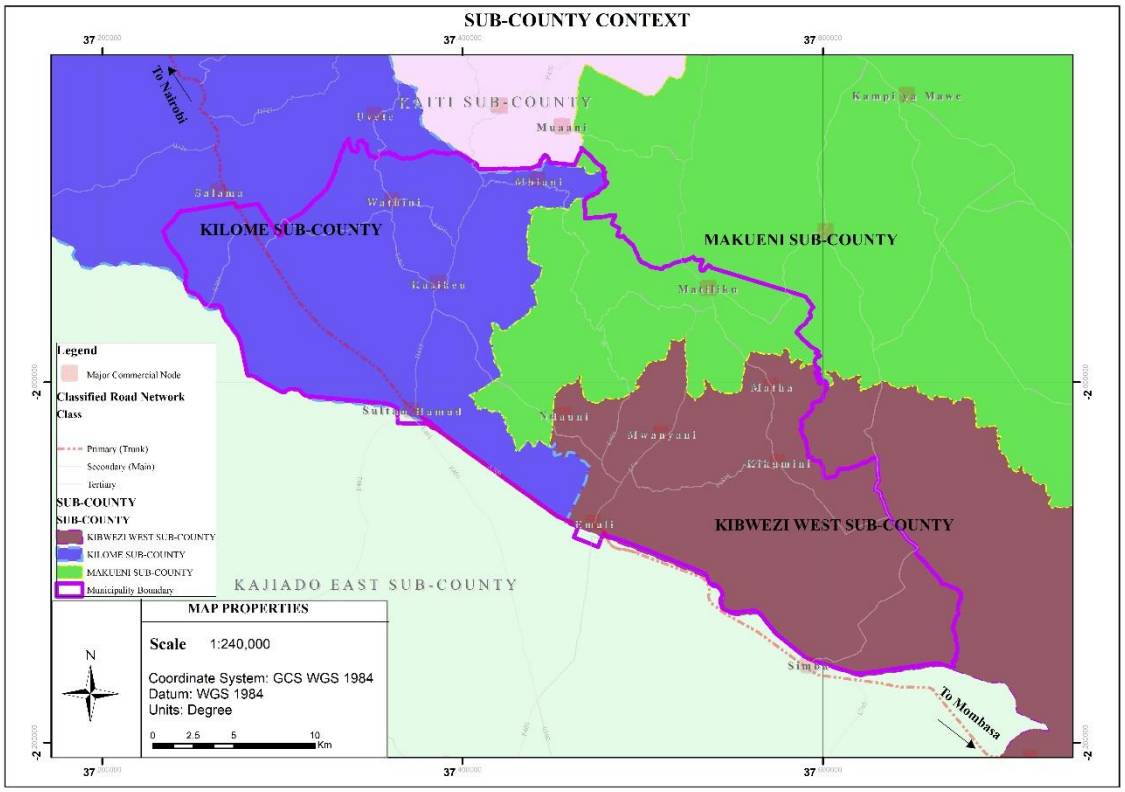
2.2.1 Area Coverage by the Sub-County Administrative Units

The municipality covers sections of makueni, kibwezi west and kilome sub-county as demonstrated in the table and map below:

Table 1: Area Coverage by the Sub-County Administrative Units

Sub-county	Total area of the sub-county in square kilometer	Area within the municipality	%age coverage contributing to municipality
Makueni Sub-County	1543.492	152.24	20.88
Kibwezi West Sub-County	1715.28	275.7	37.81
Kilome Sub-County	803.785	301.27	41.31
		729.21	100.00

The table illustrates that **Kilome Sub-County contributes the largest proportion** of area to the municipality, followed by Kibwezi West and Makueni Sub-Counties. This delineation provides a framework for administrative management, spatial planning and resource allocation across the municipal jurisdiction.



Map 3: Sub-County Context

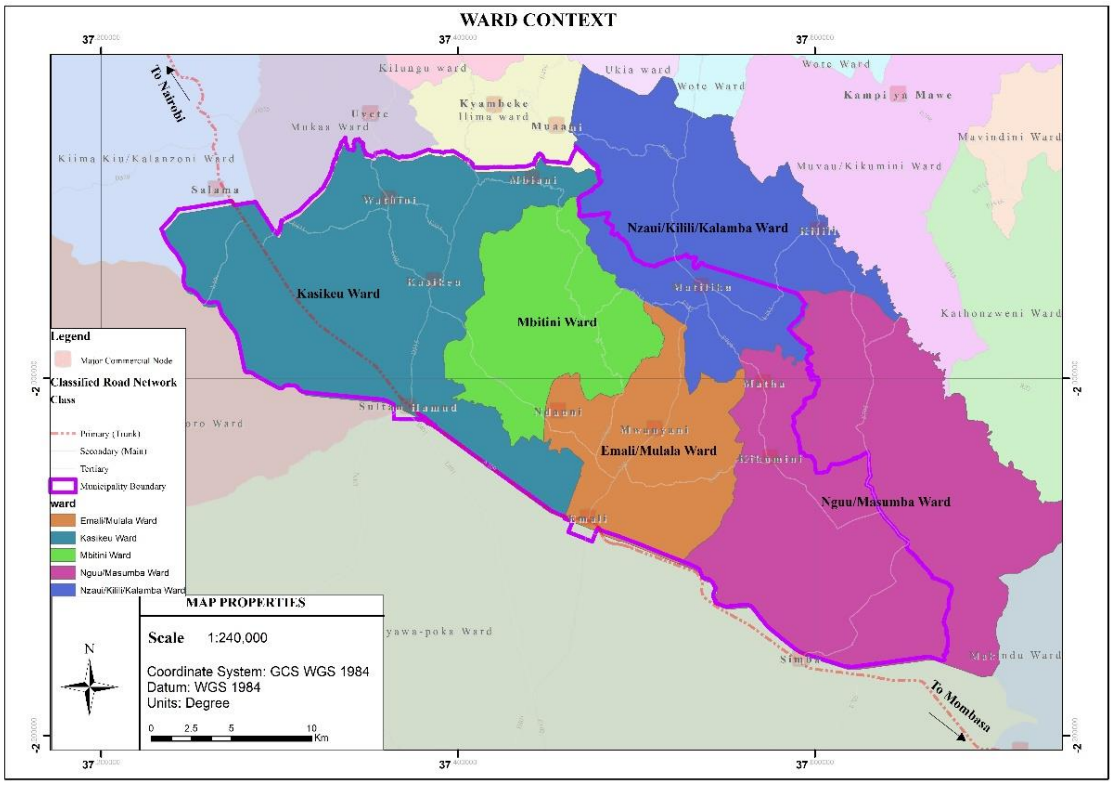
2.2.2 Area Coverage by the Ward Administrative Units

The municipality covers the entire Kasikeu, Mbitini, and Emali/Mulala Wards, as well as sections of Nguu/Masumba and Nzaui Kilili Kalamba Wards as demonstrated in the table and map below:

Table 2: Area Coverage by the Ward Administrative Units

Wards	Total area of ward in square kilometres	Area within the municipality	%age coverage contributing to municipality
Kasikeu	268.37	268.37	36.80
Mbitini	115.74	115.74	15.87
Nzaui/Kilili/Kalamba	197.6	60.67	8.32
Nguu/Masumba	349	169.48	23.24
Emali/Mulala	114.95	114.95	15.76
Total		729.21	100.00

The table highlights that **Kasikeu Ward constitutes the largest proportion of the municipality's area**, followed by Nguu/Masumba, Mbitini, and Emali/Mulala Wards. This ward-level breakdown provides a technical basis for administrative management, spatial planning, and prioritization of service delivery across the municipal jurisdiction.



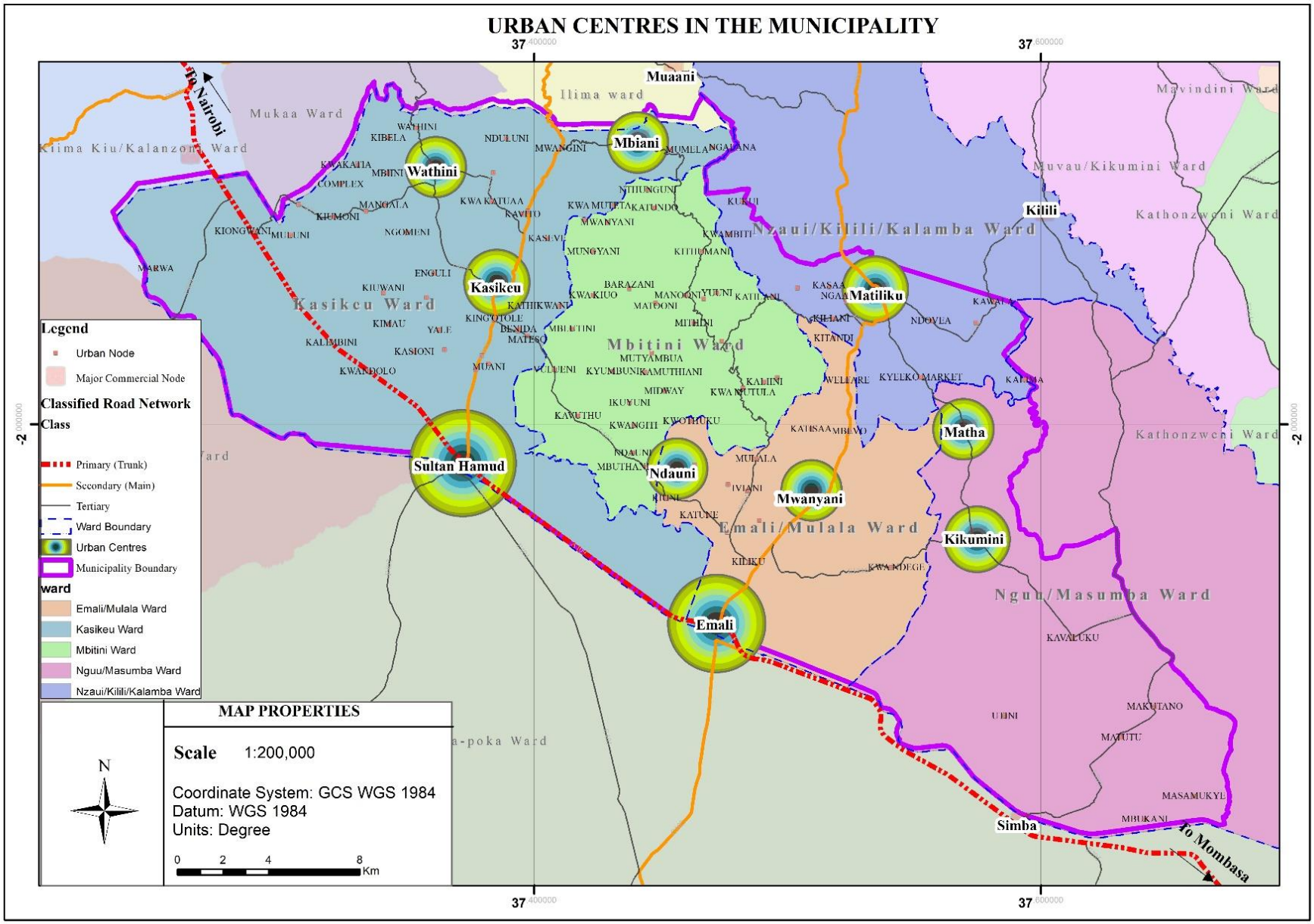
Map 4: Ward Context

2.2.3 Urban Centres within the Municipality

A total of 110 urban centres are distributed across the Municipality's wards and sub-counties. These centres function as key nodes for settlement, economic activities, and service delivery, and their spatial distribution provides a critical basis for guiding infrastructure development, service provision, and resource allocation. An analysis of the urban centres by sub-county and ward is presented in the table below, while their spatial distribution is illustrated in the accompanying map. In terms of planning status, only four urban centres Emali, Sultan Hamud, Matiliku and Kasikeu have been planned. The majority of the centres remain unplanned, highlighting existing gaps in spatial planning and the need for targeted interventions to guide orderly development, optimize land use, and support sustainable urban growth.

Table 3: Urban Centres within the Municipality

Sub-County	Ward	No. of Urban Centre
Kilome	Kasikeu	52
Sub Total (1)		**52**
Makueni	Mbitini	15
	Nzaui/Kilili/Kalamba	14
Sub-Total (2)		**29**
Kibwezi West	Emali/Mulala	19
	Nguu/Masumba	10
Sub-Total (3)		**29**
Total (Sub total (1) + Sub-Total (2) + Sub-Total (3))		**110**



Map 5: Urban Centres within the Municipality

2.3 Policy and Legal Framework

2.3.1 Policy Framework

The preparation of this Local Physical and Land Use Development Plan was guided by relevant national, regional, and sectoral policy frameworks that provide direction on spatial planning, land management and sustainable development.These policy instruments establish the overarching principles for coordinated development, environmental management and socio-economic transformation within the municipality.

2.3.1.1 Sustainable Development Goals, 2015

The Sustainable Development Goals (SDGs) were formulated to build upon and replace the Millennium Development Goals (MDGs) whose time elapsed in 2015. SDGs are universal and are to be applied in both developed and developing countries for sustainability. However, different countries have different ambitions and goals depending on their challenges and priorities. The following are the goals relevant to this study: Ending poverty (SDG 1); eradicating hunger (SDG 2); Attaining good health, Well-being and quality education (SDG 3 and 4 respectively); Curbing inequality of all forms, be it gender based or within and among countries (SDG 5); Ensuring sustainable management of water and sanitation (SDG 6); Availing reliable and sustainable energy (SDG 7); To achieve a sustainable economic growth (SDG 8); Building resilient and sustainable infrastructure (SDG 9); Sustainable cities and communities (SDG 11) and finally Protect, restore and promote sustainable use of terrestrial ecosystems by managing forests, combating desertification, reversing land degradation and halting biodiversity loss (SDG 15).

The plan will help in alleviating poverty in the municipality through the implementation of the proposed local economic and investment strategies. These strategies are based on local opportunities and the strengths of the Municipality. They will not only reduce poverty levels but also help stimulate growth, attract investment and generate employment for the Municipality's populace.

The plan will in addition help in attaining the other aforementioned goals like ensuring sustainable water management and sanitation as well as restoring and promoting sustainable use of terrestrial ecosystems through the formulated environmental management plans.

The goals of achieving healthy lives and promoting quality and inclusive education will be attained through implementation of the proposals made to improve health and education sectors in the Municipality.

2.3.1.2 The Kenya Vision 2030, 2008

Kenya Vision 2030 is the country's long-term development blueprint aimed at transforming Kenya into a newly industrializing, middle-income country providing a high quality of life to all citizens by the year 2030. The Vision is anchored on three key pillars: economic, social, and political.

- The **economic pillar** targets the attainment of a sustained GDP growth rate of 10% per annum through strategic investments and economic diversification.
- The **social pillar** seeks to promote a just, cohesive, and equitable society within a clean and secure environment.
- The **political pillar** focuses on establishing a democratic system grounded in the rule of law, protection of rights, and good governance.

The Vision identifies infrastructure development as a key enabler of growth, including the expansion and integration of transport systems, water and sanitation services, energy supply, and ICT infrastructure. It also emphasizes environmental sustainability as a prerequisite for long-term socio-economic development.

Under the **Fourth Medium-Term Plan (MTP IV) 2023–2027**, the implementation of Vision 2030 prioritizes economic transformation, inclusive growth, climate resilience, and sustainable urbanization. The MTP IV underscores the need for integrated spatial planning, development of sustainable urban centres, and provision of adequate and affordable housing to accommodate a rapidly urbanizing population.

The Vision projects that approximately 50% of Kenya's population will be urbanized by 2030, necessitating proactive planning to support orderly urban growth, efficient land use, and improved service delivery. The preparation of this plan is therefore aligned with the strategic priorities of Kenya Vision 2030 and its Medium-Term Plan (2023–2027), particularly in promoting integrated spatial development, infrastructure investment, environmental management, and sustainable urban development within the municipality.

2.3.1.3 Urban Land Use Planning and Oversight Guidelines (National Land Commission) - 2016

These guidelines provide a legitimate basis for engagement between County Government and the National Land Commission with regard to monitoring and overseeing Urban Land Use Planning and specifically provide direction on:

- The process of preparing, approving and implementing Urban Land Use Plans
- The expected outputs of the Urban Land Use Planning process
- Engendering public participation in the planning process
- Procurement of planning services for preparing Urban Land Use plans
- The required institutional framework for preparing and implementing Urban Land Use plans
- Indicative resources required for preparing the plan

The plan was prepared as per the urban land use planning and oversight guidelines.

2.3.1.4 National Land Use Policy, 2017

The National Land Use Policy (2017) was developed to provide a coordinated framework for addressing land use challenges in Kenya, as envisaged under the Constitution of Kenya (2010), Kenya Vision 2030, and the Sessional Paper No. 3 of 2009 on National Land Policy. The Policy establishes a legal, administrative, institutional, and technological framework to guide optimal and sustainable utilization of land and land-based resources at national, county, and community levels. It is anchored on the principles of economic efficiency, social equity, environmental sustainability, and cultural conservation, while promoting equitable access to land, elimination of discrimination, and enhanced access to land use information.

The Policy advocates for a balanced and integrated approach to land use management, addressing key sectors such as human settlements, agriculture, environmental conservation, and climate change adaptation. It recognizes the interlinkages between socio-economic development and spatial planning, and emphasizes sustainable land use practices. In this plan, the Policy informed the analysis of settlement patterns, agricultural land use, environmental management, and climate considerations, and guided the formulation of strategies on environmental protection, agricultural development, and housing, ensuring alignment with national land use priorities.

2.3.1.5 National Spatial Plan 2015 – 2045 (NSP), 2017

The National Spatial Plan (NSP) 2015–2045 is a long-term framework that guides spatial development, land use planning, and resource allocation across the country over a 30-year period. The Plan addresses land use, socio-economic, and environmental challenges with the objective

of achieving balanced, coordinated, and sustainable spatial development. It provides strategic direction for key sectors including urban and rural development, agriculture modernization, infrastructure development, energy, mining, industry, and sustainable human settlements, while also serving as the spatial framework for anchoring Kenya Vision 2030 flagship projects.

The NSP further functions as a national coordination framework for sectoral planning and implementation, ensuring spatial integration across development initiatives. It establishes the basis for the preparation of lower-level spatial plans, including regional plans, county spatial plans, and local physical and land use development plans. In this regard, the preparation of this plan is aligned with the NSP by promoting integrated land use planning, efficient spatial organization, and sustainable development patterns within the municipality.

2.3.1.6 The National Land Policy, Sessional Paper No. 3 of 2009

The National Land Policy advocates for sustainable land use which is also the goal of the plan. This was achieved through prudent allocation and distribution of land uses. The policy notes that 75% of the national population lives in medium to high potential agricultural areas and hence the challenge of balancing urban development with preservation of agricultural land. The policy thus proposes development control as a tool in ensuring equitable and sustainable use of land.

The policy recognizes land use planning as a tool in land use management which can address the current challenges and create new opportunities for sustainable human settlements. Development strategies, guidelines and regulations with regard to environment, housing, transportation, economy, environment, agriculture among other sectors were developed.These guidelines will act as the development control instruments to be used by the Municipal Board to ensure equity and sustainable land utilization.

2.3.1.7 National Housing Policy, Sessional Paper No.3 of 2004

This policy recognizes land use planning and management as a critical input in housing provision. It recognizes that land related matters have deep socio-economic and political impacts. It also recognizes that the lack of comprehensive land use planning and management is what has led to substandard settlements with inadequate infrastructure, services and open spaces. The MSP has provided framework that will enhance proper human settlements by provision of the required basic infrastructure and services.

2.3.1.8 Integrated National Transport Policy, 2012

This policy paper is anchored on '*Moving a Working Nation'*. It identifies challenges besetting the transport sector in Kenya as a whole. Since the policy's vision is to achieve an integrated transport system, the municipal plan has proposed a transportation network that will open up the transportation sector in a way of achieving an efficient transport system.

2.3.1.9 Poverty Reduction Strategy Paper (PRSP), 2005

The PRSP outlines priorities and the necessary measures for poverty reduction and economic growth. It identifies measures geared towards improved economic performance and priority actions that will be implemented to reduce the incidences of poverty among Kenyans. The strategy gives measures to alleviate poverty as one of the outputs in an economic recovery strategy. The proposed economic and investment strategies will alleviate poverty when implemented.

2.3.1.10 The National Urban Development Policy (NUDP) (Sessional Paper, 16, 2016)

The NUDP 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.

NUDP is guided by the Constitution of Kenya 2010, notably clauses 184 and 176 (2) that provide for the 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. The plan preparation was guided by the National Urban Development Policy (NUDP) guidelines.

2.3.2 Legal Frameworks

The preparation of this Local Physical and Land Use Development Plan was undertaken in compliance with the relevant constitutional, legislative and regulatory frameworks governing land use planning, land administration, and sustainable development in Kenya. These legal instruments provide the statutory basis for spatial planning, development control, environmental management, and institutional coordination at national and county levels. The plan is guided by the following key legal frameworks:

2.3.2.1 The Constitution of Kenya, 2010

The Constitution of Kenya, 2010 is the supreme law of Kenya. It has created a two-tier system of governance, the National Government and the County Governments. Currently, Kenya has successfully devolved most of the functions of the previously centralized administration to the County Governments. The Fourth Schedule of the constitution of Kenya, 2010 highlights the functions of the County Government with planning and development being one of them.

Article 66 gives powers to the state to regulate land on behalf of the public. This implies that land use planning will be used by the state as a tool for land use regulation. This provides a better foundation for the proper management of land. Article 67 provides for the establishment of the National Land Commission; among its functions will be to monitor and have oversight responsibilities over land use planning throughout the country.

The preparation of the plan took into account the provisions of the constitution where devolved units are required to plan and budget for development programs over a stipulated period. The plan also focused on public amenities, fire and disaster management services, and urban infrastructure services among others.

2.3.2.2 County Governments Act, No 17 of 2012 (Amended, 2020)

The County Governments Act is an Act of Parliament that gives effect to Chapter Eleven of the Constitution of Kenya, 2010; which gives the County Government powers, functions and responsibilities to deliver services and connected purposes. County planning is included in Part 11of the Act. Section 104 states that a County Government shall plan for the County and no public funds shall be availed without a planning framework developed by the County Executive Committee and approved by the County Assembly. It also states that county development framework shall integrate economic, physical, social, environmental and spatial planning.

Section 107 outlines the types of plans to be prepared by the County Governments as: five-year County Integrated Development Plan, County Sectoral Plans, County Spatial Plan; and Cities and Urban Areas Plans as provided for under the Urban Areas and Cities Act, 2011(amended, 2019). It provides for the integration of economic, physical, social, environmental and spatial planning. Section 107(2), states that these plans "shall be the basis for all the budgeting and spending in a county". The Plan was prepared as per the County Government Act, 2012 section 104. The plan has integrated economic, physical, social, environmental and spatial planning aspects.

2.3.2.3 Urban Areas and Cities Act, No. 13 of 2011 (amended, 2019)

The Urban Areas and Cities Act, No. 13 of 2011 (as amended in 2019) operationalizes Article 184 of the Constitution of Kenya (2010) by providing the legal framework for the classification, governance, and management of urban areas and cities. The Act mandates urban institutions, including Municipal Boards (Section 20), to prepare and implement integrated development plans to guide urban growth and service delivery. Section 37(1) further requires that urban development plans be aligned with county development plans and strategies, ensuring coherence across planning levels.

The Act provides detailed provisions for integrated urban planning, including the preparation of Integrated Urban Area Development Plans (Sections 36, 38, and 40). These plans are required to incorporate key components such as a long-term development vision, assessment of existing conditions, development priorities, spatial development framework, disaster management strategies, and inclusive service delivery mechanisms. In this context, the preparation of this plan is anchored on the principles of integrated development planning, ensuring alignment with statutory requirements and providing a comprehensive framework for coordinated spatial development, land use management, and sustainable urban growth within the municipality.

2.3.2.4 Physical and Land Use Planning Act, No. 13 of 2019

The act provides principles, procedures and standards for preparation and implementation of Physical and Land Use Development Plans. Section 45, (1) states that a County Government shall prepare a Local Physical and Land Use Development Plan in respect of a city, municipality, town or unclassified urban area as the case may be. Section 45, (2) states that a Local Physical and Land Use Development Plan may be for long-term physical and land use development, short-term physical and land use development, urban renewal or redevelopment and for the purposes set out in the Second Schedule in relation to each type of plan.

Section 45, (3) states that Local Physical and Land Use Development Plan in this case the Plan shall be consistent with an Integrated City or Urban Development Plan as contemplated under Part V of the Urban Areas and Cities Act, 2011 (amended, 2019).

2.3.2.5 Land Act No.6 of 2012 (amended 2016)

The Land Act gives effect to Article 68 of the Constitution that calls for revision, consolidation and rationalization of land laws to provide for sustainable administration and management of land and land-based resources. The Act calls for equal recognition and enforcement of land rights arising under all tenure systems and non-discrimination in ownership and access to land.

The provisions of this Act apply to all stakeholders in the Municipality and all the developments that are carried out on land. The plan shall ensure sustainable and productive management of land resources; transparent and cost-effective administration of land; conservation and protection of ecologically sensitive areas; customs and practices related to land and property on land; encouragement of communities to settle land disputes through recognized local community initiatives, among other principles in regard to utilization of land. It provides for the conversion of land from one category to another for the various listed purposes which include land use planning. It also prohibits the allocation of public land that has not been planned and that does not have development guidelines.

2.3.2.6 Environmental Management and Coordination Act (EMCA) CAP 387 of 1999, (amended, 2015).

The Environmental Management and Coordination Act (EMCA), Cap 387 of 1999 (as amended in 2015) provides the principal legal framework for environmental management and protection in Kenya. Part II of the Act guarantees every person the right to a clean and healthy environment, alongside the obligation to safeguard and enhance environmental quality. The Act establishes institutional and regulatory mechanisms for environmental governance, including the control of pollution and sustainable use of natural resources.

Under Part VIII, Section 72 prohibits the discharge of toxic, hazardous, or polluting substances into the environment, particularly aquatic ecosystems, while Section 74 requires that effluent discharge be undertaken only through approved systems and subject to regulatory permits. The Act further mandates Environmental Impact Assessment (EIA) for projects likely to have significant environmental impacts. In this regard, the preparation and implementation of this plan integrates environmental safeguards, pollution control measures, and sustainable land use practices, ensuring compliance with EMCA and promoting environmentally sound development within the municipality.

2.3.2.7 Water Act, CAP 372 of 2016

The Water Act, 2016 provides the legal framework for the management, conservation, control, and use of water resources, as well as the regulation of water supply and sewerage services in Kenya. The Act outlines mechanisms for the allocation of water rights, protection of water resources, and delivery of water and sanitation services, while promoting sustainable and

equitable access. It further establishes institutional arrangements for water governance, including the Water Resources Authority (WRA), Water Resources Users Associations (WRUAs), National Water Harvesting and Storage Authority (NWHSA), Water Services Regulatory Board (WASREB), Water Sector Trust Fund, and the Water Tribunal.

The Act provides a framework for integrated water resources management and service delivery, ensuring efficient utilization and protection of water resources. In the context of this plan, it informed the formulation of water supply, sanitation, and liquid waste management strategies, ensuring alignment with national standards and regulatory requirements, and promoting sustainable water resource management and service provision within the municipality.

2.3.2.8 Survey Act CAP 299 (Revised Edition 2012 [2010])

The Survey Act, Cap 299 provides the legal framework for land surveying, geodetic control, and the regulation of licensed land surveyors in Kenya. It establishes standards for conducting surveys, maintaining survey records, and managing geographical names and coordinates. The Act ensures the accuracy, reliability, and legal recognition of spatial data used for planning, land registration, and development control.

In the preparation of this plan, existing survey data was utilized to develop the base maps, which served as the foundation for formulating land-use proposals, spatial zoning, and infrastructure planning. Compliance with the Survey Act ensures that all spatial information underpinning the plan is accurate, legally recognized, and technically providing a reliable framework for decision-making within the municipality.

2.3.2.9 Public Health Act, Cap 242 (Revised Edition 2012 [1986])

The Public Health Act, Cap 242 provides the legal framework for securing and maintaining public health in Kenya. The Act establishes standards for hygiene, sanitation, and the regulation of activities affecting public health, including the sale and handling of foodstuffs, water quality, and waste management. It ensures that all public and private activities comply with health and safety requirements to protect communities from health risks.

In the context of this plan, the provisions of the Public Health Act were integrated into the health and sanitation sector proposals, including considerations for water supply, liquid waste management, food safety in markets, and safe location of health facilities. Compliance with the

Act ensures that municipal development initiatives promote public health, hygiene and environmental safety within the urban and peri-urban areas of the municipality.

2.3.3 Municipal Spatial Plan Linkages to County Government Documents

In addition, the Municipal Spatial Plan was prepared in accordance to the following Makueni County policies, legal and regulatory frameworks;

2.3.3.1 ***Municipal-Charter, 2022***

The Municipal Charter (2022) provides the legal and institutional framework for the establishment, governance, and administration of municipalities in Kenya. It defines the roles and responsibilities of the municipal authorities, including the formulation and implementation of integrated development plans, service delivery, resource management, and oversight of urban infrastructure. The Charter ensures that municipal governance aligns with national and county government policies while promoting transparency, accountability, and citizen participation.

In the preparation of this plan, the provisions of the Municipal Charter guided the institutional and administrative framework, ensuring that the development proposals, spatial planning strategies, and service delivery interventions are legally compliant, coordinated, and operationally implementable. The Charter also provides the basis for municipal boards, committees, and technical departments to effectively oversee planning, development control, and monitoring of municipal projects.

2.3.3.2 Email-sultan hamud Integrated Development plan (2022-2027)

The Emali-Sultan Hamud Municipality was established under the Emali-Sultan Hamud Municipal Charter, approved by the County Assembly in November 2022 and assented to by the Governor of Makueni County in December 2022. The municipality encompasses an approximate area of 729 km² and operates as a legally recognized administrative and planning entity, with powers and responsibilities for spatial planning, infrastructure development, service delivery, and local governance.

Based on population projections from the 2019 Kenya National Bureau of Statistics (KNBS), the municipality had an estimated population of 118,037 in 2023. The Integrated Development Plan (2022–2027) provides a five-year framework for municipal growth, including land use management, urban development, infrastructure provision, environmental management, and socio-economic development strategies, aligned with national policies, county strategies, and

statutory requirements. The Plan serves as the principal guide for coordinated development and resource allocation within the municipality.

2.3.3.3 Email-sultan hamud Private sector engagement framework

The Emali-Sultan Hamud Private Sector Engagement Framework establishes the principles, mechanisms, and strategies for promoting collaborative partnerships between the municipality and private sector stakeholders. The framework recognizes the private sector as a key driver of economic growth, employment creation, and service delivery, and provides a structured approach for engagement in investment planning, infrastructure development, housing, commercial projects, and agro-industrial initiatives.

The framework outlines mechanisms for stakeholder identification, consultation, and participation, ensuring alignment with municipal development priorities and legal requirements. It also provides guidelines for public-private partnerships (PPPs), investment promotion, and resource mobilization, enabling the municipality to leverage private sector expertise, finance, and innovation. Implementation of this framework ensures that municipal development interventions are inclusive, sustainable, and responsive to the needs of both residents and investors, fostering an enabling environment for economic transformation within the municipality.

2.3.3.4 Urban Climate Risk Profile, 2026

The Urban Climate Risk Profile (2026) aims to evaluate the municipality's exposure, sensitivity, and adaptive capacity to climate-related hazards, including floods, droughts, heatwaves, and other extreme weather events. The profile provides a structured assessment of climate risks, identifying vulnerable populations, critical infrastructure, and key economic sectors, to support evidence-based planning and targeted resilience interventions.

The profile informs municipal decision-making, investment prioritization, and policy formulation to enhance climate resilience. By integrating climate risk considerations into land use planning, infrastructure development, disaster management, and service delivery, the municipality can implement adaptive strategies and mitigation measures that reduce vulnerability, safeguard livelihoods, and ensure sustainable urban growth.

2.3.3.5 Gender Engagement Framework, 2026

The Gender Engagement Framework (2026) provides a structured approach for promoting gender equality, equity, and inclusion within municipal planning, service delivery, and development interventions. The framework identifies mechanisms to ensure that women, men, and marginalized groups participate meaningfully in decision-making processes, have equitable access to resources, and benefit from socio-economic opportunities within the municipality.

The framework guides the integration of gender-responsive strategies into all municipal initiatives, including land use planning, infrastructure development, public service delivery, and economic empowerment programs. Its implementation supports inclusive governance, social cohesion, and equitable resource allocation, ensuring that municipal development interventions address the specific needs and priorities of all gender and social groups, thereby contributing to sustainable and inclusive urban growth.

2.3.3.6 Makueni County Vision 2025

Makueni County's Vision 2025, "Wealth Creation and Socio-Economic Transformation," sets a clear platform for achieving prosperity and socio-economic growth in the county by 2025. Aligned with Kenya Vision 2030, Africa Union's Agenda 2063, and the UN Sustainable Development Goals, it draws from past experiences like the Makueni County Integrated Development Plan (CIDP 2013-17). This vision addresses enduring socio-economic challenges, such as water access, agricultural productivity, education, healthcare, infrastructure, unemployment, and environmental concerns. In the context of the Local Physical and Land Use Development Plan (LPLUDP) for Emali-Sultan Hamud Municipality, the County Vision provides a strategic reference framework for guiding spatial development, land use allocation, and municipal infrastructure provision. The LPLUDP integrates the county's development priorities into zoning, urban growth management, environmental conservation, housing, and service delivery strategies, ensuring that municipal development interventions are aligned with county objectives, statutory requirements, and broader national and regional development goals. This alignment ensures coherent spatial planning, efficient land utilization, and sustainable urban and peri-urban development within the municipality.

2.3.3.7 Makueni County Integrated Development Plan (CIDP) 2023-2027

The CIDP marks the third long-term plan in Kenya's devolved governance system. Under the theme 'A resilient economy for sustainable development,' it aims to build a robust community

capable of enduring shocks and promoting economic growth. The CIDP aligns with national and international frameworks, including the SDGs, Africa's Agenda 2063, and climate agreements. Eight sectors will implement the plan, covering areas like water, agriculture, health, and urban development.

The CIDP is implemented through eight key sectors, encompassing water and sanitation, agriculture, health, education, infrastructure, urban development, trade and investment, and environmental management. In the context of the Emali-Sultan Hamud Local Physical and Land Use Development Plan, the CIDP provides a strategic reference for spatial planning, land allocation, and infrastructure investment, ensuring municipal proposals are aligned with county development priorities. This integration supports coordinated urban growth, sustainable land use, and efficient service delivery, reinforcing the municipality's role in contributing to county-wide socio-economic transformation.

2.3.3.8 *Makueni County Spatial Plan 2019-2029*

The Makueni County Spatial Plan (CSP) serves as a strategic guide for development in the county. It offers a comprehensive analysis of the county's spatial layout, identifying strengths and weaknesses. The plan outlines an intervention strategy to integrate various spatial elements into a unified framework, aiming for sustainable long-term development. It adheres to the County Governments Act, follows the Physical Planning Act, and aligns with constitutional principles, national land-use policies, and the Kenya Vision 2030.

The CSP is grounded in the County Governments Act, Physical Planning Act, and constitutional principles, while aligning with national land use policies and Kenya Vision 2030. For the Emali-Sultan Hamud Local Physical and Land Use Development Plan, the CSP provides a county-level spatial reference, ensuring that municipal land use allocations, infrastructure planning, and urban development strategies are coordinated, legally compliant, and aligned with county-wide spatial priorities.

This ensures that municipal planning supports sustainable urban growth, efficient land utilization, and integrated service delivery across the county.

2.3.3.9 Kasikeu Urban Land Use Plan 2017-2021

The Kasikeu Urban Land Use Plan (2017-2021) covers an area of 4 hectares. The plan was prepared in accordance with the County Government Act (2012), UACA 2011, PLUPA, 2019

and other relevant laws that guided planning. The Urban Land Use Plan serves as an integrated Land Use framework to promote the economic and environmental development for all land within the area of jurisdiction of Kasikeu town. The urban development plan prioritized key principles. It emphasized sustainable development, ensuring that the growth and progress of the urban area were environmentally, socially, and economically sustainable. It focused on promoting land use compatibility, ensuring that different land uses within the area were harmonized and compatible to prevent conflicts and maximize efficiency. The plan aimed for equitable distribution of resources, ensuring that all residents had fair access to essential resources and services. It sought to enhance accessibility by providing for well-maintained tarmacked roads, improving transportation infrastructure for the convenience of the residents. The proposals of the plan informed the formulation of the municipality plan.

2.3.3.10 Emali Urban Land Use Plan 2017-2021

Emali town has grown and expanded as a result of several factors. The development factors influencing the growth of Emali town include the development projects like Emali Bus park, the Standard Gauge Railway (SGR) station and the Nairobi-Mombasa Highway by the County Government of Makueni and the National Government. Emali Urban Land use Plan (2017–2022) covers an area of 378.8414Ha. The general objective of the plan was to prepare broad land use guidelines to enhance land management practices and the development of relevant infrastructure for a sustainable growth of the town. The plan greatly informed the formulation of this plan.

2.3.3.11 Matiliku Urban Land Use Plan 2020-2025

The Matiliku Town spatial development plan aims to guide sustainable growth and infrastructure development in the town. It was motivated by several factors, primarily economic considerations, given its strategic location along a key transport corridor connecting Makueni County's interior to the Mombasa-Nairobi highway at Emali. Matiliku also benefits from its proximity to fertile agricultural areas and the Kalamba Fruit Processing Plant, enhancing its economic potential. This plan, covering part of Emali-Sultan Hamud Municipality, has influenced the strategies of the larger development plan for the municipality, aligning with its proposals for sustainable growth and land management.

2.3.3.12 Physical Land Use Development Plan for Sultan Hamud Township (Revised) 2021-2026

One of the key pillars of the plan is that it has helped secure public land for various uses not limited to but including the police, Public Administration, Public Works, Markets, Parking spaces, County Offices, Recreation, Schools, Cemeteries, Spatial Properties and Designated industrial plots which had been encroached up and, in some cases grabbed. This LPLUDP will realize the settlement patterns of the term for posterity as it has designated every use to its planned zone with special reference to previous planning effort as reflected in the 1964, 1967, 1982 and the 2016 development plan for the town. Besides, the plan amended key structured elements of the town that include Kasikeu Road, Kasikeu River, and the Trunk Kenya Pipeline to ensure harmony. The plan proposed structures of settlement patterns in Emali-Sultan Hamud Municipality that are in tandem with Sultan Hamud Plan.

2.3.3.13 County Urban Institutional Development Strategy (CUIDS) 2018

The County Urban Institutional Development Strategy (CUIDS) is a policy document that outlines strategies for urbanization, urban management, and development in the county. It addresses urbanization trends, challenges, and legal frameworks. Section 2 of the CUIDS focuses on urban institutional development, emphasizing fund allocation, staff recruitment, accountability, collaboration, investment planning, and legal reforms. The strategies in the Integrated Development Plan (IDeP) align with the CUIDS, ensuring that the plan objectives and actions are in harmony with the county's urban development policy framework.

2.3.3.14 Makueni Water Act, 2020

The Makueni County Water Act outlines regulations and procedures pertaining to water administration, sanitation and sewerage services, water service providers, pollution control, water resource management, storm water management, and related matters. It also includes provisions for public-private partnerships in the provision of water services within the county. This act served as a guiding document in the development of strategies for water provision in this plan.

2.3.3.15 Makueni County Sand Conservation and Utilization Act, 2015

The Sand Utilization Act serves to establish a legal framework for sand removal and extraction in Makueni County. It creates the Makueni County Sand Conservation and Utilization Authority, defines its functions, and sets up a County Sand Conservation Fund. Sub-County Sand

Management Committees are also mandated to oversee proper site rehabilitation and ensure compliance with environmental assessments. The Act promotes sustainable sand use while protecting watersheds and maintaining water retention. Its provisions align with the environmental protection strategies outlined in the municipality plan.

2.3.3.16 Makueni County Universal Healthcare Policy, 2022

The Makueni County Universal Healthcare Policy, 2022 establishes a comprehensive framework for achieving universal health coverage (UHC) within the county. The policy prioritizes improved service delivery, expansion of prepaid healthcare services, strengthened supply chains, enhanced financing mechanisms, accountability, and quality assurance across the health sector. It also addresses legal and regulatory frameworks, primary healthcare services, and strategic use of health information to guide effective planning, monitoring, and decision-making. The policy builds on the 2016 pilot program, which initially targeted residents aged 65 and above and has since expanded to cover the entire county population, ensuring access to essential healthcare services.

In the context of the Emali-Sultan Hamud Local Physical and Land Use Development Plan, the policy informs the spatial allocation of health facilities, planning for health infrastructure, and service delivery strategies, ensuring that municipal development initiatives align with county health objectives. By integrating UHC considerations into municipal planning, the plan supports equitable access to healthcare, reduced out-of-pocket expenditures, and the promotion of healthy, resilient communities across the municipality.

2.3.3.17 Makueni County Climate Change Fund Regulations, 2015

The Makueni County Climate Change Fund Regulations, 2015 establish a legal and institutional framework for climate change management, adaptation, and financing within the county. The Regulations provide for the establishment of the Climate Management Board and the County Climate Change Planning Committee, which are responsible for managing the County Climate Change Fund, prioritizing and approving climate adaptation projects, and ensuring that these projects align with county development priorities. The framework supports the integration of climate resilience, environmental protection, and sustainable development principles into local governance, planning, and development processes.

In the context of the Emali-Sultan Hamud Local Physical and Land Use Development Plan, the Regulations guide the incorporation of climate change considerations into municipal

development strategies, including infrastructure planning, land use management, and service delivery. By providing mechanisms for resource mobilization, project prioritization, and monitoring, the Regulations enhance the municipality's capacity to implement climate-resilient, environmentally sustainable, and community-focused interventions, thereby strengthening local resilience to climate-related hazards and promoting sustainable urban development.

2.3.3.18 *Makueni County Public Participation in Governance Act, 2014.*

The Makueni County Public Participation in Governance Act, 2014 provides a legal framework to operationalize the constitutional requirement for citizen engagement in county governance. The Act establishes structured procedures and platforms for public participation, including Sub-County and Urban Area Citizen Participation Forums, as well as Ward and Village Citizens' Participation Forums. These forums enable residents to actively engage in discussions on county policies, development plans, administration, and service delivery, promoting transparency, accountability, and inclusive governance.

In the context of the Emali-Sultan Hamud Local Physical and Land Use Development Plan, the Act ensures that municipal planning processes are participatory and inclusive, integrating citizen inputs into land use planning, infrastructure development, and service provision strategies. By fostering active engagement, the municipality can make evidence-based and socially responsive planning decisions, thereby enhancing community ownership of development initiatives and ensuring alignment with county governance objectives.

2.3.3.19 *Makueni County Alcoholic Drinks Control Act, 2014*

The Makueni County Alcoholic Drinks Control Act, 2014 provides a legal framework for the production, distribution, and sale of alcoholic beverages within the county. It mandates that individuals or businesses intending to engage in alcohol-related activities must apply for licenses from the Sub-County Committee and comply with prescribed fees. The Act is grounded in constitutional provisions under the Fourth Schedule, which grants counties authority to regulate alcohol-related activities, ensuring responsible consumption and adherence to public safety standards.

In the context of the Emali-Sultan Hamud Local Physical and Land Use Development Plan, the Act informs the regulation and spatial allocation of alcohol-related businesses within the municipality. Its implementation supports responsible alcohol use, enforcement of licensing requirements, and generation of revenue for municipal development initiatives. By integrating

this legal framework, the plan ensures that commercial activities involving alcoholic drinks are appropriately regulated, environmentally and socially sustainable, and aligned with county development priorities.

2.3.3.20 Makueni County Spatial Planning and Development Policy

The Makueni County Spatial Planning and Development Policy provides a comprehensive framework for guiding land use, spatial planning, and development coordination within the county. In alignment with constitutional requirements and national legislation, the policy addresses the need to integrate societal interests, sustainable development principles, and environmental considerations into planning processes. It provides strategies to respond to challenges such as rapid urbanization, inadequate land use planning, historical land injustices, and environmental degradation, ensuring that spatial development aligns with both county and national objectives.

Integrating this policy into the Emali-Sultan Hamud Local Physical and Land Use Development Plan ensures that municipal planning is context-sensitive and responsive to local spatial dynamics. The policy guides the allocation of land, zoning regulations, infrastructure planning, and environmental management, promoting efficient land use, coordinated development, and sustainable growth within the municipality. Its adoption ensures that municipal planning interventions are legally compliant, strategically aligned, and effective in addressing both current and future development needs.

2.4 Stakeholder Mapping and Engagement

Stakeholder engagement constituted an integral component of the Local Physical and Land Use Development Plan (LPLUDP) preparation process. The process was undertaken in accordance with the Constitution of Kenya (2010) and relevant statutory provisions, including the County Governments Act, 2012 (as amended), the Urban Areas and Cities Act, 2011 (as amended 2019), and the Physical and Land Use Planning Act, 2019, all of which emphasize the need for inclusive, participatory, and transparent planning processes. The engagement process facilitated structured interaction between the planning team and key stakeholders, enabling the incorporation of local knowledge, sectoral insights, and community priorities into the plan. This approach enhanced credibility, ownership, and acceptability of the planning outputs, thereby strengthening the foundation for effective implementation.

2.4.1 Importance of Public Participation

Public participation contributed to the planning process through:

- Enhancing awareness and understanding of spatial planning processes
- Clarifying stakeholder roles and responsibilities
- Facilitating integration of local knowledge and community perspectives
- Strengthening stakeholder relationships and institutional coordination
- Improving the quality, transparency, and accountability of decision-making
- Promoting ownership and acceptance of planning proposals
- Supporting sustainability and long-term viability of development interventions

2.4.2 Role of Stakeholders

Stakeholders were actively involved across all stages of the planning process and contributed through:

- Provision of baseline data and local spatial information
- Participation in consultative and decision-making processes
- Dissemination of information within their respective constituencies
- Engagement in visioning and priority-setting exercises
- Review and validation of draft plans and technical outputs
- Support in the implementation and monitoring of plan proposals

2.4.3 Stakeholder Analysis and Engagement Process

A stakeholder analysis was undertaken to identify and categorize stakeholders based on their influence, interest, and sectoral relevance. The key groups included local communities, private sector actors, community-based and faith-based organizations, special interest groups (youth, women, and vulnerable populations), service providers, and national and county government institutions. This informed the design of targeted engagement strategies to ensure inclusive and effective participation.

Engagement was conducted using a combination of participatory methods, including questionnaires, key informant interviews, focus group discussions, public forums (barazas), and stakeholder workshops. These approaches facilitated the collection of reliable qualitative and quantitative data, capturing stakeholder perspectives and development priorities.

The engagement process was implemented across key project stages sensitization, data collection, validation, and plan finalization with stakeholder mobilization achieved through official communication channels and public outreach mechanisms. This process strengthened stakeholder ownership, validated planning outputs, and enhanced coordination, thereby supporting effective implementation of the Local Physical and Land Use Development Plan. The stakeholder engagement matrix is presented in the table below:

Table 4: Stakeholder Engagement Matrix

Critical phase of the project execution	Date	Venue	Objective of the meeting	Stakeholders Involved	Means of communication	Methods of engagement	Results of the engagement
Sensitization and awareness creation workshop	24TH FEBRUARY 2026 25th February 2026 26th February 2026 27th February 2026	Kasikeu Market Kithumani Market & Mutyambua Market Kwa Kakulu CTTI & Mulala Chief's Office Kikumini Market Centre &	To sensitize the stakeholders on the importance of the project, method of execution and their roles towards successful project execution	Municipality residents, business community, faith based organizations, professional associations, financial institutions, transport sector, special groups, youth and women groups, vulnerable groups, service providers, national government representatives and county government representatives	Messages, phone calls, letters, notices on bulletin boards, announcements in local churches and mosques, advertisements on local radio stations	Holding of workshop	The roles of the stakeholders were defined and they were sensitized about the project. They pledged to support the project activities until its completion.

Critical phase of the project execution	Date	Venue	Objective of the meeting	Stakeholders Involved	Means of communication	Methods of engagement	Results of the engagement
		AIC Central Matiliku					
Sector data collection	February, 2026			Municipality residents, business community, faith based organizations, professional associations, financial institutions, transport sector, special groups, youth and women groups, vulnerable groups, service providers, national government representatives and county government representatives	Notices on bulletin boards, announcements in local churches and mosques, advertisements on local radio stations	Focus group discussions, Administration of questionnaires and conducting of interviews to the key informant during field survey	Comprehensive data was collected that informed the plan.
Presentation to the	10th April,2026		To present to the	County technical team and other county	Official letters	Holding of the meeting	Validated the draft plan

Critical phase of the project execution	Date	Venue	Objective of the meeting	Stakeholders Involved	Means of communication	Methods of engagement	Results of the engagement
county technical team and municipal board			members for comments and validation	relevant officials National government representatives and service providers.			
Presentation of the draft plan to the stakeholders	9th April,2026	Emali	To present to the stakeholders for comments and validation	Municipality residents, business community, faith based organizations, financial institutions, transport sector, special groups, youth and women groups, vulnerable groups, service providers, national government representatives and county government representatives	Messages, phone calls, letters, notices on bulletin boards, announcements in local churches and mosques, advertisements on local radio stations	Holding of workshop and meeting	Validated the draft report


Kasikeu Market for Kasikeu Sub-Ward on 24th February 2026

25th February 2026, Kithumani Market, Emali-Sultan Hamud Municipality


25th February 2026, Mutyambua Market


26th February 2026, Kwa Kakulu CTTI


26th February 2026, Mulala Chief's Office


27th February 2026, Kikumini Market Centre

Plate 1: Public Engagement Forums

27th February 2026, AIC Central Matiliku for Nzaui Sub-Ward

Plate 2: Stakeholder Engagement Forums

Field survey, 2025

2.4.4 Stakeholders concerns

During the workshops, stakeholders envisioned the municipality with the following:

During stakeholder consultations and participatory workshops, key development concerns and aspirations for the municipality were identified. Stakeholders emphasized the need for:

- Strengthening of institutional and governance frameworks to enhance service delivery
- Improvement of solid and liquid waste management systems to safeguard public health and environmental quality
- Upgrading and expansion of transport infrastructure and connectivity to support economic activities
- Promotion of planned and coordinated urban development to enhance investment attractiveness
- Enhancement of environmental conservation and sustainability
- Rehabilitation and upgrading of road networks, particularly in underserved areas
- Provision of agricultural extension services to improve productivity
- Development of organized transport systems, including parking facilities and bus termini
- Establishment of agro-processing and value addition facilities
- Promotion of youth empowerment initiatives, including innovation hubs
- Development of modern markets and commercial infrastructure
- Strengthening of emergency response systems, including fire stations

CHAPTER THREE: SITUATIONAL ANALYSIS

3.1 Overview

This chapter outlines the municipality's existing situation with respect to physical environment, social facilities and amenities, infrastructure utilities and services as well as land, land use and housing. It also identifies growth opportunities, challenges and growth drivers within the municipality.

3.2 Physical and Natural Environment

3.2.1 Climatic Conditions

The Municipality lies within a semi-arid to sub-humid transitional zone, with notable spatial variation in rainfall distribution. The highlands and middle zones receive an average rainfall of about 1,300 mm annually, while the lower parts of Nguu/Masumba are much drier, receiving between 300 mm and 400 mm. The Municipality experiences two distinct rainy seasons, with the long rains occurring in March/April and the short rains in November/December. The highest relative humidity is recorded in December (75%), while the lowest is in September (54.30%). April is the wettest month with about 17 rainy days, whereas July is the driest month with only 1 rainy day as shown in table below.

Temperature

Temperatures within the Municipality range between 18°C during the cooler seasons and 30°C during the hottest months. The hottest months are February and October, while the coolest months are June and July. Overall, the area experiences moderate temperatures throughout the year with limited seasonal variation.

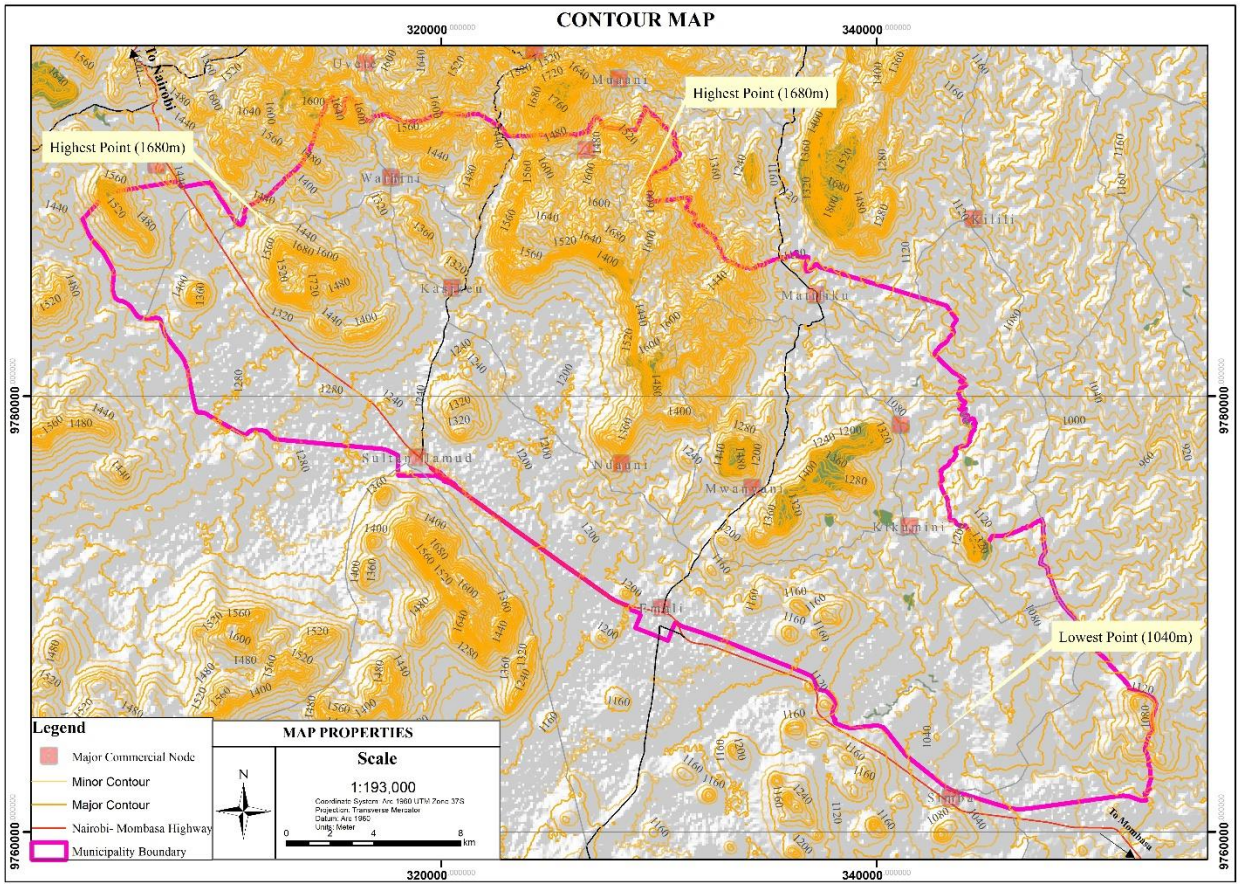
Table 5: Climatic Analyses

Rainfall	The Municipality lies greatly in the semi-arid area. The highlands and middle zones receive an average rainfall of 1300 mm while the lower sides of Nguu/Masumba which is very dry receives little rainfall ranging from 300 mm to 400 mm. The Municipality experiences two rainy seasons, the long rains occurring in March/April while the short rains occur in November/December. The month that experiences the most relative humidity is December (75 %) while September has the lowest amount of relative humidity **at (54.30 %). April is the wettest month with (17 wet days), whilst the driest is July (1).**
Temperature	Temperatures within the Municipality range between 18 degrees Celsius during the cold seasons to 30 degrees Celsius during the hottest months.

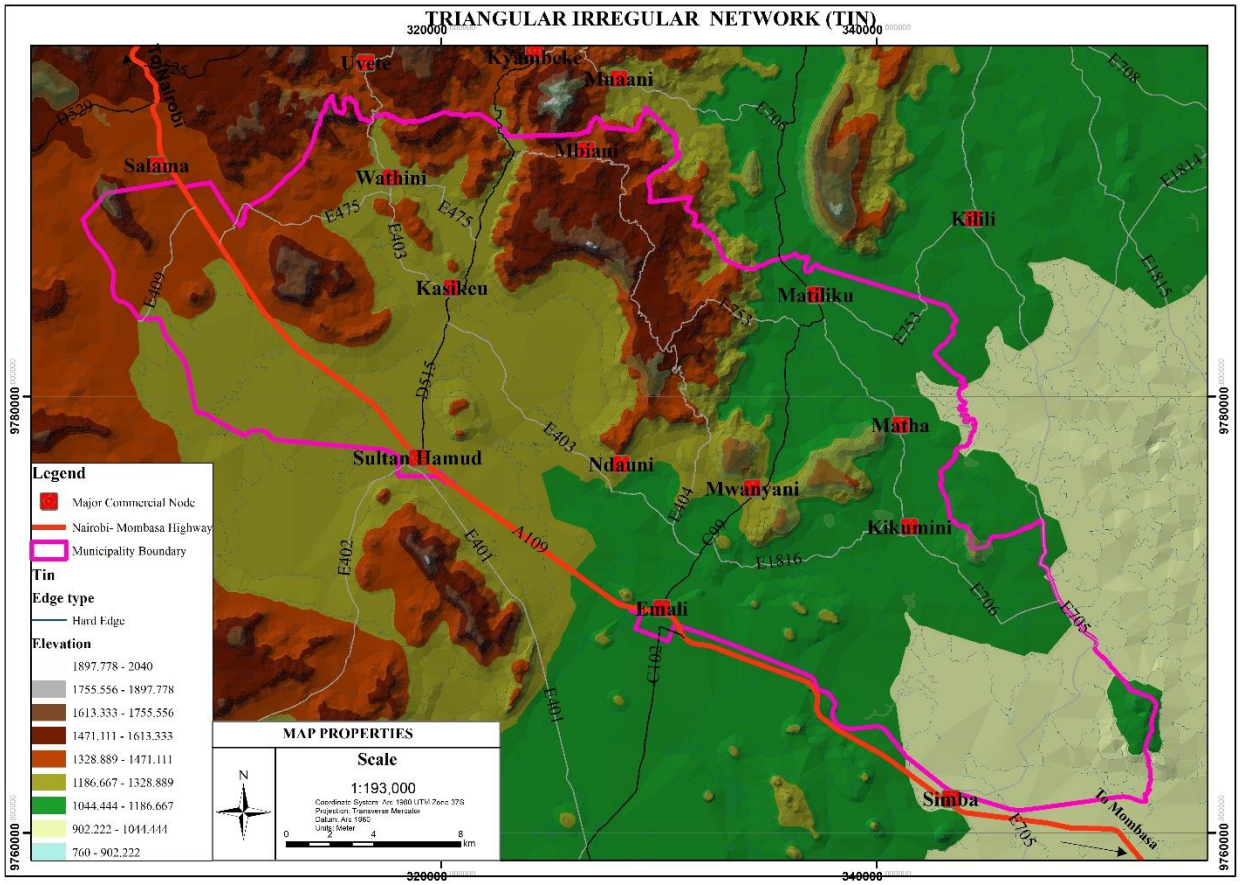
	The hottest months are February and October while the coolest months are June and July.

3.2.2 Topography and Slope

The area under planning slopes from North West to South East, with areas near Wathini urban area lying along this gradient as illustrated in the maps below. The highest point in the project area is situated in the northern part at approximately 1,680 m above sea level, while the lowest point is in the southern part (Masumba area) at approximately 1,040 m above sea level. The terrain is characterized by gentle to moderate slopes and low-lying valleys, which influence drainage patterns and land suitability. Overall, the topography is generally favourable for agriculture and urban development, as indicated by the contour map and the elevation model (Triangulated Irregular Network – TIN) presented below.



Map 6: Contour Map



Map 7: Triangular Irregular Network

3.2.3 Hydrology and Drainage

The project area is characterized by the presence of both permanent and seasonal rivers, which serve as the primary sources of water within the municipality. Some of the prominent permanent rivers in the area include Ituoni, Muangini, Muooni, Kwa Kaluku, Kwa Mbita, Masokani and Kwangole, as indicated on the map below. In addition, the region contains several sand dams, water points, and small dams, which play a significant role in enhancing local water availability and storage. These features are particularly important given that the project area lies within a semi-arid climate zone in the lower eastern region of Kenya, where water resources are limited and highly dependent on seasonal rainfall.

The hydrology and drainage system faces challenges such as seasonal variability of river flows, unreliable rainfall patterns, and frequent droughts, which reduce water availability. Rivers are also affected by siltation and catchment degradation, while existing water storage infrastructure is often inadequate. In addition, the area experiences occasional flash flooding during heavy

rainfall events and water quality challenges due to contamination and sediment load, as illustrated by the Muooni River shown in the plate below.

Muooni River

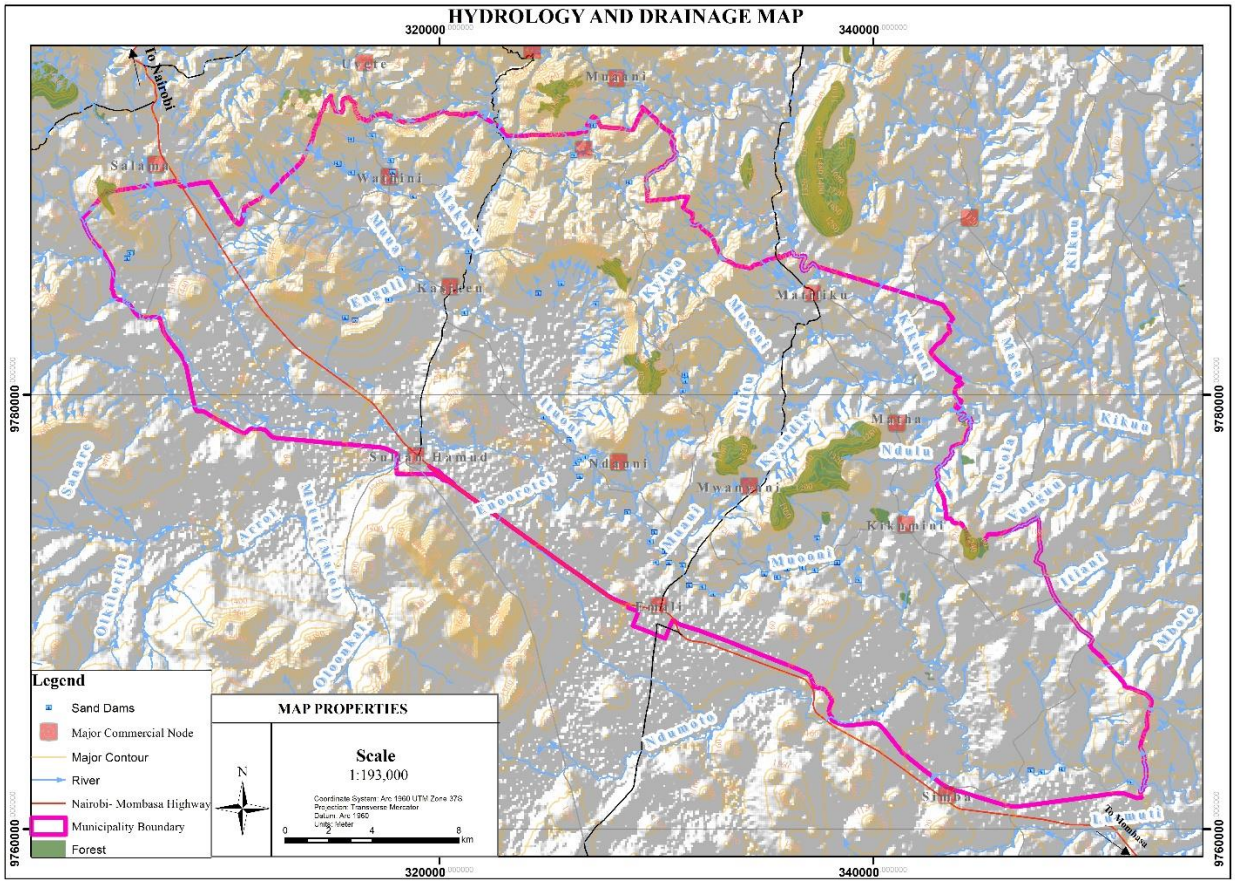
Kwa Kaluku river

Mikuyu river

Plate 3: Rivers within the Municipality

Source: field survey, 2026

The map below shows the spatial distribution of hydrology and drainage within the municipality.



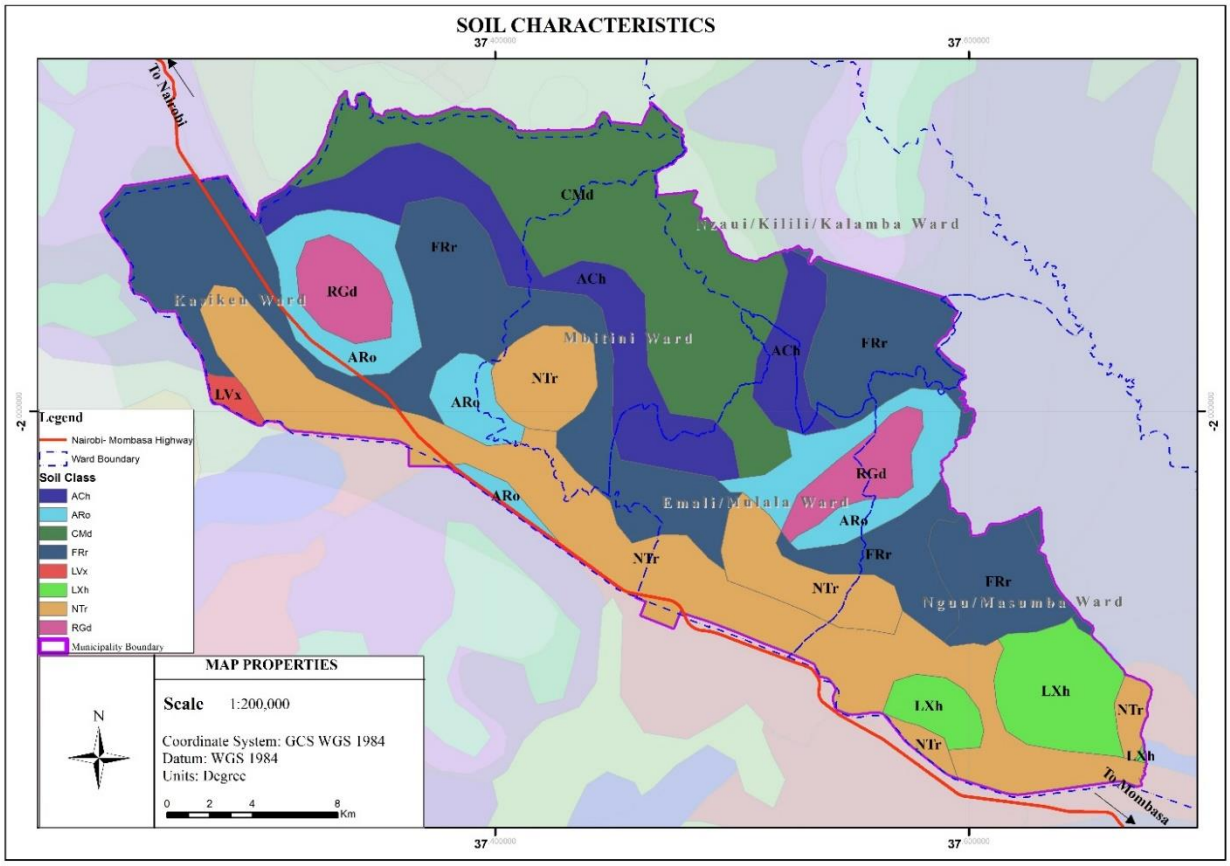
Map 8: Hydrology and Drainage Map

3.2.4 Soil Characteristics

The Emali–Sultan Hamud Municipality is characterized by a diverse range of soil types, arising from variations in parent material, relief, and climatic conditions across the area. The dominant soil groups include Ferralsols, Regosols, Arenosols, Acrisols, Nitisols, Lixisols, and Cambisols, each exhibiting distinct physical properties that influence land use potential. These soils vary in terms of depth, texture, drainage, fertility, and susceptibility to erosion, with some areas having well-developed, relatively fertile soils while others consist of shallow or sandy soils with low water and nutrient retention capacity. The distribution of these soil types across different zones within the municipality is summarized in the table and map below.

Table 6: Soil Characteristics

No.	Soil Type	Name	Characteristics	Areas Occurrence
1	FRr	Ferralsols (Rhodic)	Deep, highly weathered soils with very low natural fertility, high iron and aluminum oxides, good drainage but poor nutrient retention	Kiima Kiu/Kalanzoni, Kisikeu, Mbitini, Emali/Mulala, Nguu/Masumba, Nzau/Kilili/Kalamba
2	RGd	Regosols (Dystric)	Weakly developed, shallow soils with minimal horizon formation, low fertility and high susceptibility to erosion	Kisikeu, Nguu/Masumba, Emali/Mulala
3	ARo	Arenosols (Ferralic)	Sandy soils with very low water retention capacity, low fertility, and high permeability	Kisikeu, Mbitini, Emali/Mulala, Nguu/Masumba
4	ACh	Acrisols (Haplic)	Acidic soils with clay accumulation in the subsoil, low base saturation, moderate drainage, and low to moderate fertility	Kisikeu, Mbitini, Nzau/Kilili/Kalamba, Emali/Mulala
5	NTr	Nitisols (Rhodic)	Deep, well-structured soils with good drainage and relatively higher fertility compared to other tropical soils	Kiima Kiu/Kalanzoni, Kisikeu, Mbitini, Emali/Mulala, Nguu/Masumba
6	LXh	Lixisols (Haplic)	Moderately weathered soils with clay accumulation and relatively moderate fertility but prone to nutrient leaching	Nguu/Masumba
7	CMd	Cambisols (Dystric)	Moderately developed soils with weak horizon differentiation, variable fertility and drainage depending on local conditions	Nzau/Kilili/Kalamba, Kisikeu, Mbitini, Emali/Mulala



Map 9: Soil Characteristics

3.2.5 Agro-ecological zones

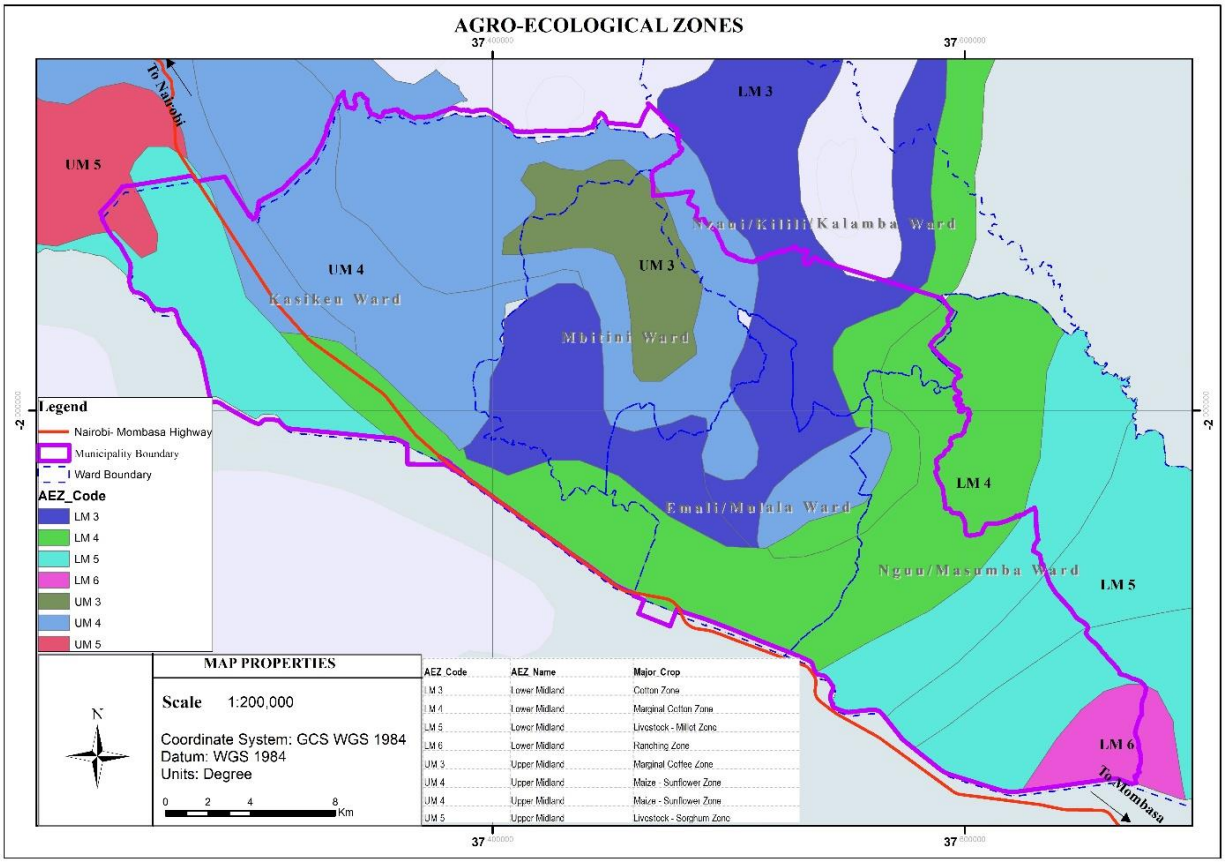
The Emali–Sultan Hamud Municipality is characterized by a range of agro-ecological zones (AEZs) as classified by the Kenya Soil Survey / Ministry of Agriculture agro-ecological zoning framework, which is based on rainfall, temperature, and altitude. The area is predominantly semi-arid, and the main agro-ecological zones present include UM3 (Marginal Coffee Zone), UM4 (Maize–Sunflower Zone), UM5 (Livestock–Sorghum Zone), LM3 (Cotton Zone), LM4 (Marginal Cotton Zone), LM5 (Livestock–Millet Zone), and LM6 (Ranching Zone). These zones determine the suitability of different agricultural and livestock activities across the municipality, as summarized in the table below.

Table 7: Agro-Ecological Zone Description

AEZ Code	Climate Characteristics	Suitable Crops / Land Use	Ward
UM5	Upper midland -semi-arid to semi-humid conditions with moderate rainfall and distinct dry periods	Livestock, sorghum	Small section of Kisikeu Ward
LM5	Lower midland - semi-arid conditions with low and unreliable rainfall and long dry periods	Livestock, millet	Kisikeu, Nguu/Masumba
UM4	Upper midland -semi-humid conditions with moderate and more reliable rainfall	Maize, sunflower	Kisikeu, Mbitini, Nzau/Kilili/Kalamba, Emali/Mulala
UM3	Upper midland - sub-humid conditions with relatively higher and more reliable rainfall	Marginal coffee, maize	Mbitini, Kisikeu
LM3	Lower midland- semi-arid conditions with low rainfall and prolonged dry periods	Cotton, drought-tolerant crops	Mbitini, Emali/Mulala, Nzau/Kilili/Kalamba
LM4	Lower midland- semi-arid conditions with erratic and low rainfall	Marginal cotton, drought-tolerant crops	Nguu/Masumba, Emali/Mulala, Kisikeu, Nzau/Kilili/Kalamba
LM6	Lower midland- arid to semi-arid conditions with very low and highly unreliable rainfall	Ranching, livestock production	Nguu/Masumba

Source: Farm Management Handbook, 2007

The map overleaf shows the Agro-ecological zones within the project area.



Map 10: Agro-Ecological Zone

3.2.6 Vegetation

The vegetation cover found within the municipality includes both natural and planted vegetation. Planted vegetation primarily comprises farm crops, such as maize. The natural vegetation consists of indigenous trees, such as eucalyptus, as well as riparian vegetation found along the rivers. Notably, the vegetation cover in urban core areas has significantly diminished due to ongoing construction of buildings and rapid urbanization, with minimal consideration for landscaping and greening practices.

3.2.7 Sand Harvesting

In Emali–Sultan Hamud Municipality, sand harvesting has historically been practiced to meet the growing demand for construction materials within Makueni County and neighbouring urban centres. However, unregulated sand harvesting became widespread, particularly along riverbeds, leading to significant environmental degradation. These impacts include reduced water retention in river channels, lowering of groundwater recharge, drying of boreholes, and increased soil erosion and sedimentation. In response to these challenges, Makueni County Government

introduced regulatory measures, including the establishment of a county sand authority to oversee sand harvesting activities and promote sustainable management of the resource. Under the prevailing legal framework, sand harvesting must be licensed and supported by an Environmental Impact Assessment (EIA) licence, with harvesting from permanent rivers prohibited. Additionally, designated sand harvesting sites are required to undergo rehabilitation, and environmental audits must be conducted to ensure compliance and minimize adverse environmental and social impacts.

3.2.8 Climate Change

The municipality is experiencing increased climate variability, including irregular rainfall patterns, prolonged dry periods, and occasional intense rainfall events. Rising temperatures and higher evaporation rates reduce soil moisture and water availability, affecting agriculture, livestock production, and water resources. These changes also contribute to soil erosion, land degradation, and reduced recharge of groundwater sources.

3.2.7 Emerging Issues

The following are the emerging issues:

- **Water scarcity and variability**

The municipality faces persistent challenges related to water scarcity due to its semi-arid to sub-humid climatic conditions. Rainfall is unevenly distributed both spatially and temporally, with distinct wet and dry seasons. This variability, combined with prolonged dry periods, limits the availability of reliable surface and groundwater sources. As a result, households, livestock keepers, and farmers often experience inadequate water supply, particularly during dry seasons, affecting daily livelihoods and economic activities.

- **Siltation of water sources**

Siltation is a major issue affecting rivers, dams, and sand dams within the municipality. The accumulation of sediments in these water bodies reduces their storage capacity and efficiency over time. This is largely influenced by soil erosion in upstream catchments, deforestation, and land degradation. As silt builds up, water retention is compromised, which diminishes the reliability of these sources for domestic use, livestock watering, and small-scale irrigation**.**

- **Sand harvesting impacts**

Sand harvesting along riverbeds has contributed significantly to environmental degradation in the municipality. Unregulated extraction of sand has led to lowered riverbeds, reduced groundwater recharge, drying of boreholes, and destabilization of riverbanks. These activities

also accelerate erosion and alter natural drainage patterns. Although regulatory frameworks exist, challenges in enforcement and compliance have allowed some unsustainable practices to persist, further stressing local water resources.

- **Reduced vegetation cover**

Vegetation cover, particularly in urban and peri-urban areas, has declined due to rapid urbanization and ongoing construction activities. Expansion of built-up areas has not been matched with adequate landscaping or greening efforts. The loss of vegetation reduces environmental quality, limits natural shade, affects microclimates, and contributes to increased surface runoff and reduced soil stability. Riparian vegetation along riverbanks also faces pressure from human activities, further impacting ecological balance.

- **Climate variability**

Climate variability is characterized by unpredictable rainfall patterns, uneven seasonal distribution, and extended dry spells. These conditions directly affect agricultural production cycles, water availability, and ecosystem stability. Farmers face challenges in planning planting and harvesting activities, while water resources become increasingly unreliable. The lower midland and more arid zones are particularly vulnerable to the effects of climate variability, which exacerbates existing environmental and livelihood challenges.

- **Unequal agro-ecological potential**

The municipality is divided into several agro-ecological zones, each with different climatic, soil, and altitude conditions that influence land use potential. These variations create disparities in agricultural productivity and suitability across different wards. While some zones support mixed farming and crop production, others are more suited to livestock keeping due to limited rainfall and poorer soil conditions. This uneven potential necessitates zone-specific planning and resource allocation to optimize land use and support sustainable development.

- Soil erosion

The municipality is predominantly characterized by clay-based soils, which have relatively high water retention capacity and support agricultural activities, particularly during rainy seasons. However, visible signs of soil erosion are present in certain areas, especially along riverbanks and locations with reduced vegetation cover, where soil exposure increases susceptibility to runoff and erosion processes. Erosion is demonstrated in the plate below, illustrating the extent of soil degradation in the affected areas.

Plate 4: Soil Erosion

Field survey, 2026

3.3 Socio - Economic Characteristics

Population dynamic is critical in the provision of essential services, allocation of social amenities, provision of labor force and in appraisal of resource exploitation in an area. It is thus of great essence to understand the Municipality's population characteristics.

3.3.1 Population Size

The municipality covers the entire wards of Kasikeu, Mbitini, and Emali/Mulala, as well as portions of Nzaui/Kilili/Kalamba and Nguu/Masumba. These combined areas contribute to a total municipal coverage of 729.21 square kilometres, forming the spatial basis for population distribution, administrative planning, and service delivery within the municipality. According to the 2019 Population and Housing Census, the municipality has a total population of 113,001, comprising of 56,695 males and 56,306 females. The table below demonstrates the population distribution within the municipality:

Table 8: Municipality Population-2019

	KNBS -2019 (Base Population)		
Ward	**Male**	**Female**	**Total**
Kasikeu	17,910	17,711	35,621
Mbitini	12161	12797	24958
Emali/Mulala Ward	14431	14097	28528
Nguu/Masumba	8184	7575	15759
Nzaui/Kilili/Kalamba	4,009	4,126	8,135
Municipality Population	56,695	56,306	**113,001**

Population Projection

Using an urban growth rate of 3.7% per annum, as provided by UN-Habitat, the municipality's population was projected at five-year intervals for 2026, 2030, and 2035. In 2019, the municipality had a total population of 113,001, comprising 56,695 males and 56,306 females. The population is projected to increase to approximately 146,405 by 2026, 169,755 by 2030, and 204,248 by 2035. At the ward level, Kasikeu is expected to remain the most populous ward, followed by Nguu/Masumba and Mbitini, reflecting their relatively larger spatial coverage and settlement patterns. This growth trend highlights the need for expanded infrastructure, housing, and social services to accommodate the increasing population within the municipality.

Table 9: Municipality Population Projection

	2019			**2026**			**2030**			**2035**		
Ward	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Kasikeu	17,910	17,711	35,621	23204	22947	46151	26905	26606	53511	32372	32013	64385
Mbitini	12161	12797	24958	15756	16580	32336	18269	19224	37493	21981	23130	45111
Emali/Mulala Ward	14431	14097	28528	18697	18264	36961	21679	21177	42856	26084	25480	51564
Nguu/Masumba	8184	7575	15759	10603	9814	20417	12295	11379	23674	14792	13692	28484
Nzaui/Kilili/Kalamba	4,009	4,126	8,135	5194	5346	10540	6023	6198	12221	7246	7458	14704
Municipality Population	56,695	56,306	**113,001**	73454	72951	**146405**	85171	84584	**169755**	102475	101773	**204248**

Population density

The population density is 154.96 persons/km², indicating a moderately populated area with uneven spatial distribution of residents. This variation in density has direct implications for land use planning, infrastructure development, and service delivery, particularly in prioritizing high-density wards for intensified infrastructure provision while adopting appropriate spatial management strategies for low-density areas. The population density across the wards within the municipality are demonstrated in the table below:

Table 10: Municipality Population Density

Ward	Total	Area in square kilometer	Density
Kasikeu	35,621	268.37	132.73
Mbitini	24958	115.74	215.64
Emali/Mulala Ward	28528	60.67	470.22
Nguu/Masumba	15759	169.48	92.98
Nzaui/Kilili/Kalamba	8,135	114.95	70.77
Municipality Population	**113,001**	729.21	154.96

3.3.2 Municipality Social Services and Amenities

3.3.2.1 Educational Facilities

The Municipality has a total of 174 learning institutions out of which 6 are tertiary, 46 are secondary and 106 are primary. ECDE centres are located within primary schools.

Table 11: Number of learning institutions in the municipality

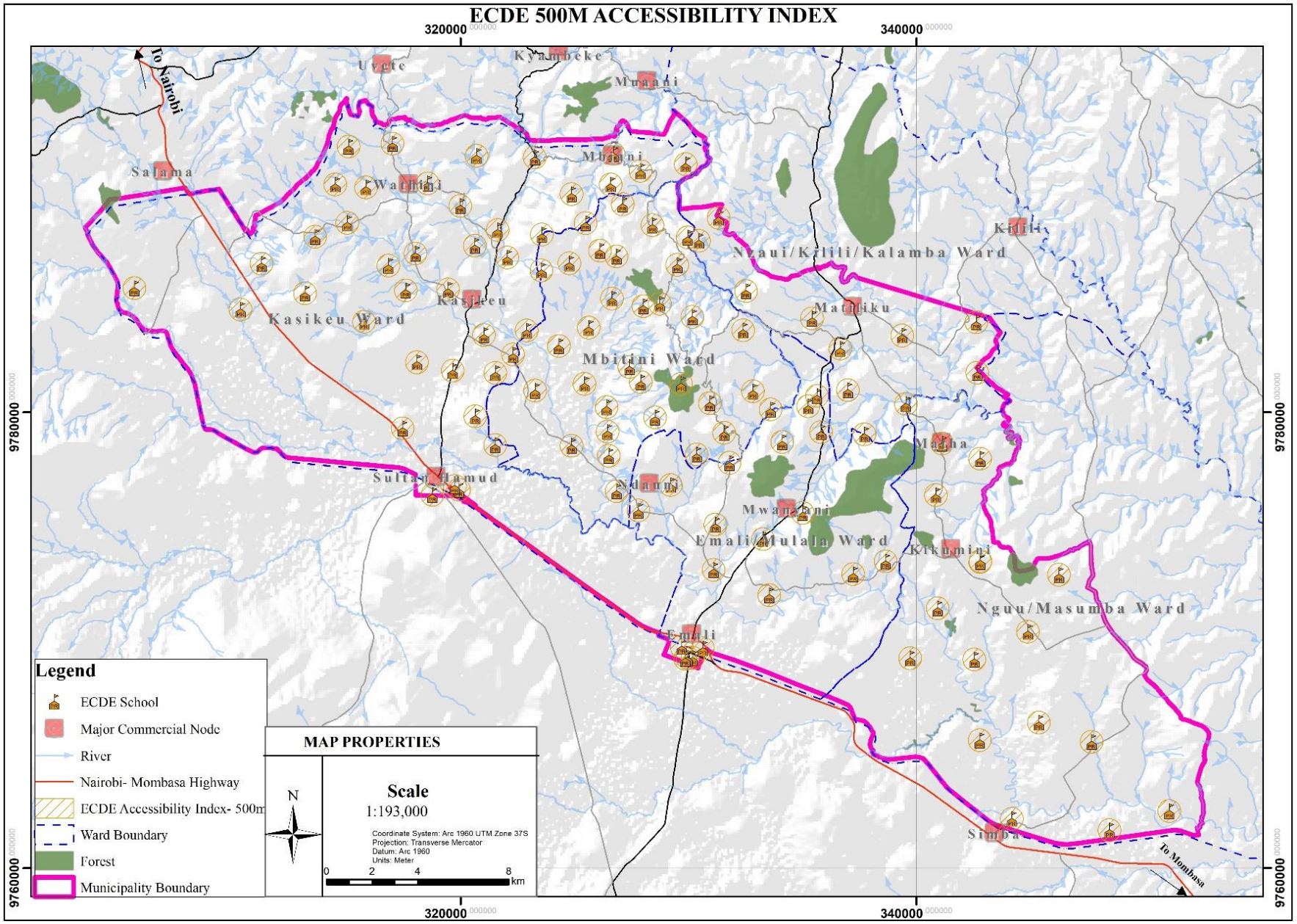
Serial No	Institutions	No of Institutions
1	Tertiary	7
2	Secondary	46
3	Primary	121
	Total	**160**

Source: Field survey (, 2026)

These institutions are key in the municipality as they play a key role in skills development of the population in the area. There is also a Kenya Medical Training Institute in the municipality. The area is not served by a constituent university campus but there is land banked (4000 acres) as stipulated in the County Spatial Plan for the same use and this is an advantage to the Municipality as it will play a future role of impacting knowledge and skills development.

Spatial distribution of ECDE Centres

The Physical and Land Use Planning Handbook, 2025 recommends a maximum walking distance of 500M for ECDE school going children. Using an accessibility index of 0.5km for the public ECDE centres, a significant number of homesteads were found to be outside the proximity distance as shown by map the below:



Map 11: ECDE Accessibility Index

Comprehensive schools

The Municipality has a total of 121 primary schools. In accordance with the Physical and Land Use Planning Handbook (2025), a standard primary school particularly a multi-stream, high-rise comprehensive primary school should occupy a minimum land size of 3.9 hectares. The table below shows the existing primary schools' land sizes showing the deficit and surplus of land;

Table 12: Comprehensive schools Land Requirement

S.No	Name	Area (Ha)	Deficit (+) /Surplus (-)
1.	ACK Marwa Primary School	3.40	-0.5
2.	ACK St Marks Comprehensive School	0.14	-3.76
3.	ACK Wathini Primary And Junior Secondary School	2.77	-1.13
4.	Aic Kwale Comprehensive School	1.35	-2.55
5.	Aic Mbiini Comprehensive School	4.23	0.33
6.	Chief Kiamba Primary School	2.19	-1.71
7.	Christopher Kiamba Memorial School	9.40	5.5
8.	Emali Primary School	3.95	0.05
9.	Enguli Primary School	2.06	-1.84
10.	Happyland Junior School	0.04	-3.86
11.	Iimba Primary School	2.22	-1.68
12.	Isika Comprehensive School	1.37	-2.53
13.	Itaava Primary School	2.19	-1.71
14.	Iviani Primary School	1.37	-2.53
15.	Joy Sounds Comprehensive School	0.94	-2.96
16.	Kaliini Primary School	1.43	-2.47
17.	Kalima Comprehensive School	2.11	-1.79
18.	Kalumbi Primary School	0.48	-3.42
19.	Kandolo Primary School	1.73	-2.17
20.	Kanyililya Primary School	3.99	0.09
21.	Kasuvi Primary School	1.23	-2.67
22.	Katheka Primary School	0.76	-3.14
23.	Kathii Primary School	2.41	-1.49
24.	Kathikwani Primary School	2.04	-1.86
25.	Kathuma Primary School	0.54	-3.36
26.	Katisaa Primary School	0.36	-3.54
27.	Katulyani Primary School	0.87	-3.03
28.	Katune Ecde	0.57	-3.33
29.	Kavuthu Primary & Secondary School	2.25	-1.65
30.	Kawala Primary School	2.33	-1.57
31.	Kikumini Primary School	3.73	-0.17
32.	Kila Primary School	0.56	-3.34

S.No	Name	Area (Ha)	Deficit (+) /Surplus (-)
33.	Kiliku Primary School	2.43	-1.47
34.	Kiou Primary School	0.74	-3.16
35.	Kitandi Primary And Ecde	1.89	-2.01
36.	Kithatha Primary School	2.38	-1.52
37.	Kithembeoni Comprehensive School	0.52	-3.38
38.	Kithina Primary School	3.08	-0.82
39.	Kitivo Primary School	1.07	-2.83
40.	Kitumbini Primary School	4.34	0.44
41.	Kiuani Primary School	2.04	-1.86
42.	Kiumoni Primary School	2.91	-0.99
43.	Kwa Mukonyo Primary School	5.00	1.1
44.	Kwakakelo Primary School	3.54	-0.36
45.	Kwakakulu Primary School	2.01	-1.89
46.	Kwakaleli Primary School	2.41	-1.49
47.	Kwakatia Primary School	0.97	-2.93
48.	Kwakukui Comprehensive School	2.27	-1.63
49.	Kwambiti Primary School	1.11	-2.79
50.	Kwambumbu Primary School	0.53	-3.37
51.	Kwamutumia Primary School	1.75	-2.15
52.	Kyemundu Primary School	0.97	-2.93
53.	Kyumbe Primary School	2.31	-1.59
54.	Kyumbuni Primary School	2.80	-1.1
55.	Kyunguni Primary School	1.51	-2.39
56.	Landu Primary School	0.87	-3.03
57.	Liani Comprehensive School	0.49	-3.41
58.	Lumu Mixed Day Boarding Primary School	1.60	-2.3
59.	Makasa Primary School	4.19	0.29
60.	Mamuu Primary School	1.14	-2.76
61.	Manooni Primary School	1.04	-2.86
62.	Maria Msingi Bora School	0.94	-2.96
63.	Masaani Primary & Junior Secondary School	1.25	-2.65
64.	Masamukye Primary School	3.36	-0.54
65.	Masive Comprehensive School	1.51	-2.39
66.	Masokani Comprehensive School	1.17	-2.73
67.	Masue Aic Primary And Junior Secondary School	1.52	-2.38
68.	Matiliku Primary Day And Boarding School & Ecde	3.77	-0.13
69.	Matutu Primary School	1.72	-2.18
70.	Mbalani Comprehensive School	0.75	-3.15
71.	Mbeletu Primary And Secondary	2.47	-1.43
72.	Mbukani Comprehensive Primary School	1.66	-2.24

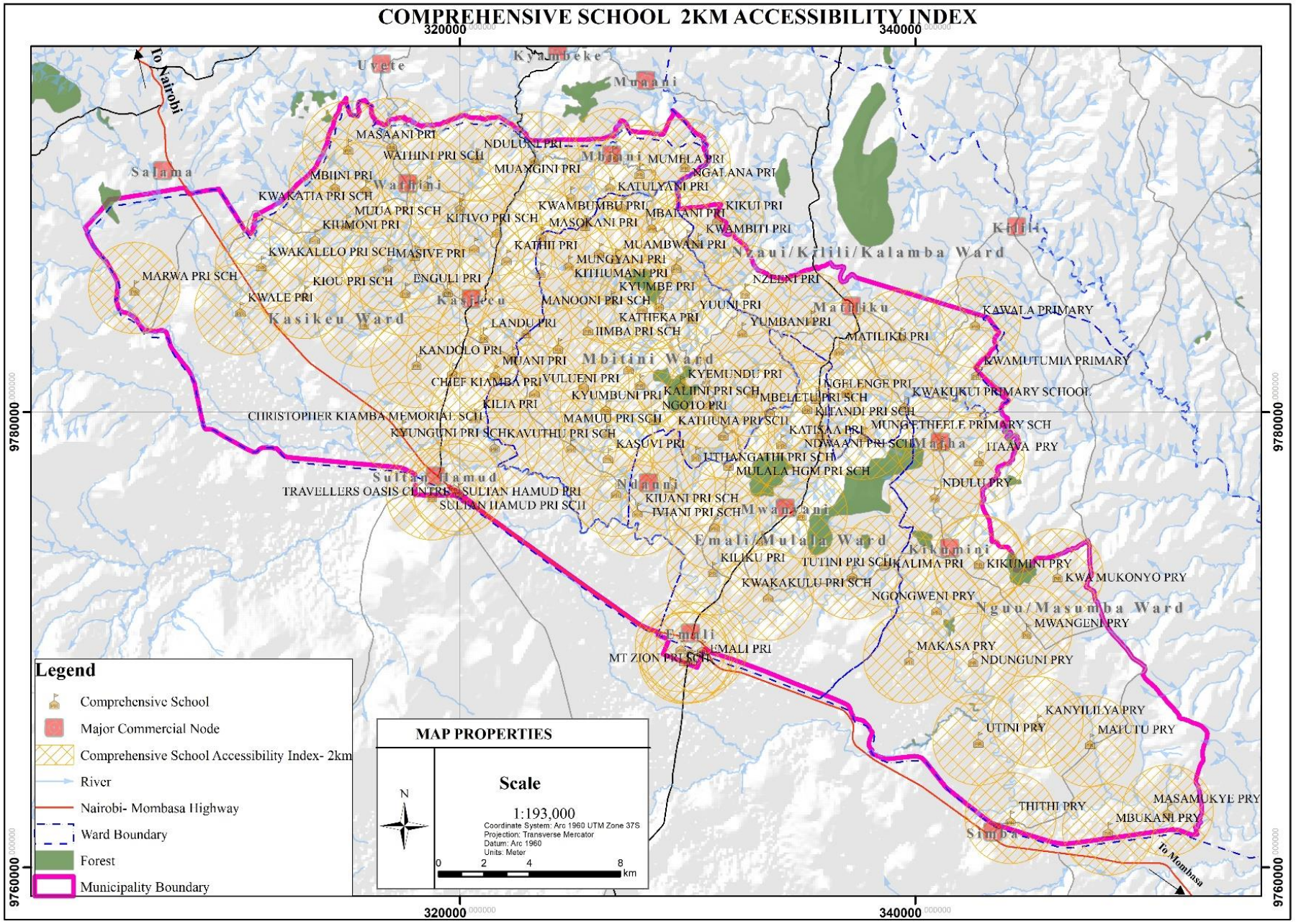
S.No	Name	Area (Ha)	Deficit (+) /Surplus (-)
73.	Mbuthani Hgm Primary School	2.03	-1.87
74.	Mbuvini Primary School	0.42	-3.48
75.	Mbyani Primary School	0.38	-3.52
76.	Mithumoni Comprehensive School	1.23	-2.67
77.	Muambwani Primary And Secondary	2.33	-1.57
78.	Muangeni Primary And Secondary School	3.07	-0.83
79.	Muangini Primary School	0.51	-3.39
80.	Muani Comprehensive School	2.62	-1.28
81.	Mulala Hgm Primary School	3.97	0.07
82.	Mumela Primary School	0.85	-3.05
83.	Mung'etheele Primary School	0.41	-3.49
84.	Mungyani Comprehensive School	1.69	-2.21
85.	Musaani Primary School	2.73	-1.17
86.	Mutanda Primary And Junior School	2.04	-1.86
87.	Mutanda Primary School	2.44	-1.46
88.	Mutweamboo Primary School	3.38	-0.52
89.	Mutyambua Primary School	1.10	-2.8
90.	Muua Primary School	1.75	-2.15
91.	Muusini Primary School	3.66	-0.24
92.	Mwasang'ombe Primary School	1.24	-2.66
93.	Nairrataat Primary School	5.34	1.44
94.	Ndovea Primary School	1.37	-2.53
95.	Ndulini Primary School	2.54	-1.36
96.	Ndulini Primary School	1.05	-2.85
97.	Ndulu Comprehensive School	0.91	-2.99
98.	Ndunguni Primary, Ecde & Secondary School	5.04	1.14
99.	Nduundune Primary Schoolschool	1.34	-2.56
100.	Ndwaani Primary School	1.08	-2.82
101.	Ngaa Primary School	2.04	-1.86
102.	Ngalana Primary School	0.63	-3.27
103.	Ngelenge Primary School	2.13	-1.77
104.	Ngiluni Primary School	0.38	-3.52
105.	Ngongweni Primary School	1.03	-2.87
106.	Ngoto Primary School	2.65	-1.25
107.	Ngulwa Primary And Ecde	1.27	-2.63
108.	Nguuni Primary School	1.03	-2.87
109.	Nthunguni Primary School	0.35	-3.55
110.	Nzeeni Primary School	1.44	-2.46
111.	St Faith Ack Academy And Church	1.77	-2.13
112.	Sultan Hamud Primary School	3.46	-0.44
113.	Sultan Hamud Primary School	4.09	0.19

S.No	Name	Area (Ha)	Deficit (+) /Surplus (-)
114.	Sunrise Preparatory School	0.08	-3.82
115.	Thithi Primary School	6.32	2.42
116.	Tutini Primary School	1.78	-2.12
117.	Uthangathi Primary School	0.31	-3.59
118.	Utini Comprehensive School	2.68	-1.22
119.	Vulueni Comprehensive School	3.70	-0.2
120.	Yumbani Primary School	0.72	-3.18
121.	Yuuni Primary School	0.55	-3.35

There is therefore a need to provide adequate land for the expansion and upgrading of existing schools, as well as the establishment of new education facilities, in order to meet current and projected demand. This will ensure the provision of sufficient space for classrooms, co-curricular activities, and essential support infrastructure, while also accommodating the requirements of the Competency-Based Curriculum (CBC) and the integration of junior secondary education.

Spatial distribution of the Public Primary Schools

The primary schools are relatively evenly distributed within the Municipality. The Physical and Land Use Planning Handbook (2025) recommends a maximum walking distance of 2km for comprehensive school pupils. Using an accessibility index of 2km for the public schools, almost ALL the homesteads were within the recommended proximity distance for primary schools as shown on the map below:



Map 12: Comprehensive School Accessibility Index

Senior Schools

The Municipality has a total of 46 senior (secondary) schools. In accordance with the Physical and Land Use Planning Handbook (2025), a standard secondary school particularly a three-stream institution should occupy a minimum land size of 3.5 hectares. The table below shows the existing Senior schools' land sizes;

Table 13: Land Requirement for Secondary Schools

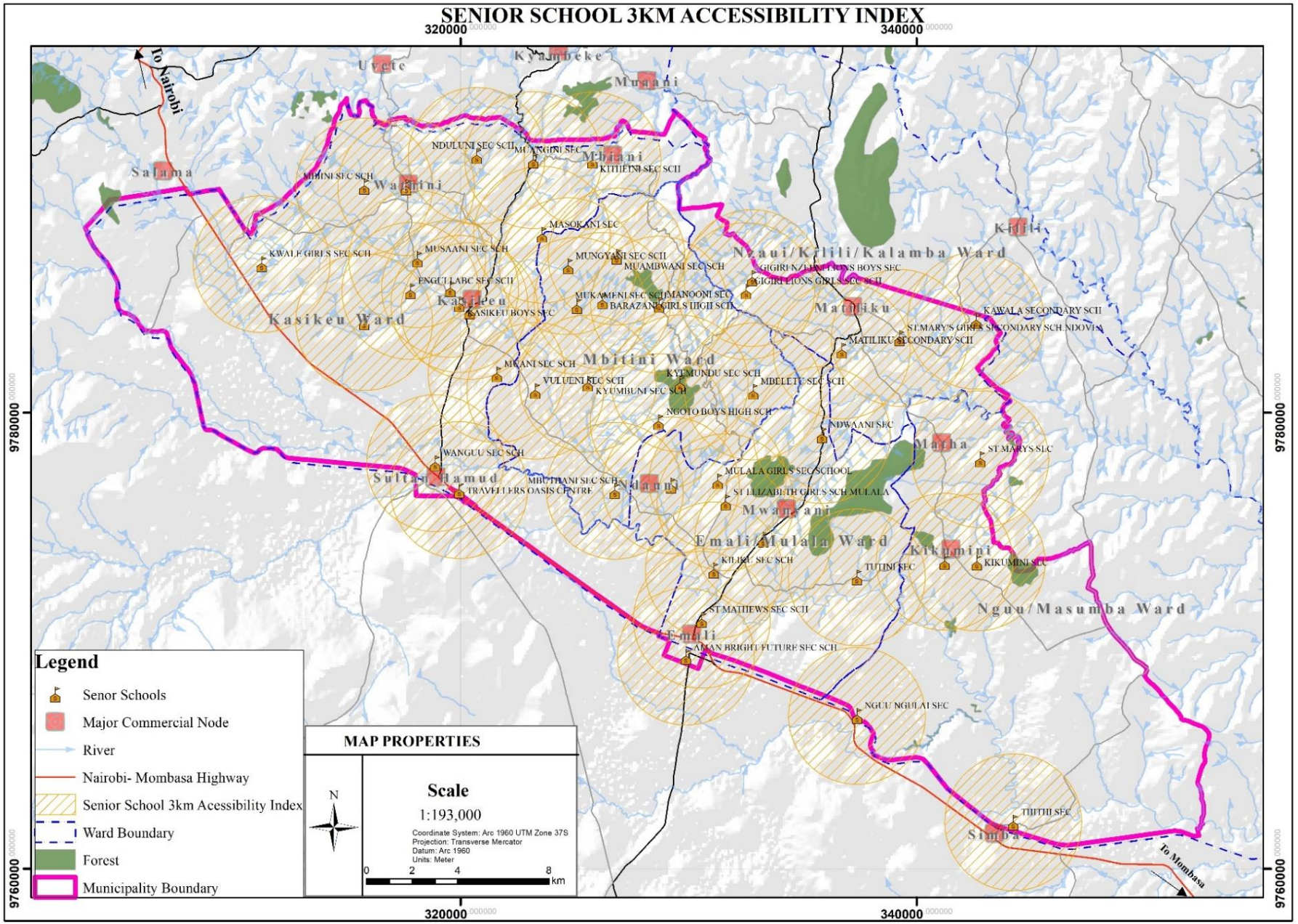
S.No	Name	Area (Ha)	Surplus (+)/Deficit (-)
1.	ABC Kayata Girls Secondary School	1.49	-2.01
2.	ACK St Lukes Marwa's Secondary School	2.18	-1.32
3.	Barazani Girls High School	2.27	-1.23
4.	Enguli Abc Secondary School	1.03	-2.47
5.	Gigiri Lions Girls Secondary School	0.89	-2.61
6.	Gigiri Nzeeni Lions Boys Seconsary	1.53	-1.97
7.	Good Shephered Girls Secondary	3.15	-0.35
8.	Kasikeu Boys Secondary School	8.70	5.2
9.	Kasikeu Girls Secondary School	1.52	-1.98
10.	Kawala Secondary School	2.77	-0.73
11.	Kikumini Secondary School	5.80	2.3
12.	Kiliku Secondary School	1.12	-2.38
13.	Kitheini Secondary School	2.10	-1.4
14.	Kithituni Secondary School	0.84	-2.66
15.	Kithumani Secondary School	0.43	-3.07
16.	Kwakukui Mixed Day Senior School	0.96	-2.54
17.	Kwothitu Secondary School	0.63	-2.87
18.	Kyemundu Secondary School	4.26	0.76
19.	Kyumbuni Secondary School	1.59	-1.91
20.	Lumu Secondary School	1.58	-1.92
21.	Manooni Secondary School	1.13	-2.37
22.	Masokani Mixed Secondary School	1.04	-2.46
23.	Masue High School	0.73	-2.77
24.	Matiku Seconndary School	3.18	-0.32
25.	Matiliku Boys School	8.50	5
26.	Mbuthani Secondary School	1.13	-2.37
27.	Muangini Secondary School	0.99	-2.51
28.	Muani Secondary School	1.21	-2.29
29.	Mukameni Secondary School	3.53	0.03
30.	Mulala Girls Secondary School	5.25	1.75
31.	Mumela Secondary School	0.99	-2.51
32.	Musaani Secondary School	1.21	-2.29
33.	Mutaiti Boys Secondary School	1.75	-1.75
34.	Nduundune Secondary School	1.69	-1.81

S.No	Name	Area (Ha)	Surplus (+)/Deficit (-)
35.	Ndwaani Secondary School	1.12	-2.38
36.	Ngoto Boys High School	2.54	-0.96
37.	Nguu Ngulai Secondary School	2.55	-0.95
38.	St Elizabeth Girls Schoolmulala	4.06	0.56
39.	St Francis Of Asisi Matutu Secondary School	2.60	-0.9
40.	St Mary's Girls Secondary School Ndovea	3.01	-0.49
41.	St Mary's Itaava Senior School	2.00	-1.5
42.	St Mathews Secondary School	2.45	-1.05
43.	Thithi Secondary School	4.00	0.5
44.	Travellers Oasis Centre	7.67	4.17
45.	Tutini Secondary School	1.27	-2.23
46.	Utini Girls Senior School	1.87	-1.63

The assessment of senior (secondary) schools within the Municipality reveals a notable deficiency in land allocation when compared to the minimum requirement of 3.5 hectares as prescribed in the Physical and Land Use Planning Handbook (2025). Out of the 46 schools assessed, only 8 institutions meet or exceed the stipulated standard, indicating a low level of compliance. There is need to provide adequate land through expansion of existing institutions, acquisition of additional land, and proper reservation of land for future Senior school development to ensure compliance with planning standards and support quality education delivery.

Spatial distribution of Secondary Schools

The secondary schools are fairly evenly distributed within the Municipality. The Physical and Land Use Planning handbook (2025) recommends a maximum walking distance of 3km for senior school going students. Using an accessibility index of 3km for the public secondary schools, all homesteads were within the recommended proximity distance as shown by the map below;



Map 13: Comprehensive School Accessibility Index

Tertiary level

The Municipality has a total of seven (7) tertiary institutions, comprising Technical and Vocational Education and Training (TVET) centres and technical institutes, as presented in Table 9. These institutions are spatially located in Emali/Mulala, Kasikeu, Nzaui/Kilili/Kalamba and Mbitini wards, indicating a clustered distribution pattern.

Table 14: Tertiary Institutions within the Municipality

S. No	School	Ward
1.	Ngetha Vocational Training Centre	Emali/Mulala
2.	Lukenya Training Institute	Emali/Mulala
3.	Springhill kwakulu CTTI	Emali/Mulala
4.	Masokani Vocational Training Centre	Mbitini
5.	Kawala CTTI	Nzaui/Kilili/Kalamba
6.	Marwa county Technical Training Institute	Kasikeu
7.	Kitumbini Technical Institute	Kasikeu

Source: Field survey, 2026

The spatial distribution of tertiary institutions within the Municipality is uneven, with pronounced service deficits in Nguu/Masumba ward, which currently lack established Technical and Vocational Education and Training (TVET) facility. This spatial disparity limits equitable access to vocational and technical education, particularly for residents in underserved areas, and negatively affects skills development, labour force participation, and local economic productivity. There is a need for the planned expansion and rationalization of tertiary education infrastructure through the establishment of TVET institutions in underserved wards. This will enhance spatial accessibility, reduce travel-related constraints, and promote inclusive human capital development across the Municipality.

Projection of required educational facilities within *the* Municipality

In accordance with the Physical and Land Use Planning Handbook (2025), the planning standards for educational facilities in urban areas are: one ECDE centre per 2,500 persons, one comprehensive (primary) school per 5,000 persons, and one senior (secondary) school per 25,000 persons. These thresholds were applied to the projected population to determine facility requirements for the planning period (2026–2035). The analysis indicates that, based on population thresholds, the Municipality has an overall surplus of educational facilities across all levels throughout the planning horizon.

Table 15: Educational Facilities Requirement

YEAR	**Available**	***2026***		***2030***		***2035***	
Institutions		**Pop.**	**Surplus (+) Deficit (-)**	**Pop.**	**Surplus (+) Deficit (-)**	**Pop.**	**Surplus (+) Deficit (-)**
ECDE	121	**113,001**	+61	**146405**	+47	**204248**	+24
Comprehensive school	121	**113,001**	+63	**146405**	+77	**204248**	+65
Senior school	48	**113,001**	+43	**146405**	+42	**204248**	+40

Despite the observed numerical adequacy, accessibility analysis indicates that ECDE facilities are not optimally distributed, resulting in localized service deficits where some settlements fall outside the recommended service radius. Similarly, while comprehensive and senior schools meet population-based requirements, certain homesteads remain beyond acceptable accessibility thresholds.

This discrepancy between population-based adequacy and spatial accessibility underscores the need for a distributional planning approach. Priority should therefore be placed on the strategic siting and redistribution of educational facilities particularly ECDE centres to enhance spatial coverage, improve proximity to users and ensure equitable access across all settlements within the Municipality.

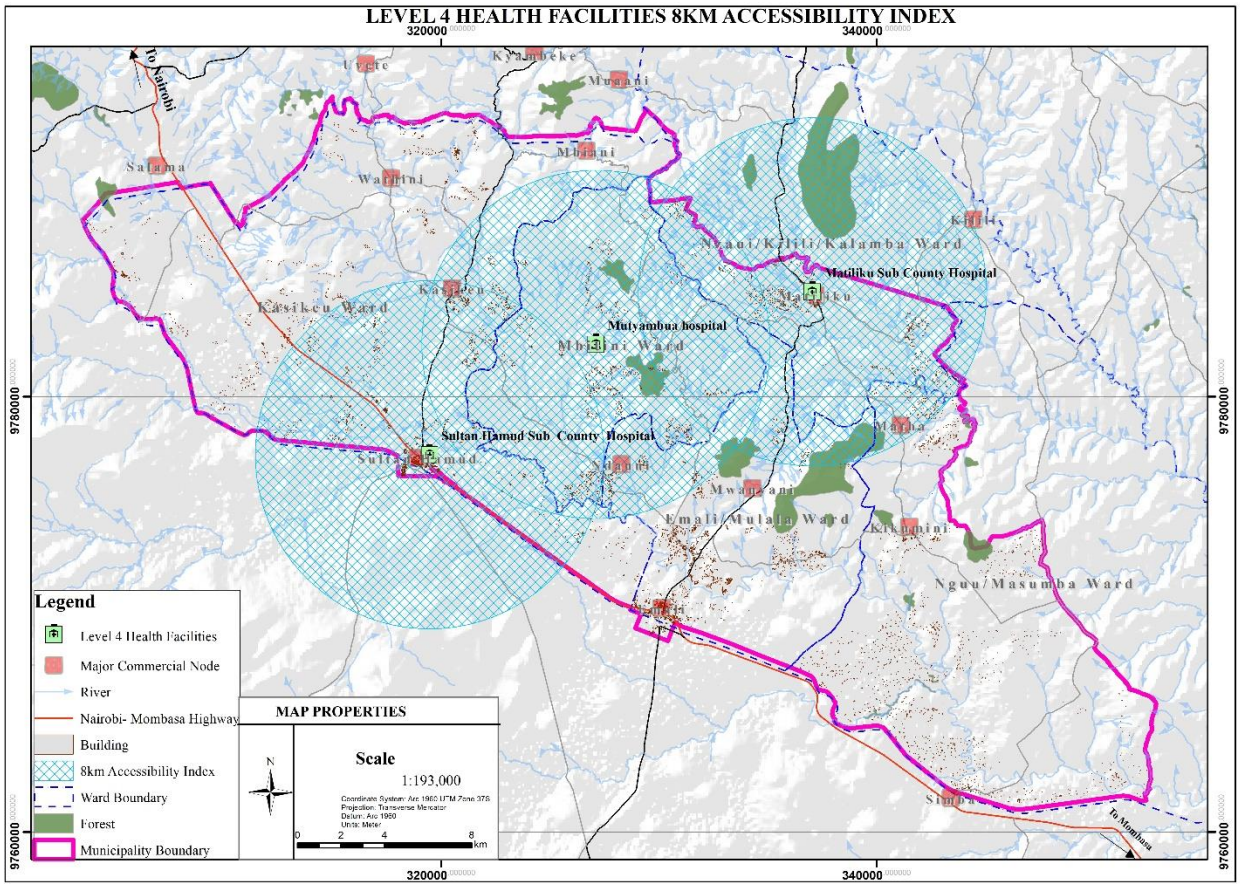
3.3.2.2 Health

The Municipality has a total of 69 health facilities, comprising both public and private providers that support healthcare service delivery across the area. Within the public health system, there are three (3) Level 4 facilities (Sub-County Hospitals), namely Mutyambua Hospital, Matiliku Sub-County Hospital, and Sultan Hamud Sub-County Hospital, which serve as key referral centres within the Municipality.

These are supported by 7 Level 3 facilities (health centres), including Kilome Nursing Home, Mwanyani Health Centre, Kikumini Health Centre, Mbenuu Health Centre, Kilome Mnh Hospital, Kavuthu Health Centre, and Kawala Health Centre. In addition, there are approximately 26 dispensaries, alongside other private clinics, which provide primary healthcare services at the community level.

Spatial distribution of the sub-county hospitals-level 4 Health Facilities

The distribution of Level 4 public health facilities (Sub-County Hospitals) within the Municipality is spatially uneven, resulting in disparities in access to higher-order healthcare services. An accessibility analysis undertaken using an 8km service radius, in line with the Physical and Land Use Planning Handbook (2025) standards, indicates that a proportion of homesteads fall outside the recommended catchment distance, as illustrated in the map below. This spatial gap in service coverage is particularly evident in Nguu/Masumba Ward, where significant sections of the population are underserved by existing Level 4 facilities. There is a need to establish an additional Level 4 health facility within Nguu/Masumba Ward to enhance spatial coverage, reduce travel distances, and improve access to referral healthcare services for surrounding settlements.

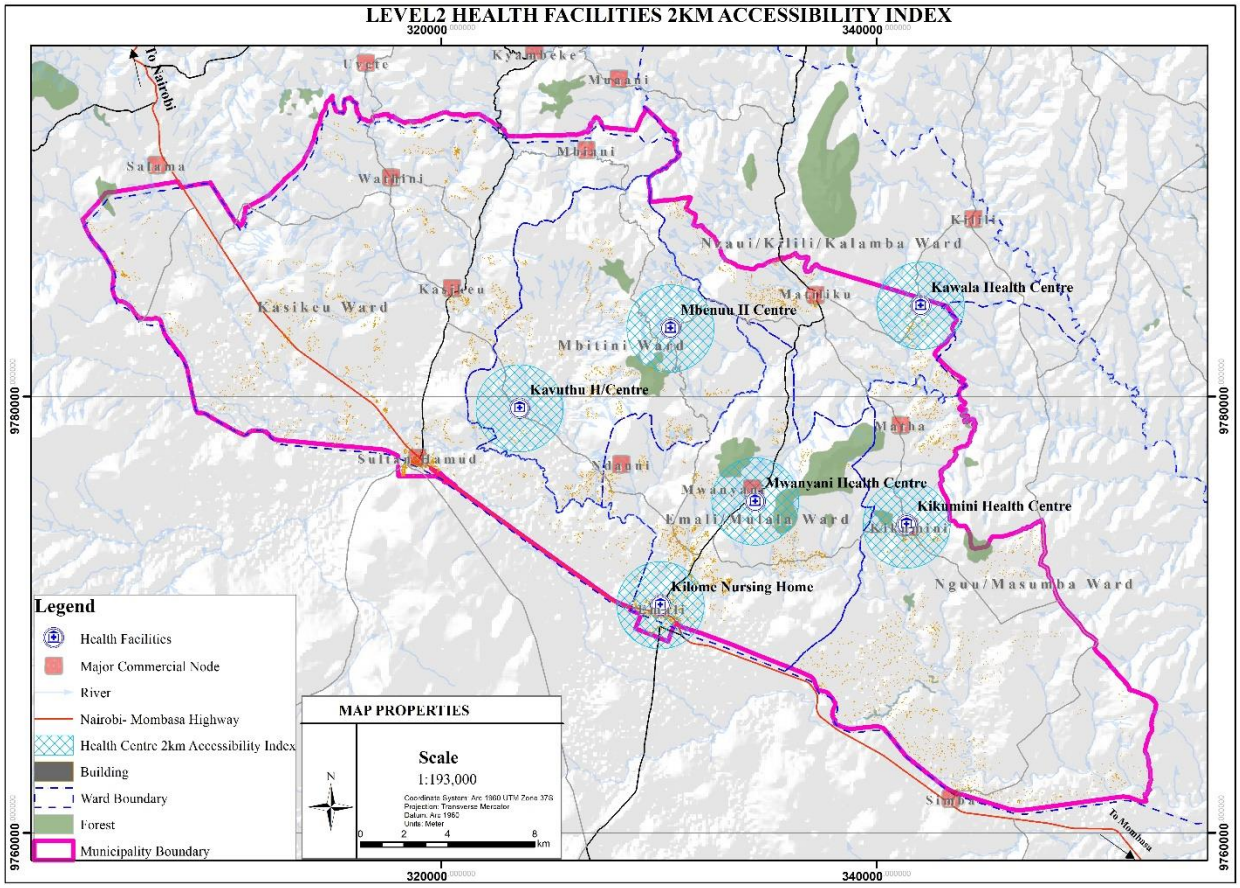


Map 14: Level 4 Health Facilities Accessibility Index

Spatial distribution of the health centres level 3

The distribution of Level 3 public health facilities (Health Centres) within the Municipality is uneven, resulting in significant disparities in spatial accessibility to primary healthcare services. An accessibility analysis undertaken using a 2 km service radius, in accordance with the Physical and Land Use Planning Handbook (2025) standards, indicates that most homesteads fall outside the recommended catchment distance, as depicted in the map below.

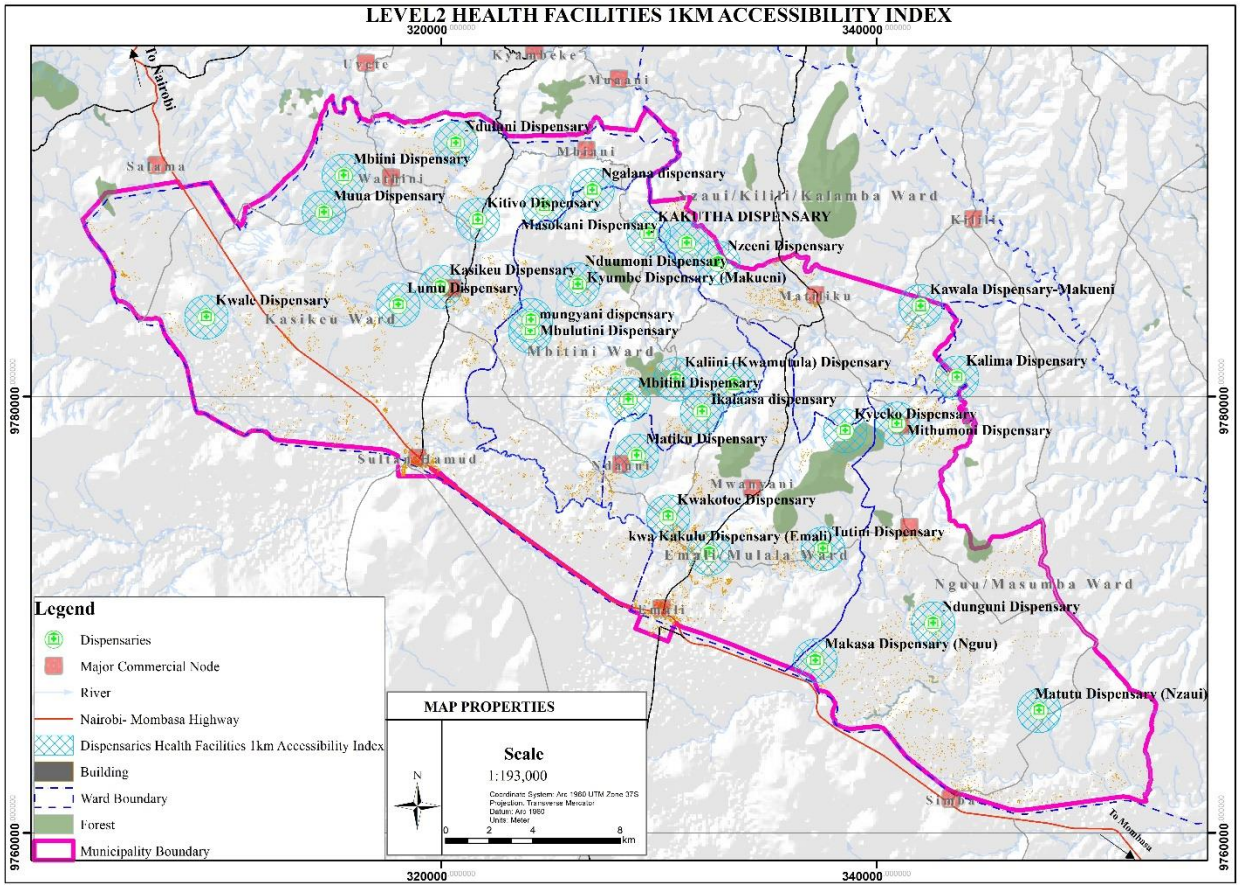
This highlights substantial gaps in the coverage of Level 3 health services across the Municipality, implying that a considerable proportion of the population lacks reasonable physical access to nearby health centres. The situation is particularly pronounced in Kasikeu, Mbitini, Emali/Mulala, and Nguu/Masumba wards, where accessibility deficits are more evident. To address these disparities, there is a need for the provision and equitable distribution of additional health centres within the identified underserved wards. This will improve spatial accessibility, reduce travel distances to healthcare services, and enhance the overall efficiency and equity of primary healthcare delivery within the Municipality.



Map 15: Level 3 Health Facilities Accessibility Index

Spatial distribution of the dispensaries – level 2 Facilities

The distribution of Level 2 public health facilities (dispensaries) within the Municipality is uneven, resulting in significant disparities in access to basic healthcare services. An accessibility analysis conducted using a 1 km service radius, in line with the Physical and Land Use Planning Handbook (2025) standards, indicates that most homesteads fall outside the recommended catchment distance, as illustrated in the map below. This illustrates inadequate spatial coverage of dispensary-level services across the Municipality, limiting convenient access to primary healthcare, particularly for populations residing in peripheral and rural settlements. The accessibility gaps are more pronounced in Kasikeu and Nguu/Masumba wards, where a substantial proportion of residents are not adequately served by existing facilities. To address these deficiencies, there is a need for the establishment of additional dispensaries in the identified underserved wards. This will improve spatial coverage, enhance proximity to basic health services, and promote equitable access to primary healthcare within the Municipality.



Map 16: Level 3 Health Facilities Accessibility Index

Projection of required health facilities within *the* Municipality

In accordance with the Physical and Land Use Planning Handbook (2025), the planning standards for health facilities in urban areas are: one dispensary per 15,000 persons, one health centre per 30,000 persons, and one sub-county hospital per 100,000–500,000 persons. These standards were applied to the projected population to determine the adequacy of existing health infrastructure over the planning period (2026–2035). The analysis indicates that, based on population thresholds, the Municipality generally has a surplus of health facilities across all categories. However, despite the numerical adequacy, accessibility and spatial distribution remain critical considerations, as some areas may still experience service gaps due to uneven distribution of facilities.

Table 16: Health Facilities Requirement

Year	Available	2026		2030		2035	
Institutions		**Pop.**	**Surplus (+) Deficit (-)**	**Pop.**	**Surplus (+) Deficit (-)**	**Pop.**	**Surplus (+) Deficit (-)**
Sub-county Hospital	3	**113,001**	+2	**146405**	+1	**204248**	-1
Health Centre	6	**113,001**	+2	**146405**	+1	**204248**	-1
Dispensaries	30	**113,001**	+23	**146405**	+20	**204248**	+14

Based on the accessibility analysis, all categories of health facilities sub-county hospitals, health centres, and dispensaries illustrate inadequate spatial coverage, with portions of the population falling outside the recommended service radii. This indicates that, while the Municipality meets the quantitative requirements for facility provision, there is a significant mismatch between facility distribution and population accessibility. There is a need to prioritize not only the provision of additional facilities where necessary but also the strategic spatial redistribution of both existing and new facilities to enhance coverage, reduce service gaps, and ensure equitable access to healthcare services across all wards within the Municipality.

Land Requirement in public health facilities

The Physical and Land Use Planning Handbook (2025) recommends minimum land allocations for public health facilities in urban areas as follows: 4.0 hectares for Level IV (Sub-County) hospitals, 1.0 hectare for health centres, and 0.5 hectares for dispensaries. These standards are intended to ensure adequate space for current operations, future expansion, circulation, and supporting infrastructure within health facilities. The table below presents the existing land sizes of health facilities within the Municipality, providing a basis for assessing compliance with the recommended planning standards and identifying any land deficits that may constrain future expansion and service delivery.

Table 17: Health Facilities and Land Requirement within the Municipality

S.No	Name	Level	Area (Ha)	Minimum land requirement ()	Surplus (+) Deficit (-)
1.	Sultan Hanud Sub-County Hospital	IV	2.75	4.0ha	-1.25
2.	Matiliku Sub-County Hospital	IV	1.18	4.0ha	-2.82
3.	Mutyambua Hospital	IV	1.50	4.0ha	-2.5
4.	Kilome Mnh Hospital	III	1.26	1.0 ha	0.26
5.	Kavuthu Health Centre	III	0.36	1.0 ha	-0.64
6.	Kikumini Health Centre	III	0.34	1.0 ha	-0.66
7.	Kwale Health Center	III	0.91	1.0 ha	-0.09
8.	Manyani Health Center	III	0.74	1.0 ha	-0.26
9.	Mbenuu Health Centre	III	0.33	1.0 ha	-0.67
10.	Mbiini Community Health Centre Kilome	III	0.09	1.0 ha	-0.91
11.	Kakutha Dispensary	II	0.49	0.5ha	-0.01
12.	Kaliini Dispensary	II	0.27	0.5ha	-0.23
13.	Kalima Dispensary	II	0.24	0.5ha	-0.26
14.	Kasikeu Dispensary	II	0.97	0.5ha	0.47
15.	Kawala Dispensary	II	0.40	0.5ha	-0.1
16.	Kilome Nursing Home	II	0.21	0.5ha	-0.29
17.	Kitivo Dispensary	II	0.34	0.5ha	-0.16
18.	Kwa Kakulu Dispensary	II	0.47	0.5ha	-0.03
19.	Kwakotoe Dispensary	II	0.15	0.5ha	-0.35
20.	Kwale Dispensary	II	0.11	0.5ha	-0.39
21.	Kyeeko Dispensary	II	0.11	0.5ha	-0.39
22.	Kyumbe Dispensary	II	0.14	0.5ha	-0.36
23.	Lumu Dispensary	II	0.13	0.5ha	-0.37
24.	Makasa Dispensary	II	0.96	0.5ha	0.46
25.	Masokani Dispensary	II	0.22	0.5ha	-0.28
26.	Matiliku Dispensary	II	0.10	0.5ha	-0.4
27.	Matutu Dispensary	II	1.12	0.5ha	0.62
28.	Mbitini Dispensary	II	0.26	0.5ha	-0.24
29.	Muthumoni Dispensary	II	0.12	0.5ha	-0.38
30.	Muua Dispensary	II	0.10	0.5ha	-0.4
31.	Mwasangombe Dispensary	II	0.30	0.5ha	-0.2
32.	Nduluni Dispensary	II	0.21	0.5ha	-0.29
33.	Ndunguni Dispensary	II	0.25	0.5ha	-0.25
34.	Ngalana Dispensary	II	0.11	0.5ha	-0.39
35.	Nzeeni Dispensary	II	0.64	0.5ha	0.14
36.	Tutini Dispensary	II	0.09	0.5ha	-0.41

The assessment of health facilities within the Municipality reveals a notable inadequacy in land allocation relative to the prescribed planning standards for different facility levels. All Level IV (Sub-County) hospitals assessed do not meet the minimum land requirement of 4.0 hectares,

indicating significant spatial constraints that may limit the provision of comprehensive healthcare services and future expansion. For Level III (Health Centres), only one facility meets the minimum requirement of 1.0 hectare, while the majority operate on undersized land parcels. Similarly, among Level II (Dispensaries), only 4 out of 26 facilities comply with the minimum requirement of 0.5 hectares, with the rest experiencing varying degrees of land deficits. Therefore there is need for land acquisition, expansion of existing facilities, and reservation of adequate land for future health infrastructure development to ensure compliance with planning standards and improved healthcare service provision within the Municipality.

3.3.2.3 Community facilities

Religious Institutions and Cultural Diversity - there is a diverse presence of religious institutions in the form of churches and mosques. People of both Christian and Muslim faiths are part of the local community and use these places of worship for their religious practices and activities. This diversity of religious institutions and practices is a significant aspect that defines the cultural and social fabric of the municipality. It speaks to the coexistence of different religious communities and the freedom of religious expression within that area.

Security Infrastructure and Public Safety - The municipality is served by key security installations, including Emali Police Station, Sultan Hamud Police Station, Mulala police station, Maungini, Kithumani and Kikumini Police Posts. These facilities are responsible for maintaining law and order, emergency response, and general public safety across the municipality and its surrounding areas.

Administrative Offices and Governance Structure - Administrative offices within the municipality constitute part of the broader community facilities and are spatially decentralized, with key administrative coordination anchored in Emali as the primary service centre and supported by Sultan Hamud. These offices operate within a multi-tier governance framework comprising national government sub-counties (Kilome, Makueni, and Kibwezi West), ward-level administration, and sub-location units. Together, they facilitate coordination of public services, local administration, and security functions, ensuring accessible governance and efficient service delivery across all wards of the municipality.

Social Facilities and Community Amenities - The municipality is served by several identified social facilities, including Kasikeu Social Hall with a capacity of approximately 200–300 people, though the structure is currently dilapidated; Masumba Social Hall in Mwanyani area with a

capacity of about 200 people but lacking electricity; the Makueni Child Protection Centre in Emali with a capacity to serve approximately 300 children but also lacking reliable electricity; and the Emali playground with an estimated capacity of about 3,000 users, though it has limited supporting infrastructure. These facilities provide essential spaces for community meetings, social services delivery, child protection activities, and recreational use, but require infrastructure upgrading and utility provision to enhance their functionality and service capacity.

Cultural Heritage and Tourism Facilities - The Akamba Cultural Centre and Museum (shown in the plate below) is a key cultural asset that preserves and showcases Akamba heritage through artifacts and cultural exhibitions. It also functions as a tourism attraction, contributing to cultural preservation, education and local economic development.

Plate 5: Akamba Cultural Centre and Museum

Cemetery - Sultan Hamud Town has Muslim and Christian Cemetery Close to Sultan Hamud River. The cemeteries seem to be underutilized with most of the local population having a greater preference of burying their deceased in the rural areas.

Emerging Issues in Community Facilities

The municipality lacks the following community facilities: a stadium, adequate social halls, a public library, ICT hubs, a fire station, a power station, and a designated cemetery, thereby inhibiting effective service delivery, emergency response, social interaction, and overall community development.

Police, Post, Cemetery and other facilities

The town has a police post and fenced cemetery. The town lack a designated playing ground and recreational park.

3.3.3 Municipality Local Economic Development

This section explains the economic activities in the municipality namely: agriculture, rade and Commerce (Formal and Informal Sector Activities) and industries.

3.3.3.1 Agriculture

Agriculture is the main economic activity in the planning area. Farmers practice both crop farming and livestock keeping. Common crops grown include maize, beans, mangoes, oranges and drought-resistant crops suited to semi-arid conditions. Livestock keeping is also widely practiced and includes cattle, goats, and sheep.

Crop Farming (Cereals and Horticulture Production Systems)

Crop farming constitutes the core agricultural production system within the municipality, integrating both cereal-based subsistence farming and horticultural commercial production systems. The sector is predominantly rain-fed, with emerging adoption of supplementary irrigation technologies such as boreholes and localized drip systems.

a) Fruit Farming (Horticultural Production Sub-sector)

Fruit farming is a high-value, market-oriented activity within the municipality, spatially concentrated in Nzau/Kiili/Kalamba, Mbitini, Kasikeu, and Mulala/Emali wards, particularly in sub-locations such as Kiili, Nzau, Kavuthu, Kalamba, and Kasikeu. The production system is characterized by perennial orchard farming, dominated by mangoes and citrus fruits, largely under rain-fed conditions with limited irrigation support. This sub-sector represents the most commercially viable agricultural activity, contributing significantly to household incomes and regional trade. However, its efficiency is constrained by high post-harvest losses (up to 40%) due to inadequate cold storage and processing facilities, market inefficiencies driven by broker dominance leading to low farm-gate prices, and limited value addition and export-standard compliance infrastructure.

b) Cereal Farming (Staple Crop Production Sub-sector)

Cereal farming is a food security-driven activity within the municipality, widely distributed across Nzau/Kiili/Kalamba, Nguu/Masumba, Mulala/Emali, Mbitini, and Kasikeu wards. The production system is predominantly smallholder-based (1–5 acres) and rain-fed, focusing on drought-tolerant crops such as maize, beans, green grams, and cowpeas.

It is characterized by low input use, minimal mechanization, and strong dependence on seasonal rainfall patterns, which limits productivity and scalability

Despite its critical role in ensuring household food supply, the sub-sector faces several constraints, including moisture stress and climate variability leading to inconsistent yields, declining soil fertility and limited adoption of improved inputs, post-harvest losses due to inadequate storage infrastructure, and broker-controlled markets that restrict direct farmer participation in pricing and reduce farm-gate returns.

Livestock Production Systems (Cattle, Goats, Poultry)

Livestock farming is widely practiced across Mulala/Emali, Mbitini, Kasikeu, Nguu, Masumba, and Nzau/Kiili/Kalamba wards. The production system is predominantly extensive and agro-pastoral, with livestock grazing on natural rangelands and supplemented by crop residues such as maize stalks.

Dairy production is practiced at a smallholder level, with limited adoption of improved breeds and zero-grazing systems, while poultry farming is emerging but remains largely low-scale and informal. Despite its economic importance, the sub-sector is constrained by livestock undervaluation due to broker-controlled markets, limited access to veterinary and extension services, seasonal pasture and water shortages associated with drought conditions, and lack of structured livestock markets and modern slaughter facilities, which collectively limit productivity and commercialization.

Plate 6: Livestock Production Systems (Cattle & Goats)

Field survey, 2025

Beekeeping (Apiculture Production Systems)

Beekeeping is widely practiced within the municipality as a smallholder livelihood activity, mainly using the African honey bee species with both traditional and Langstroth hives, though adoption of modern hives remains limited. It is concentrated in areas with adequate vegetation and reliable water sources, such as Nguu Masumba, which support bee forage and colony productivity. Local activities include honey production and small-scale processing/packaging, primarily by local beekeepers supplying shops and households.

The sub-sector faces challenges including climate change affecting flowering and forage availability, limited access to modern beekeeping equipment, and inadequate processing and packaging facilities, resulting in low levels of commercialization. There is therefore a need to strengthen technical training, promote modern hive technologies, and establish local honey processing and value addition facilities to improve productivity, quality, and market competitiveness.

3.3.3.2 Trade and Commerce

Trade and commerce form a key secondary economic driver, concentrated in urban centres such as Emali and Sultan Hamud and along Mombasa–Nairobi Road which is the major transport corridors.

i. Formal commercial activities

Formal commercial activities in Emali–Sultan Hamud Municipality are primarily concentrated along major transport corridors such as the A109 and include retail and wholesale trade, restaurants, financial institutions, formal markets, informal enterprises operating within regulated frameworks, and transport-related commerce. These activities support local economic growth by facilitating the supply of goods and services, enhancing access to financial services, promoting hospitality and transit-based trade, and creating employment opportunities, thereby strengthening the Municipality's overall economic base. Some of these commercial activities are shown below:

Kijiji restaurant - Emali town

Jambo Africa resort – Emali town

Buymall super market - Emali Town

Skymart supermarket –Emali Town

Commercial activities (shops- retail & wholesale) - Sultan hamud

Pacino Hotel- Sultan Hamud *Pyramids Hotel- Sultan Hamud*

Plate 7: Some of the Formal Commercial Activities in the municipality

Field survey, 2026

Financial Institutions

The Municipality serves as a regional financial services hub, hosting several banking and SACCO branches that support economic activities within the area. Key institutions include major commercial banks such as Co-operative Bank of Kenya and Equity Bank Kenya, as well as microfinance and development-oriented institutions such as Kenya Women Microfinance Bank (KWFT). These institutions provide essential services including savings, credit facilities, money transfers, and investment support, thereby enhancing financial inclusion, facilitating business growth, and strengthening the Municipality's role as a key economic center in the region.

Financial Institutions – Emali town

Plate 8: Some of the financial institutions in the municipality

Field survey, 2026

ii. *Market Distribution*

The municipality has a total of eight main markets, comprising four major urban markets and four smaller satellite markets serving surrounding and less densely populated areas. These markets are generally in moderate condition, meaning they are operational but lack adequate infrastructure to fully support efficient trading. Most markets do not have modern, well-constructed stalls, and they suffer from inadequate drainage systems, which leads to poor water management during rainfall. In addition, sanitation facilities such as toilets and waste disposal systems are insufficient, affecting hygiene standards and the overall functionality of the market. The table below describes markets within the municipality.

Table 18: Markets within the Municipality

s. no	Name of Market	Town/Urban Centre	Ward	Sub-location	Infrastructure Available	Open/Closed Market	Categories of Market Goods	Condition	Challenges
	Emali Market	Emali	Emali/Mulala	Emali	Stalls, food vending areas	Open air / partially structured	Vegetables, cereals, household goods	Fair–good	Congestion
	Sultan Hamud Market	Sultan Hamud	Emali/Mulala	Sultan Hamud	Semi-structured stalls/shops	Open & partially closed	Mixed goods (general merchandise)	Fair	Low congestion / space utilization
	Matithini Market	Matithini	Mbitini	Matithini	Limited/informal structures	Open air	Livestock, general goods	Fair	Inadequate infrastructure
	Kasikeu Market	Kasikeu	Kasikeu	Kasikeu	Open ground / basic sheds	Open air	Livestock, agricultural produce	Poor–fair	Low revenue potential, limited infrastructure
	Nguu Market	Nguu	Nguu/Masumba	Nguu	Open space	Open air	General goods, livestock	Poor	Lack of infrastructure
	Kikumini Market	Kikumini	Nguu/Masumba	Kikumini	Open space	Open air	Livestock, farm produce	Poor	Poor infrastructure
	Mbitini Market	Mbitini	Mbitini	Mbitini	Limited/temporary structures	Open air	Livestock, general goods	Poor	Lack of structures,

s. no	Name of Market	Town/Urban Centre	Ward	Sub-location	Infrastructure Available	Open/Closed Market	Categories of Market Goods	Condition	Challenges
									limited facilities
	Mwanyani Market	Mwanyani	Mbitini	Mwanyani	Informal/open space	Open air	Livestock, general merchandise	Poor	Limited infrastructure and services
	Matha Market	Matha	Nzaui/Kilili/ Kalamba	Matha	Informal structures	Open air	Livestock, agricultural produce	Poor	Lack of organized facilities

Plate 9: Emali Market

Field survey, 2026

iii. ***Informal business activities***

In Emali and Sultan-Hamud, informal activities such as street vending, small shops, and food stalls are vital for the local economy as they provide jobs and meet community needs. The Nairobi-Mombasa Highway, connecting Nairobi and Mombasa, plays a crucial role in supporting trade and economic activity, with thriving businesses along its route. Entrepreneurs have established *'vibandas'* along the highway, boosting the local economy but facing risks such as traffic accidents due to their roadside location. These *vibandas* have also sparked land use related conflicts as their commercial use clashes with formal/licensed trading areas, leading to disputes among traders. There is a need to construct an accessible market for the traders in order to maintain order and increase municipal revenue.

The sector is characterized by a vibrant informal economy, providing employment opportunities, especially for youth and women. However, it faces challenges such as inadequate market infrastructure, congestion, and limited access to formal financing systems.

Jua kali

Sultan Hamud and Emali towns host designated areas for jua kali activities, including enterprise development centres that accommodate metal works workshops, garages, and hardware-related businesses. These designated spaces help to consolidate informal enterprises, improve organization, and support local entrepreneurship.

Sultan –hamud Jua kali designated sites

Email town designated jua kali sites

Plate 10: Designated Jua Kali Sites in the municipality

Field survey, 2026

iv. Industries

The industrial sector in the municipality is characterized by small-scale, informal, and semi-formal manufacturing activities, commonly associated with the Jua Kali subsector and agro-based processing. Key industries include agro-processing (e.g., posho mills), welding and metal fabrication, block making, craft and artisan enterprises, and construction-related industries, which are largely distributed within trading centres and along major transport corridors. These industries rely on locally available raw materials such as scrap metal, sand, cement, agricultural produce, and honey, serving primarily the local construction sector and household markets. Examples include welding and fabrication activities in Emali Mulala, block making, and honey processing in Nguu Masumba, which collectively support employment and local value chains, albeit at a small scale.

Industrial activities are constrained by low levels of technology adoption, inadequate supporting infrastructure, limited access to formal markets, and high production costs, which hinder expansion and competitiveness. Waste management practices are also weak in some industries, particularly in block making where dust and debris are not well managed.

Slaughter house

There is an existing slaughterhouse in Emali Town, as shown in the plate below. However, the Municipality lacks adequate slaughterhouse facilities to sufficiently serve the growing population and livestock demand. The current facility is limited in capacity and coverage, which constrains its ability to meet hygiene standards, ensure efficient service delivery, and accommodate increasing slaughter volumes. This underscores the need for expansion of existing infrastructure and the development of additional slaughter facilities to enhance public health compliance and support the livestock value chain within the Municipality

Plate 11: Slaughter house in the municipality – Emali Town

Field survey, 2026

Sand Harvesting

Sand harvesting is a significant extractive economic activity within the municipality, driven by demand from nearby construction growth centers such as Nairobi and Konza Technopolis. Rivers including Muooni, Muangini, and Ituoni serve as primary sources of sand, making the activity both economically important and spatially concentrated along riverine environments.

The activity is regulated under the Makueni County Sand Conservation and Utilization Authority, which enforces a controlled harvesting model that permits partial extraction to allow natural replenishment, as opposed to unsustainable mining practices. Governance measures include permitting systems, monitoring of transport trucks, and enforcement operations. Despite its economic benefits, sand harvesting presents notable environmental challenges, particularly riverbank degradation and lowering of the water table, which has affected groundwater sources such as boreholes along rivers like Muooni. To address these impacts, the county has promoted sand dams as a dual-purpose intervention for water conservation and regulated sand harvesting.

There is need to promote value addition through investment in sand-based processing industries, such as glass manufacturing and construction precast production, to enhance local revenue retention and strengthen the economic linkages of sand resources within the municipality.

Emerging Issues per Local Economic Development

Table 19: Emerging Issues per Local Economic Development

Sector	Emerging Issues
Crop Farming (Cereals & Horticulture)	High post-harvest losses (up to 40%) due to inadequate storage and processing facilities; reliance on rain-fed agriculture leading to vulnerability to climate variability; declining soil fertility and low input use; broker-dominated markets reducing farmer returns; limited value addition and export compliance infrastructure.
Livestock Production	Seasonal pasture and water shortages due to drought; limited access to veterinary and extension services; lack of structured livestock markets and modern slaughter facilities; livestock undervaluation due to broker-controlled markets; low adoption of improved breeds and zero-grazing systems.

Sector	Emerging Issues
Beekeeping (Apiculture)	Climate change affecting flowering patterns and forage availability; limited adoption of modern hive technologies; inadequate honey processing, packaging, and value addition facilities; low commercialization levels; limited technical capacity among beekeepers.
Trade and Commerce (Formal & Informal)	Inadequate market infrastructure (poor drainage, sanitation, and stall facilities); congestion in major urban markets; land use conflicts along highways due to informal trading (vibandas); limited access to formal financing; inefficient market organization and low revenue optimization from trading activities.
Informal Sector Activities	Overcrowding and unplanned spatial distribution of informal enterprises; safety risks associated with roadside vending along major highways; limited access to formal credit and business support services; lack of designated trading spaces leading to conflicts with formal land use planning; vulnerability to regulatory enforcement without adequate alternatives.
Industrial Activities (Light Industries/Jua Kali)	Low technology adoption limiting productivity and competitiveness; inadequate industrial infrastructure and lack of designated industrial zones; limited access to markets and finance; high production costs; poor waste management practices, particularly in block making and metal fabrication; weak integration into value chains.
Sand Harvesting	Environmental degradation including riverbank erosion and lowering of the water table; illegal or unregulated extraction in some areas despite existing regulations; ecological disruption of river systems; enforcement and compliance challenges; dependence on extractive activity without sufficient local value addition; limited downstream industries for sand processing.

3.4 Urban Infrastructure and services

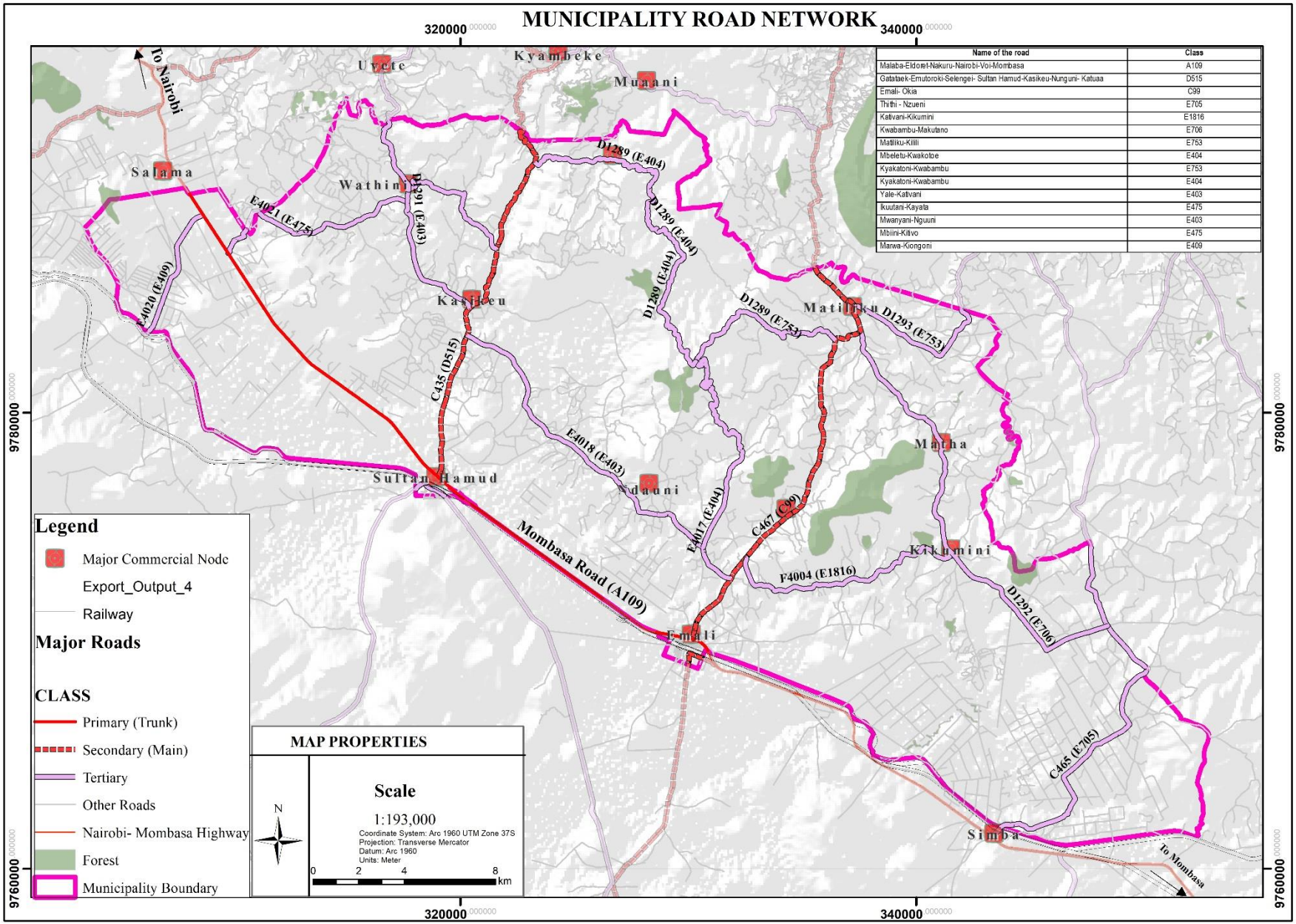
This presents the infrastructure and services in the Municipality which include transport, water, sanitation, energy, Information and Communication Technology.

3.4.1Transport

Road transport is the predominant mode of transportation within the Municipality, supported by a well-defined hierarchy of classified roads comprising Classes A, B, C, D, and E. The Nairobi–Sultan Hamud–Emali–Mombasa (A8) trunk road and the Emali–Loitoktok (A5) road constitute the principal transport corridors, forming the structural backbone of the municipal road network and facilitating both regional and inter-county connectivity. Additional strategic links include the Emali–Ukia–Wote Road, which is currently being upgraded to bitumen standard, and the B52–Kibini–Sultan Hamud–Kasikeu (C435) road, which is already paved and in good condition. These corridors significantly enhance accessibility, mobility, and economic integration within the Municipality, as shown in the map below.

However, a substantial proportion of the road network remains underdeveloped. In the hinterland areas, most roads are in earth condition and lack adequate drainage infrastructure, resulting in poor accessibility, especially during rainy seasons. Similarly, urban access roads are predominantly unpaved and in poor condition, with limited or no stormwater drainage systems. This leads to frequent surface deterioration, erosion, and reduced connectivity within urban centres

These challenges highlight the need for comprehensive road upgrading programmes, including paving to bitumen or gravel standards, installation of effective drainage systems, and implementation of routine maintenance strategies to improve the resilience, functionality, and efficiency of the transport network.



Map 17: Existing Road Network

Public Transport

Public transport is the primary means of mobility within the municipality. The main operators include buses, 14-seater matatus, saloon cars (Probox and Sienta), and boda bodas. These modes of transport connect the municipality to major areas of influence such as Nairobi, Mombasa, Makindu, Machakos, Kitui, and the wider East African region. The Nairobi–Mombasa Highway serves as the main public transportation corridor in the area.

Rail Transport

Emali–Sultan Hamud Municipality is strategically served by both the Nairobi–Mombasa Standard Gauge Railway (SGR) and the older metre-gauge railway line, which traverse the municipality along the main transport corridor. The presence of the SGR station in Emali Township enhances regional and national connectivity by providing efficient passenger and freight services between major urban centres, including Nairobi and Mombasa. This positions Emali as an important transport node and logistics hub along the corridor.

Plate 12: SGR Emali Terminus

Field Survey, 2026

Bus Terminus

The Municipality is served by several bus termini and matatu stages located across urban centres and rural nodes, as described in the table below. The main facilities are found in Emali and Sultan Hamud, including Sultan Hamud Bus Park and Emali Bus Park, which serve as the primary passenger terminals. Additional stops and stages such as Kasikeu Bus Stage, Kiathini Matatu Stop, Mbiani Junction Stop, Ndauni Stage, Mutulani Matatu Stop, Kikumini Road Stop, Matha Route Stop, Matiliku Matatu Stop, and Sultan Hamud Super Stop function as roadside or informal boarding points supporting local and long-distance transport.

Table 20: Bus Termini within the Municipality

Name of the Terminus	Town/Urban Centre	Ward	Sub-location	Infrastructure Available	Capacity	Area (Hectares)	Condition/Status
Sultan Hamud Bus Park	Sultan Hamud	Kasikeu	Sultan Hamud	Open parking	100+	1.2	Murram
Emali Bus Park	Emali	Emali Mulala	Emali	Open sheds	50+	1.5	—
Kasikeu Bus Stage	Kasikeu	Kasikeu	Town Center	Roadside boarding	30+	0.4	Murram
Kiathini Matatu Stop	Wathini	—	Kiathini	Roadside stop	local	0.2	Earth
Mbiani Junction Stop	Mbiani	Nguu / Masumba	—	Informal stops	local	0.2	Earth
Ndauni Stage	Ndauni	Nguu / Masumba	Mwanyani	Roadside pickup	local	0.2	Earth
Mutulani Matatu Stop	Mwanyani	Nguu / Masumba	Kikamini	Informal stop	local	0.2	Earth
Kikumini Road Stop	Kikumini	Nguu / Masumba	Kikamini	Informal stop	local	0.2	Earth
Matha Route Stop	Matha	Nguu / Masumba	Matha	Matatu stop	local	0.2	Earth
Matiliku Matatu Stop	Matiliku	NZAKIKA	Matiliku	Roadside stage	Medium	0.3	Murram
Sultan Hamud Super Stop	Sultan Hamud	Kasikeu	Near A109	Rest stop	Large trucks & buses	2.5	Murram

The plate below show the existing terminus at Emali.

Plate 13: Emali Bus Terminus

Field Survey, 2026

Matatu Saccos

The Municipality is served by several matatu Savings and Credit Cooperative Organizations (Saccos) operating in key urban centres, as shown in the table below. These include Kimatula Sacco, which operates in both Emali and Sultan Hamud with a significant fleet, and Wote Emali Sacco serving the Nguu Market area. These Saccos facilitate organized public transport services and contribute to mobility within and beyond the municipality.

Table 21: Matatu Saccos Municipality

Name of the Sacco	Urban Centre	Ward	Sub-location	No. of Vehicles
Kimatula [Sacco]	Emali	Emali Mulala	Emali Town	50–100
Kimatula [Sacco]	Sultan Hamud	Kasikeu	Sultan Hamud Town	20–40
Wote Emali Sacco	Emali	Nguu / Masumba	Nguu Market	15–25

Boda Boda Shed

The Municipality has several boda boda stages distributed across urban centres and rural nodes. The main stages in Sultan Hamud and Emali have relatively higher capacity and possess some form of roadside or informal shelter infrastructure. However, most of the other stages lack dedicated facilities and operate under informal roadside conditions. The boda boda infrastructure varies in quality, with some stages in fair condition while others remain in poor condition due to inadequate sheds and supporting amenities as described in the table below.

Table 22: Designated Boda Boda Sheds within the Municipality

Name of the Terminus	Town/Urban Centre	Ward	Sub-location	Infrastructure Available	Capacity	Condition/Status
Sultan Hamud Stage	Sultan-Hamud	Kasikeu	Sultan Hamud	Open roadside	High	Fair
Emali Main Stage	Emali	Emali Mulala	Emali	Informal High Shed	High	Fair
Kasikeu Stage	Kasikeu	Kasikeu	Kasikeu	Roadside waiting	Medium	Poor
Kiathini Stage	Wathini	Emali Mulala	Kiathini	Informal roadside	Low	Poor
Mbiani Junction Stage	Mbiani	Nguu / Masumba	Mbiani	None	Low	Poor
Ndauni Stage	Ndauni	Nguu / Masumba	Ndauni	None	Low	Poor
Mwanyani Stage	Mwanyani	Nguu / Masumba	Mwanyani	None	Low	Poor
Kikumini Stage	Kikumini	Nguu / Masumba	Kikumini	None	Low	Poor
Matha Stage	Matha	Nguu / Masumba	Matha	None	Low	Poor
Matiliku Stage	Matiliku	NZAKIKA	Matiliku	Informal	Medium	Fair - Poor
Vulueni Stage	Vulueni Market	Nguu / Masumba	Vulueni	Shed constructed	Low	Fair
Nguu Stage	Nguu Market	Nguu / Masumba	Nguu	No shed	Low	Poor

3.4.2 Parking Lots

The Municipality lacks designated off-street parking facilities. Parking is predominantly on-street within Emali and Sultan Hamud towns, where vehicles are commonly parked along road corridors and in front of commercial premises, thereby obstructing access to shops and contributing to localized congestion. This has resulted in inefficient use of road reserves, increased conflict between pedestrians and motorists, and reduced traffic circulation within the urban centres. The situation highlights the need for planned parking facilities, enforcement of parking regulations, and improved urban traffic management to enhance accessibility and order within the municipality.

Lorry Parks

The Municipality has an existing lorry park located in Sultan Hamud, as illustrated in the plate below. Owing to its strategic position along the A109 transit corridor, the Municipality experiences high volumes of through traffic, necessitating additional lorry parking facilities, particularly in Emali. The current inadequacy of designated parking spaces has resulted in conflicts of land use, with trucks frequently parking along road reserves and in front of commercial premises.

Plate 14: Existing Lorry Park –Sultan Hamud

Plate 15: Lorry parking inn undesignated parking lots

Field survey, 2026

3.4.3 Storm Water Drainage

Most of the roads within the municipality lack proper drainage channels. The urban access roads have open drainage channels, while others lack adequate drainage infrastructure as shown in the plate below. In many areas, the existing drains are poorly maintained and prone to blockage, reducing their effectiveness in conveying stormwater. This results in surface water accumulation along roads, increasing the risk of flooding and accelerating road deterioration, particularly during heavy rainfall events.

Flooding due to poor storm water drainage - Sultan hamud

Poor storm water drainage – Emali Town

Plate 16: Poor Storm water drainage channels

Field survey, 2026

3.4.4 Non-Motorized Transport

Most of the roads within the Municipality lack non-motorized transport. The lack of non-motorized transport causes conflict between motorized and non-motorized transport.

3.4.5 Water Supply

Water Supply in Municipality

Water supply within the Municipality is derived from a combination of surface and groundwater sources, including boreholes, rivers, rainwater harvesting systems, and water pans. The current system is largely decentralized, with limited integration into a formal piped distribution network. As a result, most residents rely on community water points and boreholes, which are essential for domestic water provision, especially during dry seasons when surface water sources become scarce.

a. Rivers

Permanent rivers serving the Municipality include Ituoni, Muangini, Muooni, Kwa Kaluku, Kwa Mbita, Masokani, and Kwangole, which contribute to both domestic and supplementary water supply. However, reliance on these sources, combined with limited infrastructure, underscores

the need for improved water supply systems, expanded piped networks and enhanced water resource management to ensure reliable and sustainable access to water across the Municipality.

b. Water Pans

Water pans are a key source of water within the municipality, supporting both domestic and irrigation needs, particularly during dry seasons. The main water pans in the area include Chief Kiamba, Kwothithu, Ndivu, Kwa Wau, Ngauni, Kwa Mwandi, Kalatine kwa Bruno, and Kalatine Kwa Kasingu. Despite their importance, these water pans face several operational and structural challenges that limit their effectiveness. These challenges include:

- High siltation in many pans significantly reduces storage capacity.
- Damaged or inefficient spillways are unable to safely discharge excess water.
- Some pans, e.g., Ndivu Earth Pan, have been completely washed away, requiring full rehabilitation.
- Vandalism and lack of protective measures accelerate infrastructure degradation.

These challenges reduce the reliability of water pans as sustainable water sources.

A list has been appended showing name of water pan, location in terms of ward, location,area; capacity, challenges and recommendations.

c. Boreholes

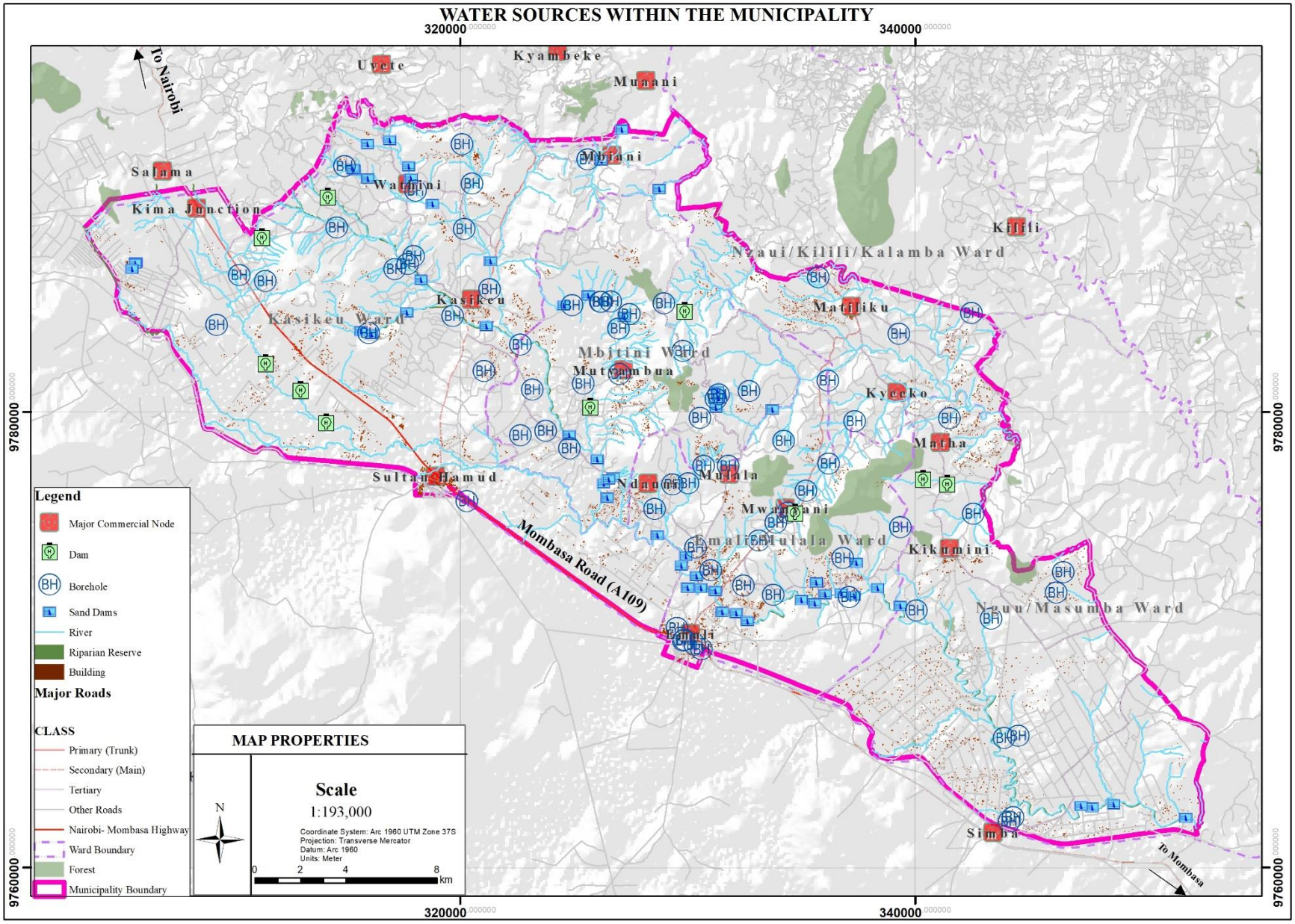
Boreholes form the primary source of water supply for many residents in the municipality, providing water through community points and small distribution systems. Key boreholes include Kwala, Kitheini, Tuani, Kisauki, Kwang'ole-KCEP (Mbiini), Sultan-Hamud Water Project, Ngauni, Masomo, KCEP, Lorini, Windmill, Kayata, Kiima, Kikumini, Mikuyu II, Mang'eti, and Kalembini. However, the performance of these boreholes is constrained by multiple technical, operational, and management challenges. These include

- Intermittent water supply, vandalism, and low borehole yields reduce reliability.
- Outdated distribution systems, weak borehole casings, and frequent pump/motor failures lower operational efficiency.
- High operational costs, especially from petrol-powered pumping, strain financial resources.
- Poor management practices and increasing water demand put additional pressure on the system.

- Some boreholes, such as Kayata, have completely dried up, highlighting the need for urgent intervention.

A list has been appended showing name of borehole, location in terms of ward, location, area; tank capacity, people connected, challenges and recommendations.

The map below shows the spatial distribution of water sources within the municipality as described above:



Map 18: Municipality Water Sources

Water Demand Projection

Water demand has been estimated using the standard planning guideline of 20 litres per person per day in accordance with Kenyan water supply design standards. **Water demand for the Municipality has been estimated using the standard planning formula:**

Water Demand (m^3)

= Number of household members (population) × Water use per person

In accordance with the Physical and Land Use Planning guidelines and water demand standards applied in Kenya, the average domestic water consumption is estimated at 20 litres per person per day. This value is used as the baseline for projecting municipal water requirements. To determine annual demand, the daily consumption is multiplied by 365 days and converted into cubic metres (m^3), where 1 m^3 = 1,000 litres.

Table 23: Municipality Population Projection

Year	Population	Water demand (lts) (per year)	Water demand Cubic metres (per year)
2019	113,001	824,907,300	824907.30
2026	146405	6,412,539,000	6,412,539
2030	169755	6,196,057,500	6,196,057.50
2035	204248	7,455,052,000	7,455,052

3.4.6 Sanitation

Liquid Waste Management

The municipality lacks a centralized sewer reticulation system, resulting in heavy reliance on on-site sanitation solutions such as pit latrines and septic tanks for liquid waste management. The existing Sultan Hamud sewerage and treatment system is currently non-operational and requires rehabilitation to restore functionality. Wastewater management practices vary across the municipality, with septic tanks predominantly used in urban areas and pit latrines in rural settings. However, in Sultan Hamud Town, inadequate sanitation infrastructure has led to the direct discharge of wastewater into nearby rivers by some households.

This practice has resulted in significant environmental degradation, including contamination of aquatic ecosystems and deterioration of water quality and posing potential public health.

Solid waste management

The municipality lacks an integrated solid waste management system. As a result, waste disposal is currently carried out at undesignated open dumpsites especially at Kambi Somali in emali posing significant environmental and public health risks. The main sources of solid waste include households, markets, institutions, and industries. In rural areas, solid waste is primarily managed through burning and burying, practices that are environmentally unsustainable. In rural areas, solid waste is primarily managed through burning and burying, practices that are environmentally unsustainable.

In some urban centres within the municipality, waste bins have been provided, and waste collection is carried out at varying frequencies, as shown in the table below. This variation is largely attributed to the inadequate number of waste collection trucks and limited logistical capacity.

Table 24: Waste Collection Status in Urban Centres

Urban Centre	Frequency of Waste Collection (per week/month)	Number of Bins
Sultan-Hamud	6	4
Emali	6	16
Kasikeu	4	3
Mwanyani	2	None
Kikumini	2	None
Matiliku	4	3

The figure below shows a waste collection truck being loaded with solid waste at the Emali Bus

Plate 17: Solid waste management at Emali Bus stage.

Despite the presence of the few bins with some of the urban centres, Waste management remains a challenge in Emali-Sultan Hamud municipality. Solid waste is often disposed of in open areas as showing in the plate below due to the lack of organized waste collection systems. This situation contributes to environmental pollution and poses public health risks.

Plate 18: Poor waste management at Kavuthu urban centre

Plate 19: Open dumping site at Kambi Somali in emali

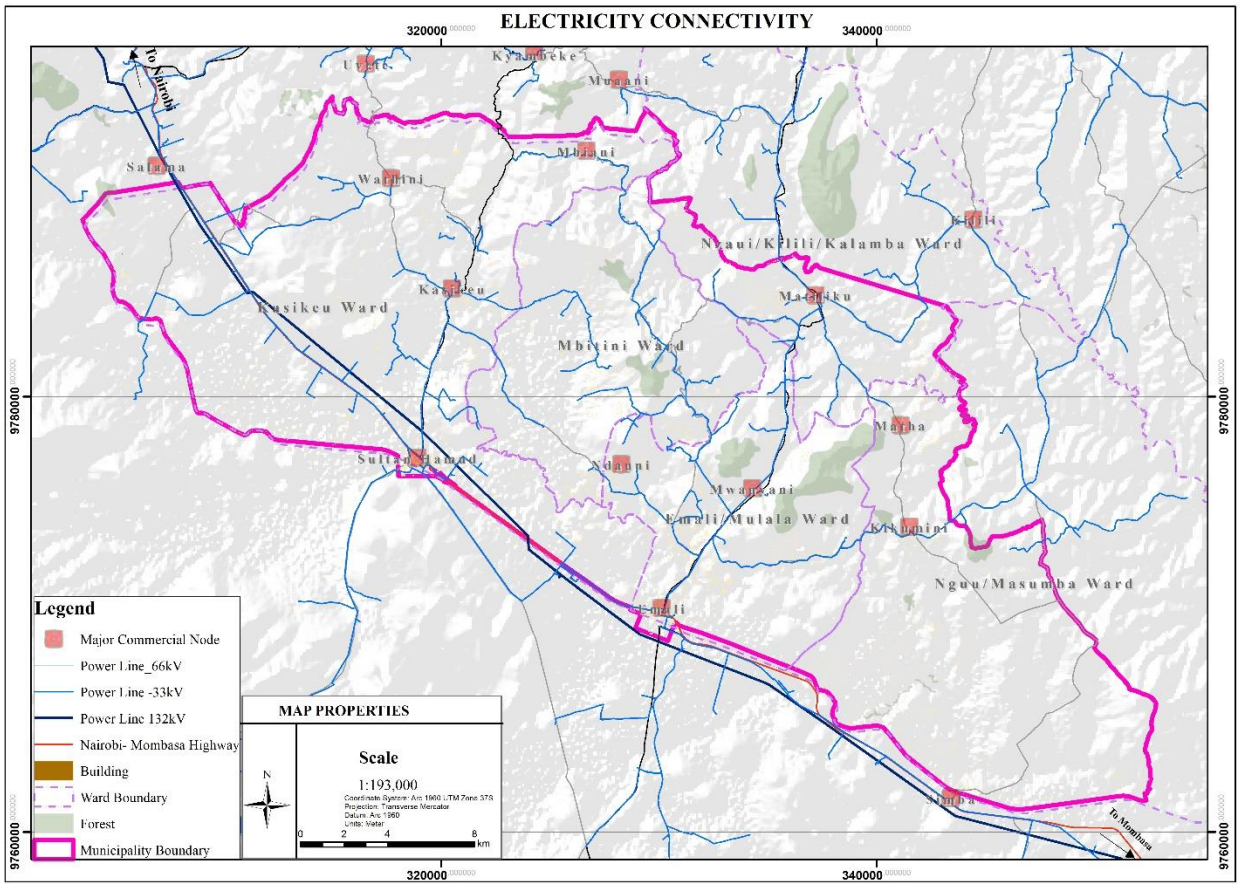
Field survey, 2026

3.4.7 Energy

The major source of lighting is electricity, which can be attributed to the municipality's connection to the national grid. However, some sections Nguu/Masumba and Mbitini wards, are not connected, as shown in the table and map below. Other sources of lighting include solar energy and kerosene. For cooking, charcoal and firewood are the most common fuels, while LPG is predominantly used in urban centres. The large number of the residents using charcoal and firewood as source contribute to the deforestation due to continuous cutting of trees without replanting.

Table 25: Source of energy for cooking and lighting

Ward	Sub-location	Common Source (Cooking)	Common Source (Lighting)
Emali Mulala	Emali	Charcoal, LPG	Electricity, Solar
Kasikeu	Sultan Hamud, Kasikeu	Charcoal, LPG	Electricity, Solar
Nguu/Masumba	Nguu, Kikumini	Firewood, Charcoal	Solar, Kerosene
Mbitini	Mbitini	Firewood, Charcoal	Solar, Kerosene
NZAKIKA	Matiliku, Nzaui	Firewood, Charcoal	Solar, Electricity



.Map 19: Municipality electricity network

3.4.8 Streetlights and flood lights

The Municipality has streetlights and floodlights distributed across its urban centres, with Emali and Sultan Hamud having the highest coverage. Most units are solar-powered, with some connected to electricity or hybrid systems. While streetlights are fully functional, a few floodlights require maintenance. The lighting infrastructure supports safety and nighttime activities, though periodic upgrades are needed to ensure reliability.

Street lights

Streetlighting infrastructure within the Municipality is distributed across various urban centres, as shown in the table below. Emali and Sultan Hamud have the highest number of streetlights, powered by a mix of solar and electricity, while the smaller urban centres are mainly served by single solar-powered units. All streetlights are reported to be functional, contributing to improved visibility, safety and security within the urban areas.

Table 26: Number of Streetlights in Urban Centres

Town / Urban Centre	No. of Streetlights	Status (Working/Not)	Power Source
Sultan-Hamud	20	Working	Solar / Electricity
Emali	30	Working	Solar / Electricity
Kasikeu	1	Working	Solar
Wathini	1	Working	Solar
Mbiani	1	Working	Solar
Ndauni	1	Working	Solar
Mwanyani	1	Working	Solar
Kikumini	1	Working	Solar
Matha	1	Working	Solar
Matiliku	1	Working	Solar
Utini	1	Working	Solar
Kima	1	Working	Solar
Maanguani	2	Working	Solar
Kwa Mutula	1	Working	Solar

Solar Street light at Muangini shopping Centre

Street light at Kavuthu shopping centre

Plate 20: Streetlights
Field survey, 2026

Floodlights

Floodlighting is also provided in selected urban centres, with Emali and Sultan Hamud having multiple installations and other centres served by single units. Most floodlights are solar-powered, with a few connected to electricity or hybrid systems. While the majority are operational, some units, such as those in Kavuthu and Barazani, are not fully functional or require battery replacement. The floodlighting infrastructure supports nighttime activities, though maintenance and periodic upgrades are necessary to ensure consistent performance.

Table 27: Number of Floodlights in Urban Centres

Town / Urban Centre	No. of Floodlights	Status (Working/Not)	Power Source
Sultan-Hamud	2	Working	Solar
Emali	3	Working	Electricity / Solar
Kasikeu	1	Working	Electricity
Wathini	1	Working	Solar
Mbiani	1	Working	Solar
Ndauni	1	Working	Solar
Mwanyani	1	Working	Solar
Kikumini	1	Working	Solar
Matha	1	Working	Electricity
Matiliku	1	Working	Electricity
Mulala	1	Working	Solar
Kavuthu	2	**Not [Working]**	Solar
Barazani	2	Working / **Batteries need replacement**	Solar

3.4.9 Information and Communication Technology

For the communications systems for Municipality, the trunk fibre optic cable passes through the proposed municipality. There are three cell phone providers in the region namely Safaricom, Telkom and Airtel. The townships are served adequately by Safaricom, and Airtel Telecommunication Networks. However, some areas in the hinterlands have poor access to telecommunication services. The area is also served by Emali and Sultan Hamud Post Offices.

3.5 Land, Housing and Settlement

3.5.1 Land Tenure

The predominant land tenure system within the municipality is freehold, accounting for approximately 70% of the total land. This form of tenure is largely associated with privately owned parcels, particularly in the rural hinterland, where land is primarily utilized for agricultural activities. Leasehold tenure constitutes about 20% of the land and is mostly evident within urban centres, where land is allocated for commercial, residential, and institutional developments under specified lease periods.

Public land makes up approximately 8% of the total land area and is mainly found within urban centres, public institutions, and environmentally sensitive areas such as wetlands. This category supports key public services and infrastructure, including schools, administrative offices, roads, and open spaces. Community land, which accounts for 2%, is minimal and is typically associated with communal uses such as grazing and cultural activities.

The dominance of freehold tenure reflects a strong inclination towards individual land ownership, particularly in agricultural zones, while leasehold and public land play a critical role in supporting urban development and public service provision.

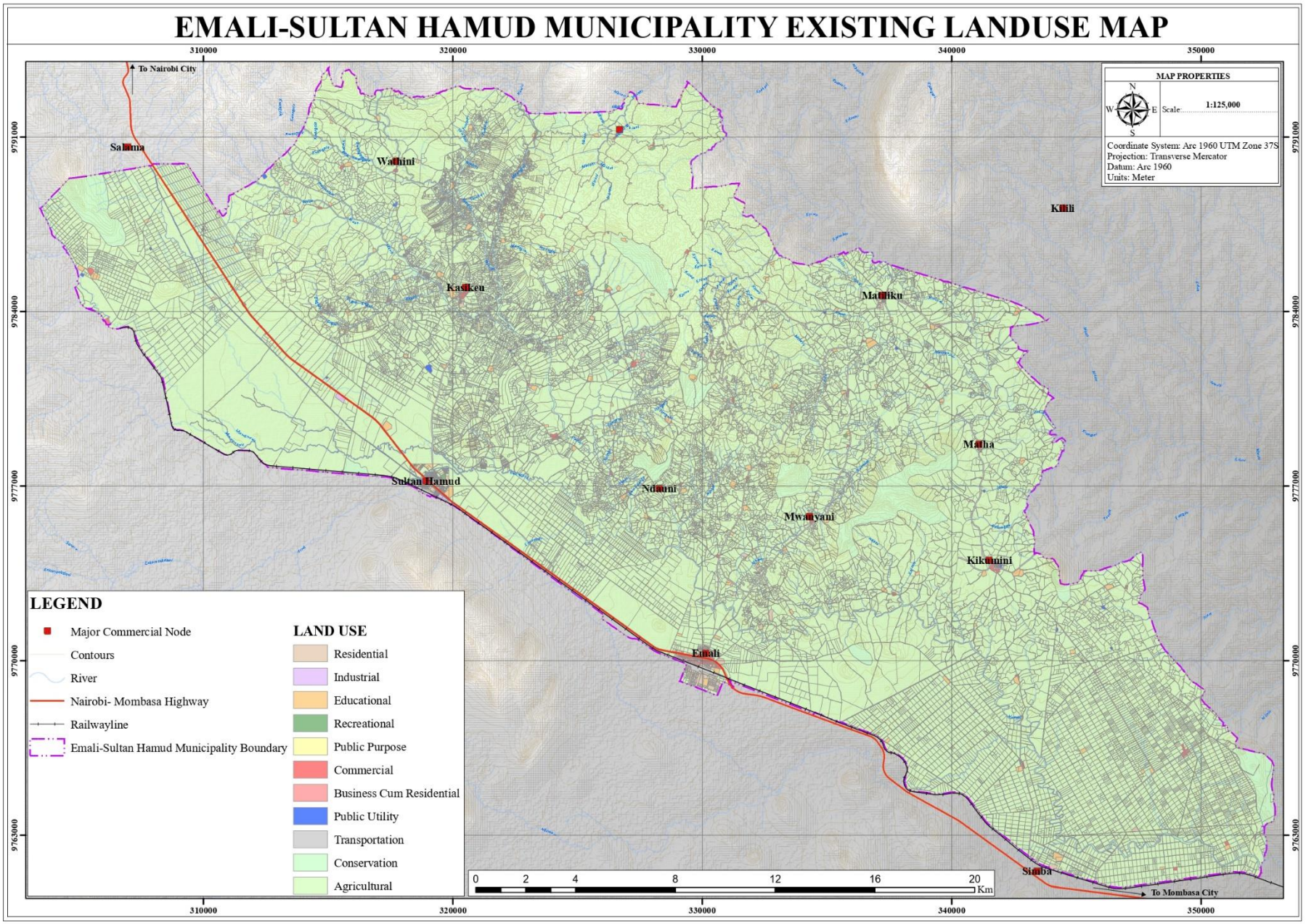
3.5.2 Land Use

The land use proportions within the Municipality are summarized in table below. The analysis indicates that agricultural land use dominates the Municipality, accounting for 90.89% of the total land area, reflecting the predominantly rural character of the wider municipal area. Conservation areas, which include forests and riparian reserves, constitute 3.56%, while transportation infrastructure accounts for 4.40%. Other land uses occupy relatively small proportions, including educational (0.49%), residential (0.27%), commercial (0.19%), public utilities (0.12%), public purpose (0.04%), industrial (0.02%), and recreational uses (0.01%).

The low percentages of urban land uses are largely attributable to the extensive agricultural hinterland that forms the bulk of the Municipality. This spatial distribution highlights the transitional nature of the Municipality, where urban functions are concentrated in limited nodes, while the surrounding areas remain predominantly under agricultural and conservation uses.

Table 28: Existing Municipality Land Use Budget Percentages

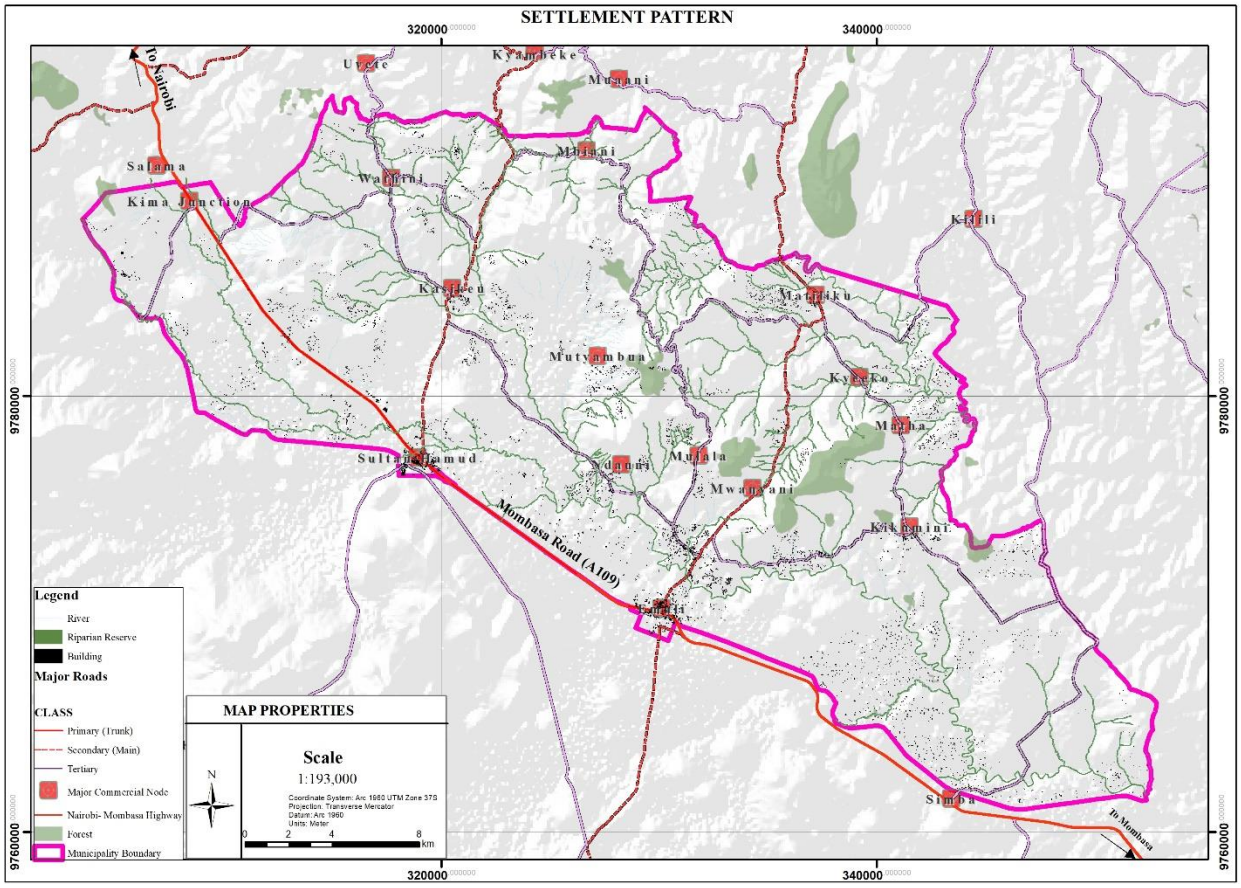
Land Use No	Land Use	Area	Percentage
0	Residential	197.96	0.27
1	Industrial	14.5	0.02
2	Educational	359.62	0.49
3	Recreational	8.47	0.01
4	Public Purpose	32.6	0.04
5	Commercial	140.45	0.19
6	Public Utility	85.31	0.12
7	Transportation	3208.49	4.40
8	Agricultural	66,275.89	90.89
9	Conservation	2597.71	3.56
Total		**73,590.20**	72921



Map 20: Municipality Existing Land Use

3.5.1 Land Use and Urbanization Trend

The municipality is strategically located along the Nairobi–Mombasa Highway (A109) and is served by the Standard Gauge Railway (SGR), which are the primary drivers of spatial development and urban growth. These transport corridors have significantly influenced the linear settlement pattern, with most developments concentrated along the highway and major access roads as demonstrated in the settlement pattern map below:



Map 21: Settlement Pattern

The main urban centres, Emali and Sultan-Hamud, have experienced rapid urbanization and population growth since the early 2000s. Their growth is largely attributed to their strategic location along the highway, which has enhanced accessibility, trade, and mobility. These towns serve as key commercial and service hubs for the surrounding sub-counties, supported by the presence of essential institutions such as educational facilities, sub-county administrative offices, health facilities, and security installations. In addition, the SGR station in Emali has further accelerated economic activities, positioning the town as an emerging industrial and logistics node.

The two centres also function as major stopover points for long-distance trucks and public transport vehicles operating along the Nairobi–Mombasa corridor, further reinforcing their economic significance.

Other urban centres, including Kasikeu, Wathini, Ndauni, Mwanyani, and Matiliku, exhibit moderate to increasing urban growth trends, primarily driven by local trade, agricultural activities, and proximity to major transport routes. However, their development remains largely uncoordinated and infrastructure-deficient, with notable gaps in road networks, water supply, electricity connectivity, and drainage systems. Smaller centres such as Mbiani, Kikumini, and Matha demonstrate relatively stable growth patterns, maintaining a predominantly rural-urban character with limited spatial expansion.

The municipality is undergoing progressive urban transformation, characterized by rapid growth in primary centres and gradual expansion in secondary and emerging nodes. This growth, however, is accompanied by challenges such as encroachment on road reserves, inadequate infrastructure provision, unplanned developments, and weak development control mechanisms. Despite these constraints, the municipality holds significant potential for sustainable urban development due to its strategic location along major national transport corridors.

Table 29: Major Urban Centres Growth Dynamics, Land Use Patterns and Infrastructure Constraints

S/No	Urban Centre	Key Growth Drivers	Growth Trend	Key Infrastructure Deficits	Major Development Challenges	Planning Remarks
1	Sultan-Hamud	Strategic location along highway; trade and transit activities	Rapid	Inadequate drainage systems; Inadequate road network	Encroachment on road reserves; narrow road widths	High potential for commercial expansion and transit-oriented development
2	Emali	SGR station; highway connectivity; logistics and trade	Rapid	Encroached road networks; inadequate social and	Unplanned and uncontrolled urban growth	Emerging industrial and logistics hub requiring integrated

S/No	Urban Centre	Key Growth Drivers	Growth Trend	Key Infrastructure Deficits	Major Development Challenges	Planning Remarks
				physical infrastructure		spatial planning
3	Kasikeu	Local trade; nodal connectivity	Increasing	Inadequate water supply; limited electricity; poor drainage	Lack of organized market infrastructure	Transitioning into a service and residential growth centre
4	Wathini	Proximity to major transport corridor	Increasing	Poor road conditions, especially during rainy seasons	Uncoordinated and dispersed development	Emerging settlement requiring basic infrastructure and planning control
5	Mbiani	Agricultural activities; local trade	Stable	Inadequate roads, water, and electricity	Limited infrastructure investment	Rural-urban transitional centre with slow growth dynamics
6	Ndauni	Proximity to Emali urban centre	Increasing	Inadequate water and electricity coverage; poor access roads	Inadequate drainage and connectivity	Growth influenced by spill-over effects from Emali
7	Mwanyani	Agriculture-based economy	Increasing	Inadequate road network; inadequate water and electricity supply	General infrastructure deficits	Potential local service centre supported by existing health facility
8	Kikumini	Agriculture; rural linkages	Stable	Poor road accessibility, especially in wet seasons	Low connectivity and service provision	Predominantly rural centre with minimal urban transformation

S/No	Urban Centre	Key Growth Drivers	Growth Trend	Key Infrastructure Deficits	Major Development Challenges	Planning Remarks
9	Matha	Small-scale local commerce	Stable	Gaps in water and electricity infrastructure	Limited service provision	Small urban node with low development intensity
10	Matiliku	Local trade and administrative functions	Stable	Inadequate roads, water, and drainage systems	Poor accessibility and infrastructure gaps	Existing physical plans provide basis for controlled development

3.5.2 Housing Characteristics

i. Urban Housing

Housing within the municipality embodies the dynamic urban and rural habitation across diverse regions. The area showcases a variety of housing styles, including permanent, semi-permanent, and temporary row houses. Moreover, there is an increasing prevalence of low-rise and high-rise structures within urban centers.

High rise (flats)

Massionate

Plate 21: Urban housing typology

Field survey, 2026

This transformation is fueled by the intensified urbanization and the vibrant commercial activity of key urban hubs like Emali and Sultan-Hamud, strategically situated along the Nairobi-Mombasa highway. In the municipality's hinterland, traditional houses and row houses dominate, primarily serving residential purposes.

ii. *Rental Housing Market*

The rental housing market within the municipality shows a progressive pricing structure influenced by unit size, location, and proximity to economic hubs. Urban centres along major transport corridors generally record higher rental values due to increased demand and accessibility.

Table 30: Average Monthly Rental Rates

Unit Type	Average Monthly Rent (KES)
Bedsitter	3,000 – 6,000
One Bedroom	5,000 – 10,000
Two Bedroom	8,000 – 15,000
Commercial Shops	10,000 – 30,000 (varies by location and size)

Rental prices generally increase with unit size, with two-bedroom units commanding higher rents due to their suitability for family occupancy and improved living standards. Commercial spaces exhibit greater price variation, largely influenced by location, accessibility, and levels of economic activity.

The rental market reflects increasing demand and clear spatial differentiation driven by ongoing urbanization, with higher rental values in major urban centres such as Emali and Sultan-Hamud compared to other urban centres due to their strategic location along the highway (A109).

iii. Construction materials

Construction within the municipality is characterized by a dual material usage pattern, reflecting the spatial differentiation between rural hinterland and urban centres. The selection of construction materials is influenced by factors such as availability, cost, durability, level of urbanization and access to commercial suppliers.

In the rural hinterland, bricks constitute one of the most commonly used construction materials, primarily for wall construction. This is attributed to their local availability, relative affordability, and suitability for incremental housing development. Other traditional materials such as earth are also used in combination with bricks, particularly in low-income housing typologies. In urban areas including centres such as Emali and Sultan-Hamud predominantly utilize more permanent materials such as cement, concrete, and stone blocks, reflecting higher construction standards and increased demand for durable structures.

3.5.3 Emergence of Informal Settlements

The municipality is experiencing the emergence and gradual expansion of informal settlements, driven by rapid urbanization, population growth and lack of development control instruments. The distribution and growth patterns of these settlements vary across urban centres, largely influenced by differences in economic activity, accessibility, and tenure insecurity.

In Emali, informal settlements are characterized by emerging small clusters with inadequate tenure security and limited compliance with planning standards. The primary challenge in these areas is lack of formal tenure, which necessitates settlement regularization and planned titling interventions. In Sultan-Hamud, informal settlements are more dynamic, exhibiting rapid expansion along major transport corridors, resulting in urban sprawl and encroachment into road reserves, thereby requiring strengthened planning enforcement and controlled urban growth measures. In Kasikei (Kasikeu), informal settlements are relatively stable and located at the rural–urban interface, where the main challenge is limited access to basic services rather than spatial expansion. In Matiliku, informal settlement development remains limited, with settlements largely retaining a rural character and exhibiting low-density, incremental growth patterns.

The major causes of the informal settlements in the municipality are:

The emergence of informal settlements within the municipality is attributed to a combination of land tenure challenges, urban expansion pressures, and gaps in service provision and integration.

- **Land tenure insecurity:** In Emali, the lack of formal tenure security, coupled with weak enforcement of the physical development plan within the urban centre, has significantly contributed to the proliferation of informal settlements.
- **Rapid urbanization-** In Sultan-Hamud, rapid urban growth along major transport corridors has led to uncontrolled spatial expansion. The "growing" nature of informal settlements reflects urban sprawl, which, due to weak enforcement of existing plan and development control measures, results in encroachment into road reserves.
- **Inadequate Service Integration -** In areas such as Kasikeu and Matiliku, the emergence of informal settlement patterns is influenced by limited integration into formal infrastructure networks. The lack of adequate basic services such as water supply, sanitation, and road infrastructure encourages incremental and unplanned development while maintaining a rural–urban transitional character.

CHAPTER FOUR: STRUCTURING ELEMENTS AND DEVELOPMENT MODELS

4.1 Overview

This chapter provides the structuring elements and design consideration majorly informed by the situational analyses findings and the stakeholders concerns.

4.2 Structuring Elements

Structuring elements encompass the components that both inform and determine the urban form and general development patterns. They serve as the foundation for analyzing spatial differences within the project area and for deliberating and devising guiding principles for spatial development and action-oriented approaches. Existing Developments and Trends, the road network and natural features, characterize the spatial structure of the municipality. The following structuring elements guided the preparation of the municipal Local Physical and Land Use Development Plan:

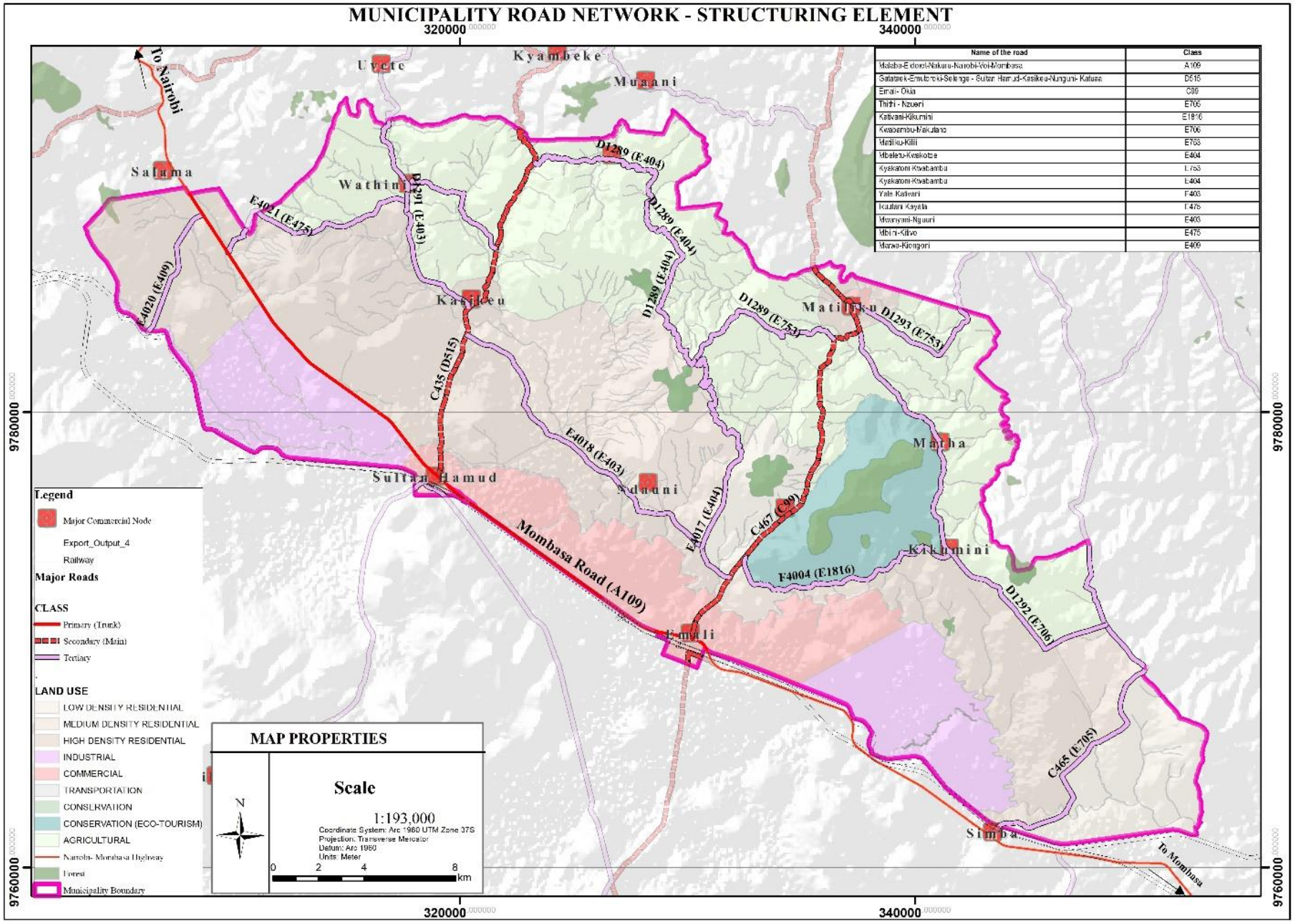
4.2.1 Road Networks

The transportation network serves as a critical structuring element that significantly influences spatial organization, land use distribution and the intensity of development within the municipality. Major transport corridors act as development spines, shaping accessibility, guiding the location of economic activities, and reinforcing nodal growth patterns at key intersections and urban centres. The plan was predominantly influenced by the following key transportation corridors:

- A(109): Nairobi – Mombasa Road
- A3: Kithimani – Makutano – Wamunyu – Itangini – Ukia – Emali – IBD Loitokitok
- C Road: Meto – Ilpatimaro – Gatataek – Emutoroki – Selengei – Sultan-Hamud – Kasikeu – Katuaa
- C465: Simba – Thithi – Nzue

These corridors form the primary spatial framework for development by enhancing regional and intra-municipal connectivity, influencing land values and attracting a concentration of commercial, residential, and light industrial land uses along their alignments. They also play a key role in determining urban growth directions and supporting the hierarchical structure of settlements within the municipality.

The map below shows the municipality major transportation network:

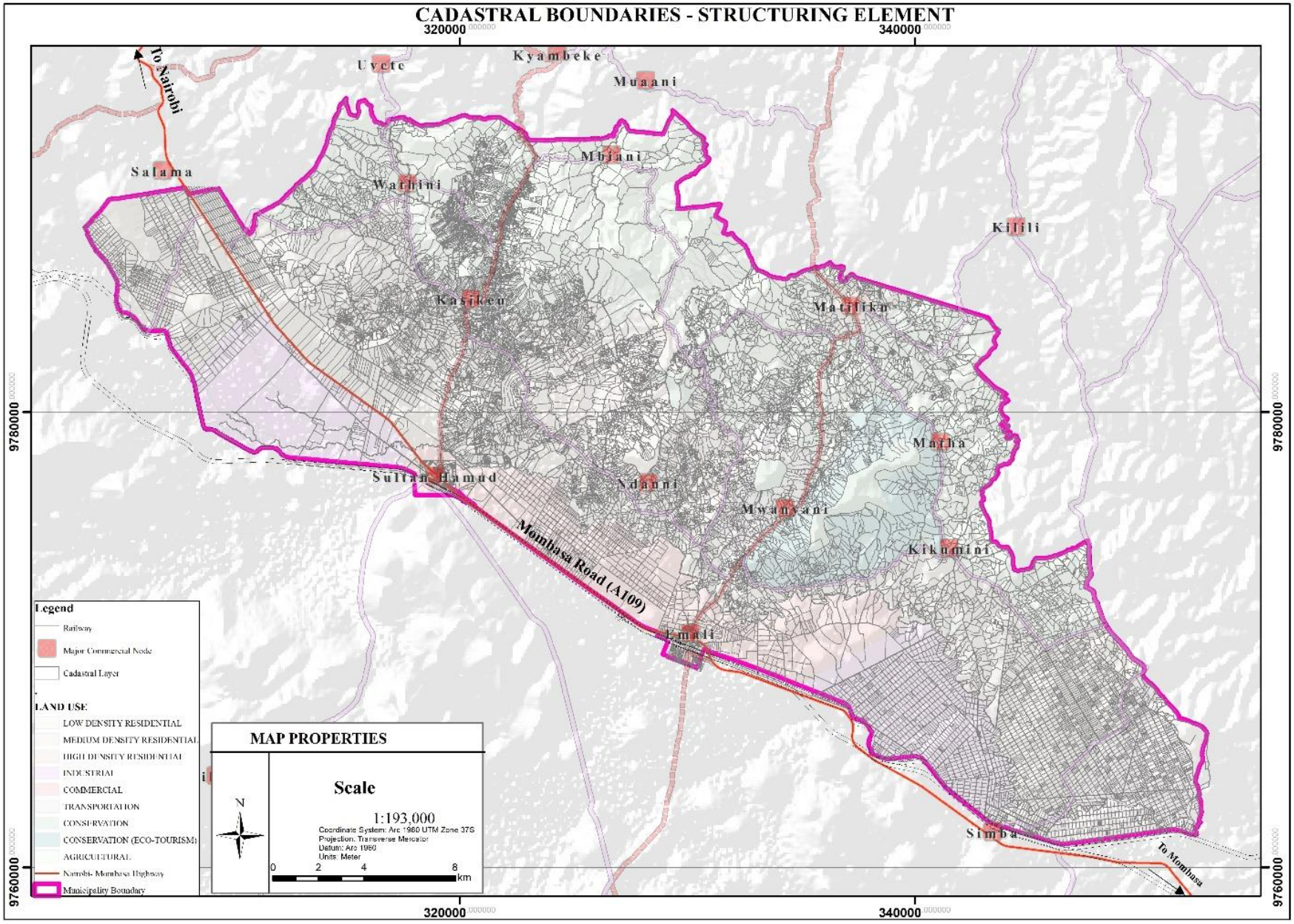


Map 22: Existing Transportation Network

4.2.2 Cadastral Boundaries and Existing Physical Development Plans

The registry index maps boundaries and the existing physical development plans for email, sultan –hamud, matiliku and Kasikeu influenced the allocation of the different uses. These cadastral frameworks define legally recognized parcel boundaries, thereby providing the spatial reference for land ownership, subdivision, and registration and development control. The existing Physical Development Plans provide a strategic framework for guiding land use allocation, infrastructure development, and the spatial distribution of activities within the urban centres. They delineate designated zones for residential, commercial, industrial, institutional, and public uses, and establish parameters for development intensity, access, and service provision. In high-growth urban centres such as Emali and Sultan-Hamud, these plans are instrumental in regulating urban expansion, managing densification, and guiding development along major transport corridors. In Matiliku and Kasikeu, the plans support more controlled and incremental development consistent with their relatively lower urban growth dynamics and predominantly rural–urban transitional character.

The integration of cadastral boundaries with existing Physical Development Plans enhances coordination between land ownership patterns and planned land use, strengthens development control, and ensures that future growth occurs within legally defined and spatially planned frameworks. The map below shows the cadastral layers and the Existing Physical Development Plans:

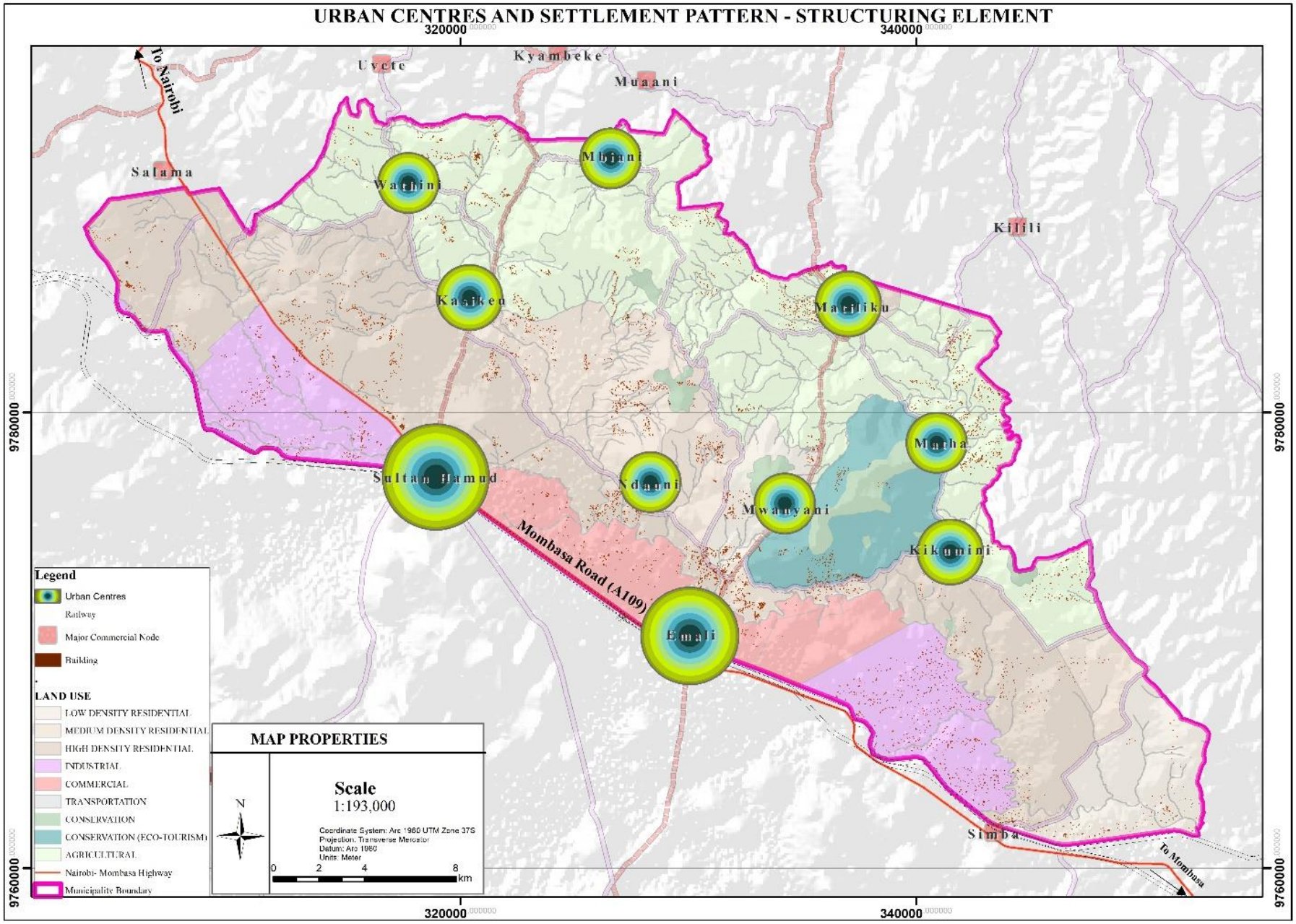


Map 23: Cadastral Boundaries and Existing Physical Development Plans

4.2.3 Major urban centers and settlement patterns

The municipality comprises several urban centres, with the major ones including Emali, Sultan-Hamud, Matiliku, Wathini, Kasikeu, Kikumini, Mwanyani, and Matha. These centres function as key nodes for economic activity, service provision, and administrative functions within the municipality.

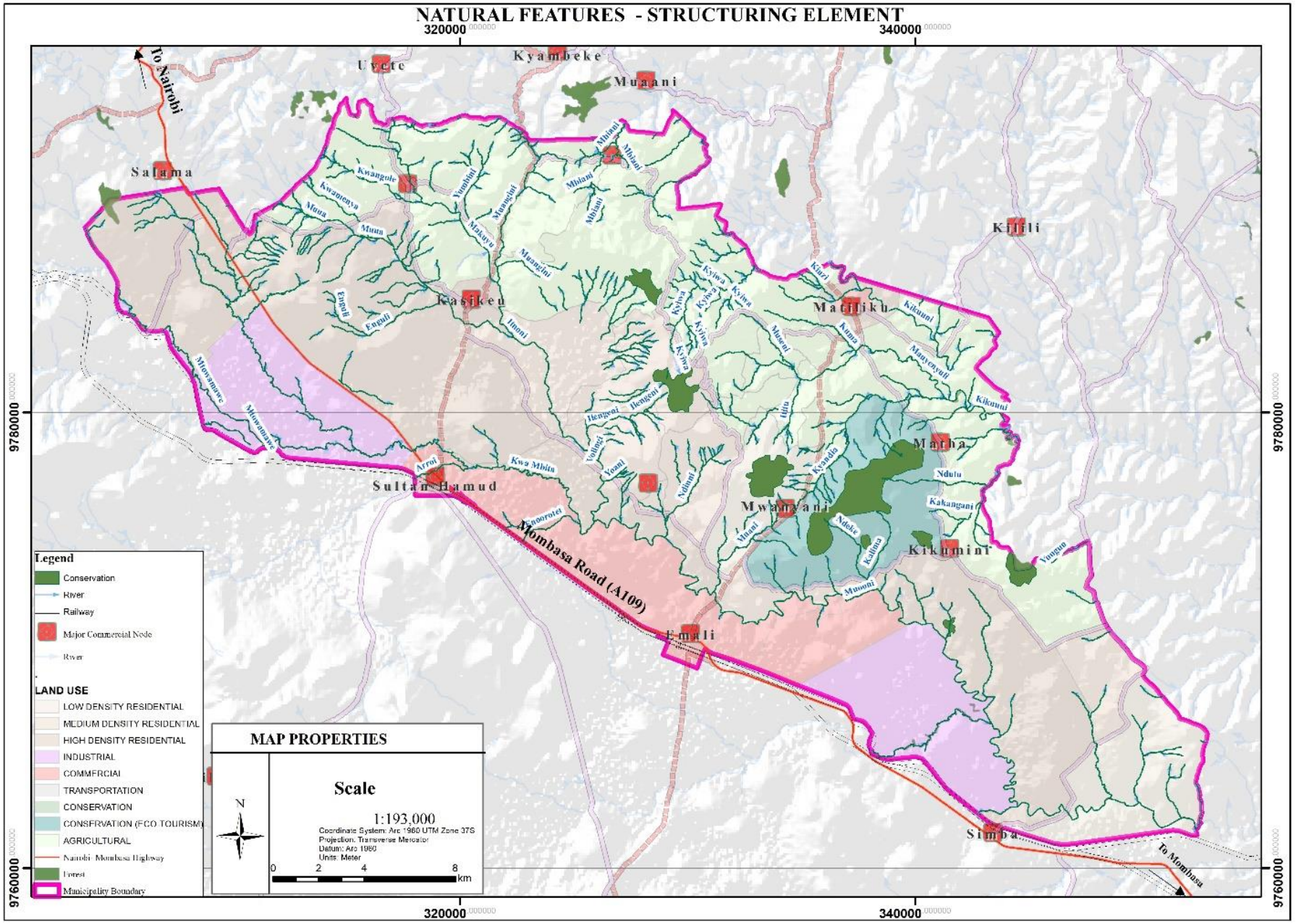
Settlement patterns within the municipality are largely concentrated along major transportation corridors and around these urban centres. This linear and nodal pattern of development is strongly influenced by accessibility, availability of services, and proximity to economic opportunities. As a result, higher population densities and intensified land use activities are observed along major roads and within urban centres, while areas further away exhibit lower densities and predominantly rural characteristics. This spatial distribution of settlements has significantly influenced the delineation of land uses and formulation of planning proposals, as development tends to cluster along transport corridors, necessitating corridor-based planning approaches, nodal development strategies, and the provision of supporting infrastructure to accommodate current and future growth. The map below shows the distribution of the settlement patterns and the urban centers.



Map 24: Major urban centers and settlement patterns

4.2.4 Natural features

The municipality is characterized by a variety of natural features, including rivers and streams, varied terrain, and scattered hills. Key watercourses such as Ituoni, Muangini, Muooni, Kwa Kaluku, and Kwa Mbita rivers play a significant role in shaping the spatial structure of the municipality. These rivers and associated drainage patterns influence the urban form by guiding the direction of development, affecting accessibility, and creating natural constraints for construction. The hilly and undulating terrain further impacts land suitability, infrastructure provision, and zoning decisions, with steeper areas generally limiting intensive development while flatter areas attract higher concentrations of settlement and economic activities. These natural features are fundamental in informing development proposals, land use zoning, and environmental management within the municipality.



Map 25: Major urban centers and settlement patterns

4.3 Development Models

This section presents alternative urban development models considered for guiding the spatial growth of Emali–Sultan Hamud Municipality. The models are informed by existing settlement patterns, the dominant influence of the Nairobi–Mombasa transport corridor, emerging urban centres (notably Emali and Sultan Hamud), and the surrounding agricultural and environmentally sensitive landscapes. The purpose of these models is to provide a strategic framework for future urban form, infrastructure planning, zoning, and land use management in line with projected population growth and socio-economic dynamics.

7.3.1 Linear Development Model

The linear model reflects a spatial development pattern characterized by the concentration of urban growth along major transportation corridors. In the context of Emali–Sultan Hamud Municipality, this model is evident along the Nairobi–Mombasa highway and associated feeder roads, where commercial, residential, and service activities are progressively extending in a ribbon-like manner.

This model leverages accessibility and connectivity offered by the transport corridor, thereby attracting investment and facilitating the clustering of economic activities along key nodes and intersections. It is particularly relevant in areas where infrastructure and accessibility are the primary drivers of development.

Advantages

- Aligns with existing development trends along the primary transport corridor
- Minimizes encroachment into agricultural land and riparian zones away from the corridor
- Promotes mixed-use development along accessible routes
- Facilitates efficient provision of infrastructure and utilities along linear alignments
- Enhances accessibility to individual parcels and commercial establishments

Disadvantages

- Encourages ribbon development and potential urban sprawl along the corridor
- Results in congestion and competing land uses along major transport routes
- Limits accessibility and service provision to areas distant from the corridor
- Increases infrastructure servicing costs due to dispersed and elongated development patterns
- May lead to inefficient land use and fragmented urban form

7.3.2 Radial Development Model

The radial model is characterized by a central urban core from which transportation routes and development extend outward in a spoke-like configuration. In Emali–Sultan Hamud Municipality, this model is applicable to the primary urban centres of Emali and Sultan Hamud, which function as focal points for commerce, administration, and service delivery.

The model organizes urban growth around these nodes, with major roads radiating from the centre and secondary circulation routes interconnecting peripheral areas. It enhances the role of urban centres as hubs of economic and social activity while improving spatial organization and accessibility.

Advantages

- Strengthens Emali and Sultan Hamud as central nodes for economic and administrative functions
- Enhances connectivity between surrounding settlements and urban cores
- Promotes organized and structured urban growth around defined centres
- Improves accessibility to centralized social and economic services
- Supports hierarchical road network planning and traffic distribution

Disadvantages

- May not fully integrate with existing irregular land subdivision and ownership patterns
- Requires significant planning intervention and coordination for effective implementation
- Less adaptable to already developed or informally structured urban fringes
- More suitable for planned expansions rather than consolidated built-up areas

7.3.3 Compact / Densification Model

The compact or densification model emphasizes the containment of urban growth within defined urban boundaries, promoting vertical development, redevelopment, and efficient land use within existing towns. In Emali–Sultan Hamud Municipality, this model is particularly relevant for managing growth within Emali and Sultan Hamud while limiting outward expansion into surrounding agricultural land and environmentally sensitive areas.

The model advocates for intensified land use through infill development, urban renewal of underutilized or degraded areas, and the promotion of mixed-use developments. It aims to enhance the efficiency of infrastructure and service delivery while creating a more sustainable and livable urban environment.

Advantages

- Promotes efficient utilization of land within existing urban areas
- Enhances cost-effectiveness of infrastructure and service provision
- Reduces urban sprawl and protects agricultural land
- Supports urban renewal and redevelopment of informal or underdeveloped areas
- Minimizes travel distances and improves internal accessibility
- Encourages high-density, mixed-use, and transit-oriented development

Disadvantages

- High capital costs associated with redevelopment and infrastructure upgrading
- Potential social implications arising from displacement or relocation
- Requires strict enforcement of planning regulations and development control
- May present challenges in achieving optimal land use segregation

7.3.4 Integrated Development Model (Preferred Scenario)

The integrated development model is the preferred spatial development approach for Emali–Sultan Hamud Municipality. It synthesizes the most appropriate elements of the linear, radial, and compact models into a cohesive and balanced urban development framework.

This model recognizes the dominant role of the transport corridor in shaping development, the importance of Emali and Sultan Hamud as primary urban nodes, and the need to promote compact and sustainable urban growth.

The integrated model supports a hierarchical spatial structure comprising urban nodes (Emali and Sultan Hamud), a dominant transport corridor (Nairobi–Mombasa highway), and controlled peripheral expansion zones. It promotes densification within existing urban areas while guiding growth along designated corridors and protecting environmentally sensitive and agricultural areas.

Advantages

- Provides a balanced and structured framework for urban growth
- Integrates corridor-based development with nodal urban structure
- Promotes densification and efficient land use within existing urban centres
- Reduces congestion pressure on central business districts through spatial distribution of activities
- Supports coordinated infrastructure planning and cost efficiency
- Minimizes urban sprawl and safeguards agricultural and environmentally sensitive areas
- Encourages sustainable urban development through mixed-use and transit-oriented principles

CHAPTER FIVE: DETAILED LAND USE PLAN

5.1 Overview

Planning as a discipline has its universal presentation guidelines. These guidelines ensure universality, understanding and distinct representation of land use zones. The various land use zones have been classified into eleven zones which are represented by use of class code number and color as outlined in table below;

Table 31: Land use zone codes and colors

Land Use Code	Land Use Name	Color
0	Residential	Brown
1	Industrial	Purple
2	Educational	Orange
3	Recreational	Green
4	Public purpose	Yellow
5	Commercial	Red
6	Public utilities	Blue
7	Transportation	Grey
8	Conservation	Pale greenish
9	Agricultural	Greenish
10	Water Bodies	Bluish

Source: Urban Land Use Planning and Oversight Guidelines (National Land Commission) – 2016)

In the preparation of the plan, the above National Land Commission Land use codes and colors were used to illustrate the various land use zones

5.2 Design Considerations for the Detailed Land Use Plan

The Detailed Land Use Plan for Emali–Sultan Hamud Municipality is informed by integrated spatial planning principles guided by the Physical and Land Use Planning Act, 2019, alongside national planning standards and best practices. The plan is structured around key components that collectively define the urban form, functionality, and growth direction of the municipality.

5.2.1 Urban Nodes

Urban nodes constitute designated focal points for the concentration of economic, administrative, and social activities. Within the municipality, Emali Town and Sultan Hamud Town are identified as primary nodes, functioning as major commercial and transport centres. Secondary nodes include market centres and trading centres distributed across the municipality.

Key Interventions:

- Designate Emali and Sultan Hamud as primary urban nodes with higher-order functions.
- Promote hierarchical urban structure through the strengthening of secondary nodes.
- Encourage mixed-use, medium- to high-density development within nodal areas.
- Decentralize economic activities to reduce pressure on central business districts.

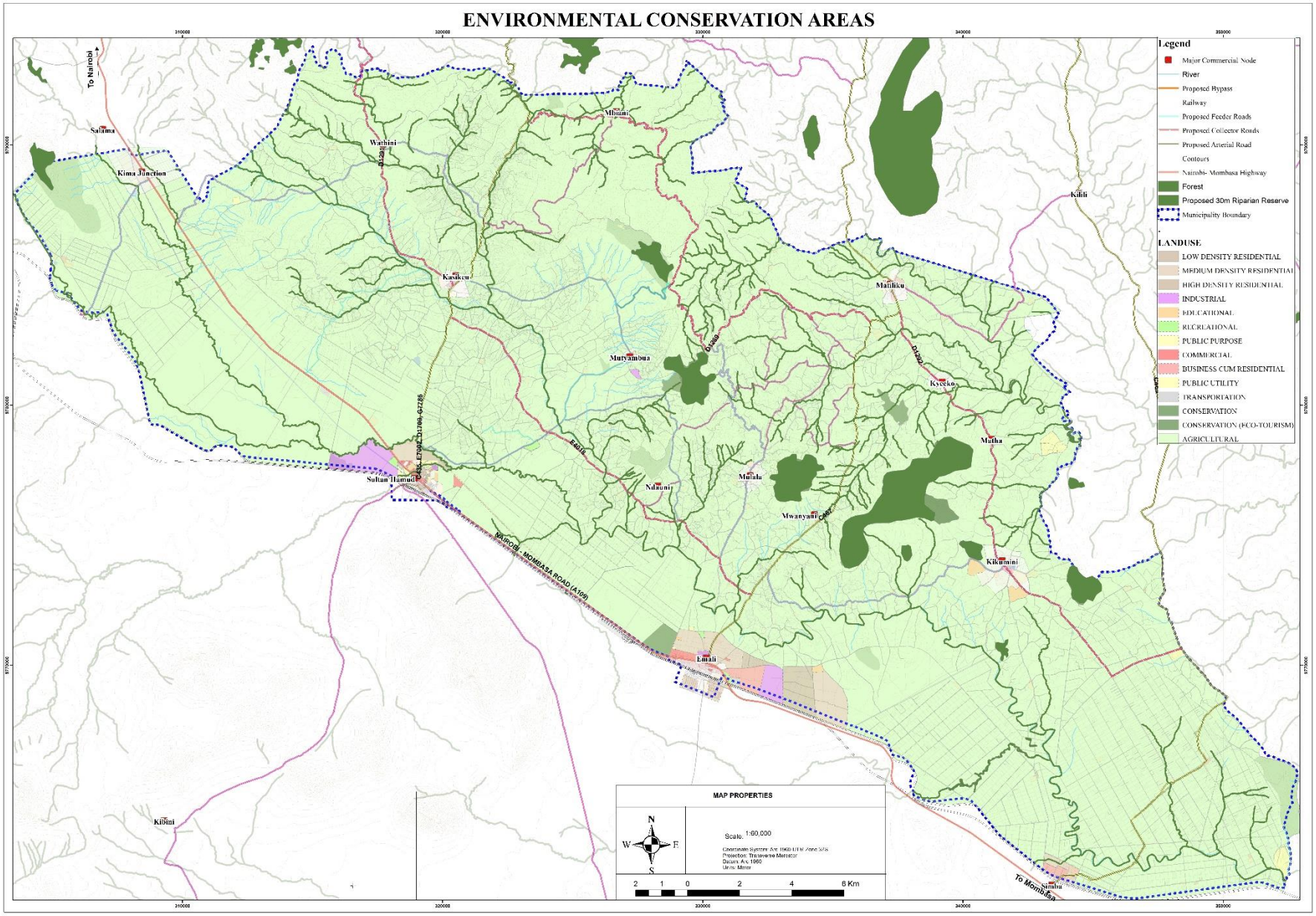
- Enhance interconnectivity between nodes through an integrated transport network.

5.2.2 Environmental Protection and Riparian Buffer Zones

In compliance with environmental planning principles and statutory requirements, environmentally sensitive areas, particularly riparian ecosystems, have been identified for protection. Buffer zones have been proposed at 30 meters for rivers and 15 meters for streams to safeguard water resources and prevent encroachment as demonstrated in the map below.

Key Interventions:

- Enforcement of statutory riparian reserves of 30 meters for rivers and 15 meters for streams.
- Regulation and restriction of development activities within environmentally sensitive areas.
- Conservation and protection of natural vegetation within designated buffer zones.
- Integration of riparian corridors into the Municipality's green infrastructure and ecological network.
- Mandatory undertaking of Environmental Impact Assessments (EIAs) prior to any development within or adjacent to sensitive ecosystems.
- Promotion of afforestation and reforestation initiatives, including tree replanting in degraded forest areas such as Matha Forest.



Map 26: Environmental Conservation Areas

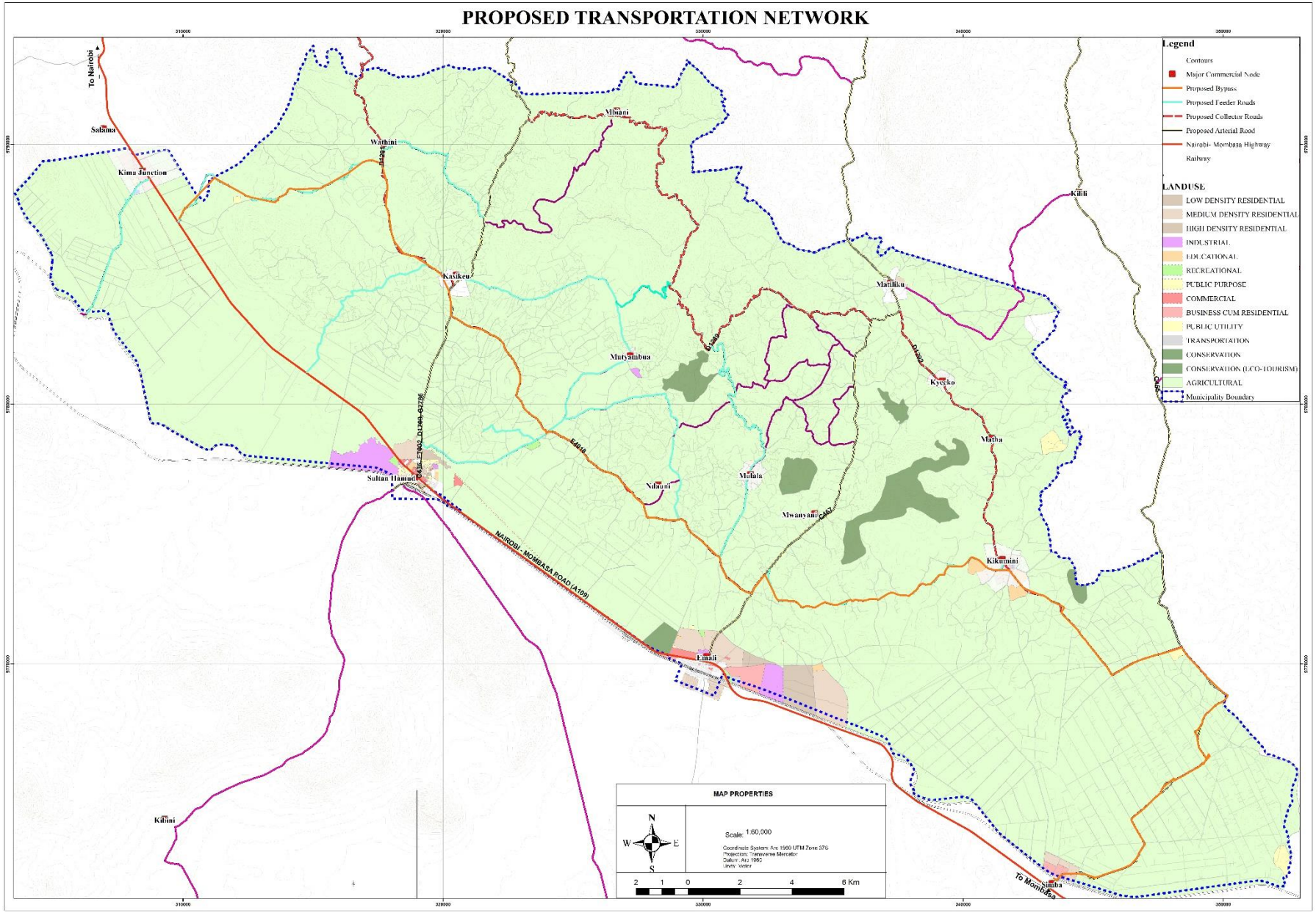
5.2.3 Transport and Development Corridors

The transportation network is a critical determinant of spatial structure and economic functionality. In line with the Act, the road network has been categorized into a hierarchical system comprising arterial, collector, and feeder roads to support accessibility, mobility, and connectivity as demonstrated in the table and transportation map below:

Table 32: Transport Network Hierarchy and Planning Interventions

Road Category	Proposed Roads	Description	Planning Interventions
Proposed By pass	– Kima junction-kasikeu –ndauni-kikumini-simba	Proposed bypass designed to divert through-traffic from urban centres and improve regional mobility.	- Upgrade to bitumen standard in accordance with national road specifications. - Provide a minimum road reserve width of 25 metres.
Arterial Roads	– A3: Kithimani – Makutano – Wamunyu – Itangini – Ukia – Emali – IBD Loitokitok – C: Meto – Ilpatimaro – Gatataek – Emutoroki – Selengei – Sultan Hamud – Kasikeu – Katuaa – C465: Simba – Thithi – Nzueni	Arterial roads function as primary transport corridors facilitating regional connectivity and movement of goods and services between major urban centres.	- Upgrade to bitumen standards in accordance with national road specifications. - Provide a minimum road reserve width of 25 metres. - Undertake periodic maintenance to ensure long-term usability. - Strengthen arterial corridors as economic development spines supporting regional integration.
Collector Roads	D1291: Kasikeu – Kyale Road D1289: Kyakatoni – Kwabambu Road D1292: Kwabambu – Makutano Road E4018: King'Otole – Katune Road	Collector roads link arterial roads to local urban centres and facilitate intra-municipal circulation.	- Upgrade to bitumen standards to improve accessibility. - Expand road reserves to a minimum of 18 metres. - Improve connectivity between urban nodes, markets, and residential areas. - Ensure continuous maintenance to enhance resilience and usability.
Feeder Roads	✓ E4020 - Marwa_Kiongoni Road –F1 ✓ E4021 - Ikuutani_Kayata Road - F2 ✓ E4022 - Mbiini_Kitivo Road –F3 ✓ E4019- Ndubini -Enguli Road –F4 ✓ G41476- Kathikwani_Mutyambua & G41465 Kwangiti_Mutyambua Roads– F5 ✓ G41379 - Kyunguni Ecd_Matiku Road –F6 ✓ G41632- Mutyambua_Manooni Road –F7 ✓ E4017- Mbeletu_Kwakotoe Road- F8 ✓ F4004- Kativani_Kikumini Road – F9	Feeder roads provide localized access, linking neighbourhoods and rural areas to higher-order road networks.	- Upgrade to a minimum reserve width of 15 metres. - Improve surfacing to all-weather standards where feasible. - Strengthen linkages between rural settlements and urban centres. - Ensure regular maintenance to support year-round accessibility.

Road Category	Proposed Roads	Description	Planning Interventions
Urban Road Network Improvements	Urban roads within Emali, Sultan Hamud, Makutano and other urban nodes	Urban roads within municipal centres face challenges including limited capacity, encroachment and lack of non-motorized transport infrastructure.	- Widen urban access roads to a minimum of 9 metres in line with planning standards. - Provide pedestrian walkways and cycling lanes for non-motorized transport .- Remove encroachments and restore designated road reserves. - Provide service lanes (minimum 6 metres) and back lanes in commercial zones. - Upgrade key urban roads to bitumen and cabro standards. - Introduce additional link roads to improve circulation within urban cores.



Map 27: Proposed Transportation Plan

5.2.4 Storm Water Drainage

The Municipality currently experiences inadequate storm water drainage infrastructure, which contributes to localized flooding during rainy seasons, erosion of road surfaces, and disruption of urban activities. In line with the Physical and Land Use Planning Act, 2019 and relevant infrastructure design standards, there is a need to develop an integrated and sustainable drainage system that is coordinated with the transport network and broader urban development framework.

Key interventions

- Development of a comprehensive storm water drainage system integrated with road infrastructure and urban layout plans
- Provision of adequate drainage capacity to accommodate peak storm water runoff, including culverts, open channels, and underground drainage systems where appropriate
- Regular maintenance, desilting, and rehabilitation of drainage channels to ensure continuous functionality
- Enforcement of solid waste management controls to prevent blockage of drainage systems
- Incorporation of climate-resilient and environmentally sustainable drainage solutions

5.2.5 Urban Support Infrastructure

Urban support infrastructure forms the backbone of functional urban centres by enhancing service delivery, safety, and economic productivity. The provision of essential services such as lighting, water supply, electricity, and telecommunications is critical in supporting both residential and commercial development within the Municipality.

Key interventions

- Installation of street lighting and floodlighting along major roads, public spaces and commercial centres to enhance safety and security
- Provision and expansion of water supply systems, electricity networks, and telecommunication infrastructure to support urban growth
- Improvement of infrastructure services to stimulate economic activities, extend business operating hours, and enhance urban livability
- Coordination of infrastructure provision with land use planning to ensure efficient service delivery and spatial organization

a) Public Transport Facilities

Public transport facilities are critical in facilitating mobility, reducing travel time, and enhancing accessibility within the Municipality. Well-planned transport hubs improve efficiency in passenger movement and integration of transport modes.

Key Interventions:

- Upgrading of existing bus termini in Emali and Sultan Hamud to meet modern standards of capacity, safety, and functionality
- Establishment of additional bus stops and lay-bys in designated urban and peri-urban centres
- Provision of supporting infrastructure including lighting, drainage, sanitation facilities, and solid waste management systems within transport hubs
- Improvement of circulation, zoning, and organization within transport facilities to reduce congestion and enhance operational efficiency
- Integration of public transport facilities with pedestrian access routes and surrounding land uses

b) Parking Facilities

Adequate and well-organized parking facilities are necessary to manage vehicular congestion, particularly within central business districts and high-density commercial areas. Effective parking management enhances traffic flow, supports urban orderliness, and contributes to economic efficiency.

Key Interventions:

- Development of designated parking facilities, including a dedicated lorry park for heavy commercial vehicles
- Provision of sufficient on-street and off-street parking spaces within urban centres based on projected demand
- Regulation and enforcement of parking through appropriate by-laws to minimize congestion within CBDs
- Integration of parking planning into overall urban design, land use zoning, and municipal revenue systems

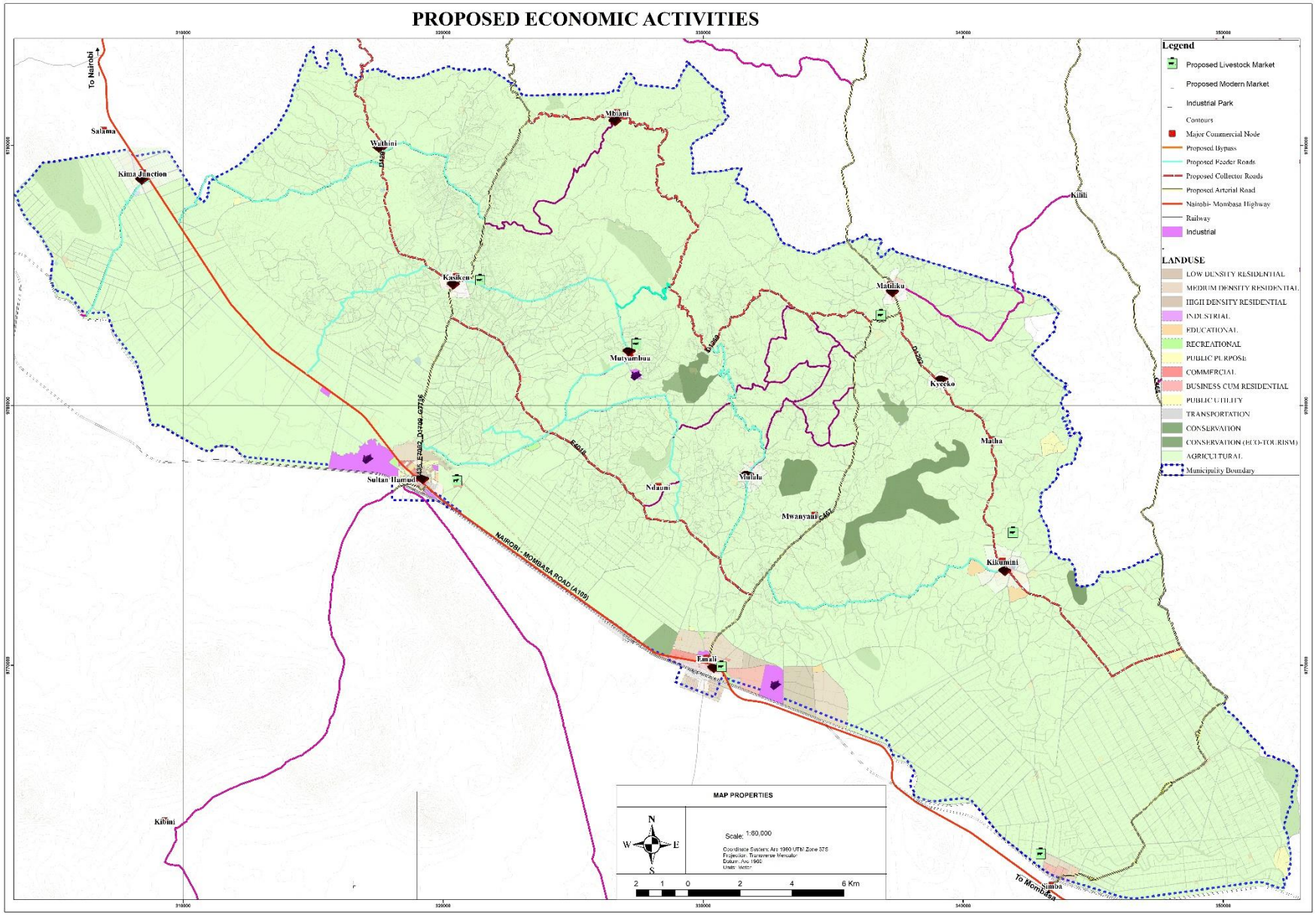
5.2.6 Economic Activities

The municipality's economic development strategy is anchored on the strengthening and diversification of industrial and commercial activities to stimulate local economic growth and employment creation. This is primarily achieved through the establishment of industrial parks in Emali and Sultan Hamud, which are intended to provide planned spaces for manufacturing, agro-processing, logistics, and other industrial enterprises. In addition, the plan promotes the development of designated commercial centres and modern markets to streamline trading activities, support formal and informal enterprises, and enhance value addition along key economic value chains. These spatial interventions are aimed at attracting investment, improving business efficiency, and reinforcing the municipality's role as a regional economic hub.

Key Interventions:

- Establishment and operationalization of industrial parks in Emali and Sultan Hamud in line with the County Spatial Plan framework.
- Development of designated commercial centres with structured zoning, access infrastructure, and serviced plots.
- Construction and upgrading of modern markets equipped with adequate trading stalls, sanitation facilities, and supporting infrastructure.
- Provision of basic utilities, including water supply, electricity, and ICT infrastructure to support industrial and commercial activities.
- Promotion of agro-processing and value addition industries to strengthen local production systems.
- Establishment of livestock markets to enhance livestock trade and improve market efficiency.
- Implementation of investment promotion strategies and facilitation of Public-Private Partnerships (PPPs).
- Strengthening of regulatory and planning frameworks to support orderly commercial and industrial development.The mapa below some of the major economic interventions spatially

Spatial distribution of the major economic interventions is illustrated in the map below.



Map 28: Economic Activities

5.2.7 Infrastructure and Service Networks

The Detailed Land Use Plan provides for the development of integrated social and physical infrastructure systems to support sustainable urban growth and efficient service delivery. Key infrastructure components include sewer treatment plants, sanitary landfill sites, power supply stations, fire stations, disaster management centres, community empowerment centres, schools, health facilities, and markets. These facilities are strategically distributed to ensure equitable access across the municipality while enhancing urban functionality, environmental management, and resilience to hazards. The infrastructure network is intended to support current and future population demands while promoting orderly spatial development and improved living standards.

Key Interventions:

- Construction and expansion of sewerage and wastewater treatment systems
- Establishment of sanitary landfill and solid waste management facilities
- Development of power distribution infrastructure and substations
- Establishment of fire stations and disaster response/management centres
- Provision and upgrading of educational and healthcare facilities
- Development of community empowerment and social support centres
- Improvement of market infrastructure and associated service networks
- Expansion and upgrading of road, drainage, and utility networks
- Integration of ICT infrastructure to support service delivery and governance

5.2.8 Eco-Tourism and Recreational Areas

The plan designates recreational parks within urban centres to provide accessible public open spaces that support leisure, recreation, and community interaction. These parks will include amenities such as playgrounds, landscaped areas, seating spaces, pedestrian pathways, sanitation facilities, lighting, and drainage infrastructure. Additionally, a municipal stadium is proposed to support organized sports and large-scale public events.

Matha Hill is identified as a key eco-tourism site with potential for sustainable tourism development. Proposed interventions include the development of low-impact eco-tourism

activities such as nature trails, viewing platforms, and controlled visitor facilities. Development within this area will be guided by environmental conservation principles to ensure minimal ecological disturbance while promoting tourism, environmental awareness, and local economic development.

Key Interventions:

- Development of urban recreational parks with supporting amenities and infrastructure
- Construction of playgrounds and a municipal stadium for sports and events
- Landscaping and greening of public open spaces
- Development of pedestrian walkways and accessibility features within recreational areas
- Establishment of eco-tourism infrastructure at Matha Hill (trails, viewing points, visitor facilities)
- Implementation of environmental management and conservation measures
- Regulation of visitor activities to minimize environmental degradation
- Promotion of public-private partnerships in eco-tourism development
- Integration of eco-tourism with community-based tourism initiatives
- Provision of supporting infrastructure (access roads, sanitation, signage, and safety measures)

5.2.9 Land Use Zones

The Plan outlines the recommended land use zones and provides a clear framework for the preferred direction of urban development within the Municipality. It integrates economic development priorities, conservation of agricultural land, and protection of environmentally sensitive and fragile ecosystems. The zoning framework ensures orderly spatial growth, efficient land utilization, and sustainable development. Plan was divide into the following clusters:

Table *33*: Land Use Clusters and Coverage

Cluster	Description	Area (Ha)
1	**Emali Town** – Zones as provided in the Emali Local Physical and Land Use Development Plan	195.95
2	**Sultan Hamud Town** – Zones as provided in the Sultan Hamud Local Physical and Land Use Development Plan	156.20

Cluster	Description	Area (Ha)
3	**Matiliku Market** – Zones as provided in the Matiliku Market Local Physical and Land Use Development Plan	84.48
4	**Kasikeu Market** – Zones as provided in the Kasikeu Market Local Physical and Land Use Development Plan	66.70
5	**Kikumini Market** – Zones as provided in the Kikumini Market Local Physical and Land Use Development Plan	255.78
6	**Mutyambua Market** – Zones as provided in the Mutyambua Market Local Physical and Land Use Development Plan	22.59
7	**Mulala Market** – Zones as provided in the Mulala Market Local Physical and Land Use Development Plan	92.77
8	**Kyeeko Market** – Zones as provided in the Kyeeko Market Local Physical and Land Use Development Plan	58.68
9	**Kiima Market** – Zones as provided in the Kiima Market Local Physical and Land Use Development Plan	363.23
10	**Hinterland** – Covers all areas outside Clusters 1–9	72,293.82
Total		**73,590.20**

Land Use Distribution (Hinterland Area)

The Plan further categorizes land use within the hinterland area, which forms the largest portion of the Municipality, to guide development, conservation, and agricultural activities.

Table 34: Detailed Land Use Plan Budget

Code	Land Use	Area in Hectares	Percentage
0	Residential	722.07	1.00
1	Industrial	341.35	0.47
2	Educational	71.21	0.10
3	Recreational	31.53	0.04
5	Commercial	147.01	0.20

6	Public utility	148.92	0.21
7	Transportation	3185.91	4.41
8	Conservation	4831.23	6.69
9	Agricultural	62774.59	86.88
Total		**72293.82**	100

Agricultural land, which accounts for approximately 86.88% of the Municipality, is the dominant land use, underscoring the importance of protecting productive agricultural areas and promoting agri-based economic activities to support livelihoods and food security. Residential areas, covering about 1.00%, reflect increasing urbanization trends, particularly concentrated around major centres such as Emali and Sultan Hamud, indicating growing demand for housing and associated services. Conservation areas, constituting approximately 6.69%, emphasize the need to safeguard environmentally sensitive zones, including riparian reserves, hills, forests, and other ecologically fragile landscapes. Industrial and commercial zones, which together account for about 0.67%, present significant opportunities for economic development, value addition, and employment creation within the Municipality. Transport and infrastructure land use, covering approximately 4.41%, plays a critical role in enhancing connectivity, accessibility, and the efficient movement of people, goods, and services across the Municipality. The table below shows some of the major proposals per each land use:

Table 35: Proposed Land use

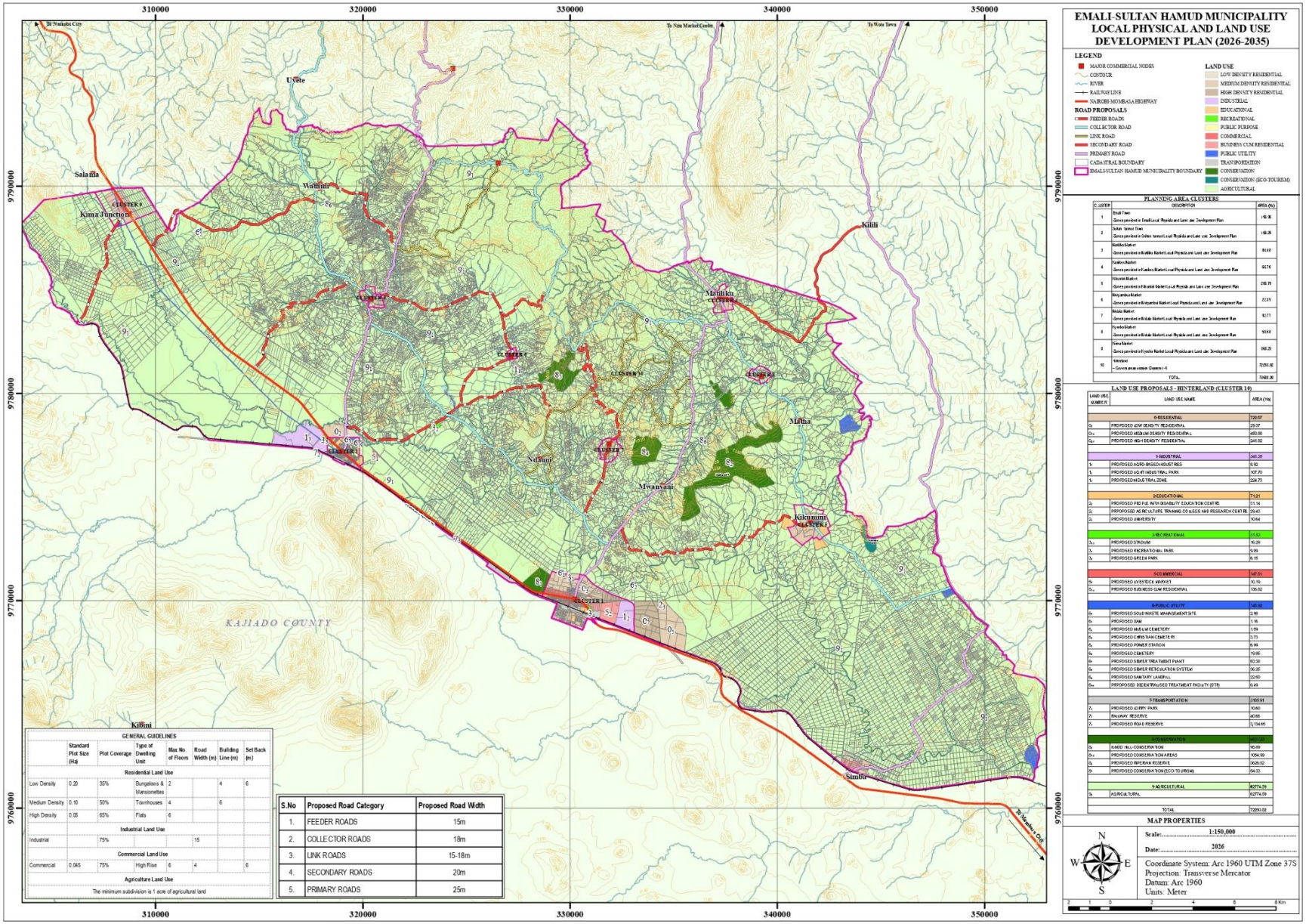
Land Use Number	Land Use Name	Area (Ha)
0-Residential		**722.07**
0_1	Proposed Low Density Residential	29.37
0_{2-5}	Proposed Medium Density Residential	450.88
0_{6-7}	Proposed High Density Residential	241.82
1-Industrial		**341.35**
1_1	Proposed Agro-Based Industries	8.92
1_2	Proposed Light Industrial Park	107.70
1_3	Proposed Industrial Zone	224.73

Land Use Number	Land Use Name	Area (Ha)
2-Educational		**71.21**
2_1	Proposed People with Disability Education Centre	31.14
2_2	Prpoposed Agriculture Training College and Research Centre	29.43
2_3	Proposed University	10.64
3-Recreational		**31.53**
3_{1-2}	Proposed Stadium	16.29
3_3	Proposed Recreational Park	9.09
3_4	Proposed Green Park	6.15
5-Commercial		**147.01**
5_1	Proposed Livestock Market	10.19
5_{2-3}	Proposed Business Cum Residential	136.82
6-Public Utility		**148.92**
6_1	Proposed Solid Waste Management Site	2.98
6_2	Proposed Dam	1.16
6_3	Proposed Muslim Cemetery	1.59
6_4	Proposed Christian Cemetery	3.73
6_5	Proposed Power Station	6.99
6_6	Proposed Cemetery	19.85
6_7	Proposed Sewer Treatment Plant	53.38
6_8	Proposed Sewer Reticulation System	36.25
6_9	Proposed Sanitary Landfill	22.50
6_{10}	Prpoposed Decentralised Treatment Facility (Dtf)	0.49
7-Transportation		**3185.91**

Land Use Number	Land Use Name	Area (Ha)
7_1	Proposed Lorry Park	10.60
7_2	Railway Reserve	40.66
7_3	Proposed Road Reserve	3,134.65
8-Conservation		**4831.23**
8_1	Kinoo Hill-Conservation	95.89
8_{2-5}	Proposed Conservation Areas	1054.99
8_6	Proposed Riperian Reserve	3626.02
8_7	Proposed Conservation (Eco-Tourism)	54.33
9-Agricultural		**62774.59**
9_1	Agricultural	62774.59
Total		**72293.82**

Proposed Interventions

The interventions focus on guiding orderly urban growth through planned residential, industrial, commercial, and mixed-use development supported by adequate infrastructure and services. Key actions include development of education facilities, recreational spaces, and markets to enhance social and economic activities. Public utility interventions prioritize provision of essential services such as sewer systems, solid waste management (landfill), power supply, fire services, cemeteries, and decentralized treatment facilities. Transport interventions aim at improving road and rail connectivity, while environmental interventions focus on conserving riparian areas, hills, and eco-tourism zones. Agricultural land is protected to support food security and sustainable livelihoods. The proposals are distributed in the municipality local physical and land use development plan below:



Map 29: Municipality Local Physical and Land Use Development Plan

5.3 Local Physical and Land Use Development Plans for Market Centres

The local physical and land use development plans for five market centres within the Municipality were prepared as action area plans forming critical pillars for spatial and economic development. These include Kima Junction, Mutyambua, Mulala, Kyeeko, and Kikumini market centres. The plans provide detailed land use proposals and development frameworks aimed at guiding orderly growth, improving service delivery, and enhancing local economic activities. Key proposals include the establishment of community empowerment centres comprising libraries, social halls, and ICT facilities; Early Childhood Development Education (ECDE) centres; solid waste management sites; organized market spaces; Jua Kali (informal enterprise) zones; and clearly designated residential and commercial areas to support structured and sustainable urban development.

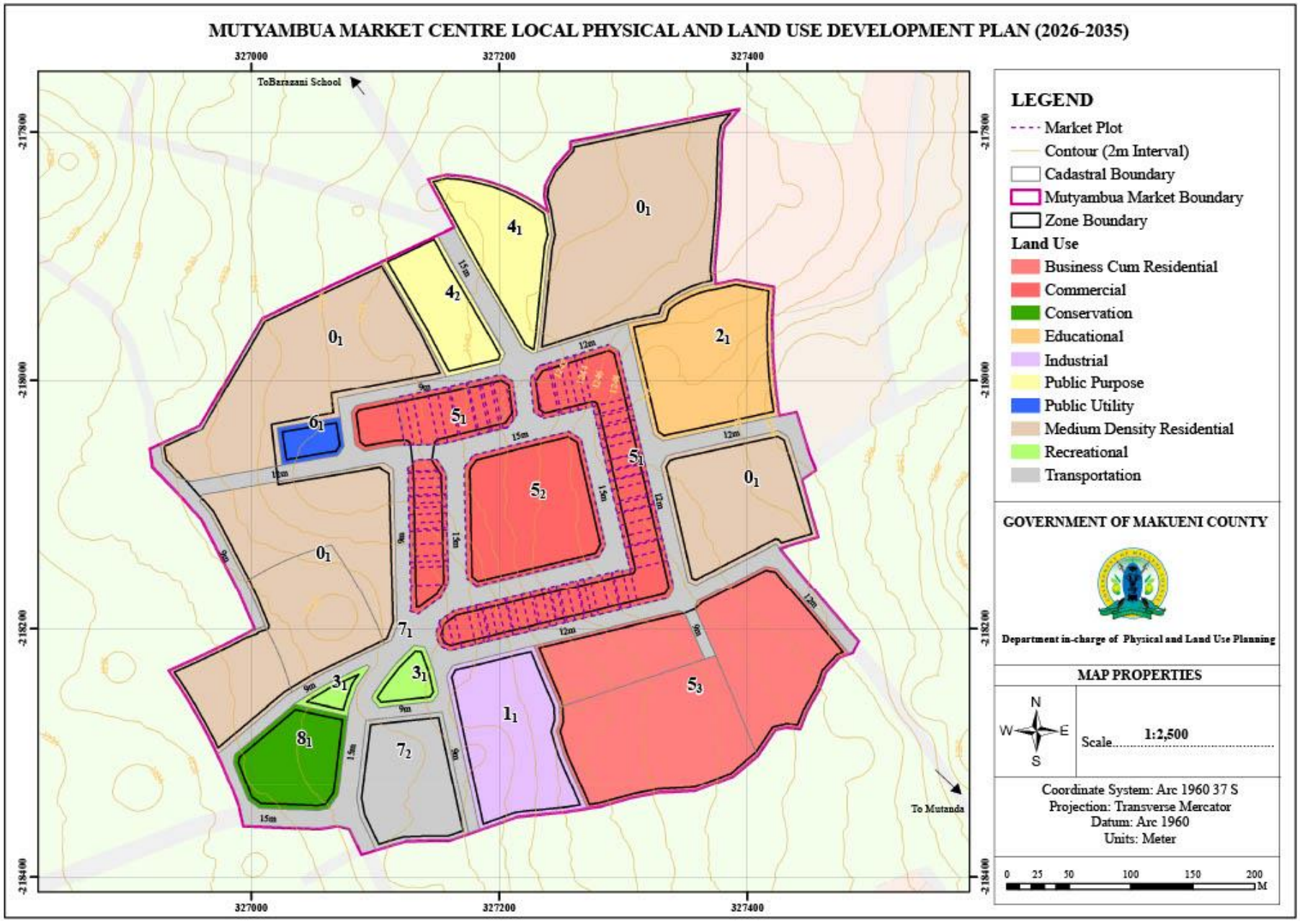
5.3.1 Mutyambua Market Centre

The market centre covers a total area of 22.59 hectares. The proposed land use framework designates medium density residential development to accommodate population growth, supported by commercial, institutional, public purpose, utility, and transport uses to enhance service delivery and economic activity. Industrial activity is limited to informal enterprises, while environmental considerations are incorporated through water conservation features.

Table 36: Land Use Zone

Land Use Number	Land Use Name	Area (Hectares)
0 - Residential		
0_1	Proposed Medium Density Residential	7.34
1 - Industrial		
1_1	Proposed Jua Kali Park	0.17
2 - Educational		
2_1	Mutyambua Primary School	1.02
3—Recreational Park		
3_1	Proposed Recreational Park	0.27
4 – Public Purpose		
4_1	Mutyambua Sub-County Hospital	0.72
4_2	Proposed Empowerment Centre	0.55
5 - Commercial		
5_1	Existing Commercial Zone	2.20

Land Use Number	Land Use Name	Area (Hectares)
5_2	Proposed Modern Market	1.08
5_3	Proposed Business Cum Residential	2.91
6 – Public Utility		
6_1	Proposed Waste Management Site	0.15
7 – Transportation		
7_1	Road Reserve	4.80
7_2	Proposed Bus Terminus	0.78
8—Conservational		
8_1	Earth Dam	0.60
Total		***22.59***



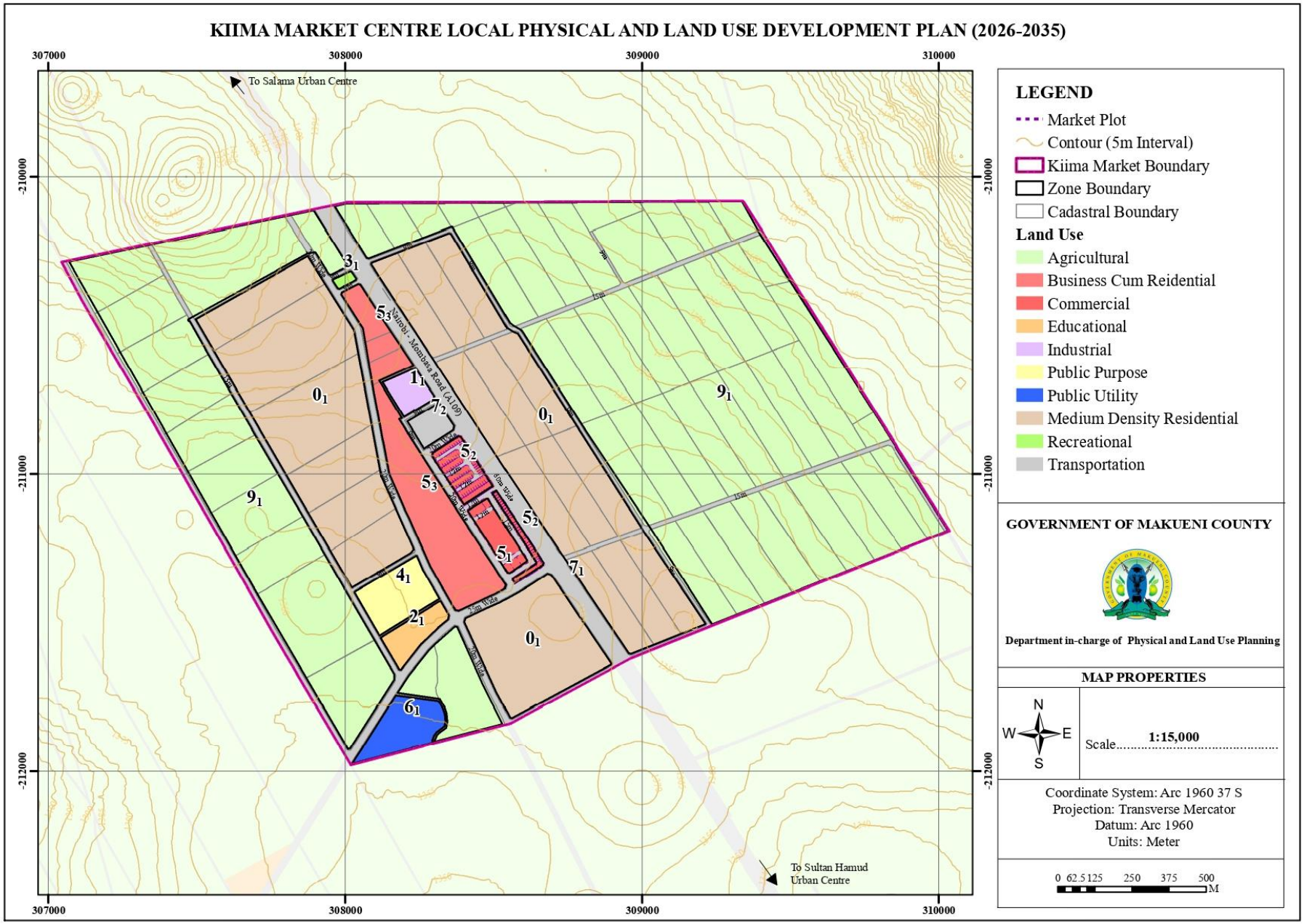
Map 30: Mutyambua Market Centre Local Physical and Land Use Development Plan

5.3.2 Kima Junction Market Centre

The Kiima Junction Market Centre Plan proposes a structured land use framework that balances residential growth, economic activities, public services, infrastructure, and environmental considerations. The largest share of land is allocated to agriculture and residential uses, reflecting the semi-urban nature of the area while allowing for future urban expansion. Commercial and business-cum-residential zones are designated to stimulate local trade and mixed-use development. Public purpose areas such as empowerment centres are included to enhance community capacity through social amenities like libraries, ICT centres, and social halls. Industrial activities are limited to small-scale jua kali operations, while educational and recreational facilities are incorporated to support social development. Public utility zones provide for waste management services, and transport infrastructure includes road reserves and a bus terminus to improve accessibility and mobility. The plan seeks to promote orderly growth, service provision, and sustainable land utilization.

Table 37: Land Use Zone

Land Use Number	Land Use Name	Area (Hectares)
0 - Residential		
0_1	Proposed Medium Density Residential	95.70
1 - Industrial		
1_1	Proposed Jua Kali Park	1.78
2 - Educational		
2_1	Proposed Ecde Centre	2.43
3—Recreational		
3_1	Proposed Recreational Park	0.34
4 – Public Purpose		
4_1	Proposed Empowerment Centre	4.31
5 - Commercial		
5_1	Proposed Modern Market	2.02
5_2	Proposed Commercial Zone	5.66
5_3	Proposed Business Cum Residential	14.95
6 – Public Utility		
6_1	Proposed Waste Management Site	4.21
7 – Transportation		
7_1	Road Reserve	31.58
7_2	Proposed Bus Terminus	1.55
9 - Agricultural		
9_1	Agriculture	198.70
Total		***363.23***



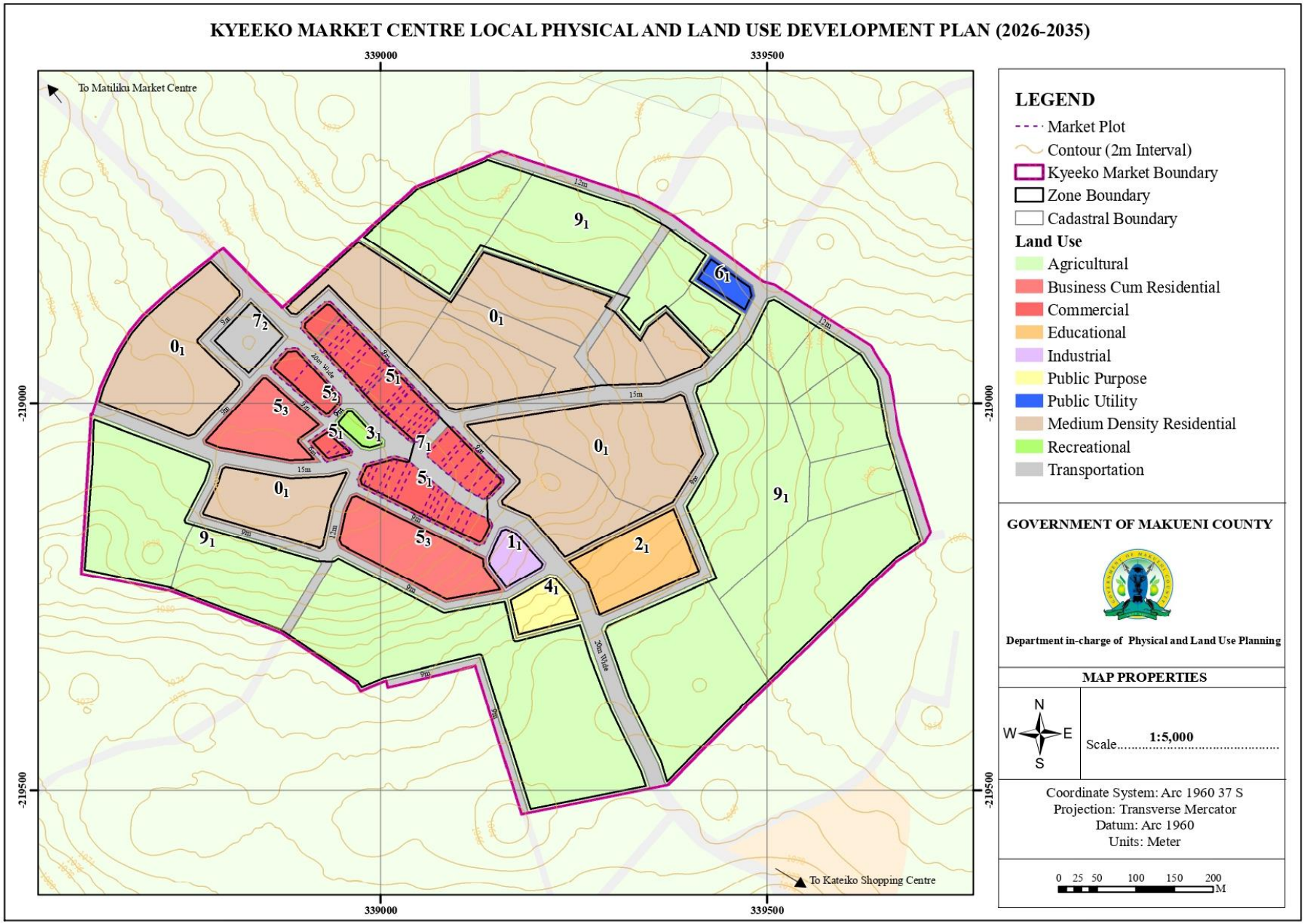
Map 31: Kiima Junction Market Centre Local Physical and Land Use Development Plan

5.3.3 Kyeeko Market Centre

The plan allocates land for residential growth, agriculture, commerce, public services, and infrastructure. It supports local economic activities through commercial zones and a jua kali park, provides community facilities such as ECDE and empowerment centres, and includes waste management and transport infrastructure. The plan promotes balanced development, improved service delivery, and organized land use within the centre.

Table 38: Kyeeko Market Centre Land Use Zone

Land Use Number	Land Use Name	Area (Hectares)
0 - Residential		
0_1	Proposed Medium Density Residential	11.64
1 - Industrial		
1_1	Proposed Jua Kali Park	0.39
2 - Educational		
2_1	Proposed Ecde Centre	1.36
3—Recreational		
3_1	Proposed Recreational Park	0.16
4 – Public Purpose		
4_1	Proposed Empowerment Centre	0.51
5 - Commercial		
5_1	Existing Commercial Zone	1.95
5_2	Proposed Modern Market	0.44
5_3	Proposed Business Cum Residential	2.63
6 – Public Utility		
6_1	Proposed Waste Management Site	0.28
7 – Transportation		
7_1	Road Reserve	7.04
7_2	Proposed Bus Terminus	0.52
9 - Agricultural		
9_1	Agriculture	31.76
Total		**58.68**



Map 32: Kyeeko Market Centre Local Physical and Land Use Development Plan

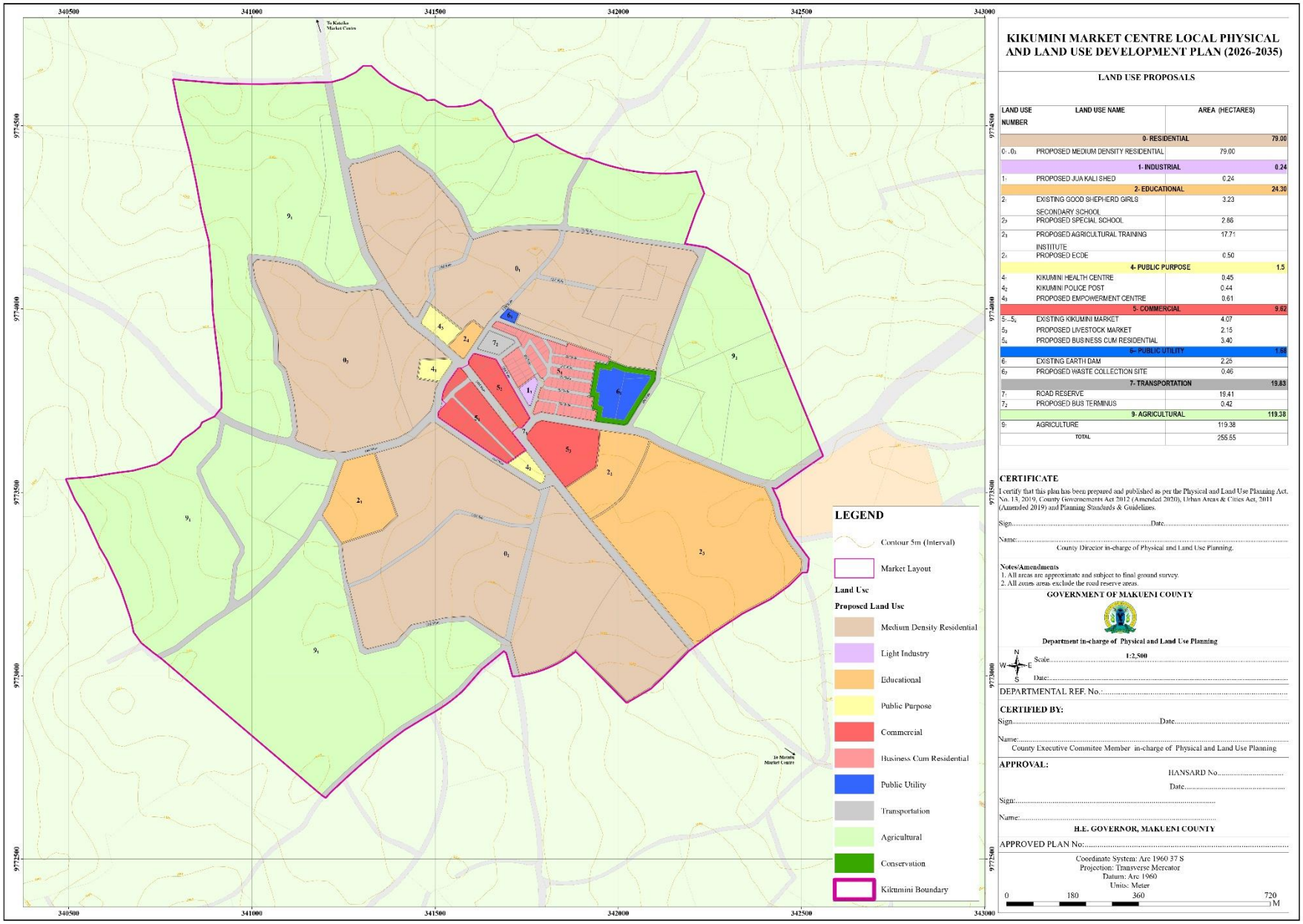
5.3.4 Kikumini Market Centre

The Kikumini Market Centre covers a total area of 255.55 hectares, with agricultural land occupying the largest portion at 119.38 hectares, followed by residential use at 79.00 hectares. Educational facilities account for 24.30 hectares, while transport infrastructure covers 19.83 hectares. Commercial activities are allocated 9.62 hectares, supporting local trade and services. Public utility areas occupy 1.68 hectares, public purpose uses 1.50 hectares, and industrial use is limited to 0.24 hectares. The area reflects a predominantly agricultural and residential character, supported by complementary social, economic, and infrastructure uses to promote balanced and organized development.

Table 39: Kikumini Market Centre Land Use Zone

Land Use Number	Land Use Name	Area (Hectares)
	0- Residential	**79.00**
0_1 - 0_3	Proposed Medium Density Residential	79.00
	1- Industrial	**0.24**
1_1	Proposed Jua Kali Shed	0.24
	2- Educational	**24.30**
2_1	Existing Good Shepherd Girls Secondary School	3.23
2_2	Proposed Special School	2.86
2_3	Proposed Agricultural Training Institute	17.71
2_4	Proposed ECDE	0.50
		4- Public Purpose 1.5
4_1	Kikumini Health Centre	0.45
4_2	Kikumini Police Post	0.44

Land Use Number	Land Use Name	Area (Hectares)
4_3	Proposed Empowerment Centre	0.61
	5- Commercial	**9.62**
5_1—5_2	Existing Kikumini Market	4.07
5_3	Proposed Livestock Market	2.15
5_4	Proposed Business Cum Residential	3.40
	6– Public Utility	**1.68**
6_1	Existing Earth Dam	2.25
6_2	Proposed Waste Collection Site	0.46
		7- Transportation **19.83**
7_1	Road Reserve	19.41
7_2	Proposed Bus Terminus	0.42
		9- Agricultural **119.38**
9_1	Agriculture	119.38
	Total	255.55



Map 33: Kikumini Market Centre Local Physical and Land Use Development Plan

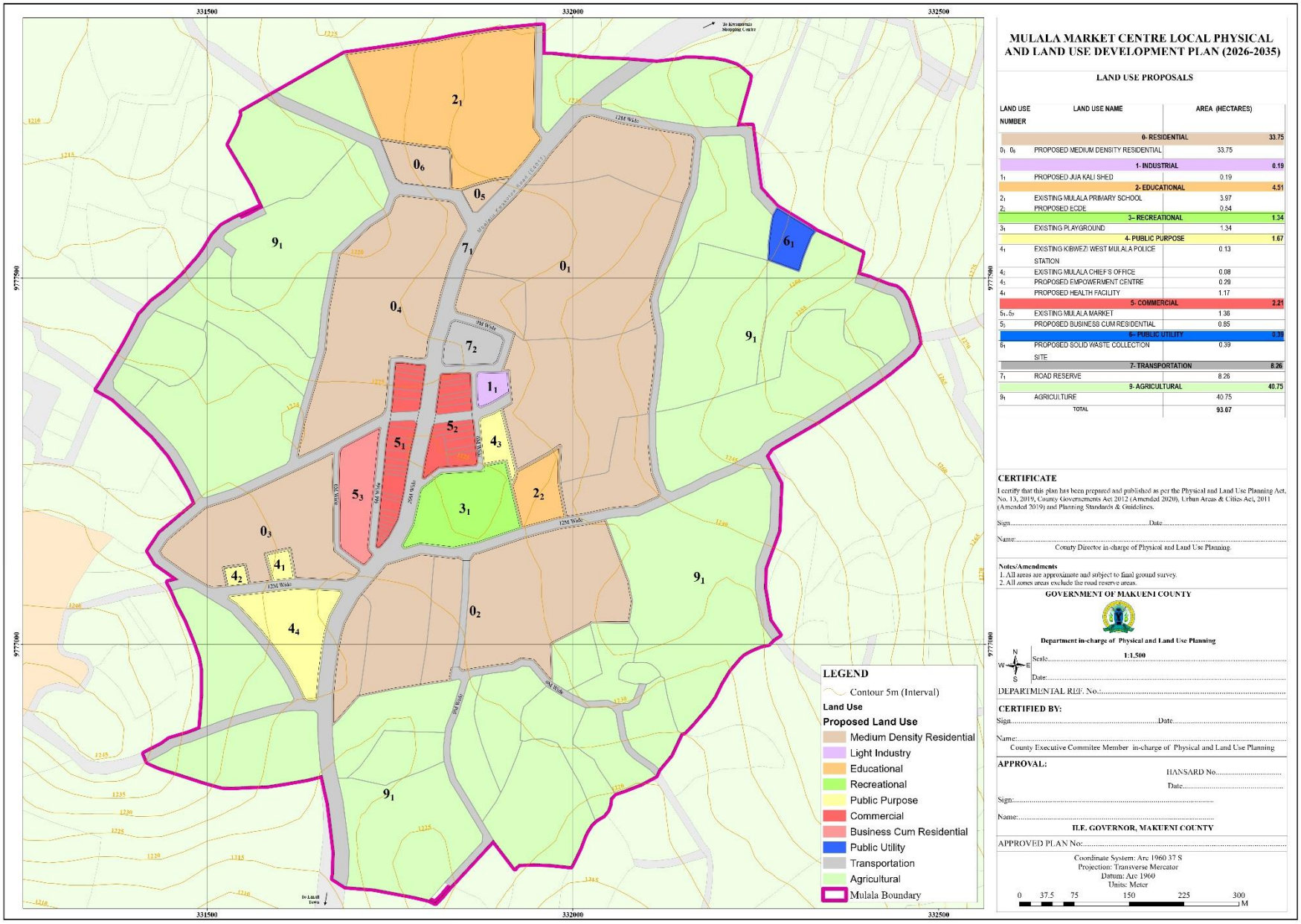
5.3.5 Mulala Market Centre

The Mulala Market Centre covers a total area of 93.07 hectares, with agricultural land occupying the largest share at 40.75 hectares, followed by residential use at 33.75 hectares. Transport infrastructure accounts for 8.26 hectares, while educational facilities cover 4.51 hectares. Commercial activities occupy 2.21 hectares, supporting local trade and services. Public purpose areas take up 1.67 hectares, recreational spaces 1.34 hectares, public utility 0.39 hectares, and industrial use is minimal at 0.19 hectares. The centre reflects a predominantly agricultural and residential character, supported by essential social amenities, infrastructure, and economic functions to promote balanced and organized development.

Table 40: Mulala Market Centre Land Use Zone

Land Use Number	Land Use Name	Area (Hectares)
0- Residential		**33.75**
0_1 - 0_6	Proposed Medium Density Residential	33.75
1- Industrial		**0.19**
1_1	Proposed Jua Kali Shed	0.19
2- Educational		**4.51**
2_1	Existing Mulala Primary School	3.97
2_2	Proposed Ecde	0.54
3– Recreational		**1.34**
3_1	Existing Playground	1.34
4- Public Purpose		**1.67**
4_1	Existing Kibwezi West Mulala Police Station	0.13
4_2	Existing Mulala Chief's Office	0.08
4_3	Proposed Empowerment Centre	0.29
4_4	Proposed Health Facility	1.17
5- Commercial		**2.21**
5_1 - 5_2	Existing Mulala Market	1.36
5_3	Proposed Business Cum Residential	0.85
6– Public Utility		**0.39**
6_1	Proposed Solid Waste Collection Site	0.39
7- Transportation		**8.26**

Land Use Number	Land Use Name	Area (Hectares)
7_1	Road Reserve	8.26
9- Agricultural		**40.75**
9_1	Agriculture	40.75
Total		**93.07**



Map 34: Mulala Market Centre Local Physical and Land Use Development Plan

5.3.6 Review and Adoption of the Proposals from the Previous Local Physical and Land Development Plan

There are foru previous local physical and Land Use Development plans for emali town, sultan-hamud town, kasikeu market centre and matiliku market centre. The plans are in the approval phase. The municipal plan has adopted some of the proposals made in the plans and incoporayted into the plan to enhnance the integration. The adopted proposals are summarized below:

a.Sultan Hamud Plan Local Physical and Land Use Development Plan, 2021

The Municipal Development Plan adopts the land use proposals contained in the Sultan Hamud Local Physical and Land Use Development Plan (2021) to ensure spatial continuity and policy alignment. The adopted proposals reinforce Sultan Hamud's role as a core urban centre and provide a structured framework for balanced urban growth. The adopted land use proposals are highlighted in the table below:

Table 41: Sultan -Hamud Town Proposed Land Uses

Code	Land Use Proposals	Area in ha
	Residential	
$0_{1.1}$	Proposed High Density Residential	3.43
$0_{1.2}$	Proposed High Density Residential	1.54
$0_{1.3}$	Proposed High Density Residential	2.24
$0_{2.1}$	Proposed Medium Density Residential	6.76
$0_{2.2}$	Proposed Medium Density Residential	0.85
$0_{2.3}$	Proposed Medium Density Residential	0.54
$0_{2.4}$	Proposed Medium Density Residential	5.25
	Industrial	
11	Proposed Workshops and Garages	0.60
12	Wako Funirture Industry	1.86

Code	Land Use Proposals	Area in ha
13	Makuli Timber Industry	2.11
14	Kenya Industrial Estates	2.51
15	Jua Kal Workshops	0.47
16	Proposed Timber Fctory	0.90
17	Proposed Industrial Plots	3.04
	Educational	
2_{1-3}	Existing Primary School	8.95
2_4	Existing Muslim Primary School	5.81
2_5	Proposed Secondary School	4.26
2_6	Proposed Secretarial College	0.71
2_{6-7}	Proposed Nursery School	
	Recreational	
3_2	Existing Stadium	3.06
3_{3-5}	Proposed Recreational Grounds	4.47
3_{6-10}	Proposed Open Public Spaces	2.23
	Public Purpose	
4_1	Existing ACK Church	0.26
$4_{2,3,4}$	Existing Church	2.17
4_5	Existing Hospital	1.55
4_6	Existing Ministry of Public Works	0.55
4_7	Existing Mosque	0.25

Code	Land Use Proposals	Area in ha
4_8	Existing Muslim Cemetery	1.50
4_9	Existing Police Station	1.16
4_{10}	Existing Post Office	0.25
4_{11}	Existing Public Cemetery	1.68
4_{12}	Existing Salvation Army Church	0.57
4_{13}	Proposed AIC Church & Hostel	1.19
4_{14}	Proposed County Offices	0.33
4_{15}	Proposed Police Station	5.11
4_{16}	Proposed Public Administration	8.59
4_{17}	Proposed Public Purpose	0.49
$4_{18,19}$	Proposed Social Center	0.46
4_{20-23}	Proposed Special Purpose	1.56
4_{24}	Existing site for Kenya National Highways Authority	2.23
4_{25}	Proposed Health Center	2.71
	Commercial	
$5_{4,41,42,43}$	Existing Commercial Plots	7.30
5_2	Existing Closed Market	0.15
5_3	Proposed Bakery	0.86
5_5	Proposed Open-Air Market	1.17
$5_{7,8,10,11}$	Proposed Commercial Plots	11.16

Code	Land Use Proposals	Area in ha
	Public Utility	
6_1	Existing NOL Turesh	4.76
6_2	Oil Pipeline Reserve	5.67
6_3	Existing Sewer Treatment Plant	0.49
6_4	Proposed Fire Station	1.15
6_5	Proposed Slaughter House	0.38
6_6	Proposed Sewer Works	3.58
6_7	Proposed Refuse Disposal	0.46
6_8	Proposed Repeater Station	0.37
6_1	Existing NOL Turesh	4.76
6_2	Oil Pipeline Reserve	5.67
6_3	Existing Sewer Treatment Plant	0.49
6_4	Proposed Fire Station	1.15
6_5	Proposed Slaughter House	0.38
6_6	Proposed Sewer Works	3.58
6_7	Proposed Refuse Disposal	0.46
6_8	Proposed Repeater Station	0.37
	Transportation	
7_1	Railway Reserve	17.72
$7_{2,3}$	Proposed Bus Terminus	1.78
$7_{6,7}$	Proposed Parking	0.58

Code	Land Use Proposals	Area in ha
$7_{8,9}$	Proposed Fuel Station	0.18
7_{10}	Proposed Lorry Park	0.23

b. Emali Town

For Emali Town, the Municipal Development Plan incorporates targeted proposals designed to enhance economic productivity and human capital development. These include the establishment of a Development Training Facility (DTF) to support skills development and capacity building, as well as the provision of Jua Kali sheds to accommodate and formalize informal sector enterprises. The integration of these proposals reinforces the town's role as a strategic commercial and transit hub, while promoting inclusive economic growth and employment generation.

c. Kasikeu Urban Centre

The adopted proposals for Kasikeu Urban Centre focus on strengthening its role as a local economic and service node. Key interventions include the development of a modern market to formalize trade activities, a livestock holding ground to support the pastoral economy, and a recreational park to enhance social amenities and environmental quality. These proposals aim to promote structured growth and improve the functionality of the centre.

d.Matiliku Urban Centre

The adopted proposals for Matiliku Market Centre are focused on strengthening its local economic base and market functionality. Key interventions include the development of a cattle holding ground to support livestock trade and associated economic activities, as well as the establishment of a modern market facility to improve the organization, efficiency, and competitiveness of commercial operations. These proposals are intended to enhance service provision and promote sustainable development within the centre.

The plans for the above urban centres are appended:

5. 4 Development Guidelines

Development guidelines and regulations have been developed for the various existing and proposed land use zones. The aim of these guidelines is to guide and regulate the developments that will be realized during the proposals' implementation. These standards should be followed to the latter, failure to which the area will be in a much worse state in the future than it is right now. The Municipality and Government of Makueni County and other stakeholders should take the mandate of enforcement to ensure that every development within the Municipality adheres to the set standards and guidelines.

5.4.1 Residential Land Use Development Guidelines

The Physical and Land Use Planning Handbook, 2025 has outlined the standard residential plot sizes as presented in the table below:

Table 42: Standard Residential Plot Sizes

Density	Standard Plot size (Ha)
1. Low density	0.20
2. Medium density	0.10
3. High density	0.05

There are significant disparities in the plot sizes within the existing plot zones even within a certain residential land use category. Thus, the recommended residential land use guidelines are zone specific as outlined in the tables below; Emali –Sultan Hamud Municipality Board and Government of Makueni County and other stakeholders should take the mandate of enforcement to ensure that every development within the Municipality adheres to the set standards and guidelines.

Table 43: Proposed Residential Building Line

Road Width (m)	Building line (m)
9m	3
12m	4
15m	4
18m	4
20m	4
25m	5
30m	5
40m	6

Table 44: Residential Land Use Development Guidelines

Zone No.	Existing Land Use	Proposed Land Use	Type of Residential Density	Average area sizes (Hectares)	Recommended min. Plot Size (Ha)	Plot Coverage	Type of Dwelling Units	No. of floors	Set Back (m)		Total Area (Ha)
									S	R	
				Municipality Hinterland							
0_1	Residential	Residential	Low	1525.35	0.2	35%	Bungalows & masionattes	2	2	3	1525.35
0_{2-5}	Residential	Residential	Medium	5203.72	0.1	50%	Apartments and Town houses	5	2	3	5203.72
0_{6-8}	Residential	Residential	High	10702.24	0.05	65%	Flats	8	1.5	2	10702.24
					Mutyambua Market Centre						
0_1	Residential	Residential	Medium	7.34	0.1	50%	Apartments and Town houses	5	2	3	7.34
					KIIMA Junction Market Centre						
0_1	Residential	Residential	Medium	95.70	0.1	50%	Apartments and Town houses	5	2	3	95.70
					KYEEKO Market Centre						
0_1	Residential	Residential	Medium	11.64	0.1	50%	Apartments and Town houses	5	2	3	11.64
					Kikumini Market Centre						

Zone No.	Existing Land Use	Proposed Land Use	Type of Residential Density	Average area sizes (Hectares)	Recommended min. Plot Size (Ha)	Plot Coverage	Type of Dwelling Units	No. of floors	Set Back (m)		Total Area (Ha)
									S	R	
0_{1-3}	Residential	Residential	Medium	79.00	0.1	50%	Apartments and Town houses	5	2	2	79.00
					Mulala Market Centre						
0_{1-6}	Residential	Residential	Medium	33.75	0.1	50%	Apartments and Town houses	5	2	2	33.75

5.4.2 Commercial Land Use Development Guidelines

Emali –Sultan Hamud Municipality Board and Government of Makueni and other stakeholders should take the mandate of enforcement to ensure that every development within the Municipality adheres to the set standards and guidelines.

Table 45: Proposed Commercial Building Line

Road Width (m)	Building line (m)
9m	3
12m	3
15m	3
18m	3
20m	4
25m	4
30m	4
40m	6

The proposed development guidelines for the commercial land use zones are outlined in the table below;

Table 46: Commercial Land Use Development Guidelines

Zone No	Zone Description	Proposed Land Use	Recommended Min. Plot Size (Ha)	Average area sizes (Hectares)	Plot Coverage	Type of Dwelling Units	No. of floors	Total Area In (Ha)
			Municipality Hinterland					
5_1	Proposed Livestock Market	Commercial	0.1	20.69	100%	Perimeter & Stalls	-	20.69
5_{2-3}	Commercial	Commercial	0.05	772.77	75%	High rise	5	772.77
			Mutyambua Market Centre					
5_1	Existing commercial	Commercial	0.05	2.20	75%	High rise	5	2.20
5_2	Proposed Modern Market	Commercial	0.1	1.08	100%	Perimeter & Stalls	2	1.08
5_{2-3}	Business cum Residential	Business cum residential	0.05	2.91	75%	High rise	5	2.91
			KIIMA Market Centre					
5_1	Proposed Modern Market	Commercial	0.1	2.02	100%	Perimeter & Stalls	2	2.02
5_2	Existing commercial	Commercial	0.05	5.66	75%	High rise	5	5.66
5_3	Business cum Residential	Business cum residential	0.05	14.95	75%	High rise	5	14.95

Zone No	Zone Description	Proposed Land Use	Recommended Min. Plot Size (Ha)	Average area sizes (Hectares)	Plot Coverage	Type of Dwelling Units	No. of floors	Total Area In (Ha)
			Kyeeko Market Centre					
5_1	Existing commercial	Commercial	0.05	1.95	75%	High rise	5	1.95
5_2	Proposed Modern Market	Commercial	0.1	0.44	100%	Perimeter & Stalls	2	0.44
5_3	Business cum Residential	Business cum residential	0.05	2.63	75%	High rise	5	2.63
			Kikumini Market Centre					
5_{1-2}	Proposed Market	Commercial	0.1	4.07	100%	Perimeter & Stalls	2	4.07
5_3	Proposed Livestock Market	Commercial	0.1	2.15	100%	Perimeter & Stalls	-	2.15
5_4	Business cum Residential	Business cum residential	0.05	3.40	75%	High rise	5	3.40
			Mulala Market Centre					
5_{1-2}	Existing Mulala market	Commercial	0.1	4.07	100%	Perimeter & Stalls	2	1.36
5_3	Business cum Residential	Business cum residential	0.05	0.85	75%	High rise	5	0.85

5.4.3 Industrial Land Use Development Guidelines

This section presents the industrial land use development guidelines formulated under the plan. The guidelines provide a structured framework for the planning, control, and implementation of industrial development within the municipality. The framework establishes zoning categories, development control standards, infrastructure requirements, and environmental and safety safeguards to ensure orderly and sustainable industrial growth. It is designed to promote efficient land utilization, industrial clustering, environmental protection, and integration with the planned road hierarchy and service infrastructure systems. The standards outlined herein will guide all industrial development proposals within the municipality and are summarized in the table below.

Table 47: Industrial Land Use Development Guidelines

Zone No	Zone Description	Proposed Land Use	Total Area (Ha)	Min. Plot Size (Ha)	Avg. Plot Size (Ha)	Plot Coverage (%)	Building Lines (m)	FAR	Type of Development / Units	Floors	Road Hierarchy & Road Reserve Standards	General Planning Standards	Infrastructure Requirements	Environmental & Safety Requirements
1	Agro-Based Zone	Agro-processing industries	8.92	0.50	0.75	≤75%	6–9m	1.0–1.5	Agro-processing plants, cold storage, warehousing	1–2	Access streets (25m reserve); Service lanes (15m reserve); Collector roads (30m reserve)	Minimum 10% tree planting; functional and expandable plots; clustering for efficiency	Water supply, electricity, drainage, ICT, effluent disposal systems	ESIA/EA required; occupational health & safety plan; pollution control
2	Light Industrial Park	SMEs & light industries	107.70	0.80	1.50	≤75%	6–9m	1.5–2.0	Workshops, assembly units, SME clusters	1–3	Access streets (25m reserve); Collector roads (30m reserve); Spine roads (40m reserve)	Green energy integration (solar/wind); minimum 10% landscaping;	Full infrastructure: water, sewer, stormwater, power, fibre optic cables	ESIA/EA required; buffer zones; workplace safety compliance

Zone No	Zone Description	Proposed Land Use	Total Area (Ha)	Min. Plot Size (Ha)	Avg. Plot Size (Ha)	Plot Coverage (%)	Building Lines (m)	FAR	Type of Development / Units	Floors	Road Hierarchy & Road Reserve Standards	General Planning Standards	Infrastructure Requirements	Environmental & Safety Requirements
												efficient plot layout		
3	General Industrial Zone	Heavy & mixed industries	224.73	1.00	2.50	≤75%	6–9m	2.0–3.0	Manufacturing plants, warehouses, logistics hubs	1–4	Major communication routes (60m reserve); Spine roads (40m reserve); Collector roads (30m reserve); Access streets (25m reserve)	Industrial clustering; provision for future expansion; minimum 10% green buffer	Full infrastructure including waste treatment, utilities, drainage systems	Strict ESIA/EA; hazard management plan; emissions and effluent control

CHAPTER SIX: DEVELOPMENT STRATEGIES AND IMPLEMENTATION FRAMEWORK

6.1 Overview

This chapter explains development strategies and implementation framework. Development strategies are measures that are meant to promote efficiency, growth and sustainability in various development sectors. These include;

i. Physical Infrastructure
ii. Social infrastructure
iii. Local Economic Development
iv. Agriculture Development Promotion Strategies
v. Sanitation
vi. Environmental Conservation
vii. Urban Disaster and Risk Management
viii. Housing and Urban Planning

The implementation framework provides guidance on the execution of these strategies by outlining the relevant stakeholders, responsible institutions, and indicative timeframes for each identified intervention. This ensures coordinated implementation, accountability, and effective monitoring of development initiatives. The development strategies and their corresponding implementation framework are presented in the tables below

6.2 Physical Infrastructure

The Physical Infrastructure Improvement Strategies comprise a set of coordinated interventions aimed at enhancing the efficiency, capacity, and resilience of essential urban systems that support mobility, service delivery, and economic activities within the Municipality. These strategies focus on the development, upgrading, and maintenance of transport networks (roads, lorry parks, and access roads), expansion and rehabilitation of utility services such as water supply, sanitation, electricity, and ICT infrastructure, as well as the improvement of drainage systems to mitigate flooding and environmental degradation. The strategies also emphasize the integration of infrastructure planning with land use, ensuring accessibility, connectivity and equitable distribution of services across all zones of the Municipality.

Table 48: Physical Infrastructure Improvement Strategies and Implementation Framework

a. **Movement and Transportation**

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
Lack of an integrated transport policy framework	❖ Municipality	❖ To promote integrated transport system for efficient movement and transportation	❖ Development of the integrated transportation policy framework incorporating transport facilities and modes.	Short term	❖ Short term
Lack of storm water drainage plan	Municipality	❖ To ensure proper storm water management	❖ Development of the storm water management plan	Short term	❖ Municipal Board ❖ Development partners ❖ Government of Makueni County
	❖ Emali ❖ Sultan- Hamud	❖ To develop a comprehensive storm water drainage plan ❖ To reduce the risk of flooding, enhance water quality, and foster a more resilient and sustainable community.	❖ Preparation of a comprehensive storm water drainage plan for the major urban centres (Emali & Sultan- Hamud)		

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
Traffic congestion	❖ Sultan-Hamud Town ❖ Emali Town	❖ To minimize traffic congestion in the CBD	❖ Opening and widening of the roads within the CBD.	Short – medium - long term	❖ Municipal Board ❖ Government of Makueni County ❖ Development partners
Most of the access roads within the urban centers CBD are in poor condition	❖ Emali town ❖ Sultan- hamud town	❖ To enhance accessibility.	❖ Upgrade the CBD access roads to cabbro status	Short term	❖ Municipal Board ❖ Government of Makueni County ❖ Development partners
			Upgrade to bitumen status	Medium to long term	
	All the market centres – Matiliku – Kasikeu – Matiliku – Kikumini – Kyeeko – Mutyambua – Kiima		❖ Upgrade the CBD access roads to cabbro status	Long term	

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
	– Mulala				
Missing commercial service and back lanes	❖ Emali ❖ Sultan- Hamud ❖ Kasikeu ❖ Matiliku ❖ All the Market centres	❖ To enhance functionality	❖ Establishment of back lanes/streets for all commercial plots (minimum 6m wide). ❖ Establishment of 4m service lanes for commercial plots fronting roads above 18M. ❖ Implementation of the emali, sultan-hamud, Kyeeko, mutyambua,Kiima,Kikumini kasikeu and matiliku local physical and land use development plans	Short-medium-long term	❖ Municipal Board ❖ Development partners
Inadequate space for existing bus parks	❖ All the Market centres	❖ To have functional and efficient bus/*matatu* terminus	❖ Establishment of another functional bus park with adequate support infrastructure	Short term	❖ Municipal Board ❖ Development partners

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
			❖ Improvement of the existing Bus Park at the CBD		
Lack of bus terminus	❖ Sultan- hamud town ($7_{2\ \&3}$) ❖ Matiliku ❖ Kasikeu ❖ Kikumini	❖ To have functional and efficient bus/*matatu* terminus	❖ Establishment of a fully functional modern bus terminus with requisite infrastructure	Short term	❖ Municipal Board ❖ Government of Makueni County ❖ Development partners
	❖ Other Market centres			Long term	
Inadequate space for lorry park	❖ Emali Town	❖ To increase designated parking spaces and reduce congestion	❖ Establishment of adequate parking lots for the lorries at Emali and Sultan – Hamud towns	Short term	❖ Municipal Board ❖ Government of Makueni County ❖ Development partners

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
Lack of designated space for lorry park	❖ Sultan –Hamud Town	❖ To increase designated parking spaces and reduce congestion	❖ Establishment of adequate parking lots for the lorries	Short term	❖ Municipal Board ❖ Development partners
Inefficiency in movement and traffic congestion	❖ Emali ❖ Sultan –Hamud	❖ To improve movement efficiency	❖ Widening of the existing roads to promote hierarchy which helps in reducing the traffic. ❖ Opening up of the encroached roads and proposing new links for connectivity purpose	Short to medium	❖ Government of Makueni County ❖ Municipal Board ❖ KURA ❖ Development partners
Encroachment of the road reserves	❖ Emali Town ❖ Sultan-Hamud Town **Urban Centre** ❖ Matiliku ❖ Kasikeu ❖ Matiliku ❖ Kasikeu	❖ To increases accessibility	❖ Opening up encroached roads within the urban centers as outlined in their Local Physical and Land Use Development Plans. This will create a well-connected network, enhancing mobility and movement.	Short term	❖ Government of Makueni County ❖ Municipal Board

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
	❖ Matiliku ❖ Kikumini ❖ Kyeeko ❖ Mutyambua ❖ Kiima ❖ Mulala				
Lack of bridges / reliance on drifts	Muooni, Kikuu, Muoni, Kwa Mbita, Kavuthu, Kikumini, Ngongweni, Kateiku	❖ Improve connectivity and safe crossing	❖ Construct a permanent bridge across Sultan Hamud River ❖ Construct a new bridge at Muswii River ❖ Construct bridges at Muooni River crossings (Kavuthu, Kikumini drift, Ngongoni crossing, Emali–Simba corridor) ❖ Construct bridges at Kikuu River (Kwa Matungu and other crossing points) ❖ Construct bridges at Kwa Mbita ❖ Reconstruct Kateiku bridge ❖ Construct bridge along Matutu–Ngongweni–Ututini corridor	Medium–Long term	❖ County Government, Municipal Board ❖ KeRRA ❖ Development Partners

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
Pedestrian safety challenges	Sultan Hamud schools, Muswii River crossing points	❖ Enhance pedestrian safety	❖ Construct footbridges at Sultan Hamud Primary and Secondary Schools ❖ Construct additional footbridge at Muswii River	Medium–Long term	❖ County Government, Municipal Board ❖ KeRRA ❖ Development Partners
Inadequate safety on existing bridges	Muswii River bridge	❖ Bridge rehabilitation and safety improvement	❖ - Install safety grills on existing Muswii River bridge	Medium–Long term	
Flooding and poor drainage affecting crossings	All bridge and drift locations	❖ Improve drainage and prevent overtopping	❖ Unblock and maintain culverts ❖ -Routine maintenance of drainage structures	Medium–Long term	
Limited road bridge capacity	Simba–Muooni road	❖ Capacity enhancement	❖ Widen Simba–Muooni road bridge to improve traffic flow and safety		
Impassable roads	❖ Entire municipality	❖ To enhance connectivity and accessibility	Upgrade the following roads to bitumen status: Kwa Philip–Kilili–Kwa Matungu–Masumba–Kikumini–Kwa Ndeke–Kwa Mumbe–Kwa Katoe–Kavuthu–Vulueni–Kasikeu; Kikumini–Uutini–Simba; Kikumini–Matiliku; Kikumini–Ngongweni–	Medium to long term	❖ County Government, Municipal Board ❖ KeRRA ❖ Development Partners

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
			Makasa–Ngalai; Tutini–Kwa Mutoo–Emali; Emali–Kwa Nzele–Katuni; Kwa Katoe–Mulala–Kwa Mutula Kithumani–Kasikeu; Matha–Gigiri–Kwa Mbiti–Kithumani–Matiliku–Kitonyini–Kathonzweni; Matiliku–Kilili–Kwa Philip; Matiliku–Kwa Ngwasi–Kathatu–Syaolwe–Kaseve–Mumbuni; Matiliku–Kyeeko–Kateiko–Kikumini–Simba; Matiliku–Kalamba–Kawala–Mwaani; Matiliku–Ngaa–Mang'elete–Nzeeni; Matiliku–Kitulani–Manooni; Matiliku–Jasho–Kalima–Yi Kivumbu–Kalie; Sultan Hamud–Kavuthu–Mutyambua–Tea Room–Manooni–Matiliku; Kwa Kyambo–Kwa Katoe–Ndauni–Kasuvi–Ikuyuni–Midway–Ngoto–Kwothuku–Makutano–Yumbani–Matiliku; Tumbuni–Kwa Mbita–Kavuthu–Vulueni–Kasikeu–Kwa Mbita; Kithumani–Kativani–Ndumoni–Kalemba; Kithumani–Mwambwani–Munjaani–Kathii; Manooni–Tea Room–Mutyambua–Kavuthu–Sultan; Kithumani–Mandei–Kitulani; Ngoto–Kwa Mutula–		

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
			Kwa Makula; Mwambwani–Katundu–Mbalani; Kithumani–Mwanyani–Katundu; Kithumani–Kalumbi–Mumelaa; Mutyambua–Mutanda–Mithini–Manooni Dam–Makutano		
Classified roads are in earth condition (shown in map)	❖ Municipality	❖ To improve the condition of the roads	❖ Upgrading of the roads to murram and bitumen status	medium-long term	❖ Government of Makueni County ❖ Municipal Board ❖ KERRA
			❖ Continuous maintenance of the roads	Short term-medium – long term	
Open drainage system within the CBD	❖ Sultan hamud Town ❖ Emali Town ❖ Matiliku urban centre ❖ Kasikeu urban centre	❖ To ensure proper storm water management	❖ Construction of closed drainage system along all the roads within the CBD.	Short term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners
	❖ Market centres			Long term	

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
Lack of proper drainage system	❖ Municipality	❖ To ensure proper storm water management ❖ To minimize the damage done to infrastructure	❖ Construction of drainage system on all the roads	Short-medium-term	❖ Government of Makueni County ❖ Municipal Board ❖ KeNHA ❖ KERRA
Lack of pedestrian walkways	❖ Sultan hamud and Emali towns ❖ Market centres	❖ To enhance non-motorized transport efficiency	❖ Construction of pedestrian walkways along all the CBD roads. ❖ Provision of walkways on all the roads being upgraded to bitumen standard.	Short-medium-long term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners
Lack of designated parking lots	❖ Sultan hamud Town ❖ Emali Town ❖ Matiliku urban centre	❖ To increase parking spaces ❖ To increase the municipality revenue	❖ Construct the parking lots with the necessary infrastructure, including paved surfaces, lighting,	Short to medium term	❖ Government of Makueni County ❖ Municipal Board

Challenge	Affected Area	Objective	Mitigation/Strategies	Duration	Actors
	❖ Kasikeu urban centre ❖ Market centres		signage, and security features. ❖ Enforcement of the provision of the parking lots during development	Long term	❖ Development partners
Inadequate high mast flood lights & street lights	❖ Sultan hamud Town ❖ Emali Town ❖ Matiliku urban centre ❖ Kasikeu urban centre ❖ Market centres	❖ To create a secure environment for business operations	❖ Installation of high mast flood lights ❖ Installation of the street lights in the strategic areas of CBD	Short term Medium to long term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners

b. **Energy sector**

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Inadequate power connections to households	❖ Municipality	❖ To improve coverage of electricity to more households in the municipality	❖ Intensifying the rural electrification program	Long-term	❖ Kenya Power and Lighting company ❖ Rural Electrification and Renewable Energy Corporation (REREC)
Over reliance on non-renewable sources of energy	❖ Municipality	❖ To promote use of affordable and environmentally friendly sources energy	❖ Enhance usage of wind, biogas and solar energy ❖ Creating awareness on the use of alternative sources of energy that are environmentally friendly	Short-term Medium-term	❖ REREC ❖ Government of makueni county ❖ Municipal Board
Inadequate flood lights	❖ Sultan – Hamud ❖ Emali ❖ Matiliku ❖ Kasikeu	❖ To maximize on security for businesses	❖ Installation of adequate flood-lights and street lights	Short term	❖ Municipal Board ❖ Government of Makueni County

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
	❖ Nguuni ❖ Kamuuani ❖ Muua, ❖ Kiuani, ❖ Matiliku, ❖ Itutu, ❖ Kikumini, ❖ Vutini, ❖ Makutano ❖ Ndauni, ❖ Mbuthani, ❖ Kavuthu, ❖ Mbulutini,			Medium term	❖ Development partners
	Other market centres within the municipality	❖ To maximize on security for businesses	❖ Installation of adequate flood-lights and street lights	Long term	❖ Municipal Board ❖ Government of Makueni County ❖ Development partners

c. Water Supply sector

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Inadequate supply of water	❖ Municipality	❖ To enhance water supply within the municipality	❖ Rehabilitate water pans and Boreholes(list attached). ❖ Continuously maintain the boreholes to ensure water supply efficiency. ❖ Desilt existing dams and rehabilitate existing boreholes. ❖ Construct adequate earth dams and sand dams. ❖ Encourage rainwater harvesting at homes. ❖ Increase piped water connections to homes within the municipality. ❖ Repair and maintain the water circulation network to reduce the average distance to water points from 8 km to 3 km. ❖ Promote water harvesting, aiming to increase the volume harvested to over 73 million m3 per year.	Short – medium-long term	❖ Government of Makueni County ❖ Municipal Board ❖ Private developers ❖ Community groups ❖ NGOs

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Promote water re-use and recycling, particularly in urban areas. ❖ Expand water connectivity to municipality residents by extending the distribution coverage of the Kitheini and Mwangini Water projects. ❖ Install a pump in the Kathikwani boreholes to enhance water supply. ❖ Construct water tanks at Muuni Hill for distributing water from the Muuni sump and pipeline distribution. ❖ Regulate and control borehole development ❖ Construct a mega water source along Muoni River. ❖ Utilize solar energy to power the Kyumbe water project. ❖ Build water infrastructure along Muooni River. ❖ Test pump Ndunguni Primary School BH and distribute water to the community.		

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Rehabilitate Kwa Ndumbi BH. ❖ Rehabilitate Kwa Ngilu Water project		
Inadequate bulk water storage capacity and limited climate-resilient water supply infrastructure within the Municipality, leading to recurring water shortages during dry periods.	Municipality (proposed site within Muooni River basin)	❖ To increase bulk water storage and improve water supply reliability and drought resilience	❖ Conduct feasibility studies and Environmental and Social Impact Assessment (ESIA); prepare catchment management and protection plan; develop dam infrastructure with appropriate buffers; integrate with municipal distribution network; promote multipurpose use including domestic supply, irrigation, and livestock watering	Medium–Long term	❖ County Government; ❖ Municipal Board; ❖ National Water Agencies; ❖ Private Developers; ❖ Development Partners
Water governance	❖ Municipality	❖ To improve urban and water governance within the Municipality	❖ Promote sustainable water management within the community	Short term	❖ Government of Makueni County ❖ Municipal Board ❖ Community groups
Contamination of water; heavy reliance	❖ Municipality	❖ Ensure access to clean and	❖ Treatment of water at source before distribution	Short-medium-	❖ Government of Makueni County

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
on unimproved water sources		quality water	❖ Testing to determine quality of water ❖ Protect all water towers through developing water resource governance and management regulations and enforcement policy.	long term	❖ Municipal Board ❖ Private developers ❖ Community groups

Table 49: List of Water Pans to be rehabilitated

Name of water pan	Ward	Location	Area	Challenges	Recommendations
Chief Kiamba Earth pan	Kasikeu	Muani	Muani	Spillway not discharging excess water effectively	Lowering of the spillway, equipping and distribution
Kwothithu Earth pan	Kasikeu	Kwale	Kwothithu	High siltation rate and vandalism	Require desilting and construction of silt traps and fencing
Ndivu Earth pan	Kasikeu	Kwale	Ndivu	The earth pan washed away	Require rehabilitation, desilting, construction of silt traps and fencing
Kwa Wau Earth pan	Kasikeu	Luani	Kiiaulu	Low reservoir capacity due to high siltation	Require desilting, construction of silt traps and fencing
Ngauni Earth pan	Kasikeu	Muani	Ngauni	Low reservoir capacity due to high siltation	Require desilting and fencing

Name of water pan	Ward	Location	Area	Challenges	Recommendations
Kwa Mwandi Earth pan	Kasikeu	Uvaleni	Mbiini	Low reservoir capacity due to high siltation	Require desilting, construction of silt traps and fencing
Kalatine kwa Bruno Earth pan	Kasikeu	Wathini	Kalatine	Low reservoir capacity due to high siltation	Require desilting, construction of silt traps and fencing
Kalatine Kwa Kasingu Earth pan	Kasikeu	Wathini	Kalatine	The spillway washed away	Require rehabilitation, desilting, construction of silt traps and fencing

Table 50: List of boreholes to be rehabilitated

S/No	Name of Borehole	Ward	Sub-ward	Location	People Connected	Challenges	Recommendation
1	Mutiti Borehole	Kilome	Kasikeu	Muani	1500	Intermittent	Rehabilitate power/pumping system and install storage tank for stabilization
2	Kwala Borehole	Kilome	Kasikeu	Kwale	1200	Vandalism	Install security fencing, lockable facilities, and community surveillance
3	Kitheini Borehole	Kilome	Kasikeu	Uvaleni	1200	Low yield	Hydrogeological assessment and possible deepening or drilling of additional borehole
4	Tuani Borehole	Kilome	Kasikeu	Luani	2500	Outdated distribution pipes	Replace and upgrade distribution network with modern pipelines
5	Kisauki Borehole	Kilome	Kasikeu	Luani	1200	Vandalism	Strengthen security measures and involve community water user committees
6	Kwang'ole-KCEP (Mbiini)	Kilome	Kasikeu	Mbiini	2200	High demand of water	Expand storage capacity, increase abstraction capacity, and introduce demand management

S/No	Name of Borehole	Ward	Sub-ward	Location	People Connected	Challenges	Recommendation
7	Sultan-Hamud Water Project	Kilome	Kasikeu	Sultan	3000	High demand of water	Expand infrastructure, increase supply capacity, and improve distribution efficiency
8	Ngauni Borehole	Kilome	Kasikeu	Muani	1500	Poor management	Strengthen governance through training of management committee and improve operational oversight
9	Masomo Borehole	Kilome	Kasikeu	Masomo	1200	Low yield	Conduct borehole rehabilitation or consider alternative water sources or augmentation
10	KCEP Borehole	Kilome	Kasikeu	Central	1500	Weak casing and pumping system	Replace casing, repair/upgrade pumping system, and conduct structural integrity assessment
11	Lorini Borehole	Kilome	Kasikeu	Waleni	1500	High cost of pumping with petrol	Transition to solar-powered pumping system to reduce operational costs
12	Windmill Borehole	Kilome	Kasikeu	Masomo	700	Broken down motor/pump	Repair or replace motor/pump and consider upgrading to reliable energy source
13	Kayata Borehole	Kilome	Kasikeu	Central	500	Borehole dried up	Conduct hydrogeological survey and consider re-drilling or alternative water supply options
14	Kiima Borehole	Kilome	Kasikeu	Central	1000	High cost of pumping with petrol	Install solar-powered pumping system and optimize energy use
15	Kikumini Borehole	Kilome	Kasikeu	Kikumini	1500	Poor management	Strengthen water user committee, provide capacity building, and improve accountability mechanisms
16	Mikuyu II Water Sump/Pump	Kilome	Kasikeu	Central	1200	Broken down pumping system and motor	Replace/repair pump and motor, and establish routine maintenance schedule

S/No	Name of Borehole	Ward	Sub-ward	Location	People Connected	Challenges	Recommendation
17	Mang'eti Water Sump/Pump	Kilome	Kasikeu	Waleni	1200	Poor management	Reorganize management structure, enhance supervision, and build technical capacity
18	Kalembini Borehole	Kilome	Kasikeu	Masomo	1200	High maintenance costs; intermittent supply for the market	Upgrade infrastructure, improve maintenance planning, and increase storage and pumping efficiency

6.3 Social Infrastructure

The Social Infrastructure Improvement Strategies focus on enhancing health, education, and community facilities through upgrading existing services, establishing new facilities in underserved areas, and ensuring equitable access, improved service delivery, and inclusive community development.

Table 51: Social Infrastructure Improvement Strategies and Implementation Framework

a. Health sector

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Insufficient health facilities and personnel	❖ Municipality	❖ To improve and enhance access to healthcare services	❖ Upgrading of the Sultan-Hamud sub-county hospital and Mutyambua Sub-County Hospital to level (V) with requisite infrastructure ❖ Upgrading of the Kasikeu health centre to sub-county hospital	Long-term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Upgrade Emali health center to sub-county hospital with requisite infrastructure ❖ Establishment of a trauma center at Emali Sub-County Hospital ❖ Establish level 3 health facilities in Kasikeu, Mbitini, Emali, Nguu and Kilili wards ❖ Establishment of health center in Ndunguni ❖ Matiliku level (IV) sub county hospital to be improved and modernized. ❖ Upgrading of Mwanyani health centre to sub-county level		

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			• Upgrading of the following dispensaries to health centre: Mbukuni, Ngoto, Ikalaasa, Kavuthu, Kalieni, Mbenyu dispensaries • Estblsihment of health facility at Mulala urban centre		
		❖ Improve quality of health within the municipality	❖ With the help of the county government of Makueni, upgrade all existing dispensaries and health centers in the municipality ❖ Provision of adequate medical personnel and equipment in the health facilities through staffing and Equipping		

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Install new equipment and using modern technology		
Expensive health care service provision	❖ Municipality	❖ To strengthen healthcare financing	❖ Creating awareness on health insurance cover though NHIF ❖ Establish collaborations to support equitable access to health care including private insurers and other stakeholders.	Short-term	❖ Government of Makueni County ❖ NGOs ❖ Municipal Board
Inadequate public awareness on disease preventive measures e.g., malaria	❖ Municipality	To minimise disease infections	❖ Promotion of community health services ❖ Holding of public forums and local media sensitization among the residents	❖ Short-medium-long term	❖ Government of Makueni County ❖ NGOs ❖ Municipal Board

b. Education sector

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Inadequate ECDEs centers	❖ Municipality	❖ To enhance early childhood education	❖ Establishment of adequate ECDE centres within the municipality ❖ Equip institutions with infrastructure that will allow inclusion of persons living with disability such as ramps and lifts	Short- medium-	❖ Government of Makueni County ❖ Private developers ❖ Municipal Board
Inadequate Technical and Vocational College	❖ Municipality	❖ To promote technical skills	❖ Establishment of a medical training college at Sultan Hamud	Long term	❖ National Government ❖ Government of Makueni County ❖ Municipal Board ❖ Private developers
Lack of a special school for the people physically impaired	❖ Municipality	❖ To increase access to educational facilities	❖ Establishment of fully equipped special education for the physically impaired at Kikumini area	Long-term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
Lack of university	❖ Municipality	❖ Improve access to higher education	❖ Establishment of university at zone (2_1)	Long-term	❖ National Government
Lack of agriculture training institute and research centre	Municipality	❖ Enhance agricultural skills, innovation, and research capacity	Establishment of agriculture training institute and research Centre at zone 4_1 (municipality hinterland)	Medium to long term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners

c. Community Facilities

Challenge	Location	Objective	Mitigation/Strategies	Duration	Actors
Lack of empowerment centres	❖ Emali ❖ Sultan Hamud **Market Centres** ❖ Matiliku ❖ Kasikeu ❖ Matiliku ❖ Kasikeu ❖ Matiliku ❖ Kikumini ❖ Kyeeko ❖ Mutyambua ❖ Kiima ❖ Mulala	❖ To empower and improve the well-being of individuals and communities by providing them with resources, support, and opportunities for personal and collective growth.	❖ Establishment of the empowerment centres with library, ICT hub and innovation hub	❖ Short – medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
Inadequate recreational parks	❖ Municipality	❖ To enhance accessibility to recreational parks	❖ Establishment of Functional Recreational and green Park at 3_3 (municipality Hinterland)	❖ Short to medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners

Challenge	Location	Objective	Mitigation/Strategies	Duration	Actors
Inadequate recreational parks	❖ Emali ❖ Sultan-hamud ❖ Matiliku ❖ Kasikeu ❖ Market centres	❖ To enhance accessibility to recreational parks	❖ Establishment of Functional Recreational and green Parks	❖ Short to medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
Lack of requisite infrastructure to an existing stadium	❖ Sultan Hamud Town	❖ To enhance its functionality, safety, and overall user experience.	❖ Provision of adequate requisite infrastructure on the existing stadium such as seating areas, playing field, stadium lighting and parking lots among other facilities.	❖ Short term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
Lack of a stadium	❖ Municipality	❖ To enhance accessibility to mini-stadiums	❖ Establishment of stadium with requisite infrastructure at 3^{1-2} (Municipality hinterland)	❖ Medium-long term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners

Challenge	Location	Objective	Mitigation/Strategies	Duration	Actors
Inadequate cemeteries	❖ Municipality	❖ To establish a cemetery	❖ Establishment of functional cemetery at 4_2 (municipality hinterland)	❖ Long term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
	❖ Sultan Hamud ❖ Emali	❖ To establish a cemetery ❖ To undertake feasibility study for establishment of cemetery	❖ Establishment of cemetery at sultan – Hamud and emali urban centre (see the plan)	❖ Medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
Lack of fire station	❖ Municipality	❖ To provide essential fire protection and emergency response services to a community.	❖ Establishment of fully functional fire station at 6_1 (municipality Hinterland)	❖ Short – medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners

Challenge	Location	Objective	Mitigation/Strategies	Duration	Actors
Lack of fire station and sub-station	❖ Emali and Sultan-Hamud Towns	❖ To provide essential fire protection and emergency response services to a community.	❖ Establishment of fully functional fire station at Emali and Sultan-Hamud Towns	❖ Short – medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
Lack of sub-station	❖ kasikeu and matiliku urban centres		❖ Establishment of the fire- sub-station at kasikeu and matiliku urban centres	❖ Long term	
Lack of power station	❖ Municipality	❖ Improve electricity supply, reliability, and support for development activities	❖ Establishment of the power station at zone (63)	❖ Short term	❖ Kenya Power

6.4 Local Economic Development

The Local Economic Development strategies focus on promoting sustainable economic growth by strengthening light industrial areas, developing modern markets, and designating well-planned commercial zones to support business activities, create employment opportunities, improve value addition, and enhance overall economic productivity within the municipality.

Table 52: Local Economic Development Strategies and Implementation Framework

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Lack of an economic development framework	Municipality	❖ To promote economic growth in Emali-Sultan Hamud Municipality	❖ Develop economic development strategy framework	Short-term	❖ Municipal board ❖ Development partners
Lack of zoned commercial zones	Municipality	❖ Provide organized and efficient commercial land us	❖ Implement the Local Physical and Land Use Development Plans; clearly designate commercial zones	Medium-term	❖ Municipal board ❖ Development partners
Lack of modern industrial park	Municipality	❖ To Promote industrial growth, income generation, and job creation	❖ Establish a municipal industrial park at(1_{1-2}) at municipality Hinterland	Long-term	❖ Government of Makueni County ❖ Development Partners. ❖ Municipal Board
Lack of modern market	❖ Matiliku ❖ Kasikeu ❖ Matiliku ❖ Kasikeu ❖ Matiliku ❖ Kikumini ❖ Kyeeko ❖ Mutyambua ❖ Kiima	❖ To promote conducive business environment	❖ Constructing a modern two-storey market with the following requisite infrastructure: ○ Construct two storeys of market space with proper ventilation, lighting, and security features.	Short to medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
	❖ Mulala		○ Design stalls and spaces for different types of vendors, such as food, clothing, electronics, and more. ○ Include public restrooms, seating areas, and potentially a food court or eating area. ○ Build the requisite infrastructure, including roads, parking lots, drainage systems, and utility connections (electricity, water, sewage)		
Unequipped Sultan Market and need for a market at Kasikeu	❖ Sultan Hamud; Kasikeu	❖ Improve market functionality and accessibility	❖ Upgrade Sultan Market and establish a modern market at Kasikeu with adequate infrastructure	Short term	❖ Municipal Board ❖ Government of Makueni County ❖ Development Partners

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Unemployment	❖ Municipality	❖ To promote entrepreneurship and business ventures	❖ Establish a business incubation center in the CBD. ❖ Establish a business planning committee ❖ Establishment of incubation centres at Emali and Sultan-Hamud towns ❖ Establishment of the municipal youth fund	Medium-to long term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners
Inadequate infrastructure on the existing jua kali	❖ Emali Town ❖ Sultan Hamud Town	❖ Improve productivity of informal sector artisans	❖ Upgrade Jua Kali areas with proper infrastructure, utilities, and workspaces	Medium-term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners
Limited spaces for setting up "*Jua Kali*" shades	Urban centres ❖ Matiliku ❖ Kasikeu ❖ Matiliku ❖ Kasikeu ❖ Matiliku ❖ Kikumini ❖ Kyeeko ❖ Mutyambua	❖ To enhance craftsmanship and promote income generation	❖ Establish Juakali shades and spaces	Medium-term	Government of Makueni County Municipal Board

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
	❖ Kiima ❖ Mulala				
Lack of a proper Information System for businesses and ventures	❖ Municipality	❖ To enhance business ideas and information sharing	❖ Establish a municipal business development center ❖ Improvement on existing IT infrastructure	Medium-term Long-term	Government of Makueni County Municipal Board
Financial illiteracy and Inadequate Entrepreneurial skills	❖ Municipality	❖ To enhance livelihoods ❖ Promote revenue generation and financial literacy	❖ Enhance entrepreneurial skills through trainings and workshops.	Short-term, Medium-term and long-term	Government of Makueni County Municipal Board
Lack of collaborations with the private sector	❖ Municipality	❖ To create synergy between government and private sector	❖ Enhance private sector partnerships and collaborations	Medium-term	Government of Makueni County Municipal Board Private investors
Unexploited tourism ventures	❖ Municipality	❖ To promote sustainable tourism	❖ Establishment of the eco-tourism centre at ($8_{7\text{-}8}$) municipality Hinterland ❖ Conservation and promotion of culture and heritage ❖ Promoting domestic and cultural tourism through marketing and publicizing the cultural sites	Medium-term	Government of Makueni County Municipal Board

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Promote ecotourism in Nzaui hills and spring hills and Muuoni Hill		

6.5 Agriculture Development Promotion Strategies

The Agriculture Development Promotion Strategies focus on strengthening agricultural productivity, value addition, and capacity building through the establishment of agriculture training institutes, promotion of agro-based industries within the municipality, and enhancement of support systems for farmers to improve food security, income generation, and sustainable rural development.

Table 53: Agriculture Development Promotion Strategies and Implementation Framework

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Inadequate water supply for small scale farmers	❖ Rural hinterland	❖ To enhance local agricultural activity	❖ Promoting small scale irrigation through construction of dams ❖ Removing silts from existing earth dams ❖ Promotion of the planting of drought-resistant crop varieties, particularly in the lowlands	Medium-term	❖ Government of Makueni County
Lack of an Aggregation And Industrial Park	❖ Municipality	❖ To promote economic growth, industrial	❖ Establishment of the municipality aggregation and industrial park at	Long term	❖ Government of Makueni County

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
		development, and create a conducive environment for businesses to thrive.	Emali (1_1) Municipality Hinterland		❖ Municipal Board ❖ Development partners
Inadequate Abbatoirs	❖ Municipality	❖ To efficiently and humanely process livestock into meat products for human consumption.	❖ Establishment of abbatoirs at Emali, Sultan Hamud, Matiliku and kisikeu	Medium term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners
Lack of agriculture training centre	❖ Municipality	❖ To promote agriculture production	❖ Establishment of municipality agriculture training centre at Kikumini (4_1)	Medium-term	❖ Government of Makueni County ❖ Municipal Board ❖ Development partners
Soil Erosion	❖ Municipality rural hinterland	❖ Enhance crop cultivation	❖ Control of soil erosion to minimize soil loss by planting vegetation, building gabions to control gulley erosion	Medium term	❖ Government of Makueni County ❖ Farmers ❖ Municipal Board
Land Subdivision	❖ Municipality	❖ Minimize reduction of land sizes	❖ Control sub-division of land within the highly productive crop agricultural zone of municipality	Short term	❖ Government of Makueni County ❖ Municipal Board

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ The minimum subdivision is 1 acre of agricultural land		
Underexposure to Urban agriculture	❖ Municipality rural hinterland	❖ Increase economic and agricultural empowerment to farmers	❖ Sensitizing the farmers on the appropriate livestock breeds ❖ Commercialization of agriculture through horticulture and fruits production ❖ Promotion of extension services on crops and livestock production ❖ Sensitization of the farmers on the agri-business best practices	Medium-term	❖ Government of Makueni County ❖ Municipal Board ❖ Development Partners
Poor systems of infrastructure	❖ Municipality	❖ Increase accessibility to farm	❖ Improving road networks connecting to farms and markets	Short-medium-long term	❖ Government of Makueni County ❖ Municipal Board ❖ KeRRA ❖ KURA
Inadequate livestock market	❖ Municipality	❖ Improve livestock trade and market access	❖ Establishment of livestock market at 5_1		❖

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Establishment of livestock market at sultan hamud		

6.6 Sanitation

The Sanitation strategies focus on improving public health, environmental quality, and urban livability through effective waste management systems, enhanced sanitation infrastructure, and proper handling, collection, transportation, treatment, and disposal of solid and liquid waste within the municipality. These strategies aim to promote sustainable waste management practices, reduce environmental pollution, and ensure a clean and healthy urban environment.

Table 54: Sanitation Improvement Strategies and Implementation Framework

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Lack of solid waste management policy	❖ Municipality	❖ To enhance efficient solid waste management within Emali municipality	❖ Develop a solid waste management policy	Short-term	❖ Municipal Board ❖ Government of Makueni county
Poor solid management systems	❖ Municipality	❖ To promote a clean and healthy environment	❖ Encourage waste separation as source ❖ Sensitizing the public on the non-littering policy ❖ Providing appropriate waste collection bins ❖ Privatizing waste collection to increase efficiency	Short-term	❖ Municipal Board

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Waste-to-Energy Initiatives -Explore the possibility of waste-to-energy projects, which can help convert waste into energy while reducing the volume of solid waste. - Implement technologies that can harness energy from waste without causing harm to the environment.		
Lack of proper management of E-waste	❖ Municipality	❖ To promote a clean and healthy environment	❖ Set up dedicated collection centers or bins strategically located throughout the municipality where residents can deposit their old electronic devices. ❖ Collaborate with local businesses, schools, and community organizations to host collection events ❖ Provide incentives such as tax breaks or discounts for businesses or individuals who recycle their electronic devices through approved channels. ❖ Encourage the refurbishment and reuse of functional electronic devices through donation		❖ Municipal Board ❖ Residents

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			programs or partnerships with local charities. ❖ Establish repair cafes or workshops where residents can get assistance in fixing and extending the lifespan of their electronic devices.		
Lack of solid waste collection points	❖ Emali township ❖ Sultan Hamud ❖ Kasikeu ❖ Matiliku ❖ Market Centers	❖ To increase accessibility to waste collection points	❖ Installing collection bins at convenient locations within the urban centres Provide the following minimum distances between bins: ○ 350m in urban areas and low-density residential areas. ○ 200m in medium-density residential areas and; ○ 150m in high-density residential areas Ensure the provision of five waste bins for waste separation as follows: i. Household wastebin- (Brown) ii. Plastic wastebin- (yellow) iii. Paper wastebin- (blue) iv. Glass wastebin – (Grey) v. Electronic wastebin- (Red) ❖ Acquisition of skips and skip loaders for easier waste management	Short term	❖ Municipal Board ❖ Government of Makueni county ❖ Development partners

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Lack of waste collection centres	All urban centres and residential zones	❖ To improve solid waste management efficiency and environmental health, the following planning and infrastructure interventions are proposed:	❖ Designate a minimum land parcel of 0.1 hectares within residential, commercial, light industrial, and recreational zones for waste collection receptacles. ❖ Designate a minimum land parcel of 0.1 hectares within heavy industrial zones specifically for waste management facilities. ❖ Provide standardized waste collection points equipped with at least four waste receptacles to support waste segregation at source. ❖ Ensure equitable spatial distribution of waste collection points, with a maximum walking distance of 500 metres for residents and users. ❖ Promote segregation of waste at source, particularly in industrial and commercial areas	Short term	❖ Municipal Board ❖ Government of Makueni county ❖ Development partners

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Lack of proper management of medical waste	❖ Municipality	❖ To promote a clean and healthy environment	❖ Color-coded Bins: Implement a system of color-coded bins for different types of medical waste. For example, use different colors for infectious waste, sharps, pharmaceutical waste, and general medical waste. ❖ Training: Provide training to healthcare staff, waste handlers, and the general public on proper segregation technique ❖ Proximity to Generation Points: Place collection containers close to areas where medical waste is generated to encourage proper disposal ❖ Incineration: Consider using incineration for certain types of medical waste, ensuring compliance with environmental regulations.	Short term	❖ Municipal Board ❖ Health facilities
Lack of a solid waste landfill site	❖ Municipality	❖ To enhance efficient solid waste management	❖ Establishment of the sanitary land fill and recycling plant at (6_6) – Municipality Hinterland	Medium-long term	❖ Government of Makueni county ❖ Municipal Board

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
					❖ Development partners
Lack of waste water and sewage treatment network	❖ Municipality	❖ To effectively and safely collect, transport, treat, and dispose of wastewater and sewage generated by homes, businesses, and industries.	❖ Establishment of a fully functional sewer reticulation system and a treatment site at 6_4 & 6_5 at Municipality Hinterland	Medium-long term	❖ Government of Makueni county ❖ Municipal Board ❖ Development partners

6.7 Environmental Conservation

The Environmental Conservation strategies focus on protecting and restoring natural ecosystems through the management of riparian reserves, conservation of sensitive ecological areas, and implementation of climate change adaptation and mitigation measures. These strategies aim to safeguard water resources, prevent environmental degradation, promote sustainable land use practices, enhance biodiversity conservation, and build resilience to climate variability and extreme weather events within the municipality.

Table 55: Environmental Conservation Strategies and Implementation Framework

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
Climate Change	Municipality	❖ To reduce emissions, enhance adaptation, and improve community resilience	❖ Develop a municipal climate change action plan	Short term	❖ Municipal Board ❖ Government of Makueni county
		❖ To Enhance climate resilience and sustainability	❖ Preparation of Participatory forest/hills management plan to control and manage the existing forest/hills		
Climate Change	Municipality	❖ To enhance climate change resilience	❖ Develop carbon credit benefit programs; enforce tree planting requirements in public projects; introduce "One Plot/Shop One Tree" policy; support tree planting in public spaces through partnerships; establish tree nurseries in each sub-location; organize annual municipal tree planting days; promote reforestation along hills,	Short – medium term	○ Government of Makueni county ○ NEMA ○ KFS ○ Municipal Board

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			roads, and riversides; sensitize farmers on agroforestry to achieve 10% forest cover; conduct environmental impact assessments and audits; promote tree planting and carbon sequestration ❖ Reforestation and Afforestation of public spaces within Emali – Sultan Hamud Municipality o The hills of Muuni, Maatha, Kathuma, Kyemundu, Masue and KwaKamba; o Alongside the Road stretch from Sultan-Hamud to Simba o Alongside the Road stretch from Emali to Matiliku o Alongside the Road stretch from KwaSomba to Mbenuu o Alongside the Road stretch from KwaMumbe to Kikumini		

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
		❖ To promote adaptation strategies	❖ Raise awareness about climate change and the importance of mitigation efforts. ❖ Implement green building codes and standards that promote energy-efficient and sustainable construction practices ❖ Promote use of green energy i.e., wind, solar and biogas ❖ Encourage appropriate house designs		
Forest degradation and encroachment	❖ Municipality	❖ To promote growth of forest and reduce encroachment	❖ Prepare forest management plans; establish and enforce protected areas with clear boundaries; supply drought-resistant tree seedlings; promote forest restoration, agroforestry, and forest tourism; protect gazetted forests; conduct public awareness and sensitization campaigns	Medium-term	❖ Government of Makueni county ❖ KFS ❖ Municipal Board
Riparian degradation and encroachment	❖ Rivers and streams ❖ Kwa Masue, Barazani and Mbitini areas	❖ To enhance riparian conservation	❖ Preserving and conserving the riparian reserve by planting of the appropriate trees	Medium-term	❖ Government of Makueni county ❖ Municipal Board

Challenges	Location	Objectives	Mitigation/ Strategies	Duration	Actors
			❖ Development of the riparian reserve policy ❖ Controlled sand harvesting ❖ Restrict development along wetlands ❖ Protection of biodiversity on riparian areas		❖ NEMA
Soil erosion	❖ Hilly areas ❖ Grasslands ❖ Bushlands	❖ To control soil erosion	❖ Afforestation along the slopes ❖ Construction of gabions to control gully erosion ❖ Terracing along steep slopes ❖ Encourage agroforestry	Short-medium - long term	❖ Government of Makueni county ❖ Municipal Board ❖ Residents

6.8 Urban Disaster and Risk Management

The Urban Disaster and Risk Management strategies focus on strengthening the municipality's capacity to anticipate, prepare for, respond to, and recover from disasters and climate-related hazards. These strategies emphasize risk assessment and mapping, establishment of early warning systems, integration of disaster risk reduction into urban planning, and enhancement of community awareness and preparedness.

Table 56: Urban Disaster and Risk Management and Implementation Framework

Challenge	Location	Objective	Mitigation / Strategies	Duration	Actors
Inadequate risk assessment and disaster preparedness	Municipality	Strengthen disaster preparedness, response, and resilience of the community	Conduct hazard identification (e.g., floods, droughts, pandemics); undertake comprehensive vulnerability assessments covering population, infrastructure, and economic activities; develop risk maps identifying hazard-prone areas and critical infrastructure; integrate disaster risk considerations into urban planning and development control	Short-term	Government of Makueni County; Municipal Board
Absence of effective early warning systems	Municipality	Enhance timely detection, communication, and response to disasters to minimize impacts	Establish multi-hazard early warning systems; set up real-time monitoring mechanisms for weather and other risks; develop efficient communication channels (SMS alerts, community networks, public announcements); conduct public awareness and preparedness programs; establish emergency response coordination and	Short-term	Government of Makueni County; Municipal Board

Challenge	Location	Objective	Mitigation / Strategies	Duration	Actors
			resource stockpiles (food, water, medical supplies, equipment)		
Frequent droughts	Municipality	Reduce vulnerability to drought and enhance water and livelihood resilience	Rehabilitate and construct water harvesting structures (dams, water pans); promote rainwater harvesting at household and institutional levels; encourage adoption of drought-resistant crops and climate-smart agriculture; support sustainable water management and irrigation practices; strengthen community-based drought preparedness programs	Short- to long-term	Government of Makueni County; Municipal Board; NGOs; Residents

6.9 Housing and Urban Planning

The Housing and Urban Planning strategies focus on promoting orderly urban development, improving housing conditions, and ensuring efficient land use management within the municipality. These strategies aim to enhance security of tenure, strengthen land administration systems, improve access to serviced land, and ensure that housing developments adhere to inclusive, safe, and sustainable building standards. The overall goal is to support planned urban growth, improve living conditions, and create a well-structured urban environment that accommodates population growth while safeguarding public land and infrastructure.

Table 57: Housing and Urban Planning Strategies and Implementation Framework

Challenge	Location	Objective	Mitigation / Strategies	Actions	Duration	Actors
Lack of security of tenure	Municipality	Enhance land tenure security and ownership rights	Undertake land adjudication and settlement regularization; promote land surveying and mapping; support land succession processes	• Conduct land adjudication exercises in informal and unplanned settlements • Survey and demarcate plots • Issue title deeds and ownership documents • Facilitate public awareness on land rights and succession procedures	Short-term	Government of Makueni County; Municipal Board
Lack of municipal public land inventory	Municipality	Improve transparency and efficient	Undertake a comprehensive public land inventory	• Identify and map all public land parcels	Short-term	Government of Makueni

Challenge	Location	Objective	Mitigation / Strategies	Actions	Duration	Actors
		land management		• Create and maintain a GIS-based land database • Verify ownership status and usage of public land • Update and validate land records periodically		County; Municipal Board
Lack of a municipal land valuation roll	Municipality	Establish a fair and standardized property valuation system	Develop and operationalize a municipal land valuation roll	• Conduct property valuation surveys • Compile and approve valuation roll • Establish periodic review	Short-term	Government of Makueni County; Municipal Board

Challenge	Location	Objective	Mitigation / Strategies	Actions	Duration	Actors
				and update mechanisms • Link valuation roll to revenue collection systems		
Unfriendly building designs for persons with disabilities and the elderly	Emali Township; Sultan Hamud; Market areas	Promote inclusive and accessible building designs	Enforce building codes and universal design standards	• Review and enforce building approval guidelines • Ensure compliance with accessibility standards (ramps, lifts, walkways) • Conduct inspections during construction • Sensitize developers on	Short-term	Government of Makueni County; Municipal Board; Development Partners

Challenge	Location	Objective	Mitigation / Strategies	Actions	Duration	Actors
				inclusive design requirements		
Poor levels of infrastructure	Municipality	Improve urban infrastructure and service delivery	Implement site and service schemes and upgrade infrastructure to support urban growth	• Provide access roads, water supply, and sewerage systems • Develop and service land for housing• Extend electricity and ICT infrastructure • Promote planned housing developments and urban densification	Long-term	Government of Makueni County; Municipal Board; Development Partners

CHAPTER SEVEN: CAPITAL INVESTMENT PLAN

The Capital Investment Plan (CIP) identifies and prioritizes key infrastructure and development projects derived from the development strategies outlined in Chapter Six. It provides a structured framework for mobilizing and allocating financial resources towards strategic interventions that promote sustainable urban growth, improved service delivery, economic development, and environmental management within the Municipality. The plan categorizes investments across sectors including physical infrastructure, social infrastructure, local economic development, agriculture, sanitation, environmental conservation, energy, and housing. It also outlines indicative priorities, implementation timelines, and responsible actors to guide phased investment and resource mobilization.

Table 58: Capital Investment Plan

Project Name (Improved)	Location	Key Activities	Indicators	Year 1	Year 2	Year 3
CBD Access Roads Upgrade to Cabro Standards	Emali, Sultan Hamud	Upgrade CBD roads to cabro standards	Km of roads upgraded to cabro standard	100%		
Secondary Urban Access Roads Upgrade (Cabro)	Matiliku, Kasikeu, Kikumini, Kyeeko, Mutyambua, Kiima, Mulala	Phased upgrading of access roads	Km of roads upgraded		20%	100%
Development of Modern Bus Parks with Support Infrastructure	Sultan Hamud (7_2 & 7_3), Matiliku, Kasikeu, Kikumini	Construction of bus parks and associated facilities	Number of bus parks constructed	100%		
Development of Lorry Parking and Logistics Yard	Emali	Construction of lorry parking yard	Number of parking yards developed	100%		
Bridge Construction and River Crossing	Muooni, Kikuu, Muoni, Kwa Mbita, Kavuthu, Kikumini, Ngongweni, Kateiku	Construction and rehabilitation of bridges across Sultan Hamud,	Number of bridges constructed/reconstructed		50%	50%

Project Name (Improved)	Location	Key Activities	Indicators	Year 1	Year 2	Year 3
Improvement Programme		Muswii, Muooni, Kikuu rivers and key corridors				
Municipality-wide Bitumen Road Upgrading Programme	All listed road corridors	Upgrading roads to bitumen standards	Km of roads upgraded to bitumen	30%	30%	40%
Urban Stormwater Drainage Infrastructure Development	Urban centres	Construction of closed drainage systems along roads and CBDs	Km of drainage constructed	100%		
Development of Structured Parking Facilities	Sultan Hamud, Emali, Matiliku, Kasikeu	Construction of parking lots with paving, lighting, signage, security	Number of parking facilities developed		50%	100%
Rural Electrification Expansion Programme	Municipality-wide	Expansion of electricity connectivity	Number of households connected to electricity	30%	30%	40%
Street and Flood Lighting Enhancement Programme	Sultan Hamud, Emali, Matiliku, Kasikeu, Nguuni, Kamuuani, Muua, Kiuani, Itutu, Kikumini, Vutini, Makutano, Ndauni, Mbuthani, Kavuthu, Mbulutini	Installation of street lights and floodlights	Number of streetlights installed	30%	30%	40%
Power Generation and Distribution Infrastructure Development	Municipality hinterland (63)	Establishment of power station	Power station constructed and operational	100%		

Project Name (Improved)	Location	Key Activities	Indicators	Year 1	Year 2	Year 3
Integrated Water Supply Infrastructure Development Programme	Municipality	Borehole rehabilitation, dam construction, water harvesting, pipeline expansion, solarization, distribution improvements	% increase in water access; number of water projects completed			Continuous
Establishment of Emali–Sultan Hamud Water and Sanitation Company	Municipality-wide	Institutional setup and operationalization	Water company established and operational			100%
Sewerage and Wastewater Treatment Infrastructure Development	Municipality hinterland (64 & 65)	Construction of sewer reticulation system and treatment plant	Sewer system coverage (%) and treatment plant operational			100%
Health Facilities Upgrade and Expansion Programme	Mwanyani, Mulala	Upgrade Mwanyani Health Centre; establish new facility at Mulala	Number of health facilities upgraded/constructed			100%
Establishment of Medical Training College	Sultan Hamud	Construction and operationalization of college	Medical college established			100%
Agricultural Training and Research Institute Development	Municipality-wide	Establish agricultural training and research centre	Institute established and operational			100%
Community Empowerment Centres (ICT, Library, Innovation Hubs)	Emali, Sultan Hamud, Matiliku, Kasikeu	Construction and equipping of centres	Number of centres established		50%	50%

Project Name (Improved)	Location	Key Activities	Indicators	Year 1	Year 2	Year 3
Development of Recreational Parks and Green Spaces	Municipality & urban centres	Establish parks and green areas	Number of parks developed	100%	50%	50%
Municipal Stadium Development Project	Municipality	Construction of stadium	Stadium constructed (%)			50%
Cemetery Development Project	Municipality hinterland (6_7)	Establishment of cemetery	Cemetery established		100%	
Fire Station Development Project	Municipality hinterland (6_1)	Construction of fire station	Fire station constructed and operational			100%
Municipal Industrial Park Development Programme	Municipality hinterland (1_{1-2})	Establish industrial park with supporting infrastructure	Industrial park established			50%
Market Infrastructure Improvement Programme	Sultan Hamud, Kasikeu	Upgrade existing market and construct new market	Number of markets improved/constructed		100%	
Modern Multi-storey Market Development	Matiliku, Kasikeu	Construction of modern two-storey markets	Number of modern markets constructed		50%	50%
Jua Kali Sector Infrastructure Upgrading Programme	Emali, Sultan Hamud	Improvement of informal sector infrastructure	Number of Jua Kali sheds upgraded			100%
Livestock Market Development Project	Sultan Hamud	Establish livestock market	Livestock market established		100%	

Project Name (Improved)	Location	Key Activities	Indicators	Year 1	Year 2	Year 3
Solid Waste Collection and Management Infrastructure	Emali, Sultan Hamud, Kasikeu, Matiliku	Establish waste collection points	Number of collection points established		100%	
Sanitary Landfill and Recycling Facility Development	Municipality hinterland (6_6)	Develop landfill and recycling plant	Landfill and recycling facility operational			100%
Municipal Public Land Inventory Programme	Municipality	Conduct land inventory	Public land inventory completed		100%	
Land Valuation Roll Development Programme	Municipality	Preparation of valuation roll	Valuation roll completed			100%

Industrial land use development guidelines

General Guidelines Standards

● Observe plot coverage of not more than 75%.

● Create suitably sized plots that are functional, and accessible, to accommodate future expansion and enhance the local character

● Observe building lines of between 6-9m

o Major Communication routes - 60m

o Spine roads (Major roads) - 40m

o Collector Roads - 30m

o Access streets - 25m

o Service lanes - 15m

Ensure the road reserves accommodate the following provisions;

o Stormwater drainage

o Conveyance of industrial effluents

o Water reticulation mains

o Curb parking

o Communication cables-fibre optic cables

o non-motorized infrastructures (Walk ways, Cycling lanes, Designated footpaths)

● Reserve a minimum of 10% of plot coverage for planting trees.

● Integrate green energy i.e solar energy, wind energy

● Locate industries in close proximity for agglomeration advantages

● Require ESIA and EA for proposed and ongoing industrial developments

● Require health and safety management plan for all industries

- **Protect and enhance environmental and landscape features**

CHAPTER EIGHT: IMPLEMENTATION, MONITORING AND EVALUATION

8.1 Overview

Monitoring and Evaluation (M&E) is a critical component of the implementation framework of the plan. It provides a structured approach for tracking progress, assessing performance, and ensuring that planned interventions achieve their intended objectives. The M&E framework establishes mechanisms for continuous performance tracking, accountability, learning, and informed decision-making throughout the implementation period.

8.2 Monitoring and Evaluation Concepts

Monitoring

Monitoring is defined as the systematic and continuous collection and analysis of information aimed at tracking the progress of a programme or a project implementation against pre – set targets and objectives.

Evaluation

Project evaluation can be defined as the objective assessment of an ongoing or recently completed project or programme in terms of design, implementation and results. It deals with questions of cause and effect. It is involved in assessing or estimating the value, worth or impact of an intervention. A monitoring and evaluation (M&E) plan will help to track and assess the results of the interventions throughout the life of the proposed projects/programmes in the Plan.

Importance of Monitoring and Evaluation

(a) It provides the only consolidated source of information showcasing project progress within the municipality
(b) It allows actors to learn from each other's experiences, building on expertise and knowledge
(c) It often generates (written) reports that contribute to transparency and accountability within the municipality, and allows for lessons to be shared more easily
(d) It reveals mistakes and offers paths for learning and improvements in the municipality
(e) It provides a basis for questioning and testing assumptions
(f) It provides a way to assess the crucial link between implementers and beneficiaries on the ground and decision-makers
(g) It adds to the retention and development of institutional memory
(h) It provides a more robust basis for raising funds and influencing policy

Monitoring and Evaluation Mechanism

The proposed Membership of the Projects Monitoring Committee (shown in the table below) work will be to monitor projects' implementation monthly while the Municipal Board will carry out supervision of the overall plan's implementation and review quarterly reports. The Plan will be subjected to two internal Annual Evaluations; Mid-Term and End Term Evaluation.

8.3 Data Collection, Analysis and Reporting

The municipality will establish a monitoring and evaluation unit that will be responsible for data collection (primary and secondary data), analysis and reporting on projects and programmes implementation. The unit will be strengthened through staffing and continuous training to execute its mandate. There will be a designated officer in every key result area in the municipal projects and programmes. Continuous monitoring will be undertaken and municipality quarterly and annual progress reports will be produced. This will assess the implementation progress and enable to identify and take necessary action to address emerging challenges. Information sharing and reporting will be key in assessing implementation of the spatial plan. Monitoring and evaluation committee meeting will be held quarterly.

Information Sharing

The Municipal Plan will be posted in the official municipality website for the wider circulation and consumption. The municipal board will be holding quarterly stakeholders' meetings at ward levels to share/ discuss projects implementation progress.

8.4 Municipality Monitoring and Evaluation System (MMES)

Monitoring and evaluating performance are a key element of spatial plan implementation. There is need to prepare Monitoring and Evaluation System (MES) that will provide the guidelines to monitor the implementation of the identified key priority projects and programmes.

References

Government of Kenya. (2010). *Constitution of Kenya 2010*.Nairobi: National Council for Law Reporting.

Government of Kenya. (2012). *County Government Act No. 17 of 2012(amended, 2020)*. Nairobi: National Council For Law Reporting.

Government of Kenya. (2019). *Physical and Land Use Planning Act No.13* . Nairobi: National Council For Law Reporting.

Government of Kenya. (2011). *Urban Areas and Cities Act No. 13 of 2011(amended, 2019)*. Nairobi: National Council For Law Reporting.

Government of Kenya. (2012). *Land Act, No. 6 of 2012*. Nairobi: National Council for Law Report.

GoK-MoALF, M. o. (2016). *Development of a Baseline to Measure Project Outcomes on Governance & Management*. Nairobi: Ministry of Agriculture, Livestock and Fisheries-State Department for fisheries and Blue Economy.

Government of Kenya. (1996). *Physical Planners Registration Act, of 1996*. Nairobi: National Council For Law Reporting.

Government of Kenya. (1997). *Survey Act CAP 299*. Nairobi: National Council for Law Reporting.

Government of Kenya. (1999) amended (2015). *Environmental Management and Coordination Act No.8 of 1999*. Nairobi: National Council for Law Reporting.

Government of Kenya. (2002). *Water Act*. Nairobi: National Council for Law Reporting.

Government of Kenya. (2011). *Urban Areas and Cities Act No. 13 of 2011*. Nairobi: National Council For Law Reporting.

Government of Kenya. (2012). *Land Act, No. 6 of 2012*. Nairobi: National Council for Law Report.

Government of Kenya. (2012). *Survey Act CAP 299*. Nairobi: National Council for Law Reporting.

Government of Kenya. (2016). *The National Urban Development Policy*. Nairobi: Government Printers.

Government of Kenya. (2016). *Water Act*. Nairobi: National Council for Law Reporting.

Government of Kenya. (2017). *National Land Use Policy*. Nairobi: Govenment Printers.

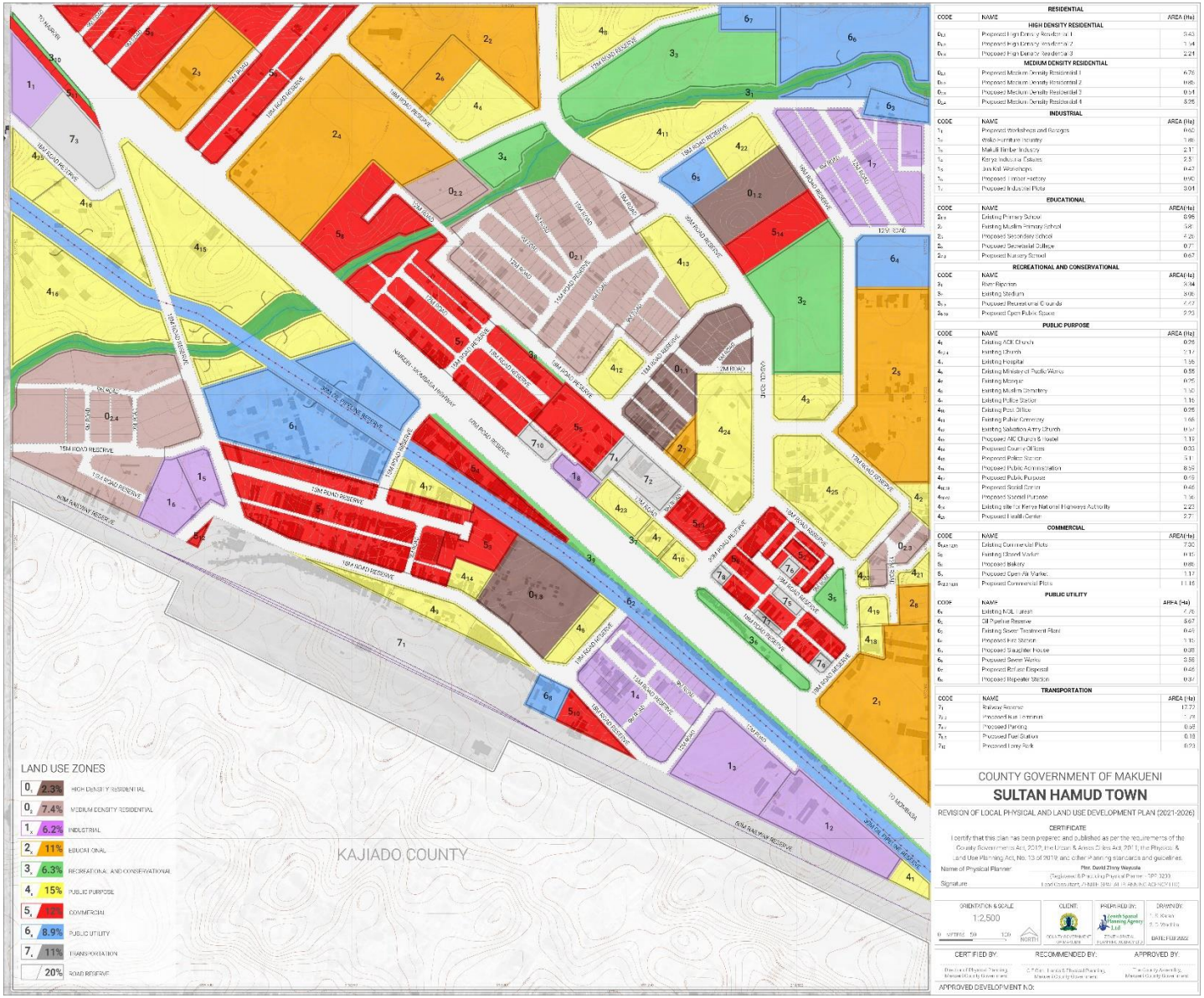
Government of Kenya. (2017). *National Spatial Plan 2015-2045*. Nairobi: Government Printers.

Government of Kenya.. *Land Control Act, Cap 302*. Nairobi: National Council for Law Reporting.

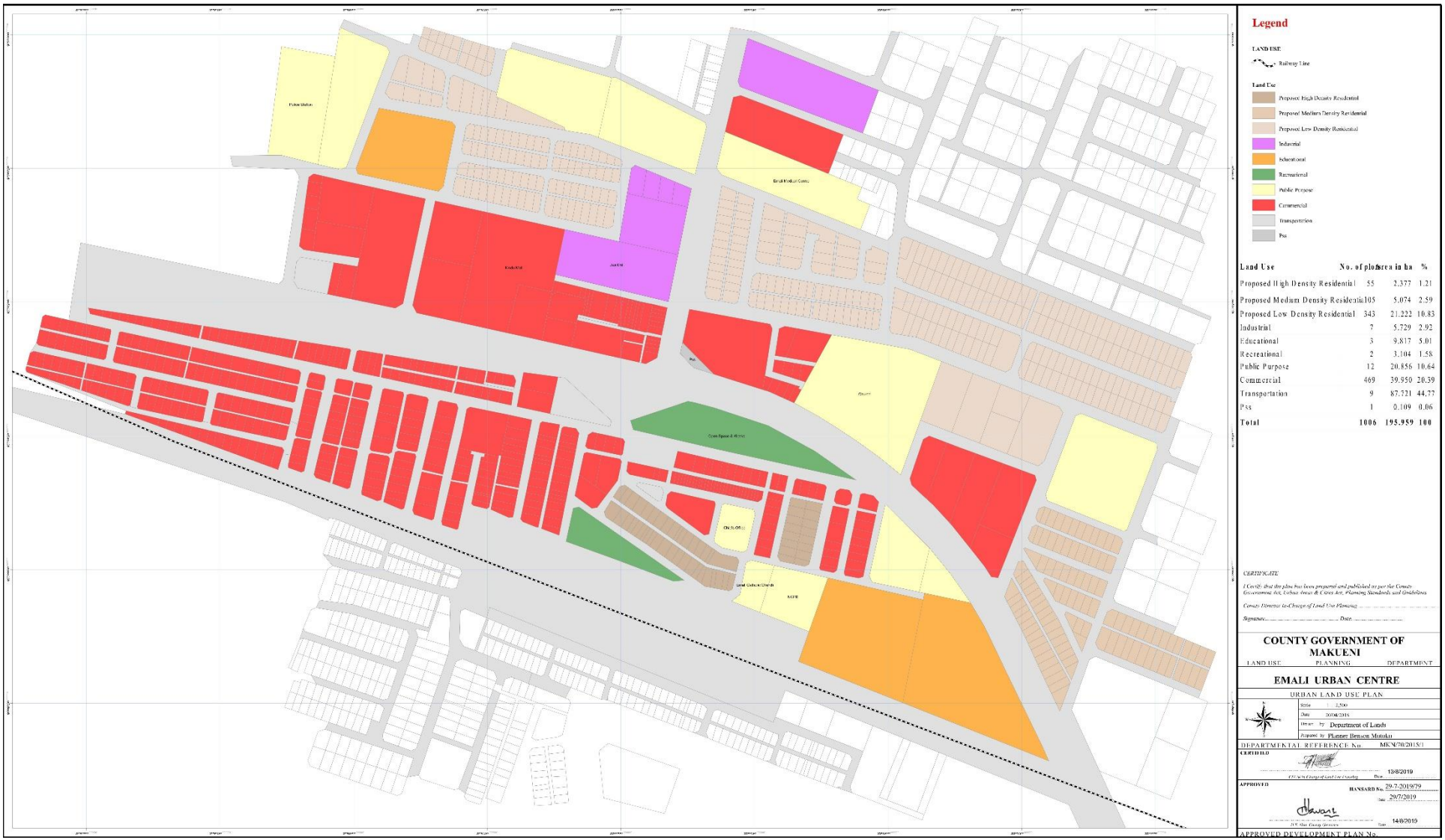
Government of Kenya). *Public Health Act, Cap 242*. Nairobi: National Council for Law Reporting.

Kenya National Bureau of Statistics. (2019). *Kenya Population and Housing Census*. Nairobi: Kenya National Bureau of Statistics.

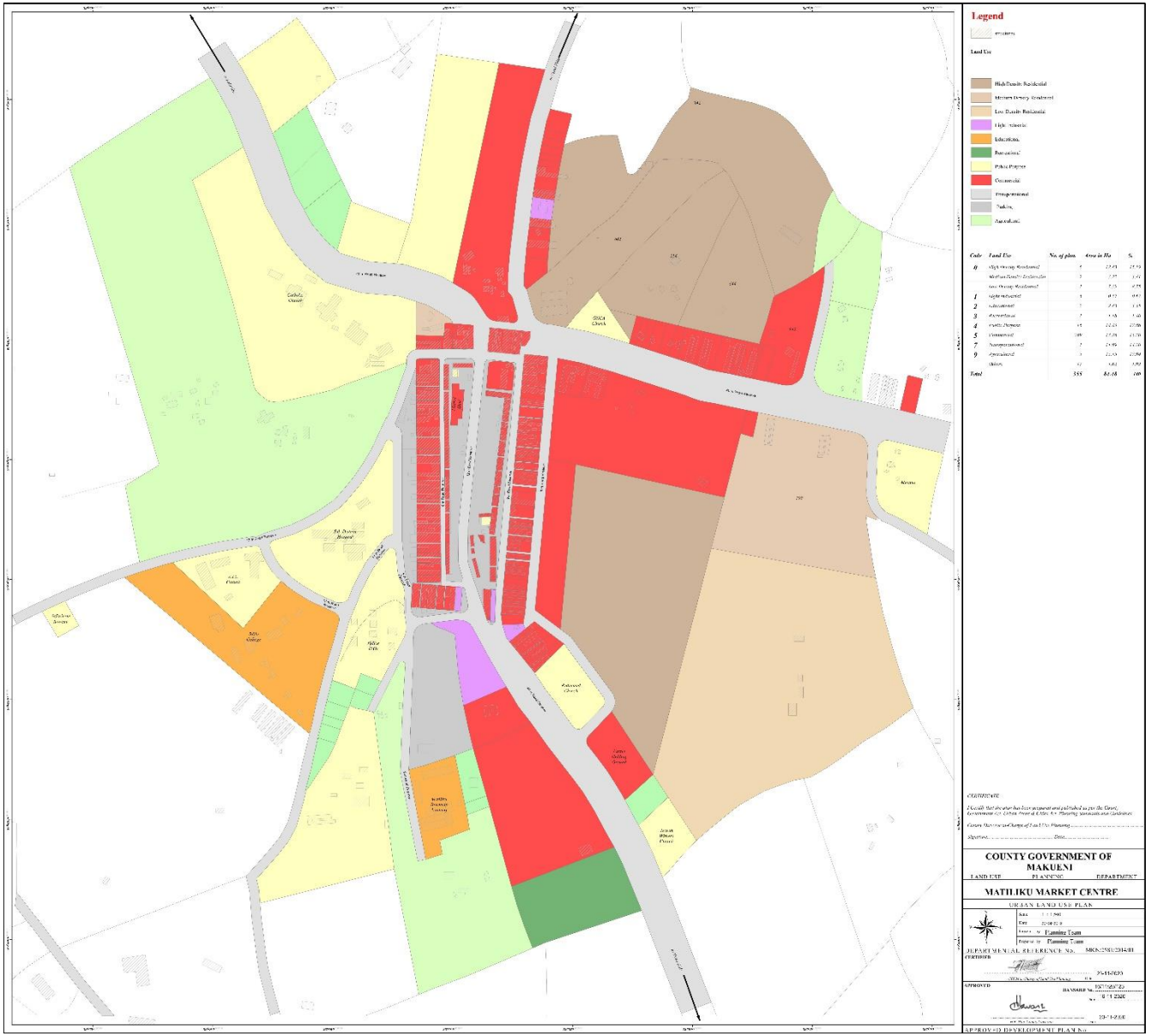
Appendix 1: Previous Local Physical and Land Use Development Plans
Sultan -Hamud



Emali Town


Legend
LAND USE
Railway Line
Land Use
Proposed High Density Residential
Proposed Medium Density Residential
Proposed Low Density Residential
Industrial
Educational
Recreational
Public Purpose
Commercial
Transportation
Pss
Land Use | No. of plots | Area in ha | %
Proposed High Density Residential | 55 | 2.377 | 1.21
Proposed Medium Density Residential | 105 | 5.074 | 2.59
Proposed Low Density Residential | 343 | 21.222 | 10.83
Industrial | 7 | 5.729 | 2.92
Educational | 3 | 9.817 | 5.01
Recreational | 2 | 3.104 | 1.58
Public Purpose | 12 | 20.856 | 10.64
Commercial | 469 | 39.950 | 20.39
Transportation | 9 | 87.721 | 44.77
Pss | 1 | 0.109 | 0.06
Total | 1006 | 195.959 | 100
CERTIFICATE
I Certify that the plan has been prepared and published as per the County Government Act, Urban Areas & Cities Act, Planning Standards and Guidelines
Signature..... Date.....
COUNTY GOVERNMENT OF MAKUENI
LAND USE PLANNING DEPARTMENT
EMALI URBAN CENTRE
URBAN LAND USE PLAN
Scale 1:2500
Date 30/08/2018
Drawn by Department of Lands
Prepared by Planner Benson Mutuku
DEPARTMENTAL REFERENCE No. MKN/70/2015/1
CERTIFIED
Date 13/8/2019
APPROVED
HANSARD No. 29-7-2019/79
Date 29/7/2019
Date 14/8/2019
APPROVED DEVELOPMENT PLAN No.

Matiliku Market Centre



Kasikeu Market Centre