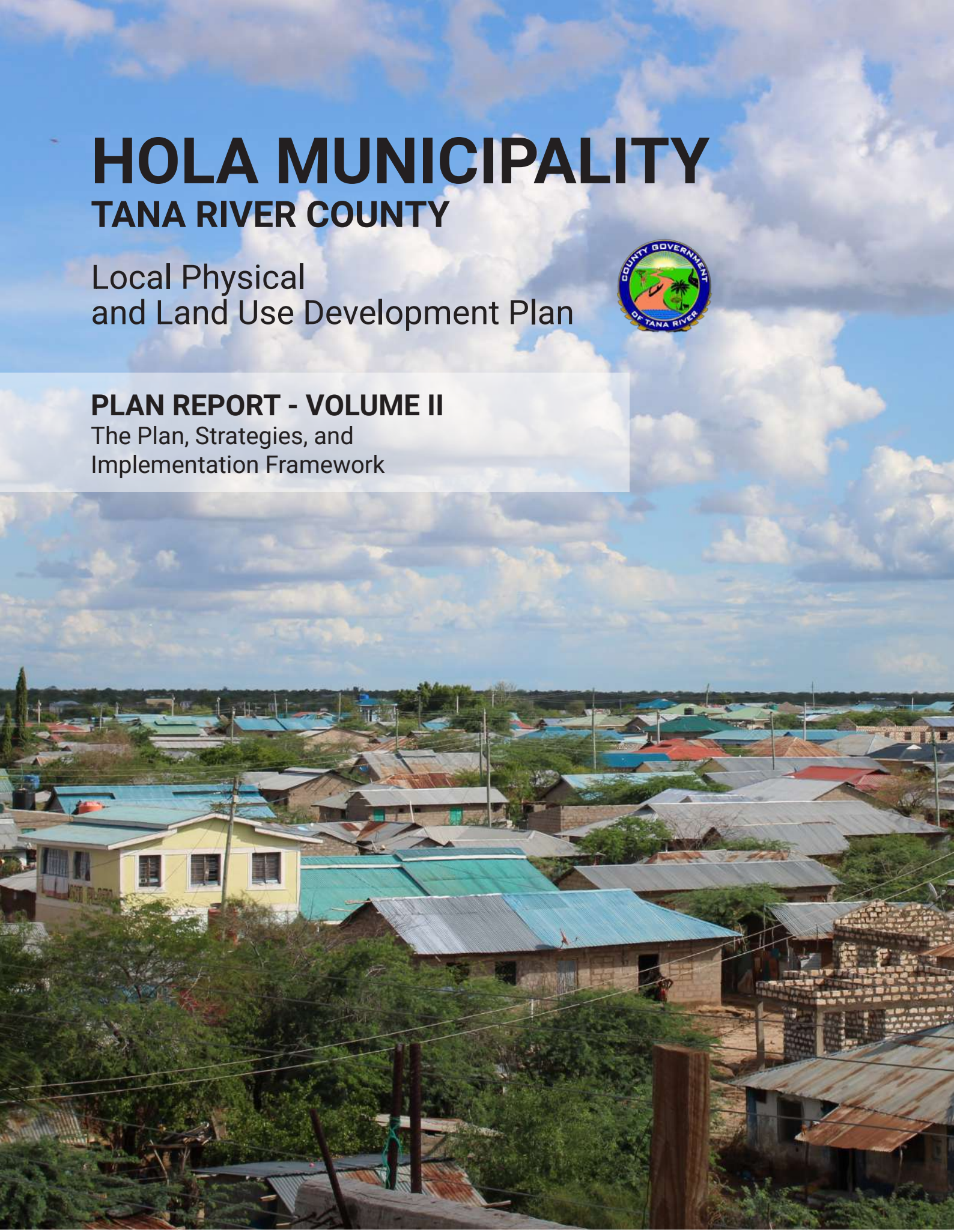
HOLA MUNICIPALITY
TANA RIVER COUNTY

Local Physical
and Land Use Development Plan

PLAN REPORT - VOLUME II
The Plan, Strategies, and
Implementation Framework



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PREFACE



Urban areas are key economic growth centers of the world, contributing to the process of urbanization and driving economic growth of various regions. More than 15% of the coastal population lives in Mombasa, secondary cities and small towns like Hola. However, they are faced by a myriad of challenges including the sprawl of informal settlements due to lack of tenure security and provision of commensurate infrastructure, from its years of unplanned developments. This type of urban growth has complicated infrastructure planning and service provision, triggered environmental degradation, rising poverty and other socio-economic issues.

The Local Physical and Land Use Development Plan for Hola Municipality is a commitment by my government to lay a foundation for sustainable and resilient development by ensuring provision of infrastructural utilities and services and promoting economic growth, wellness and welfare of the people of Hola. This plan is a vision for a sustainable and resilient Municipality, with social inclusivity and economic opportunities for all.

The Hola Municipal Plan embraces a range of approaches including land-sea planning, integrated waterfront planning and ecosystems-based participatory management and conservation approaches resulting from extensive stakeholder collaboration, built upon the vision of local communities and input from the county government, UN-Habitat and other development partners. The vision and aspirations for the residents and communities of Hola Municipality have been central to this planning process, guiding the development of a framework that truly reflects local aspirations and needs. This Land Use Plan, will create a community where families can thrive, where infrastructure is resilient and where economic opportunities are accessible to all.

I take this opportunity to thank and acknowledge key stakeholders that supported the preparation of this plan particularly the residents and communities of Hola Municipality, the UN-Habitat, the county department of land and physical planning and the European Union. I urge every stakeholder to continue with the same spirit as we get down to the implementation phase where the objectives of this plan will be fully realized.

H.E Major (Rtd) Dhadho Gaddae Ghodhana

Governor, Tana River County

FOREWORD



On behalf of the UN-Habitat Regional Office for Africa, I am greatly honoured to present this Hola Local Physical & Land Use and Development Plan, a key milestone in our support to the Tana River County Government through our Go Blue Project that was funded by the European Union. This Plan that covers the entire Hola Municipality is a roadmap for the sustainable growth and development of Hola municipality and a collective vision shaped by the commitment, knowledge, and dedication of the numerous stakeholders - including local communities - who have worked tirelessly under the Go Blue Project to make the Plan a reality.

With an estimated urban population of 28.5% (2019 Census) growing at an annual rate of 3.7 %, Kenya's urban population is on a steady rise with approximately 50% of the population expected to live in urban areas by 2050. As this happens, the country already has 372 urban areas, and the numbers are growing. UN-Habitat seeks to ensure sustainable urban development in Kenya at national and county levels and Tana River County has not been left behind in this journey. The Plan will enable various stakeholders to support sustainable urban growth and development of Hola Municipality and the Tana River County as a whole.
I take this opportunity to thank the Governor H.E Major (Rtd) Dhadho Gaddae Ghodhana for his leadership and active participation throughout the process. I also that the technical staff from the County Government of Tana River for their consistent engagement and close working relationship with the UN-Habitat and the Go Blue Project. This partnership has ensured that the plan is rooted in the aspirations and needs of the people it seeks to serve. The voices of local communities whose insights have been invaluable in shaping a practical and inclusive pathway for the municipality's growth is also highly acknowledged.

Last but not least, I extend my sincere appreciation to the UN Habitat technical experts whose rigorous analysis, creative approaches, and dedicated efforts yielded the much-needed technical guidance required in the process of developing the Plan.

I am optimistic that the implementation of this Model Plan will provide Tana River County with a unique opportunity of integrated planning, effective service delivery, and participatory governance in Hola Municipality.

Ishaku Maitumbi,
Head, East and Horn of Africa Subregion,
Regional Office for Africa.
United Nations Human Settlements Programme.

ACKNOWLEDGEMENT



The preparation of this Hola Municipality Local Physical and Landuse Development Plan has been made possible through the continuous engagement and precious contribution of numerous stakeholders, to whom the County Government of Tana River would like to express its sincere gratitude.

Special appreciation to His Excellency the Governor of Tana River for his overall guidance, political and strategic leadership. I acknowledge the key role of the citizens of Hola Municipality who participated in data collection exercises and robust stakeholder and visioning workshops leading to the preparation of this Plan. I appreciate the entire UN-Habitat Go Blue Project Team for their technical and coordination support to the plan preparation process. In particular, I wish to thank Florian Lux, the Go Blue Project Manager together with Jeremiah Ougo, Salvatore Fundaro, Charles Baraka Mwau, Jane Muriuki, Toma Canessi, Sammy Muinde, Sharon Ogoti, Aissatou Diallo, Luis Gilio, Archita Varyani, Stefan Adamson, Romanus Opiyo, Chrispine Nyagwara, Stephen Mutungi, Samwel Wanjiku and Victor Munene.

Special thanks to both Francis Malibe Hirbae, Chief Officer for Urban Development and Alfred Mwenda Riungu, Director of Lands and Physical Planning for the immense technical contributions during the plan preparation process. I am also very thankful to Jumuiya Ya Kaunti Za Pwani (JKP) Secretariat led by Emmanuel Nzai, Rachel Wunghanga and Gladys Mnjama for their collaboration.

In my capacity as the county planning authority as provided for under the Physical and Landuse Planning Act (2019), I look forward to working with all stakeholders – including the county executive and legislature - towards the successful implementation of the Hola Local Physical and Landuse Development Plan.

Mwanajuma Hiribae

County Executive Committee Member

Lands, Physical Planning, Agriculture, Livestock, Fisheries & Cooperative Development

County Government of Tana River



On behalf of Hola Municipality, we wish to acknowledge the planning team for the successful formulation of the Hola Local Physical and Land Development Plan. This plan is a product of close collaboration between the Municipality of Hola, the County Government of Tana River, and UN-Habitat (under the GoBlue Program), and the communities of the municipality.

It is a collaboration that resulted in a shared vision and strategies for sustainable urban and rural development for the municipality, in the coming 10 years, and beyond.
The Municipality reaffirms its full commitment to leading and managing the implementation of the plan, including its alignment with the Urban Integrated Development Plans (IDePs) and the annual fiscal planning. We believe that through successful implementation of this plan, Hola Municipality will speed up infrastructure development and service delivery, while promoting socio-economic development, mitigating risks and disaster management and advancing environmental management towards improved quality of life for our residents.

CS,CPA Jacob Jarha

Municipal Manager

TEAM COMPOSITION

	Person[s]	Function / Organization	Roles
PROJECT MANAGEMENT	Mwanajuma Hiribae	County Executive Commitee Member, Lands, Physical Planning, Agriculture, Livestock, Fisheries and Cooperative Development	Overall leadership as the head of county planning functions as per PLUPA, including the coordination of process within the county government (executive and assembly).
	Francis Hiribae	Chief Officer, Agriculture, Fisheries & Veterinary Services.	Coordination of the project across county departments.
	Mohammed Mwatunza	County Director, Department of Urban Development	Coordinating the project between physical planning and the municipal board
	Urban Lab: Salvatore Fundaro	Senior Urban Planner & Lead, Urban LAB (UN-Habitat)	Coordination of the overall project within Go-Blue Project and supporting technical management of the planning process.
	Florian Lux, Go Blue Project Manager, ROAF. Jeremiah Ougo, Urban Planner, Go Blue Project, ROAF	UN-Habitat's Regional Office for Africa (ROAf): Go Blue Kenya Project Management	Overall Go Blue Project Management
	CS,CPA Jacob Jarha, Municipal Manager	Hola Municipal Board: Board Members & Municipal Manager	Ensure the Municipal Formulates a Plan and institutionalizing the plan in municipal management.
TECHNICAL TEAM	Alfred Mwenda Riungu	Co-Lead Planner, County Director of Physical Planning (CDPP)-PPRB Registered Planner (PP 0267), Kenya	Coordination of the planning process within the County system, technical guidance, and stakeholder management including inter-county, government to government and managing settlement level participation.
	C. Baraka Mwau	Co-Lead Planner (UN-Habitat Urban Lab) - PPRB Registered Planner (PPRB 0232), Kenya	Technical management of the planning process and supervising the technical production of outputs including the plan report.
	UN-Habitat UrbanLab Team: Tomà Canessi, Jane Muriuki, Sammy Muinde, Sharon Ogoti, Aissatou Diallo, Luis Gilio	Urban Planners, Urban Designers, Community Development Experts, Architects, Environmental Planners and Landscape Architects, Municipal Infrastructure Specialists, GIS Analysts, Socio-Economic Survey Specialists.	Production of the plan- baseline surveys and analysis of existing conditions, formulating the land use plans, the municipal SDF and spatial concepts for sub-centers, sector strategies, integrating land/water framework and ecosystems-based management in the planning process, formulating development management regulations and the implementation framework, conducting consultations with stakeholders, and overall documentation of the outputs and drafting the plan report.
	Tana River County- Planning Department Team: Abubakar Mngatana, Vincent Keari, Lali Dullu, Hantiro Godana		
	Aissatou Diallo, Archita Varyani, Stefan Adamson	Graphic Designers	Providing graphic design support.
	Socio-Economic Survey Team: Lead Researcher: Romanus Opiyo Research Assistants: Chrispine Nyangwara, Stephen Mutungi, Samuel Wanjiku Njuguna, Victor Munene	Urban Planning, GIS-based Data Collection, Household and Businesses Survey expertise	Conducting a Socio-Economic Survey and Rapid Urban Profiling of Facilities in the Municipality.
PUBLIC PARTICIPATION	Tana River County – Lands Department	Land Survey and Administration	Supporting technical work on land.
		Urban Economist & Municipal Finance	Integrating economic planning and technical work on capital investment planning.
		Tana River County Assembly: The Municipality Wards: MCAs representing Chewani, Kinakomba Mikinduni & Wayu Wards	Oversight of the participatory process of the plan. Briefing their communities and engaging the technical team during the planning phases.
	Kenya Alliance of Residents Association (KARA)	Goblue Kenya Implementing Partner	Organizing Municipal-Wide Public Participation Workshops for Hola Planning Process
	Partners: Jumuiya Ya Pwani (JKP) UNEP		

EXECUTIVE SUMMARY

The Hola Local Physical and Land Use Development Plan (LPLDP) 2023–2033 provides a spatial, social, and economic blueprint to guide the municipality's growth and transformation over the next decade. Developed within the framework of Kenya's Constitution (2010), the County Governments Act (2012), the Physical and Land Use Planning Act (2019), and the Urban Areas and Cities Act (2019), the plan responds to the pressing challenges of rapid urbanization, inadequate infrastructure, climate vulnerability, and environmental degradation.

The plan embraces a source-to-sea approach, recognizing Hola's strategic position along the Tana River and its interconnections with ecosystems, agricultural lands, and downstream coastal environments. This approach ensures that land use, infrastructure, and development strategies safeguard natural assets such as forests, mangroves, and wetlands while promoting sustainable resource use and disaster resilience.

Anchored in the principles of the New Urban Agenda (NUA), the plan prioritizes inclusivity, resilience, and participatory governance. It emphasizes improved land administration, equitable access to services, affordable housing, sustainable mobility, and local economic development. The plan also provides an implementation framework that links planning, budgeting, financing, and monitoring in line with county and municipal priorities.

In alignment with the Sustainable Development Goals (SDGs), particularly SDG 6 (Clean Water and Sanitation), SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 15 (Life on Land), the LPLDP integrates spatial strategies that address poverty, strengthen livelihoods, and protect vulnerable ecosystems.
The plan is presented in two volumes:

- **Volume I:** Background, analysis of existing conditions, and identification of development issues.
- **Volume II:** The development strategies, implementation framework, and monitoring guidelines.

By strengthening institutional capacity, mainstreaming public participation, and aligning municipal strategies with national and global commitments, the Hola LPLDP provides a clear pathway toward a climate-resilient, thriving municipality that contributes to both county and national development aspirations.

Disclaimer on Municipal Boundary

During the preparation of this Plan, the planning area was adopted to coincide with the extent of the municipal boundary as delineated at the time of the planning process. It is important to note that ongoing engagements and consultations regarding the formal delineation of the municipal boundary are still in progress. For the purposes of this Plan, all maps and spatial representations adopt the planning area extent used during the preparation process, herein referred to as the "municipal boundary." This designation is without prejudice to any future adjustments, clarifications, or official determinations that may arise from subsequent boundary reviews, approvals, or statutory processes.

The designations and the presentation of the materials used in this publication, including their respective citations, maps, and bibliography, do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

CERTIFICATION

I certify that the plan was prepared and published as per the requirements of the Physical and Land Use Planning Act No. 13 of 2019.

Recommended by;

Sign .....

Date.....

Hon. Mwanajuma Hiribae

County Executive Committee Member in Charge of Lands, Physical Planning, Agriculture, Livestock Fisheries, Veterinary Services and Cooperative Development

Certified by;

Sign [Signed, Reducted]

Date October 2025

Plan. Alfred Mwenda Riungu
County Director of Physical Planning & Team Lead - PPRB
Registered Planner (PP 0267)

Sign [Signed, Reducted]

Date October 2025

Plan. Baraka Mwau
Registered Physical Planner & Co-Lead Planner - PPRB
Registered Planner (RPP 0232)

APPROVAL

Adopted by;

Hansard No. .....

Date .....

Tana River County Assembly

Approved by;

Sign .....

Date.....

Hon. Dr. Dhadho Gaddae Godhana
H.E Governor, County Government of Tana River

PLAN REFERENCE NO.: .....

PLAN APPROVAL NO.: .....



Source: Baraka Mwau UN-Habitat, 2023

LIST OF ACRONYMS

AHP	Analytical Hierarchy Process
ASAL	Arid and Semi-Arid Lands
AU	African Union
BGI	Blue-Green Infrastructure
CBC	Competency Based Curriculum
CBD	Central Business District
CDA	Coastal Development Authority
CDPP	County Director of Physical Planning
CECM	County Executive Committee Member
CGA	County Government Act
CIDP	County Integrated Development Plan
CLA	Community Land Act
CLSs	Community Land Committees
CLMC	Community Land Management Committee
CSO	Civil Society Organizations
ECD	Early Childhood Development
ECDE	Early Childhood Development Education
EEZ	Exclusive Economic Zone
EMCA	Environmental Management and Coordination Act
ESS	Ecosystem Services
ESV	Ecosystem Service Value
ESVD	Ecosystem Services Valuation Database
FAO	Food and Agricultural Organization
FCDC	Frontier Counties Development Council
GIS	Geographic Information System
HIS	Hola Irrigation Scheme
HOA	Hola Airport
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICT	Information Communication Technology

INTP	International Union for Conservation of Nature
IUCN	Integrated National Transport Policy
IUWM	Integrated Urban Water Management
JICA	Japan International Cooperation Agency
JKP	Jumuiya ya Kaunti za Pwani
KARA	Kenya Alliance of Residents Association
KCAA	Kenya Civil Aviation Authority
KETRACO	Kenya Electricity Transmission Company Limited
KHP	The Kenya Health Policy
KISIP	Kenya Informal Settlements Improvement Project
KMTC	Kenya Medical Training College
KNAP	Kenya National Adaptation Plan
KNBS	Kenya National Bureau of Statistics
KUSP	Kenya Urban Support Program
LAPSSET	Lamu Port, South Sudan, Ethiopia Transport Corridor
LED	Local Economic Development
LPG	Liquified Petroleum Gas
LPLDP	Local Physical and Land Use Development Plan
MTPs	Medium-Term Plans
MOH	Ministry of Healths
NDMA	National Drought Management Authority
NDVI	Normalized Difference Vegetation Index
NEP	National Environment Policy
NHIF	National Health Insurance Fund
NIA	National Irrigation Authority
NGO	Non-Governmental Organizations
NLC	National Land Commission
NMT	Non-Motorized Transportation
NRP	The Northern Rangeland Trust
NSP	National Spatial Plan

NUA	New Urban Agenda
NYS	National Youth Service
PLUPA	Physical and Land Use Planning Act
PPRB	Physical Planners Registration Board
ROAf	Regional Office for Africa
SDF	Spatial Development Framework
SDG	Sustainable Development Goals
SID	Society for International Development
SPI	Standard Precipitation Index
TAWASCO	Tana Water and Sewerage Company
TRC	Tana River County
TVET	Technical and Vocational Education and Training
TWI	Topographic Wetness Index
UACA	Urban Areas and Cities Act
UNDDR	United Nations Office for Disaster Risk Reduction
UN DESA	The United Nations Environment Programme
UNEP	United Nations Department of Economic and Social Affairs
UN-HABITAT	United Nations Human Settlement Program
UNICEF	United Nations International Children's Emergency Fund
UN-SPIDER	United Nations Platform for Space-based Information for Disaster Management and Emergency Response
USGS	United States Geological Survey
UNU/WIDER	UNU Word Institute for Development Economics Research
WHO	World Health Organization
WTP	Water Treatment Plant

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PART III
THE MUNICIPAL PLAN AND DEVELOPMENT STRATEGIES



CHAPTER 12

DEVELOPMENT SCENARIOS & GROWTH TRAJECTORIES

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12.1 OVERVIEW

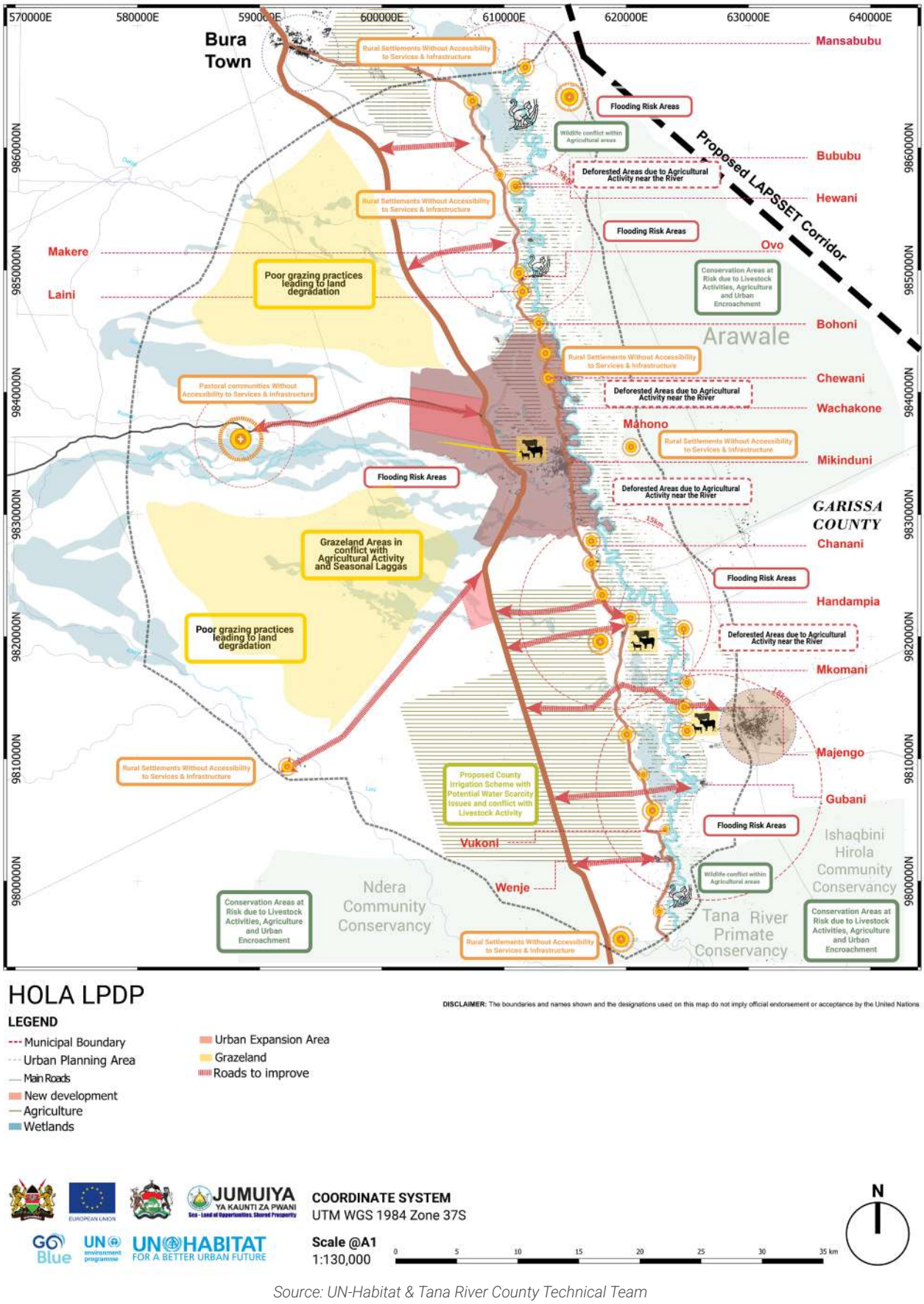
This section provides a detailed analysis of potential spatial development and urban growth trajectories for Hola municipality. Multiple analyses are reflected in the trajectories, mainly population growth, settlement patterns, land availability, environmental conditions, urban and rural settlement growth trends, institutional capacity, local economic trends, and infrastructure and basic service provision trends. The three trajectories include the continuation of the existing situation, a planned model of ongoing developments, and a preferred development alternative that envisions an integrated and sustainable approach.

12.2 KEY SPATIAL DEVELOPMENT ISSUES

Hola growth encompasses a complex social, economic, spatial, and environmental systems. These systems, however supposed to be complementary, are not always working in favor of each of other. For example, the continued unplanned settlement growth has negatively impacted on the environmental system. The natural and economic dynamics of the territory have been modified and affected mainly because of agricultural and livestock activities.

- Intensified agricultural activities along the riverine ecosystem have led to significant deforestation and degradation of biodiversity. The trend spurs conflict between users of River Tana. The river ecosystem is a major source of fresh water, nutrients, food, and habitat.
- The municipality corridor of livestock seasonal migrations between neighboring counties. During droughts, the livestock migrates to lower parts of Tana River County for grazing. Conflicts arise due to competition over scarce resources during these movements. Resources from wide rangelands are crucial for supporting the livelihoods of pastoral communities. The main causes of conflicts with agricultural landowners are land appropriation and water resources.
- Overgrazing is a key challenge for pastoral livestock farmers leading to advanced land degradation and depletion of vegetation cover. Livestock activities experience obstacles due to urbanization and the implementation of infrastructure, such as roads and highways that are disrupting established livestock routes.
- The municipality is prone to flooding and drought every year. Sections worst include settlements of Makere, Bububu, Chewani, Ovo, Bohoni, Wachakone, Chanani, Majengo, and Gubani among others. The flooding is further aggravated from flooding upstream that drain toward the low land of the county that makes floods accumulate in several areas and provoking run-offs. By capturing and managing the rainwater to sustain agricultural, livestock and industrial activities, the floods can be managed.
- Hola Town's dominance has created an inter-dependency with the rural villages with the central core for the accessibility of services such as health care, education, sanitation, electricity, businesses, and jobs.
- The poor accessibility to parts of the rural areas is a key contributor to delayed LED, and low economic productivity. Enhancing connectivity of the settlements systems is urgent.
- The municipality plans to integrate about 37,000 acres of land as county farmland. The proposal will require a higher demand for water resources but will increase agricultural productivity.

Map 12.1 - Spatial Illustration of Development Issues



Source: UN-Habitat & Tana River County Technical Team

12.3 POTENTIAL DEVELOPMENT TRAJECTORIES

Three main scenarios are likely to inform development directions for spatial development in Hola Municipality. These are: Continuation of Current Trajectory (Business as Usual), Mix of Planned and Unplanned Developments; and Planned Integrated Urban-Rural Development.

12.3.1 Continuation of Current Trajectory (Business as Usual)

This trajectory assumes an ongoing and unchanging state of development despite existing challenges. Ideally, it means the existing planning interventions will continue without any key measures in future to upscale or improve to salvage existing emerging issues.

Key Assumptions:

1. The county/municipal planning system will persist having limited technical and financial capacity.
2. There will be no meaningful change in residents' attitudes, priorities, local economy, technology, or policies.
3. The municipality's population will continue to grow.
4. This plan will not be implemented.
5. Environmental challenges will continue threatening human settlements safety.

As such, the following is likely to happen:

- Escalating urban sprawl and encroachment into the ecologically fragile areas such as River Tana riparian reserves and government protected reserves (eg. Arawale National Reserve); conservancies (e.g. Tana Primate conservancy, Gwena conservancy)
- Haphazard spatial growth within the commercial nodes that amplify negative social and economic impacts such as overstretch of existing facilities and inadequate physical infrastructure and basic services.
- Multiplicity of land use challenges resulting from uncoordinated land use governance, limited policy direction and continued placement of incompatibility land uses over time.
- Increased disaster risks, and poor mitigation and preparedness- (e.g., floods), or human caused disaster as pollution of ecological fragile areas.
- Solid and liquid waste generation will exceed beyond the Hola's capacity to effectively hand, manage and dispose.
- Inadequate or overstretched capacity to respond to infrastructure, basic services, and housing needs."
- The traffic generated within Hola CBD (Central Business District) will outweigh the capacity of the roads, termini, and the parking spaces available.
- Increase in poverty levels and low-quality life, and recurrent inflated cost of living.
- Depletion of aesthetic value and continued urban decay in Hola Municipality and other commercial nodes in the periphery.
- Loss and extinction of heritage and cultural sites.
- Escalating existing or emergence of new human-wildlife conflicts.
- Enhances livestock induced conflicts especially in farms along the riverine ecosystem and the agricultural areas.
- Untapped potential linked to the connection of Hola to LAPSSET corridor and the Economic Corridor within coastal counties.

12.3.2 Mix of Planned and Unplanned Developments

This scenario envisions an interface of planned and unplanned development, formal and informal developments. There will be varied degrees, over time, in how the municipality achieves planned development. The development trajectory will be driven by continued promotion of planned new settlements and urban extension areas, combined with the project-based infrastructure development, and continued business as usual in informal developments.

Key Assumptions:

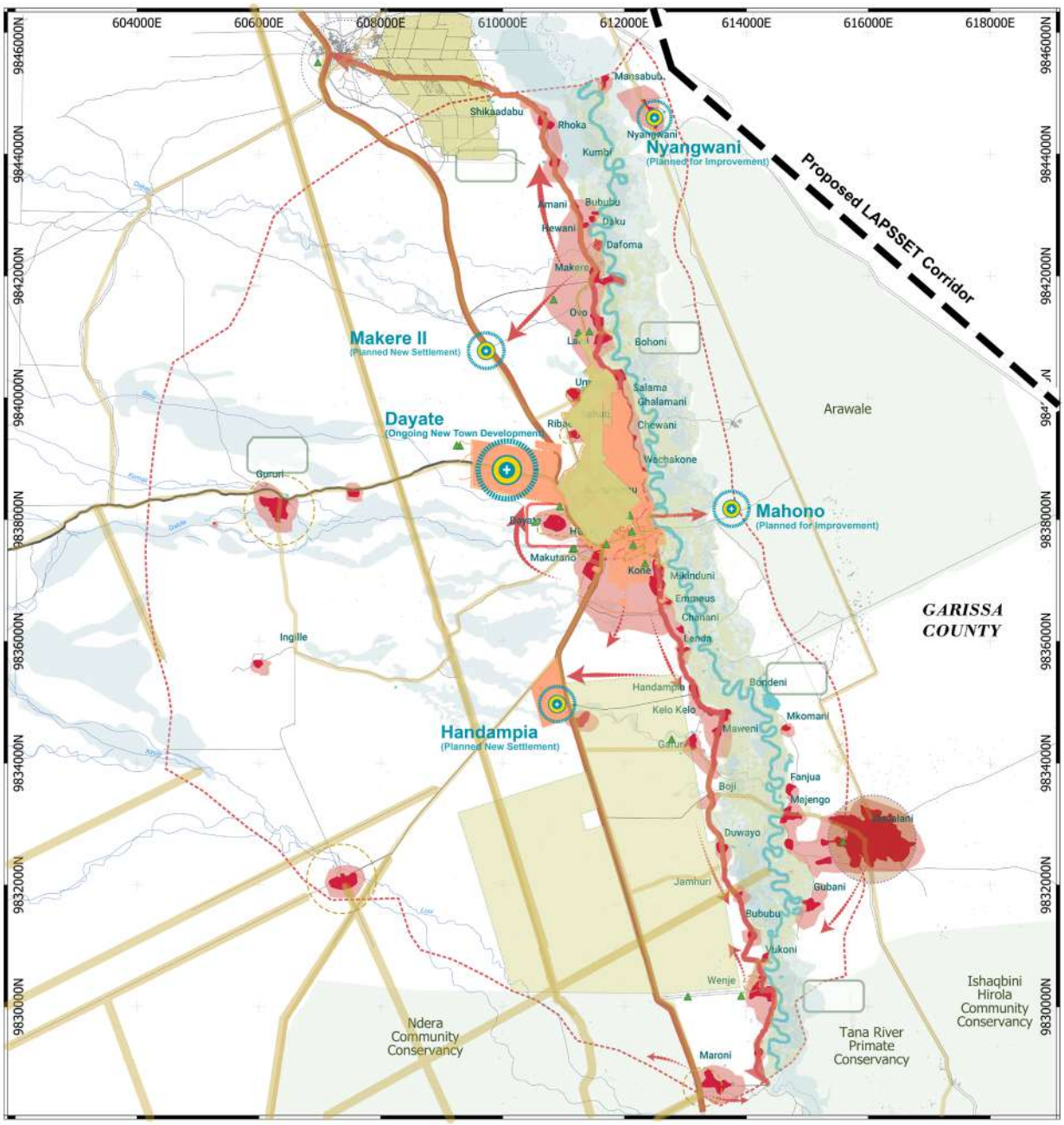
1. There will be some efforts to institutionalize coordinated spatial planning, at municipal and county level. Planning institutionalization will likely be project/sector-based and not integrated.

2. Development direction will be unpredictable since the trajectory is not coordinated and integrated.

The following are likely directions and outcomes:

- High implementation possibilities: This scenario will be easy to implement as it draws its foundation from already ongoing and planned projects by partners and the County government. Political and financial goodwill from the county government administration will act as a catalyst for implementation.
- Improved living conditions in selected parts of Hola through KISIP initiative. This is because of ongoing planning and survey programs in Hola. Some of the sections listed under this program within the municipality include Kibuyuni, parts of Malindi ya Ngwena, Makaburini, Wachakone, and Chewani. These settlements are considered informal and will be regularized under the KISIP program. However, parts of Chewani and Wachakone settlement despite being part of KISIP, are also marked for relocation under the County Cluster program due to its vulnerability to flooding.
- Potential for improved agricultural yields: Currently, there are uncoordinated and low yields within the Irrigation schemes and the county lands. The development of Hola town is also attributed to agricultural activities within the Hola irrigation scheme. This has attracted settlers and farmers to Hola due to its potential. In the recent past, the county set aside about 30,000 Ha of land for agricultural purposes. The land is on the southern part of Kone, extending to the municipality boundary in the south. This model aims to complement the National Irrigation Authority irrigation scheme in the north.
- Some improvement on regional connectivity and decentralization: The county has ongoing plans to move part of the administration section of Tana River to Dayate, located along the Kitui – Hola road. The National government has plans to upgrade the Hola – Waldena – Kitui road to a B class, bitumen standard road, that will favor the new location of the county administrative offices. The county has developed a preliminary plan that allocates uses to the land and provides reserves for the necessary functions of the county.
- Primacy effects of Hola town over other Secondary centers. Urban primacy implies disparities in economic activity across cities. Primacy strains the urban system, as it absorbs resources and attracts increased population densities. This is a possible situation for Hola as it is currently serving as the headquarters and the primary growth center. Other satellite nodes heavily depend on Hola for markets, trade, services, and access to administrative functions. However, the satellite towns are developing slower due to the urban primacy effect of Hola town.
- Perpetual environmental fragility: The perennial flooding that affects the area is linked to new settlements and population influx. However, while interventions are needed, these new settlements are done without adequate urban planning. Hola requires coordinated long-term planning to manage environmentally sensitive areas.
- Continued land use planning challenges as there is no functional updated land use plan to guide the development of Hola town and Municipality at large. The last holistic land use was prepared in 1987, and it does not reflect the current growth and new developments in the consequent part development plans. Past planning interventions are primarily through uncoordinated PDPs and unclear regulatory framework for land development.
- Uncoordinated development will escalate alongside informality in Hola town, in the absence of institutionalized framework for regulating land developments. Ongoing relocation of the communities to new settlements without clear guidelines on the use of land will lead to future planning challenges.
- The absence of secure land tenure is a factor in the underdevelopment of the planning area. The lack of financing due to absence of collateral for lending hinders the locals from developing housing and improving agricultural practices. This is evident in the underdeveloped areas and informal settlements within Hola town. Further, the insecure land tenure in the municipality restricts investors and developers from any development.
- Inadequate analysis of the proposals on suitable course of action based on multiple criteria evaluation.

Map 12.2 - Illustration of mixed planned and unplanned development trajectories



HOLA LPDP

LEGEND

- Municipal Boundary
- Hola CBD
- Road Network
- Settlement footprint
- Wetlands
- Floodrisk
- Protected areas
- Primary Road
- Secondary Road
- Livestock Routes
- Planned Settlements
- Livestock Management Areas
- Livestock Villages
- New Settlement Under Implementation

DISCLAIMER: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

JUMUIYA YA KAUNTI ZA PWANI

COORDINATE SYSTEM
UTM WGS 1984 Zone 37S

Scale @A1
1:130,000

0 5 10 15 20 25 30 35 km

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Source: UN-Habitat & Tana River County Technical Team

Figure 12.1 - Recent development in Hola Town



Source: Baraka Mwau UN-Habitat, 2023

12.3.3 Planned Integrated Urban-Rural Development

The scenario presents a systematic approach to organizing and managing the physical space within Hola Municipality. It promotes a meticulous analysis and consideration of environmental, economic, and social factors, planned spatial development seeks to create well-designed and cohesive communities. Development is guided by connectivity, accessibility, and the preservation of natural resources to create livable, resilient, and harmonious urban spaces.

Key Assumptions:

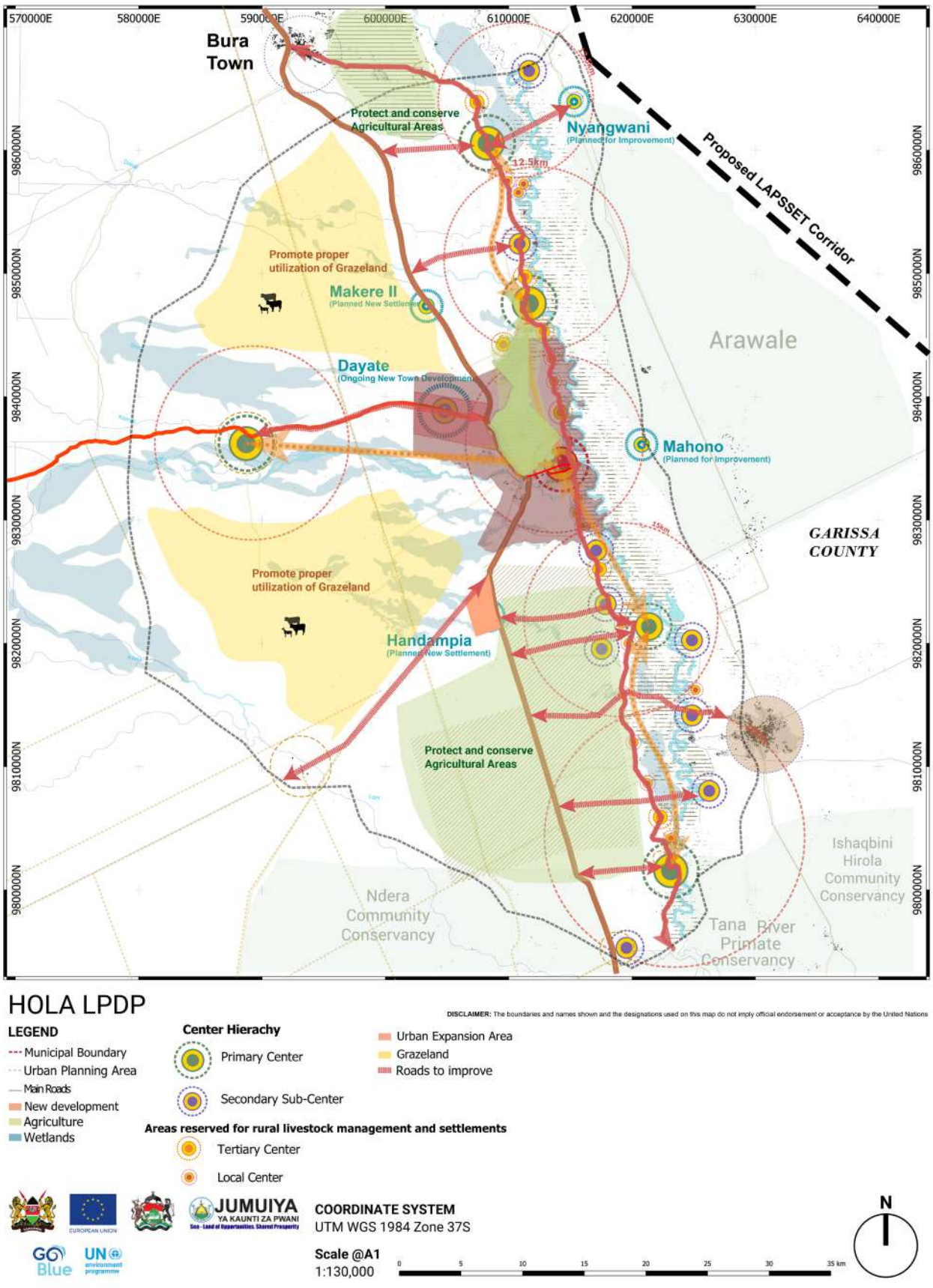
1. Responsive planning capacity is needed to ensure integrated urban-rural development.
2. Residents and stakeholders in the Municipality own the plan and provide support for its implementation.
3. Plan/Investment financing mechanisms are put in place.
4. Political support including satisfactory institutional and governmental coordination especially between municipality and county agencies, and municipality/ county with national government agencies.
5. An effective system of land administration is put in place.
6. The plan promotes spatial development that will create well-designed and cohesive communities, local economic development, and protection of environmentally fragile areas.
7. Strong rural-urban linkages.
8. Attaining full operationalization of Hola Irrigation Schemes, the county farmlands, and mini-irrigation schemes, including their modernization. Also, the modernization of livestock production, including attaining full operationalization of the livestock management areas. The economic prosperity envisioned by the preferred model is anchored on farming and livestock production.

This model is associated with the following:

- Planned urban and rural development.
- Land use optimization and enhanced Local Economic growth.
- Improved transport and connectivity: Enhanced intra-municipal and inter-regional access and connectivity by holistically improving the general transportation sector. The model promotes physical and functional rural-urban linkages.
- A phased framework for infrastructure development
- Regulated land development- Appropriate policy provisions and regulations.
- Attaining a functional institutional framework and adequate budgetary allocation.
- Improved revenue collection and development financing. Compared to other models, the cost associated with implementation is high. This is due to the required institutional re-alignment, capacity, financing model, monitoring, and evaluation. The implementation process might also be lengthy since all proposed projects must be subjected to technical scrutiny and public participation processes.

The Spatial Development Framework (SDF) and Land Use Plan (Chap 13), elaborates this scenario.

Map 12.3 - Concept illustration of planned integrated urban-rural development



Source: UN-Habitat & Tana River County Technical Team

Table 12.1 - Summary of Scenarios

Trajectory	Description	Driving Factors & Assumptions
Continuation of Current Trajectory (Business as Usual)	Considers promoting an unchanging state of development affairs despite existing and emerging trends.	• This trajectory will benefit from existing political goodwill. Planning and local politics are supposed to work together since planning involves everything that affects the city for good or bad. Normally, politics have a significant role in the planning process. Politicians constitute a sizeable sample of policymakers in County structures. It can be argued that this model helps shift focus from the professional and technical aspects of development planning but also on the impact of the involved interests on the process and its outcomes. • The roadmap to financing the model is clear since it depends on already existing development budget allocations for specific projects at the county level cascading down to specific departments. • In comparison to the other models, implementation will be easier. The model will depend on the existing implementation system which is already known by already existing institutions. This will not require strict approvals processes and red tape bureaucracies subjected to implementation of planning projects. • Continuation of current trajectory is not dependent on institutional re-alignment for its operation. • Low level of services across other parts of the municipality.
Mix of Planned and Unplanned Developments	Interplays incorporation and realization of various planned and ongoing projects within Hola municipality context.	• Political and financial goodwill from the county government administration will act as a catalyst for implementation. • Improved living conditions in selected parts of the Municipality through ongoing planning and development initiatives • Potential for improved agricultural yields from ongoing government agriculture development initiatives • Anticipated improvement on regional connectivity and decentralization from ongoing planned road infrastructure improvement projects: • Primacy effects of Hola town over other Secondary centers to continue escalating as concentration of planning and development continue around the town. • Continued land use planning to guide the development across the Municipality.
Planned Integrated Urban-Rural Development	A systematic approach to organizing and managing land development, and coordinating spatial development, with a focus on integrated development and sustainability.	• Phased delivery of infrastructure and basic services. • Enhanced intra-municipality and inter-regional access and connectivity. • Effective land administration and land use management. • Enhanced functionality and productivity of rural and urban spaces. • Potential for enhancing own-source revenues for the municipality. • Increased access to social amenities and utilities. • Regulated land development. • Sustainable natural resources management. • Enhanced disaster risk management.

Source: Compiled by UN-Habitat & Tana River County Technical Team

12.4 PLANNING PRINCIPLES FOR THE PREFERRED DEVELOPMENT TRAJECTORY

The Planned Integrated Urban-Rural Development is the preferred trajectory. The plan identified eleven principles to guide its proposals and recommendations:

1. Enable Land-Use Integration and Effective Management
2. Enhance Settlements Consolidation and Community Development
3. Promote Environmental Protection and Investing in Green Assets
4. Promote Inclusive Governance Systems
5. Enhance Economic Potential
6. Enhance Disaster Risk Management
7. Sustainable Riverine Management and Blue Economy Development
8. Promotion of Connectivity and Sustainable Mobility
9. Develop a System of Public Facilities and Services Equitable and Enhanced Utilities Provision
10. Promote Heritage, Cultural and Natural Preservation

12.4.1 Enable Land-use integration and Effective Land Management

Effective land management promotes sustainable development, environmental conservation, and socio-economic prosperity. The plan includes comprehensive planning that assesses land characteristics, demographics, and infrastructure needs in order to guide development decisions. The plan gives priority to conserving natural resources, including water bodies, forests, and agricultural land, while also considering the development of rural settlements, urban growth, and infrastructure. To ensure effective land management, land use regulations will be established, emphasizing integration, compatibility, conservation, organization, productivity, and other associated goals.

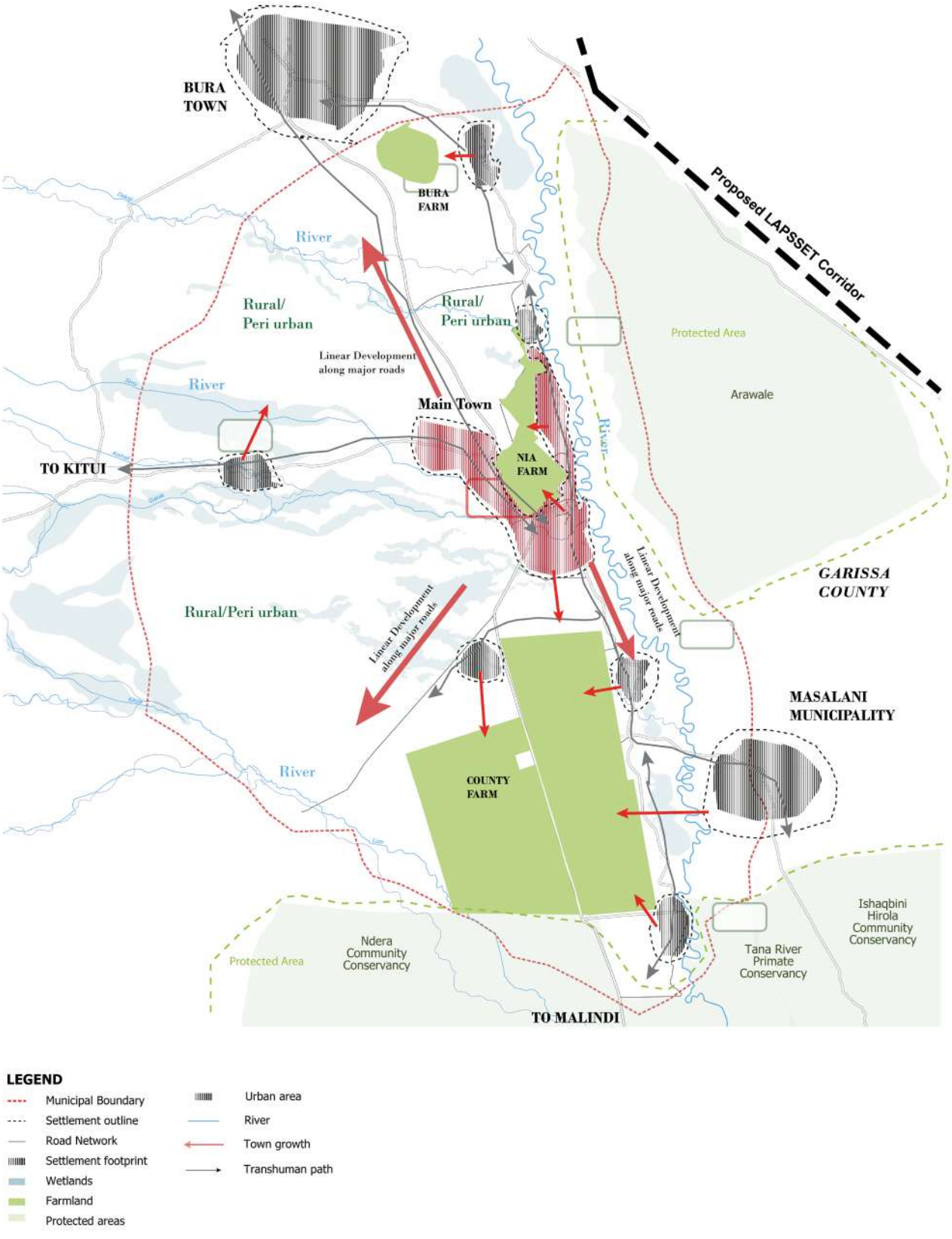
12.4.2 Enhance Settlements Consolidation and Community Development

Urban and rural centers are scattered across the municipality, rendering service provision costly. Hola urban area lies in their concentration of high-density development, hosting key government institutions, financial districts, major commercial establishments, and cultural landmarks. As the heart of the urban landscape, Hola urban area act as hubs for commerce, providing a focal point for businesses, corporate headquarters, and financial institutions.

Secondary centers play a pivotal role in the sustainable development and functional efficiency of urban areas. These centers, often distinct from the primary central business district, contribute significantly to the overall urban landscape by serving as focal points for various activities. Their importance lies in decentralizing services, commerce, and residential areas, thereby reducing congestion in the primary central area of Hola Town.

The secondary centers play a crucial role in economic activities, offering residents convenient access to goods and services in their neighborhoods, and facilitating market access for farmers. However, there is a weak spatial and functional connection between the primary and secondary centers. Therefore, the plan aims to consolidate settlements and connect communities, with an emphasis on community development and decentralizing services.
Hola, as a municipality, is expected to achieve a specific level of service, according to UACA. Spatially targeting these service levels is essential across different settlement types.

Map 12.4 - Conceptual Illustration of land use integration



Source: UN-Habitat & Tana River County Technical Team

Table 12.2 - Assessment of Hola Against Facilities and Services Required of a Municipality as per UACA

Minimum Municipality Requirements	Present	Status
Planning and Development Control	X	Lacking
Traffic Control and Parking	√	Inadequate
Water and Sanitation	√	Inadequate
Street Lighting	√	Inadequate
Outdoor Advertising	√	Substandard
Cemeteries and Crematoria	√	Inadequate
Public Transport	√	Inadequate
Libraries	√	Nonfunctional
Storm Drainage	√	Inadequate
Ambulance Services	√	Inadequate
Heath Facilities	√	Substandard
Fire Fighting and Disaster Management	√	Inadequate
Control of Drugs	X	Lacking
Sports and Cultural Activities	√	Adequate
Electricity and Energy provision (gas, kerosene etc.)	√	Adequate
Abattoirs	√	Inadequate
Refuse Collection	√	Inadequate
Solid waste management	√	Poor Management
Pollution (Air, water, soil) control	X	Lacking
Childcare Facilities	√	Substandard
Pre-Primary Education	√	Substandard
Local Distributor Roads	√	Substandard
Community Centres	√	Substandard
County Hospital	√	Substandard
Constituent University Campuses	X	Lacking
Polytechnic	√	Substandard
County School	√	Adequate
Stadium	√	Substandard
Airstrip	√	Nonfunctional
Theatre	X	Lacking
Library/ICT services	√	Inadequate
Administrative Seat	√	Substandard
Local Economic Development Plan	X	Lacking
Museum/cultural centres	X	Lacking
Fire Station	√	Substandard

Minimum Municipality Requirements	Present	Status
Emergency Preparedness		Poor management
Telecommunication services /postal services/ICT	√	Adequate
Funeral Parlour	√	Not functioning
Recreational Parks	√	Low levels
Animal control and welfare	X	Lacking
Religious Institution	√	Adequate

Source: Compiled by UN-Habitat & Tana River County Technical Team

12.4.3 Promote Environmental Protection and Investing in Green Assets

The importance of this principle cannot be overstated in the sustainable development of Hola municipality. Urban areas, often characterized by high population density and concentrated economic activities, are significant contributors to environmental challenges such as air and water pollution, habitat degradation, and increased waste generation.

Investing in environmental protection and development of green assets involves directing financial resources towards initiatives that promote environmental sustainability, resilience, and low-carbon practices. This includes initiatives such as linking conservation and development strategies through comprehensive plans and programs. In doing so, collaborative efforts between wildlife authorities, local communities, and conservation organizations are essential.

12.4.4 Promote Inclusive Governance System

The principle is fundamental for fostering a participatory and harmonized approach to municipal management. Inclusivity incorporates active engagement of diverse stakeholders, ensuring that a broad spectrum of voices is considered in decision-making processes, included in this planning process. The plan accommodates the traditional and formal communal land management systems, and perspectives from various social, economic, and cultural backgrounds, leading to guidelines and initiatives that are representative and responsive to the entire community's needs. Further, the plan is seeking coordination and partnership between the municipality and other government agencies, including NIA whose role in agricultural development is critical for the plan's implementation.

12.4.5 Enhance Economic Potential

The principle of agricultural and peri-urban development centers on creating a sustainable and harmonious relationship between urban and rural landscapes, recognizing the potential of agriculture in generating job opportunities and supporting sustainable urbanization. It emphasizes the need to balance the expansion of urban areas with the preservation and enhancement of agricultural activities in peri-urban zones, the transitional areas between urban and rural landscapes. It also involves strategic land-use planning to protect fertile agricultural lands, promote food security, and address the challenges of urban sprawl.

The principle also promotes fostering a conducive business environment. This includes reducing bureaucratic hurdles and streamlining regulatory processes that will provide a stable and predictable regulatory framework. In this the county government can attract investment, stimulate entrepreneurship, and facilitate business expansion. It can further be facilitated by investing in infrastructure which is essential for unlocking economic potential. Infrastructure development targets key economic catalysts such as transportation networks, industries, communication systems, energy facilities, and water resources, that improves connectivity, facilitates trade, and reduces transaction costs.

Investing in human capital is also essential in achieving economic productivity through education, vocational training, and skills development programs. The approach supports creating skilled workforce capable of driving innovation and productivity gains. The principle will guide the plan to foster an open and competitive market environment to attract foreign direct investment, promote exports, and facilitate technology transfer. This can further facilitate the county government to promote research and development activities, promote technology adoption, and provide incentives for startups and small businesses.

12.4.6 Enhance Disaster Risk Management

This principle is anchored in the proactive identification, assessment, and mitigation of potential hazards to reduce the impact of disasters on communities. It involves a comprehensive and systematic approach to understanding the risks posed by natural or human-made disasters and developing strategies to enhance resilience and preparedness. In Hola these include flooding, drought, rising temperatures, erosion, and fire risks. Key components of this include risk assessment, early warning systems, and community engagement. By identifying vulnerabilities and understanding potential hazards, communities can implement preventive measures, such as infrastructure improvements and land-use planning, to minimize the impact of disasters.

The principle guides the plan in the development of robust response and recovery plans. This includes the establishment of emergency response teams, coordination mechanisms, and communication strategies to ensure a swift and organized response when disasters occur. It emphasizes the importance of building community capacity through education and training, enabling individuals to respond effectively to emergencies.

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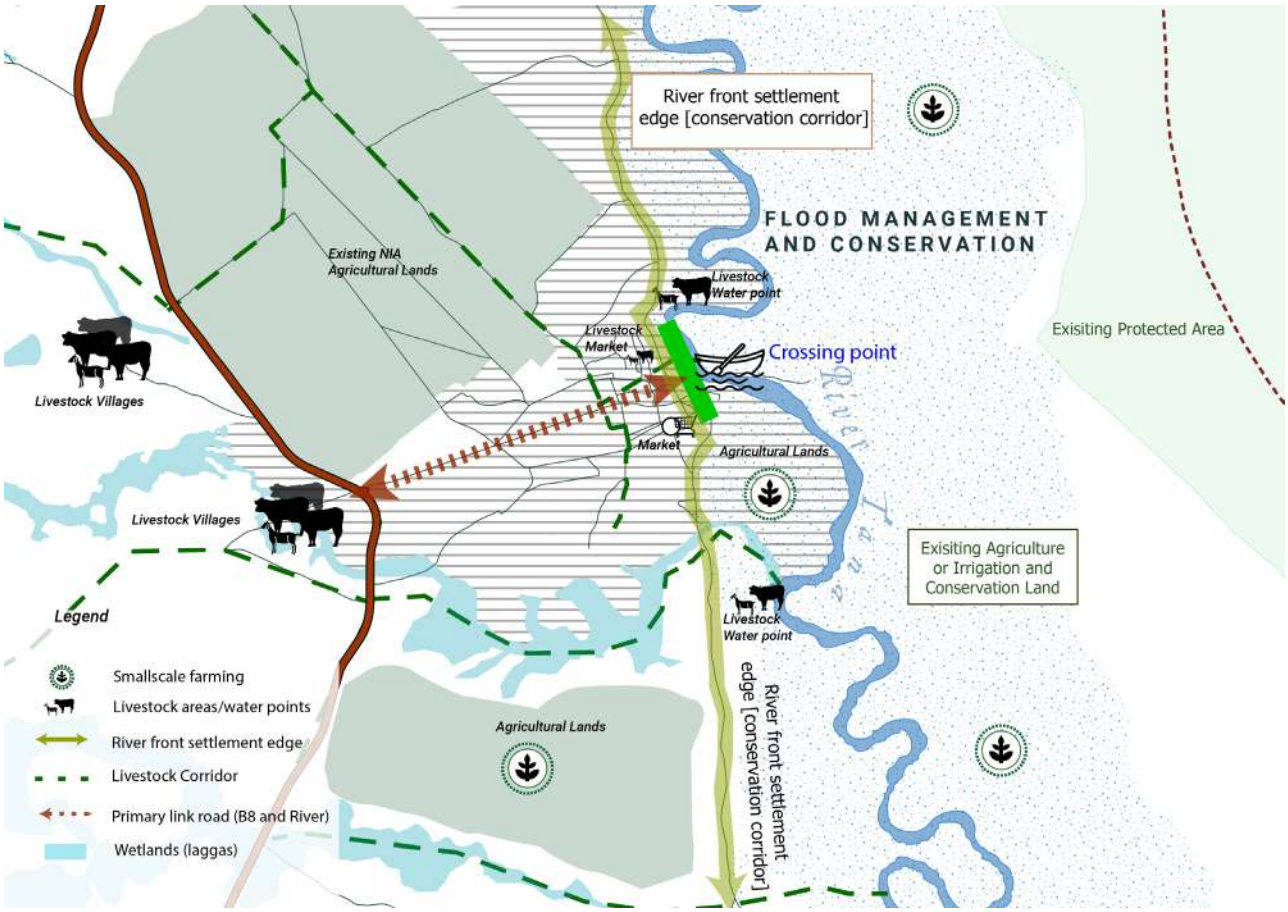
12.4.7 Sustainable Riverine Management and Blue Economy Development

This principle embodies a holistic and sustainable approach to harnessing the potential of river ecosystems for economic prosperity while preserving their ecological integrity. Riverine management emphasizes the need for comprehensive strategies to safeguard and enhance river ecosystems. This involves measures such as watershed protection, riparian corridor preservation, water quality management, and flood control to ensure the sustained health of river systems.

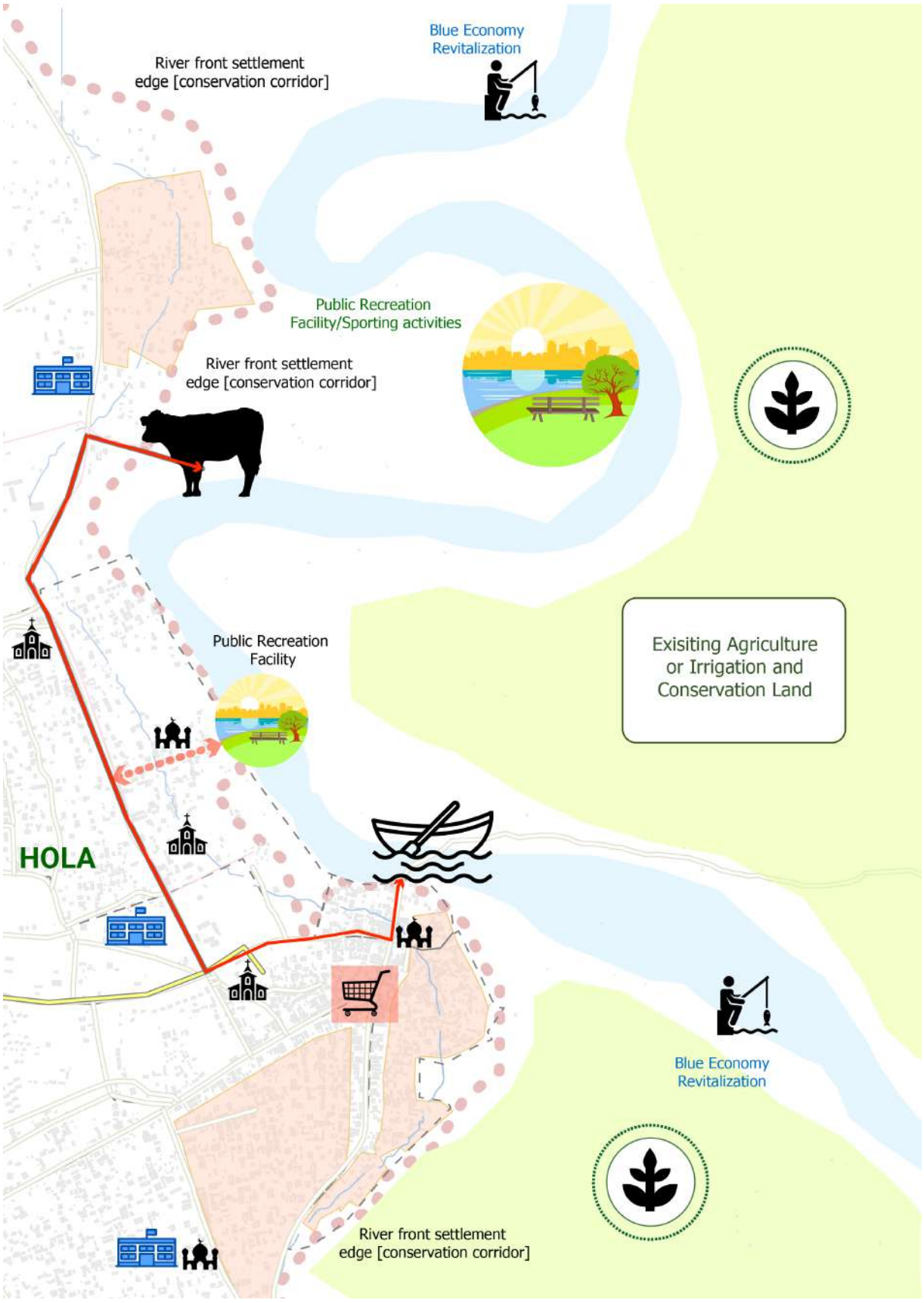
Concurrently, blue economy development capitalizes on the myriad economic opportunities that rivers offer, including fisheries, aquaculture, tourism, and maritime trade. The plan identifies sections of the river to promote blue economy activities, identify market system that will promote the economic benefit of blue economy within Hola.

Map 12.5 - Conceptual Illustration of Natural Resource Management for Economic Productivity



Source: UN-Habitat & Tana River County Technical Team

Figure 12.2 - Conceptual Illustration of Land-River Economic Interface



Source: UN-Habitat & Tana River County Technical Team

12.4.8 Promotion of Connectivity and Sustainable Mobility

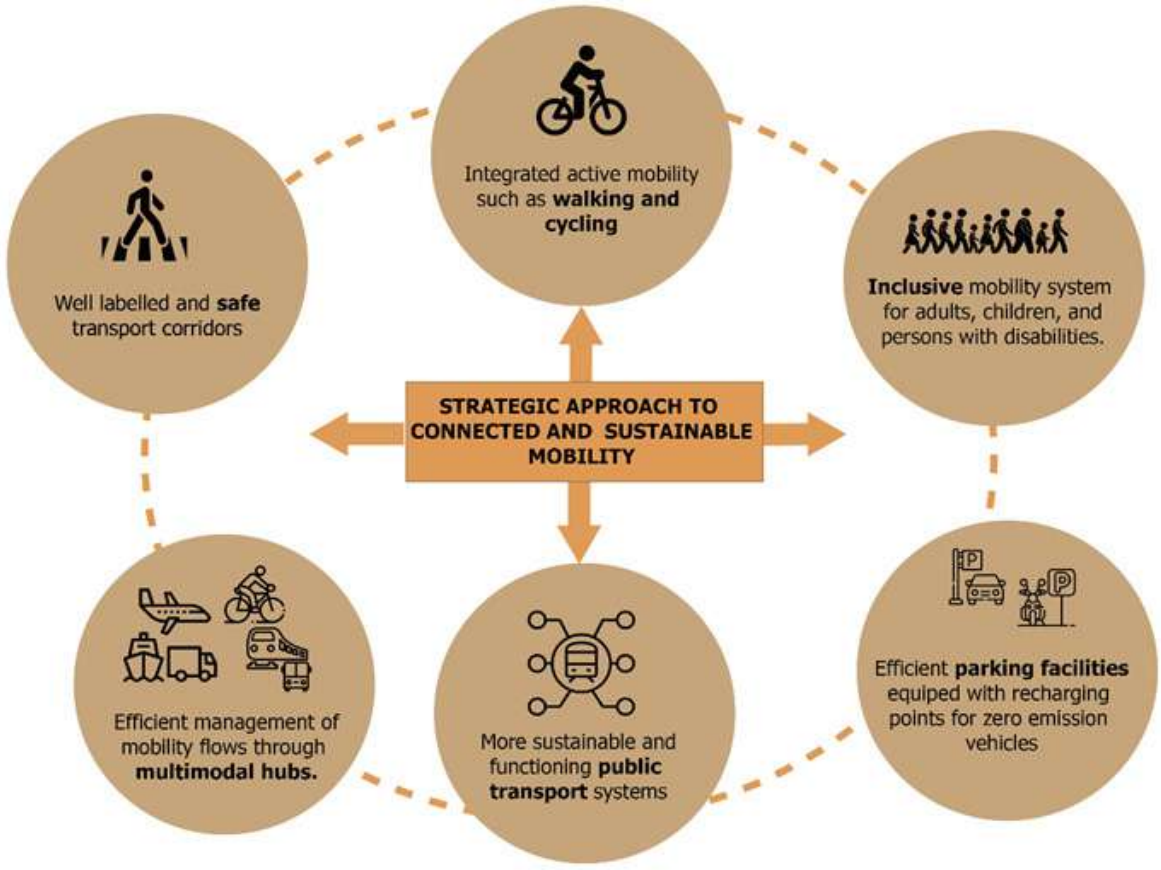
Sustainable connectivity and mobility are the aspects of moving people and goods efficiently, securely, safely, affordably, and accessibly in an environmentally friendly way. These principal advances sustainability in the nexus of inland transportation that includes road, rail, and inland waterway, and with a specific focus at urban transportation within Hola. Good transport infrastructure and services are key to any successful functioning economy. They are essential in ensuring a high degree of connectivity within and outside the country, promoting both goods and human movement.

Transport needs to be considered as a holistic system which supports economic and social activities at the local, municipal, county, and regional levels by providing mobility for people and goods. The proposals for connectivity and sustainability are pegged on efficiency, affordability, accessibility, safety, security and environmentally sound[1].

12.4.9 Develop a System of Public Facilities and Services

This principle supports the notion that all residents, regardless of their physical condition and financial status should have equal opportunities to access and utilize public amenities and services. These services include access to public administration, education services, public health care facilities, law enforcement, emergency services, immigration and accustom and consumer protection. Here, emphasis is on establishing an accessible system of public facilities and infrastructures, which is accessible to all. The plan seeks to promote public projects that prioritize access, improve the quality of the services offered, facilitate independent mobility, enhance social integration, and uphold the dignity and rights of individuals with disabilities.

Figure 12.3 - Conceptual Model Linking Connected and Sustainable Mobility in Hola



Source: UN-Habitat & Tana River County Technical Team

1. Kim, J., Kim, T., Litman, T., JD, S., & Stoyanov, V. (2008). Connected and sustainable mobility. Connected and Sustainable Mobility. White paper. https://www.cisco.com/c/dam/en_us/about/ac79/docs/wp/ctd/connected_mobility.pdf

12.4.10 Equitable and Enhanced Utilities Provision

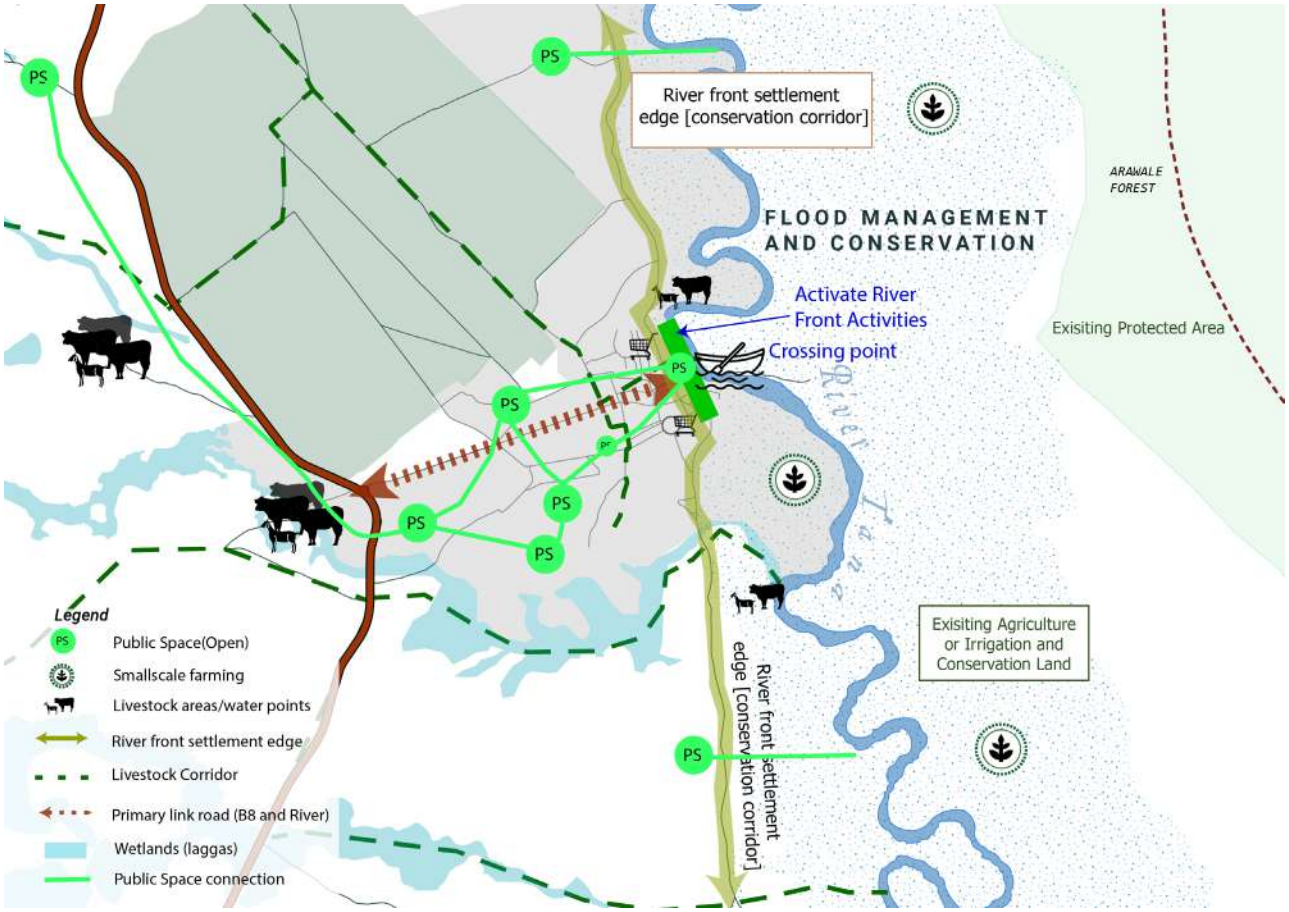
Provision of basic services is essential for all residents by ensuring they are readily accessible to all members of society, regardless of geographical location, socioeconomic status, or physical ability. This principle recognizes these services such as healthcare, education, clean water, sanitation, and transportation as fundamental to promoting human development, reducing inequality, and fostering social inclusion.

Planning supports the strategic location and functioning of the basic services to reduce inequalities, improve quality of life, and empower marginalized communities. The plan supports the achievement of these objectives through infrastructure development, implementing inclusive policies and regulations, leveraging technology to bridge gaps, and actively involving communities in decision-making processes.

12.4.11 Promote Heritage, Cultural and Natural Preservation

This principle is anchored on the recognition of the intrinsic value of cultural assets and the importance of safeguarding them for present and future generations. This entails the protection, conservation, and promotion of tangible and intangible cultural heritage, encompassing historical sites, artifacts, traditions, languages, and customs. Heritage and cultural preservation seek to ensure the transmission of cultural knowledge and identity, fostering a sense of continuity and belonging within communities. The approach combines legal frameworks, conservation practices, and community engagement.

Map 12.6 - Conceptual Illustration of Public Spaces and River Access Corridors



Source: UN-Habitat & Tana River County Technical Team

12.5 COMPARATIVE EVALUATION OF THE POTENTIAL DEVELOPMENT TRAJECTORIES

Table 12.3 - Assessing potential development trajectories against the plan principles

Planning Principle	Implications		
	Continuation of Current Trajectory (Business as Usual)	**Mix of Planned and Unplanned Development**	**Planned Integrated Urban-Rural Development**
Enable Land- Use Integration and Effective Management	Promotes limited controlled development and urban sprawl. Existing capacity for land management will be overstretched as the Municipality continues to grow	Compact development is likely to happen in planned sections of the municipality. This will be at the expense of unplanned sections where urban sprawl with limited access to basic services will continue to escalate.	Provides integrated, joined-up development decisions and land use solutions
Promote Environmental Protection and Investing in Green Assets	Increased encroachment of human activities and developments in environmentally sensitive areas. Conversion of open and green spaces to other urban uses.	Enhanced environmental Protection in selected places (such as government gazetted areas). Investing in green assets will be limited to those that make profit to investors.	Sustainable environmental protection and integrated, optimal investments in Green Assets across the Municipality.
Promote Inclusive Governance Systems	Does not require institutional realignment. The current operation structure will not be disrupted regardless of pre-existing issues. Unfortunately, as the municipality grows, elements of inclusivity will start fading away with increasing levels of uncoordinated governance system.	Calculated institution realignments only focused on implementation of the planned projects. This is likely to address issues related to coordination for only specified project timelines, but does not address issues of inclusivity for the governance system	Inclusive and Coordinated Governance System for ongoing, planned, and future developments beyond the projects' planning lifeline.
Enhance Economic Potential	The economic productivity is uncertain. However, in the event its likely to improve, then, optimum gains, sustainability and longevity is not guaranteed	Economic productivity is likely to improve. However, planned areas and development sectors with planned projects are likely to experience an upward trajectory. Nonetheless this might not be a sustainable direction.	A well-planned municipality with robust infrastructure attracting businesses and investments, leading to economic growth, wealth creation and increased job opportunities.
Enhance Disaster Risk Management	Available disaster risk management system will not be sufficient to address future risks and disasters escalating the levels of losses and placing more residents and communities vulnerable to disaster risks.	Available disaster risk management system put in place which lacks adequate capacity, integration and coordination therefore resulting in continuous losses due occurrence of disasters beyond capacity of existing structure.	Sets in place viable measures to respond and prevent new disaster risks, reduce existing disaster risks and manage residual risks, contributing to the strengthening of resilience and reduction of disaster losses.

Planning Principle	Implications		
	Continuation of Current Trajectory (Business as Usual)	**Mix of Planned and Unplanned Development**	**Planned Integrated Urban-Rural Development**
Develop Economic Potential for Agriculture and Livestock and Enhance Economic Productivity	Low agricultural productivity and deteriorated peri-urban development due to continued concentration of investments and planning of main commercial node	Already planned agricultural projects by the County and National government will warrant some improvements in the short term. Planned new settlements in the peri-urban areas safeguards orderly developments in selected sections of these zones	Optimum agricultural productivity and sustainable-integrated peri-urban development
Sustainable Riverine Management and Blue Economy Development	Poor riverine management will continue, while the blue economy will remain stagnant increasing poverty traps and deteriorated economic development	Unstainable riverine management and overexploitation of blue economy resources for profit.	Puts in place a framework that guides efficient riverine management and sustainable use of water resources to benefit economies, livelihoods, and ecosystem.
Enhance Settlements Consolidation and Community Development	Spatial divide, marginalization, and mushrooming of slums will continue. Communities will be more exposed and vulnerable to environmental hazards characterized by limited access to facilities, pollution, and overstretch of existing infrastructure and services	Unsustainable settlements and community consolidation and development. More focus will be on short term profitability than long term sustainability.	This trajectory promotes social development and cohesion of the municipality. It determines the availability and quality of housing, which directly affects the living standards of the residents.
Promotion of Connectivity and Sustainable Mobility	Substandard and unsustainable intra and inter-regional connectivity	Imbalanced and unsustainable intra and inter-regional connectivity	Enhanced and Sustainable intra and inter-regional connectivity
Develop a System of Public Facilities and Services.	Poor accessibility to public facilities and infrastructure	Promotes inequality and imbalanced accessibility to public facilities and infrastructure	Sustainable and improved accessibility to public facilities and infrastructure
Equitable and Enhanced Utilities Provision	Worsen accessibility and availability of basic services	Planned areas will experience improved accessibility and availability of basic services while situation in unplanned areas will continue to deteriorate	Improved accessibility and efficient supply of sufficient basic services
Promote Heritage and Cultural Preservation	Deteriorated heritage and cultural development	Preserving and promoting heritage and cultural development, which has been considered to contribute directly to the municipality's revenue.	Persevered heritage and cultural development

Source: Compiled by UN-Habitat & Tana River County Technical Team

12.6 THE STRATEGIC SPATIAL DEVELOPMENT DIRECTIONS

Drawing upon the above stated principles and considering the future spatial developmental needs, this plan has proposed strategic directions for the municipal. This strategic development directions are examined at municipal scale, wider Hola Town Area, and the Hola Town urban core.

12.6.1 Municipal Scale

It is anticipated that population growth within Hola Municipality will increase the demand for land, for both urban and rural land use needs. On urban scale (Hola Town), this demand will trigger spatial growth as new developments emerge and existing ones consolidate.

Certain elements will shape the municipality's spatial growth, as the demand for land and space increases. These elements include natural systems (e.g. rivers, lagas/ waterways, terrain, conservation areas etc.), physical infrastructure, and settlement patterns.

Table 12.4 - Urban Scale Land Needs Projection

Strategic Category	Area (Acres)	Comments
Hola Urban Core	5220.33	Densification and mixed-use development will be promoted.
Hola urban extension	4624.78	Low density housing public resources.
Dayate Extension area	8365.08	New Civic district for the county administrative functions.
NIA land	8340.69	Within the existing NIA land with minimum disruptions.
Potential for reserved public land	534.59	Land within NIA ownership, closer to the population and can be used for public interest.
Agriculture (suitable for Development)	5125.84	Land has minimum flood risk and is reserved for future growth.
Agriculture (Not suitable for Development)	2637.76	Prone to high flooding risk, reserved for traditional agriculture and open livestock pasture.
Conservation area	6453.23	Land within wetlands, lagas and riparian ecosystem that is unsuitable for development.

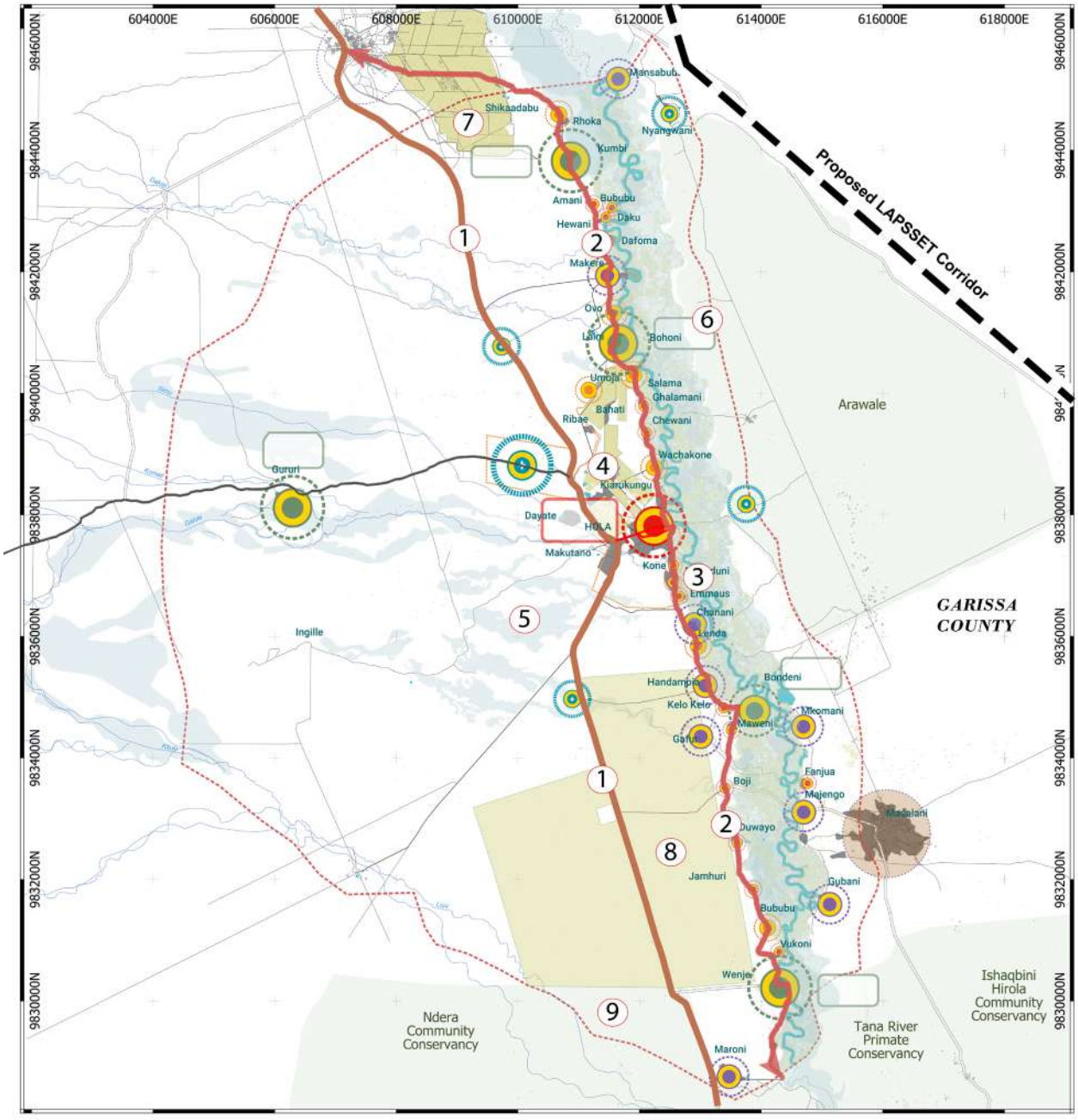
Source: UN-Habitat & Tana River County Technical Team

Table 12.5 - Spatial Structuring Elements

Structuring Element	Significance
Natural Features	• These natural systems within the municipality include: the area terrain, protected conservancies, River Tana, and Lagas. The area is traversed by several lagas and River Tana which runs along the planning area. All the seasonal waterways/lagas flow from East to West pouring into River Tana which runs North to South. • The terrain is also a major structuring element as most people avoid settling on very flat areas which are prone to periodic flooding. Most flood zones, especially along the Laga and along River Tana riparian zone are used as agricultural zones or grazing areas due to the rich soils with alluvial deposits that support vegetation growth. • Presence of government gazetted conservancies such as parts of Arawale National reserve, Ndera community conservancy influence the urban form and, forming urban growth limits confining developments and human activities beyond the forest perimeters.
Infrastructure	• The primary infrastructure dictating the structure of the municipality is the road network and National Irrigation Scheme. These infrastructures have played a vital role in dictating spatial distribution of human settlements across the Municipality. • Garissa-Mombasa Road (Road B8) is the main structuring infrastructure within the municipality as most settlements, commercial nodes, and facilities are located along. The national irrigation scheme is vital as it forms part of the urban growth limits since it is a government protected area/project.
Settlement Patterns	• Natural geographical features, administrative boundaries, commercial nodes, availability of favorable conditions for grazing and agriculture in selected areas have influenced the urban growth and physical form of Hola Town. • The different urban and rural villages, such as Bohoni, Ghalamani, Chewani, Wachakone, Kone, Mikinduni, Emmaus, and Hola CBD, have assured easy accessibility to water resources from the river to sustain farming, agriculture, and livestock, which are the area's main livelihoods and economic activities. • Hola municipality has two dominant settlement patterns: nucleated settlement patterns (clustered) notes in small towns with shared resources and linear settlement pattern predominant along the road network and river Tana. • Human settlements in the municipality tend to be dependent on agricultural production and access to water, with settlement clusters emerging along the river Tana, where farming is favorable. These include Chewani, Wachakone, Kiarukungu, Rhoka and Makere settlements. • The pastoralist communities, however, are found in the hinterland of Hola Municipality where they concentrate in areas with water points and pasture.

Source: Compiled by UN-Habitat & Tana River County Technical Team

Map 12.7 - Spatial Development Structuring Elements



HOLA LPDP

LEGEND

- Municipal Boundary
- Hola CBD
- Road Network
- Settlement footprint
- Wetlands
- Floodrisk
- Protected areas
- Primary Road
- Secondary Road

Structure Guiding Development

1. Malindi - Garissa Road
2. Old Malindi Road
3. River Tana
4. NIA Farm land
5. Wetland and laggas
6. Arawale National Park
7. Bura Irrigation Scheme
8. County Farmlands
9. Protected Areas and Conservancies

DISCLAIMER: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

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COORDINATE SYSTEM
UTM WGS 1984 Zone 37S

Scale @A1
1:130,000

0 5 10 15 20 25 30 35 km

N

Source: UN-Habitat & Tana River County Technical Team

12.6.2 Hola Urban Core

The Urban Core is located within the Hola town area, along the Makutano-Hola- Ruka Road connecting the River Tana to the Malindi – Garissa B8 road. Key settlements within the core include Hola town, Hola Mission, Zubaki laga, Makutano, Makaburini, Kibuyuni, lower wachankone, and sections ya Mji wa Wazee. The core hosts the county headquarters and the county assembly, several public administrative offices, Hola County Rereferral Hospital, and it has the main municipal market.

Development within the urban core is largely unplanned, which has led to poor connectivity, land use and storm water management challenges, among other challenges. This plan recommends institutionalization of regulated planning, and integrated infrastructure development and green spaces as urgent interventions needed by the core. To improve the functioning of the urban core, the plan aims to prioritize infrastructure improvement, accessibility through well-connected public transportation systems including pedestrian-friendly pathways and attaining a system of public spaces.

12.6.3 Hola Extended Urban and Peri-Urban Area

The plan envisions the need to reserve land for future growth of Hola Town, and surrounding settlements. The extended area proposed is for reservation purposes and will not need to be developed in this plan's lifetime (by 2033). But the areas will require enforcement of the proposed land uses.

The areas analyzed to show presence of emerging urban growth, and the potential for accommodating future growth, are referred to as the extension areas. They include South of Makutano, Kone, Mikinduni, Emmaus, Upper section of Wachakone, Chewani, Ghalamani and Dayate. Planning and development in extended urban and peri-urban areas recommends adherence to key principles that account for both urban expansion and the interface with surrounding peri-urban landscapes.

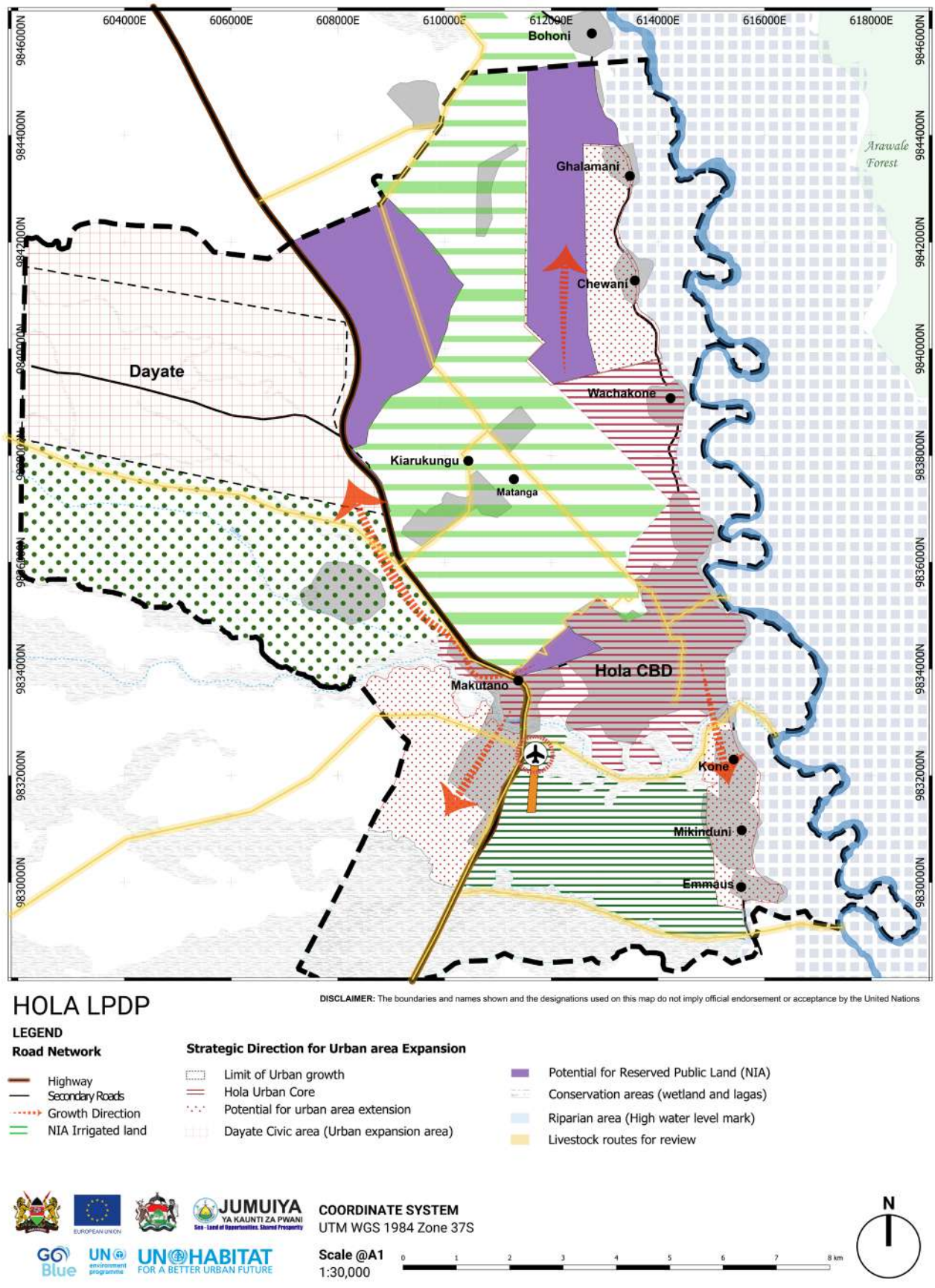
Extension areas presents areas suitable for future development with low risk of flooding, near existing urban areas, services, infrastructure, and agricultural lands. Settlement sections will promote low and mixed-use density housing development to accommodate the population growth. Parts of these sections with dominant residential use will have guidelines for housing development. Green areas such as lagas towards the south of Zubaki and Kone areas will be preserved, as well as River Tana front. An anticipated move of government services to Dayate prompted the need to strengthen the connection of the residents to Dayate through public transport. The extension areas link closely with Dayate through the existing B8 road, however enhancing connectivity through infrastructure planning is essential.

The section also presents sections of Agricultural activities within the NIA lands and along the river Tana. The presence of agricultural land in urban areas offers a range of valuable benefits that contribute to the overall well-being and sustainability of these urban environments. Extension areas entails agricultural activities within the farms by protecting the NIA land and supporting agricultural activities in other potential areas to increase food productivity and enhance food security.

In addition, an industrial zone aims to promote agro-processing industries that play a pivotal role in the agricultural value chain, offering a multitude of benefits that extend beyond the immediate processing of raw materials. It will promote economic development by generating employment opportunities, as well as add value to raw agricultural products, increasing their marketability and profitability. The zone will also help in reducing post-harvest losses by promoting preservation of perishable goods through various processing techniques, thus improving food security, and ensuring a more stable income for farmers.

The plan seeks to promote resilience considering climate change impacts and implementing measures that safeguard communities from potential vulnerabilities such as drought and flooding. This is through proper land use and zoning recommendations, restricting construction in flood-prone zones, and incorporating green infrastructure such as permeable surfaces and retention basins to absorb excess water. The peri-urban areas promote a balance between urban development and the preservation of natural floodplains. Evidenced by proposing robust storm water management systems to consider both traditional and nature-based solutions to prevent flooding.

Map 12.8 - Proposed Future Extended Area of Hola Town



Source: UN-Habitat & Tana River County Technical Team

12.7 SUMMARY AND IMPLICATIONS FOR FUTURE

Hola Municipality will simply not be able to cope with the impact of population growth and other issues if they do not start preparing for them now. This means planning, designing, financing, and implementing strategies for sustainable urban development. The scenario building and concept for Hola is a start towards making those strategies and implementing the set planning principles and eventually producing the detailed plan for the Municipality. In both the long-run and short-run, this will enable the Municipality address some of its critical cross-cutting issues such as land use management, accessibility to basic services and infrastructure in the peri-urban areas, flooding risk and local economic development.

Although the various interventions aim to utilize available resources as efficiently as possible and to meet unrelenting needs, at the same time it is useful to consider an integrated sustainable approach that reserves some land for future and strategic purposes, while at the same time promoting the local economic development that sustains livelihoods and development of the Municipality. The Planned Integrated Urban-Rural Development trajectory is the preferred alternative that will propel the municipality's growth to its desired stated. The preferred trajectory focuses on the key role that proactive integrated urban planning can have in shaping the future of the Municipality and it outlines practical ways to create and implement a vision for Hola that will better prepare it to cope with growth and change.

Moving forward, outcomes of scenario building, and concept will inform the development of Spatial Development Framework (SDF) and later the final plan for the Municipality. The preferred alternative is proposed for further detailing which will from the plan that will guide future development as envisioned to be well-coordinated development and urban growth which potentially attract new residents and leverage emerging investment opportunities in the area. To support the Planned Integrated Urban-Rural Development preferred model, the SDF to be developed in the next chapter will guide shaping this trajectory. Rooted in an agreed-upon vision and principles, the SDF for Hola will further aim to address existing challenges and unlock opportunities for sustainable socio-economic growth.

CHAPTER 13

MUNICIPAL SCALE SPATIAL DEVELOPMENT FRAMEWORK & LAND USE PLAN

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13.1 OVERVIEW

This chapter outlines the Spatial Development Framework (SDF). The SDF is a fundamental guide for shaping the desirable development trajectory (see Chapter 12), the municipal integrated development, and informs the land use planning and development management. The framework guides the development, including public investments, towards suitable locations while allowing for flexibility.

A more comprehensive land use plan has been developed for the municipality, building on the SDF. Combined, the municipal-wide SDF and land use plan will inform the local action plans, including their land use plans, as well as the sector strategies.

After providing the municipal spatial vision, the rest of this chapter is structured into two major sections, the SDF and the land use plan sections, in that sequence.

13.2 MUNICIPAL SPATIAL VISION

Drawing from the overarching vision (see Chapter 1), the SDF and land use plan for Hola strives to realize "sustainable and resilient rural-urban settlements, with social and economic inclusivity". This vision encompasses four strategic goals:

- A municipality with quality and responsive basic services,
- An industrialized and investment-friendly municipality.
- An organized, accessible, and resilient municipality.
- A healthy and environmentally friendly municipality.
- A municipality that becomes the interface between the Northern Frontier Development and the Jumuiya ya Kaunti za Pwani economic regions.

13.3 MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK

In this context, the SDF aims to guide the overall spatial pattern of development of the municipality, considering the current and planned land uses. It includes the broad direction of spatial location where diverse types of land uses, settlements.

13.3.1 Objectives of the SDF

The following are the objectives for the formulation of the SDF:

1. To guide improvement of inter and intra-municipal connectivity, linkages, and accessibility.
2. To provide an enabling environment for local economic development.
3. To guide the municipality in balancing the developmental needs of local communities, ensuring efficient land resources management, infrastructure developments and service delivery, as well as environmental management.
4. To support the institutionalization of a well-coordinated system for disaster risk management.
5. To guide sustainable natural resources management, including their economic optimization and conservation.

13.3.2 Key Elements of the SDF

As guided by the Urban Areas and Cities Act (UACA), urban areas are sought to leverage the spatial development framework as a roadmap for planned urban growth and transformation.

Key elements considered in the development of the SDF and land use plan for Hola are to:

- Direct growth in areas with existing economic and social systems that include Hola's Urban core and the secondary centers (Kumbi, Laini, Wenje and Bondeni).
- Minimize the spatial growth in the smaller settlements and focus growth on secondary centers with services. Consolidation of the population in sub centers and local centers with structured system of services.
- Protect the existing and potential agricultural resources and the natural resources (flora and fauna) which are a basis of the local economy. This includes the NIA irrigation schemes of Hola and Bura, the designated county farmlands, the mini-irrigation schemes, and the small-scale agricultural farms

along the riverine ecosystem.

- Expand the small-scale peri-urban farming and industrial opportunities that will broaden agricultural potential and Agri-processing.
- Protect the heritage sites and cultural aspects of the municipality by protecting the historical sites, creating a cultural center, and identifying cultural resources to be preserved.
- Preserve the river ecosystem by restricting development and development from the riparian and river ecosystem and integrating activities that support the unique identity of River Tana.

13.3.3 Hierarchy of Urban and Rural Centers

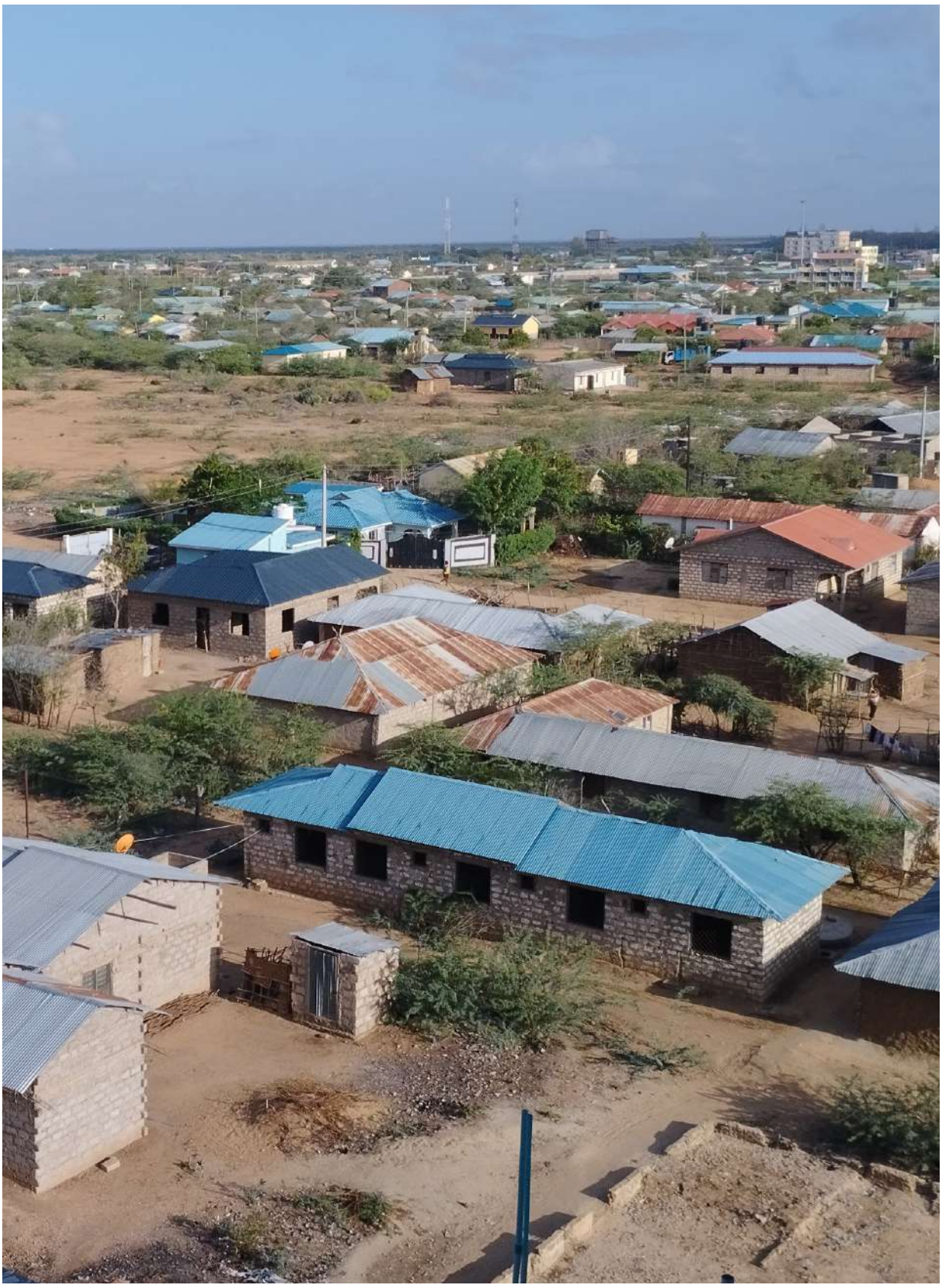
The SDF proposes a system of one main center supported by multiple secondary centers. The main center is Hola Town, which the SDF positions to function as a center for:

6. Public Administration: Hosting various government offices, administrative institutions, and civic facilities, reinforcing the town's role as the county headquarters. These include national and county government agencies.
7. Transport Hub: Hola town will continue to serve as the main transport hub connecting the municipality to the other major towns in the region, such as Malindi and Garissa, and other regions.
8. Economic Hub: Hola is strategically positioned and currently, it is the key economic center within the municipality. The town will continue to concentrate commercial, industrial, and service activities through a planned intervention, including revitalizing the town center, and shifting development from hazard-prone areas.
9. Social Hub: The town will continue to be home for most of the municipal's urban residents, Further, it will continue to host the major educational facilities (tertiary level – TVET's and colleges), health care facilities, recreational amenities (including the main municipal stadium), and other amenities.
10. Cultural Heritage Hub: Hola is a core to three key cultural centers mau mau memorial site, GK prison and with potential to host a cultural center focusing on the heritage of the indigenous and native communities of the municipality.
11. Innovation Hub: Hola town will host research institutions, universities, and innovation hubs that drive technological advancement, especially in sectors of livestock and agriculture, and incubation of entrepreneurship.

The SDF proposes the promotion of 4 existing rural centers as the major secondary centers that will decentralize functions of the municipality. These centers will also reinforce the urban-rural linkages within the municipality. Key roles of these secondary centers will be:

- Public/Municipal Administration: complement the functions of the urban core by hosting public administration services both for county departmental services and the municipal services.
- Local nodes for economic integration: Centers act as retail centers to promote access to goods and services, strengthening local commerce and entrepreneurship, and linking farmers with markets.
- Service Provision: The centers will serve to decentralize county and municipal services with a focus on healthcare, education, permitting and licensing, agricultural and livestock management extension services, among others.
- Resilience and Disaster Preparedness: Support and implement resilience measures and emergency response plans to mitigate the impacts of natural disasters or emergencies, including hosting disaster rescue sites.
- Residence and Social Development: The centers will comprise mixed land use dominated by residential developments. This will promote the future consolidation of the centers as functional small towns.
- Transportation Linkages: The centers will act as nodes of transportation, linking the remote communities.
- The SDF takes into account the county government's ongoing initiatives to build a new town and new rural settlements/centers from scratch. These are:
  - Dayate New Town
  - Nyangwani

Figure 13.1 - Aerial View of Hola town



Source: UN-Habitat, Jane Muriuki, 2023

- Handampia
- Mahono
- Makere II

However, managing the spatial expansion of Hola and overall spatial development of the municipality requires careful analysis of feasibility and viability of new settlements, including their social, economic and political implications, and a cost-benefit analysis that guides choices between undertaking planned extensions and creation of new isolated settlements. While retaining the ongoing initiatives, this plan strongly advocates for planned extensions and consolidation of settlements, with consideration for environmental conditions and flood-risk assessments.

13.4 SDF THEMES

As a build-up from the synthesis of the key opportunities and challenges identified (chapter 11), the development scenarios and principles (chapter 12) and the analysis of the municipality's current spatial development situation, six themes emerged to guide the SDF:

- Theme 1: Settlement and Communities
- Theme 2: Connectivity and Mobility
- Theme 3: Economic Nodes
- Theme 4: Environmental Management and Disaster Risk Reduction
- Theme 5: Rural and Peri-Urban Development
- Theme 6: Conservancy, Cultural Heritage, and Tourism

Additionally, the cross-cutting aspects include basic services, social infrastructure provision, and riverine management.

The spatial proposals here are also informed by the existence of both urban and rural settlements and the Tana River. The river is a pivotal element considered at every stage of the municipality planning the municipality.

The following table puts in relation the 6 SDF themes defined above with the 11 principles defined in chapter 12 and their implications for the approach to the SDF proposal.

Table 13.1 - Alignment between SDF Themes and Planning Principles

PLANNING PRINCIPLES (right) SDF THEMES (below)	Enable Land-Use Integration and Effective Management	Enhance Settlements Consolidation and Community Development	Promote Inclusive Governance Systems	Enhance Economic Potential	Promote Environmental Protection and Investing in Green Assets
Settlement and Communities	Densification in urban and rural settlements and drive future sustainable and compact urbanization	Develop a system of urban and rural settlement through functional decentralization and densification	Promote community management institutions	Strengthen small scale farming	Protect endangered and sensitive natural areas from future urbanization.
Connectivity and Mobility	Creation and improvement of secondary and tertiary roads to connect remote areas and set aside land for mobility infrastructures (ex. Airport and river port)	Prioritize key linkages in infrastructure planning	Promote ICT communication development across the municipality	Facilitate access to livestock and food markets	Encourage use of NMTs through improved street infrastructure and design.
Economic Nodes	Set aside land for markets and commercial spaces in core centers and for industrial hub	Promote integrated development of sub-centers	Promote sub-center management linked to municipal management	Strengthen agro-processing industry. Increase number and improve distribution of markets in economic nodes	Integrate market structure in the NMT designs and in recreation spaces.
Environmental Management and Disaster risk reduction	Restrict development and construction in flooding prone and environmentally fragile areas	Promote settlements growth and development in areas with no or low risk of flooding	Promote inclusion of communities in disaster risk management planning	Establish agricultural crop plans to limit risk to natural resources and control unmanaged expansion of agricultural fields	Protect natural resources and environment across the municipality. Creation of Bio Corridors

Source: UN-Habitat & Tana River County Technical Team

PLANNING PRINCIPLES (right) SDF THEMES (below)	Enable Land-Use Integration and Effective Management	Enhance Settlements Consolidation and Community Development	Promote Inclusive Governance Systems	Enhance Economic Potential	Promote Environmental Protection and Investing in Green Assets
Rural and Peri Urban Development	Balance land and resources needs of livestock and agricultural activities. Clearer definition and separation of farmlands, grazing areas, and livestock routes	Promote spatial integration to existing settlements	Integrate traditional (informal) and formal municipal management systems of land management	Preserve and improve grazing areas. Optimize existing agricultural lands, in particular NIA	Foster sustainable agricultural practices and protection of livestock.
Social-cultural aspect and Heritage and Culture	Identify cultural spaces and promote conservation and protection of the sites.	Promote sub-centers as cultural hubs, including providing for cultural facilities	Recognize and integrate traditional leadership structures in municipal decision making	Preserve traditional livestock rearing practices	Invest in increased security and surveillance in reserves and conservancies.

Source: UN-Habitat & Tana River County Technical Team

Enhance Disaster Risk Management	Sustainable Riverine Management and Blue Economy Development	Promotion of Connectivity and Sustainable Mobility	Develop a System of Public Facilities and Services	Equitable and Enhanced Utilities Provision	Promote Heritage, Cultural and Natural Preservation
Develop a system of resilient settlements, with decentralized	Promote a sustainable relation between communities and the river. Avoid new urbanization along the Tana River	Ensure well connected settlement systems with high quality transport networks	Ensure accessibility to key public facilities and spaces from all settlements	Improve access to water, sanitation and electricity to all communities. Upgrade informal settlements	Promote local cultural practices in housing designs and land utilization
Ensure access throughout the municipality including during rainy seasons and protected infrastructures	Increase river crossing points and provide higher capacity boats	Create public transport system across the municipality and its secondary nodes	Enhance and guarantee connectivity to public facilities	Improve waste collection across municipality	Enhance accessibility to cultural and heritage sites.
Enforce low-cost response strategies in disaster risk management	Strengthen irrigation systems	Improve linkages between economic centers.	Adopt low-cost strategies in public facilities and infrastructure design and development	Consider Commercial and industrial waste management	Incorporate cultural dynamics in commercial nodes
Protection and preservation of wetlands	Protect and restore wetlands and riparian ecosystems	Upgrade earthen roads to all weather roads with quality drainage to withstand harsh weather and floods	Design sustainable public facilities	Improve storm water management	Promote environmental preservation practices in cultural spaces.
Distribute water pans in grazing areas to prevent the effect of Improve storm water drought on livestock management.	Regulate types of farming allowed by the river	Increase veterinary coverage. Develop dedicated livestock routes to mitigate conflicts with farmers	Develop and strengthen training facilities for agricultural and livestock diversification, as well as veterinaries	Improve water access for livestock use	Restricting settlement within cultural sites.
Protect cultural heritage sites and resources from disaster risks.	Renew historic link to river by creating quality green public spaces along the river	Develop routes to link key tourism sites	Integrate cultural aspects in public facilities and infrastructure design and development.	Improve public lighting	Enhance identification, utilization, and preservation of cultural sites.

Source: UN-Habitat & Tana River County Technical Team

13.4.1 Settlement and Communities

Hola is experiencing rapid population growth and settlements expansion without coordinated planning. This unplanned urban and rural development has resulted in a municipality that is poorly connected, polarized at the Hola urban core, highly dispersed, and increasing land management challenges. There are growing challenges and a backlog in the provision of public facilities and basic services.

To expect further urbanization and population growth, urgent interventions are required to steer and regulate the trajectory of settlement developments in a more sustainable manner. Under the planned spatial development scenario, the SDF seeks to foster balanced growth within the municipality. This entails transforming the current centralized structure into a decentralized network of interconnected settlements. The strategy includes progressive consolidation of the urban core, enhancing housing provision, ensuring improved access to public facilities and spaces, and revitalizing the relationship with the river Tana. These strategic initiatives aim to create a more harmonious and well-connected living environment for all residents of Hola.

Functional Decentralization

At the core of the strategy lies a process of functional decentralization and clustering of nodes, creating a structured hierarchy of settlements, each equipped with specific services tailored to its role. The main aim is to ease the concentrated pressure on Hola's urban core and foster more balanced and distributed development across the entire municipality.

Regarding 1, the SDF outlines a settlement system that will comprise.

- 1 Primary Center, Hola Town
- 4 Secondary Centers, Kumbi, Laini-Ovo, Bondeni and Wenje
- Future consolidation of the Primary Center, the 4 Secondary centers, Dayate New Town and New Settlements (depending on their implementation and subsequent levels of functioning).

Hola town and the 4 Secondary centers host the largest population, offer, and will implement a good level of services provision to serve their area of influence, contributing to the decentralization of the municipality. This includes lively markets for fresh products and livestock, the main economic drivers of the area, well distributed educational facilities, health and veterinary facilities, public transportation services and terminus, places of worship, cemeteries, as well as administrative and agricultural offices.

Hola town and each secondary center gather under their area of influence a network of Sub-Centers and local centers, integrated into the broader settlement system.

- The Sub-centers complement the accessibility of services and contribute to the overall decentralized system of the county.
- The Local centers offer basic accessibility to services, while small villages have a more limited-service infrastructure.

This integrated approach ensures a comprehensive and hierarchical distribution of services, promoting fair development across the municipality. In addition, the proposed settlements' hierarchy aims at promoting urban and rural linkages, delineating a clear progression from Hola town, the core urban area of the municipality, to the smaller rural villages.

Consolidation And Densification

The strategy for consolidation and densification aims to optimize land use, enhance urban vibrancy, and accommodate the growing population sustainably in primary and secondary centers. In alignment with this aim, the structure plans for these centers will focus on consolidating spatial growth and functions, laying the groundwork for long-term incremental urbanization while ensuring the sustainability and vibrancy of these areas.

It leverages existing infrastructure, and implements gradual, phased development to align with available financial resources and in line with community ambitions. In the urban core, the aim is to achieve a moderate level of densification, also promoting vertical expansion up to four-story buildings featuring commercial spaces or public facilities on the ground floor. The targeted densification zone will be along Makutano–Hola Road, which involves a gradual resettlement of communities living too close to the river.

Gradually, the urban core of Hola town will merge and enhance its role as the county's major urban center. This will happen through a densification process entailing the creation of a compact urban form, which reduces sprawl and limits the encroachment on natural resources. Compactness will facilitate access to services and reduce economical investments and the cost-of-service delivery.

This involves activating the civic center, fostering essential infrastructure development, and encouraging mixed-use projects to create a dynamic, consolidated, multifunctional urban environment. The relocation of the GK prison should be a priority. This relocation will free up valuable land for urban in-fil development and land use repurposing.

The extent of Hola's Urban Core is approximately 7.14 Km2, characterized by a low density of population. Given an estimated annual growth rate of 6.17%, the table below illustrates the projected increase in the urban population of Hola town over the next 10 years.

Implementing urban development initiatives that accommodate the projected population growth will have a dual impact: it will mitigate human encroachment towards riverbanks and achieve a population density conducive to urban living, enhancing the delivery and accessibility of services.

Housing and Community Building

To enhance housing sustainability and to fortify homes against extreme weather and natural disasters, it is necessary to prioritize siting housing in safe locations, and the promotion of low-cost, affordable housing using local materials and alternative building technologies, such as weather-resistant roofing and walling materials.

New constructions across the municipality will align with planning guidelines, including considerations of climate and environmental elements, and disaster risk management. This involves assessing and endorsing construction materials that have proven effectiveness in flood-prone areas, like elevated foundation designs and water-resistant building materials.

The plan also proposes housing improvement and environment rehabilitation in informal settlements in Hola Town, such as Makaburini, Zubaki, Kibuyu, and Mwangaza, adopting an integrated approach in addition to current interventions by the KISIP (see Chapter 14).

Public spaces

The SDF seeks the development, maintenance, and management of public and green spaces, as spaces for nurturing communities. The aim is to weave a comprehensive network of public spaces distributed across settlements, ensuring inclusivity and equal accessibility for all residents. A particular focus is on the green public spaces along the riverbanks, strategically creating buffers between the river and the settlements. This approach ensures environmental sustainability and renews the historical relationship between the community and the river.

A key action is to create and enhance public spaces at the local scale, actively fostering community engagement, encouraging social interaction, and providing avenues for recreational activities. To achieve this, the strategy involves transforming some of the current undeveloped plots in the core urban areas into vibrant spaces of social interaction and recreation, creating lively hubs that contribute to the overall well-being of the community.

Table 13.2 - Projected population for Hola Urban Core and Ideal Density

	Urban population	Density [hab/km2]
2019	20,912 (census)	2930
2022	25,026	3500
2027	33,760	4730
2032	45,542	6370

Source: Compiled by UN-Habitat & Tana River County Technical Team

Guiding Principles for Development of Rural Centers and Key Planning Interventions Required

Table 13.3 - System of Primary and Secondary Centers and their features

Sub-county	Primary and Secondary Centers	Sub-Centers	Functions/Role in the Municipality	Development Guidelines
Galole	Hola Town	Majengo, Wachakone, Kone, Zubaki and Dayate	The primary center serves as the central hub in the municipality for services.	Develop the civic center and the urban core to provide services within the Municipality.
Bura-Galole	Kumbi	Rhoka Nyangwani Mansabubu	Northern cluster node for the new industrial hub and for settled livestock activities	Strengthen the connections with Bura, Hola and the LAPSSET corridor.
Galole	Laini	Ovo, Bohoni Makere	Northern middle cluster node for settled livestock activities and agriculture	Develop a supplementary secondary center for services, linking Hola and Kumbi.
Galole	Bondeni	Kelo kelo Chanani, Gafur, Mkomani	Southern-middle cluster Node for new southern industrial hub and newly agricultural activities	Strengthen connection with the southern industrial hub, resettlement from flood prone areas and support in farming activities
Galole	Wenje	Majengo, Gubani, Maroni	Southern cluster node, evolving as an economic hub adjacent to conservancies	Reinforce connection between Gubani and Wenje
When fully implemented, review the plan to assess the relations between the above centers with Dayate New Town, and the New Settlements				

Source: UN-Habitat & Tana River County Technical Team

Public Facilities

The SDF aims for well-distributed and inclusive public facilities, through the proposed system of settlements (urban and rural). These facilities include education, health, recreational and sports, civic facilities and cultural facilities.

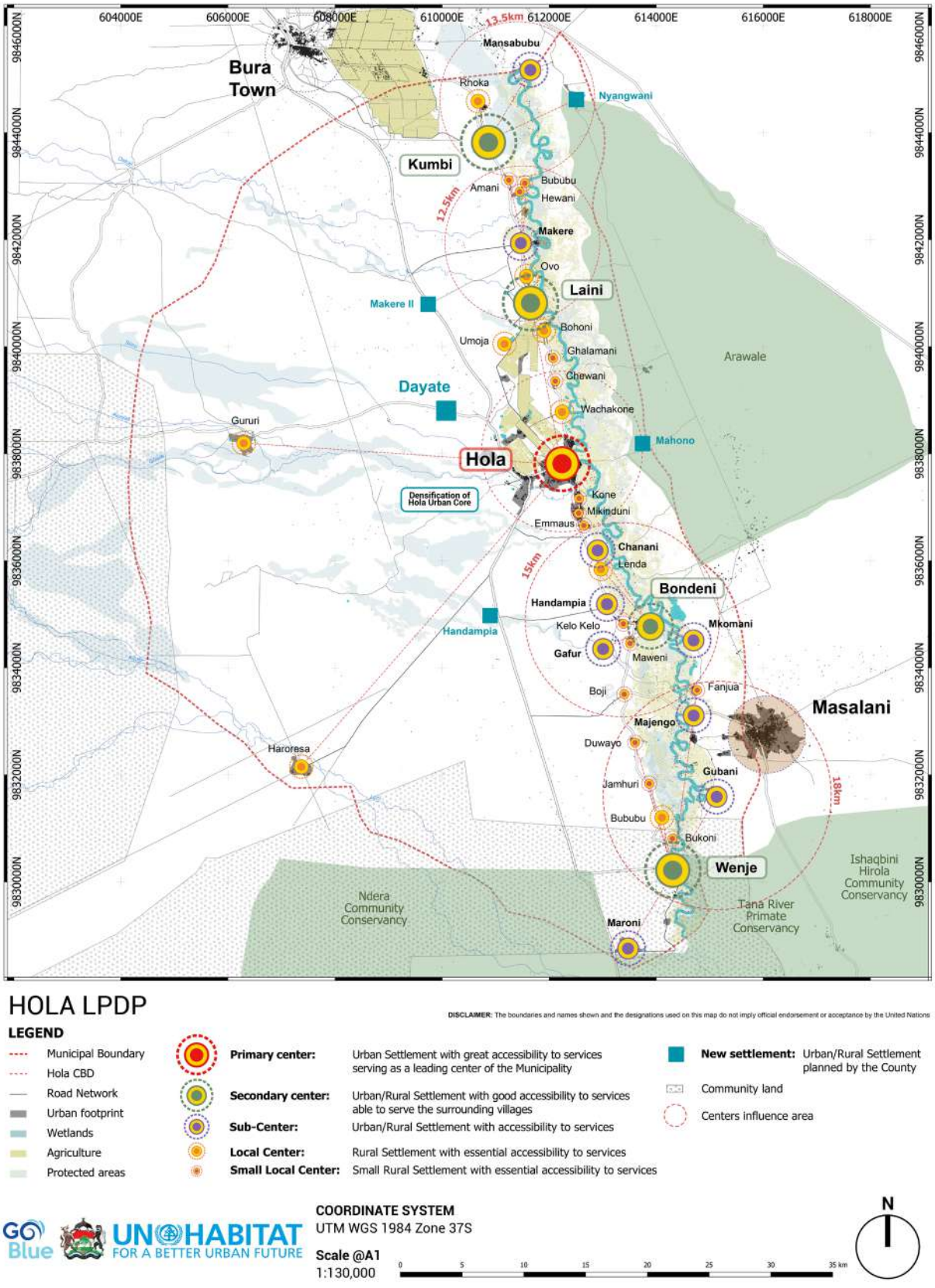
Land suitability

To make the system of urban and rural settlements functioning and effective, it is important to establish strong linkages and improve the connectivity between the Hola, secondary centers and villages. It implies promoting human settlements development in areas that offer opportunities for spatial integration, and disaster risk reduction The plan identifies areas to be promoted regarding their proximity to offering basic services and public facilities, access to the main connectivity infrastructures, potential of the existing built-up environment and environmental management including aspects of disaster risk reduction especially in view of flooding risks.

Riverine management

It is crucial to restore the relationships between the settlements and the river, in Hola town, Laini, Wenje, Makere and Wachakone. Further, local plans need to direct land development to areas with reduced risks of flooding. The local plans also need to explore the Tana River as an opportunity for public space extension.

Map 13.1 - Settlements and Communities Spatial Framework



Source: UN-Habitat & Tana River County Technical Team

13.4.2 Connectivity and Mobility

Hola is experiencing a rapid deterioration of the road network and a significant susceptibility to flooding during the rainy season. This has reduced connectivity in the municipality and reduced linkages with the wider region. It is imperative to plan the transportation infrastructure and address the urgent obstacles that hinder the basic mobility within the municipality. Both motorized and non-motorized transportation require urgent interventions.

Motorized Transportation

A comprehensive road improvement program is required. This program should focus on constructing missing links and upgrading of most the existing roads, especially the main roads. It should also prioritize paving roads within Hola Town and the crucial installation of functional drainage systems to mitigate flooding risks. Priority is given to improve the connections between the main centers to vital infrastructure hubs, ensuring improved accessibility and resilience to environmental challenges.

New connections to complete the existing road network are needed, especially at strategic points that will connect B8 Road and the old Malindi- Garissa Road, as well across the two sides of the river. As shown in Figure 13.2, key interventions required are:

- Upgrading the Kitui-Hola Road to a Class B Road, as the Malindi-Garissa Road B8, improving the connections east to west outside the Municipality.
- Upgrading the Old Malindi Road to a Class C Road to improve the connection north-south between the main settlements of the Municipality, in particular tarmacking and improving the section between Wachakone and Emmaus.
- Upgrade to Class C the road connecting the Old Malindi Road to Masalani, improving the connections towards the west side of the Tana River
- Improving to Class D and E the existing poor connection between the old and new Malindi road, between Wenje, Majengo, Handampia and Laini, towards the Malindi-Garissa Road
- Create a Class D connection between Kumbi Mansabubu and the LAPSSET Corridor and across Laini connecting to the Malindi-Garissa B8 Road.
- Create a Class E connection between Masalani and both Mkomani and Gubani

The lack of car parking spaces has been highlighted in the urban core of Hola and, with the rapid growing of population, it will be soon extended to the Secondary centers. New designated car spaces are planned at the local scale in Hola town, Kumbi, Laini, Bondeni and Wenje to reduce current and future congestion.

Non-motorized transportation

Pedestrian and cycling mobility is currently neglected, with a strong lack of pedestrian walkways and cycling lanes throughout the whole municipality. Only a few major streets in Hola town are designed to accommodate these lanes. The town requires a dedicated pedestrian circuit, informed by an NMT action plan, connecting key activity nodes and land uses such as residential, educational, commercial spaces, and administrative areas. A plan that provides for NMT is also required for the Secondary centers.

Cycling infrastructures are currently limited within the primary road crossing Hola city from east to west. In addition, to better connect the settlements from north to south, a cycling path is developed along the Old Malindi-Garissa Road.

Integrating Green infrastructure in NMT Infrastructure

Most roads build in Hola have ignored urban vegetation in design and construction. Few primary roads in Hola urban core and near government offices have it; here, local authorities planted seedlings along the road linking the central areas. On the contrary, major residential neighborhoods such as Zubaki, Mwangaza, Kibuyu, Laza, and Makaburini require a landscaped street network.

Public transportation

A single public vehicle terminus, Heller Bus Park in Hola town, is present within the municipality, with a capacity of just 50 buses. This terminal is not exploiting its full potential and provides unreliable services. To create a reliable and capillary public transport system both at the municipal scale, Hola town, Kumbi, Laini, Bondeni and Wenje, have been identified as primary transport hubs, while a network of secondary nodes will cover the municipality. In addition, the transport terminal in Hola town is set to strengthen the connections at the regional and national scale, towards Mombasa and Nairobi.

Air transportation

The current air strip is poorly located, and underutilized, with extremely low operation. The SDF envisions a relocation of the airstrip from the current location in Hola to an ideal southern location to be identified- possibly in the southern parts of the municipality. An action plan for Hola Town should identify the most optimal use of the land, including considerations for land banking, public housing, and industrial development.

Water Transportation

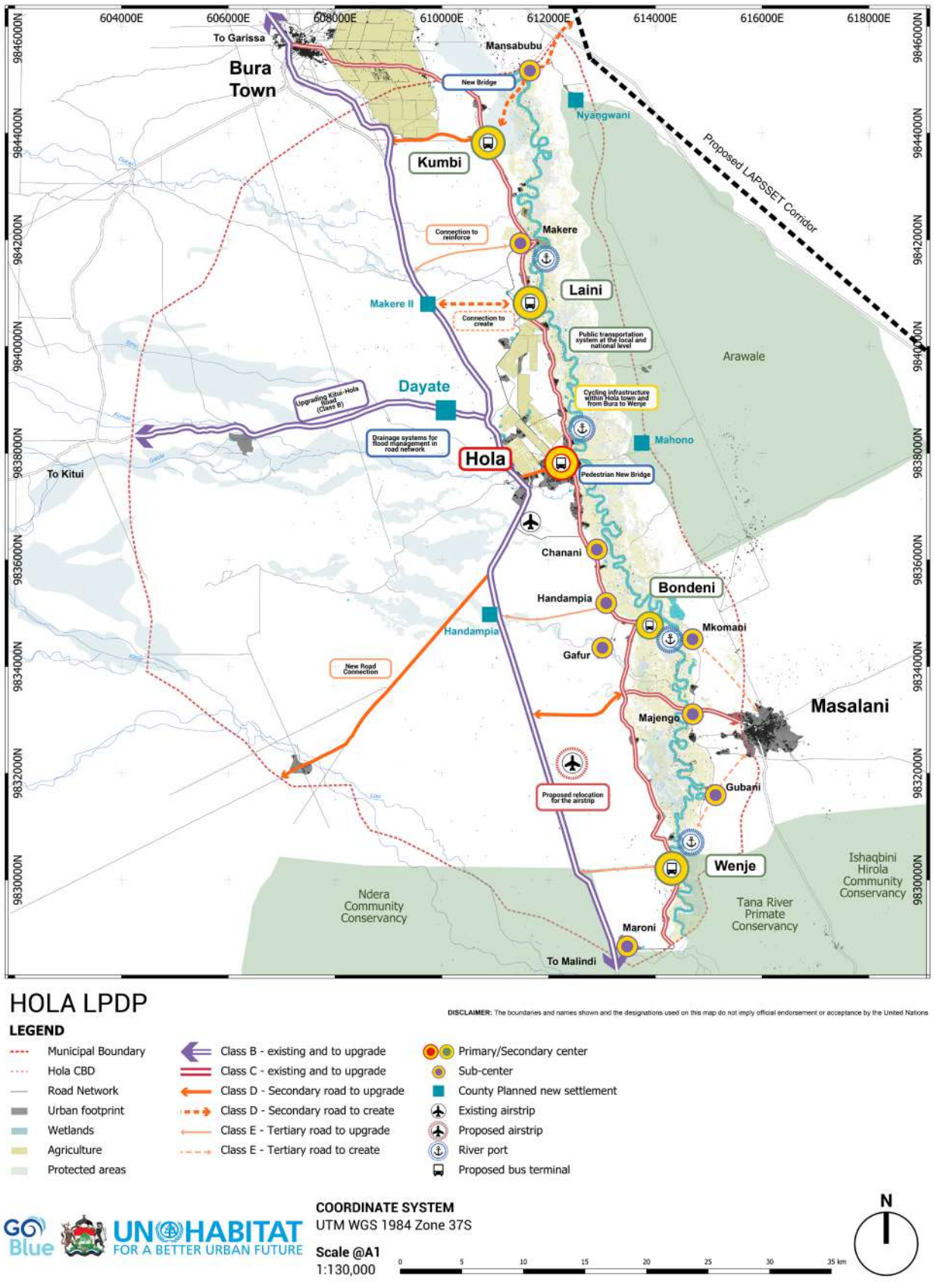
Currently, the municipality relies solely on a single bridge connecting the western and eastern banks of the Tana River. In addition, a few informal canoe crossing points are available as alternatives. Acknowledging the need to improve connectivity between both sides, especially with the upcoming LAPSSET corridor development, building a new bridge is crucial for optimizing transportation links across the river.

Two prospective locations have been identified:

- A vehicular and pedestrian bridge to the North, connecting Kumbi, Mansabubu and the future LAPSSET corridor.
- A pedestrian bridge In Hola urban core.

Furthermore, it is essential to upgrade the infrastructure at existing canoe crossing points, providing docks, to ensure safer and more efficient passage options.

Map 13.2 - Spatial Framework for Connectivity and Mobility



Source: UN-Habitat & Tana River County Technical Team

13.4.3 Economic Nodes

In pursuing a thriving and interconnected municipality, the economy plays a crucial role. The development of livestock, agriculture, market, and commerce strategies are key for comprehensive development. This envisions not only economic prosperity but also sustainability, community well-being and environmental conservation. Hola town and the secondary centers will act as primary economic nodes, fostering inclusive growth and development across the entire region.

Livestock

The strategy aims to elevate livestock production for local and external markets through strategic planning and investments.

It is crucial to improve and enhance the existing livestock markets of the Hola town, Laini, Wenje and Gururi. The livestock market of Hola town currently faces accessibility challenges due to its location and requires relocation to a more functional and environmentally fit space.
By employing a decentralized approach, the aim is to foster inclusivity, stimulate economic activities, and ensure livestock trading is not restricted to a single centralized market. Enhancing market infrastructure aims to bridge geographical gaps, providing improved trading opportunities for livestock across the municipality.

To enhance the economic value of livestock, the SDF proposes the location of livestock-based industries in the north, in Kumbi and Laini, linked to a wider area that focus on livestock management. Through strategic investments and integrated planning, the SDF seeks to fortify direct Hola to become a crop production hub and a livestock production hub in the region.

Public Markets and Commerce

The objective is to cultivate a dynamic market and commerce environment by addressing policy barriers, revitalizing the urban core, and fostering mixed used spaces. The strategy involves establishing a network of well-distributed public markets and commercial nodes across the municipality, with Hola Town serving as the central hub. Each Secondary center will benefit from enhanced commercial amenities, including the establishment of an enterprise center with market facilities, the fostering of mixed-use spaces, incorporating residential functions alongside commerce and/or farming activities. Emphasis is placed on promoting the sale of local agricultural products, creating transparent processes that benefit farmers and establishing direct linkages between producers and sellers. In addition, addressing policy and legislative barriers in trade and commerce is a crucial aspect of creating a conducive environment for business growth.

Industrial Development

The SDF envisions the development of an industrial sector, with a specific focus on agro-based industries and light industries. This is informed by the projected high potential in both livestock and crop production/farming (riverine farming, Bura and Hola irrigation schemes, county farmland and mini-irrigation schemes). Three strategic industrial clusters are proposed:

- Kumbi cluster- This has potential for livestock value chain enhancement, with facilities such as dairy processing plants, meat processing, livestock holding for exportation, and distribution centers, cold storage and warehousing facilities, training and education centers focused on livestock value chain, and renewable energy infrastructures.
- Hola Town cluster: to reinforce and develop the potential NIA industrial area focusing on agricultural activities, including seed processing plants, irrigation systems and equipment, food processing facilities, agricultural research institutions, agri-tourism and education centers, agro-logistic and cold chain infrastructures. In addition, light industries need to be improved through their clustering on well-planned and developed sites within Hola Town.
- Bondeni-Boji cluster: to further develop the current fruit processing plant and, following the development of the county farmlands, to be integrated by sustainable agrochemical manufacturing, facilities for developing greenhouses and hydroponic farming techniques, farm machinery and equipment manufacturing or maintenance.

Efforts are directed towards improving the efficiency of existing facilities, unlocking latent potential, and ensuring optimal utilization. In particular, the fruit processing factory will undergo enhancements to maximize its output and economic impact. The development of agro-based industries will align with the optimization of both large and small-scale agricultural production.

In addition, on the local scale, dedicated spaces for light informal industries, along with marketing facilities, are required to support local economic activities.

The development of industrial clusters should consider integrated and mixed-use developments, connectivity with the main centers (includes public transport connectivity), and environmental sustainability, among other factors.

Solid waste management

In parallel, the strategy aims to adopt an integrated waste management system. A Landfill and a recycling plant will be in a strategic location following a careful environmental assessment. Existing recycling plants in Kone and Dayate will be considered as transfer stations. An additional transfer station will be in the Laini and Wenje area, to incorporate the whole municipality into the waste management system, offering opportunities for local youth employment. The strategy emphasizes the promotion of sustainable practices and community engagement in waste management initiatives.

Transport for Economic Development

To enhance the connectivity of food production areas and markets, fostering regional connectivity, strategic infrastructure development will be implemented, targeting the commercial nodes and trading corridors. A key move in this strategy involves relocating the airport from Hola town towards activating an essential regional link.

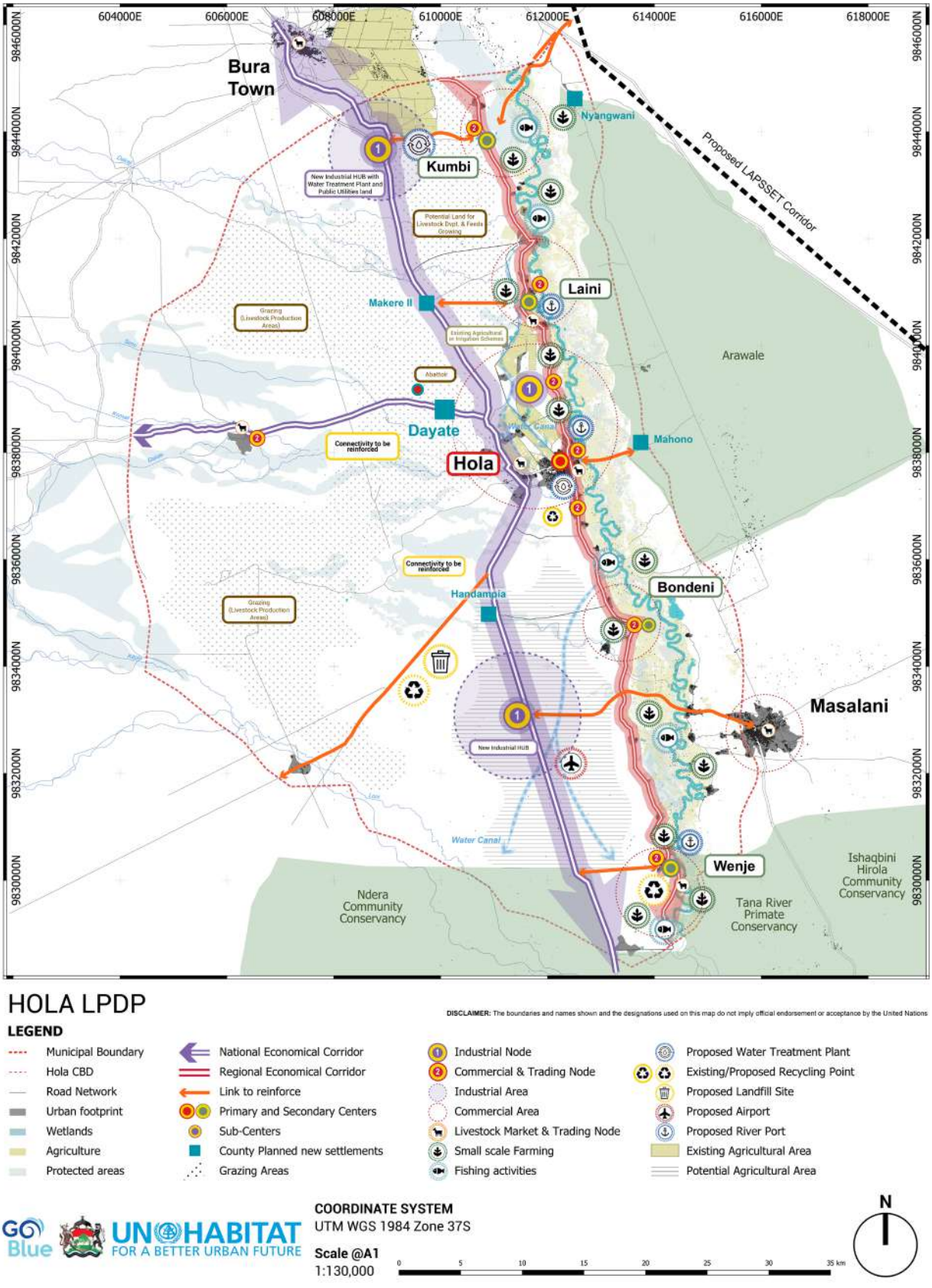
The creation and improvement of economic corridors plays a vital role in enhancing transportation networks. Facilitating trade and connectivity beyond national borders, the connection of the municipality through the Mansabubu bridge to the LAPSETT corridor will be instrumental. The central Garissa-Malindi Road, functioning as the primary national economic corridor, will ensure efficient movement of goods within the country. The improvement of the Old Malindi road will foster economic activities and connectivity within the municipality.

Blue Economy

The river presently accommodates informal fishing zones that contribute to the local communities' food supply through traditional methods. The catch is sold daily in the nearby markets. While these fishing activities enhance food security, it is crucial to manage them carefully to prevent overexploitation of the region's natural resources.

To support small-scale fishing endeavors and streamline the daily sale of catches, a network of small river ports linked to local markets could be established. The system of small river ports can complement the movement of goods between the municipality's markets.

Map 13.3 - Spatial Framework for Economic Nodes



Source: UN-Habitat & Tana River County Technical Team

13.4.4 Environmental Management and Disaster Risk Reduction

Hola municipality encompasses ecologically sensitive areas, including wetlands, the Tana River ecosystem, and indigenous forests. These areas face the recurrent threat of natural disasters and man-made interruptions. The challenges presented by periodic flooding, drought, soil erosion, and extensive land degradation are interlinked, creating a complex web of vulnerabilities affecting both the environment and the well-being of the population. The absence of effective land planning management has led to unregulated urban expansions, insufficient green and public spaces, and poorly managed land in agricultural and livestock production areas.

Several interrelated interventions are required to ensure the municipal's spatial development responds to the environmental imperatives, and risks linked to environmental management.

Land use management

Land use management can provide harmony between urban development and ecological resilience. With the ongoing resettlement program started by the county to move communities from flood-prone zones, future urbanization efforts will be steered towards suitable inland areas, less susceptible to flooding and with the viability of functional settlements.

New urban developments will be directed towards the west of the Old Malindi Road. This strategic approach aims to prevent construction in high-risk areas, prioritizing sustainable management along the banks of the Tana River.

A key component of effective land use involves imposing constraints on urban growth, restricting development in proximity of the Tana River and the seasonal lagas throughout the municipality, though adjustments to this distance may be based on terrain, land cover, and existing settlement conditions in various river sections. This measure serves the dual purpose of preventing encroachment into high-risk flood zones and preserving ecologically sensitive environments.

By implementing this limit, the strategy seeks to mitigate the potential adverse effects of urbanization on natural habitats, ensuring the continued protection and functioning of the wetlands as natural drainage systems during heavy rainfall, preserving the integrity of the river ecosystem, and protecting vital forested areas.

The strategy seeks a redirection of current and future agricultural and grazing activities towards more sustainable solutions. This redirection is essential for safeguarding the health and functionality of critical ecosystems, fostering resilience against climate-related challenges, and promoting long-term environmental and economic sustainability in Hola Municipality.

Integrated Urban-Rural Water Management

To enhance the resilience of urban and rural areas, the strategy calls for the establishment of Integrated Urban-Rural Water Management. This entails substantial investments in blue infrastructures, including sustainable drainage systems in both urban and rural zones, alongside ensuring a dependable water supply and efficient wastewater management.

The strategy addresses the imperative of effective stormwater management to tackle challenges arising from heavy rainfall and potential flooding. The plan recommends exploration of viability in building upstream dams and water pans, detention or retention ponds and swales, and designated flood plains. Such infrastructure is critical to the control and management of stormwater within settlements and along the river. That can prevent erosion, safeguard natural habitats, and mitigate the risk of flooding.

The design of road infrastructure must ensure storm water management is well-designed for, and the associated engineering works done properly. This strategy emphasizes that the design of the B8 Road and the Old-Malindi Road, as well as other major roads, should\ consider the likely environmental impact and respond to disaster mitigation-with priority to effective stormwater/run off management/ flood risk management.

Concerning the built environment, it is imperative to establish new mitigation measures to address these persistent abovementioned risks. As said, this includes investing in appropriate storm water management infrastructures, enact construction regulations aiming at achieving a well-drained building environment, decentralize water and sanitation infrastructures to make the municipality more resilient to natural calamities, designate safe locations and shelters in case of natural disasters and guarantee future proofing mobility throughout the municipality, even in adverse conditions.

Biodiversity corridors

To fortify the ecological health and resilience of Hola municipality, the environmental strategy emphasizes the establishment of biodiversity corridors. These corridors serve as interconnected green spaces, fostering the movement of various wildlife and plant species, providing continuity of green areas, and ensuring the protection and flourishing of endemic species. Similarly, reinforcing riparian corridors along seasonal wetlands and rivers is crucial as they contribute to the preservation of natural drainage systems and ensure the richness of water biodiversity.

Vegetation cover and reforestation

The strategy advocates for strong reforestation interventions with a focus on critical areas identified in the analysis section. Priority will be given to areas suffering from reparable land degradation, emphasizing the restoration of natural environments to their optimal states. The strategy will also involve tree planting initiatives across roads and open spaces throughout the municipality to augment overall vegetation cover. Preservation efforts will be targeted towards sensitive areas, ensuring the maintenance of their ecological balance. Protection measures for wetlands, especially those situated in the western part of the municipality, will be implemented. Specialized reforestation efforts should also be directed along the riverbanks to restore the riparian natural buffer. This not only guards against flooding but also contributes to the river ecosystem's overall health. The map highlights priority areas requiring attention for reforestation. Moreover, the strategy extends to sustainable grazing practices. Grazing will be confined to areas where it is environmentally sustainable, preventing further land degradation. Practicing sustainable grazing patterns will be encouraged to ensure responsible land use and minimize environmental impact.

Energy

There is potential for renewable and green energy production in Hola Municipality. Its abundant wind and solar resources offer a unique opportunity for sustainable development and energy diversification. Sections of the NIA irrigation land have adopted solar powered pumps for agriculture. It is achievable by expanding solar-powered irrigation systems in small-scale agriculture to enhance agricultural productivity. Solar can be integrated in households for lighting and powering electric devices, hence reduce reliance on unsustainable energy sources and foster a more sustainable energy ecosystem.

Solar powered water pumps are also efficient to complement access to water in the settlements. The capacity can be expanded at the Primary and Sub Center levels to complement efforts by TAWASCO and water availability from the boreholes for domestic and household use. Bondeni and Wenje have adopted such strategies, but the capacity is low, and it does not meet the demands of the population. A higher demand is anticipated with an increase in the population and the plan should guide efforts to implement solar powered pumps. Key settlements to be considered are Kumbi, Laini, Wachakone and Gururi. Expansion of the capacity will be done in Wenje and Bondeni.

Figure 13.2 - A solar powered water pump at Bondeni



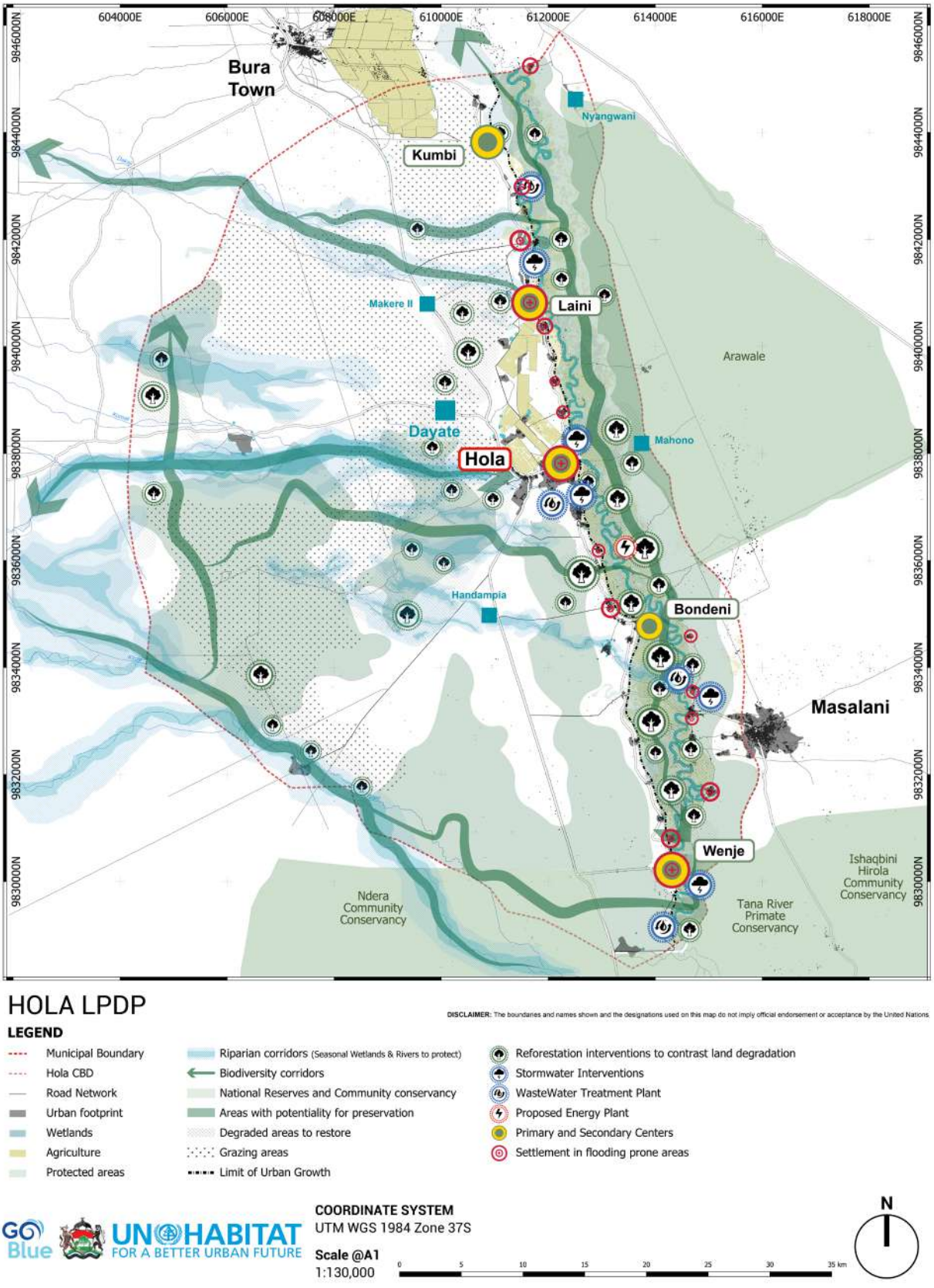
Source: UN Habitat, Jane Muriuki, 2023

Several communities' settlements are not connected to an electric grid system, and they rely on kerosene and wood fuel as energy sources. This contributed to land degradation and burning of fossil fuels. In efforts to ensure all settlements are connected to sustainable energy, the plan will promote the adoption of renewable energy sources. The approach will reduce the environmental impact and improve overall quality of life and economic prospects for its residents.

Several approaches can be adopted to promote energy in Hola municipality. One effective approach is to incorporate solar panels into the design of buildings and infrastructure. Rooftops, facades, and even windows can be equipped with photovoltaic cells to capture sunlight and convert it into electricity. Secondly implementing incentives such as tax breaks or subsidies can encourage developers and homeowners to invest in solar technology. Thirdly, integrating solar harvesting into urban planning, cities can reduce their carbon footprint, enhance energy resilience, and pave the way for a more sustainable future. Overall, the insulation in Hola can generate large amounts of electricity through a solar farm that can be fed into the main grid[1].

1. Consider in the municipal-wide map- location of solar farms (e.g. within irrigation scheme, sub-centers for interior farms, where mini-irrigation schemes are located)- mainly for supporting agricultural energy needs like water pumping for irrigation.

Map 13.4 - Spatial Framework for Environmental Management



Source: UN-Habitat & Tana River County Technical Team

13.4.5 Rural and Peri-Urban Development

To position Hola Municipality as a central hub for agricultural production in the region, the Rural and Peri-Urban Development Strategy aims to strengthen the existing agricultural initiatives and livestock activities and support the economic strategy The goal is to ensure households' food security and enhance viability of industrial development in the agriculture and livestock sector. The plan uses the different strengths of each part of the municipality: the north for livestock production, the core area for civic development, and the south for agricultural activities. This approach seeks to create a harmonized urban-rural landscape, fostering sustainable growth and prosperity across the municipality.

Livestock

The identification, mapping and protection of livestock routes and corridors is a key priority of the SDF. This is done to facilitate livestock activities for both local consumption and external markets, and to minimize conflicts with farmers and local populations. The proposed routes shown on the map will guide farmers from grazing areas to market zones, with a strategic spread of water pans across the municipality to combat adverse drought conditions. Safe road crossing points, especially along major roads like the old and new Malindi Road, will be established for farmers needing to reach the settlements along the river or to cross the river for farming activities.

Effective land use planning is crucial to secure suitable land for both livestock keepers and farmers. This involves identifying areas with high potential for livestock development while minimizing stress on the natural habitat. The map highlights current and potential land for livestock development, considering future rural population growth and increased livestock activities. On a smaller scale, the layout of livestock management areas will be improved to meet the needs of rural communities, including a comprehensive census of livestock numbers and distributions within the municipality. Additionally, the planning process aims at consolidating the populations in a hierarchy of centers, ensuring agricultural and livestock land and production areas are strategically set aside. The municipal land use plan presented later in this report elaborates this optimal allocation of land use.

The goal of this strategy is to improve the quality and distribution of veterinary services and infrastructure, with the aim of promoting livestock health. This includes developing veterinary services in all secondary centers and implementing a mobile veterinary doctor system. Tertiary education programs within the municipality will incorporate veterinary training programs focusing on sustainable and local breeds, as well as enhancing livestock grazing systems.

To enhance drought management, the strategy suggests expanding irrigated grazing areas, setting aside land for fodder farming in northern regions near the Kumbi area, and reinforcing existing cooperatives for more stable livestock production. The approach involves exploring modern technology and feed production. Promoting livestock diversification, particularly with drought-resistant animals like camels and goats, is encouraged. Increasing livestock markets in Secondary Centers and key nodes is aimed at improving farmers' access to sell their livestock products. Collectively, these measures aim to establish a more robust and sustainable environment for livestock activities in the municipality.

Agriculture - Crop Production

Currently, only 25% of Bura and Hola irrigation schemes are cultivated. It is important to address the challenges posed by erratic rainfall, prolonged drought, and inefficient water management.

It is crucial to optimize the use of the Bura and Hola irrigation schemes, by implementing an advanced water management system, improving, and extending water canals, reducing waste due to poor water management, and optimizing pumping efficiency, with special attention to mitigating concerns related to high fuel prices. Furthermore, investing in mechanized farming equipment aims to support farmers' activities and improve overall efficiency.

The focus is on optimizing existing agricultural land and identifying potential areas for future agricultural expansion. The identification by this plan relies on multi-criteria analysis considering factors such as the fertility of soil, the proximity to infrastructures, and the natural potential of the area. It also displays potential water canals and water motor pumps, helping to complement the current agricultural water distribution.

In addition, the SDF promotes practices that increase yields and contribute to long-term ecological health. There is encouragement for developing sustainable agricultural models and exploring innovative practices like

hydroponics, agroforestry, permaculture, or conservation agriculture. Agricultural diversification should be prioritized to enhance productivity and resilience to pests, diseases, floods, and droughts, for instance, optimizing the cultivation of flood-resistant varieties of crops like rice or mung beans (green gram) in the National Irrigation Areas, which has demonstrated high gains per kg. Moreover, to address issues raised by the municipality's farmers, the plan also encourages additional support to protect crops from baboons. This can be done by investing in natural deterrents or physical barriers for instance.

Riverine management

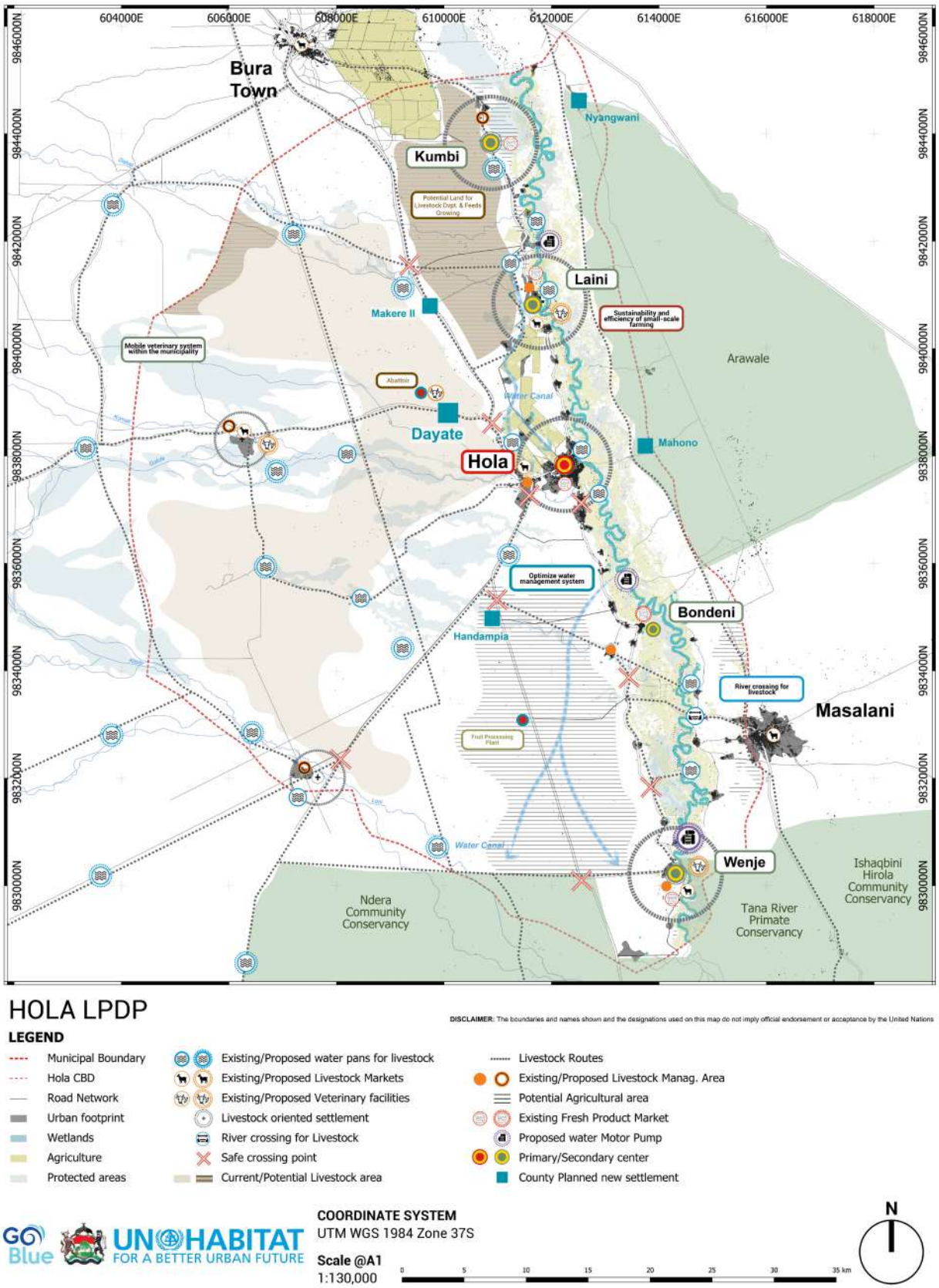
Tension exists and sometimes conflicts arise with regards to access to the river Tana water resources, in relation to agricultural and livestock needs. Poor management of water results in prolonged drought and food insecurity. As mentioned above, it is vital to develop a model to manage Tana River's water resources through the season and avoid overexploitation for agricultural purposes along the riversides.

Figure 13.3 - Livestock at a water point along Tana River



Source: UN-Habitat, Jane Muriuki, 2023

Map 13.5 - Spatial Framework for Rural and peri-urban development



Source: UN-Habitat & Tana River County Technical Team

13.4.6 Conservancy, Cultural Heritage, and Tourism

The theme advocates for several key measures to ensure sustainability of existing conservation areas and proposed additional areas that require deliberate conservation interventions. Such proposals include integrating conservation of land-use regulations, promoting regulations aiming to safeguard conservancies by protecting endangered species and maintaining ecological balance. Simultaneously, promoting initiatives that empower residents to preserve their natural heritage and offering alternative livelihoods and economic opportunities will be encouraged.

Effective conservancy management in Hola municipality requires ongoing monitoring, research, and adaptive management strategies to address emerging threats, such as habitat loss, poaching, charcoal burning, encroachment, and climate change. The effect of the human activities and threats is heightened by the porous borders of the National reserve and the conservancies. Interventions such as clearly marking conservancy boundaries and installing recommended fencing are crucial. The fencing mechanism should also facilitate wildlife migration and pastoralism for the community within acceptable guidelines. Surveillance methods need to be strengthened to combat poaching effectively. This involves investing in surveillance technologies, increasing trained personnel, and promoting community engagement in conservancy protection efforts.

Protecting the River Tana ecosystem is imperative for both ecological balance and human livelihoods. The Tana River sustains diverse flora and fauna, providing habitats for numerous species, which need to be conserved. Preserving this ecosystem requires comprehensive strategies, such as promoting sustainable land management practices, sustainable water abstraction, safeguarding riparian zones, and implementing effective waste management to prevent pollution. Community involvement and educational programs are essential for raising awareness and acquiring local support for conservation efforts. Collaborative initiatives involving government agencies, NGOs, and local communities are also necessary to ensure the long-term health and resilience of the river Tana ecosystem.

Moreover, there is potential for conservancies in promoting eco-tourism. In this aspect, the municipality needs to facilitate development of tourist facilities (e.g. hotels) outside the Hola urban core, strategically positioning them closer to existing conservancies. The Wenje cluster, in particular, benefits from an ideal proximity to Ndera community conservancy, Tana River Primate conservancy and Ishaqbini Hirola Community Conservancy. In addition, a recreation facility at Kumbi is essential to complement riverine ecotourism and its proximity to the Arawale Forest Reserve.

To maximize the impact of these efforts, it is recommended that a comprehensive marketing campaign be undertaken highlighting the conservancies' crucial role in protecting endangered species. Stressing the significance of these natural reserves for the conservation of local species like the Tana River red colobus (Piliocolobus rufomitratus), Tana River mangabey (Cercocebus galeritus), and the hirola antelope are crucial for building public support and awareness.

The strategy recommends a robust integration of all essential stakeholders in conservation, including local communities, government agencies (such as KWS and KFS), non-profit organizations, and eco-tourism ventures. This reinforces the effective management of conservancies while protecting the interests of both public and private actors while advancing shared resources for proper resource utilization.

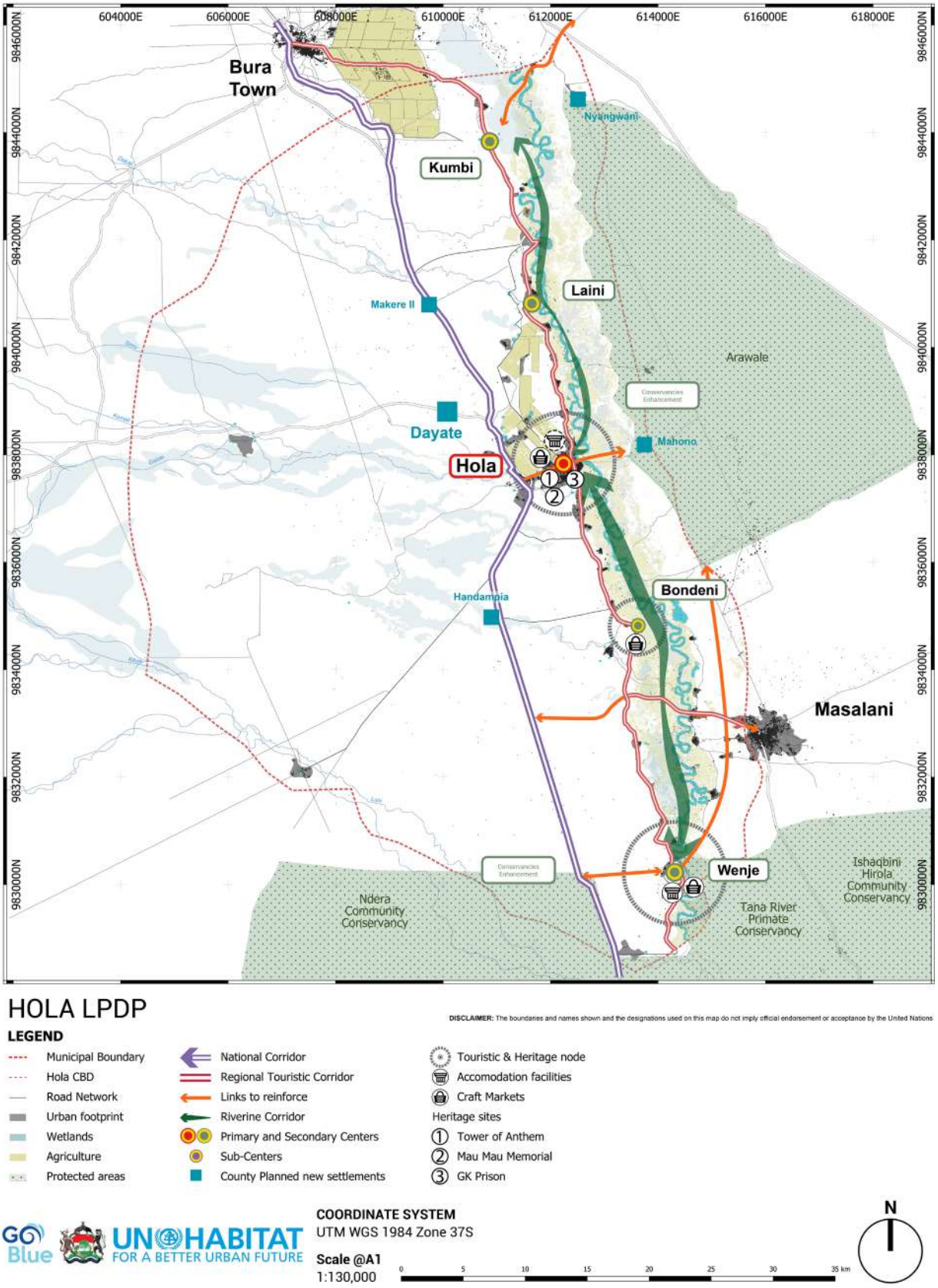
Tourism Routes

Scenic routes along the river should be created, providing recreational activities like canoeing and kayaking. The strategy prioritizes facilitating easy access to heritage sites through dedicated public transportation and improved road infrastructure. The local craft businesses can be strategically integrated into local markets as a form of tourist attraction.

Heritage Sites

Identification and preservation of cultural heritage sites are needed. A concerted effort should be made to encourage tourism in historically significant areas, such as Laza Old Town, home to Bayusuf shop and one of the oldest mosques in Hola or to the Mau Mau detention camp, symbol of colonial freedom. To ensure the preservation of these sites, the municipality needs to undertake and implement heritage planning in the zone identified as such by the Hola land use plan. This should be accompanied by working with local stakeholders to undertake the investments required in the area. Noting the area is close to the river, environmental and disaster risk considerations should be factored into the heritage/conservation planning. Other notable interventions are the Wenje cultural center and the creation of a cultural center in Hola town.

Map 13.6 - Spatial Framework for Conservancy, Cultural Heritage, and Tourism



Source: UN-Habitat & Tana River County Technical Team

13.4.7 Consolidated SDF

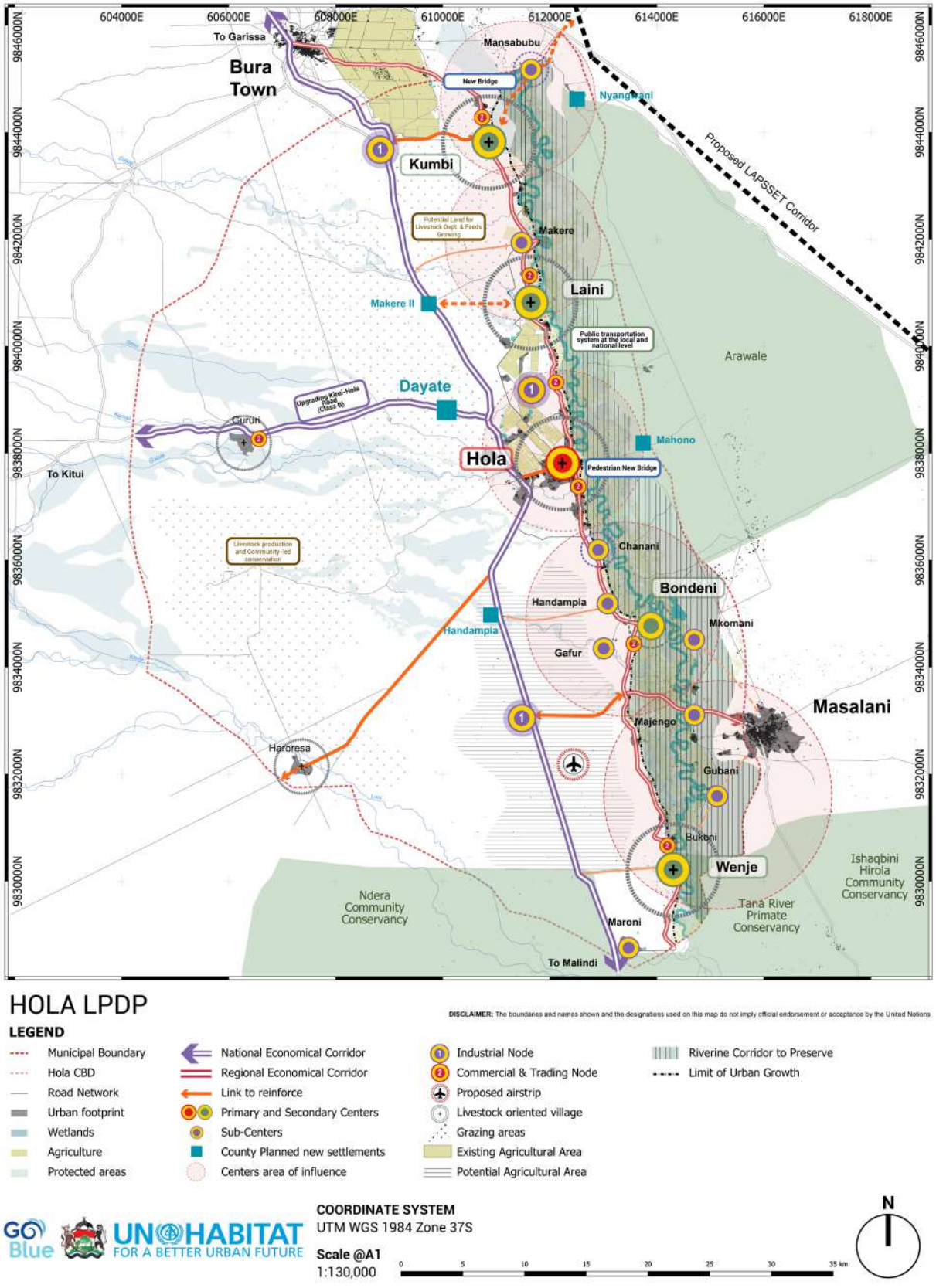
In summary, the SDF for Hola Municipality encapsulates an integrated approach towards sustainable development by addressing various issues within an urban-rural development framework. A system of center and sub-centers is proposed for guiding spatial development in the municipality.

By advocating for functional decentralization and clustering and consolidation of nodes, the SDF aims to foster balanced growth and optimize land usage. The SDF prioritizes comprehensive road improvements, non-motorized transportation infrastructure, and public transportation enhancements to improve connectivity and mobility across the municipality.

Economic strategies focus on developing livestock, agriculture, market, and commerce sectors to stimulate rural development, while leveraging the waters of the Tana River. Given the fragile ecosystems and associated environmental risks, the environmental management strategy advocates for sustainable land use, water resource management, and biodiversity conservation to mitigate natural hazards, particularly along Tana River.

Rural and peri-urban development initiatives aim to position Hola as an important regional and national hub for agricultural and livestock production through sustainable farming and livestock production practices and effective water resource management. In addition, the SDF emphasizes the significance of conservancies in preserving biodiversity and local heritage through enhanced management and investment in essential cultural centers.

Map 13.7 - Consolidated Spatial Development Framework



Source: UN-Habitat & Tana River County Technical Team

13.5 GENERAL MUNICIPAL LAND USE PLAN

Building from the SDF, a broad land use plan was developed for the municipality. The plan will guide land development and management of land across the municipality. Also, the plan provides broad land use classifications such as grazing zones, agricultural potential areas, environment conservation areas, transportation corridors, commercial nodes, public utilities, among others. Further, the plan also shows form, shape, urban growth/development limits, trends, and pattern in developments. To make it enforceable, the plan is accompanied by a set of policies and regulations.

13.5.1 Land Needs and Justification

The potential for optimizing land use in Hola municipality lies in both urban and rural development sectors. Arable land presents a significant opportunity for agricultural development, with a value chain capable of benefiting both urban and rural households. Likewise, with livestock production.

Guided by the SDF, the general land demand for various functions is as follows:

- Land needs for farming activities are projected to demand 89,555.34 Hectares.
- The Municipal's significant challenge of flooding will require incorporating environmental planning and infrastructure development as part of disaster risk management.
- To promote environmental conservation, the plan recommends 144,427.78 Hectares to be set for conservation. These areas were analyzed as possessing the potential for conservation, considering its integration with livestock production and a well-planned pattern of rural settlements.
- Potentially, industrialization can become a key economic sector for the municipality. These are primarily the industries related to agriculture and livestock sub-sectors. The projected land demand for industrial use is 1058.7 hectares.
- Other major land use needs and their projected demand are transportation (approx. 2431.6 Ha), public utilities (approx. 3018.9 Ha), commercial (approx. 181.3 Ha), public purpose (approximately 145.12 Ha), recreational (approx. 339.8 Ha), and educational land use (513 Ha).

The land use proposals consider the SDF, current land ownership, existing land uses, existing structuring elements, environmental conditions, compatibility of land uses and the most optimal use based on suitability and potential analysis.

Table 13.4 - Municipal Scale general land uses, description, and justifications

Zone Code	Name	Description and Justification
1	**Main Urban Centre:** • 1A - Hola Core Urban Area • 1B – Hola Urban Growth Zone	1A – This area refers to the existing Hola Town. This zone is to be promoted as the main core urban area and the Municipality's Central Business District (CBD). The area falling east of old Malindi road adjacent River Tana is prone to periodic flooding, therefore, the goal is to gradually resettle residents and property owners to safer spaces and restrict any further urban developments in future. • 1B – This the area projected to accommodate future expansion of Hola Town (1A). This as area is also the transition zone between the urban core and the rural hinterland and envisioned to accommodate long-term growth of Hola Town, while preserving the vital NIA agricultural lands and flood plains.
2	**Secondary Center:** • 2A: Kumbi • 2B: Laini-Ovo • 2C: Bondeni • 2D: Wenje	2A, 2B, 2C and 2D – These are existing rural centers and commercial nodes that will be promoted to serve as Secondary Centers within the Municipality. The area falling east of old Malindi road adjacent River Tana is prone to periodic flooding, therefore, the goal is to gradually resettle residents and property owners to safer spaces and restrict any further urban developments in future. The centers will offer second tier hierarchy of municipal services and be promoted as satellite economic nodes. In the long-term these centers are anticipated to consolidate as small towns, as satellite towns linked to Hola Town.
3	**Sub-Center and Rural Village:** • 3A: Mansabubu • 3B: Nyangwani • 3C: Shikaadabu • 3D: Rhoka • 3E: Amani • 3F: Bububu • 3G: Hewani • 3H: Daku • 3I: Dafoma • 3J: Makere • 3K: Bohoni • 3L: Umoja • 3M: Ghalamani • 3N: Chewani • 3O: Wachakone • 3P: Kone • 3Q: Mikinduni • 3R: Emmaus • 3S: Dayate • 3T: Makutano • 3U: Chanani • 3V: Lenda • 3W: Handampia • 3X: Kelo Kelo • 3Y: Maweni • 3Z: Gafur • 3AA: Mkomani • 3AB: Boji	The plan will promote the development and growth of specific existing sub-centers and rural villages. This is aimed to further decentralize services and promote rural development of the Municipality. The portion of villages falling east of old Malindi road adjacent River Tana are prone to periodic flooding, therefore, the goal is to gradually resettle residents and property owners to safer spaces and restrict any further urban developments in future.

Source: UN-Habitat & Tana River County Technical Team

Zone Code	Name	Description and Justification
3	• 3AC: Fanjua • 3AD: Majengo • 3AE: Duwajo • 3AF: Jamhuri • 3AG: Masalani west • 3AH: Gubani • 3AI: Bububu • 3AJ: Vukoni • 3AK: Maroni • 3AL: Haroresa • 3AM: Gururi	
4	**New Settlement Cluster:** • 4A. Nyangwani • 4B. Makere II • 4C. Mahono • 4D. Handampia	• These zones refer to the ongoing new settlements that the county government has initiated. The implementation of these new settlements preceded this plan. • This plan has not modified or changed the plans for these clusters. • Future planning should consider improving linkages between these new settlements and existing/old centers.
5	**New Dayate Satellite Town and Hola Town Extension Zones:** • 5A. Dayate Satellite Town • 5B. Extensions North of Hola Town	• These are on-going urban development schemes initiated by the county government, which have preceded this plan. • Land use 5A is assigned to the Dayate, which is envisioned as a new satellite Town. • Land use 5B is assigned to the new subdivision schemes of Wachakone (5B1), Kone (5B2), Chewani (5B3), Ghalamani (5B4) and Zubaki (5B5). These schemes envision an expansion of the existing urban core of Hola. • Dayate which has not been modified or changed by this plan. • The subdivision schemes (5B), the plan retained their layout but provides development control regulations, especially given that there are sections of these schemes that are at high risk of flooding.
6	**Industrial Development Area (IDA):** • 6A – IDA around Kumbi: Livestock management. • 6B – IDA around Hola, in NIA land: Agricultural production and value addition • 6C – IDA South Bondeni/Boji area: Agricultural production and value addition	• 6A. Proposed livestock value chain industrial hub in the north of the Municipality around Kumbi area. This is related to the Livestock management land use proposed in the western-northern areas of the municipality, and the potential presented by existing livestock cooperatives, and pastoralism in those areas. • 6B and 6C. Entails promotion of development for industrial zones to establish agro-based industries for agricultural produce value such as fruit processing, to take advantage of existing resource from farming practices around the area.
7	**Public Utility:** • 7A - Solid Waste Management Area • 7B - Water and Liquid Waste Treatment Area • 7D – Reserved Land for Public Utilities • 7E – Ketraco Wayleave	• 7A. This zone is in the south-west of the new Handampia area. Through multi-criteria analysis was identified as viable for establishment of a land bank for development of municipal- solid waste management facility. • 7B and C. These zones, situated in the Rhoka-Kumbi and Boji regions, have been identified as suitable locations for the establishment of Water and Liquid Waste treatment plants. A comprehensive multi-criteria analysis has determined their viability to serve the entire municipality, thus supplementing the existing facility in Hola town.

Zone Code	Name	Description and Justification
7		• 7D. The northern area has been identified as suitable for future development of necessary Public Utilities, along the new Malindi-Garissa Road. A proposed location is next to 6A Industrial Development, to be further identified, according to the needs and the consultation with the County and stakeholders. • 7E. The area is reserved for the ongoing KETRACO infrastructure project, involving the construction of high-voltage transmission lines that traverse the municipality, providing a link in the national grid. These lines run through designated corridors known as "wayleaves", crucial for maintaining the safe and efficient operation of the transmission lines, ensuring that the surrounding areas remain clear of obstructions.
8	**Integrated Agriculture:** • 8A - Large & Small-Scale Farming [NIA schemes] • 8B – Medium – Large scale County Farmlands	• 8A – Entails existing National Irrigation Authority (NIA) Land, on which it is proposed to be integrated within the Municipality plan promote irrigated agriculture as per NIA objectives and directives. • 8B – This zone comprises of county farmlands which have been integrated to the plan for their potential for agricultural expansion within the Municipality
9	**Fodder & Livestock Management Area**	• These are areas identified and proposed for investments in modernized medium and large-scale fodder production, livestock ranching and development of a livestock value addition industry, and for marketing logistics.
10	**Integrated Riverine Conservation and Agriculture**	• This zone is the area along the river Tana. The area entails the riparian zone and the immediate abutting areas. Through analysis, the area was identified suitable for promotion and protection of the riverine ecosystem. The area will also promote development of blue economy, reforestation, conservation, development of eco-tourism, and small-scale agriculture. • The growth limits of the settlements falling in that zones will be determined guided by the environmental conservation and disaster risk management principles. • In accordance with environmental regulations and best practices in Kenya, a 30-meter buffer zone should be maintained from the highest water mark of Tana River, free of any human activities. • It is also recommended a minimum of a 100-meter buffer zone with restricted human activities, to be defined on a case by case basis.
11	**Conservation and Grazing lands:** • 11A – Existing Gazetted Conservancies • 11B - Grazing Fields/ Pastoralist Settlements • 11C – Integrated Conservation & Livestock Keeping • 11D – Integrated Conservation & Agriculture	• 11A - The existing Gazetted Conservancies are government protected areas for natural resources and cultural heritage conservation. Sections of these areas lie within the municipality. The plan retains their use. • 11B- This zone will promote preserve areas for grazing and pastoralism, restrict large urbanization and safeguard rural development. In the long-term the grazing zones/pastoralist settlement areas should be supported to shift to modernized livestock management, and pastoralist/livestock households provided with well-planned and well-located settlements. • 11C & 11D – These aims at retaining existing livestock management and agricultural activities with aim of modernizing and upscaling for optimum local economic gains. Additionally, within these zones, there will be integration of community-led conservation initiatives and promotion of rural development.

Source: Hola Plan Technical Team, 2024

13.5.2 Land Use Management

Space allocations and General Permitted Uses

Hola land use plan aims to organize land uses and development within the Urban core area, the urban growth zone, secondary centers, sub-centers, rural villages, new settlement clusters, new satellite town, public utilities, integrated agricultural zones, integrated livestock management zones and conservation areas. The plan outlines broad land use categories and zones that show form, shape, limits, trends, and pattern in developments, while outlining general planning standards and guidelines at the municipal scale which will form the framework for detailed local land use plans for the 10 years plan period. The table below outlines space allocations for the broad land use zones and the general permitted uses.

Table 13.5 - Municipal scale land use space allocations and general permitted uses

Zone Code	Zone Name	Area (acres)	General Permitted Uses
1	**Urban Center:** 1A - Hola Core Urban Area	**Total: 2,852 (0.46%)**	The detailed land use management for this zone is provided by the Hola Town Land Use Plan (see Chapter 15). In general, the following are permitted for Hola Town: • For informal settlements, undertake improvement of housing, infrastructure and spaces is based on upgrading the plan, and the principles and general guidelines of this plan. • Allow mixed densities of commercial developments, depending on the level of infrastructure development and environmental conditions. • Allow medium and light cottage(juakali) / agro-based industries development in planned and designated spaces. • Allow for development of compatible Mixed-use developments, e.g. Commercial–cum-residential, commercial-cum-light industries. • Allow conference facilities and tourist accommodation. • Administrative and other support public purpose land uses • Provide, public open spaces and recreational facilities. • Allow for transportation land use purposes, e.g. Bus parks, parking zones, loading & offloading zones etc. • Allow for all levels of educational purposes. • Every plot to be served by a road that is not less than 9 meters in width. Allow for 6-meter deceleration lane or back lane for plots next to main transport corridors (Class A, B and C roads) • The permitted hierarchy of access roads is 9,12, and 15 meters, and 6 meters in exceptional cases where roads must be expanded from existing unplanned built environment, to minimize displacement impacts. • For all new subdivisions, the Minimum commercial plot size shall be 0.125 acres. • For all new subdivisions, the Minimum residential plot shall be 0.25 acres. • Allowable Building Siting, Plot Coverage and Ratio to adhere to the local land use plan for Hola Town.
	1B – Urban Growth Zone		• This is the area projected to accommodate future expansion of Hola Town (1A). This area is also the transition zone between the urban core and the rural hinterland and envisioned to accommodate long-term growth of Hola Town, while preserving the vital NIA agricultural lands and flood plains. • The area should be reserved for county (public) land banking and conserved by permitting environmentally responsive uses, and urban developments to be considered in a phased manner, and through a review of this plan. • Detailed planning should be done for this zone before opening it for urban development. The detailed planning should prioritize an extensive system of green open spaces, flood management, including the protection of natural drainage systems and other ecological assets.

Zone Code	Zone Name	Area (acres)	General Permitted Uses
2	**Secondary Centers:** 2A: Kumbi 2B: Laini-Ovo 2C: Bondeni 2D: Wenje	**Total: 1,283 (0.21%)**	• Allow mixed densities of commercial developments. • Allow for medium and low-density residential developments. • Allow for convenient retail stores and corner shops at least within a 100-meter radius of a defined residential neighborhood/zone. • Mixed use: commercial-cum-residential at the commercial areas within the zone • Allow for small and medium scale cottages and agro-based value addition industries. • Allow for eco-tourism and accommodation facilities. • Minimum lot size 0.125 Acres for the core center residential plots. • Allowable maximum plot coverage is 65% for the core center residential plots. • Allowable building setbacks 3 meters. • Every plot to be served by a road that is not less than 9 meters in width. • Allowable maximum number of floors is 4 (above 2 floors where there is supportive infrastructure - mainly water supply, sewerage management). • Allowable building setbacks 9 meters. • Educational purposes: Allow for an ECDE (Early Child Development Education) facility/Nursery school in residential block within a radius of 500 meters from each other. • Permitted hierarchy of access roads is 9,12, and 15 Meters, and 6 meters in exceptional cases where roads must be expanded from existing unplanned built environment, to minimize displacement impacts.
3	**Sub-Center and Rural Village:** 3A: Mansabubu 3B: Nyanwani 3C: Shikaadabu 3D: Rhoka 3E: Amani 3F: Bububu 3G: Hewani 3H: Daku 3I: Dafoma 3J: Makere 3K: Bohoni 3L: Umoja 3M: Ghalamani 3N: Chewani 3O: Wachakone 3P: Kone 3Q: Mikinduni 3R: Emmaus 3S: Dayate 3T: Makutano 3U: Chanani 3V: Lenda 3W: Handampia 3X: Kelo Kelo	**Total: 9,632 (1.56%)**	• Allow rural homesteads and low-density residential developments in the rural hinterland. • Allow for shops and commercial buildings only within the boundaries of designated commercial nodes. • Allow for compatible mixed-use development. • Allow for small cottage and scale agro-based value addition industries. • Allow for recreational and accommodation facilities. • Minimum lot size 0.125 acres within the core urban areas; 0.5 acres within the rural hinterland • Allowable plot coverage 50% • Allowable building setbacks 3 meters for commercial; 9 meters for residential. • Allowable maximum number of floors is 4(above 2 floors where there is supportive infrastructure - mainly water supply, sewerage management). • Allowable building setbacks 9 meters. • Allow minimum 9-meter access road. • Permitted hierarchy of access roads is 9,12, and 15 Meters

Zone Code	Zone Name	Area (acres)	General Permitted Uses
3	3Y: Maweni 3Z: Gafur 3AA: Mkomani 3AB: Boji 3AC: Fanjua 3AD: Majengo 3AE: Duwajo 3AF: Jamhuri 3AG: Masalani west 3AH: Gubani 3AI: Bububu 3AJ: Vukoni 3AK: Maroni 3AL: Haroresa 3AM: Gururi		
4	**New Settlement Clusters:** 4A. Nyangwani 4B. Makere II 4C. Mahono 4D. Handampia	**Total: 4,928 (0.80%)**	Refer to the respective plan for each settlement.
5	**New Dayate Satellite Town and Hola Town Extension Zones:** 5A. Dayate Satellite Town 5B. Extensions North of Hola Town	**Total: 6,983 (1.13%)**	Refer to the Dayate Plan.
6	**Integrated Industrial Development Area (IDA):** 6A–IDA around Kumbi: Livestock management. 6B – IDA around Hola, in NIA land: Agricultural production and value addition	**Total: 5,588 (0.91%)**	Mandatory preparation of comprehensive environmental impact assessment, before development commencement and annual assessment after development Allow medium and light industries with higher preferences given to agro-based industries. Permissible developments to be regulated by a detailed plan of each zone, with considerations to: • Allow for minimum access roads of 15 meters wide. • Create a 30 meters' buffer zone around the industrial zones by restricting developments. • Minimum land size of 1 Ha for a catchment population of 30,000 persons • Allow for 9m deceleration lanes for industries located adjacent to main transport corridors. • Allowable plot coverage 50% • Allowable maximum number of floors is 4 (above 2 floors where there is supportive infrastructure - mainly water supply, sewerage management). • Allowable building setbacks 9 meters.

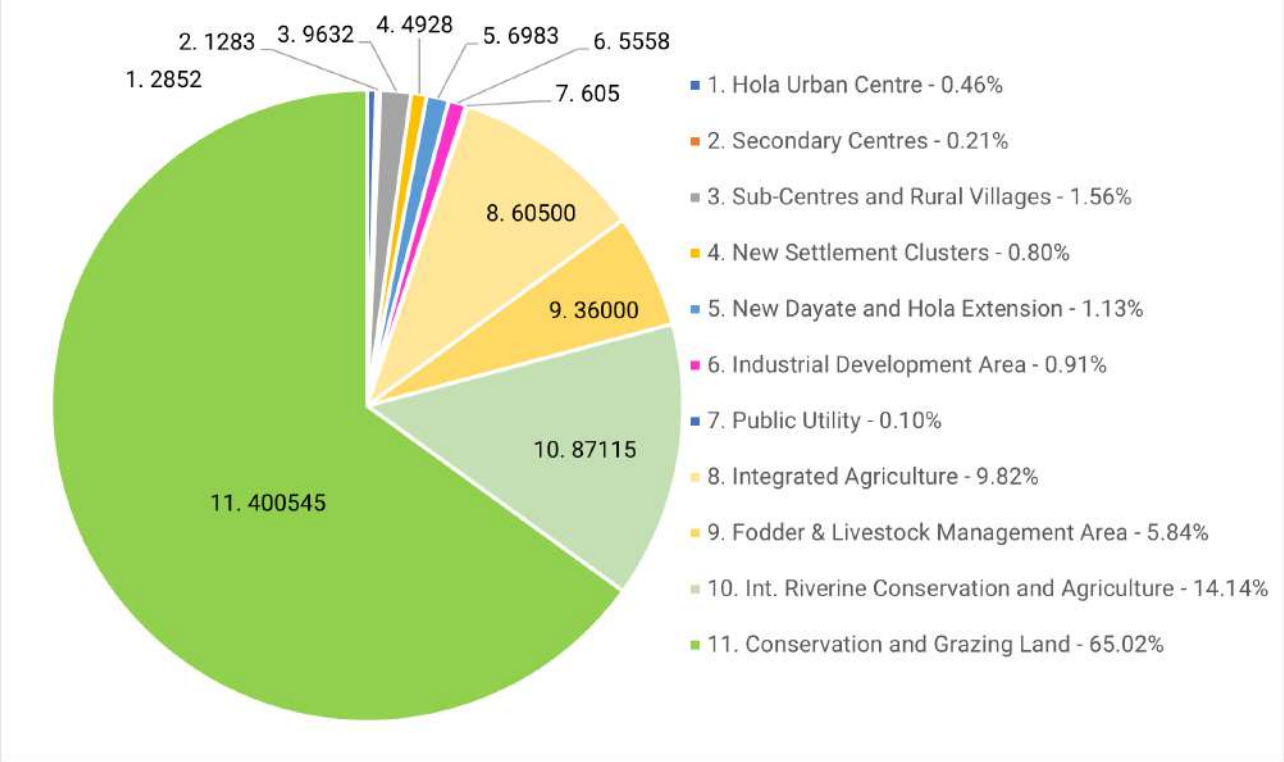
Zone Code	Zone Name	Area (acres)	General Permitted Uses
	6C – IDA South Boji-Bondeni area: Agricultural production and value addition		• Allow for loading and offloading zones, and parking spaces for staff and customers. • Permitted buildings include Light processing factories, go downs and warehousing, cold storage rooms, and industrial uses whose environment risk is rated below medium, according to NEMA regulations. • Industrial uses permitted must be compatible and approved based on an approved (by NEMA) environmental impact assessment. • Planned mixed use development to supportive the main industrial function (residential, commercial etc.)
7	**Public Utility:** 7A - Solid Waste Management Area 7B–Water and Liquid Waste Treatment Area 7C–Water Treatment Area 7D–Reserved Land for Public Utilities 7E - Ketraco Wayleave	**Total: 605 (0.10%)**	Zone 7A-7B-7C-7D: • Enforce fencing of the facility. • Buildings within this zone should observe a 9-meter setback. • Create a 30-meter buffer zone restricting any development around the facility. • Allow planting of indigenous tree species and draught resistant ornamental tree species within the buffer zone. • Mandatory preparation of comprehensive environmental impact assessment for all developments within this zone. • Allowable maximum number of floors is 2. • Utilities construction shall be permitted based on approved engineering plans. Zone 7E: • The width of a right of way depends on the size of the line, types of structures and land characteristics. The general range to maintain is 7.5 to 13 meters for roadside lines and 30 to 45 meters for cross-country lines. These are averages numbers to be evaluated case by case by developers. • Design all structures and landscapes to allow easy access for KETRACO maintenance crews. • Ensure all developments maintain the required minimum clearances and do not interfere with the transmission lines. • Only plant low-growing vegetation within the right of way that will not interfere with the power lines. • All developments must comply with safety standards and guidelines provided by KETRACO. • All general permitted uses defined in the plan are allowed in the adjacent areas, provided they adhere to distance requirements, safety clearances, and do not obstruct access or infrastructure operations.
8	**Integrated Agriculture:** 8A - Large- & Small-Scale Farming [NIA schemes] 8B – Medium – Large scale County Farmlands	**Total: 60,500 (9.82%)**	Zone 8A: • Land under this zone will only be used for agricultural purposes as per NIA objectives and in alignment with the National Irrigation Policy. Zone 8B: • Land under this zone will only be used for agricultural purpose as per County's planned objectives and in alignment with agricultural production as stipulated in the current County Integrated Development Plan. • Enforce agroforestry with at least 10% tree cover (fruit trees and/or indigenous tree species) in every farm under this to promote conservation. • Allow medium and small-holder agriculture mechanization to improve productivity. • Allow for a minimum access road of 12 meters within the farms. • Allow for development of single dwelling farmhouses and farm produce collection points. • Restrict planting of eucalyptus and other tree species that have similar characteristics.

Zone Code	Zone Name	Area (acres)	General Permitted Uses
9	**Fodder & Livestock Management Area**	**Total: 36,000 (5.84%)**	• Creation of Blocks and rotational grazing to manage growth and replenishment of fodder. • Rainwater harvesting mechanism for provision drinking of water to animals. • Allow for intensive fodder farming. • Allow for construction of animal sheds and holding facilities. • Keeping drought tolerant indigenous animal species • Allow for at least 9-meter-wide feeder roads. • Allow for animal management facility with provision of extension services such as disease control, artificial insemination, in-breeding control. • Allow for animal products values addition facilities (slaughterhouses, packaging, and cold storage etc.).
10	**Integrated Riverine Conservation and Agriculture**	**Total: 87,115 (14.14%)**	• Prohibit any human activities within 30-meter from the highest water mark of Tana River • Allow for small-scale subsistence and commercial agriculture. • Restrict the use of pesticides and enforce organic farming practices. • Restrict residential settlements and commercial developments in this zone. • Allow for development of tourist accommodation facilities only in areas not identified as flood prone zones. This must be done with a mandatory comprehensive environmental impact assessment report. • Restrict planting of eucalyptus and other tree species that have similar characteristics. • Allow for establishment of fish breeding zones. • Allow for eco-tourism and conservation. • Allow planting of indigenous tree species and draught resistant tree fruit species
11	**Conservation and Grazing lands:** 11A–Gazetted Conservancies 11B - Grazing Fields/ Pastoralist Settlements 11C–Integrated Livestock Keeping and Conservation	**Total: 400,545 (65.02%)**	Zone 11A: Gazetted Conservancies • Allow eco-tourism and conservation function. • The National Government through KWS and KFS holds the primary rights on permitted ecotourism and conservation uses. • Ndera community conservancy will be managed and run by the existing structures permitted in its registration. Zone 11B: Grazing fields/Pastoralist Settlements • Retain existing grazing routes. • Allow development of rural homesteads in planned villages. • The zone should be managed by community led livestock leaders to regulate and enforce sustainable grazing practices. • Promote community-led rainwater harvesting mechanism for sustainable provision drinking of water to animals. • Enforce seasonal rotational grazing to sustainably manage and replenish the natural fodder. • Construct water harvesting infrastructure e.g. water pans and small dams following approved environmental and engineering plans. Zone 11C: Integrated Livestock Keeping and Conservation • Allow for livestock keeping, fodder growing and rotational grazing. • Allow for small-scale subsistence and sustainable commercial agriculture specifically on flood zone areas of the existing lagas • Rainwater harvesting mechanism for animal and agricultural production. • Restrict planting of eucalyptus and other tree species that have similar characteristics. • Allow for eco-tourism and conservation.

Zone Code	Zone Name	Area (acres)	General Permitted Uses
11	11D– Integrated Agriculture and Conservation		• Allow planting of indigenous tree species and draught resistant tree fruit species. • Restrict any development within flood potential areas. • Allow development of rural homesteads • Protect wetlands and lagas, • Provide open grazing areas for livestock. • Construct water harvesting infrastructure, e.g. water pans following approved environmental and engineering plans. • Consider the possibility of the establishment of mini-irrigation schemes in the Gururi area following environmental and soil analysis and establishing the potentiality of water availability to support the irrigation. Zone 11D: Integrated Agriculture and Conservation • Allow for aquaculture and apiculture agricultural practices. • Practice agro-forestry such that 10% of every farmland under agriculture is planted trees. • Restrict large-scale urban developments within these zones. • Permit development of rural settlements and rural centers only where there is no risk of flooding and where there is no harm to biodiversity. • Restrict planting of eucalyptus and other tree species that have similar characteristics. • Allow for eco-tourism and conservation. • Allow planting of indigenous tree species and draught resistant tree fruit species. • Restrict developments on wetlands and lagas; and any other flood potential areas. • Construct water harvesting infrastructure, e.g. water pans following approved environmental and engineering plans.

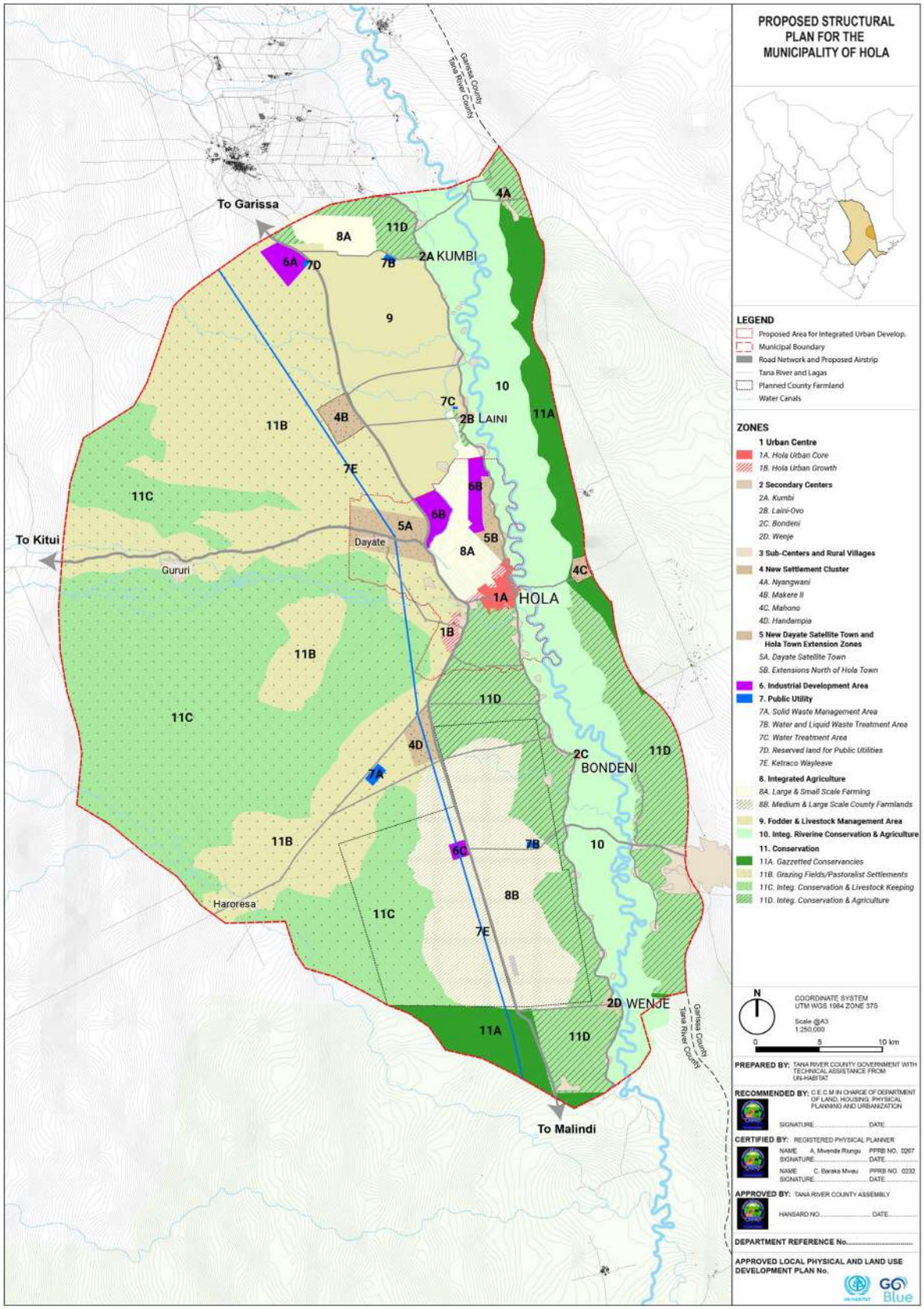
Source: UN-Habitat & Tana River County Technical Team

Figure 13.4 - General land use allocation



Source: UN-Habitat & Tana River County Technical Team

Map 13.8 - Proposed Municipal Scale General Land Use Plan



Source: UN-Habitat & Tana River County Technical Team

13.6 SUMMARY OF RECOMMENDATIONS AND CONCLUSION

This SDF and Land Use Plan is a visionary framework to address existing spatial inequality, optimize land uses and leverage on existing resource opportunities, and aims to guide future development of Hola in pathways that enhance economic productivity and poverty reduction, social development, environmental sustainability, disaster risk management and resilience.

The proposals also aim for balanced growth within the municipality by transforming the current centralized structure into a decentralized network of interconnected settlements. The progressive decentralization of services from the Hola core area to other secondary nodes established a hierarchy of order services, enhancing housing provision, ensuring improved access to public facilities and spaces. Specifically, the SDF recommends improved rural-urban connectivity and mobility through transport infrastructure while taking cognizance of all modes and needs.

To transform Hola into an interconnected and flourishing municipality, local economic development plays a vital role. The development of livestock, agriculture, market, and commerce sectors are key for comprehensive development. Hola core and the secondary centers will act as primary economic drivers, fostering inclusive growth and development across the municipality.

On the conservation and environmental front, it's important to emphasize that the municipality also has ecologically sensitive areas, including wetlands, the Tana River ecosystem, and indigenous forests. These areas face the recurrent threat of natural disasters and man-made interruptions. The challenges presented by periodic flooding, drought, soil erosion, and extensive land degradation are interlinked, creating a complex web of vulnerabilities affecting both the environment and the well-being of the population. The absence of effective land planning management has led to unregulated urban expansions, insufficient green and public spaces, and poorly managed land in agricultural and livestock production areas.

To ensure sustainability, SDF recommends integrating conservation of land-use regulations, promoting regulations aimed at protecting endangered species and maintaining ecological balance. Simultaneously, promoting initiatives that empower residents to preserve their natural heritage and offering alternative livelihoods and economic opportunities is recommended.

Specific interventions for sectors are provided by the plan and the priority local action plans.

CHAPTER 14

SECTOR DEVELOPMENT STRATEGIES

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14.1 OVERVIEW

This section outlines sector-specific development strategies, including policies, programs, and projects. The aim of these strategies is to guide the municipality towards achieving the SDF and linking the land use plan implementation with sectoral programming. The section is organized as follows:

1. Environmental Management
2. Social Amenities Development
3. Economic Growth
4. Urban and Rural Land Management and Development
5. Mobility
6. Housing and Informal Settlements
7. Utilities
8. Public Space, Culture and Heritage

The programs and projects are proposed for implementation in phased approach:

- Short Term (1≤3 years)
- Medium Term (≥3 ≤5 years)
- Long Term (≥5-10+ years)
- Continuous (Recurring, from commencement of implementation).

Figure 14.1 - Tana River



Source: UN Habitat, Jane Muriuki, 2023.

14.2 ENVIRONMENTAL AND DISASTER RISK MANAGEMENT STRATEGY

Scope

This plan is derived from the Municipal Spatial Development Framework (SDF) and Land use Plan. It is part of the decentralization vision of the municipal plan and is designed to guide the future local economic development of the northern parts of the municipality.

Objectives

The specific objectives of the strategy are to:

- Protect and **conserve environmentally sensitive areas** and reduce soil erosion.
- Protect and **conserve** the **Tana River** corridor and the water resources.
- Increase emergency and **disaster preparedness.**
- Reduce the effects of natural disasters, developing **resilience** towards the frequent incidences of flooding and enhancing resilience towards drought.

Expected Outcomes

- Enforced **protection** of gazetted areas.
- Increased **vegetation cover** and **reduced soil erosion**.
- **Reforestation** and restoration of endangered natural environments
- Creation of **bio-diversity corridors**.
- Enhanced **public awareness** on the topic of natural conservation and climate change.
- **Preservation** of the Tana River riparian corridor and development of the riverfront.
- **Protection** of water sources.
- Development of measures to **address drought** and **flooding**.
- Use of alternative clean **renewable energy**.
- Increased institutional preparation and capacities on managing risks.

14.2.1 Natural Resources and Protected Areas

The municipality has a wide variety of natural resources, including Tana rivers and its riparian corridor, arable and grazing lands, wetlands and lagas, and wildlife, as well as national parks and conservancies.

The main concerns are human encroachment, deforestation, water pollution, soil erosion and unsustainable use of the resources because of poor livestock and farming management.

Figure 14.2 - Floods at Laza



Source: UN Habitat, Jane Muriuki, 2023.

Sectoral Policies

- **Delineate** and reclaim encroached natural areas and areas at risk of deforestation and soil erosion.
- **Prohibit deforestation** in selected areas and promote reforestation initiatives.
- Introduce and promote **sustainable agricultural** and **livestock** management techniques.
- Embrace a **participatory approach** by mobilizing local communities and increasing awareness about environmental management.
- Provide **incentives** for communities and farmers.
- Encourage **sustainable crops** and **farming** practices to prevent soil erosion and reduce deforestation.

Table 14.1 summarizes the proposed environmental management strategies.

Table 14.1 - Priority Interventions for Natural Resources and Protected Areas[1]

Program/Project	Spatial coverage & Target Areas	Priority Interventions (Activities)	Time frame	Lead Actors
Land use Regulations for Gazetted Conservancies	Zone 11A. Gazetted Conservancies.	Creation of a buffer of 50 meters around the gazetted areas to protect from human activities.	Short term (1≤3 years)	CGoTR, NEMA, KWS
		Prohibit deforestation on gazetted forests	Continuous	CGoTR, KFS, KWS
Program for Sustainable consumption of forest resources	See municipal SDF and Land Use Plan.	Delineation, reclamation, and restoration of encroached and destroyed habitats	Short term (1≤3 years)	CGoTR, Municipality, KWS, KFS, CBOs
	Municipality	Promote the adoption of clean cooking technologies such as improved cookstoves, biogas digesters, and solar cookers.	Continuous	CGoTR, Municipality, KFS, and Development partners
Vegetation cover Increase and soil erosion control program	See municipal SDF and Land Use Plan.	Delineation of areas at risk of deforestation and soil erosion	Short term (1≤3 years)	CGoTR, Municipality, KWS, KFS
		Tree planting and introduction of vegetation cover in the eroded areas	Medium term (≥3≤5 years)	CGoTR, Municipality, KWS, KFS, CBOs
	Municipality, with priority areas being the Riparian Farming Belt.	Integration of trees and shrubs into farming systems can be achieved through agroforestry practices, as well as in grazing fields.	Medium term (≥3≤5 years)	CGoTR, MoALFC, NGos
		Provide training to farmers on sustainable farming practices, including contour farming, cover cropping, crop rotation, and mulching.	Continuous	CGoTR, MoALFC, NGos
	Municipality	Build water management infrastructure, such as contour bunds and water harvesting structures, to control runoff and capture rainwater.	Medium term (≥3≤5 years)	CGoTR, MoALFC, NGos
Establishment of a bio-corridor	See municipal SDF and Land Use Plan.	Delineation and reclamation of interconnected corridors in correspondence of wetlands, laggas and natural areas to protect wildlife conservation	Long term (≥5-10+years)	CGoTR, Municipality, KWS, KFS, CBOs
Education and training of local communities on natural conservation	Municipality	Offer financial incentives such as cash payments, subsidies, or tax breaks to communities and farmers who actively protect existing trees or establish new tree plantations on their land.	Medium term (≥3≤5 years)	CGoTR, Municipality,
		Implement a Municipal-wide Tree Planning Project – this includes providing communities and farmers with access tree seedlings, planting materials, and offering technical assistance to community-led tree planting initiatives	Medium term (≥3≤5 years)	CGoTR, Municipality, CBOs, NGos
		Conduct an environmental management campaign- Offer training programs, workshops, and extension services to educate communities and farmers about the importance of tree conservation and sustainable land management practices	Medium term (≥3≤5 years)	CGoTR, Municipality, CBOs, NGos

1 Maps and respective land use codes to be specified for all strategies, where applicable.

Source: UN Habitat & TRC Technical Team

14.2.1 Riverfront and Water Systems Management

The Tana River serves as Hola's strategic water source, acts as a natural drainage system, as a transportation system, with an ecosystem rich in flora and fauna. It is crucial to attain a sustainable interface between river and land activities. This requires ecological planning that emphasizes preservation and conservation while developing land in a manner that minimizes environmental threats to Tana River.

Sectoral Policies

- **Delineate** and reclaim of encroached areas.
- **Prohibit** deforestation and promote reforestation.
- **Introduce** and promote sustainable agricultural and farming practices.
- **Embrace** a participatory approach to environmental management by mobilizing local communities and increasing awareness on environmental management.
- **Provide** communities with incentives for River Tana conversation and environmental management.
- **Invest** in and promote initiatives that contribute to improved water quality.
- **Undertake** a well-planned riverfront urban development along the Hola town's section of Tana River.

Table 14.2 - Priority Interventions for Riverfront and Water Systems Management

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Conserve and restore the riparian vegetation along Tana River	Tana River riparian corridor Zone 10. Integrated Riverine Conservation & Agriculture	Survey, map and gazette of riparian land to avoid encroachment and grabbing (a minimum 30-meter buffer from the highest water mark free of any human activities and a recommended minimum of 100-meter buffer with restricted human activities).	Short term (1≤3 years)	CGoTR, Municipality, NEMA, WRA, CBOs
		Delineation and protection of wetlands through the creation of a performance buffer zone to filter and intercept pollutants.	Short term (1≤3 years)	CGoTR, Municipality, NEMA, WRA, CBOs
		Undertake reforestation efforts to restore degraded forests and afforestation initiatives to establish new forested areas.	Medium term (≥3≤5 years)	CGoTR, Municipality, KFS, CBOs, NGOs
		Prohibit deforestation on the Tana River riparian corridor	Short term (1≤3 years)	CGoTR, Municipality NEMA, KFS, KWS, CBOs
		Formulate Design Regulations for Approving constructions that interface with the riparian corridor	Short term (1≤3 years)	CGoTR, Municipality, NEMA, KFS
		Regulate Land-Riparian Developments	Continuous	Municipal Planning Department or County Department of Physical Planning, with coordination of NEMA & WRA
		Provide financial incentives to adjacent landowner to set aside and conserve the riparian vegetation	Short term (1≤3 years)	CGoTR, Municipality, NEMA

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Control and preserve water quality of Tana River	Municipality	Implement a water quality monitoring program to regularly assess the quality of water	Short term (1≤3 years)	CGoTR, Municipality, NEMA, WRA
		Control discharge of wastewater and polluting agents from towns, industries, and agriculture.	Continuous	CGoTR Municipality, WRA
	Regional/County/Municipality	Implement a landscape management program to manage upstream pollution.	Long term (≥5-10+ years)	CGoTR, Municipality NEMA, WRA
Community-Driven Riverine Management.	Municipality	Mobilization of local communities and coproduction of projects for wetland and water conservation and management.	Medium term (≥3≤5 years)	CGoTR, Municipality, CBOs, NGOs
		Municipal River cleaning Initiative (with local communities in Hola Town)	Continuous	CGoTR, Municipality, CBOs
Riverfront development in Hola town	Hola town	Organize tree planting initiatives along the riverbanks.	Medium term (≥3≤5 years)	CGoTR, Municipality, CBOs
	Zone 1A. Hola Urban Core	Organize regular cleaning activities of the riverbanks.	Continuous	CGoTR, Municipality, CBOs
Protection of water bodies from Land Development Activities (Wetlands & Flood Plains, Lagas, and Natural Drainages)	Municipality	Delineation and protection of wetlands through the creation of a performance buffer zone	Short term (1≤3 years)	CGoTR, Municipality, , NEMA, WRA
		Regulate development around water catchment areas, aquifers, rivers	Continuous	CGoTR, Municipality, NEMA, WRA
		Regulate agricultural activities along seasonal streams and lagas, in particular large-scale and chemical supported.	Continuous	CGoTR, Municipality,
		Control discharge of wastewater and polluting agents from towns, industries and agriculture	Continuous	CGoTR, Municipality, WRA

Source: UN Habitat & TRC Technical Team

14.2.2 Disaster Risk Management

Flooding and drought are two extreme weather conditions commonly experienced in Hola. The municipality requires a Disaster Management Plan (DMP). The DMP formulation should factor the policies below:

Sectoral Policies:

- Integrate human made and natural **stormwater drainage systems** to mitigate flooding and enhance resilience.
- Enhance **water security** through infrastructure development and efficient storage practices.
- Invest in **renewable energy** sources to ensure continuity of essential services during challenging circumstances.
- Embrace a **participatory approach** by mobilizing local communities and increasing awareness and preparedness on disaster risk management.
- Strengthen **institutional capacities** for effective disaster response and coordination.

Table 14.3 - Priority Interventions for Disaster Risk Management

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Development and implementation of measures to address flooding.	Municipality	Periodic assessment of the drainage according to land use trends	Continuous	CGoTR, NEMA
	Riparian Corridor, wetland and lagas	Establish a riparian buffer zone along water bodies by planting trees and grasses along their banks to stabilize soil, reduce erosion and reduce surface runoff	Medium term (≥3≤5 years)	CGoTR, Municipality
	Municipality, in proximity of forest or endangered ecosystems Zone 10. Integrated Riverine Conservation & Agriculture Zone 11D. Integrated Conservation & Agriculture	Promote agroforestry practices that integrate trees with agricultural crops and/or pastureland	Medium term (≥3≤5 years)	MoALFC, CGoTR, Municipality
	Municipality	Promote the sponge city concept by introducing pocket parks, open natural waterways, and use of permeable materials– using natural landscape to mitigate flood[1].	Medium term (≥3≤5 years)	CGoTR, Municipality, CBO's

1 Campbell, M. (2022). What are sponge cities, and could they solve China's water crisis? Web link: https://www.euronews.com/green/2022/10/22/china-s-sponge-cities-are-a-revolutionary-rethink-to-prevent-flooding

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Development of measures to address drought.	Municipality	Require water harvesting and flood management mechanism in building approvals	Continuous	CGoTR, Municipality
		Promote water harvesting and proper storage of rainwater.	Short term (1≤3 years)	CGoTR, Municipality, CBOs, NGos
		Build rainwater harvesting wells, underground cisterns, and water pans to collect and store the stormwater both for human and livestock use.	Long term (≥5-10+ years)	CGoTR, Municipality, MoT&I
		Identify and promote the use of drought-resistant early maturing crops & indigenous plant	Medium term (≥3≤5 years)	CGoTR, MoALFC, NGOs
Enhance disaster preparedness among the residents.	Municipality	Comprehensive public awareness and training campaign on climate change and disaster risk	Short term (1≤3 years)	CGoTR, Municipality, CBOs, NGOs
		Establish and empower flood response teams in the Municipality.	Continuous	CGoTR, Municipality
		Invest in stormwater infrastructure and support households in constructing houses that limit flood effects.	Continuous	CGoTR, Municipality
Strengthening institutional capacities, and research to manage risks and disaster-prone areas to ensure the safety of communities.	Municipality	Training of county and municipal departments on integration of climate change in sectorial plans and strategies	Short term (1≤3 years)	CGoTR, Municipality
		Establish a climate change and disaster management department within the county and municipality pursuant to Section 19 of the National Climate Change Act, 2016	Medium term (≥3≤5 years)	CGoTR, MoICNG, MoECCF
		Develop regular updating and wide dissemination of information on disaster risks	Medium and Long terms (≥3-10+ years)	CGoTR, MoICNG, MoECCF
		Establish a coordination mechanism among all concerned. agencies for disaster management, like Health Department, Fire Department, police department, etc.	Medium term (≥3≤5 years)	CGoTR, MoICNG, MoECCF
		Acquire land and build a fully equipped disaster management centre	Medium term (≥3≤5 years)	CGoTR, Municipality

Source: UN Habitat & TRC Technical Team

14.3 SOCIAL AMENITIES STRATEGY

Scope

The social amenities referred to here are education institutions, health facilities, security facilities, disaster management centers, community centers, and religious facilities.

Generally, the provision of social amenities in Hola is primarily faced with complexities of accessibility, low level of service and substandard quality of service attributed to the spatial extent of the municipality. The goal of the plan is to ensure adequate access to affordable and quality services and infrastructure to realize a healthy and well served population.

Objectives

- To ensure equitable access to affordable social services to all, and inclusive investments in social amenities.
- Improve the quality of social services.

Expected Outcomes

- Enhanced access to social amenities with supporting services.
- Access affordable and quality health care services to all
- Access of affordable and quality education opportunities

14.3.1 Design and Delivery Principles for Social Facilities

Social amenities development and provision will be guided by these principles:

1. All facilities should **promote civic architecture** and promote **traditional architectural elements**.
2. Social amenities should promote **Inclusivity** for all: Men, women, youths, children, People with Disabilities (PwD), marginalized communities, all religious groups, etc.
3. Facilities that promote **multiple purposes.**
4. **Functionality** and usage optimization
5. **Cost effective** facilities in construction and management.
6. Facilities whose design **adapt to** the **extreme weather** conditions (extreme heat).

14.3.2 Sectoral Policies

1. Delineate and demarcate land for social facilities.
2. Provision of all services within the municipality as guided by the UACA, 2011.
3. Provision of safety, security, and inclusion of all within these facilities.
4. Provision of timely and appropriate health care access.
5. Provide basic level of services for all social facilities that include water, sanitation, and lighting.
6. Promote the use and maintenance of social facilities for use in the community.
7. Invest and promote improvements in the social amenities.
8. Ensure equitable, accessible, and affordable education.
9. Develop infrastructure guidelines for all social amenities (health centers, schools).

14.3.3 Education and Training

Planning Concerns

1. **Poor infrastructure** in primary and secondary schools.
2. **Sub-standard quality** of education and learning in some of the facilities, which is largely linked to shortage of the right human resources and poor management.
3. **Inadequate provision** of vocational and tertiary institutions.

Objectives

1. **Improve the education facility infrastructure** in Hola Municipality
2. **Provide adequate services** in education facilities.
3. **Optimize the distribution** of tertiary education facilities in Hola Municipality

Table 14.4 - Strategic goals and actions in Education provision in Hola Municipality

Project/Programs	Level of Service/ Type of Facility	Spatial Coverage & Target Areas	Estimated Facilities Needed	Plan consideration
			Existing	Gap
Improve the education facility infrastructure in Hola Municipality	ECDE	Municipality	57	11
	Primary	Municipality	45	2
	Secondary	Municipality	12	2
	Vocational	Municipality	3	2
	ECDE	1 ECDE for a catchment population of 4000. Recommended distance is 300-500m walking distance with about 0.15-0.25 Ha in size[1]. Teacher student ratio 1:25	57	11 – minimum ECDE classroom with 100 students
	Primary	2 Primary schools for catchment population of 4,000 covering a minimum of 4 Ha. Teacher student ratio 1:45	45	2 – minimum students per class with a teacher student ratio of 1:45
	Secondary	2 secondary schools for the Municipality with 3 streams each covering a minimum of 4.5 Ha (11 acres). Teacher student ratio 1:45	12	2- minimum students per class 45
	Vocational	3 Vocational schools in Hola CBD, Laini and Wenje covering a minimum of 4.5 Ha (11 acres). 2 Vocational centers in Kumbi and Wenje covering 10.2 Ha (25.2 Ha each) for a population of about 1,000 students.	3	2 – decentralized to secondary centers
Optimize the distribution of tertiary education facilities in Hola Municipality	Technical University	1 University development in Hola covering 50 Ha (124 acres) for a population of about 1,000 students.	0	1 Major Technical University with Focus on Livestock and Agricultrual Development

1 Physical Planning Handbook, Kenya. (2007).

Source: UN Habitat & TRC Technical Team

Sector Delivery and Financing Mechanisms

Table 14.5 outlines the strategic goals and actions in Education provision in Hola Municipality

Table 14.5 - Education sub-sector interventions

Program/ Project	Description	Priority Interventions	Timeframe and Preconditions	Lead Implementors	Potential Financing Mechanisms
Enhancing EDCE Coverage and Services	A program/ Project to ensure the entire municipal has equitable distribution of functional ECDE facilities per 4000/ population.	- Promote the redevelopment, upgrading and refurbishment of education facilities in Hola. - Ensure all school facilities are connected to the electric grid and have power supply. - Promote integration of ICT in all the primary, secondary, and tertiary facilities within Hola. - Integrate children play area in all ECDE's.	Long term (≥5-10+ years)	Municipal, County Department of ECDE and Vocational Training	Municipal/County Financing through County Department of ECDE and Vocational Training
Ensure every child has access to primary education	The program aimed towards providing adequate primary schools to accommodate the future population demand for Primary school.	- Ensure optimal staffing levels in all primary education facilities through recruitment, posting & training more qualified teachers. - Promote integration of ICT in all the primary schools within Hola - Improve roads connecting the schools to settlements across the municipality especially along the Old Malindi Road. - Improve the infrastructure within the special schools in Hola Town. - Design element should comply to the guidelines under the Physical Planning Handbook and World Bank standards.	Medium term (≥3≤5 years)	Ministry of Education (MOE), County department of Education	Ministry of Education,
Ensure every child has access to secondary education	The program aimed towards providing additional secondary schools to accommodate the future population demand for secondary school.	- Ensure optimal staffing levels in all secondary education facilities through recruitment, posting & training more qualified teachers. - Promote integration of ICT in all the secondary facilities within Hola - Design element should comply to the guidelines under the Physical Planning Handbook and World Bank standards. - Improve the infrastructure within the special schools in Hola Town.	Long term (≥5-10+ years)	Ministry of Education (MOE), County department of Education	Ministry of Education,

Program/ Project	Description	Priority Interventions	Timeframe and Preconditions	Lead Implementors	Potential Financing Mechanisms
Promote training skills in Hola	The project is aimed towards increasing training and skills in Hola Youths to meet the market demands and decentralize training functions to other centers in the municipality.	- Integrate additional training modules in existing vocational centers such as veterinary studies, educational studies, and medical health components. - Promote integration of ICT in all the tertiary facilities within Hola. - Decentralize vocational training services to Kumbi and Wenje to train on veterinary services and health care.	Medium term (≥3≤5 years)	Municipal, County Department of ECDE and Vocational Training, Kenya Institute of Curriculum Development.	County Financing
Optimize the distribution of tertiary education facilities in Hola Municipality	The project promotes the establishment of a public chartered constituent college or a university campus in Hola Municipality.	- 1 University development in Hola covering 50 Ha (124 acres) for a population of about 1000 students. - Set aside land (50 Ha) to develop a university constituent within Hola. - Compliance to the regulations set under University Regulations 2014 set by the Commissions for Universities in Kenya. - A master plan should be prepared in accordance with applicable standards, laws, and designs for the university. - Promote agricultural related studies and agro-processing courses in the university.	Long term (≥5-10+ years)	Ministry of Education (MoE), County department of Education, Commissions for Universities in Kenya	Ministry of Education,

Source: UN Habitat & TRC Technical Team

14.3.4 Health Care Facilities

Scope

Health provision in Hola experiences challenges of accessibility with understaffed, dilapidated facilities that lack capacity to handle health emergencies. Lack of equipment and drugs within these facilities heighten the strain in health care provision for the population. The residents travel long distances for health care services and in other aspect, they move to other counties in search of medical attention. Traditional practices are alternatives for the community for basic illnesses and for maternal needs. The practice however is faced with challenges of lack of sanitary materials to execute the tasks amidst an influx of infections and its practice lacks integration into the existing heath care provision system.

Objectives

Health is one of the devolved functions. The goal is to make health care facilities and services accessible to all, in the municipality. The objectives of the plan are:

1. To **promote adequate access** to health facilities within 15 -20 minutes travel time.
2. To **provide adequate staff** in all the health facilities.
3. To **ensure** all facilities have **drugs** and **equipment** needed to execute its mandate.
4. To **train** and **build capacity** for community traditional health care givers to be the first level care.

Table 14.6 - Strategies for enhancing access to health care facilities

Program/ Project	Priority interventions	Spatial coverage	Timeframe and Preconditions	Lead Implementors	Potential Financing Mechanisms
Enhancing health coverage to all residents (To promote adequate access to health facilities within 15 -20 minutes travel time and ensure entire municipal has equitable distribution of functional health facilities per 1,000/ population.)	- Increase the ratio of health care workers to population to 3:1000. - Investment in healthcare equipment & specialized cadre of staff - Ensure all facilities have drugs and equipment needed to execute its mandate. - 1 facility, with 3 skilled workers for a population of 1000 individuals per settlement in Kumbi, Laini, Bondeni and Wenje[1]. - 1 facility with 2 health care givers for a population of 1000 individuals per settlement in Wachakone, Chewani, Gururi, Maroni, Gubani, Mahono, Nyangwani - Delineate all health care land for the development of health facilities and staff housing for all centers.	Hola Urban Area and Extension areas: Wachakone, Chewani, Gururi, Maroni, Gubani, Mahono, Nyangwani Hole new centers: Kumbi, Laini, Wenje and Bondeni	Medium term (≥3≤5 years) Architectural guidelines: Health facility design Capacity Staff housing consideration	County department of health and sanitation	County department of health and sanitation, The Government of Kenya, USAID, Kenya Red Cross.
Enhancing access to quality health services through training health care providers.	- Train and build capacity for community traditional health care givers to be the first level care. - Improve the services provided by healthcare to handle specialized care. - Increase the ratio of health care workers to population to 3:1000. - Investment in healthcare equipment & specialized cadre of staff - 1 facility with 2 health care givers for a population of 1000 individuals in all other settlements	Municipality	Medium term (≥3≤5 years)	County department of health and sanitation	County department of health and sanitation

1 World Health Organization. (n.d). World Health Report. https://databank.worldbank.org/metadataglossary/health-nutrition-and-population-statistics/series/SH.MED.CMHW.P3

Source: UN Habitat & TRC Technical Team

Program/ Project	Priority interventions	Spatial coverage	Timeframe and Preconditions	Lead Implementors	Potential Financing Mechanisms
Equip all health facilities with drugs and equipment needed to execute the mandate.	- Improve the services provided by healthcare to handle specialized care. - Increase the ratio of health care workers to population to 3:1000. - Investment in healthcare equipment and specialized cadre of staff	Hola CBD	Short term (1≤3 years) Level 5 – County Referral	County department of health and sanitation	County department of health and sanitation, The Government of Kenya, USAID, Kenya Red Cross.
	- 1 facility located in Hola Expansion area. Level 4 County Hospital - Reserve land for the health facility and staff housing.	Hola expansion area	Medium term (≥3≤5 years) Level 4 – County Hospitals	County department of health and sanitation	County department of health and sanitation, The Government of Kenya, USAID, Kenya Red Cross.
	- 1 facility, with 3 skilled workers for a population of 1000 individuals per settlement	Kumbi, Laini, Bondeni and Wenje[2]	Short term (1≤3 years) Level 3 – Health Centers		
	- 1 facility with 2 health care givers for a population of 1000 individuals per settlement. - Ensure all health care facilities have adequate access to basic drugs and equipment as the Heath Act 2017. - Capacity building of all health care staff through hiring, training, and deployment to the facilities in the area as per the WHO recommended standards. - Encourage public private partnerships towards provision of health facilities. - Minimum size for each facility added will cover approximately 2 Ha (5 acres).	Wachakone, Chewani, Gururi, Maroni, Gubani, Mahono, Nyangwani	Short term (1≤3 years) Level 2 – Health Dispensaries	County department of health and sanitation	County department of health and sanitation, The Government of Kenya, USAID, Kenya Red Cross.
	- 1 facility with 2 health care givers for a population of 1000 individuals - Capacity building of all health care staff and select community health experts on basic first aid as per WHO recommended standards. - Promote mobile clinics to local communities in remote areas and within pastoral communities. - Minimum size for each facility added will cover approximately 0.4 Ha (1 acre).	All other settlements	Medium term (≥3≤5 years) Level 1 – Community Facilities	County department of health and sanitation	County department of health and sanitation,

2 World Health Organization. (n.d). World Health Report. https://databank.worldbank.org/metadataglossary/health-nutrition-and-population-statistics/series/SH.MED.CMHW.P3

14.3.5 Public Safety-Security Management Facilities

Planning concerns

Most of the security managemnet facilities are found in Hola Town. The town has a police station, administrative police camp, fire department and ambulance response units. A new fire department facility is being built in Dayate New Town. Several police patrol points are located along the main Malindi- Garissa route.

Figure 14.3 - Huduma Center



Source: UN Habitat, Jane Muriuki, 2023.

Objectives

The plan aims to **make Hola municipality safer**. This is by promoting urban and rural safety, enhancing public - private engagement in ensuring safety and integrating infrastructure needed to manage public safety and to respond to emergencies efficiently. Additional objectives are to:

1. **Promote urban safety** and security in Hola.
2. **Ensure adequate staffing** of police stations and police posts.
3. Provide for **installation of saftey lighting** for public spaces.
4. Design facilities that **promote public participation** in security management initiatives.

Table 14.7 - Interventions for promoting public safety and Improved security

Program/ Project	Priority Interventions	Spatial coverage	Timeframe and Preconditions	Lead Implementors	Potential Financiers
Enhance urban safety and security in Hola.	Ensure optimal staffing levels in all police stations and police post in Hola. Create active police posts in the secondary nodes: Kumbi, Laini, Wenje and Bondeni. Promote community policing strategies within Hola (Nyumba kumi initiatives).	Hola CBD, Hola Sub--centres Municipality	Short term (1≤3 years) Architectural guidelines The minimum size of a police station is 3 Ha (7.5 Acres). The minimum size pf a police post is 0.1 Ha (0.25 Acres).	National Police Service Kenya Police Service	National Police Service Kenya Police Service
Enhance street lighting in public areas to promote safety and security in Hola.	Promote programs that support installation of street lighting in, open spaces, bus parks, and trading markets. Ensure markers and bus parks have solar powered streetlights. The spacing between the light poles should be 2.5 to 3 times the height of the pole. Maintain and manage the lighting within the municipality.	Hola CBD and Hola expansion areas	Short term (1≤3 years) Architectural guidelines: The spacing between the light poles should be 2.5 to 3 times the height of the pole.	Municipal Management, CGTR Ministry of Roads, Transport, Public Works, Housing and Urbanization, County department of roads, Transport and Public Works	Ministry of Roads and Transport (State Department of Roads) County department of roads, Transport and Public Works
Create adequate cemeteries for the communities within Hola	Set aside approximately 360 Acres of land in strategic settlements as burial sites. Set aside and demarcate land for Public, Muslim, and Christian Cemeteries in all settlements. Delineate existing cemeteries.	Municipality	Long term (≥5-10+ years) Architectural guidelines: Land should be easily accessible and away from residential settlements separated by a buffer (road or trees).	Municipal Management,	County department of roads, Transport and Public Works
Enhance access to basic community facilities within Hola	Promote development of community facilities within Hola. Construction of missing social amenities: 1 Social Hall, 1Museum, 1 Library, 1 Theatre/Cultural Center Develop 4 Community Centers in Laini, Kumbi, Wenje and Bondeni. To improve access and quality of service offered by the facilities (Religious centers, Fire station, Funeral parlour/ mortuary, Community Center).	Municipality	Continuous	Municipal Management,	County department of roads, Transport and Public Works

Source: UN Habitat & TRC Technical Team

14.4 URBAN AND RURAL LAND MANAGEMENT AND DEVELOPMENT STRATEGY

The structure of Hola Municipality is generally characterized by urban zones and rural hinterlands. From past trends and projected population growth within the Municipality, there will be significant wide range of implications in physical, socio-economic, and environmental front.

Through proper land use planning measures, the negative effects of these implications will be addressed. Even though land is a scarce resource and basic factor of production, it is essential that productivity & operational efficiency between urban and rural hinterland within Hola Municipality is given high priority.

A strategy on urban and rural land management guarantees development functional linkages that ensures efficiency and productivity in both urban and rural areas within Hola.

Additionally, this strategy safeguards food production, environmental conservation, planned development and establishment of safe, liveable and healthier settlements, in addition to improving quality of life and opportunities for local economic development.

Figure 14.4 - Participatory planning



Source: UN Habitat, Jane Muriuki, 2023.

14.4.1 Land Management

Objectives

1. To **prepare a Municipal-wide land use plan** and establish land use planning and land management measures.
2. To **establish** a **well-coordinated institution framework** and development control framework.
3. To safeguard and sure land tenure through **development** of a **comprehensive land information system.**

Proposed Strategies

- **Strategy 1**: Sustainable management of land through efficient planning and management measures
- **Strategy 2:** Establish a well-coordinated institution framework and development control policy.
- **Strategy 3:** Secure and safeguard land tenure for private, public and community land (s).

Expected Outcomes

1. A sustainably managed land resource.
2. A coordinated institutional framework and implemented development control policy.
3. Secured land tenure system.

Sectoral Policies

Table 14.8 - Sectoral policies for urban and rural land management

Strategy	Policies
1. Sustainable management of land through efficient planning and management measures	i) Stimulate mutual land swapping to encourage the best location of compatible land uses with minimal land ownership hurdles. ii) Establish and approve urban growth limits of the primary, secondary, and sub-centers to prevent urban sprawl. iii) Preparation and approve local level detailed land use plans, iv) Establish distinct land use zones such as residential, commercial, industrial etc., and provide support infrastructure and services. v) Regularization of existing informal settlements in Hola Town vi) Set minimum land holding size, restrict uneconomical land fragmentations. vii) In all nodes, provide open spaces, recreation areas, and surplus land to cater for project growth. viii) Provision of adequate basic services and infrastructure according to population needs and projected densities. ix) Develop a physical address system with proper road hierarchy and design guidelines for sidewalks and Non-Motorized Transport alternatives. x) Restrict development in environmentally fragile areas such as conservation areas, lagas, wetlands and river riparian areas. xi) Administer good farming practices such as agro-forestry, re-afforestation, rotational grazing, inter-cropping etc. xii) Enforce rainwater harvesting mechanism for sustainable supply of water for different agricultural practices. xiii) Restrict subdivision of agricultural land that is less than 5 Acres. xiv) Develop distinct rural zones such as farming, grazing, conservation etc. and enforce a minimum land holding size.
2. Establish a well-coordinated institution framework and development control policy	i) Develop and approve development control policy guidelines for the Municipality. ii) Establish a well-coordinated land management institution
3. Secure and safeguard land tenure for private, public and community land (s)	i) Stimulate Gazettement of Hola Municipality boundary. ii) Creating public awareness about existing land laws and tenure options and empowering community lobby groups to influence land access and ownership. iii) Register all community land and provide planning control guidelines that ensure community land can be availed for urban development. iv) At the municipal level, institute a well-coordinated land governance and administration system. v) Survey and boundary demarcation (including revisions as per the approved plan) of individual property and un-surveyed land parcels. vi) Establishment of land value capture system vii) Work with communities and private landowners to digitalize land parcels, update the land valuation roll and develop a Land Information System (LIS) for Hola Municipality viii) Supporting county level policymakers to promote policies, laws, systems, and practices that advance land tenure security.

Source: UN Habitat & TRC Technical Team

Table 14.9 - Land Management Strategies

Strategy	Priority Interventions (programs/ projects)	Spatial coverage	Timelines	Lead Actors	Potential Financing Mechanisms
1. Sustainable management of land through efficient planning and management measures	a) Undertake a land tenure audit and create a municipal cadastre and Land Information System. b) Demarcate urban and settlement growth edges based on this plan. c) Validate tenure and spatial coverage of largescale farming areas under NIA and County, including ensuring the land is registered under public land tenure system. d) Prepare and approve local level detailed land use plans, e) Regularize existing informal settlements	Urban areas: (Hola Urban Core, Kumbi, Laini, Bondeni, Wenje)	Short term (1-3 Years)	Municipal, County department of Lands and Physical Planning, Private sector,	• Municipal Funding • County Government Funding • National Government funding (KISIP, NIA, SOK) • UN Habitat and Partners (Preparation of plans)
	f) Provide adequate basic services and infrastructure as per assessment of population needs and projected densities (see Utility Provisions Strategy). g) Establish and implement a GIS-based physical address system for Hola Municipality		3-5 Years	Municipal, County department of Lands and Physical Planning, Residents associations, (Nyumba Kumi Leadership), Property owners in urban areas, Private sector,	• Municipal Funding • County Government Funding
	h) Implement protective measures and create public awareness for conservation of environmental fragile areas. i) Undertake agro-forestry, re-afforestation, rotational grazing, and inter-cropping. j) Initiate construction water pans and dams at proposed areas (See SDF concept& Water Supply Strategy).	Rural and Areas	Immediate	Community Land Leadership, Municipal, County departments responsible in: Lands and Physical Planning, Environment and Agriculture	• Municipal Funding • County Government Funding • National Government (KFS
	k) Carry out detailed zoning and implement development control guidelines for Agricultural zones, grazing areas and conservation areas in Rural zones		1-3 Years	Municipality, County departments in charge of: Lands and Physical Planning, Agriculture	• Municipal Funding • County Government Funding
2. Establish a well-coordinated institution framework and development control policy	a) Undertake implementation of development control guidelines in the Municipality b) Put in place a coordinated land management institution	Entire Municipality	1-3 Years	Municipality, County department of Lands and Physical Planning	• Municipal Funding

Strategy	Priority Interventions (programs/ projects)	Spatial coverage	Time-lines	Lead Actors	Potential Financing Mechanisms
3. Secure and safeguard land tenure for private, public and community land (s)	a) Set up periodic land clinics for educating and creating public awareness on existing land laws and tenure options	Entire Municipality	Immediate	Municipality, County department of Lands and Physical Planning, County Assembly	• Municipal Funding • County Government Funding
	b) Carry out cadastral survey and boundary demarcation (including revisions as per the approved plan) of public land and un-surveyed land parcels		1-3 Years	Municipality, County department of Lands and Physical Planning, County Assembly, Survey of Kenya (National Government), Landowners	• National Government funding (KISIP, SOK)
	c) Update land valuation roll and develop a Land Information System (LIS) for Hola Municipality		3-5 Years	Municipality, County department of Lands and Physical Planning, County Assembly, Survey of Kenya (National Government), Landowners	• Municipal Funding • County Government Funding

Source: UN Habitat & TRC Technical Team

14.4.2 Agriculture and Livestock Development

Agriculture is the **economic backbone** of Hola accounting for 88% as the main source of livelihood for residents of the Municipality. Both **subsistence and commercial agricultural farming** are practiced in small and largescale capacities within the area. Most farming practices are along the riverine ecosystem which primarily depends on irrigation from River Tana. Other farming practices away from the river proximity depend on rain-fed irrigation. In average, Hola farmed land is 12,630 acres with approximately 5,000 acres under irrigation by NIA. The county has reserved approximately 74,131 acres of land as county farmlands. However, socio-economic analysis identified livestock keeping as a key livelihood for farmers with high economic growth potential. Notwithstanding, only 12% of the livestock farmers have ventured into commercial livestock keeping.

Figure 14.5 - Livestock at Makere Canal



Source: UN Habitat, Jane Muriuki, 2023.

14.4.2.1 Large Scale Agriculture

The strategy under this subsection encompasses areas where large scale agricultural practices are carried out. Primarily, this entails the Hola/Tana irrigation scheme by NIB, and reserved county farmlands. Additionally, any parcel of land that is not less than 2000 acres where agriculture is the main activity, either under private, community or public ownership, falls large scale category.

Scope

1. **Low agricultural productivity** per unit area in irrigated land.
2. **Poor farming practices** which promote land degradation, loss of biodiversity, soil erosion and sterility.
3. **Severe drought** and occurrences of **famine** situations.

Objectives

1. To **improve** and optimize **agricultural productivity** per unit area of irrigated land.
2. To **promote sustainable** and conservation **farming** practices.
3. To **establish drought** and **famine management** strategies.

Proposed Strategies

- **Strategy 1:** Advance and enhance agricultural productivity per unit area of irrigated land.
- **Strategy 2:** Promote sustainable and conservation farming practices.
- **Strategy 3:** Establish drought and famine management strategies.

Expected Outcomes

1. Optimally enhanced **agricultural productivity** on irrigated land
2. Implemented **sustainable farming practices**.
3. **Managed** drought and famine impacts

Table 14.10 - Sectoral Policies for Agriculture and Livestock Management

Strategy	Policies
1. Advance and enhance agricultural productivity per unit area of irrigated land.	i) Rehabilitate Hola and Bura Irrigations Schemes to full capacity. ii) Design and implement a plan to operationalize the County farmlands and mini-irrigation schemes. iii) Incorporate farming mechanization. iv) Enhance growers' management capabilities and determine how and where agricultural abstractors can participate in and contribute to local efforts. v) Quantify the aspects of performance, using pair-wise comparison to select the best crops to plant, for climate adoption and optimum production. vi) The county government in partnership with the national government (NIA) to invest and fund agricultural research, generation information and implement knowledge gained to improve food systems. vii) Promote agricultural value chains
2. Promote sustainable and conservation farming practices	i) Prohibit farming and promote conservation measures within laggas, wetlands, riparian reserves, and other ecological fragile areas. ii) Practice conservation agricultural practice that focuses on minimizing soil disturbance, maintaining soil cover, and diversifying crop rotations. iii) Adopt efficient methods of irrigation with emphasis on water use efficiency. Switching from flood or furrow to low-pressure sprinkler systems reduces water use by an estimated 30%, while switching to drip irrigation typically cuts water use in half. iv) Put at least 10% of every farmland under tree cover. v) Develop and implement policy for successful adoption of sustainable and conservation agriculture practices
3. Establish drought and famine management strategies.	i) Develop a water management plan for River Tana: Improve water management to maximize water efficiency and productivity. ii) Plant drought resistant plants and crops. iii) Integrate climate change adaptation and mitigation strategies into agricultural practices. iv) Adopt practices such as rainwater harvesting and efficient water-use technologies to significantly improve water efficiency, reduce water wastage, and enhance crop productivity. v) Acknowledge and address the present water demands and potential supply–demand mismatches in the future. vi) Forge symbiotic sustainable relationships and strengthen collaboration between water, agriculture, and all other sectors

Source: UN Habitat & TRC Technical Team

Table 14.11 - Strategies for large scale agriculture development

Strategy	Priority Interventions (programs/projects)	Spatial coverage	Time-lines	Lead Actors	Potential Financing Mechanisms
1. Advance and enhance agricultural productivity per unit area of irrigated land.	a) Undertake full capacity farming in every NIA and County farmlands. b) Procure large-scale farm mechanization equipment. c) Train and employment of skilled labor to operate farm mechanized equipment	NIA farmlands, County farmlands, Any other farmland ≥2000 acres within the Municipality	1-3 Years	Municipality, County government in charge of Agriculture, NIA	• Municipal Funding • County Government Funding • National Government funding (Ministry of Agriculture, NIA) • Development Banks and Partners
	d) Research on crop performance, using pair-wise comparison to select the best crops/tree species		3-5 Years	Municipality, County government in charge of Agriculture, NIA	
2. Promote sustainable and conservation farming practices.	a) Establish commercial crop/tree nurseries at every large-scale farmland. b) Plant indigenous trees on all riparian reserves	Entire Municipality	Immediate	Municipality, Local Farmers, County government in charge of Agriculture, NIA, CBOs	• Municipal Funding • County Government Funding
	c) Procure and install drip irrigation system. d) Demarcate edges of all large-scale farms based on this plan. e) Plant trees and live fence plant species on the edges of the farms.		1-3 Years	Municipality, Local Farmers, NIA, County government departments in charge of: Agriculture, Water, Natural Resources, Lands and Physical Planning.	• Municipal Funding • County Government Funding • National Government funding (Ministry of Agriculture, NIA) • Development Banks and Partners
3. Establish drought and famine management strategies.	a) Carry out preparation and implementation of River Tana water management and agricultural production plan, including environmental management (see Environmental Strategy)	River Tana Riverine Management Zone	1-3 Years	Municipality, Local Farmers, NIA, County government departments in charge of: Environment, Agriculture, Water, Natural Resources, Lands and Physical Planning.	• National Government funding (TARDA, NEMA, NIA) • County Government Funding
	b) Put in place capacity building programs to farmers on climate change adaptation and mitigation strategies into agricultural practices.	Entire Municipality	Immediate	Municipality, Local Farmers, NIA, County government departments in charge of: Environment, Agriculture, Water, Natural Resources, Lands and Physical Planning.	• National Government funding (NIA) • County Government Funding • Development Banks and Partners

Source: UN Habitat & TRC Technical Team

14.4.2.2 Small and Medium-Scale Agriculture

Small and medium-scale farming is one of main economic and income-earning activity for a sizable sample of residents, and a main contributor to food security in Hola. Farming is practiced at homestead level and along Tana river's riparian bed due to water availability across different seasons of the year. The riparian areas are considered the most productive and fertile soil types, as they support diverse vegetation and wildlife. The rural hinterland has seasonal streams (or lagas) that support rainy season small-scale farming. Rural farming is primarily rain fed. Some farmers practice water catchments as well as flood recession farming and only a few uses the irrigation due to the high costs of irrigation systems. It is important to underscore that despite the various challenges faced in this sector, strategies have been developed towards to salvaging the situation and transforming the small-scale agriculture to desired state.

Figure 14.6 - Banana plantation



Source: UN Habitat, Jane Muriuki, 2023.

The strategy under this subsection encompasses areas where small scale agricultural practices are carried out. Specifically, any parcel of land that is less than 2000 acres where agriculture is the main activity, either under private, community or public ownership, falls large scale category.

Scope

1. **Low agricultural yields** and **incomes** from small-scale farming
2. **Unsustainable** farming practices

Strategic Objectives

1. To **optimize agricultural yields** and **incomes** from small-scale farming
2. To **promote climate-smart** and **sustainable farming** practices

Proposed Strategies

- **Strategy 1:** Improve and optimize agricultural yields and incomes from small and medium scale farming.
- **Strategy 2:** Implement climate-smart and sustainable farming practices.

Expected Outcomes

1. **Improved yields** from small and medium-scale farming
2. **Implemented climate-smart** and **sustainable farming** practices.

Table 14.12 - Sectoral policies for small and medium-scale agriculture

Strategy	Policies	
1. Improve and optimize agricultural yields and incomes from small and medium scale farming.	i)	Develop cold rooms and fresh farm produce collection points in primary and secondary centers.
	ii)	Construct or renovate existing markets to dedicated modern farm-fresh produce markets.
	iii)	Develop dry grain silos in Hola, Laini and Wenje
	iv)	Expand the capacity of existing fruit processing plant in Hola and establish new plants in other secondary nodes.
	v)	Develop a plan for primary and secondary nodes with distinct zones and development control guidelines for promoting agro-based industrial development.
	vi)	Promote rainwater harvesting mechanisms at household level for farming
	vii)	Develop a GIS-based database system for all small-scale farmers, with data on their bio data, contacts, type of produce, location, and quantities.
	viii)	Develop support policies such as a marketing strategy for all farm produce.
	ix)	Work with the County government to provide manure, seeds, and other farm inputs at subsidized cost to farmers within the Municipality especially during the rainy season.
	x)	Work with county government and partners to invest in seasonal purchase of fruits & cereals during plenty harvest for storage and preservation to address the issue of food insecurity and poverty during the dry season.
	xi)	Promote shift from subsistence farming to agribusiness.
	xii)	Introduce small-scale mechanized farming.
	xiii)	Improve and maintain of feeder roads to enhance transportation of goods and labor from the hinterlands to marketplaces.
2. Implement climate-change adaptation measures and sustainable farming practices	i)	Promote sustainable crop rotation, cover crops, conservation tillage, the use of organic fertilizers, and agroforestry.
	ii)	Promote and create a local fund kitty for local creativity and innovations for small scale agri-business.
	iii)	Establish commercial tree nurseries in every ward within the municipality.
	iv)	Increase awareness and build capacity for farmers on climate change, climate smart, sustainable practices, and food security measures.
	v)	Put at least 10% of every small-scale farm under tree cover.
	vi)	Introduce extension services to farmers within the Municipality.
	vii)	Prioritize agricultural diversification should enhance productivity and resilience.
	viii)	Introduce smart ways to deal with farmers-wildlife conflicts such as practicing bee keeping at the perimeter of wildlife conservancies and corridors to keep away wildlife such as baboons

Source: UN Habitat & TRC Technical Team

Table 14.13 - Small and medium-scale Agriculture Strategies

Strategy	Priority Interventions (programs/projects)	Spatial coverage	Time-lines	Lead Actors	Potential Financing Mechanisms
Improve and optimize agricultural yields and incomes from small and medium scale farming.	Construct cold rooms and fresh farm produce collection points in primary and secondary centers. Establish and renovate farm-fresh produce markets. Put up dry grain silos in Hola, Laini and Wenje Expand the capacity of existing fruit processing plant in Hola and construct new plants in other secondary nodes	Hola, Kumbi, Laini, Bondeni, Wenje, Existing small and medium-scale farming along the riparian corridor, Portion of NIA Irrigation Schemes (Hola)	3-5 years	Municipality, Local Farmers, NIA, County government departments in charge of: Industrialization, Economic development, Livestock, Agriculture, Water, Natural Resources, Lands and Physical Planning.	Municipal Funding County Government Funding National Government funding (Ministry of Agriculture, NIA) CBOs (farming and environmental based)
	Implement development control guidelines for promoting agro-based industrial development. Procure water tanks for all registered farm and environmental-based CBOs in the Municipality		Immediate		
	Prepare and implement a GIS-based database system for all small and medium-scale farmers. Develop and put into practice a marketing strategy for agricultural produce. Procure and distribute subsidized farm inputs and farm machinery to all registered small and medium-scale farmers	Entire Municipality	1-3 Years	Municipality, Local Farmers, NIA, County government departments in charge of: Industrialization, Economic development, Livestock, Agriculture, Water, Natural Resources, Lands and Physical Planning.	Municipal Funding County Government Funding
	Upgrade and maintain main feeder roads linking farms to markets		5-10 Years	Municipality, KeRRA, County department in charge of Roads and infrastructure	National Government funding (KeRRa) County Government Funding
Implement climate-smart and sustainable farming practices	Set up a local fund kitty for local creativity and innovations for small scale agri-business. Undertake extension services to farmers within the Municipality. Procure and distribute bee hives to all farmers bordering wildlife conservation zones. Establish community-led commercial tree/crop nurseries in every ward within the municipality	Entire Municipality	1-3 Years	Municipality, Local Farmers, NIA, KWS, County government departments in charge of: Industrialization, Economic development, Livestock, Agriculture, Water, Natural Resources, Lands and Physical Planning.	Municipal Funding County Government Funding National Government funding (KFS, KWS) CBOs (farming and environmental based)

Source: UN Habitat & TRC Technical Team

14.4.2.3 Pastoralism and Livestock Production

Pastoralism and livestock keeping contributes significantly to the livelihoods and the economy of the municipality. However, livestock farmers face constraints in the process resulting to decline in production and loses. Some of these challenges include livestock pests and diseases, draught and farming, cattle/animal theft and inadequate markets/auction yards, and skills inadequancy to advance modern production. It is on this background that strategies have been developed to capitalize on the immediate opportunities presented by this sub-sector.

Scope

1. **Low production** and economic returns from livestock farming
2. **Over-dependence** on livestock keeping as a source of livelihood for pastoralist families.

Objectives

1. To **optimize** production and economic returns from livestock farming
2. To introduce **economic diversification** among pastoralists and livestock farmers

Proposed Strategies

- **Strategy 1:** Increase and capitalize on production and economic returns from livestock farming.
- **Strategy 2:** Economic diversification among pastoralists and livestock farmers

Expected Outcomes

1. **Increased production** and economic returns from livestock farming.
2. **Diversified economic activities** by pastoralists and livestock farmers.

Table 14.14 - Sectoral Policies for pastoralism and livestock production

Strategy	Policies
1. Increase and capitalize on production and economic returns from livestock farming.	a) Relocation and expanding capacity of the main livestock market in the Municipality. b) Establishment of new or improving existing livestock markets & auction yards c) Establishment of livestock products value addition processing industries in the north. d) Decentralizing veterinary services from Hola to Secondary centers and implementing a mobile veterinary doctor system. e) Sensitization programs incorporating veterinary training programs, focusing on sustainable and local breeds, and enhancing livestock grazing systems. f) Develop drought management measures to complement fodder production, sustainable rotational grazing and water harvesting for livestock use.
2. Economic diversification among pastoralists and livestock farmers	a) Establishment of diversification policy that accounts for individual household features such as the share of reliance on livestock. b) Sensitize farmers and promote livestock diversification, particularly with drought-resistant animals like camels and other goat species. c) Sensitize and give incentives to livestock farmers/pastoralists to diversify into other high value economic agricultural activities such as irrigated farming, establishment of orchards, apiculture and aquaculture.

Source: UN Habitat & TRC Technical Team

Table 14.15 - Pastoralism and Livestock Production Strategies

Strategy	Priority Interventions (programs/projects)	Spatial coverage (see Municipal SDF and Land use Plan)	Time-lines	Lead Actors	Potential Financing Mechanisms
1. Increase and capitalize on production and economic returns from livestock farming.	a) Relocate and construct a new and double capacity main Municipal livestock market	Hola CBD.	1-3 Years	Municipality, Local Farmers, NIA, County government departments in charge of: Industrialization, Economic development, Livestock, Agriculture, Lands and Physical Planning.	• Municipal Funding
	b) Renovate old and construct new secondary livestock markets	Gururi, Wenje and Laini	1-3 Years		• Municipal Funding • County Government Funding
	c) Acquire space and establish animal auction yards	Makutano, Kumbi, Bodeni			
	d) Establish, publicize, and enforce periodic market day program for livestock markets	Makutano, Kumbi, Bodeni, Gururi, Wenje and Laini	Immediate		
	e) Construct livestock products value addition processing industries	Makere sub-center, Kumbi, Laini	3-5 Years		• Municipal Funding • County Government Funding • National Government funding
	f) Carry out decentralization veterinary services from Hola to Secondary centers	Kumbi, Laini, Bondeni, Wenje	1-3 Years		
	g) Execute periodic capacity building and sensitization programs to livestock farmers. h) Develop sub-zones for rotational grazing in grazing areas	Entire Municipality	1-3 Years	Municipality, NIA, County government departments in charge of: Environment, Livestock, Agriculture,	• Municipal Funding
2. Economic diversification among pastoralists and livestock farmers	i) Develop and implement livestock implementation policy j) Provide training programs and distribute incentives to livestock farmers to diversify in to other high value economic agricultural activities k) Distribute orchard management, bee keeping and fish farming inputs to livestock farmers	Entire Municipality	1-3years	Municipality, NIA, County government departments in charge of: Environment, Livestock, Agriculture, Fisheries, Bee keeping	• Municipal Funding • County Government Funding • National Government funding

Source: UN Habitat & TRC Technical Team

14.4.2.4 Spatial Planning for Agriculture and Livestock Value Chains

Agriculture and livestock value chains within the municipality can focus on local production, manufacturing processes for product diversification and expansion of marketing. The main existing value addition infrastructure is the mango processing plant in Boji-B8 Road junction. The SDF and municipal land use plan seeks to expand such infrastructure.

Scope

- Spatial inequality, access inequality and inadequate value addition facilities for livestock and agricultural produce

Objective

- To plan and spatially **address access inequality** and **inadequate value addition facilities** for livestock and agricultural produce.

Proposed Strategy

- **Strategy 1:** Develop spatial planning measures that improves access and provision of adequate value addition facilities for livestock and agricultural produce.

Expected Outcome

- **Improved access and adequate value addition** facilities for livestock and agricultural produce

Table 14.16 - Policies for Spatial Planning for Agriculture and Livestock Value Chains

Strategy	Policies
1. Develop spatial planning measures that improves access and provision of adequate value addition facilities for livestock and agricultural produce.	i) Identification, mapping, and protection of livestock routes and corridors to minimize conflicts with farmers and local populations. ii) Establishment of development control guidelines of livestock and all agricultural practice zones. iii) Provision of livestock water points in Fanjua, Bohoni, Makere, Gururi and approximately 10 spatially distributed on the west side of the municipality. iv) Developing dedicated zones and implementation of irrigated grazing areas and for fodder farming in northern regions of the Municipality near Kumbi area. v) Provision of integrated Fruit Processing factories, New Hadampia Settlement and on the edges of Hola CBD at the boarder the Tana/Hola irrigation Scheme. vi) Establishment of agro-based industrial zones [areas for, aggregating farm produce, warehousing/cold storage, packaging, basic processing]

Source: UN Habitat & TRC Technical Team

Table 14.17 - Spatial Planning for Agriculture and Livestock Value Chains Strategy

Strategy	Priority Interventions (programs/projects)	Spatial coverage	Timelines	Lead Actors	Potential Financing Mechanisms
1. Develop spatial planning measures that improves access and provision of adequate value addition facilities for livestock and agricultural produce.	a) Map and create database of all livestock routes. b) Implement development control guidelines of all livestock and agricultural practice zones	Entire Municipality	Immediate	Municipality, NIA, County Assembly, UN Habitat, County departments in charge of Lands and Physical Planning, Agriculture, Water and Natural Resources	Municipal Funding County Government Funding National Government funding
	c) Construct water points for livestock across the Municipality		3-5 Years	Municipality, NIA, County departments in charge of Lands and Physical Planning, Agriculture, Livestock, Water and Natural Resources	Municipal Funding County Government Funding
	d) Undertake demarcation and implementation of dedicated zones for irrigated grazing areas and for fodder farming	North of the Municipality (Near Kumbi area)	1-3 Years		Municipal Funding
	e) Construct integrated Fruit Processing factories (2)	Hola CBD, New Hadampia Settlement	3-5 Years	Municipality, County departments in charge of Industrialization, and Agriculture, Lands and Physical Planning	Municipal Funding County Government Funding
	f) Develop agro-based industrial zones and implement development control guidelines	Hola CBD, Kumbi, Laini, Bondeni, Wenje	1-3 Years		Municipal Funding County Government Funding

Source: UN Habitat & TRC Technical Team

14.5 MOBILITY STRATEGY

Scope

This strategy seeks to achieve a **safe, efficient, sustainable,** and **convenient mobility** within the municipality, as well as improved **regional connectivity.**

Objective

The specific objectives of the strategy are to:

- Create a modern, well connected, and efficient road network system connecting the settlements within the Municipality.
- Mitigate the risks related to flooding.
- Manage traffic and transportation land uses within Hola town and facilitate their future management.
- Establish a foundation for future management of traffic in the secondary centers.
- Promote Non-Motorized Transport (NMT) and Sustainable Mobility and promote road safety.
- Create an efficient public transport system within the Municipality.
- Improve connectivity of the Municipality with the region and the country
- Improve the mobility and connectivity within Hola town.

Outcomes

- Upgrading and enhancing legibility of the current road network including opening of strategic links.
- Installation of functional drainage systems in the major roads and urban centers.
- Provision of adequate parking spaces, public transport facilities and an organized and hierarchical road network in the main centers especially Hola Town.
- Establishment of a reliable NMT mobility, with adequate streets that incorporate green infrastructure.
- Creation of a reliable public transport system.
- Upgraded connection between the two sides of Tana River and creation/implementation of connections with Mombasa and Nairobi.

14.5.1 Municipal Motorized Transportation

The strategies on motorized transportation evaluate the whole road network and recommend road upgrading and widening, as well as road improvement and creation of new links for improved vehicular transport.

Sectoral Policies

- **Upgrade selected roads** within the municipality.
- Creation of **road links** connecting selected settlements and strategic locations within the municipality.
- Provide constant and continuous services for **road maintenance** and repair.
- Build and maintenance of **bridges** along Tana River.
- Construction of **stormwater drainage channels** along roads and within major centers and villages at risk of flooding.
- **Rehabilitation** of the **existing drainage** system.
- Provide **car parking facilities** in urban centers and truck parking facilities in correspondence of market and industrial hub.

Figure 14.7 - Bridge connecting Garissa County



Source: UN Habitat, Jane Muriuki, 2023.

Table 14.18 - Priority Interventions for Municipal Motorized Transportation

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Upgrading of roads within the municipality to improve connectivity and unlock local economy	Old Malindi road from Wachakone towards north (32.72 Km) Old Malindi road from Lenda towards south (36.59 Km)	Upgrade to bitumen standards of the Old Malindi Road north of Wachakone and south of Lenda	Short term (1≤3 years)	CGoTR, KeRRA, KURA, Municipality
	Old Malindi road (82.49 Km)	Upgrade to Class C Road the Old Malindi Road	Medium term (≥3≤5 years)	CGoTR, KeRRA, KURA, Municipality
	Old Malindi road to Masalani (10.13 Km)	Upgrade to Class C Road the road connecting the Old Malindi road to Masalani	Medium term (≥3≤5 years)	CGoTR, KeRRA, KURA, Municipality
	Kumbi to B8 road (10.59 Km) Boij to B8 road (8.43 Km)	Upgrade to Class D Road of the road connecting the old and new Malindi road in correspondence of Kumbi and Boji	Medium term (≥3≤5 years)	CGoTR, KeRRA, Municipality
	Makere to B8 road (9.33 Km) Handampia to B8 road (9.35 Km) Wenje to B8 road (7.47 Km)	Upgrade to Class E Road of the road connecting the old and new Malindi road in correspondence of Makere, Handampia and Wenje	Medium term (≥3≤5 years)	CGoTR, KeRRA, Municipality
Creation of strategic links within the municipality to improve connectivity and unlock local economy	Kumbi to Lapsset Corridor (9.94 Km)	Open a Class D link road between Kumbi-Mansabubu and the Lapsset Corridor	Medium term (≥3≤5 years)	CGoTR, KeRRA, Municipality
	Laini to B8 road (7.92 Km)	Open a Class D link road between Laini and the Malindi-Garissa B8 road	Long term (≥5-10+ years)	CGoTR, KeRRA, Municipality
	Majengo to Mkomani (6.81 Km) Majengo to Gubani (7.33 Km)	Open a Class E link road between Majengo and Mkomani and Gubani	Long term (≥5-10+ years)	CGoTR, KeRRA, Municipality
	Municipality	Constant road maintenance and repair	Continuous	CGoTR, Municipality
	Kumbi, Laini, Bondeni, Wenje	Creation of parking lots in Secondary centers to avoid encroachement of roads	Short term (1≤3 years)	Municipality
Creation and improvement of strategic connection between the two sides of Tana River	Mansabubu (300 m)	Construction of a Tana River Bridge with a Class D Road in Mansabubu	Short term (1≤3 years)	CGoTR, MoT&I, Municipality
	Majengo (150 m)	Maintenance and consolidation of the Tana River bridge in Majengo	Medium term (≥3≤5 years)	CGoTR, Municipality

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Have a well reticulated drainage channel system within the municipality	Municipality	Construction of stormwater drainage channels along all Class B-C-D-E roads	Short term (1≤3 years)	CGoTR, Municipality, KeRRA, KURA
	Municipality	Rehabilitation of the existing drainage channel	Short term (1≤3 years)	CGoTR, Municipality, KeRRA, KURA
	Hola, Kumbi, Laini, Bondeni, Wenje Zone 1 Urban Centre Zone 2: Secondary Centers	Construct drainage systems along roads in major centers as Hola, Kumbi, Laini, Bondeni and Wenje	Short term (1≤3 years)	CGoTR, Municipality, KURA
	Rhoka, Makere, Chewani, Wachakone, Kone, Mikinduni, Handampia, Vukoni, Majengo and other identified setltements Zone 3. Sub-Centers and Rural Villages	Provide drainage systems along roads in villages at risk of flooding	Short term (1≤3 years)	CGoTR, Municipality, KeRRA
	Municipality	Monitor and control illegal dumping on stormwater drains	Continuous	CGoTR, Municipality
	Municipality	Provide equipment and tools for drainage maintenance and enforce unclogging of stormwater drainage channel	Continuous	Municipality, CBOs
Install alarms to alert the population of risks	Roads at risks of flooding	Installation of security flood lights in roads at risks of flooding within the Municipality	Medium term (≥3≤5 years)	CGoTR, Municipality
Provision of adequate parking space	Industrial Hub in the North, South and in Hola town and close to the Market of Hola, Kumbi, Laini, Bondeni, Wenje Zone 1. Urban Centre Zone 2. Secondary Centers Zone 6. Industrial Development Area	Provide truck parking facilities in correspondence of the main markets and industrial hub	Long term (≥5-10+ years)	Municipality

Source: UN Habitat & TRC Technical Team

14.5.2 Municipal Non-Motorized Transportation and Road Safety

To increase road safety, reduce traffic congestion, road encroachment and air pollution, in Hola town, it is key to invest in sustainable mobility, providing clear and separate cycling and pedestrian infrastructures in urban areas, urban furniture and an improve education and awareness on how to enforce traffic rules and regulations.

Sectorial Policies

- Promote expansion of well-designed and safe NMT infrastructure.
- Enhance street lighting to promote safety.
- Promote safety awareness.

See Table 14.18

14.5.3 Regional Transportation- Connecting Hola Municipality with Other Regions

The focus on ensuring a balanced development of urban transport will concentrate on providing public transport incentives and priorities, to reduce congestion in urban areas, fuel use and improve air quality.

The provision of public transport services is a part of an overall set of policies which include the above-mentioned urban planning, traffic restraint and creation and improvement of pedestrian and cyclist infrastructures.

To facilitate national and regional integration, promote trade, economic growth, and wealth creation, it is key also to improve accessibility of the Municipality to and from Kenya, strengthening the Garissa-Malindi access, developing an airstrip for regional connectivity and providing regular services towards Nairobi and Mombasa.

Sectorial Policies

- **Upgrading of selected roads** within the municipality.
- Create a **public transport hub** and facilities in main centers.
- Create **bus stops** and connections within the municipality and the county.
- Build the **new airstrip** in a selected location.

See Table 14.19

Table 14.19 - Priority Interventions for Non-Motorized Transportation and Road Safety

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Provision of NMT facilities in all major roads and urban areas	Municipality	Creation of cycling lanes along Class B-C-D-E road	Long term (≥5-10+ years)	CGoTR, Municipality
	Hola, Kumbi, Laini, Bondeni, Wenje Zone 1. Urban Center Zone 2. Secondary Centers	Creation of cycling lanes in Hola town and Secondary centers	Short term (1≤3 years)	Municipality
	Old Malindi road	Creation of pedestrian lanes along Old Malindi road	Medium term (≥3≤5 years)	Municipality
	Hola, Kumbi, Laini, Bondeni, Wenje Zone 1. Urban Centre Zone 2. Secondary Centers	Creation of pedestrian lanes along all urban roads	Short term (1≤3 years)	Municipality
Provide green infrastructures	Hola, Kumbi, Laini, Bondeni, Wenje Zone 1. Urban Center Zone 2. Secondary Centers	Enhance greenery of residential and commercial areas by planting ornamental trees species	Medium term (≥3≤5 years)	Municipality
Separation of NMT lanes from motorized traffic	Municipality	Provision of bollards to prevent vehicular obstruction of the walkways.	Medium term (≥3≤5 years)	Municipality
Installation of street furniture	Hola, Kumbi, Laini, Bondeni, Wenje Zone 1. Urban Center Zone 2. Secondary Centers	Provision of streetlights, waste bins along the walkways, street signage and road markings	Long term (≥5-10+ years)	Municipality
	Municipality	Installation and management of solar powered street lighting in all major roads and streets. The spacing between the light poles should be 2.5 to 3 times the height of the pole.	Medium term (≥3≤5 years)	Municipality CGTR Ministry of Roads, Transport, Public Works
Creation of safe crossing points for pedestrians along main roads	Hola, Kumbi, Laini, Bondeni, Wenje Zone 1. Urban Centre Zone 2. Secondary Centers	Installation of speed bumps and pedestrian crossing in Hola town and Secondary centers	Short term (1≤3 years)	Municipality
Enforcement of traffic rules	Municipality	Sensitization of road users on the importance to observe traffic rules	Long term (≥5-10+ years)	CGoTR, Municipality

Source: UN Habitat & TRC Technical Team

Table 14.20 - Priority Interventions for Regional Transportation

Program/Project	Spatial coverage & Target Areas	Priority Interventions	Time frame	Lead Actors
Upgrading of roads within the municipality to improve connectivity and unlock local economy.	Kitui to Hola road	Upgrade to Class B Road of the Kitui to Hola road	Medium term (≥3≤5 years)	CGoTR, MoT&I, KeRRA, KURA
	Malindi-Gariss B8 road	Upgrade to Class B Road of the Malindi-Garissa Road B8 road	Medium term (≥3≤5 years)	CGoTR, MoT&I, KeRRA, KURA
Improvement of existing public transport facilities	Hola town Zone 1A. Hola Urban Core	Upgrading and consolidation of the Heller Bus Park in Hola town	Short term (1≤3 years)	CGoTR, Municipality
Creation and expansion of public transport facilities and distribution	Hola, Kumbi, Laini, Bondeni, Wenje and the Sub-Centers Zone 1. Urban Centre Zone 2. Secondary Centers Zone 3. Sub-centers and Rural Villages	Creation of bus stops in Hola, Secondary Centers and Sub-Centers	Short term (1≤3 years)	CGoTR, Municipality
	Old Malindi Road, Malindi-Garissa Road and Hola-Kitui road	Creation of bus stops along Old Malindi Road, Malindi-Garissa Road and Hola-Kitui road	Medium term (≥3≤5 years)	CGoTR, Municipality
	Kumbi, Laini, Bondeni, Wenje Zone 2. Secondary Centers	Creation of a public terminus in Kumbi, Laini, Bondeni and Wenje	Long term (≥5-10+ years)	CGoTR, MoT&I, Municipality
	Municipality	Creation of a regular public transportation system connecting Bura to Wenje along the Old Garissa Road	Medium term (≥3≤5 years)	CGoTR,
	Hola, Kumbi, Laini, Bondeni, Wenje and the Sub-Centers Zone 1. Urban Center Zone 2. Secondary Centers Zone 3. Sub-centers and Rural Villages	Constructions of BodaBoda and TukTuk shelters in Hola, Secondary centers and Sub-centers	Short term (1≤3 years)	Municipality
Create bus connection within the Country	Hola town Zone 1. Urban Center	Creation of regular connection linking Mombasa (through Malindi) and Nairobi (through Garissa)	Medium term (≥3≤5 years)	CGoTR, Municipality
Ensure utilization and operationalization of the airstrip	Southern area	Relocate the airstrip in a strategic location	Long term (≥5-10+ years)	CGoTR, Kenya Airports Authority
	Southern area	Upgrade and pave the airstrip and provide management building	Long term (≥5-10+ years)	CGoTR, Kenya Airports Authority

Source: UN Habitat & TRC Technical Team

14.5.4 A Street-Led Transformation of Hola

Sectorial Policies

- Develop a **mobility plan** for the town of Hola.
- **Upgrading** and improving selected **roads**.
- Create and merge the **stormwater infrastructures**.
- Create **bus stops** and **connections** within the municipality and the county.

Table 14.21 - Priority Interventions for Improving Connectivity within Hola town

Program/Project	Priority Interventions	Time frame	Lead Actors
Upgrading of the road network in Hola town to improve connectivity and unlock local economy	Harmonizing the existing roads within the CBD	Short term (1≤3 years)	CGoTR, Municipality
	Upgrade of selected roads to bituminous standards	Medium term (≥3≤5 years)	CGoTR, KURA
	Develop a pedestrian walkaway circuit connecting key activities and sites in Hola center	Medium term (≥3≤5 years)	CGoTR, Municipality
Have a well reticulated drainage channel system within the town	Construction of proper drainage channel along town major roads	Short term (1≤3 years)	CGoTR, Municipality
Implement traffic calming measures	Create of speed humps, re-locate of bus stops, road marking, signage and NMT crossing	Short term (1≤3 years)	Municipality
Provision of adequate parking space	Create additional off-streets parking within the building following proper guidelines	Short term (1≤3 years)	Municipality
	Provide and encourage parallel parking in CBD	Short term (1≤3 years)	Municipality
	Improve Hola bus station to stop using bus stops as bus parks	Short term (1≤3 years)	CGoTR, Municipality
	Creation of Bodaboda pick & drop points and shelters	Short term (1≤3 years)	Municipality

Source: UN Habitat & TRC Technical Team

14.6 HOUSING AND INFORMAL SETTLEMENTS UPGRADING STRATEGY

Scope

Diverse challenges are faced by housing in Hola municipality across urban and rural settlements. Households are dealing with **unaffordability, poor building quality,** and **inadequate provision of basic services**. These challenges are further exacerbated by high poverty incidence, land tenure issues, and inadequate urban planning. The municipality currently experiences a significant housing demand, with a projected deficit of 5,307 units by 2032. Accessibility to basic services, quality and adequacy of housing remain pressing concerns, with disparities observed across the municipality.

However, there are certain key opportunities for enhancing affordable housing for all in the municipality. Such include high land and housing ownership rates and locally available materials, and the presence of underutilized land in the urban core.

Objectives

The plan seeks to:

a. **Enhance** the **quality, adequacy,** and **resilience** of both **existing** and **new housing stock.**

b. **Promote diversification** of the **housing stock** to accommodate various household types and cater to diverse social groups within the municipality.

c. Ensure that housing provision **aligns with** the **evolving spatial imperatives,** effectively accommodating population growth, and facilitating a balanced distribution of housing throughout the municipality.

d. **Provide framework** for improving domestic accessibility to basic services, especially electricity, water, and sanitation.

e. **Address informal settlements** by recommending formulation of adaptive planning and design standards, and upgrading recommendations.

Outcomes

- **Facilitated upgrades** of existing homes for enhanced durability and resilience against environmental factors, prioritizing the use of local materials and aligning with relevant building codes
- **Provision** of sufficient, well-distributed, quality, **affordable homes**
- **Expansion of infrastructure networks** to improve domestic accessibility to essential services such as electricity, water, and sanitation, particularly in underserved rural areas.
- Promotion of **alternative housing** delivery models
- Implementation of **inclusive housing policies** and land-use planning strategies that ensure equitable access to housing opportunities across the municipality.

14.6.1 New Housing Provision

Strategic planning concern

Hola municipality faces a multitude of **challenges** regarding the provision of new housing, including issues of affordability, supply inadequacy, and socio-economic disparities. Affordable housing, defined as dwelling units costing not more than 30% of household income per month, remains elusive for a significant portion of the population, with over 52.3% of households earning KES 5,000 or less. The existing housing market struggles to meet the escalating deman ds of a growing population, with notable housing shortages in Hola Urban Core and the secondary centers.

Furthermore, there is a lack of diversity within the housing stock, leading to an inadequate response to the varied needs of different social groups and household types. Household poverty and limited financing options impede residents' ability to access adequate housing. Moreover, the absence of comprehensive planning and design guidelines further hampers effective housing development.

Table 14.22 - Housing Need Projections

Location	Current Population (2023)	Housing supply (2023) in units	Projected Population 2032	Estimated housing need (additional units needed) 2032
Entire Municipality	83,421	16,684	109,953	5,307
Hola Urban Area	43,072	8,614	66,890	4,764
Sub centres				
Bondeni	3631	726	5054	285
Wenje	1898	380	2642	149
Laini	1312	262	1826	103
Kumbi	1869	374	2549	136

Source: UN Habitat & TRC Technical Team

Strategic objectives

- Provide **equitable access** to adequate housing across the municipality.
- Increase **affordable housing provision** across the municipality to match demographic growth.
- **Incentivize investment** in the housing sector.
- Develop **accessible housing finance models** for households.
- **Diversify** housing delivery models.

Sectoral Policies

- **Optimize vacant land** for housing development and set aside sufficient land for new social housing initiatives.
- Offer **diverse housing typologies** across blocks to prevent spatial monotony and cater to varied needs.
- Foster appropriate and effective **public-private partnerships** for investment in housing.
- Establish **housing financing** and **affordability measures** to assist households in accessing housing by their own means.
- Adopt **participatory design approaches** to propose design responses and building technologies.
- Promote the **use of local materials** and **alternative building technologies** in housing delivery.
- Develop and implement **local building codes** and standards to enhance adequacy and resilience of housing infrastructure.
- Promote **well-defined, organized streets** and **plot layouts** for functional and livable communities.

Table 14.23 - Design and Construction Guidelines for New Housing

Design Aspect	Guidelines
Building Design and Layout	Housing layouts should be tailored to accommodate household needs while adhering to the requirements outlined in Part VII of the National Building Code, specifically addressing space within buildings. As a base, habitability standards dictate that each dwelling room should have a minimum area of 7.0m² for single room occupancy, with an internal width of 2.1m and a minimum ceiling height of 2.4m.
Construction & Materials	Favor the use of affordable, high quality locally sourced materials such as bricks, earth blocks, rammed earth, or coral stone for wall construction. Additionally, encourage the adoption of innovative construction methods such as prefabrication or the use of recycled materials, compressed earth blocks with local soil.
Style	Include culturally appropriate elements of local traditional architecture. This can be in the form of plans inspired by local architecture or specific architectural details.
Participation and Inclusivity	Promote inclusive design principles by ensuring that buildings cater to the needs of individuals with disabilities and the elderly. This includes features such as leveled or ramp access with a maximum slope of 1:12, as well as corridors with a minimum width of 1.2m. Furthermore, involve end-users in the design process to ensure that housing solutions are tailored to their specific needs and preferences.
Sustainability: Light and Ventilation	Ensure that buildings incorporate adequate natural lighting and ventilation in line with National Building code articles: 136, 137, 138 and 139. Prioritize passive cooling strategies, including cross and stack ventilation systems, as well as incorporating overhangs to shield the building from direct sunlight and rain. Ensure effective control of ventilation and infiltration. Moreover, strategically locating openings on the shaded side of the building or to capture prevailing winds can optimize natural airflow and thermal comfort within the home.
Sustainability: Basic Services	Facilitate accessibility to essential services such as electricity and water networks within housing developments. Additionally, encourage the integration of sustainable practices, such as renewable energy sources, by using of solar panels for electricity generation and rainwater collection systems.
Disaster Risk and Environmental management	Develop floodproof housing through appropriate architectural detailing at technical design stage. This involves sealing vulnerable points of entry for water, such as doors and windows, and ensuring the integrity of building envelopes to prevent water infiltration. Additionally, the use of durable materials resistant to water damage, such as concrete, masonry or treated timber, can enhance the structural integrity of buildings. Landscaping strategies should be employed for floodproofing, such as implementing graded slopes to divert water away from homes and planting water-resistant vegetation to absorb water runoff. Moreover, raising the elevation of buildings above flood levels and incorporating elevated foundations can further reduce the risk of flood damage.
Building lines	To achieve harmonious development, all the new developments need to observe the set building lines and setbacks: Setback: 6m building line for roads between 20m & 9m. Rear and sides: 3 m on the sides and 4.5 m at the rear on all residential zones.

Source: UN Habitat & TRC Technical Team

Table 14.24 - Description of Proposed Typologies for New Hosuing Stock

Typology	Description	Proposed Density	Surface and Plot coverage	Target income group	Spatial Coverage &Target Areas	Estimated additional residential units needed by 2032
Bungalow	1 storey single family house – 2 to 5 bedrooms	10-20 units/ha 1 unit per plot of 1/8 acre to ¼ acre	Surface per unit: 50-180sqm Maximum Plot coverage: 40%	All	Residential areas across municipality	Entire Municipality: 3000 Hola Urban Core: 1800 Bondeni: 160, Wenje: 80 Laini: 55, Kumbi: 75
Maisonnette	2 or 3 storey single family house – 3 to 6 bedrooms	10-20 units/ha 1 unit per plot of 1/8 acre to ¼ acre	Surface per unit: 100-300sqm (across floors) Maximum Plot coverage: 40%	Middle/ Higher	Residential areas across municipality	Entire Municipality: 550 Hola Urban Core: 475 Bondeni: 30, Wenje: 15, Laini: 10 Kumbi: 14
Multi-family Row housing or courtyard compound	1 storey multifamily house - 3 units per building	60 units/ha 3 units per plot of 1/8 acre	Surface per unit: 50-100 sqm Maximum Plot coverage: 60%	Low/middle	New settlement clusters (Handampia, MakereMahono and Nyangwani), Dayate)	165
Flat in Multi-storey residential building	2 or 3 storey multifamily house – 4 units	40-80 units/ha 4 units per plot of 1/8 to 1/4 acre	Surface per unit: 50-90sqm Maximum Plot coverage: 70%	Low/middle	Residential areas across municipality	Entire Municipality: 276 Hola Urban Core: 238 Bondeni: 14, Wenje: 8 Laini: 5' Kumbi: 6
Flat in Mixed-used development: Maisonnette over retail	2 or 3 storey building – multifamily residential units above commercial ground floor	40 units/ha 1 commercial unit and 2 residential units per plot of 1/8 acre	Surface per unit: 50-90sqm Maximum Plot coverage: 70%	All	Residential areas along secondary roads of the Urban Core and Town centers of Secondary centers	Hola Urban Core: 700 Bondeni: 81 Wenje: 46 Laini: 33 Kumbi: 54
Flat in Mixed-used development: Multi-storey mixed used building	3 to 5 storey building – multifamily residential units above commercial ground floor	80-160		Flat in Mixed-used development: Multi-storey mixed used building	3 to 5 storey building – multifamily residential flats over commercial ground floor	80-160

Source: UN Habitat & TRC Technical Team

Table 14.25 - Programs and Priority Interventions for New Housing Development

Program/ Project	Priority interventions	Spatial Coverage	Time frame	Lead Actors	Potential Financing Mechanisms
Adoption of sustainable building practice	- Establish a vocational training facility to disseminate education and training on sustainable building practices to builders, contractors, and homeowners. - Enforce relevant sustainability building codes and standards to ensure compliance with environmentally friendly construction practices. - Provide incentives for the adoption of sustainable building materials and technologies.	Entire Municipality	Immediate	House owners, County Government, County Housing Department, Municipality.	Municipal funding, County Government funding, Public-private partnerships with sustainable development organizations
Provision of social & Affordable Low-Cost housing (for lower income groups).	- Support national government in the development of contextually responsive social housing projects provision in areas of Mapenzi Estate in Kalaule - Create land banks or reserves for social housing projects. - Work with SACCOs/Groups that support affordable low-cost housing for lower-income groups.	Hola Urban Core and Secondary Centers (Kumbi, Laini, Bondeni, Wenje)	6-10 years	County Housing Department, Municipality,	National Government Funding (Ministry of Housing) -SACCCO/Cooperative Housing Delivery Model -Self-Help Groups Housing Delivery Model -Micro-Finance Housing Delivery model
Provision of technical assistance to households for new home building	- Offer services from a county architect or engineer to residents for new home building projects. - Develop customizable architectural templates to reduce design and construction costs for homeowners. - Develop housing plans and recommendations for incremental improvements over time as the household's finances allow. - Provide financial assistance or subsidies for low-income households to access technical expertise and resources.	Entire Municipality	Immediate	County Housing Department, Municipality, Local artisan and tradesmen, Local architect	Municipal Funding, National Government Funding (Ministry of Housing)
Land access facilitation	- Establish partnerships with landowners to lease or sell land at affordable rates for housing initiatives in Hola Town.	Entire Municipality	2-5 years	County Government, Municipal Government, Landowners and Developers	Municipal Funding, County government funding -SACCCO/Cooperative Housing Delivery Model -Self-Help Groups Housing Delivery Model -Micro-Finance Housing Delivery model

Program/ Project	Priority interventions	Spatial Coverage	Time frame	Lead Actors	Potential Financing Mechanisms
Comprehensive Residential Development Schemes	- Develop detailed masterplans to guide integrated housing development in identified mixed-use residential areas. - Establish action area plans with clear guidelines for execution and implementation. - Allocate resources for infrastructure development in newly identified mixed-use residential zones.	Hola Urban Core and Secondary Centers (Kumbi, Laini, Bondeni, Wenje)	2-5 years	County Government, County Housing Department, Municipality	Municipal Funding, County government funding -SACCCO/Cooperative Housing Delivery Model -Self-Help Groups Housing Delivery Model -Micro-Finance Housing Delivery model
Housing Development Control Policies and Implementation Enhancement	- Establish a streamlined process for approving development applications. - Enhance supervision and enforcement mechanisms to ensure compliance with development regulations. - Improve the efficiency of development application approval timelines.	Entire Municipality	1-2 years	County Government, County Housing Department, Municipality	Municipal Funding, County government funding
Promotion of Compact Development and Urban Design	- Promote compact development strategies through the implementation of local plans and zoning regulations. - Enforce building lines and setbacks to maintain cohesive urban form	Hola Urban Core and Secondary Centers (Kumbi, Laini, Bondeni, Wenje)	1-3 years	County Government, County Housing Department, Municipality	Municipal Funding, County government funding, National Government funding
Establishment of housing affordability measures	- Introduce regulations to curb speculation and stabilize housing prices. - Implement incentives for developers to build affordable housing units. - Create affordable housing funds to subsidize housing costs for low-income households.	Entire Municipality	1-3 years	County Housing Department, Municipal Government National Government Agencies (Ministry of Housing) Housing Regulatory Authorities	Municipal Funding, County government funding, National Government funding
Encouragement of Investment in New Housing Development	- Facilitate Public-Private Partnerships to attract investment in the housing sector. - Provide incentives and subsidies for private developers to undertake housing projects. - Streamline regulatory processes to expedite housing development approvals.	Entire Municipality	1-3 years	State Department of Housing and Urban Development, County Government, Private developers	Municipal Funding, County government funding, Public-private partnerships

Program/ Project	Priority interventions	Spatial Coverage	Time frame	Lead Actors	Potential Financing Mechanisms
Enhancement of accessibility to housing market	- Introduce flexible mortgage options with adaptable repayment terms to accommodate borrowers' financial circumstances. - Expand the range of housing loan products available to cater to diverse borrower needs. - Provide financial literacy and housing education programs to households to improve their understanding of housing finance options. - Encourage and facilitate the use of loans from Savings and Credit cooperative organizations (SACCOs) and self-help groups in new housing purchases. - Reduce transaction costs associated with housing acquisition, including taxation and regulatory fees.	Entire Municipality	3-5 years	County Housing Department, Municipal Government National Government Agencies (Ministry of Housing), Private sector	Municipal Funding, County government funding, Public-private partnerships

Source: UN Habitat & TRC Technical Team

14.6.2 Rehabilitation of Existing Housing Stock

Strategic planning concern

Across the municipality, the condition and **quality** of the **existing housing** stock is a **major concern**. Many homes, especially those located near the riverbanks, are **vulnerable** to flooding and harsh weather conditions. Additionally, **spatial inadequacy** is an issue for several households. Furthermore, the limited financial resources and technical expertise available to residents impede their ability to access the means necessary for housing improvements. Therefore, comprehensive interventions that prioritize the rehabilitation and enhancement of the municipality's existing housing stock are needed, ensuring the safety, resilience, and dignity of all residents.

Strategic objectives

- **Enhance** the **quality, adequacy** and **resilience** of the existing housing stock and residential neighborhoods.
- **Empower residents** to make necessary improvements to their homes for them to become more sustainable and adapted to their household type.
- **Develop** the **skills** of local artisans and residents in using appropriate building technologies for effective home refurbishment.

Sectoral Policies

- **Conduct progressive upgrading** of housing stock across the municipality.
- **Provide technical** and **financial support** to households to make necessary improvements to their homes.
- **Guide** and **encourage incremental housing** improvements. Enforce settlements development conditions, standards, and regulations.
- **Consolidate** and **densify** existing residential neighborhoods.

Table 14.26 - Proposed guidelines for improving existing housing stock

Improvement type	Recommendation
Roof Improvement	• Conduct assessments of existing roofs and provide recommendations for improvements in accordance with Part XIII of the National Building Code. • Offer guidance on roof replacement, considering different materials and structural requirements for enhanced resilience and longevity. • Provide expertise on structural enhancements to ensure roofs can withstand environmental stresses and load requirements. • Recommend installation of rainwater collection systems and guttering to enhance water harvesting and management. • Advise on the installation of damp-proof courses to prevent water penetration and moisture damage.
Wall improvement	• Ensure waterproofing in compliance with Article 118 of the National Building Code to reinforce walls against water intrusion and structural degradation. • Provide structural improvements to strengthen walls, ensuring they meet safety and durability standards outlined in Part IX of the National Building Code.
Floor improvements	• Ensure compliance with Part XIV of the national building codes, address moisture issues, using more durable materials and installing damp proof courses when appropriate.
Flood Proofing	• Beyond waterproofing, appropriate floodproofing measures can be adopted such as foundation elevation or landscaping to divert water away from homes. Measures should be in line with Part XIV of the National Building Code.
Layout modifications (Extensions and Partitioning)	• Provide guidance on building extensions and incremental construction to accommodate additional bedrooms, kitchen spaces, or overall enlargement of existing structures. • Support partitioning efforts to optimize space utilization and enhance living conditions for households.

Source: UN Habitat & TRC Technical Team

Table 14.27 - Programs and Priority Interventions for Improvement of Existing Housing Stock

Program/ Project	Priority interventions	Time-frame	Lead Implementors	Spatial Coverage and Target Areas	Potential Financing Mechanisms
Rehabilitation through policy	- Implementation of building codes and standards to enhance the structural integrity and resilience of housing infrastructure, particularly in vulnerable areas prone to flooding or other natural hazards. - Conduct comprehensive assessments of existing housing infrastructure to identify areas for improvement and prioritize rehabilitation efforts.	1-3 years	Tana River County Government, Municipal Government	Municipality	Municipal Funding, National Government Funding (Ministry of Housing)
Promote incremental housing	- Promote an incremental housing approach that allows for gradual improvements over time, starting with basic, affordable structures and providing opportunities for residents to expand and upgrade their homes as needed.	1-3 years	Tana River County Government, Municipal Government, Landowners	Municipality	Self-financing, Loan from Municipal or County Government, loan from SACCO, microfinance institution or self-help group/ Chama
Provision of technical assistance to households	- Develop and disseminate guidelines for Housing Physical Improvement. - Offer comprehensive technical assistance and guidance to households including in informal settlements, facilitated by County/Municipal Planning & Housing Departments to address various aspects of housing improvement (as detailed in the previous table.	1-3 years	County Housing Department, Municipality, Local architect, and engineer	Municipality	Municipal Funding, National Government Funding (Ministry of Housing)
Adoption of sustainable building practice for home improvements	- Disseminate education and training on sustainable building practices to builders, contractors, and homeowners. - Enforce relevant sustainability building codes and standards to ensure compliance with environmentally friendly construction practices. - Provide incentives for the adoption of sustainable building materials and technologies.	Immediate	House owners, County Government, County Housing Department, Municipality.	Municipality	Public-private partnerships with sustainable development organizations

Program/ Project	Priority interventions	Time-frame	Lead Implementors	Spatial Coverage and Target Areas	Potential Financing Mechanisms
Develop and implement building maintenance. strategy	- Establish and implement a systematic maintenance program for existing public housing stock, including regular inspections, repairs, and upgrades as needed. - Provide guidance and incentives for homeowners to prioritize the use of durable construction materials and techniques, with recommendations for periodic maintenance and refurbishment.	On-going	Tana River County Government, County Housing Department, Municipal Government	Entire Municipality	Municipal Funding, PPP
Provision of Financing options for increased accessibility to home improvements	- Establish a revolving loan fund or microfinance program to provide affordable financing options for residents seeking to undertake home improvement projects, including renovations, repairs, and upgrades. - Develop financial literacy and homeownership education programs to inform residents about available financing options, budgeting, and responsible borrowing practices. - Facilitate and encourage housing improvements through SACCOs and self-help groups. - Partner with local financial institutions to streamline loan application processes and offer flexible repayment terms tailored to the needs of low-income households.	1-3 years	Tana River County Government, Municipal Government, National Government	Municipality	Municipal Funding, National Government Funding (Ministry of Housing)
Control urban sprawl and promote compact development.	- Densify Hola's urban Core by increasing plot ratios and accommodating vertical growth up to four-story buildings. - Invest in infrastructure upgrades, including transportation systems, utilities, and public services, to support compact development and enhance the livability of densified urban areas.	3-5 years	Tana River County Government, Municipal Government	Urban Core and Secondary centers	Municipal Funding, PPP

Source: UN Habitat & TRC Technical Team

14.6.3 Informal settlement upgrading

Informal settlements and sub-standard housed settlements are **common** across Hola Municipality, in Hola Town and the multiple rural centers and villages. The settlements face several **challenges**, ranging from uncertain land tenure, vulnerability to flooding, small plot sizes, to insufficient basic services and infrastructure. Quality of housing in these areas is substandard, characterized by poorly designed and built structures, inadequate high exposure to health and environmental hazards. The existence of these settlements in Hola is a consequence of multiple factors, including the inadequacy of affordable housing options, uncoordinated development and planning, socio-economic challenges and unplanned clustering as a response to insecurity threats.

Figure 14.8 - Housing in Mwangaza Abu



Source: UN Habitat, Jane Muriuki, 2023.

Strategic Objectives

- **Upgrade informal/sub-standard settlements** across the municipality, with priority to the extended urban area (around Hola Town).
- **Improve spatial form** and **housing conditions** of settlements across the municipality.
- Offer safe **housing alternatives** to lower income residents and residents living in informal settlements in flood-prone areas.
- Improve **accessibility to basic services, infrastructures,** and **social amenities** in informal settlements.
- Prevent the creation of future informal settlements.

Policies

- **Institutionalize community-led planning** and implementation of upgrading plans for informal settlements across the municipality.
- **Encourage upgrading initiatives** in safe areas to improve housing conditions, land tenure, access to services, and socio-economic opportunities for residents, while minimizing resettlements when possible.
- **Assess** settlements and areas that **require relocate** and resettlement of communities. Such areas are largely located in high flood risks within the Tana River riparian reserve.
- All relocation and resettlement interventions should be done with **minimal negative impact** on affected communities/households, and with consideration for social and environmental safeguarding.
- **Increase water, electricity,** and **sanitation coverage** in all settlements.
- **Develop road** and **mobility infrastructures** to all settlements.
- Enhance **enforcement of building regulations** and land use laws to prevent future illegal land occupation.
- Provide informal settlements/sub-standard housed areas with **security of land tenure**, considering multiple options for guaranteeing ownership, including communal land tenure.
- Conduct **community awareness campaigns** on the risks and challenges associated with informal settlements and advertise affordable formal housing options.

Table 14.28 - Programs and Priority Interventions for Informal Settlements Upgrading

Program/ Project	Priority interventions	Time-frame	Lead Implementors	Spatial Coverage and Target Areas	Potential Financing Mechanisms
Security of tenure program	- Conduct comprehensive land surveys to establish property boundaries and ownership. - Plan for functional plot settlement layout and regularize land tenure in informal settlements. - Develop a robust Land Information System to manage land data efficiently. - Facilitate legal processes for land regularization to enhance security of tenure. - Provide legal assistance and support to residents throughout the regularization process.	1-3 years	Tana River County Government, Municipal Government	All identified informal settlement in the municipality	Municipal Funding, County Government Funding, National Government funding (KISIP)
Review KISIP Plans in line with Environmental Risks	- Institutionalize review of KISIP Plans, to access flood risk and determine long-term solutions for sections of settlements or entire settlements that face flood risks. Consider the option for land swapping.	Immediate	Tana River County Government, Municipal Government, Private sector	Chewani, Hola Mission, Kibuyu, Makaburini, Malindi and Wachakone	Municipal Funding County Government Funding Public-private partnership
	- Implement plans in phased stages according to identified priorities. - Mobilize financial resources through public-private partnerships and grants. - Conduct regular monitoring and evaluation of plan implementation progress. - Review the Plans according to the evaluation reports. - Provide technical support and capacity building to local implementing agencies.	3-5 years			
Develop local plans to upgrade settlements that are currently not covered by KISIP plans	- Conduct thorough surveys and socio-economic assessments of informal settlements. - Engage community members in participatory planning processes to identify priorities. - Draft comprehensive local plans incorporating infrastructure, housing, service provisions and resettlement strategies - Integrate environmental sustainability principles into the planning process. - Establish mechanisms for ongoing community consultation and feedback.	1-3 years	National Government, Tana River County Government, Municipal Government, urban development partners	Mwangaza, Zubaki, Majengo, Chakamba and Kurawa	Municipal Funding, County Government Funding, National Government funding (KISIP)

Program/ Project	Priority interventions	Time-frame	Lead Implementors	Spatial Coverage and Target Areas	Potential Financing Mechanisms
Provision of adequate public infrastructure, social and basic services in informal settlements	- Develop and upgrade road networks to improve accessibility within settlements. - Extend basic services such as electricity, water supply, and sanitation infrastructure. - Implement waste management systems. (see 14.7 Utilities provision strategy) - Establish community facilities and social amenities, including schools and health centers. (see 14.3 Social amenities strategy) - Promote green spaces and recreational areas for community well-being. (see 14.7 Public space strategy)	3-5 years	Tana River County Government Municipal Government, Private sector, TAWASCO	All identified informal settlement in the municipality	Municipal Funding, County Government Funding, National Government funding (KISIP), Public-private partnership
Promotion of secure neighborhoods	- Install adequate street lighting to enhance security and safety at night. - Conduct awareness campaigns on crime prevention. - Facilitate economic empowerment initiatives to reduce vulnerability to crime. - Strengthen partnerships between local authorities and community organizations.	1-3 years	Tana River County Government, Municipal Government, residents	All identified informal settlement in the municipality	Municipal Funding, County Government Funding, National Government funding (KISIP)
Leverage rental occupancy	- Facilitate the provision of affordable rental accommodations for migrants to discourage the establishment of new informal settlements.	1-3 years	Tana River County Government, Municipal Government	Hola Urban core	Municipal Funding, National Government Funding (Ministry of Housing)
Long term financing for upgrading	- Establish sustainable financing mechanisms to support long-term upgrading projects. - Strengthen partnerships with international development agencies for funding support. - Foster community-based savings and credit initiatives for incremental housing improvements.	6-10 years	Tana River County Government, Municipal Government, National Government	All identified informal settlement in the municipality	Municipal Funding, County Government Funding, National Government funding (KISIP), Public-private partnership

Source: UN Habitat & TRC Technical Team

14.7 UTILITIES PROVISION STRATEGIES

The strategies proposed in this plan are water supply, wastewater management and stormwater, and solid waste management.

14.7.1 Priority Utilities

Hola municipality is mandated (by UACA) to ensure that water, wastewater, solid and liquid waste, and storm water are functional. This plan aims to promote adequate access to safe and clean water, decent sanitation services, efficient and sustainable management of solid and liquid waste, and access to a consistent and affordable supply of energy. This will require the municipality and the respective county departments to plan and implement the needed investments effectively.

The strategies proposed in this plan are water supply, wastewater management and stormwater, and solid waste management.

Overarching Objectives

- To provide **clean drinking water**, safely remove and **manage waste,** and **promote public health**.
- Develop **utility infrastructure** to support adequate and efficient provision of utilities.
- Promote adoption of **environmentally safe** and **sustainable utility strategies** in provision of water and electricity and in managing waste.

General Outcomes

- Developed municipal infrastructure with an asset management system.
- Sustained improvement in levels and standards of services.
- Improved service delivery and increased improvement in quality of life.

Design Principles and Guidelines

1. Efficiency

Design systems that minimize resource wastage, energy consumption, and operational costs. Adopting smart technologies, energy-efficient equipment, and optimal system designs can improve efficiency.

2. Reliable and affordable

Utility provisions should be designed to ensure uninterrupted service delivery, even during extreme weather events or emergencies. Redundancy, backup systems, and robust infrastructure should be incorporated to enhance resilience.

3. Accessible and Inclusive

Ensure that utility provisions are accessible to all members of the community, including those with disabilities or special needs. Design infrastructure and services to accommodate diverse user requirements.

4. Sustainability

Incorporate environmentally friendly practices and technologies to minimize the ecological footprint of utility provisions. Emphasize renewable energy sources, water conservation measures, and waste reduction strategies.

5. Scalability

Ensure that systems are designed with flexibility to accommodate future growth and changes in demand. Scalable infrastructure and adaptable planning can help avoid the need for costly retrofits or expansions.

Table 14.29 - Key considerations for Enhancing Service Delivery

Consideration	Implications for Service Delivery Planning
Consolidated focused growth and proposed land use plans	- Set aside land for the development of necessary infrastructure. - Provide spaces for linear infrastructure along streets, settlements, and shared spaces
Project Demand	- Set aside land for the development of necessary infrastructure
Existing and required capacity for supply	- Decentralized system - Semi- centralized system
Potential Models of Service Delivery	- Lease operator model, Private operators, Professional management, Operation and Maintenance Service Contract

Source: UN Habitat & TRC Technical Team

14.7.2 Water Supply

Hola faces competition in the demand for water for domestic use, human and livestock and for agricultural use. Despite the flow of the Tana River through the municipality, there is a **major shortage** of **clean water** supply. This is linked to inadequate investments in clean water production and distribution. Likewise, there is **insufficient supply of water** for **non-domestic use**, such as livestock and farming, and industrial uses.

To comprehensively address the increasing water-related challenges, the municipality needs to prepare and implement an **Integrated Water Masterplan (IWM)**. This IWM should address water supply (for all uses), wastewater management and stormwater management.

Objectives

1. **Promote equitable access** to water for all, for all uses within the municipality.
2. To **conserve** and protect water sources.
3. Promote systemic and strategic water **resource management.**
4. To enhance **community resilience** in water access.

Strategy 1: Promote equitable access to water to all, for all uses.

The strategy addresses the level of service regarding water access to all. Predominantly, the water supply in the urban area is served by a water reticulation network. The network coverage is, however, limited along the main linear network of Hola urban area, with a lack of coverage in sections of Zubaki, Wachakone, and Chewani.

1. Expand the water reticulation network coverage for Hola Urban Core to cover existing infrastructure.
2. Increase the capacity of TAWASCO in water transfer, treatment, and distribution.
3. Provide access to clean water in all public facilities such as markets, schools, community centers, police posts, government offices.
4. Ensure supply of water to irrigation land targeting NIA, County farmlands, and the Mini irrigation programs.
5. Designate strategic locations for livestock water points.
6. Set up systems to manage water resources for communities to ensure equitable access to all.
7. Construction of water pans and water ponds to serve as secondary sources of water for irrigation and domestic use, reducing overreliance on river water farming.
8. Construction of natural flood management collection areas to hold water during the heavy rains and floodings by strategically locating ponds, ditches, and swales. This can be used as a water supply for livestock during the dry seasons and for irrigation.
9. Build pumping mechanisms that pump water from the river to the main settlements to reduce direct fetching of water from the river as done in Wenje.

Figure 14.9 - Wenje water pump



Source: UN Habitat, Jane Muriuki, 2023.

Strategy 2: Promote strategic water resource management.

1. Coordinate all water resource agencies in the management of water resources in the municipality under the water committee. This includes both national water agencies, County water department, community water systems as guided under the Water Act 2016, under the Water Tribunal framework (National Water Storage Authorities and Water Sector Trust fund initiatives).
2. Develop water management frameworks within the municipality to guide the county in strategic budgeting for water resources. Key strategies include the expansion of the capacity of TAWASCO to cover the urban population of about 43,072,
3. Develop a water policy to foster rural communities' settlement along the river ecosystem and promote community-based wager management systems.

4. Support community projects to diversify sources of water, such as promoting rainwater harvesting at household levels.
5. Promote the cooperative management of River basins with other counties, as River Tana is a shared national resource.

Figure 14.10 - Actors in Water Management



Source: UN Habitat & TRC Technical Team

Strategy 3: To enhance community resilience in water access.

1. Create awareness and training on efficient water use, storage, and recycling techniques for the community through existing water resources user association.
2. Improving early warning systems for severe weather events and prolonged droughts.
3. Promote the development and integration of climate resilience, environmental and water policies at the county level.

Sectoral Policies

1. **Ensure every person has access** to at least 25 liters/ day for domestic use, within 200 meters' reach.
2. **Involve all categories of water users** in decision making.
3. **Delineate space for utilities** (water, storm water, energy) network reticulation.
4. Guide the **development of the riparian ecosystem.**
5. Promote the **adoption of sustainable water sources.**
6. Introduce and **promote sustainable agricultural** and farming practices.

Key Considerations

- Hola topography presents a feasibility of using gravity as a balance to distribution of water. The infrastructure alignment proposed considers **natural elements.**
- An **integrated water planning** that coordinates the water provision planning with land use and urban planning efforts to ensure proper sizing and location of water infrastructure to serve all areas.
- In promoting access of water to all, e**xploring diverse water sources** to mitigate the risk of shortage and the increasing demand. This supports short term to long-term water strategies.
- Promoting **water conservation measures** and reuse/ recycling strategies to reduce per capita consumption. In agricultural management, it includes promoting water-efficient fixtures and appliances, implementing leak detection and repair programs, among other measures.
- Promoting **compliance to water regulatory** requirements related to water abstraction, quality, supply, and environmental protection.

Models of Service Delivery

In Hola CBD, the existing centralized piped water system can be further improved and expanded, covering the business area and the extension areas.

Within the proposed secondary centers, reticulated water supply is needed in the long-term.

In smaller centers and villages, a mix of shared/communal and household connection systems is recommended, with a long-term strategy for achieving full household connections. Other modes of delivery for consideration are shared/communal water taps/ kiosks and fitted borehole points.

Program/ Projects	Interventions (Activities)	Spatial Coverage [Areas]	Time-line	Key Actors	Financing Mechanisms
Enhance and expand the water supply capacity for TAWASCO beyond Hola Urban Core.	Increase the water treatment capacity for the TAWASCO plant to produce 5,842 m^3 of water daily from 1,400 m^3 (domestic needs) and 1,520 m^3 for non-domestic use. Improve and expand the existing water reticulation systems	Hola Urban core Hola Extension Areas (Wachakone, Chanani, Dayate).	Medium term (≥3≤5 years)	- WASREB. - Tana Water Works Development Agency. - Tana Water and Sanitation Company, TAWASCO	Tana Water Works Development Agency. TAWASCO
	Development and installation of Water distribution and reticulation network infrastructure (pipes, pumps, valves, gauges)	Sub centers of Kumbi, Laini.	Medium term (≥3≤5 years)	- Tana Water Works Development Agency. - Tana Water and Sanitation Company, TAWASCO	Tana Water Works Development Agency. TAWASCO
	Enhance metered water connection for non-domestic uses (businesses, industries).	Hola Urban core and Extension Areas	Short term (1≤3 years)	TAWASCO	TAWASCO
	Integrate GIS systems for monitoring water production versus use.	Municipality	Short term (1≤3 years)	TAWASCO	TAWASCO
	Build a reticulation network to neighborhood level within a 200 meter reach in Wenje and other subcenters.	Wenje Bondeni Laini Kumbi	Long term (≥5-10+ years)	- Tana Water Works Development Agency.	CGTR (Department of Water) Municipality
	Ensure water is pumped from the river to all settlements within a 200-meter access.	Municipality	Medium term (≥3≤5 years)	- Tana Water Works Development Agency.	CGTR (Department of Water) Municipality
Protection and preservation of existing water infrastructure and sources	Periodic maintenance of reticulation infrastructure to minimize losses	Hola Urban core and Extension Areas	Short term (1≤3 years)	CGTR	CGTR Municipality, TAWASCO
	Creating a 10m buffer around water sources and guiding use of shared water sources to protect from contamination and misuse	Municipality	Short term (1≤3 years)	CGTR Municipality Community	CGTR Municipality
	Creating awareness through public barazas, citizen forums, local radio stations on sustainable water management approaches.	Municipality	Short term (1≤3 years)	CGTR Municipality Community	Ministry of Water, Sanitation, and Irrigation, CGTR Municipality

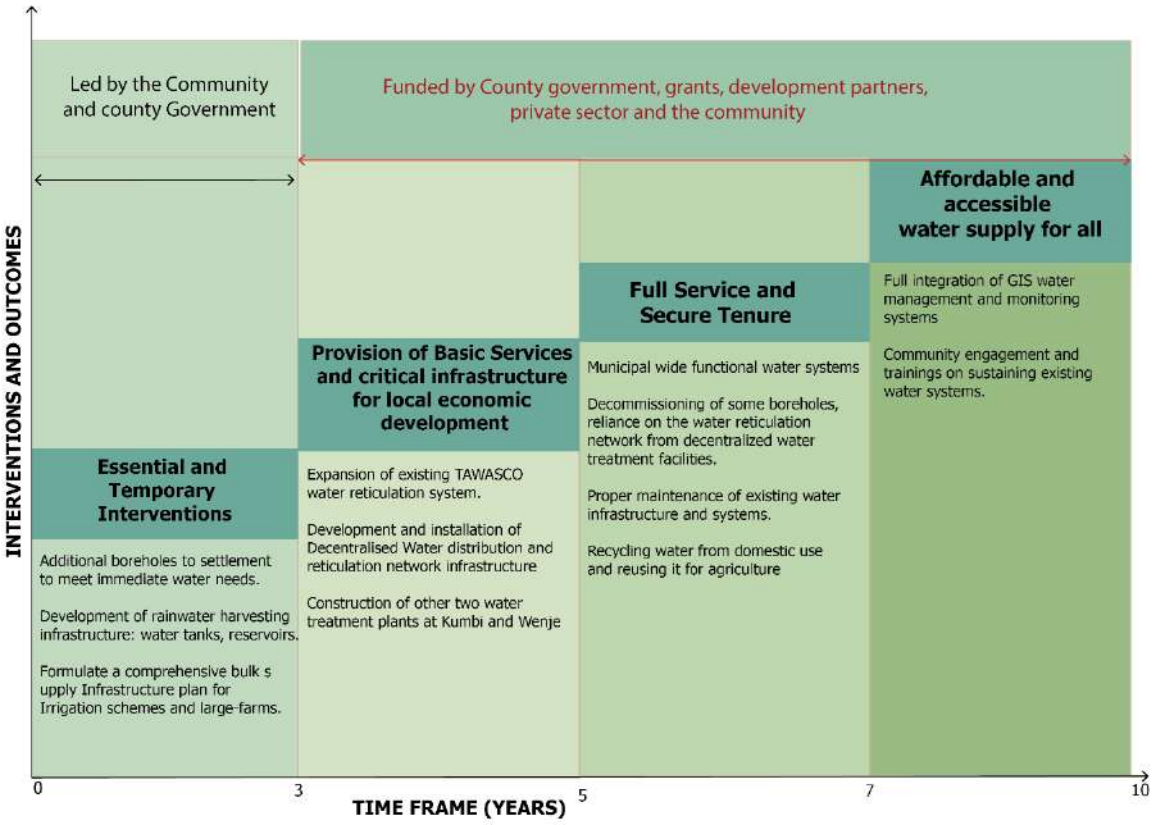
Program/ Projects	Interventions (Activities)	Spatial Coverage [Areas]	Time-line	Key Actors	Financing Mechanisms
Provision of reliable and adequate water supply	Municipality Comprehensive Water Master plan	Municipality	Short term (1≤3 years)	- Municipal & Tana Water and Sanitation Company (TAWASCO) - Tana Water Works Development Agency. -WASREB	The Ministry of Water, Sanitation, and Irrigation, Tana Water Works Development Agency.
	Construction of other two water treatment plants at Kumbi and Wenje	Kumbi Wenje	Long term (≥5-10+ years)	- WASREB. - Tana Water Works Development Agency. - Tana Water and Sanitation Company (TAWASCO)	The Ministry of Water, Sanitation, and Irrigation, Tana Water Works Development Agency.
	Construction of a water reservoir and a decentralized reticulation network for the communities in - Wenje - Kumbi - Laini - Ovo - Makutano	Wenje Kumbi Laini Ovo Makutano	Medium term (≥3≤5 years)	- WASREB. - Tana Water Works Development Agency. - Tana Water and Sanitation Company (TAWASCO)	The Ministry of Water, Sanitation, and Irrigation, Tana Water Works Development Agency. WaSSIP (World Bank)
	Construction of water storage facilities in: - Gururi - Handampia - Mansabubu	Gururi Handampia Mansabubu	Medium term (≥3≤5 years)	CGTR (Department of Water) Municipality	- Tana Water Works Development Agency.
	Drilling boreholes in these sections: - Haroresa - Jamhuri - Bububu - Duwayu - Mahono In the long term, the borehole systems should be phased out replacing this with a piped water mechanism.	Haroresa Jamhuri Bububu Duwayu Mahono	Short term (1≤3 years)	CGTR (Department of Water) Municipality	- Tana Water Works Development Agency.
Promote alternative water harvesting methods	Construction of water pans and ponds to reduce reliance on river tana water	Municipality	Short term (1≤3 years)	CGTR (Department of Water) Municipality	CGTR Municipality
	Promote rainwater harvesting for domestic use at household scale.	Municipality	Short term (1≤3 years)	CGTR (Department of Water) Municipality	CGTR Municipality
	Promote soil and water conservation strategies	Municipality	Short term (1≤3 years)	CGTR (Department of Water) Municipality	CGTR Municipality TAWASCO

Source: UN Habitat & TRC Technical Team

Stepped Improvement of Water Services

It is proposed that the municipality designs a stepped-plan for ensuring full services in the long-term. A stepped approach will facilitate effective use of financial resources.

Figure 14.11 - Concept for a stepped-plan for full water services



Source: UN Habitat & TRC Technical Team

Addressing Agricultural Water Supply Needs

Water demand for agricultural and livestock activities in Hola is high, as these activities are the primary source of livelihood for most of the population.

Table 14.30 - Projected Water demand for Agriculture

Irrigation Water Demand	Land Size (Ha)	Estimated Household Farmers	Irrigation Water demand during irrigation season [liters/second]	Est. Water demand per year [m^3/year]
Hola Irrigation Scheme	- 1900 today (up to 4850 in the future)	- 1,450 (3,000)	- 2,850 (7,275)	- 3,800,000 (9,700,000)
County Farmlands	30,000	9,000 [assuming 50% of the farm-lands is contracted to household farmers and 50% to larger-scale private farmers or a county agency]	45,000	60,000,000
Small-Scale Agriculture in Secondary Centers	6,680	-	10,020	13,360,000
Estimated Land Size under agriculture along Tana River-banks	2,455	-	3,683	4,910,000
TOTAL	41,035 (45,885)	-	61,553 (68,828)	82,070,000 (91,770,000)

Source: UN Habitat & TRC Technical Team

The Focus Areas

Farming water supply is primarily needed in the Hola and Bura irrigation schemes, the riverine farmlands, the existing and planned off-riverine agricultural farms, including the planned county mini-irrigation schemes and the county farmlands. Supplying these areas with constant water supply is a pre-condition for the enhanced local economic development envisioned by this plan- 'A Plan for The Livestock and Agriculture Municipality'.

Table 14.31 - Water for large-scale use-agriculture

Source: UN Habitat & TRC Technical Team

Program/Projects	Priority Interventions (Activities)	Spatial Coverage [Areas]	Timeline	Key Actors	Financing Mechanisms
Ensure adequate access to Water to Irrigated farmlands	Formulate a comprehensive bulk supply Infrastructure plan for Irrigation schemes and large farms.	Municipality	Short term (1≤3 years)	CGTR, NIA, Department of Agriculture	Ministry of Water, Irrigation and Sanitation
	Enhance the capacity of existing water canals and extend their coverage	Laini Kumbi	Medium term (≥3≤5 years)	CGTR, NIA Department of Agriculture	Ministry of Water, Irrigation and Sanitation NIA
	Create new water canals to serve the new planned farming areas	Bondeni	Short term (1≤3 years)	CGTR, NIA Department of Agriculture	Ministry of Water, Irrigation and Sanitation NIA
	Enhance water storage and decentralize the distribution network to mini-irrigation schemes and farms.	Wenje	Medium term (≥3≤5 years)	CGTR, Department of Agriculture	CGTR
Promote good farming practices for community led agriculture	Carry out trainings in sustainable farming practices periodically to farmers.	Municipality	Continually	CGTR, Ministry of Water, Irrigation and Sanitation, NIA	Ministry of Water, Irrigation and Sanitation
	Promote soil and water conservation activities like tree planting and sustainable farming methods to improve underground recharge.	Municipality	Medium term (≥3≤5 years)	CGTR, Department of Agriculture	CGTR
	Advocate the use of drip irrigation systems for farming	Municipality	Short term (1≤3 years)	CGTR, Department of Irrigation, NIA	CGTR World Bank
Promote alternative water sources for farming	Constructing water ponds/reservoirs to store water	Municipality	Short term (1≤3 years)	CGTR, Department of Irrigation	CGTR World Bank
	Recycling water from domestic use and reusing it for agriculture	Municipality	Long term (≥5-10+ years)	CGTR, Department of Irrigation	Ministry of Water, Irrigation and Sanitation
	Promote rainwater harvesting for farming	Municipality	Short term (1≤3 years)	CGTR, Department of Irrigation	Ministry of Water, Irrigation and Sanitation
	Provide alternative water sources for farming during dry seasons such as boreholes for irrigation water.	Municipality	Short term (1≤3 years)	CGTR, Department of Irrigation	CGTR Tana Water Works Development

14.7.3 Sanitation- Fecal and Liquid Waste Management

Hola municipality **lacks** a proper functioning **fecal management** system. This is evidenced by the high dependency on pit latrines and open defecation (see Vol. 1 report). Combined with high risks of flooding in various parts of the municipality, public health is compromised significantly. A gradual approach to safe and environmentally sustainable fecal waste management is envisioned by this plan.

Strategic Objectives

1. **Improve dry sanitation** methods for the short and mid-term while phasing out in the long-term.
2. **Phase out** pit latrines and septic systems and develop decentralized sewerage systems.
3. Transition to affordable and **environmentally sustainable liquid waste management** systems for non-domestic producers.

Sectoral Policies

1. Invest in and promote initiatives that contribute to improved waste management.
2. Promote reduction of septic systems for human waste management.
3. Enhance proper waste disposal mechanisms (transfer stations)
4. Promote systems that reduce waste through reuse, recycling, reduce and recover.
5. Advocate for participatory approach in decision making regarding waste management and treatment.
6. Promote inclusive waste management systems.

Key Considerations

To develop an ideal liquid waste management site, several considerations were assessed:

- The type of liquid waste to be managed: The type of waste determines the selection of the treatment processes. Wastewater can be recycled and reused for non-domestic purposes.
- The anticipated capacity of the waste management plant: Wastewater treatment capacity and the sewerage treatment plant.

Models of Service Delivery

Pit latrines are the most prevalent mode of waste disposal for the community in Hola. Mainly attributed to the cost effectiveness, low maintenance, ease of access to construction materials and cultural practices. Portable pit latrines have also been adapted by some communities for public sanitation. The reliance on pit latrines needs to be phased out, with the need for environmentally sound design guidelines for the short and medium terms.

Figure 14.12 - A public portable pit latrine at Kumbi Public area.



Source: UN Habitat, Jane Muriuki, 2023.

Developing a sewerage treatment system presents a long-term solution to the current challenges faced in liquid waste management.
The county government has the mandate to provide or the sewerage services. This can be undertaken in **two models**:

1. **Public led approach**, by having a municipal sewerage system by the county/municipality.
2. **Private-led approach**, with guidelines and regulations provided by the relevant government authorities

Table 14.32 - Interventions for Improved Sewerage/Fecal Waste Management

Program/ Projects	Type of system (Dry/Wet)	Interventions (Activities)	Spatial Coverage [Areas]	Timeline	Key Actors	Financing Mechanisms
Developing Phased sustainable sanitation systems	Dry/Wet	- Prepare a municipal sanitation plan.	Municipality	Short term (1≤3 years)	CGTR Municipality Department of Public health and Sanitation	Ministry of Water, Sanitation, and Irrigation
	Wet	- Provide clean communal sanitation blocks (latrines) in strategic public locations with flowing water.	Urban core and extension areas	Short term (1≤3 years)	CGTR Municipality Department of Public health and Sanitation	Ministry of Water, Sanitation, and Irrigation
	Wet	- Install systems for safe management of pit latrine. - fecal sludge and septage from septic tanks. - Safe and affordable waste disposal systems: Exhauster services		Short term (1≤3 years)	CGTR Municipality Department of Public health and Sanitation	Ministry of Water, Sanitation, and Irrigation
	Wet	- Promote the use of WC in the urban area.		Short term (1≤3 years)	CGTR Department of Public health and Sanitation	CGTR
	Wet	- Enforce Public Health Regulations- Ensure all public facilities (markets, schools, health centers, social halls, government offices) have a clean sanitation block with running water. - Installation of water storage tanks in all public facilities for the sanitation blocks		Short term (1≤3 years)	CGTR Department of Public health and	CGTR
	Wet	- Recommend all businesses to have a clean sanitation block with water.		Short term (1≤3 years)	CGTR Department of Public health and	CGTR
		- Delineate land and develop a wastewater treatment plant for recycling in Hola.		Short term (1≤3 years)	CGTR Department of Public health and	CGTR

Program/ Projects	Type of system (Dry/Wet)	Interventions (Activities)	Spatial Coverage [Areas]	Timeline	Key Actors	Financing Mechanisms
To develop a sewerage and reticulation network in Hola Urban core and extension areas	Wet	- Develop a sewerage reticulation master plan for Hola. - Reduce Reliance on septic systems within Hola Urban core and extension area.	Urban core and Extension areas	Short term (1≤3 years)	CGTR Department of Public health and Sanitation Department of Public Works	Ministry of Water, Sanitation, and Irrigation
		- Delineate 100 acres of land for the location of a sewerage treatment plant for Hola Urban population.		Short term (1≤3 years)	Department of Lands and Physical Planning	CGTR
		- Identify sections for future development of decentralized sanitation systems for sub-centers areas of Wenje, Laini, Bondeni and Kumbi.		Long term (≥5-10+ years)	Department of Lands and Physical Planning	CGTR Ministry of Water, Sanitation, and Irrigation
		- Delineate section for the sewer trunk infrastructure in Hola.		Short term (1≤3 years)	Department of Lands and Physical Planning	CGTR
		- Development and periodic maintenance of the sewerage reticulation network.		Medium term (≥3≤5 years)	CGTR Department of Public Health and Sanitation Department of Public Works	CGTR Ministry of Water, Sanitation, and Irrigation

Program/ Projects	Type of system (Dry/Wet)	Interventions (Activities)	Spatial Coverage [Areas]	Timeline	Key Actors	Financing Mechanisms
Promote affordable and environmentally friendly Fecal management systems in Rural Areas	Wet	- Formulate guidelines for Providing Improved pit latrines	Rural and Peri-urban areas.	Short term (1≤3 years)	CGTR Department of Public Health and Sanitation Department of Public Works	CGTR Ministry of Water, Sanitation, and Irrigation
	Dry/Wet	- Sensitize the pastoral communities on hygiene practices and providing functional portable toilets for use in the nomadic villages.	Municipality	Short term (1≤3 years)	CGTR Municipality Department of Public Health and Sanitation Department of Public Works	CGTR World Vision
	Wet	- Promote the development of Water Reclamation Plant for water recycling for irrigation. - Adapt nature-based solutions to wastewater management.	Municipality	Short term (1≤3 years)	CGTR Department of Public Health and Sanitation Department of Public Works	CGTR World Vision
	Dry/Wet	- Promote domestic liquid waste treatment station for rural settlements	Municipality	Long term (≥5-10+ years)	CGTR Department of Public health and Sanitation Department of Public Works	CGTR World Vision
	Dry/Wet	- Sensitize and train the community on clean and safe hygiene practices.	Peri-urban areas. Municipality	Short term (1≤3 years)	CGTR Department of Public health and Sanitation	CGTR World Vision

Source: UN Habitat & TRC Technical Team

14.7.4 Sanitation-Solid Waste Management

The strategy aims to designate waste management sites, modernization of facilities, and implementation of efficient collection systems. It emphasizes community engagement and awareness to promote waste reduction, reuse, and recycling.

Table 14.33 - Estimated current solid waste generation and projected generation

Year	Area	Population	Domestic Waste (L/day)	Business Waste	Total Discharge (Daily)
2022	Hola CBD	25,026	91,845.42	8,325.395	100,170.82
	Hola Urban Area	43,072	158,074.24	14,265.45	172,339.69
	Municipal-wide	83,421	306,155.07	27,629.04	333,784.11
2032	Hola CBD	45,524	167,073.08	15,077.55	182,150.63
	Hola Urban Area	66,890	245,486.3	22,153.97	267,640.27
	Municipal-wide	109,953	403,527.51	36,416.43	439,943.94

Assumptions: Daily domestic discharge of 3.67l/day

Business discharge is at 1.84l/day assumption 18% of the population are in business premises outside the household.

Source: UN Habitat & TRC Technical Team

Objectives

The specific objectives of the strategy are:

- To provide designated and fully equipped **waste management sites** and adequate and functioning **solid waste collection infrastructures** within the municipality to reduce uncontrolled dumping.
- To encourage the reuse and **recycle** of waste materials, through policies, incentives for public participation and public awareness.
- To **enforce laws** and regulations on solid waste management.
- To **eradicate unstainable waste disposal** methods, including burning and burying.

Outcomes

- **Increased waste diversion** and recycling rates, promoting sustainable practices.
- **Improved public health** and **sanitation,** reducing health hazards associated with improper waste disposal.
- Increased **community involvement** in waste management activities.
- Creation of **employment opportunities** in the waste management sector and growth of SMEs.
- **Preservation** of **natural resources** and ecosystem.
- **Upgraded waste management infrastructures**, including facilities, collection system and transport networks and enhanced effectiveness of waste collection and disposal services solid waste collection, storage, and disposal throughout the municipality.

Sectoral Policies

- Construct well-equipped and **functioning solid waste facilities**, such as a landfill, transfer stations and recycling plants.
- Embrace a **participatory approach** by mobilizing local communities and increasing awareness of solid waste management and recycling.
- Introduce and promote **sustainable waste management practices**.
- Provide an improved **solid waste collection system.**
- Provide communities with **bins** and **containers** in strategic locations.
- Strengthen **enforcement mechanisms** to ensure compliance with solid waste management laws and regulations.

Table 14.34 - Priority Interventions for Solid Waste Management

Program/ Projects	Spatial Coverage & Target Areas	Priority Interventions	Timeframe	Lead Actors
Improve solid waste collection techniques	Rural areas not served adequately	Institutionalize small scale waste collectors	Short term (1≤3 years), encompassing in the Long term (≥5-10+ years) within the municipal collection system.	CGoTR, Municipality, PPPs
	Zone 1. Urban Center Zone 2. Initially, Secondary Centers Zone 3. Sub Centers and Rural Villages with the growing demand.	Consolidate regular weekly municipal collection and safe disposal of waste	Short term (1≤3 years) Medium and Long terms (≥3-10+ years) with the growing demand	CGoTR, Municipality, PPPs
Provide designated waste management sites	Municipality	Identify suitable locations for designated waste management sites, ensuring they are environmentally sound, and they comply with regulations	Short term (1≤3 years)	CGoTR, Municipality, PPP
	New Handampia area, pending suitability analysis.	Construction of a modern sanitary landfill	Medium term (≥3≤5 years)	CGoTR, Municipality, PPP
		Construction of a modern waste recycling plant	Medium term (≥3≤5 years)	CGoTR, Municipality, PPP
		Establish specialized waste disposal facilities to handle special waste	Long term (≥5-10+ years)	CGoTR, Municipality, PPP
	Hola town, Kumbi, Bondeni	Construction of 3 solid waste transfer station	Short term (1≤3 years)	CGoTR, Municipality, PPP
	Municipality	Staffing the waste transfer station, landfill, and recycling plant	Short term (1≤3 years)	CGoTR, Municipality,
Provide adequate solid waste collection infrastructures	Municipality	Purchase 4 to 8 refuse collection trucks	4 in the short term (1≤3 years), more in medium and long terms (≥3-10+ years)	CGoTR, Municipality
		Provide solid waste facilities like bins and containers in strategic locations across the Municipality	Short term (1≤3 years)	CGoTR, Municipality

Program/ Projects	Spatial Coverage & Target Areas	Priority Interventions	Timeframe	Lead Actors
Encourage the reduce, recycle and reusing of waste materials	Municipality	Develop policies and incentives to encourage residents and businesses to reduce waste generation at the source	Short term (1≤3 years)	CGoTR, Municipality, Recycling companies, residents
		Develop financial incentives on collection of recyclables by the community	Medium term (≥3≤5 years)	CGoTR, Municipality
		Training of households and SMEs on circular economy of waste (organic fertilizer, re-use and recycling of paper and plastic, etc)	Medium term (≥3≤5 years)	CGoTR, Municipality, Department of public health, Department of Trade, Department of Environment
		Education and provision of necessary means to promote and incentivize sustainable management of organic waste	Continuous	Municipality, Residents
Capacity building and training on solid waste management	Municipality	Provide training program to train the landfill, transfer station and recycling plant staff on waste and recycling	Medium term (≥3≤5 years)	CGoTR, Municipality,
		Provide training programs for municipal staff, waste management workers, and community members on best practices in waste management.	Medium term (≥3≤5 years)	CGoTR, Municipality, CBOs
Monitoring and Evaluation on solid waste management and enforcement of laws and regulations.	Municipality	Establishment of a monitoring and enforcement teams to monitor and enforce compliance with solid waste management laws	Short term (1≤3 years)	CGoTR, Municipality
		Conduct regular inspections of waste management facilities, dumpsites and public areas	Continuous	CGoTR, Municipality
		Implement a system of fines and penalties for individuals, businesses and organization violating regulations	Medium term (≥3≤5 years)	CGoTR, Municipality
		Collect data on waste generation, collection rates, recycling rates, and other relevant metrics to inform decision-making and track progress towards achieving waste management goals	Medium term (≥3≤5 years) to develop the monitoring mechanism, then Continuous monitoring	CGoTR, Municipality

Source: UN Habitat & TRC Technical Team

14.7.5 Energy

The energy strategy for the Municipality of Hola aims to **address** diverse **energy needs while promoting sustainability** and **resilience**. It encompasses enhancing household energy access and affordability through renewable sources like solar and biogas, improving grid electricity infrastructure, advocating for energy-efficient practices in buildings, and supporting economic activities with clean energy solutions. Through these measures, the strategy seeks to contribute to the sustainable development and well-being of the community in Hola.

Objective

The specific objectives of the strategy are:

- Increase household energy access and affordability through the **promotion of renewable energy** sources like solar and biogas.
- **Expand electricity coverage** and **reliability** to all settlements within the municipality, ensuring equitable access for residents.
- **Reduce energy consumption** and carbon emissions in buildings by promoting energy-efficient practices and integrating renewable energy technologies.
- **Support economic growth** by providing clean and affordable energy solutions for businesses and industries, fostering entrepreneurship and job creation.

Figure 14.13 - Malindi road with power poles



Source: UN Habitat, Jane Muriuki, 2023.

Outcomes

- **Increased household energy access** and **affordability**.
- Improved **reliability** and **equitable access** to electricity for all residents within the Municipality of Hola, reducing dependence on fossil fuels and mitigating environmental impact.
- **Reduction in energy consumption** and carbon emissions in buildings through the implementation of energy-efficient practices and integration of renewable energy technologies.
- **Enhanced economic growth** and job creation by providing clean and affordable energy solutions for businesses and industries, fostering entrepreneurship and energy security.
- **Preservation of natural resources** and biodiversity through reduced reliance on wood and charcoal for household energy needs.
- **Strengthened resilience** to climate change and energy security by diversifying energy sources and promoting sustainable energy practices.
- **Improved quality of life** and well-being for residents through access to clean energy, reduced air pollution, and enhanced economic opportunities.

Sectoral Policies

- **Connect** rural and urban households to the electrical grid.
- **Install solar power** stations in institutional facilities and promote and incentivize the use of solar power in building and for small scale agriculture.
- Increase and expand the use of **solar-powered water pump** for agricultural and domestic use.
- Implement **policies** and incentives to promote the use of sustainable energy sources.

Table 14.35 - Priority Interventions for Energy

Source: UN Habitat & TRC Technical Team

Program/ Projects	Spatial Coverage & Target Areas	Priority Interventions	Timeframe	Lead Actors
Extension of main grid coverage program.	Informal settlements in Hola town, Kumbi, Laini, Bondeni Wenje Zone 1. Urban Centre Zone 2. Secondary Centers Zone 3. Sub-Centers and Rural villages	Urban household connections Rural household connections	Medium term (≥3≤5 years) to cover existing backlogs. Continuous as demand increase	CGoTR, Municipality, Kenya Power, REREC, Property owners, Enterprises, Institutional facilities
	Municipality	Expand coverage leveraging KETRACO project	Continuous	CGoTR, Municipality, Kenya Power, REREC
	Municipality	Upgrading and maintenance of existing infrastructures	Continuous	CGoTR, Municipality, Kenya Power, REREC
Promote Renewable Energy adoption and transition away from unsustainable energy sources.	Priority to Hola town, Kumbi, Laini, Bondeni, Wenje Zone 1. Urban Centre Zone 2. Secondary Centers	Solar Power installation in institutional facilities	Medium term (≥3≤5 years) for existing facilities Long term (≥5-10+ years) for additional facilities	CGoTR, Municipality, REREC, Property owners, Enterprises, Institutional facilities
	Municipality	Provide financial incentives, such as subsidies or grants to households and farmers for the installation of solar panels and related equipment.	Medium term (≥3≤5 years)	CGoTR, Municipality, REREC, Institutional facilities
	Municipality	Establish microfinance initiatives or loan programs specifically tailored for rural households and small-scale farmers to invest in solar energy systems.	Medium term (≥3≤5 years)	CGoTR, Municipality, REREC, Institutional facilities
	Municipality	Promote the integration of renewable energy sources into urban planning and building design (ex-solar panels on rooftops or facades)	Medium and Long terms (≥3-10+ years)	CGoTR, Municipality, REREC, Institutional facilities
	Mini-Irrigation schemes, Kumbi, Laini, Bondeni, Wenje	Expand solar-powered water pumping system to increase agricultural productivity	Short term (1≤3 years) for existing schemes Medium and Long terms (≥3-10+ years) for Secondary centers schemes	CGoTR, Municipality, Kenya Power, Households and farmers, NIA
	Bondeni, Wenje, Kumbi, Laini, Wachakone, Gururi	Increase the capacity of solar-powered pumps to meet growing demands of water	Short term (1≤3 years) for the existing systems Medium term (≥3≤5 years) for the new systems	CGoTR, Municipality, TAWASCO, Kenya Power
	Municipality	Provide cleaner cooking alternatives for households and business to shift from wood and charcoal (ex LPG or biogas)	Continuous	CGoTR, Municipality, REREC, Institutional facilities
Facilitate implementation through Policy and Incentives	Municipality	Integrate energy strategies into Medium-Term Plans (MTPs) and County Integrated Development Plans (CIDPs)	Continuous	CGoTR, Municipality
		Offer tax breaks and subsidies to incentivize investments in solar technology by developers and homeowners	Continuous	CGoTR, Municipality
		Implement policies and initiatives to connect al settlements to sustainable energy sources	Long term (≥5-10+ years)	CGoTR, Municipality

14.8 PUBLIC SPACE, CULTURE AND HERITAGE STRATEGY

14.8.1 Strategic Importance of Public Spaces

Public spaces are defined as all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive. These can be categorized as i) open spaces such as parks, riverfronts, and market spaces, ii) streets, or iii) public facilities such as community halls.

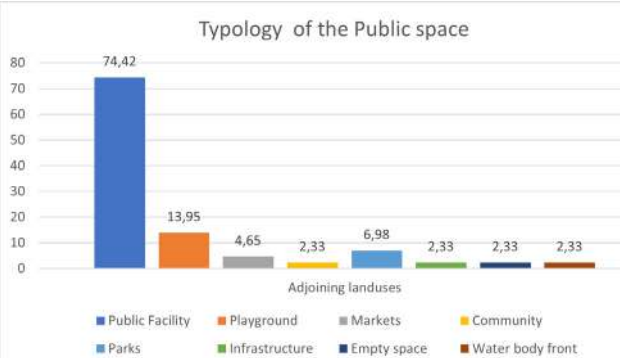
Public spaces are crucial for urban life, providing recreation, socialization, and cultural enrichment. In rural and semi-urban areas, they serve as communal gathering spots, reflecting community identity and heritage. Public spaces drive economic growth by drawing visitors and supporting local businesses. Whether it is a street market or a neighborhood park, these shared spaces create opportunities for businesses to thrive.

The significance of public spaces extends beyond social and cultural dimensions. They also play a crucial role in environmental sustainability. These spaces often serve as green lungs within communities, providing much-needed areas of respite from built-up environments. Vegetation in these public spaces contributes to biodiversity, supports local ecosystems, and mitigates the impacts of pollution and climate change.

14.8.2 State of Public Spaces in Hola

Public spaces in Hola include recreation and parks, commercial nodes (markets), institutional land (primary and secondary schools, religious centers), government offices, neighborhood open spaces and open undesignated areas along roads and settlements.

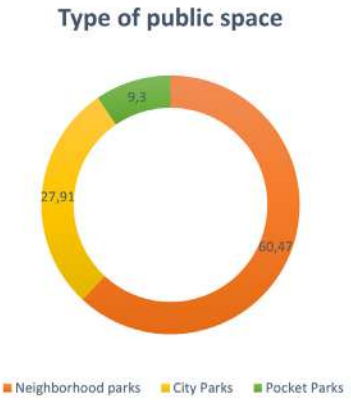
Figure 14.14 - Distribution of public facilities within Hola



Source: UN Habitat & TRC Technical Team

The type of public spaces identified within Hola include neighborhood parks, city level parks and pocket parks.

Figure 14.15 - Type of open space



Source: UN Habitat & TRC Technical Team

Figure 14.16 - . Hola secondary Open space



Source: UN Habitat & TRC Technical Team

91% of the parks are formal in that they are designated spaces for such functions. Out of these facilities, 67% are owned by the government, while the remaining 33% are owned by institutions, communities and other entities. 33% of the facilities have a multi-functional use while 75% of the facilities serve one function. Key functions held in the public facilities are political, religious, sports related, commercial, cultural and environmental related activities.

Common **challenges** facing the public spaces identified are extreme high temperatures, loss of habitats because of overexploitation, pollution (waste), human encroachment, and invasive vegetative species. None of the facilities is currently used as a tourist attraction site by the community.

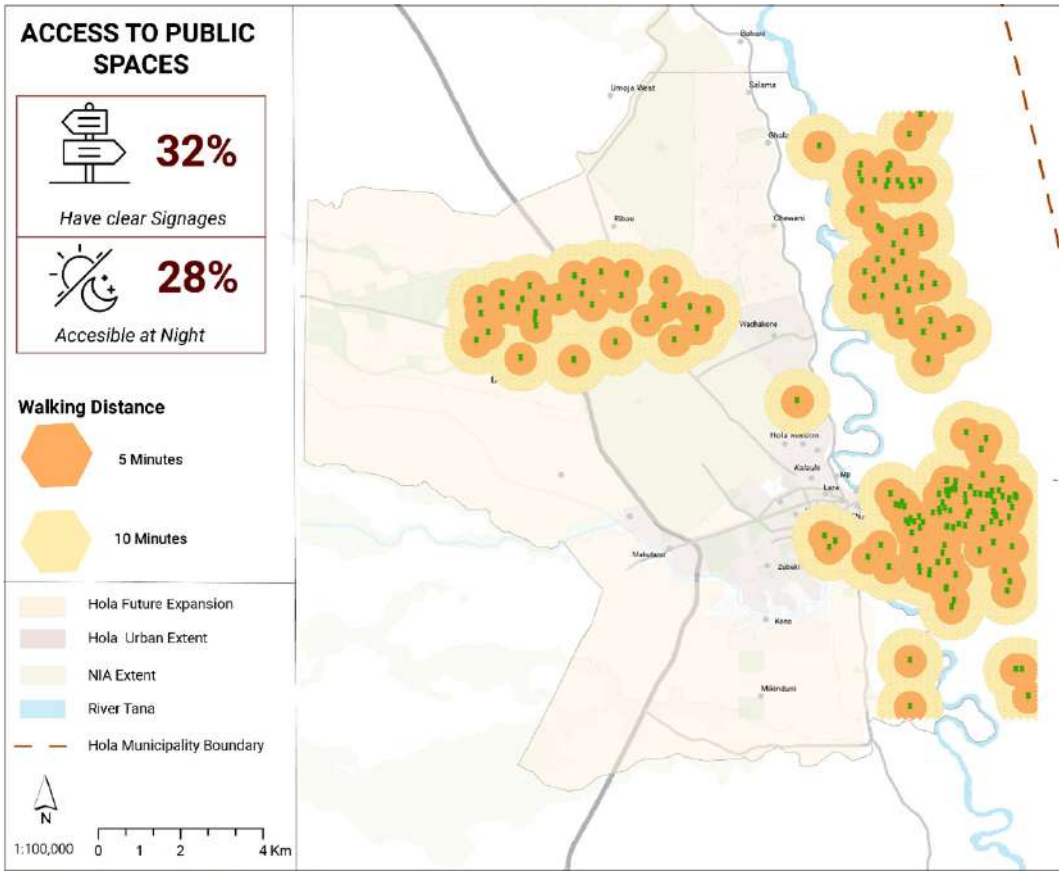
Accessibility

Based on the ground assessment, 72% of the public spaces lack any signages or identification. Signages were mostly found in public spaces linked to institutions and government facilities, accounting for 28% of the public spaces.

The open spaces can be accessed by vehicles, bicycles, pedestrian sidewalks and other informal routes. Notably, only 20% of these access points have an infrastructure that is of high quality. 10% have a clearly marked entrance, and the remaining 10% are simple to find through any point of access.

72% of the facilities are used during the day, with 28% of the facilities being used both day and night. Facilities are all accessible on all the days of the week.

Map 14.1 - Accessibility Analysis of Hola Public Spaces -10-minute walking Distance



Source: UN Habitat & TRC Technical Team

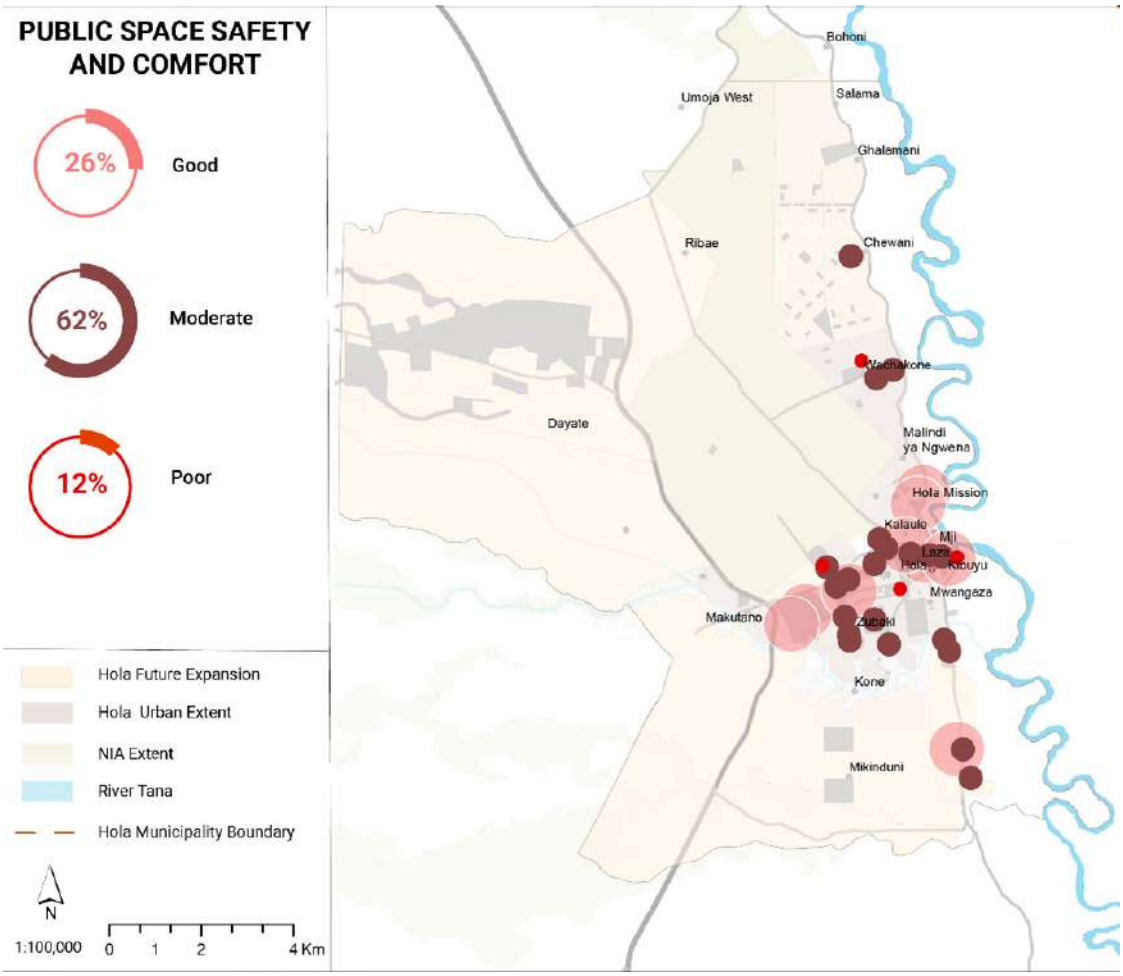
Safety and Comfort

In Hola, 26% of the public spaces in Hola have fairly good safety and comfort index, however, 62% are moderately safe while 12% of the facilities are unsafe. Safe public spaces are characterized by the presence of street lighting, presence of security personnel and CCTV cameras, low levels of noise and pollution, ease of movement within the facility and user-friendly surface. **Promoting user friendly spaces** and **enhancing visibility, safety and access** to public facilities will increase usability.

The public spaces are limited in management, a number lack safety mechanisms evidence by lack of proper delimitation, low-level infrastructure, no designated entrance and lack of security personnel. There have been several reports of insecurity incidents in these facilities, including robberies, assaults, drug usage, vandalism, hijackings, and unlawful dumping.
Disaster response is also low within the facilities. 86% of the public space lack a fire emergency plan.

Users identified some **challenges** affecting the comfort in use of the public space. Much of this was attributed to the temperature levels within the facility. 63% identified the public facilities were hot and recommended the temperatures be moderated to be lower. This could be done through planting trees and providing artificial shade.
One facility was identified to have an unclean open water surface that made it unfriendly to use the facility. In terms of noise, only 4.7% of the facilities had high noise levels linked to traffic noise and pedestrian noise.

Map 14.2 - Safety and Comfort Analysis of Hola Public Spaces

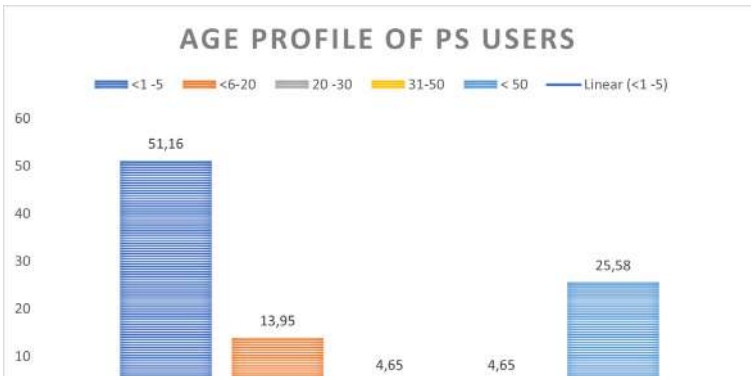


Source: UN Habitat & TRC Technical Team

Users

Public space facilities in Hola are accessed by the young and elderly population. About 76.7% of the residents access the facilities as groups for functions

Figure 14.17 - Age group User Profile of Hola Public Spaces

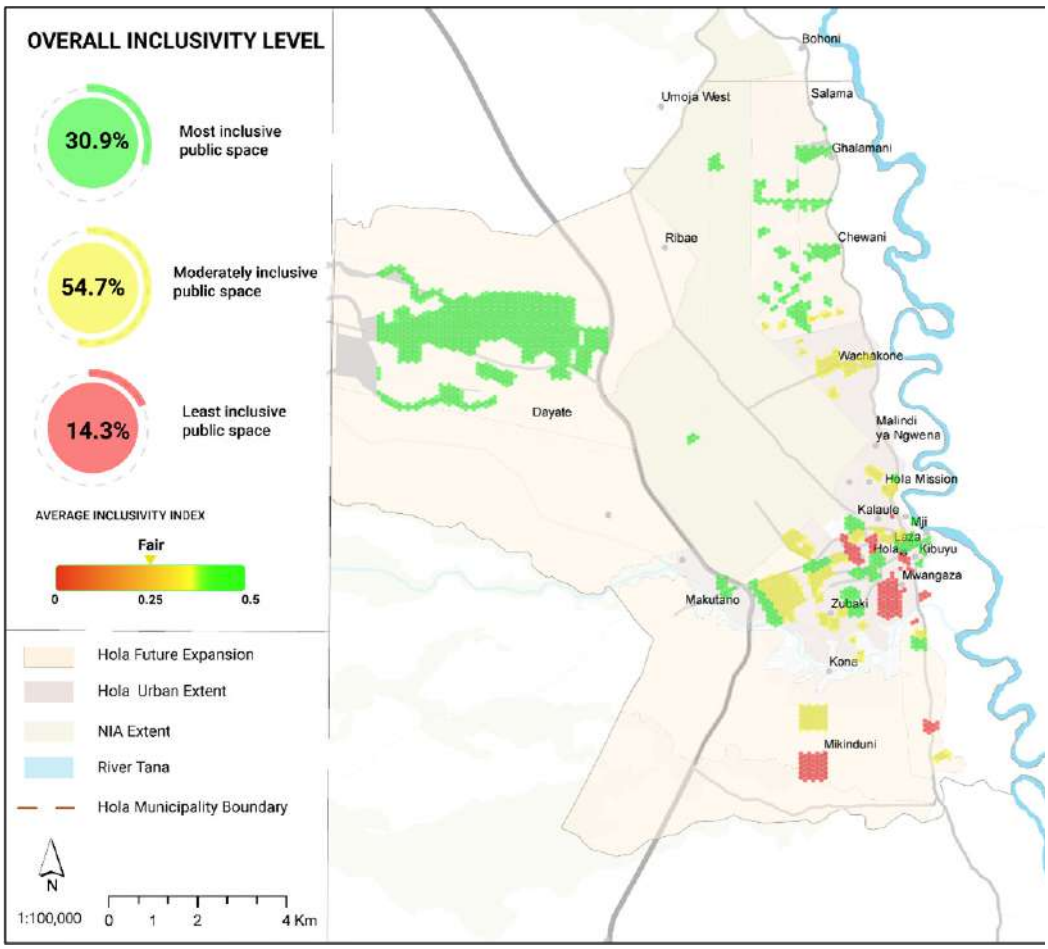


Source: UN Habitat & TRC Technical Team

76.2% of the sites are visited by individuals in groups while 23.8% of the facilities are frequented by individual.

An overall assessment of the inclusivity of the facilities assessing the safety, comfort of use, infrastructure assessment, accessibility and frequency identified that 30.9% of the facilities were very inclusive. 14.3% of the facilities were identified as low inclusive, mostly associated with facilities that have limited access, low-level infrastructure and low levels of comfort and safety of use.

Map 14.3 - User Profile of Hola Public Spaces



Source: UN Habitat & TRC Technical Team

Amenities and Furniture

Several facilities, such as seating places, street lighting, public restrooms, water supply, and waste management infrastructure, were assessed for the public spaces. Most public spaces do **not** have **enough amenities** and **furniture** to adequately support residents.

Approximately 67.4% of the open spaces did not have seating infrastructure. Only 13 facilities were identified as having seating facilities. Out of these, 2 were in good condition, about 10 moderate and 1 in a poor condition.

To light, only 32.6% of the facilities had moderately fair lighting, while the rest lacked lighting infrastructure.

The majority of the facilities **lacked waste disposal** mechanisms accounting for 72.1% of the public spaces. Garbage cans for water disposal were in somewhat good condition at 27.9% of the sites. However, two sites have subpar systems for disposing of garbage.

Public latrines were present in 54.5% of the sites and lacking in 45. 5% of the facilities. Of the latrines at these sites, 14% are in bad condition and need to be improved.

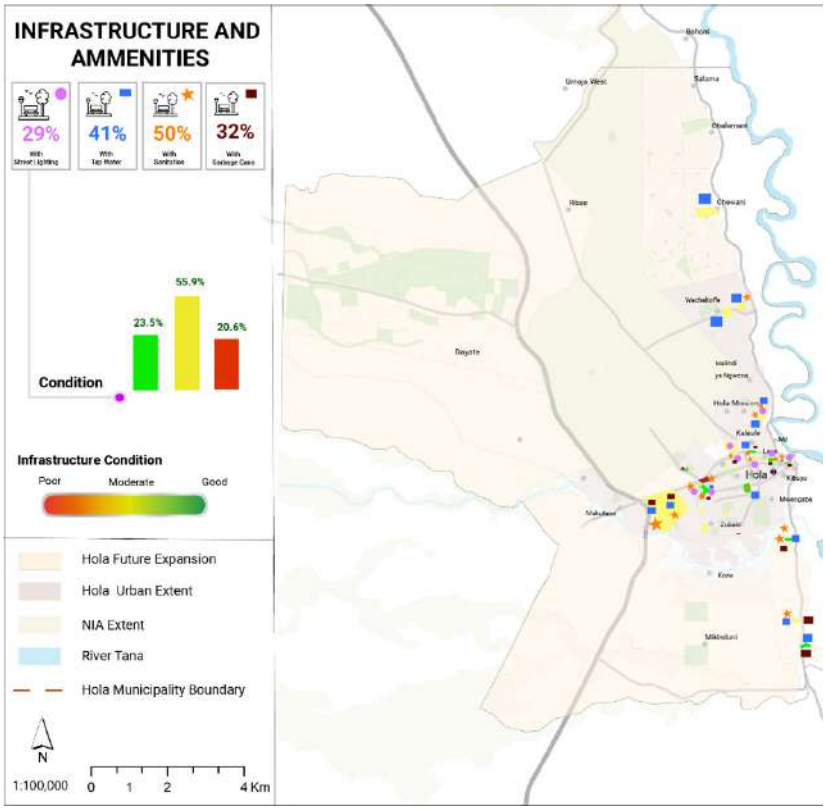
58% of the public spaces have access to water. Main sources of water were taps which were moderately functioning. Three of the facilities, however, have poor quality water infrastructure unsafe for drinking.

79% of public open spaces are devoid of water drainage services. Of these, 14% have adequate drainage and 7% have just partial well drainage.

Only 16% of the facilities have an artificial shade infrastructure. The structures are in fairly good condition. 84% of the facilities **lack artificial shade infrastructure**.

Out of the public spaces, 30% have vehicular parking in need of improvement. Only 9% of the facilities have a bicycle parking infrastructure.

Map 14.4 - Amenities assessment of Hola Public spaces

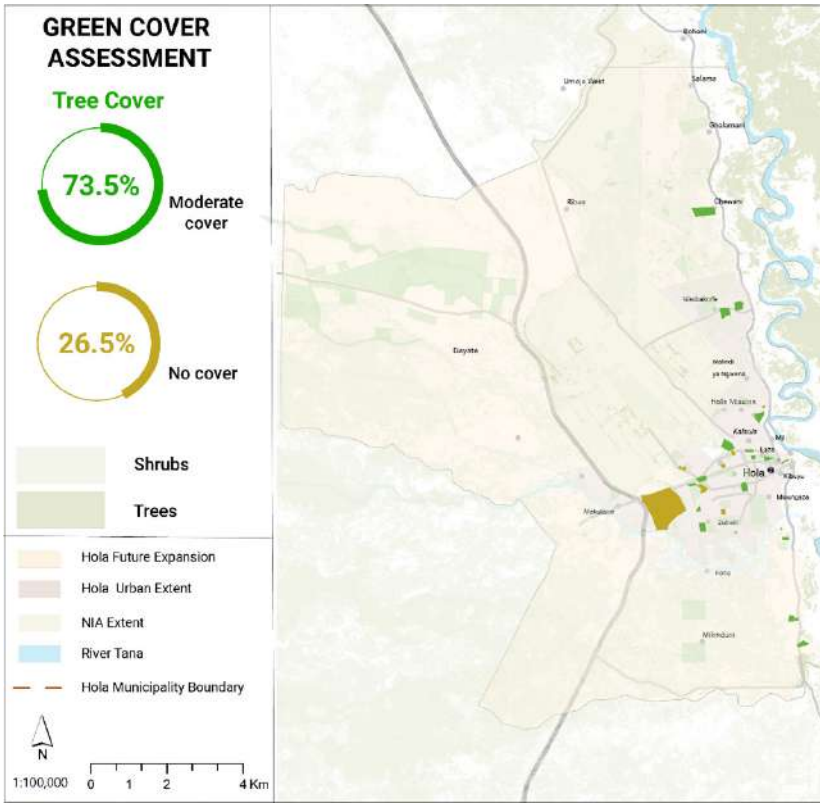


Source: UN Habitat & TRC Technical Team

Green Cover

Only 46.5% of the public spaces have natural green shade characterized by trees and bushes. Predominant species identified are Mathenge (Prosopis juliflora), Mkilifi (Neem tree), Mangoes, Msanduku (Cypress), and Senetwet (Senna septemtrionalis) species. Out of these 26% is considered adequate, while the rest needs improvement. In addition, **most** of the **public facilities lack green** vegetation**,** accounting to 72% of the facilities. Public facilities with green cover are inadequate and of poor quality.

Map 14.5 - Green cover assessment of Hola Public Spaces



Source: UN Habitat & TRC Technical Team

9.3% of the public spaces support urban agriculture with evidence of crops such as maize, msanduku, bananas and grass. The green cover is mainly affected by frequent flooding and human activities leading to degradation. Another key challenge noted is the invasive species of Mathenge (Prosopis juliflora) leading to competition over the space.

14.8.3 Strategy for public spaces in Hola

This strategy guides the creation and enhancement of public spaces within the Hola Municipality. It aims to address the diverse needs of the community, ensuring that public spaces become vibrant hubs for social interaction, recreation, and cultural expression.

Objectives

- The Hola Municipality public space, culture and heritage strategy specifically aims to contribute to:
- **Equity and Inclusivity:** Ensure that public spaces are multifunctional, accessible, and welcoming to all members of the community.
- **Environmental Sustainability:** Implement sustainable practices to preserve and enhance the natural environment within public spaces in the Municipality and along the Tana River.
- **Social Well-being:** Foster community cohesion and well-being through the design and programming of public spaces.
- **Economic Vitality:** Utilize public spaces as catalysts for economic development and local prosperity.
- **Safety and Security:** Implement measures to ensure the safety and security of public spaces for all users.
- **Stakeholder Engagement:** Engage with stakeholders and residents to gather input and feedback throughout the planning and implementation process.
- **Cultural and Heritage Preservation:** Preserve and enhance the value and function of cultural landmarks within the Municipality.

Expected outcomes.

- Enhanced **access to public spaces** through reduced walking distance and increased opportunities for safe non-motorized mobility to public spaces in Hola Municipality.
- **Increased use, functionality,** and **economic vibrancy** of public spaces in the Municipality.
- Enhanced **delineation, creation, management,** and **maintenance** of public spaces in the Municipality.
- Development of a **network**/system of well-connected, inclusive, and diverse public spaces, serving various groups of users.
- Improved **ecological function** and ecosystem services provided by public spaces in the municipality.

Figure 14.18 - Laza market



Source: UN Habitat & TRC Technical Team

14.8.4 Planning/Design guidelines and Principles

Table 14.36 - Planning Principles and Guidelines for public spaces

Principle	Guidelines
Accessibility	Access to public spaces within the Municipality should be free for all, without any financial barriers or entry fees. Delineation of public spaces through physical barriers such as fences and walls should be avoided. Ensure the public space is accessible to all groups of users, including those with disabilities, through the integration of design elements such as ramps, railings, tactile paving etc.
Distribution	The public spaces should be located within a 400m or 5-minute walking distance from areas of residence. In specific instances where access to public spaces is affected by physical barriers such as the river, this may increase to 8-10 minutes of walking distance.
Connectivity	All the streets within the municipality should have curbed and paved sidewalks/ footpaths with a minimum width of 1.5m. This width will vary depending on factors such as traffic intensity and location. When integrating cycling paths, the minimum width should be 1.5m to effectively enable a two-way flow of cycling traffic. The average municipal-wide density of (public) street intersections should be 100 per square kilometer.
Diversity	The municipality should have different public spaces that cater, in aggregate, to the following: (1) both active and passive engagement, (2) activities for various groups of users, including both children and the elderly, as well as users of various genders.
Quantity	45% of the total municipal area should be set aside for public spaces. This is composed of 30% for streets and sidewalks/pavements and 15% for public open spaces, whether green or not.
Quality	Include facilities and amenities such as seating furniture, shade structures, waste bins, lighting, and signage, with keen considerations for materials that are durable, less prone to vandalism, and suitable to the hot climate in Hola. Strategically introduce green cover, including trees, shrubs, and groundcover to enhance user comfort through shade provision, and for ecological co-benefits. Develop and implement a multi-stakeholder maintenance framework for the public spaces in Hola.

Source: UN Habitat & TRC Technical Team

14.8.5 Sectoral Policies for Public Spaces

Develop policies/guidelines guiding the design and use of public spaces, both existing and those that may emerge within the upcoming settlements.

Introduce and enforce directives on public space access, emphasizing that no public space should have physical barriers (e.g., walls, fences, lockable gates, or checkpoints) or financial barriers (e.g., entrance fees) to pedestrian access.

Develop a management and maintenance framework for public spaces in Hola, with regular budget allocation for cleaning and proactive maintenance of all public spaces.

Project/ Program	Priority Interventions / Actions	Spatial Coverage	Time Frame	Lead Actors
Upgrading of existing public spaces in Hola Municipality	Introduce key amenities and improve existing ones such as washrooms, seating furniture, street lighting, waste management bins, drinking fountains and signage within existing public spaces.	- Municipality - Priority areas: Hola urban core, particularly Eid Grounds, Hola stadium, Hola market and Hola show ground	Short term (1≤3 years)	CGTR, Municipality
	Develop a management and maintenance framework for public spaces in Hola	- Municipality	Short term (1≤3 years) (To be reviewed on a continuous basis)	CGTR, Municipality, local communities
Enhancing convenient and inclusive access to public spaces in Hola Municipality	Introduce measures and directives to minimize public space access restrictions.	- Municipality - Priority areas: Hola urban core, targeting public spaces such as Hola Park	Short term (1≤3 years)	CGTR, Municipality
	Create a network of well-connected public spaces through the introduction of green corridors.	- Hola urban core and extension areas, - Hola Riparian areas	Short term (1≤3 years)	CGTR, Municipality
	Improve the spatial distribution of public spaces to reduce walking distances to 10 minutes walking distances.	- Municipality	Long term (≥5-10+ years)	CGTR, Municipality
	Introduce and enhance NMT infrastructure by increasing walkable and bikeable streets connecting to public spaces.	- Hola town (Mwangaza, Kibuyu, Makaburini, Laza and Kalaule), Tana River riparian corridor,	Long term (≥5-10+ years)	CGTR, KeRRA, KURA, Municipality
Enhancing the green cover within public spaces in Hola Municipality	Increase planting of diverse vegetation within public spaces, with a strategic selection of a suitable plant palette and prioritization of trees	- Municipality - Priority areas: Public spaces in Zubaki, Mwangaza, Kibuyu, Laza, and Makaburini, and along key mobility routes such as the Makutano – Ruka – Hola road and the Old Malindi road	Medium term (≥3≤5 years)	CGTR, Municipality, Local communities
	Introduce blue-green design elements such as vegetated waterways, retention ponds and floodable spaces in public spaces.	- Hola town, Settlements along the Tana River riparian corridor affected by flooding. - (Gubani, Bububu, Vukoni, Wenje, Masalani, Majengo, Fanjua, Chewani, Makere, Wachakone and Dafuma)	Medium term (≥3≤5 years)	CGTR, Municipality

Project/ Program	Priority Interventions / Actions	Spatial Coverage	Time Frame	Lead Actors
	Introduce green productive buffers along ecologically sensitive spaces, through planting of native vegetation and introduction of eco-sensitive recreation.	- Tana River riparian corridor, wetland areas	Medium term (≥3≤5 years)	CGTR, Municipality, KFS, NEMA, Ministry of tourism and wildlife
Creating diverse and inclusive public spaces in Hola Municipality	Introduce new public spaces in underserved areas.	- Tana River riparian corridor, the new settlements (Handampia, Makere, Mahono and Nyangwani), Dayate	Medium term (≥3≤5 years)	CGTR, Municipality
	Enhance the diversification of public spaces by hierarchy, typology, and function.	- Municipality - Priority areas: Hola urban core	Medium term (≥3≤5 years)	CGTR, Municipality
	Integrate recreational opportunities within other existing amenities and services to create multi-functional public spaces.	- Schools and religious facilities outside the urban core, Hola market, Heller bus park	Medium term (≥3≤5 years)	CGTR, Municipality, Ministry of Education
Connecting Tana River to the rest of the Municipality for enhanced accessibility and use of the Tana River by Local Communities	Undertake feasibility on potential sites to develop public spaces, including public pedestrian paths along the riverbank.	- Tana River riparian corridor	Short term (1≤3 years)	
Connecting Tana River to the rest of the Municipality	Plan for increased accessibility to the river front through the introduction of a network of public spaces, including paths and promenades along the river.	- Tana River riparian corridor	Long term (≥5-10+ years)	CGTR, Municipality, CBOs
	Introduce tourism destinations / recreational opportunities along the river.	- Tana River riparian corridor	Long term (≥5-10+ years)	CGTR, Municipality, Ministry of tourism and wildlife

Source: UN Habitat & TRC Technical Team

14.8.6 Planning/Design guidelines and Principles for Culture and Heritage

Local experience: Consider local experiences in the planning and design process. Incorporate elements of local architecture, materials, knowledge, and expertise to reflect cultural heritage within spaces, particularly those with cultural and heritage value.

Community engagement and participation: Leverage existing cultural insights from the local communities during the planning and design process, in order to promote a sense of ownership and foster cultural preservation.

Adaptability and flexibility: Cultural landscapes evolve over time; thus, the design should accommodate changes and allow for creative expression and adaptation to contemporary and emerging needs, while preserving the character of the space.

Table 14.37 - Programs and Priority Interventions for Culture and Heritage

Project/ Program	Priority Interventions / Actions	Spatial Coverage	Time Frame	Lead Actors
Preserve existing cultural landmarks	Introducing tourism opportunities within existing cultural landmarks and creating awareness	Hola GK Prison, The tower of anthem, Mau-Mau site in Hola Urban area	Short term (1≤3 years	CGTR, Municipality, Ministry of tourism and wildlife
	Relocation of the Hola GK prison Turning Hola GK prison into a cultural landmark or public facility.	Hola town to an alternative site (Northern area)	Short term (1≤3 years	CGTR, Municipality, Kenya Prison Service
Integrate culture and heritage into new and existing public spaces	Introduce public art installations, cultural events, interpretative signage, and historical preservation efforts to promote local identity and heritage.	Municipality Priority areas: Hola urban core	Medium term (≥3≤5 years)	CGTR, Municipality
	Creation of multifunctional public spaces that support culture and heritage integration, alongside other activities	Municipality	Medium term (≥3≤5 years)	CGTR, Municipality
	Creation of multifunctional public spaces that support culture and heritage integration, alongside other activities	Municipality	Medium term (≥3≤5 years)	CGTR, Municipality

Source: UN Habitat & TRC Technical Team

14.9 CONCLUSION

To successfully implement the proposed sectoral strategies, the municipality should ensure that there is coordinated and integrated planning and financing. The spatial development envisioned for the municipality depends on the successful implementation of these strategies.

Such coordination should be done across county departments, within the municipality and between the municipality/county and national government agencies, communities and development partners.

14.10 COUNTY EQUALIZATION FUND PROJECTS WITHIN HOLA MUNICIPALITY

Ward	Marginalized Areas	Project Name	Scope
Chewani	Masabubu	Proposed drilling of borehole and construction of water kiosk at Masabubu	Preliminary and general items, hydrogeological survey, borehole drilling 60m, 3 inch 2.5km Nyangwani pipeline
Chewani	Bubu	Proposed extension of electricity line from Dhafoma to Katar village	Installation of 1 transformer, 1.1 km 33kV line, 2.2km single phase, 0.1km three phase LV line, 150 single phase cables
Kinakomba	Gafuru	Proposed Desilting and bush clearing of Gafuru dam	Preliminary and general items, site clearance, de-silting of sill trap 500m3 excavation of water pan 5,000m3, solarization and latrine
Kinakomba	Mkomani	Proposed drilling of Mkomani borehole and construction of 3 water kiosks	Preliminary and general items, hydrogeological survey, borehole drilling 60m, equipping of borehole
Kinakomba	Masalani	Proposed grading and murraming of Majengo - Masalani - Jarodi road	8km mixed surface, heavy bush clearing, culvert installation 900mm with sorround, heavy grading without water or compaction
Wayu	Dayate	Proposed rehabilitation (desilting and excavation) of Gururi water pan	Preliminary and general items, site clearance, fencing, de-silting of sill trap 500m3 excavation of water pan 5,000m3, solarization, cattle trough, water draw off system and latrine
Wayu	Wayu	Proposed expansion of Wayu - Boro Dispensary	260 square meter substructure, superstructure, roofing, fixtures, finishing, electrical and mechanical works

CHAPTER 15

PART A: EXTENDED URBAN AREA & HOLA URBAN CORE PLANS

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15.1 OVERVIEW PART A

Volume 2-15-A of the main plan report presents the **local plans** for the area proposed for long-term growth and consolidation of the urban area. This is referred to as the extended urban area. It also provides the plan for the core urban area, as the plan for Hola Town.

15.2 HOLA URBAN AREA DEVELOPMENT PLAN

It is projected that the current **population** of the Hola Extended Urban Area will **increase** from approximately 43,072 persons to 66,890 persons. This population change translates to an increase in the number of households from 8,614 to 13,378 during the plan's period. Besides housing, this growth will trigger increased demand for land across sectors- public facilities, open spaces, economic activities, conservation, infrastructure, and others.

15.2.1 Planning Area and Key Development Issues

The planning area entails the Hola urban core and Hola Extended urban area. The urban core is defined as the area along the Makutano-Hola- Ruka Road connecting the River Tana to the Malindi–Garissa B8 road. Key neighborhoods within the core include Hola CDB, Hola Mission, Zubaki laga, Makutano, Makaburini, Kibuyuni, lower Wachakone, and sections of Mji-wa-Wazee. The core hosts the county headquarters and the county assembly, several public administrative offices, Hola County Referral Hospital, and it has the main municipal market.

The Hola extended urban area is described as the area south of Makutano, Kone, Mikinduni, Emmaus, Upper section of Wachakone, Chewani, Ghalamani and Dayate. This area serves as a transition zone between the urban and rural areas. Low-density housing development, agriculture, environmental conservation and agro-processing are some of the main land uses proposed to be promoted in this area.

Despite its high development potential, the Hola core urban area is dominated by:

- **Informal developments** and continues to grow rapidly growing, both in terms of population and land size.
- The **lack of coordinated** spatial planning risks costly horizontal expansion that will demand significant investments to retrofit and improve.
- The core urban area has **inadequate public spaces,** including streets.
- **Lack of planning** and spontaneous growth of established localities has resulted in poor connectivity; hence, mobility challenges.

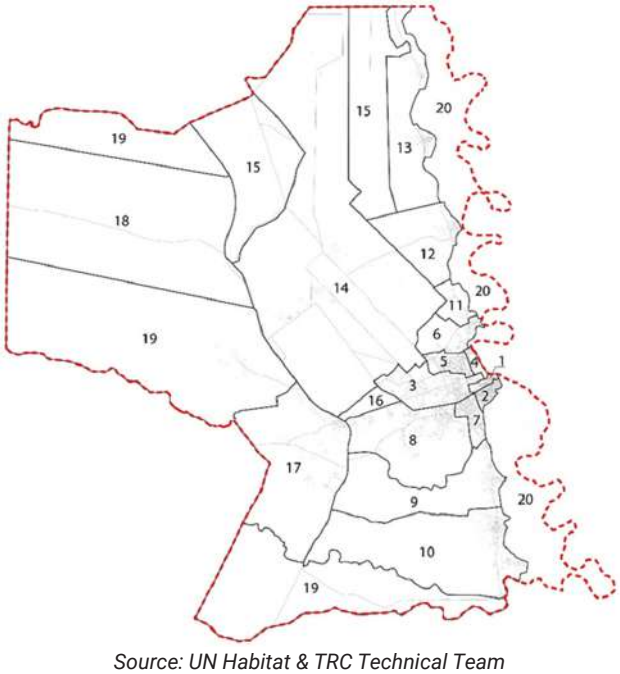
New settlements lack clear land development regulations, and the land allocation and building construction is ahead of infrastructure delivery. This will cause infrastructure backlog and challenges in realizing regulated development. Development management is needed for these new settlements. The demand driven process is still going on without development control enforcement, required investments in critical infrastructure and without clarity in planning and construction regulations/policies.

The urban area continues to face a significant **backlog of infrastructure** and basic services provision (clean water, sanitation, transportation, social services etc.).

Hola's terrain is relatively gentle, without a proper storm water management system, and under a high risk of flooding. River Tana is the main environmental feature dictating settlements' morphology and land use patterns, but with limited land use optimization.

The Hola Extended Urban Area is 41,000 acres and has been mapped to represent 20 localities. The identification of these localities is based on local knowledge.

Map 15.1 - Planning Localities of Hola Extended Urban Area



Source: UN Habitat & TRC Technical Team

Table 15.1 - Description of Localities of Hola Extended Urban Area

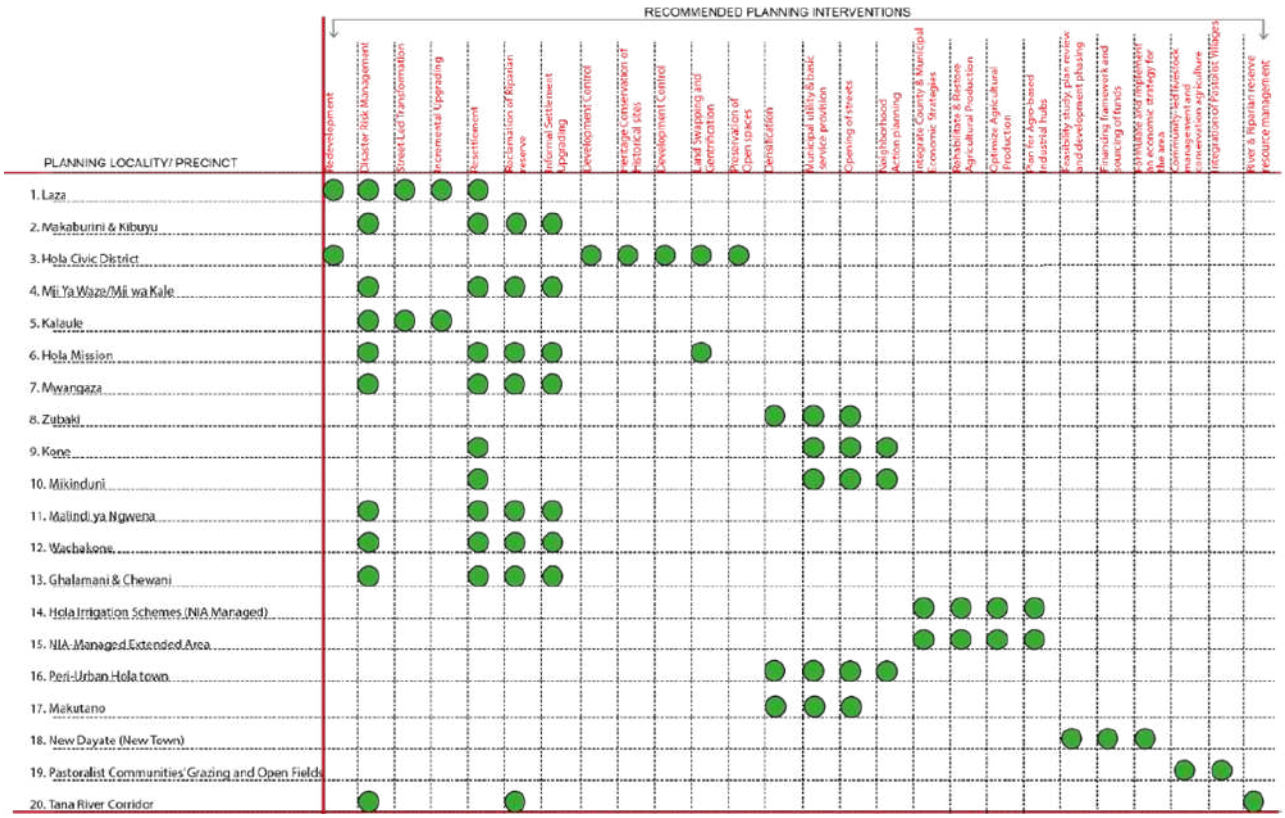
	Planning Locality	Description	Recommended Planning Interventions
1	Laza [44.55 acres]	• The zone is characterized by Hola GK prison occupying the west side, a mix of commercial structures fronting the main transport corridors and cluster of informal residential structures to the east bordering River Tana. • The main streets around the area are tarmacked, while the streets within the residential section of Laza are narrow and in an organic layout pattern. • Close to 50% of the locality is positioned on a flood prone zone	• Redevelopment • Disaster Risk Management • Street-led transformation • Incremental upgrading • Resettlement
2	Makaburini & Kibuyu [74.71 acres]	• This locality is primarily residential zone which has been classified by National government as informal settlement (s) and placed under Kenya Informal Settlements Improvement Project (KISIP) • The locality has is characterized by narrow streets and congested housing of mixed character, and includes traditional mud houses with thatched roofs, modern stone walled houses laid out as row housing, and clusters of joined rooms occupied by multiple families. • Drawing from spatial analysis, a sizable section of the zone is within flood zone area.	• Reclamation of riparian reserve • Resettlement • Disaster Risk Management • Informal Settlement upgrading
3	Hola Civic District [557.76 acres]	• This is the core administrative zone of the county. The administrative county headquarters, governor's office, county referral hospital and majority of county & national government offices are sited within this locality. • Structures within this are orderly placed. Roads providing access to various institutions are paved/tarmacked and of standard size (minimum 9 meters wide). • The approximate plot coverage is 50%.	• Redevelopment • Development Control • Heritage conservation of historical sites • Land swapping and gentrification • Preservation of open spaces
4	Mji Ya Waze/ Mji wa Kale [59.01 acres]	• The character of this locality is unevenly distributed residential structures with some sections congested and others spatially distributed within the zone. • The eastern section is within the River Tana flood zone.	• Reclamation of riparian reserve • Informal Settlement Upgrading combined with a program for relocation and Resettlement, in nearby locations, for households located in high-risk areas (flooding). • Disaster Risk Management
5	Kalaule [169.46 acres]	• This is a primarily residential zone bordered by Meti-Hororesa Road to the East – this is the only tarmacked road in the area. • The inner streets within are narrow, unpaved and in an organic layout pattern. • Like other surrounding zones, flooding is a major concern.	• Street-led transformation (opening of streets). • Disaster risk management • Incremental upgrading
6	Hola Mission [333.77 acres]	• Hola mission is characterized by uneven spatial distribution of residential and institutional structures. • The north-east side of the locality is Malindi ya Ngwena informal settlement located in River Tana flood zone. • A large portion of the locality is occupied by Hola Primary school	• Reclamation of riparian reserve • Implement a program for relocation and Resettlement, in nearby locations, of households located in high-risk areas (flooding). • Disaster Risk Management • Gentrification (redevelopment)

	Planning Locality	Description	Recommended Planning Interventions
7	Mwangaza [165.64 acres]	• Primarily residential informal structures, with commercial structures along the main transport corridor. • Flooding is a major concern, spatially affecting more than 50% of the zone.	• Informal Settlement Upgrading combined with a program for relocation and Resettlement, in nearby locations, for households located in high-risk areas (flooding). • Disaster Risk Management • Street-led transformation (opening of streets
8	Zubaki [1,433.46 acres]	• This locality is a transition from the congested residential areas, characterized by sparsely distributed residential and institutional structures within the area. • There are reported ongoing county planning initiatives.	• Densification • Municipal utility and basic service provision • Opening of streets
9	Kone [1,414.83 acres]	• Large portion of the locality is open undeveloped land with only a small section of the area to the East bordering River Tana, dominated by sparsely distributed settlements • Section of the East side is prone to flooding. • There are also reported ongoing county planning initiatives in this locality (subdivision scheme)	• Neighborhood sub-zoning (Action planning) • Municipal utility and basic service provision • Opening of streets, combined with a program for relocation and Resettlement, in nearby locations, of households located in high-risk areas (flooding).
10	Mikinduni [2,357.76 acres]	• A large portion of the locality is open undeveloped land with only a small section of the area • to the East bordering River Tana, dominated by sparsely distributed settlements • The settled East side of the settlement is prone to flooding.	• Neighborhood sub-zoning (Action planning) • Municipal utility and basic service provision • Opening of streets • Implement a program for relocation and Resettlement, in nearby locations, of households located in high-risk areas (flooding).
11	Malindi ya Ngwena [210.83 acres]	• This locality is an informal settlement and is primarily residential zone, located adjacent to River Tana. • The locality has is characterized by narrow streets and congested housing of mixed character, and includes traditional mud houses with thatched roofs, modern stone walled houses laid out as row housing, and clusters of joined rooms occupied by multiple families. • Drawing from spatial analysis, a sizable section of the zone is within flood zone area.	• Reclamation of riparian reserve • Implement a program for relocation and Resettlement, in nearby locations, of households located in high-risk areas (flooding). • Disaster Risk Management • Informal Settlement upgrading
12	Wachakone [803.01 acres]	• Wachakone is also a residential zone dominated by informal settlement structures. • Largely, the west side open and unsettled while the Eastern side is settled along river Tana • The East side is prone to flooding • There are reported county planning initiatives in this zone	• Reclamation of riparian reserve • Resettlement • Disaster Risk Management • Informal Settlement upgrading

	Planning Locality	Description	Recommended Planning Interventions
13	Ghalamani & Chewani [1,241.44 acres]	• The character of this locality is unevenly distributed residential structures with some sections congested and others spatially distributed within the zone. • The eastern section is within River Tana flood zone.	• Reclamation of riparian reserve • Informal Settlement Upgrading combined with a program for relocation and Resettlement, in nearby locations, for households located in high-risk areas (flooding). • Disaster Risk Management
14	Hola Irrigation Schemes (NIA Managed) [7,599.68 acres]	• This is farmland, managed as Hola Irrigation Scheme by the National Irrigation Authority (NIA) Land. This zone is primarily used for agriculture.	• Integrate the schemes with the county and municipal economic strategy. • Rehabilitate and restore agricultural production to full capacity. • Optimize agricultural production through integration with the local community, modernization and establish agro-based industrialization. • Plan for agro-based industrial hubs, located in strategic areas where integration with Hola Town is seamless.
15	NIA-Managed Extended Area [3,304.01 acres]	• This zone is for extension of agriculture and related activities under NIA	
16	Peri-Urban Hola town [154.33 acres]	• This zone borders the Civic district zone to the East. Currently, the zone is undeveloped • The zone holds potential for expanding the core CBD activities in future	• Densification • Neighborhood Action planning) • Municipal utility and basic service provision • Opening of streets
17	Makutano [2,280.05 acres]	• This zone is located along Makutano–Hola Road. • Currently, the area remains largely undeveloped, except for a few settlements along the new Malindi Road.	• Densification (Potential area for resettlement of displaced communities) • Municipal utility and basic service provision • Opening of streets
18	New Dayate (New Town) [5,204.78 acres]	• The area is currently being developed as the new civic town for the county, a project led by the county government.	• Consider Undertaking Feasibility Assessment of the Project, Review of the Plan to Phase it, and evaluation of on-going implementation. • Consider a financing framework, and source reliable funding, including balancing county priorities for development budgeting. • Formulate and implement an economic strategy for the new town.
19	Pastoralist Communities' Grazing and Open Fields [9,363.81 acres]	• This area consists of undeveloped open fields, used for livestock keeping.	• Promotion of Livestock Management and conservation Agriculture by the local communities. • Integration of pastoralist villages, as recommended by the SDF's rural-urban development strategy.
20	Tana River Corridor [4,224.81 acres]	• The is characterised by River Tana, its riparian zone and the immediate abutting land prone to highest risk of flooding.	• Flood risk management • Riparian reserve reclamation • River & Riparian reserve resource management

Source: UN Habitat & TRC Technical Team

Figure 15.1 - Summary of recommended planning interventions



Source: UN Habitat & TRC Technical Team

15.2.2 Planning and Design Objectives

The planning and design objectives for the plans for the Hola Urban Core and the Hola Extended Urban Area are guided by the overall objectives of this plan (see Chapter 1). In addition, the specific objectives at this local level are to:

- **Guide** and regulate current and future land development.
- **Interface** urban and rural development.
- **Optimize** land use for enhanced local economic development
- **Safeguard** environmentally fragile areas, promote climate resilience and enhance disaster risk reduction and disaster management.
- **Allocate** land for current and future public use.
- **Improve** connectivity and mobility, within and between localities.
- **Accommodate** future growth within a planning framework.

15.3 HOLA EXTENDED URBAN AREA - STRUCTURE PLAN

The Land use and structure plan for Hola Extended Urban Area provides a broad framework of land uses and development control guidelines. The plan is based on several considerations including emerging planning issues, projections on population and land use demands, land availability/existing land tenure system, land use suitability, integration of stakeholders' concerns, existing relevant laws and policies, consideration of existing developments and patterns, among others.

15.3.1 Proposed Structure Plan Policies

The policy for the proposed structure plan is an overarching coordinating framework that expresses intent and provides a set of coherent guidelines to address tenacious urban development issues with an objective of achieving the plan's development vision.

The table below summarizes key land use issues, implications for the continued approach, assessment of potential ways to optimize land use and the recommended policy guidelines/interventions.

Table 15.2 - Land Use Issues and Recommended Policies/Interventions

Land Use Issue	Concern	Assessment	Recommended Policy Guidelines/ Action Needed
Urban Core area: Section of the urban core and neighborhoods between River Tana and Old Malindi road are prone to flooding	Continues loss of human lives, animals and properties through periodic floods.	- Conservation agriculture - Agro-forestry - Ecotourism - Aquaculture practices - Measures of flood management on the riparian reserve	- Relocation of settlements and social facilities to safer grounds towards the west of the Municipality - Prohibit any new commercial, industrial and residential developments
Existing Cemetery at full capacity	Existing cemetery is full and cannot accommodate any current or future demand	- Conservation area - No recommendation for change of use: To remain as existing cemetery	- Locate new area(s) to recommend for cemetery land use - Due to cultural and religion diversities, it is recommended that we have at least 2 locations to be allocated for cemeteries
Underutilized Hola Airport/Airstrip with low or no operations at all.	Despite its prime location within the Hola core urban areas, the airstrip will continue to observe low operations	- Opportunity for land swapping with another vibrant land use that optimizes its use. - Possibility of extending use of the space as a potential open space and disaster management area especially during low operation periods. - Increase commercial air trips through collaborations with potential airline partners, national and county government.	- Revitalization of the space allocated for the Airstrip.
Mushrooming of informal settlements	As the city continues to grow, the informal settlements will continue degrade environmental integrity, fragment ecosystems and threaten biodiversity. Outward sprawl will continue to destroy valuable agricultural land.	- Upgrading and densification housing opportunities in informal settlements safe from flooding zones.	- Resettlement of informal settlements in flood prone areas - Regularization of informal settlements identified as safe spaces for residential areas
Centralization of infrastructure facilities and services within the urban core	Residents will continue to cover long distances to access basic services and infrastructure facilities	- Decentralization of infrastructure facilities and services	- Establish hierarchy of nodes within the planning area and disseminate order of goods and services
Unclear streets hierarchy and road network.	Dominant organic street layout that lacks hierarchy	- Street upgrading	- Observe street hierarchy that cascades from Trunk roads, Arterials roads, Collector roads, Primary roads, Secondary roads, feeder roads to individual property access roads
Unsustainable current Approaches to New settlements and new urban development	New settlements lack clear land development regulations, and the building construction is ahead of infrastructure delivery. This will result in infrastructure backlog and challenges in realizing regulated development.	- Development management is needed for these new settlements. - Set zones and development control guidelines (including developing minimum land holding sizes for different land use zones to reduce land fragmentation)	- Develop and implement land use zoning, standards and tailored development control guidelines for specific zones

Source: UN Habitat & TRC Technical Team

15.3.2 Extended Urban Area Land Use Plan

This land use plan is presented as a land use map, a table that provides the justification of each land use, and another table that provides the permitted developments, guidelines and their regulations.

Table 15.3 - Zones for the Land use Plan of the Extended Urban Area of Hola

Zone Code	Name	Description and Justification	Permitted Use
1	1A - Hola Core Urban Area	Area: 1,710 Acres [4%] This area refers to what was formally labelled as "Hola Town". This zone is to be promoted as the main core urban area and the Municipality's Central Business District (CBD). $1A_1$: Hola Old Town and Riverine area refers to the portion of Hola Core Urban Area (1A) located east of the Hola-Malindi road adjacent River Tana. This zone is prone to periodic flooding during the rainy season. Therefore, the main goal is to preserve the cultural heritage of Hola Old town and gradually resettle residents and property owners to safer spaces and restrict any further urban developments in future.	- High and medium density residential - Commercial developments and offices - Mixed use: Commercial–cum-residential, commercial-cum-light industries. - Administrative and public purpose uses - Public utilities land uses - Open-air and closed markets - Open spaces and recreational uses - Transportation purposes - Educational and Health purposes - Accommodation and tourist facilities Zone $1A_1$: - Prohibit any new commercial and residential developments - Gradual relocation of existing residential settlements to proposed residential zones - Open spaces and recreational uses - Public Utilities
1	1B – Hola Urban Growth Zone $1B_1$ - Makutano Urban Growth Zone $1B_2$ – CBD Urban growth zone	Area: 1,197 Acres [3%] This zone is set aside to control future urban development and expansion of Hola core urban area. This area is also the transition zone between the urban core and the rural hinterland and envisioned to accommodate long-term growth of Hola Town, while preserving the vital NIA agricultural lands and flood plains. These zones entail portions of subdivided land at the edges of Hola town, these could be urbanized, prioritizing the consolidation and densification of Zone 1 as well as Makutano peri-urban node indicated as zone 3P. Currently, the area can be set aside as a reserve awaiting gradual development once the capacity of available land in Hola core and Dayate is maximized. During this time, the zone can be used to promote grazing, mitigate floods and small-scale rural development.	Zone $1B_1$: Makutano Urban Growth Zone - Medium and low density residential - Commercial developments and offices - Mixed use: Commercial–cum-residential, commercial-cum-light industries. - Public purpose and public utilities use - Periodic open-air and closed markets - Open spaces and recreational uses - Transportation purposes - Educational and Health purposes - Conservation Zone $1B_2$: CBD Urban Growth Zone - High, medium and low density residential - Commercial developments and offices - Mixed use: Commercial–cum-residential, commercial-cum-light industries. - Administrative and public purpose uses - Public utilities land uses - Open spaces and recreational uses - Transportation purposes - Educational and Health purposes - Light industries development (juakali)
2	Secondary Centers	See Municipal-wide Land use Plan and SDF	

Zone Code	Name	Description and Justification	Permitted Use
3	Peri-Urban Villages 3M - Ghalamani 3N - Chewani 3O – Wachakone 3P – Kone 3Q - Mikinduni 3R - Emmaus 3S - Old Dayate 3T - Makutano	Area: 1,379 Acres [3%] This entails existing villages within the urban extended area. The growth of these areas will be confined within the proposed zone limit/boundary. The plan is tailored to promote development and growth within these zones, aiming at further decentralizing services from the urban core and promote rural development of the municipality	- Medium and low density residential - Mixed use: Commercial–cum-residential - Public purpose and public utilities use - Periodic open-air markets and animal auction yards - Open spaces and recreational uses - Educational and Health purposes - A comprehensive local plan is required for zones 3P, 3Q, and 3R for the extended urban area.
4	New Settlement Clusters	See Municipal-wide Land use Plan and SDF	
5	New Dayate Satellite Town and Hola Town Extension Zones 5A. Dayate Satellite Town 5B. Extensions North of Hola Town	Area: 5,193 Acres [13%] 5A: Entails the on-going urban development scheme initiated by the county government, which has preceded this plan. Land Use assigned to Dayate, envisioned as a new satellite town. Area: 1,743 Acres [4%] 5B: Entails the on-going urban development scheme initiated by the county government, which has preceded this plan. Land Use assigned to the new subdivision schemes of Wachakone and Ghalamani	Refer to the Existing Dayate Plan

Zone Code	Name	Description and Justification	Permitted Use
6	Integrated Agro-Related Industry and Mixed-Use Developmen $6B_1$: Integrated Mixed Use Industrial Development $6B_2$: Future integrated industrial and mixed-use development zone	Area: 3,350 Acres [8%] Industrial Development Area on NIA Land. Entails promotion of development for industrial zones to establish agro-based industries for agricultural produce value such as fruit processing, to take advantage of existing resource from farming practices around the area. $6B_1$: on the west side of NIA agricultural land is primarily designated for industrial and commercial purposes, with the possibility of small-scale residential development. This zone is intended to accommodate current industrial needs and commercial activities, providing a robust foundation for economic growth. The potential for limited residential development aims to support the workforce and create a balanced, integrated community. $6B_2$: on the east side of NIA agricultural land serves as a reserve land for future development. Presently it will support a mix of agricultural uses, pastoralist activities, and rural homes. This diverse land use strategy ensures flexibility, allowing for the gradual expansion of commercial and industrial sectors as needed in the future. This approach aims to balance current rural needs with long-term development potential, making room for agro-research initiatives and disaster response sites, alongside integrated residential and commercial spaces as reserve land for future requirements.	Zone $6B_1$: - Agro-based processing industries - Low density rural residential homesteads - Retain existing infrastructure and social facilities - Conservation agriculture - Agricultural produce collection and aggregation nodes. - Agricultural extension services Zone $6B_2$: - Conservation agriculture - Commercial livestock breeding grounds - Rural development - Commercial developments - Agro-based processing industries - Low density rural residential homesteads. - Flood control and disaster mitigation facilities

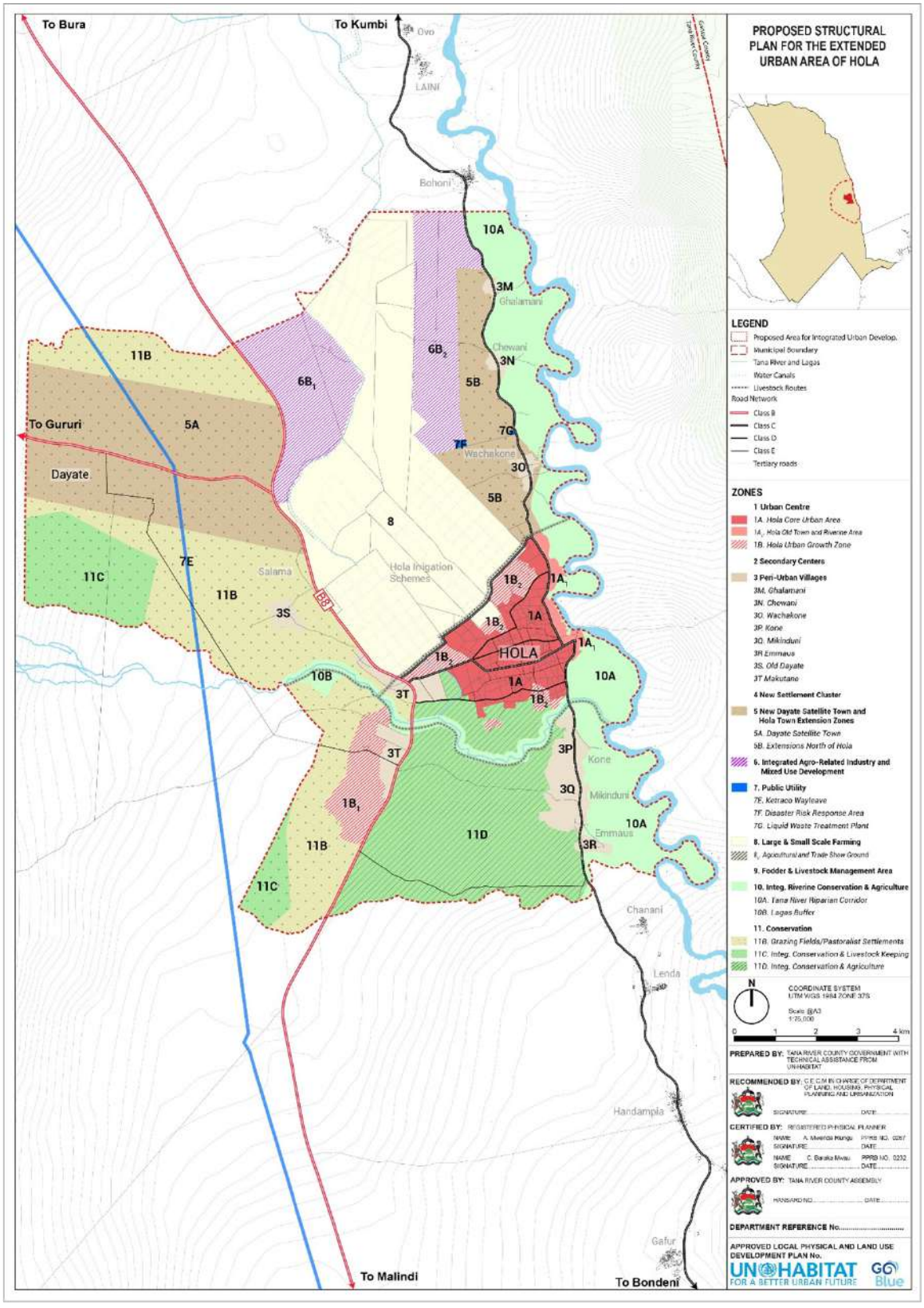
Zone Code	Name	Description and Justification	Permitted Use
7	Public Utility 7E: KETRACO Wayleave 7F: Disaster Risk Response Area 7G: Liquid Waste Treatment Plant	Area: 14 Acres 7E: The area is reserved for the ongoing KETRACO infrastructure project, involving the construction of high-voltage transmission lines that traverse the municipality, providing a link in the national grid. These lines run through designated corridors known as "wayleaves", crucial for maintaining the safe and efficient operation of the transmission lines, ensuring that the surrounding areas remain clear of obstructions. 7F: The area has been reserved as a Disaster Risk Response Area, designated specifically for the temporary reception of households affected by disasters. This area follows development guidelines tailored to accommodate emergency needs and ensure swift support. 7G: The area has been reserved as a Liquid Waste Treatment Plant, to be developed and implemented along with the development of zone 5B See Structural Plan for the Municipality of Hola for Major Public Utilities areas and the Land Use of Hola Urban Core for other Public Utility facilities within the Hola Urban Core (ex. Water Treatment Plants, Liquid Waste Treatment Plants, Fire Station, Sanitation, Cemeteries, etc).	<u>Zone 7E</u> - The width of a right of way depends on the size of the line, types of structures and land characteristics. The general range to maintain is 7.5 to 13 meters for roadside lines and 30 to 45 meters for cross-country lines. These are averages numbers to be evaluated case by case by developers. - Design all structures and landscapes to allow easy access for KETRACO maintenance crews. - Ensure all developments maintain the required minimum clearances and do not interfere with the transmission lines. - Only plant low-growing vegetation within the right of way will not interfere with the power lines. - All developments must comply with safety standards and guidelines provided by KETRACO. - All general permitted uses defined in the plan are allowed in the adjacent areas, provided they adhere to distance requirements, safety clearances, and do not obstruct access or infrastructure operations. <u>Zone 7F:</u> - Zone to be used for Disaster Risk Management only. - Implement only developments whose primary objective is disaster prevention, mitigation, preparedness, response and recovery. - Open spaces for rescue assembly - Connect the zone to municipal-wide storm water drainage system. - Allow and implement traditional and innovative flood mitigation projects/measures such as gibbons of levees, dikes, floodwalls, impoundments, improved conveyances, acquisition & relocation of flood-prone properties, stormwater harvesting etc. - Prohibit development of any new physical development for residential, commercial, industrial and educational uses. <u>Zone 7G:</u> - Fencing and creation of a buffer around the treatment facility planted with appropriate trees to provide for public safety, to exclude livestock, and to discourage trespassing. - The site should be free from flooding and the elevation of the site should permit the discharge of the effluent by gravity to the receiving streams or the level of the irrigation area to be directed in case of reuse for irrigation. - The wastewater treatment plant site should always be accessible to personnel and delivery persons. - Access emergency response vehicles must be available.

Zone Code	Name	Description and Justification	Permitted Use
8	Large- and Small-scale Farming (NIA schemes) 8_1 Agricultural and Trade Show Ground	Area: 7,631 Acres [19%] Entails existing National Irrigation Authority (NIA) Land, on which it is proposed to be integrated within the Municipality plan promote irrigated agriculture as per NIA objectives and directives. 8_1 [16 Acres] represent a recommend are for an Agricultural and Trade Show Ground, located on the edge of Hola Irrigation Scheme, adject to the Agricultural Educational infrastructures and closer to the town- promote business.	Zone 8: - Large scale & small-scale Agriculture - Low density rural residential homesteads* - Retain existing physical infrastructure and social facilities (roads, canals, schools, religious places, water points etc.) - Conservation agriculture - Agricultural produce collection and aggregation nodes. Zone 8_1: - Zone to be used for agricultural & trade show purposes - During off-peak season, this zone to be used for demonstration farms and related agricultural purposes - Develop support infrastructure facilities [access roads, water points, information center etc.] - - Any development or improvement of land within this zone will be subjected to NIA, County physical Planning & Municipal management approvals
9	Fodder & Livestock Management Area	See Municipal-wide Land use Plan and SDF	
10	Integrated Riverine Conservation and Agriculture 10A - Tana River Riparian corridor 10B - Lagas buffer	Area: 4,952 Acres [12%] This zone is the area along the River Tana and around the lagas. The area entails the riparian zone and the immediate abutting areas. Through analysis, the area was identified suitable for promotion and protection of the riverine ecosystem. The area will also promote development of blue economy, reforestation, conservation, development of eco-tourism, and small-scale agriculture. The growth limits of the settlements falling in those zones will be determined guided by the environmental conservation and disaster risk management principles. In accordance with environmental regulations and best practices in Kenya, a 30-meter buffer free of any human activities zone should be maintained from the highest water mark of Tana River.	- Conservation of water resources and riparian reserve - Eco-Tourism activities - Small scale subsistence and commercial agriculture - Conservation & Agroforestry practices - Prohibit new commercial, industrial and residential developments - Flood control and disaster mitigation facilities - Prohibit unsustainable exploitation of water and vegetative resources on river, lagas and their respective riparian reserves.

Zone Code	Name	Description and Justification	Permitted Use
11	Conservation and Grazing lands 11B - Grazing Fields/ Pastoralist Settlements 11C - Integrated Conservation & Livestock Keeping 11D - Integrated Conservation & Agriculture	11B Area: 6,892 Acres [17%] 11C Area: 2,018 Acres [5%] 11D Area: 4,920 Acres [12%] 11B and C – Drawing from the municipal wide structure plan, this is the area positioned west of the new Malindi road. This area will restrict urban development and will be promoted as area for grazing livestock and conservation 11D – is located east of the new Malindi road and south of Hola town, with valuable biodiversity condition, to be preserved and to allow only small-scale agriculture	Zone 11B: - Grazing and natural fodder production - Rural hamlets and homesteads Zone 11C: -Integrated conservation measures -Livestock -production and raring Zone 11D: - Conservation practices - Promotion of small-scale agriculture and agroforestry - Flood control and disaster mitigation measure - Due to the high vulnerability of flooding, halt any new building developments. - Alternative resettlement areas should be identified and prioritized for existing communities currently located in flood-prone zones.

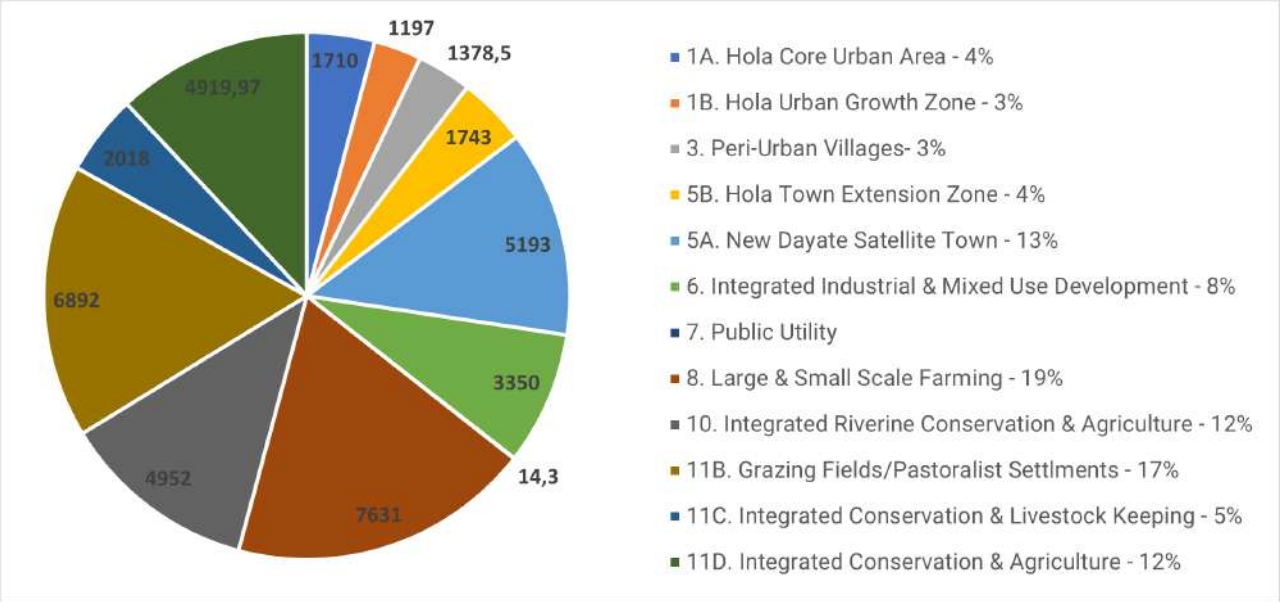
Source: UN Habitat & TRC Technical Team

Map 15.2 - Proposed Land use Plan for the Extended Urban Area of Hola



Source: UN Habitat & TRC Technical Team

Figure 15.2 - Composition of the Zoning Categories



Source: UN Habitat & TRC Technical Team

15.4 HOLA TOWN URBAN CORE: SPATIAL STRATEGY AND LAND USE

The Urban core area of Hola Town faces many spatial-related challenges which have undermined the quality of life and economic development and has increased the disaster risk for the town, especially flooding risks.

15.4.1 Guiding Principles for Planned Development of the Urban Core

The aim of this plan is to facilitate a shift from the current spontaneous growth and uncoordinated planning interventions to a consolidated planning framework. This consolidated framework seeks to achieve:

- **Adequate Accessibility:** Developments, properties and residents with adequate access.
- **Guide development:** Developments that align to or with policies, standards and other development tools to achieve the desired spatial outcomes
- **Public Health and Safety:** Developments that promote public health and safety, community well-being and result in healthier communities.
- **Resilience and Adaptability:** Developments established in a manner that promotes ability to recover and adapt rapidly from disaster impacts and environmental stress with ease.
- **Sustainability:** Developments that ensure protection of biodiversity, conservation of environmentally sensitive areas and optimum utilization of resources without compromising the needs of the future generation.
- **Spatially Organized and Functional Growth:** Promote well-planned and designed developments, with functional integration and a predictable spatial development trend.
- **Promote quality:** Set standards provide for utilities of premium, permissible standards, competitive to meet preferred threshold.

15.4.2 Hola Urban Core Spatial Strategy

Building on Hola Extended Urban area in Map 15.2, the planning boundary for Hola Urban Core area have been selected has the sum of the following localities.

Table 15.4 - Planning localities within Hola Urban Core area

No.	Planning Locality
1	Laza
2	Makaburini & Kibuyu
3	Hola Civic District
4	Mji Ya Waze/Mji wa Kale
5	Kalaule
6	Hola Mission
7	Mwangaza
8	Zubaki
11	Malindi ya Ngwena
16	Peri-Urban Hola town
17	Makutano
20	Part of the Tana River Corridor
Total Area: 6697.64 Acres	

As highlighted below, this area encompasses the denser and historical center of Hola, its development along the Tana River towards the north and south, and the expansion towards the west, linking to the B8 Road and the small settlement of Makutano. Makutano is growing along the west side of the road and is projected to increase in population and development in coming years. The Hola Urban Core and the current planning boundary are delineated as follows:

- Toward the north by the NIA agricultural land,
- Toward the south by the Lagas and floodplains of Zubaki,
- Toward the east by current developments and the Tana River Riparian Reserve,
- Toward the west by the B8 road.

The area of Makutano has been included in the planning boundary due to its developmental linkages with Hola town.

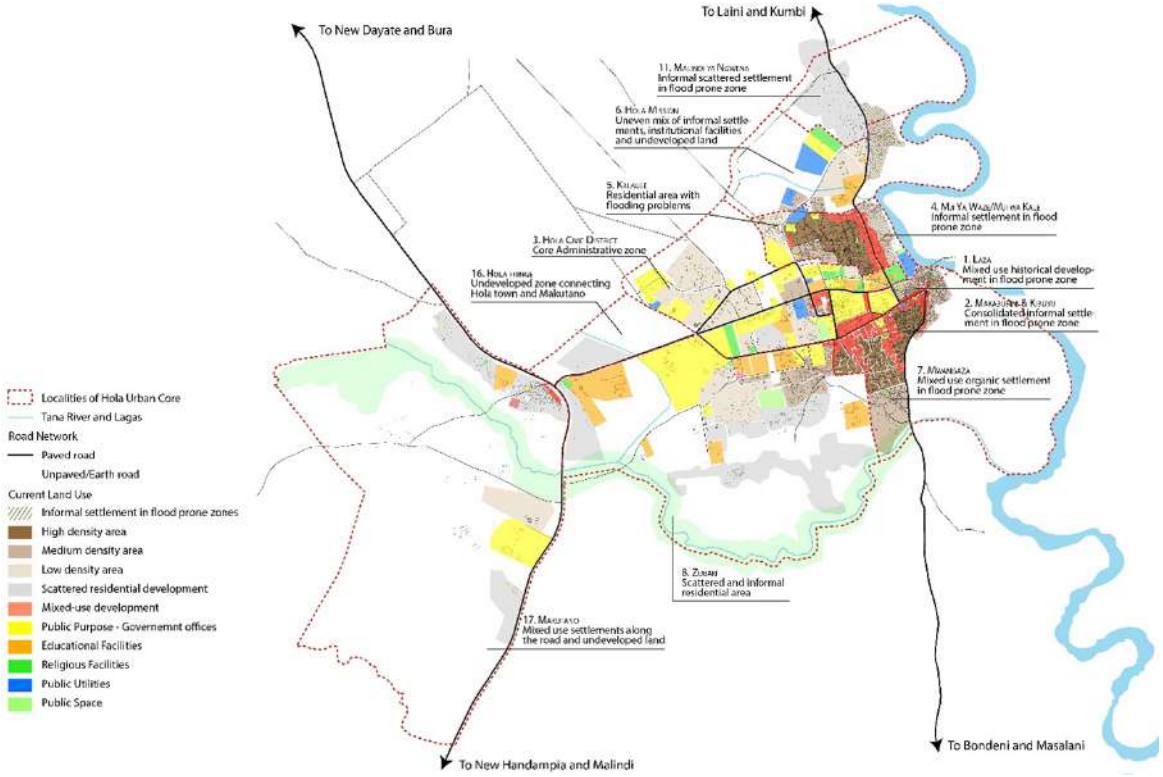
The figures below highlight key features and urgent issues in the town:

- Map 15.3 illustrates the **current land use** of Hola, different residential developments, densities, and the main characteristics of each location. It is evident that higher density areas and commercial mixed-use developments correspond to the areas of Laza, Makaburini, Kibuyu, and Kalaule, transitioning into medium and low-density areas towards the north, south, and east. The locality known as Hola Civic District and the northern part of the Zubaki area are characterized by educational land and buildings for public purposes, particularly governmental offices. Makutano, South Zubaki, and the northern area of Hola (Hola Mission and Malindu Ya Ngwena) are relatively undeveloped.

- Map 15.4 identifies the **most urgent features** to address in the land use plan, including the development of a clear, hierarchical road network, the consolidation, relocation, or densification of residential areas, and the issues related to flood-prone areas. It is essential to upgrade and consolidate the connection between the B8 road and the Old Malindi road, from Makutano to the Tana River, and to enhance the permeability of connections from north to south. Additionally, it is crucial to limit developments in the Zubaki area, in Makutano, and east of the Old Malindi road to mitigate risks associated with flooding.

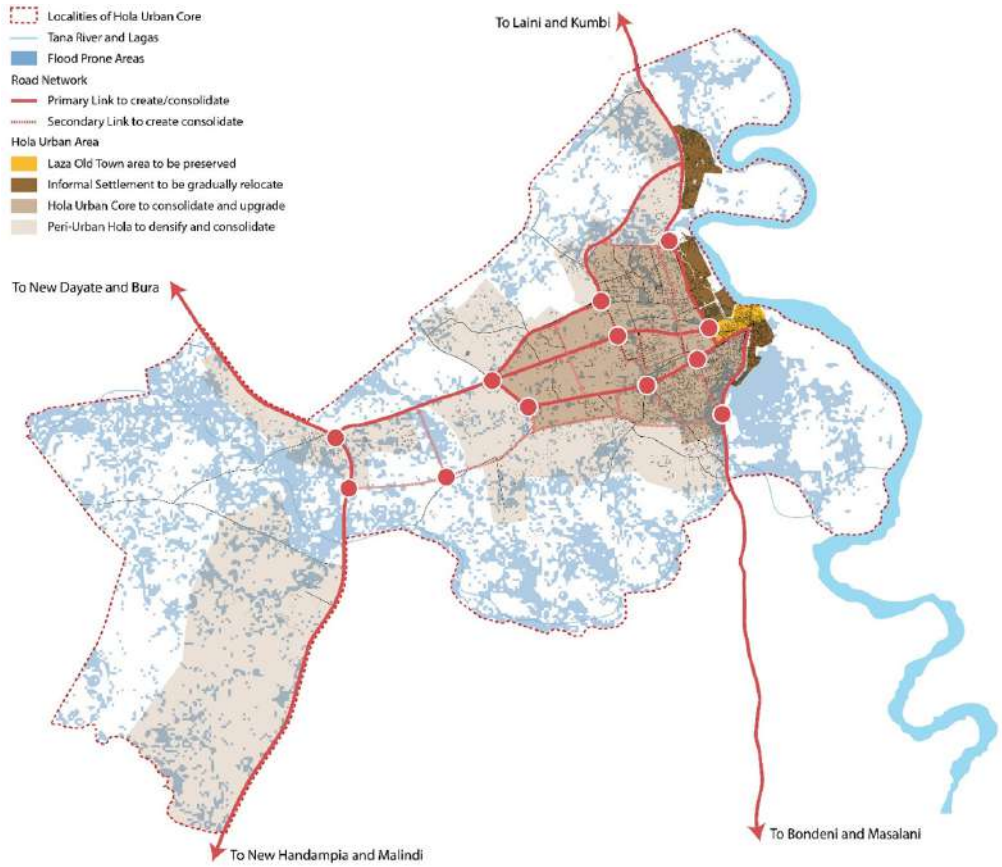
- Map 15.5 **focuses** on the area between the Tana River and the Old Malindi Road, highlighting the old town area and informal settlements present in that area. The plan suggests a gradual resettlement to safer areas on the west side of the Old Malindi road, particularly for the Malindi ya Ngwena and Mji ya Waze and Kale areas. Mji ya Waze should be promoted as a public space for the town, while the old town area of Laza should be preserved and enhanced from a cultural and touristic perspective.

Map 15.3 - Localities of Hola Urban Core Area: Existing land use



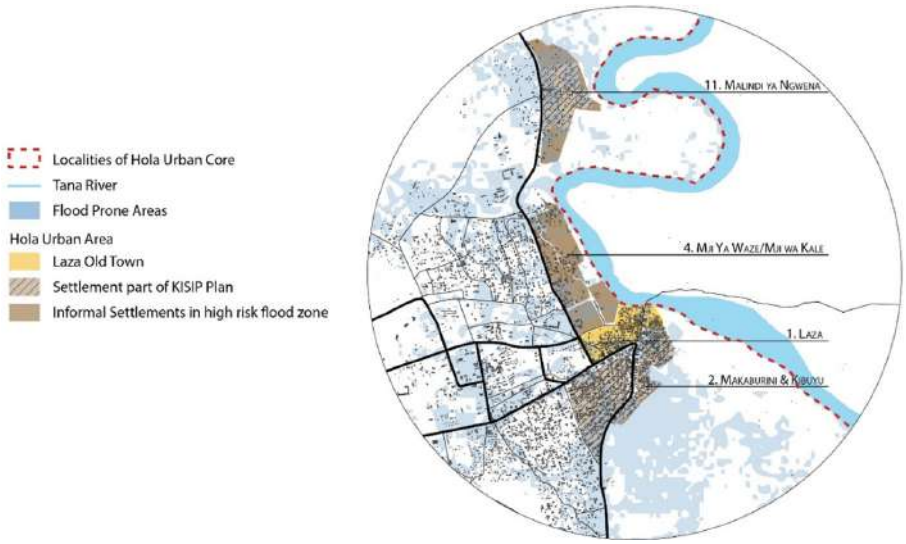
Source: UN Habitat & TRC Technical Team

Map 15.4 - Localities of Hola Urban Core Area: Environmental, Mobility and Land Use constraints



Source: UN Habitat & TRC Technical Team

Map 15.5 - Zoom on riverine informal settlement of Hola Urban Core



Source: UN Habitat & TRC Technical Team

Key Interventions for the Transformation of Hola Town

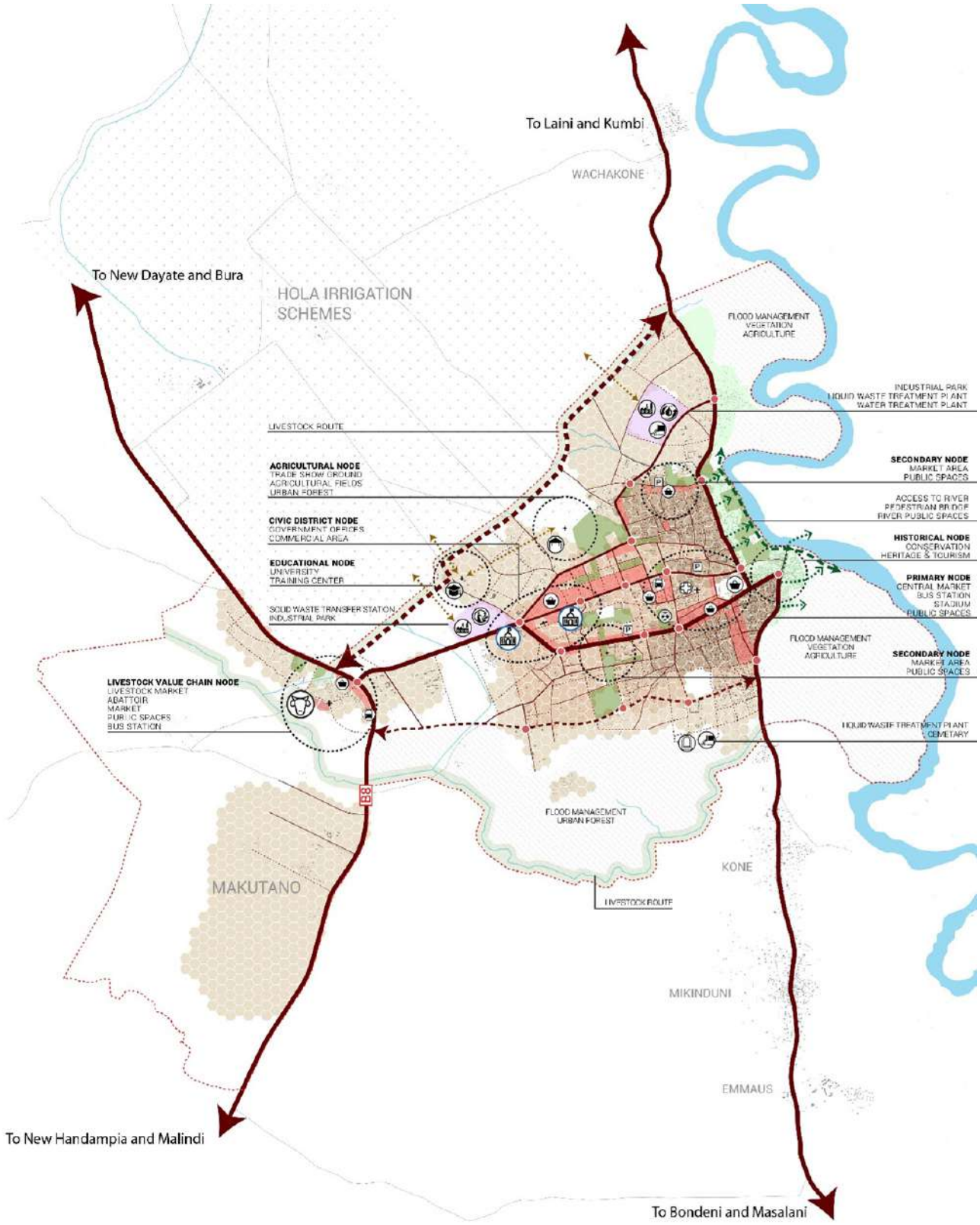
1. **Historical preservation** of the Old Town Area, combined with riparian interface management.
2. **Functional Integration**, including revitalization of the Civic District by integrating mixed used developments
3. **Enhanced connectivity** and mobility through an elaborated street network
4. **Shifting** and enhancing land use, including the repurposing of the current site for the Hola GK prison.
5. **Informal Settlements** Improvement
6. **Environmental** management and disaster risk reduction
7. **Promoting** local economic development
8. **Improved** housing development
9. **Infrastructure** development and improved delivery of basic services.

Building on the key interventions outlined, the Action Plan for the Hola Urban Core delineates the locations of new major public utilities, the proposed road network, and residential areas with varying densities to be developed or improved. It highlights critical infrastructure projects, including the transformation of the historic prison into a market and a multipurpose cultural area, the establishment of a new university, and the development of a new livestock market in the peri-urban area, as well as the enhancement of the civic district.

Additionally, it designates industrial zones, public spaces, and primary and secondary nodes for decentralized services. This strategic approach aims to promote sustainable urban growth, enhance connectivity, and ensure a balanced distribution of population and resources.

Following the Action Plan, the Hola Urban Area land use plan organizes land use into residential, industrial, educational, recreational, conservational, public purpose and utility, transportation, and commercial and mixed-use zones to ensure balanced and sustainable urban development.

Map 15.6 - Action Plan for Hola Urban Core



Source: UN Habitat & TRC Technical Team

15.4.3 Development Management Policies and Regulations

15.4.3.1 Key Policies

Policy	Requirement
Sessional Paper No. 3 of 2009 on National Land Policy	• Elaborate the key measures required to address the critical issues of land administration, access to land, land use planning, restitution of historical injustices, environmental degradation, conflicts, unplanned proliferation of informal urban settlements, outdated legal framework, institutional framework and information management. • Address constitutional issues, such as compulsory acquisition and development control as well as tenure. • Safeguard and recognizing the need for security of tenure for all Kenyans (all socio-economic groups, women, pastoral communities, informal settlement residents and other marginalized groups).
Sessional Paper No. 1 of 2017 on National Land Use Policy	• Coordinate land use planning, equitable resource allocation and management for sustainable development • Champion coordination and integration of institutional linkages in planning at sectoral and cross-sectoral levels • Develop an integrated framework for the preparation of review of various levels of land use plans. • Improve an appropriate, independent, accountable and democratic institution for land use conflict resolution; and • Mitigate problems associated with poor land use.
National Urban Development Policy, 2016	• Formulate plans for the development of urban areas through investments in large scale infrastructure programs to influence balanced urbanization. • Plan the orderly development of urban areas within any transport corridor. • Inter-connect transportation. • Encourage agro-processing enterprises close to urban areas to support livelihoods for both urban and urban catchment populations • Plan urban peripheries alongside the respective urban areas. • Legislate on urban renewal and economic regeneration as a basis for enabling urban areas to face global and local competitiveness. • Re-design and develop infrastructure in support of high growth sectors in urban centers. • Promote the formation of neighborhood associations to foster public participation on issues of urban areas. • Formalize landholding in urban and city informal settlements. • Improve access to serviced land affordable services. • Establish criteria for further decentralization for effective urban management;
National Spatial Plan, 2015-2045	• Plan and set aside land for industrial development in every county. • Integrate the industrialization process and environment conservation. • Provide an integrated, efficient, reliable and sustainable road transport infrastructure. • Provide efficient airport facilities to facilitate quick delivery of produce and perishable products. • Increase availability of clean water and improve sanitation. • Discharge of safe/ clean industrial waste into water bodies shall be encouraged. • Promotes intensified Agriculture/food production in Hola through the irrigation schemes • Adoption and utilization of ICT. • Sustainable use and exploitation of natural resources. • Environmental conservation. • Increased investment in social and physical infrastructure

Source: UN Habitat & TRC Technical Team

15.4.3.2 Key Regulations

Regulation	Requirement
The Constitution of Kenya	• Article 60: Land shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with the National Land Policy. • Article 66: Regulation of use of any land, interest in or right over land in the interest of defense, public safety, public order, public morality, public health or land use planning. • Section 21 of Part I the Fourth Schedule – General principles of planning and the coordination of planning by counties • Section 8 of Part II of the Fourth Schedule - planning and development
PLUPA- Development Control Stipulations:	• Prohibit or control the use and development of land and buildings in the interests of proper and orderly development. • Control or prohibit the subdivision of land. • Consider and approve all development applications and grant all development permissions. • Ensure the proper execution and implementation of approved physical and land use development plans. • Formulate by-laws to regulate zoning in respect of use and density of development. • Reserve and maintain all the land planned for open spaces, parks, urban forests and green belts in accordance with the approved physical and land use development plans; and • Consider and determine development planning applications made in respect of land adjoining or within reasonable vicinity of safeguarding areas.
Land Act, 2012	• Alienation, conversion of land and management of reserved land shall be based on physical and land use planning. • Regulation 16 (1) of Land Regulations, 2017 – subdivision of freehold land should be processed and approved in accordance with laws relating to physical and land use planning. • Regulation 16(6) – The Chief Land Registrar shall decline to register a document unless development permission has been granted. • Regulation 23(3)(c) and (d) – compulsory acquisition of land acquisition shall have regard to physical and land use development plans. • Section 42 of the Land Laws (Amendment) Act, 2016 provides that registered proprietor shall not, for the purposes of obtaining planning permission, be obliged to surrender the freehold interest in exchange for leasehold.
UACA	• Section 4A – Physical Planners are members of an ad hoc committee to delineate boundaries of urban areas and cities • First Schedule - ability to provide planning and development control is a condition for conferment of city, municipal or town status
EMCA, 1999 (Revised 2015)	• Section 42 and 43 - conservation of water resources. Allowable development in these areas is only possible after an Environmental Impact Assessment and written approval of the Director-General. • Section 46 - directs Environmental Committees to identify areas in need of afforestation and reforestation in their areas. • Protection of hill and mountainous areas (47), forests (48), use of renewable energy (49), biological diversity and genetic resources (50-54), are also outlined in EMCA.
County Governments Act, 2012	• Section 104 – county governments have an obligation to plan and promote citizen participation in the planning process. • Section 105 –coordinating integrated development planning within the county and effective implementation of the planning function • Section 107 – to guide development, counties to prepare County Integrated Development Plans, County Sectoral Plans, County Spatial Plans, and Cities and Urban Area Plans. • Section 110 (2) (f) – delineate urban edges and formulate strategies of managing urban rural interfaces • Section 111(2) - municipal plans shall be the instrument for development facilitation and development control within the respective city or municipality.

Regulation	Requirement
The Tana River County Livestock Grazing Control Act, 2017	• Enforcing grazing areas • Appropriating grazing permit to pastoral communities
The Tana River County Agriculture Development Act, 2016	• Facilitate the growth and development of agriculture and veterinary services in the county. • Established the Tana River Agriculture Development Authority – oversight for agricultural funds in the county.

Source: UN Habitat & TRC Technical Team

15.4.4 Proposed Hola Urban Core Land Use Plan

Hola Urban Area land use plan aims to organize land uses and development within the Hola CBD and the urban growth area. The plan outlines broad land use categories in residential, industrial, education, recreational and conservational zones, public purpose and utility, transportation and commercial and mixed use.

Residential Developments

The designated residential areas are strategically planned to support a **mix of residential developments**, incorporating essential amenities such as social infrastructure, day care and Early Childhood Development (ECD) facilities, health clinics, access routes, public utilities, green parks, and service centers. To mitigate the challenges associated with linear development along primary access roads, **clustered residential developments** are strongly encouraged.

This zoning approach is integral to fostering a **compact city model,** which aims to curb urban sprawl and enhance the accessibility of services. **High-density zones** are specifically allocated in Zone 01, corresponding to the town's historic core and most densely populated area. This zone targets a population density exceeding 10,000 inhabitants per square kilometer.

In contrast, **low-density zones** are designated for the urban periphery, creating a transition towards medium-density residential zones that serve as a gradient between the high and low-density areas. This structured zoning strategy not only optimizes land use efficiency but also ensures a balanced distribution of population and resources, ultimately contributing to sustainable urban growth.

Industrial Developments

The proposed industrial promotion areas are strategically located **near the NIA land** to foster agriculture-based value addition and light industries within the urban setting. The **Agro-Industry Promotion Area in the northeast** will enhance agriculture-related activities, while the **Jua Kali area in the west** will support light industrial uses. The industrial zones are well-integrated with agricultural activities, include essential facilities, and are designed with buffer zones to minimize impacts on the surrounding population. This zoning approach aims to optimize land use, support economic growth, and ensure sustainable urban development.

Educational Developments

The educational land use strategy prioritizes the **enhancement** and **expansion of existing educational facilities** within the urban area. The allocation for primary and secondary schools is designed to accommodate future population growth, contingent upon the proper implementation and upgrading of these structures.

In addition to these core educational institutions, there is a concerted effort to **establish additional Early Childhood Development (ECD) facilities** and day care centers within a walkable radius within residential neighborhoods, ensuring accessible education for young children.

The current land allocation for the **training and vocational center i**s deemed sufficient to support further development.

Furthermore, a **new agricultural university hub** is proposed adjacent to the existing NIB training center. This hub will be strategically positioned near NIA land and industrial zones to foster synergies between educational and industrial sectors, particularly in agricultural studies.

This comprehensive approach to educational zoning not only meets the immediate educational needs of the community but also supports long-term growth and development by integrating education with another key urban sector.

Recreational Facilities and Open Green Public Spaces

The current recreational infrastructure in the area is limited to the Hola Stadium and a few **underdeveloped** public spaces. The proposed recreational and conservation areas aim to **create an extensive network** of public parks and open spaces that connect different parts of the city, thereby enhancing eco-tourism, heritage, and cultural activities. Key initiatives include repurposing the land where the current GK Prison is located through a public-space led revitalization project, protecting and increasing the accessibility of the river riparian reserve, and planting indigenous ornamental tree species in these areas.

Public spaces will also feature **decentralized water towers** to address the population's water needs effectively. In addition, according to sizes, they will include **key amenities** such as washrooms and sanitation facilities, urban furniture, street lighting, bins and drinking fountains. Although not directly highlighted in the land use plan, the rules and guidelines mandate the inclusion of small public spaces and pocket parks within residential and commercial areas, to reduce walking distances and increase the distribution, as well as in every educational facility.

A significant enhancement is planned for the **Tana River corridor**, particularly the area between the Old Malindi Road and the Tana River. This space is envisioned to become more accessible and enjoyable for tourism and recreational purposes, through the creation of a network of public spaces including a pedestrian bridge for river crossing, paths and promenades along the river.

This approach to recreational zoning not only enriches the quality of life for residents by providing diverse recreational opportunities but also promotes environmental conservation and cultural preservation.

Public Purpose

Public purpose buildings are to be **strategically promoted** within existing zones designated for governmental, religious, and police facilities. The plan recommends **concentrating governmental offices** within two designated macro areas in the civic district to enhance administrative efficiency.

Key proposals for public purpose areas include the repurposing of the former GK Prison into **multipurpose cultural spaces**, and the establishment of libraries and social halls at strategic locations throughout the town. Religious facilities, health clinics, dispensaries, and pharmacies will be distributed within residential areas to ensure accessibility for the population, providing essential services within walking distance.

This zoning strategy for public purpose buildings aims to optimize the distribution of public services, enhance civic engagement, and support the cultural and social development of the community.

Figure 15.3 - Aerial view of the football field



Source: UN Habitat, Jane Muriuki, 2023

Commercial Spaces and Public Markets

Commercial land use is promoted in **Hola's Urban Core,** along main corridors, and in **secondary nodes** like Makutano and Kalaule. The Urban Core is divided into **three zones:** CBD Zone 1, the densest commercial area around the bus terminus; CBD Zone 2, a mixed-use high-density area along major roads; and CBD Zone 3, a mixed-use medium-density area along secondary road. Secondary nodes are designated for low-density mixed-use development. This strategy integrates commercial growth with residential areas, while a new livestock market is proposed outside the city center to avoid disruptions.

Public Utilities

The public utility land use plan aims to **enhance existing facilities** while integrating essential **new infrastructure**, including a solid waste transfer station, two liquid waste treatment plants, a water treatment plant, a cemetery, and a fire station, strategically located throughout the area.

The **infrastructure** is envisioned to be **developed gradually.** Medium to high density developments will be only sustainable upon attaining optimum levels of reticulated water and sewerage systems. Until those levels are attained, the municipality should restrict densities to the existing and pipeline upgrading of utilities.

The **Water Treatment Plant** is located near the Tana River to ensure a reliable water supply while minimizing infrastructure costs. Positioned on slightly elevated, flat terrain, it's close enough to the town for easy water distribution but distant enough to avoid contamination risks. Two **Liquid Waste Treatment Plants** are proposed near residential areas to reduce transportation costs, placed downwind, on non-flooding sites near the river. Co-locating these plants is effective with careful planning and safety measures. A **Solid Waste Transfer Station** is proposed in an industrial or peri-urban area, balancing accessibility, environmental protection, and community acceptance.

Selecting an ideal location for a **Cemetery** in Hola municipality, considering separate sections for Muslim and Christian burials, entails balancing factors like accessibility, cultural sensitivity, environmental impact, and community consultation. Potential strategies involve locating it on the outskirts, ensuring proximity to population centers, and engaging with stakeholders to ensure acceptance and respect for religious traditions.

The **Fire Station** is strategically positioned to ensure rapid response times across the urban area, with good access to major roads and residential areas.

This **comprehensive approach** to public utility zoning aims to enhance service delivery, promote sustainable urban growth, and ensure the well-being of the community through the strategic placement and development of essential infrastructure.

Figure 15.4 - Water bowser



Source: UN Habitat, Jane Muriuki, 2023

Transportation

Transportation will be promoted by upgrading and i**mproving the current road network** within the Hola urban core. The B8 road and the Old Malindi Road will be fully upgraded to class B and class C roads, respectively. Concurrently, the town's road network will be further developed. The existing road connecting B8 and the Old Malindi Road (C256) within the Hola core will be incrementally upgraded to class C.

Additionally, two other roads with similar functions will be upgraded to class D to alleviate traffic and congestion on the main east-to-west axis.

An additional east-to-west axis and several north-to-south routes will be established to complete the main road network. These will be secondary roads with a width of 15-20 meters, while tertiary roads, with a width of 10-15 meters, will provide detailed and comprehensive connectivity.

All main roads will include **Non-Motorized Transport (NMT) infrastructure,** such as sidewalks and cycling paths. Additionally, strategically located bus stops will be established, linking to the main, existing, and upgraded bus terminus in the town centre.
In addition, at the Makutano junction, a support bus station will be established to complement the main bus terminus in the town center. This station will be located along Road B8, avoiding entry into the city. Additionally, a large truck parking area, designed to handle significant freight traffic and equipped with necessary infrastructure will be integrated.

The new road network will incorporate **parking spaces** along the roads. Furthermore, a designated parking area will be set up in the city center, between the hospital and the newly designed multipurpose space.

The **accessibility** and usability of the Tana River will be enhanced with new pedestrian access paths, a promenade along the riverbanks, and a pedestrian bridge to facilitate crossing to the other side.

The **livestock movement corridors** in the plan are designed to facilitate the safe and efficient transit of livestock while minimizing disruption to urban areas. One corridor runs along the northern edge of the city, adjacent to NIA agricultural lands, and the other follows a seasonal stream to the south, ending both to the Tana River without passing through the city of Hola. These two corridors intersect

outside Hola in Makutano, where the existing livestock market will be expanded and equipped with an abattoir. A buffer zone of 50-100 meters is recommended along these corridors to preserve their integrity and ensure the smooth movement of livestock.

Environmental Conservation and Risk Reduction

The conservation zone is delineated into three main areas.

The **first area** focuses on preserving the current urban structure located in flood-prone zones east of Old Malindi Road near the Tana River. Here, new developments and constructions will be discouraged and restricted, while gradual relocation of the local population will be encouraged. This zone also encompasses Laza Old Town and a portion of Kibuyu, where conservation strategies prioritize cultural heritage preservation and sustainable tourism development.

Additional conservation areas include Zubaki and Makutano, also at risk of flooding, where urban developments are prohibited. Only small-scale subsistence agriculture should be permissible and current settlements (Code 04) and scattered development require a comprehensive evaluation from environmental sustainability and disaster risk reduction perspectives.

Minor conservation areas serve as protective buffers for industrial zones, public utilities, and livestock corridors along the northern and southern edges of the city.

This conservation zoning approach aims to safeguard ecological balance, protect cultural heritage, and manage flood risk while promoting sustainable development practices in Hola municipality.

Figure 15.5 - NIA land

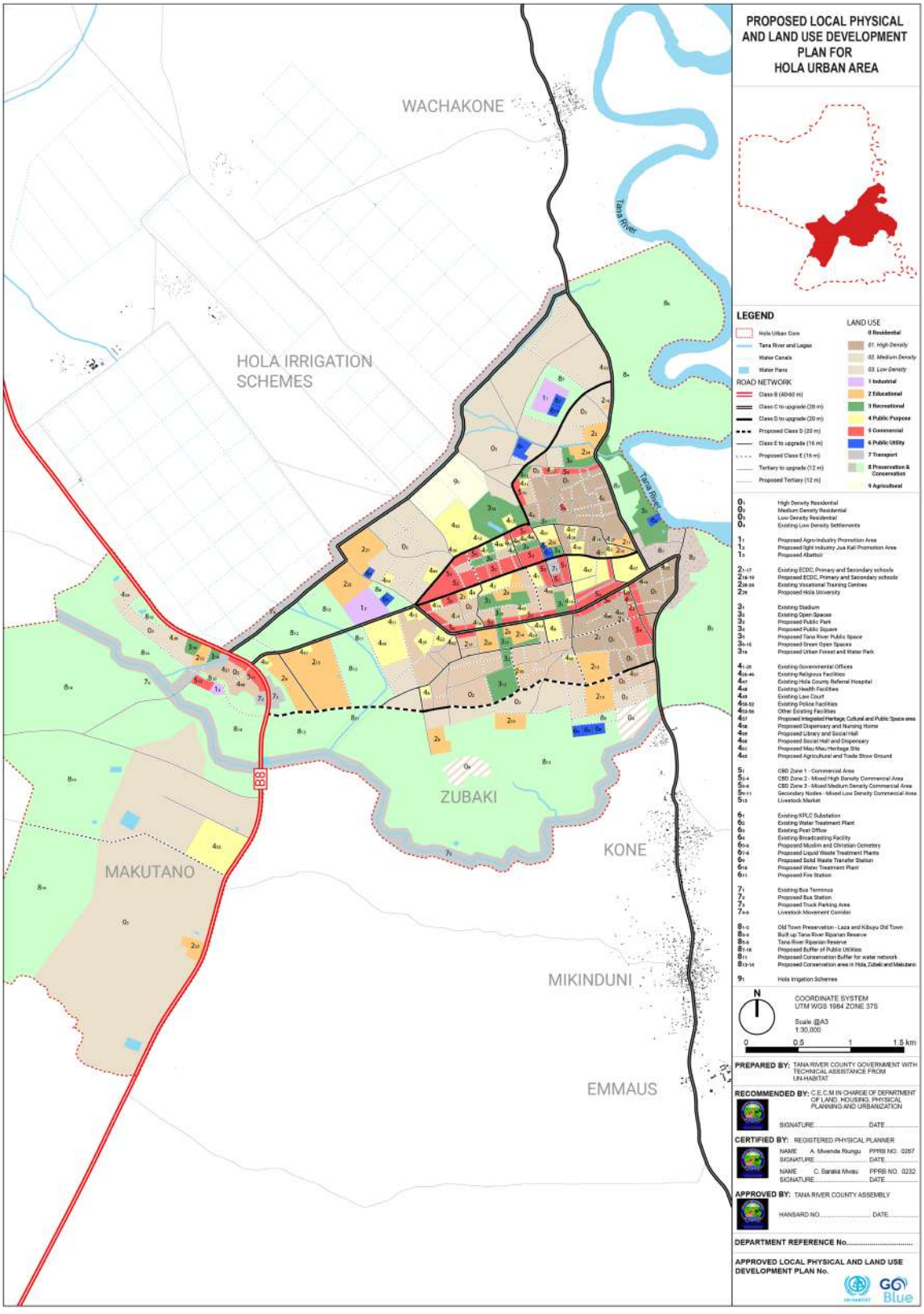


Source: UN Habitat, Jane Muriuki, 2023

Agricultural Developments

The Agricultural zone entails a **small portion of the existing National Irrigation Authority (NIA) Land**. See the Structural Plan for the Extended Urban Area of Hola for further details.

Map 15.7 - Proposed Land Use for Hola Urban Core Area



Source: UN Habitat & TRC Technical Team

Table 15.5 - Land Use for the Plan of the Hola Urban Core

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Residential [1,796.17 acres]	0_1	High Density Residential > 10,000 habitants/km^2 [198.27 acres]	- High rise residential developments. - Mixed- Use developments [Residential-cum-commercial] Auxiliary Services: Retail commercial establishments, social infrastructures, corner shops, daycare & ECD facilities, health clinics, access routes, public utilities, green parks, children's playgrounds and service centers, warehouses, transportation picking and dropping points, Bars and Restaurant, Lodgings and accommodation facilities	- Maximum number of floors is 8. Those that exceed 4 floors [GF+3] must be fitted with a functional lift, and connected to municipal-wide power grid, municipal sewer system (or approved private sewerage works), water reticulation and storm water drainage system. - Allowable plot coverage: 50% - Allowable plot ratio: 200% - Minimum building setbacks: Front 3m, Side 4.5m & Rear 4.5m - Assess and review each existing development and stipulate minimum standards for adjustment in relation with the zone requirement, for any existing informal residential development - Allowable new residential developments within the zone must be multi-dwelling residential blocks - Recommended residential typologies: High-rise apartments, Semi-detached Row housing [only existing that conform to other standards within the zone] - New subdivisions must ensure a minimum plot size of 0.045 Ha - Provide recreation spaces and shopping areas within a radius of 100m of residential neighborhood. - New education facilities within residential areas are limited to ECD facilities and must be located within 500 meters from one another and must conform to other standards for educational land use purpose. - Minimum of 9m wide access road serving each residential plot - On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	0_2	Medium Density Residential > 5,000 hab/km^2 [242.15 acres]	- Medium density residential developments - Mixed residential developments - Auxiliary Services: Retail commercial establishments, social infrastructures, corner shops, daycare & ECD facilities, health clinics, access routes, public utilities, green parks, children's playgrounds and service centers, warehouses, transportation picking and dropping points, Bars, cafes and Restaurant, Lodgings and accommodation facilities	- The maximum number of floors permissible is 5. Those that exceed 4 floors [GF+3] must be fitted with a functional lift, and connected to municipal-wide power grid, municipal sewer system (or approved private sewerage works), water reticulation and storm water drainage system. - Allowable plot coverage: 60% - Allowable plot ratio: 150% - Minimum building setbacks: Front 6m, Side 4.5m & Rear 4.5m - Assess and review each existing development and stipulate minimum standards for adjustment in relation with the zone requirement, for any existing informal residential development - Recommended typologies: 3-4 floors apartments, maisonette, Bungalows, Semi-detached and row housing [only existing that conform to other standards within the zone] - New subdivisions must ensure a minimum plot size of 0.05 Ha - Provide recreation spaces and shopping areas within a radius of 100m of residential neighborhood. - New education facilities within residential areas are limited to ECD facilities and must be located within 500 meters from one another and must conform to other standards for educational land use purpose. - Minimum of 9m wide access road serving each residential plot - On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Residential [1,796.17 acres]	0_3	Low Density Residential > 2,000 hab/km^2 [1,355.75 acres]	- Low density residential development - Educational facilities and higher learning institution - Auxiliary Services: Social infrastructures, corner shops, daycare & ECD facilities, health clinics, access routes, public utilities, green parks, children playgrounds and service centers, transportation picking and dropping points, Bars and Restaurant, Lodgings and accommodation facilities.	- Maximum number of floors is 3 - Allowable plot coverage: 70% - Allowable plot ratio: 50% - Minimum building setbacks: Front 6m, Side 6m & Rear 6m. - New subdivisions must ensure a minimum plot size of 0.05 Ha. Where possible, existing Plots less than 0.05Ha within this zone should consider amalgamation as a regulation option. - Allow centralized shopping node and recreational space within each low-density zone. - Minimum of 9m wide access road serving each residential plot. - On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans. - Preservation and Implemented rejuvenation of existing pans through desiltation process to maximum capacity as a measure to harvest surplus flood water during rainy seasons
	0_4	Existing Low-Density Settlements [850+800 acres]	- Current settlements located in flood-prone zones	- Require comprehensive evaluation from environmental sustainability and disaster risk reduction perspectives. - The planning framework advises a phased relocation of these communities to safer, designated areas to mitigate the risks associated with flooding. - The zones should be reclassified as protected areas, prioritizing ecological restoration and the implementation of flood control measures to enhance long-term resilience and environmental management.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Recreational [148.37 acres]	3_1	Existing Stadium [5.33 acres]	• Maintain as per existing use	• Redevelop stadium to Football Kenya Federation (FKF) Standards. • Develop stadium terraces to a capacity of between 10,000-15,000 and all other support facilities such as changing rooms, lavatories, VIP areas, PWD support facilities etc. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Provide auxiliary services: car parking spaces, restaurants etc.
	3_2	Existing Open Spaces – Eid Ground	• Maintain as per existing use	• Only uses defined as recreation and conservation for specified religious purpose. • Enhance the natural environment and view sheds through existing open space design while preserving sensitive biodiversity, cultural, religious and historic resources. • Connect the space to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Improve open space based on landscaping plans that incorporate on-site runoff/stormwater management.
	3_3	Proposed Public Park	• Public Park Auxiliary services • Sanitation facilities, kiosks, water towers, food and beverage outlets	• The proposed park shall be designed and located to minimize risk from both natural and man–made hazards. • Connect the proposed park to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • To be designed with access consideration for people of all ages and PWDs. • Prohibit construction of any building structure apart from management offices, stores and toilet facilities. • Plant ornamental indigenous tree species • Weather protection shelters positioned at strategic locations within the park.
	3_4	Proposed Public Square	• Public Square Auxiliary services Sanitation facilities, kiosks, water towers, food and beverage outlets	• The design of the public square should include support auxiliary facilities and amenities in which make the square a place of relaxing and joy, and a platform for social, economic, and political activities. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system • The Public Square should have access to people of all ages and PWDs, including connection to pedestrian walkways and access to public transport networks. • Provision of appropriate street furniture and amenities: provide excellent primary seating possibilities, such as chairs, & benches, or/and secondary seat such as steps, edges, and short walls. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	3_5	Proposed Tana River Public Space	• The area is zoned for conservation of River Tana & its ecosystem	• Prohibit any new permanent structure within this zone • Restrict cultivation of the riparian reserve • The corridor must be uninterrupted to enhance natural vegetation growth that aid to reduce the concentrated flows to the water body and providing continuous habitat for biodiversity that require undisturbed access to food, shelter and water. • Allow and implement traditional and innovative flood mitigation projects/measures such as gibbons of levees, dykes, floodwalls, impoundments, improved conveyances, acquisition & relocation of existing flood-prone properties, storm water harvesting etc. • Design of the riverfront public space should be sustainable and safeguard ecological restoration, conservation and improvement of biodiversity, increased habitat corridor potential, improved public trail access, open-space amenities, and environmental education.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Recreational [148.37 acres]	$3_{6\text{-}15}$	Proposed Green Open Spaces	• Green Open space Auxiliary services Sanitation facilities, kiosks, water towers, small food and beverage outlets	• Planting of indigenous ornamental trees species and grass. • Outdoor play facilities. • Creation of stringent management rules to guide their use. • Installation of sitting benches and lighting. • Proper and constant maintenance. • Landscaping of the area to improve aesthetics. • Provision of facilities that cater for physically challenged persons. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Improve open spaces based on landscaping plans that incorporate on-site runoff/stormwater management.
	3_{16}	Proposed Urban Forest and Water Park	• The area is zoned for urban forest and conservation.	• Prohibit any structures within this zone • Prohibit cultivation of the forest • The design of the public space should be sustainable and safeguard ecological restoration, conservation and improvement of biodiversity, increased habitat corridor potential, improved public trail access, open-space amenities, and environmental education. • Planting of indigenous ornamental trees species and grass. • Creation of stringent management rules to guide their use managed by KWS [4_{13}]

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Industrial [39.44 acres]	1_1	Proposed Agro-Industry Promotion Area [14.5 acres]	- Light Industries - Bulk distribution warehouses - Agriculture based Data and Research center - Logistic Center - Flex buildings - Agro-Processing and Manufacturing buildings Auxiliary services Health center for workers and staff, open spaces for emergency response, corner shop and eatery for workers and staff	- Maximum number of floors is 3 - Allowable plot coverage: 50% - Agro-based industrial development aimed at agriculture value addition shall be the main industrial developments within the timelines of this plan. - Compulsory building line to minimize the effects of environmental pollutants like noise, industrial fumes, odor, dust, vibration, fire, heat, glare and other hazards. - On solid waste management, each site requires a rubbish compound/bin storage area with the actual requirements (size, construction material and location) being defined by the waste stream characteristics. The garbage compound storage area is to be protected for restricted and provided with a tap and adequate mains water supply. - A comprehensive environmental assessment should be done before project commencement
	1_2	Proposed Light Industries Jua Kali Promotion Area [22.15 acres]	Auxiliary services - Residential units for workers and staff - Health center for workers and staff - Open spaces for emergency response - Small commercial area with uses such as eateries and shops that support the industrial community. - Toilet and parking/ loading facilities for public	- Maximum number of floors is 2 [G+1 Floor] - Allow 20% of developable land to be under 3 by 3m standard design stalls for SMEs [county to develop structure design & construction material] - Internal circulation paths: 2.5-4 meters - Compulsory fire safety measures: fire assembly points, fire hydrants, safety information and signage (fire exits), adequate circulation to reduce congestion in case of fire outbreak. - Allowable plot coverage: 50% - Maximum site coverage permitted for any development excluding loading bay canopies is 50%. - Allowable setbacks: 9m front, 4.5m side, 6m rear. - All buildings to incorporate design to cater to physically challenged persons - Minimum direct access road: 18 meters - Compulsory building line to minimize the effects of environmental pollutants like noise, industrial fumes, odor, dust, vibration, fire, heat, glare and other hazards. - On site solid waste management synchronized with municipal waste management system and waste collection program. - A comprehensive environmental assessment should be done before the construction of any structure within the site. - On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Industrial [39.44 acres]	1_3	Proposed Abattoir [2.78 acres]	- Industrial building - Cold Storage facilities Auxiliary services Office for management and fee collection. Waste management facilities	- The maximum number of floors is 3. - Allowable plot coverage: 50% - Shall be in an area which is reasonably free from objectionable odors, smoke and dust. - Provide adequate dustproof access-ways connecting the abattoir with the public. - Must be located separate from any other buildings used for other industrial use, commercial, agricultural, residential or other purposes other than connected building used for the processing of the meat - Hygiene standards must be ensured. - Waste management should be handled appropriately as well as ensuring vermin are kept out; Waste disposal system must be of adequate size and must comply with local and general NEMA regulations as provided under EMCA (Act No. 8 of 1999); - Arrangements for the safe disposal of paunch contents, lairage manure, blood and condemned carcasses and meat must be made, and drawings and specifications must indicate how this will be accomplished. - Provide fenced cattle races from the lairages to the slaughterhouse, properly drained and in a suitable place equipped with facilities for washing the animals. - Must provide separate room for the cleaning and treatment of intestines and stomachs. - Must provide separate room for the storage, disposal and treatment of inedible and condemned animals, carcasses and meat. - On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Educational [258.91 acres]	2_{1-17}	Existing ECDC, Primary and Secondary schools 1. Sorani Nursery School 2. Amani Pre-School 3. Starshine Nursery 4. African Muslim School 5. Hola Primary School 6. Broadway and Pendo Academy 7. Rafiki Primary Farm 8. Rafiki Primary and Secondary School 9. Holy Angels Primary School 10. Bridge International Academy 11. Laza Primary School 12. Kalkacha Primary School 13. Hola Boys Secondary School 14. Hola Secondary School 15. Mau Mau Memorial Secondary School 16. Malindi ua Ngwena Junior Academy 17. Galole Integrated Academy	• Outdoor recreational facilities consistent with educational land use • Classrooms and Administration blocks • Allowed co sharing of facilities Auxiliary services Accommodation for subordinate and key staff	• Educational land use will continue to be promoted and implemented in existing education facilities • To be connected to principal pedestrian network • Vertical development encouraged for optimal land use • Encourage sharing of different education level within the same plot • All buildings to incorporate design to cater to physically challenged persons • No existing education structure/building should be upgraded to more than 3 floors during this plan's period. • Minimum of 9m wide access road for Primary and Secondary schools • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans. • Preservation and Implemented rejuvenation of existing water pans through desiltation process to maximum capacity as a measure to harvest surplus flood water during rainy seasons

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Educational [258.91 acres]	$2_{18\text{-}19}$	Proposed ECD, Primary and Secondary schools	• Outdoor recreational facilities consistent with educational land use • Classrooms and Administration blocks • Allowed co sharing of facilities Auxiliary services • Accommodation for subordinate and key staff	General Guidelines: - The developer should have to fulfil the conditions outlined in the (Education Act CAP 211, Basic education act 2013 (including subsidiary regulations). - All the education institutions' developments should be approved by the County Education Officer. There shall be issuance of operation certificates from the ministry of Education or County government as provided in (a) above. - County registered Physical Planner shall inspect the site suitability for development of education institutions and make independent judgment on its suitability. - No education facility shall be occupied or operated without the approval of the county government education and physical planning departments. - Every education institution must provide minimum health facilities within the institution for first aid emergencies. - Every learning institution should provide disaster preparedness and mitigation facilities and measures. - All site development plans for education facilities incorporate runoff/stormwater management and greenery/landscaping. Guidelines Proposed ECD facilities: - Minimum plot size: 0.1ha - Allowable plot coverage: 35% - Located within residential neighborhoods. - A minimum of 9m wide access road. - Not to be accessed from a major road exceeding 15m; - Not on high rise buildings exceeding two levels. - Not to be located within a commercial and industrial area/ premises. - To be connected to principal pedestrian network. - Encourage sharing of different education level within the same plot. - Not within a commercial and industrial area/premises. - Building design and construction must incorporate needs for Persons with Disabilities (PWDs). - Adherence to Ministry of Education (MoE) regulations and guidelines for design and construction of educational facilities. Guidelines for Proposed Primary Schools: - Minimum plot size: Single stream (0.15 ha), Double stream (0.2 ha), and Triple stream (0.3 ha) ; - Minimum of 12m wide access road. - Not to be accessed from major roads exceeding 30m wide - Tuition blocks building height must not exceed 3 levels. Not located within 100 m of a liquor outlet, marketplace, industrial park or waste management site. - Provide accommodation facilities for staff and students. - Co sharing of facilities is allowed, under condtions. - Vertical development is encouraged for optimal land use. - Building design and construction must incorporate needs for Persons with Disabilities (PWDs). - Adherence to Ministry of Education (MoE) regulations and guidelines for design and construction of educational facilities.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [254.36 acres]	$4_{1\text{-}25}$	Existing Governmental Offices 1. Ministry of Water and Energy and Ministry of Environmental and Climate Change 2. NEMA and National Irrigation Board Office 3. Department of Lands and Physical Planning 4. Tana River County Women Representative Office 5. CICC Tana River Community Center 6. Galole Constituency Office 7. GL 8. Roads and Public Works 9. Ministry of Livestock Development and County Administrator 10. County Offices 11. County Commissioner Office 12. County Commissioner Residence 13. KWS 14. Huduma Center 15. District Commissioner Office 16. IEBC Offices 17. Drought Management Office 18. County Headquarters 19. Ministry of Roads Office 20. KWS/Homa Game Reserve Camp 21. Kalkacha Sublocation Chief's Office 22. Tana River County Public Service Board 23. NHIF Hola Office 24. Tana River TCS Office 25. Public Service Board	• As per existing public purpose uses.	• During this plan's lifeline, it is recommended that no structure under this use shall be upgraded to more than 4 floors [GF+3] • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • The new structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • 10% of the land of the existing facilities should be under tree cover to promote sustainable practices. • Retrofit with On-site runoff/ stormwater management and greenery/landscaping. • Redevelopment to promote mixed uses
	$4_{26\text{-}46}$	Existing Religious Facilities	• As per existing religious purpose uses.	• Religious activities under public purpose use shall be promoted in the religious facilities. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • New structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [254.36 acres]	4_{47}	Existing Hola County Referral Hospital	• As per existing County Referral Hospital use	• The site will continue to be used to promote existing purposes. • Upgrading of the structure is recommended. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • The creation of a parking area is recommended
	4_{48}	Existing Health Facilities	• As per existing Health Facilities Use	• The site will continue to be used to promote existing purposes. • Upgrading of the structure is recommended. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • Retrofit with On-site runoff/stormwater management and greenery/landscaping
	4_{49}	Existing Law Court	• As per existing Law Court Use	• The site will continue to be used to promote existing purposes. • Upgrading of the structure is recommended. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • Retrofit with On-site runoff/stormwater management and greenery/landscaping

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [254.36 acres]	$4_{50\text{-}52}$	Existing Police Facilities 50. Hola Police Station 51. Administration Police Camp 52. NYS Camp	• As per existing Security Facilities Use	The site will continue to be used to promote existing purposes. • Retrofit with On-site runoff/stormwater management and greenery/landscaping
	$4_{53\text{-}56}$	Other Existing Facilities 53. Red Cross 54. Food Storage and Program 55. Youth Resource Centre 56. Ufunuo CBO	• As per existing use	The site will continue to be used to promote existing purposes. Retrofit with On-site runoff/stormwater management and greenery/landscaping
	4_{57}	Proposed Integrated Heritage, Public Purpose and Public Space area	• Heritage and Conservation of former GK prison. • Museum, Cultural Centre and Library • Green Public Spaces • Commercial • Recreational Auxiliary services • Sanitation facilities, Parking spaces, ticketing area, public Wifi hotspot zones, small food and beverage outlets	• Gazzettement of the proposed Heritage and Conservation Public space. • All new development in this zone must aim to maintain and enhance the area's distinctive identity and sense of place. • This zone shall be for development of Multi-Cultural Centre including facilities such as Museum, Cultural Centre, Library, Shopping places and recreational areas. • Promote only architecture and urban design that serves to enhance the ongoing cultural heritage significance of the area. • To be designed with access consideration for people of all ages and PWDs. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Promote enhancement of existing or new natural environment while preserving sensitive biodiversity, cultural, heritage and historic resources
	4_{58}	Proposed Dispensary and Nursing Home	• Dispensary and Nursing Home	• This zone shall be for development of Dispensary and Nursing Home. • ALL structures must be designed with access consideration for people of all ages and PWDs. • The dispensary and nursing home shall be constructed in accordance to Ministry of Health standards for a Dispensary • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [254.36 acres]	4_{59}	Proposed Library and Social Hall	• Library and Social Hall Auxiliary services • Sanitation facilities, Parking spaces, canteen, public Wifi hotspot zones	• Equip the Library & Social Hall with appropriate ICT infrastructure and technology. • All structures must be designed with access consideration for people of all ages and PWDs. • Fence the zone with live fences and landscaping within the area to improve aesthetics and tree cover within the zone. • Provide appropriate auxiliary services that complement Social Halls and Dispensary. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	4_{60}	Proposed Social Hall and Dispensary	• Social Hall and Dispensary Auxiliary services • Sanitation facilities, Parking spaces, canteen, public WiFi hotspot zones	• The dispensary shall be constructed in accordance with Ministry of Health standards for a Dispensary • All structures MUST be designed with access consideration for people of all ages and PWDs. • Fence the zone with live fences and landscaping within the area to improve aesthetics and tree cover within the zone. • Provide appropriate auxiliary services that complement Social Halls and Dispensary. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	4_{61}	Proposed Mau Mau Heritage site	Heritage Site	• Gazettement of the proposed Mau Mau Heritage site. • Develop a buffer zone around the site. • To be designed with access consideration for people of all ages and PWDs • Promote only architecture and urban design that serves to enhance the ongoing cultural heritage significance of the area. • Promote enhancement of existing or new natural environments while preserving sensitive biodiversity, cultural, heritage and historic resources. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	4_{62}	Proposed Agricultural and Trade Show Ground	• Trade Show Ground • Related Agricultural Purposes	• The zone will primarily be used to promote for agricultural & trade show purposes • During off-peak season, this zone to be used for demonstration farms and related agricultural purposes • Develop support infrastructure facilities [access roads, water points, information center etc.] • Any development or improvement of land within this zone will be subjected to NIA, County physical Planning & Municipal management approvals • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Commercial [138.40 acres]	5_1	CBD Zone 1 – Commercial area	- Commercial Uses - Offices - Mixed use commercial developments Auxiliary services Residential Offices, well-located Bodaboda and Tuk Tuk terminal facilities, Loading and offloading zones, Terminal facilities, Retail shops, Hotels and night clubs, Bars and Restaurant, Lodgings and accommodation facilities, Banks, Health facilities, Utility facilities, Recreation	• The maximum number of floors is 8. Those that exceed 4 floors [GF+3] must be fitted with a functional lift, and connected to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Allowable plot coverage: 50%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • The new structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	$5_{2\text{-}4}$	CBD Zone 2 – Mixed High density Commercial Promotion	- Commercial Uses - Offices - Mixed use commercial developments - Residential Uses Auxiliary services Residential Offices, well-located Bodaboda and Tuk Tuk terminal facilities, Loading and offloading zones, Terminal facilities, Retail shops, Hotels and night clubs, Bars and Restaurant, Lodgings and accommodation facilities, Banks, Health facilities, Utility facilities, Recreation, Religious and other public purpose	• The maximum number of floors is 8. Those that exceed 4 floors [GF+3] must be fitted with a functional lift, and connected to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Allowable plot coverage: 60%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • The new structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Commercial [138.40 acres]	$5_{5\text{-}8}$	CBD zone 3 – Mixed Medium density Commercial Promotion	- Commercial Uses - Offices - Mixed use commercial developments - Residential Uses Auxiliary services Residential Offices, well- located Bodaboda and Tuk Tuk terminal facilities, Loading and offloading zones, Terminal facilities, Retail shops, Hotels and night clubs, Bars and Restaurant, Lodgings and accommodation facilities, Banks, Health facilities, Utility facilities, Recreation, Religious and other public purpose	• The maximum number of floors is 5. Those that exceed 4 floors [GF+3] must be fitted with a functional lift, and connected to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Allowable plot coverage: 60%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • The new structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans.
	$5_{9\text{-}11}$	Secondary Nodes – Mixed Low density Commercial Promotion	- Commercial Uses - Offices - Mixed use commercial developments - Residential Uses Auxiliary services Residential Offices, well- located Bodaboda and Tuk Tuk terminal facilities, Loading and offloading zones, Terminal facilities, Retail shops, Hotels and night clubs, Bars and Restaurant, Lodgings and accommodation facilities, Banks, Health facilities, Utility facilities, Recreation, Religious and other public purpose	• The maximum number of floors is 3. Those that exceed 4 floors [GF+3] must be fitted with a functional lift, and connected to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Allowable plot coverage: 70%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • The new structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans.
	5_{12}	Proposed Livestock Market	Any type of development in line with the permitted land use	• Maximum number of floors is 3 • Allowable Plot Coverage 50%. • All buildings should observe building setbacks of not less than 9m while fronting a major road and not less than 6m while fronting secondary access roads • Open auction yards for cattle within the proposed Livestock Market • Provide extension services and adequate space for parking • New structure and new upgrading of existing structures MUST be designed with access consideration for people of all ages and PWDs. • Provide adequate water at least 250 liters of portable water per head of livestock with conveniently placed outlets • On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Utility [27.11 acres]	6_1	Existing KPLC Substation	Any type of development in line with the permitted land use	• 5 maximum number of floors • All buildings should observe building setbacks of not less than 9m while fronting a major road and not less than 6m while fronting secondary access roads • Provision of support infrastructure. • Connect the site to municipal-wide storm water drainage system and water reticulation • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	6_2	Existing Water Treatment Plant	Any type of development in line with the permitted land use	• The existing water treatment plant will remain operational, providing collaborative support and integrated functions with the new treatment facility 6_{12}. • Fence and creation of a buffer around the treatment facility planted with appropriate trees to provide for public safety, to exclude livestock, and to discourage trespassing. • Provide access to maintenance vehicles to the site • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	6_3	Existing Post Office	Any type of development in line with the permitted land use	• The site will continue to be used to promote existing purposes.
	6_4	Existing Broadcasting Facility	Any type of development in line with the permitted land use	• The site will continue to be used to promote existing purpose.
	6_{5-6}	Proposed Muslim and Christian Cemetery [4.68 acres]	Any type of development in line with the permitted land use	• Provision of support infrastructure • Land scaping with appropriate indigenous and ornamental tree species and vegetation cover. • Provide access roads and paths to facilitate movement into and within the cemetery. • The site to be connected to the municipal wide storm water drainage system. • Connect the area to electricity grid for lighting or installation of solar powered lighting. • Crematoriums, funeral homes, restaurants, banquet halls and conference facilities shall not be permitted as part of the cemetery. • The cemetery development shall meet various religious considerations and the requirements of any other applicable national, county and municipal policies, plans, regulations or by-laws.
	6_{7-8}	Proposed Liquid Waste Treatment Plants 6_7 - 2.47 acres 6_8 - 2.96 acres	Any type of development in line with the permitted land use	• Fencing and creation of a buffer around the treatment facility planted with appropriate trees to provide for public safety, to exclude livestock, and to discourage trespassing. • The site should free from flooding and the elevation of the site should permit the discharge the effluent by gravity to the receiving streams or the level of the irrigation area to be directed in case of reuse for irrigation. • The wastewater treatment plant site should always be accessible to personnel and delivery persons. Access emergency response vehicles must be available

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Utility [27.11 acres]	6_9	Proposed Solid Waste Transfer Station [2.35 acre]	Any type of development in line with the permitted land use	• Promote recycling of solid waste • Fencing and creation of a buffer around the treatment facility planted with appropriate trees to provide for public safety, to exclude livestock, and to discourage trespassing. • No long-term storage of waste should occur at the transfer station. Waste must be quickly consolidated and loaded into a larger vehicle and moved off site
	6_{10}	Proposed Water Treatment Plant [2.50 acres]	Any type of development in line with the permitted land use	• Fencing of the facility and restrict access to ensure water safety • The site should free from flooding and the elevation of the site should permit free flow of water intake and outlet by gravity • The plant site should always be accessible to maintenance and emergency response vehicles.
	6_{11}	Proposed Fire Station [1.93 acres]	Fire station	• The site should always be accessible to maintenance and emergency response vehicles.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Transportation [873.84 acres]	7_1	Existing Bus Terminus [2.80 acres]	• Transport and supportive services • Convenient shops • Sanitation blocks • Parking Auxiliary services Support amenities such as water points, toilet facilities, eateries, information & ticketing offices etc.	• Improve access to the existing bus terminus for access to people of all ages and PWDs, • Integrate the existing bus station with other modes of transport such as Bodaboda, Tuk Tuks and NMT. • Upgrade and connect the existing bus terminus to municipal-wide storm water drainage, sewer and water reticulation system.
	7_2	Proposed Bus Station in Makutano [3.05 acres]	• Transport and supportive services • Convenient shops • Sanitation blocks • Parking Auxiliary services Support amenities such as water points, toilet facilities, eateries, information & ticketing offices etc.	• Provide access to the station for people of all ages and PWDs, • Integrate the proposed bus station with other modes of transport such as Bodaboda, Tuk tuks and NMT. • Common bays shall be preferred if the average layover time is less than or equal to 20 minutes. • Angular boarding bus bays shall be preferred for optimum space utilization and allow proper turning of public buses. • Complete public ownership shall be necessitated when private participation and complete equity cannot be attracted because of locational attributes of site. • Maintenance facilities for buses may not be provided inside the terminal premises in case of space constraints. • The new bus station shall be connected to municipal-wide storm water drainage, sewer, water reticulation and power grid. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	7_3	Proposed Truck Parking Area [6.75 acres]	• Parking Auxiliary services • Support amenities such as rest areas, sanitation blocks, food services, water points, loading/unloading zones, storage facilities, service station	• Sufficient room should be allowed for vehicles to maneuver and load/unload • Angular boarding bus bays shall be preferred for optimum space utilization and allow proper turning of trucks. • Ensure proper drainage and flood management systems to prevent waterlogging and maintain the area's usability during the rainy season. • Implement security measures, such as fencing, lighting, and surveillance, to ensure the safety of vehicles and goods. • Provide essential amenities for drivers, including rest areas, sanitation facilities, and food services. • Integrate sustainable practices, like green buffers and waste management systems, to minimize environmental impact.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Transportation [873.84 acres]	7_3	Proposed Truck Parking Area [6.75 acres]	• Parking Auxiliary services • Support amenities such as rest areas, sanitation blocks, food services, water points, loading/unloading zones, storage facilities, service station	• Sufficient room should be allowed for vehicles to maneuver and load/unload • Angular boarding bus bays shall be preferred for optimum space utilization and allow proper turning of trucks. • Ensure proper drainage and flood management systems to prevent waterlogging and maintain the area's usability during the rainy season. • Implement security measures, such as fencing, lighting, and surveillance, to ensure the safety of vehicles and goods. • Provide essential amenities for drivers, including rest areas, sanitation facilities, and food services. • Integrate sustainable practices, like green buffers and waste management systems, to minimize environmental impact.
	$7_{4\text{-}6}$	Livestock movement corridor [159.31 acres]	• Green Buffer zone for livestock movement corridor. • Section between 50 to 100 meters • No permanent structures shall be allowed on ripparian reserve 7_3 to be integrated with the Section of the adjacent Class C Road	• To be located at the periphery of the urban growth limit of Hola and avoid as possible linking with main transport corridors and vehicular circulation networks. • To take form of nature trails along existing Lagas and South extents of NIA land, linking to the main animal market area and water resources • Planting of appropriate indigenous trees and vegetation cover • Creation of stringent management rules to guide their use • Prohibit any new permanent structure within this zone • Restrict cultivation within the movement corridor • The corridor must be uninterrupted to enhance natural vegetation growth
		Main Road Network [530 acres and 113 Km] Main Roads for Upgrading • Class B: 14.10 Km • Class C: 17.61 Km • Class D: 5.97 Km • Class E: 8.48 Km • Tertiary: 27.07 Km Main Proposed Roads • Class C: 4.99 Km • Class D: 3.29 Km • Class E: 4.64 Km • Tertiary: 31.14 Km		Proposed road reserves for different road classes: • Class B: 40-60 m • Class C: 25-30 m (recommended 28 m) • Class D: 20 m • Class E: 15-20 m (recommended 16 m) • Tertiary: 10-15 m (recommended 12 m) • Residential: recommended 5-10 m Other Standards: • Observe the hierarchy of roads to promote the urban characteristic and morphology in the residential areas • All access roads to provide dedicated NMT paths for use by pedestrian and cyclist • All residential units should have tarmacked or standard graded murram access roads. • stormwater management and greenery/landscaping must be integrated in design and construction of all roads.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Conservation [3,196.81 acres]	8_{1-2}	Old Town Preservation [50.50 acres] 1. Laza Old Town 2. Kibuyu	• Conservation • Heritage and Tourism • Existing function and services	• Gazettement of the proposed Heritage and Conservation Public space. - Assess and review each existing development and stipulate minimum standards for adjustment in relation with the zone requirement, in particular for any existing informal residential development • All new development in this zone must aim to maintain and enhance the area's distinctive identity and sense of place. • Develop a buffer zone around the site. • To be designed with access consideration for people of all ages and PWDs. • Promote only architecture and urban design that serves to enhance the ongoing cultural heritage significance of the area. • Promote enhancement of existing or new natural environments while preserving sensitive biodiversity, cultural, heritage and historic resources. • On-site runoff/stormwater management and greenery/ landscaping must be integrated in the preservation plan and interventions.
	8_{3-4}	Built up Tana River Riparian Reserve		• The primary objective is to protect human life, health and provide safety from flood hazard. This zone has been identified as a riparian zone and high-risk flood zone. This plan does not recommend settlement within this zone. • Gazettement of this zone as River Tana riparian reserve & flood control zone. • Planning permits shall not provide for construction of any new building in this zone • The Municipal Management, County Government & National Government should partner and facilitate existing settlements to relocate to safer grounds within the municipality boundaries. • Other control guidelines provided for zone 8_{5-6} SHALL apply to this zone.
	8_{5-6}	Tana River Riparian Reserve	• The area is zoned for conservation of River Tana water resources and biodiversity.	• Planting of appropriate indigenous trees and vegetation cover • Creation of stringent management rules to guide their use • Prohibit any new permanent structure within this zone • Restrict cultivation and any human activities within 30m from the highest water mark of Tana River and allow flood-controlled cultivation from 30m beyond on flood prone areas within the zone. • The 30m riparian corridor MUST be uninterrupted to enhance natural vegetation growth that aid to reduce the concentrated flows to the water body and providing continuous habitat for biodiversity that require undisturbed access to food, shelter and water. • Allow and implement traditional and innovative flood mitigation projects/measures such as canals, gibbons of levees, dykes, floodwalls, impoundments, improved conveyances, acquisition & relocation of existing flood-prone properties, storm water harvesting etc.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
	$8_{7\text{-}10}$	Proposed Buffer for Public Utilities	• Green Buffer zone for public utilities	• Plant indigenous tree species within the proposed buffer zone to increase vegetation cover of the areas • Prohibit any new permanent structure within this zone.
	8_{11}	Proposed Conservation buffer for water network	• Green conservation buffer zone for water network.	• Plant indigenous tree species within the proposed conservation buffer zone to increase vegetation cover of the areas. • Prohibit any new permanent structure within this zone.
	$8_{12\text{-}14}$	Proposed Conservation Area 12. Hola town 13. Zubaki 14. Makutano	• Flood mitigation conservation zone • Green conservation	• Allow and implement traditional and innovative flood mitigation projects/measures such as canals, gibbons of levees, dykes, floodwalls, impoundments, improved conveyances, acquisition & relocation of existing flood-prone properties, storm water harvesting etc. • Prohibit any new permanent structure within this zone • Restrict cultivation and only allow cultivation of appropriate flood control vegetation within the zone. • Preservation and Implemented rejuvenation of existing pans through desiltation process to maximum capacity as a measure to harvest surplus flood water during rainy seasons • Due to the high vulnerability of flooding in the area 8_{13}, it is recommended to halt construction projects, while identifying alternative resettlement locations for affected populations.
Agriculture [62.61 acres]	9_1	Hola Irrigation Schemes	• Agricultural land uses as per NIA approval.	• Agricultural land is used as per NIA approval.

Source: UN Habitat & TRC Technical Team

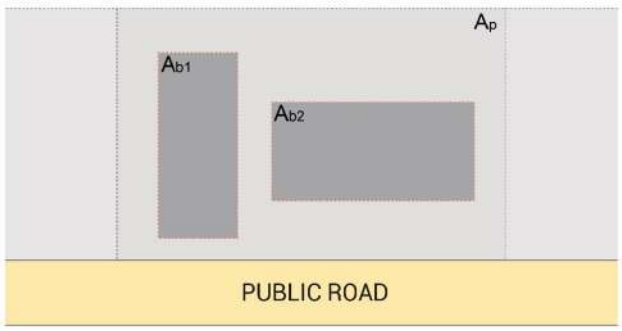
15.4.5 Plot Level Regulations

Definitions

Plot Coverage: It is the coefficient that defines the buildable surface area of each plot. It is calculated by dividing the total ground floor surface area of all the buildings within the plot (Ab1 + Ab2 + ...) by the total surface area of the plot (Ap). Plot coverage is influenced by other provisions of building lines and plot setbacks.

Plot Coverage (%) = [(Ab1 + Ab2 + ...)/Ap] x 100

Figure 15.6 - Plot Coverage scheme

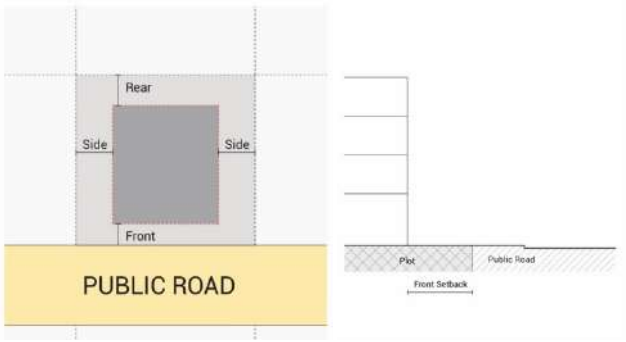


Source: UN Habitat & TRC Technical Team

Plot Setback: Distance between the edge of a building and the plot boundary facing it. It is distinguished in Front, Side and Rear setback, respectively if referring to a public road, an adjacent plot sharing the same public road or a plot on the back of the plot.
It refers to the distance between the edge of a building and the boundary of the plot it is situated on. This distance is categorized into three types based on the orientation and adjacent properties:

1. **Front Setback:** The distance between the building and the plot boundary facing a public road.
2. **Side Setback:** The distance between the building and the side boundary of the plot, especially when it adjoins another plot that shares the same public road.
3. **Rear Setback:** The distance between the building and the boundary at the rear of the plot, typically adjoining a neighboring plot that is behind the subject plot.

Figure 15.7 - Definition of Setback



Source: UN Habitat & TRC Technical Team

Building Height: shall mean the measurement between the ground line (level 0) and the roof line as seen from the higher street. The term storey shall be used to the upper floor(s) in a building having more than one floor.

Development Control Policies

Floor Height: Maximum floor to floor heights shall not exceed the guidelines provided below (exceptions for non-residential and commercial purposes):

- Ground floor – 5 meters
- First floor - 3.5 meters
- Second and subsequent floors - 3.0 meters

Distance Between Buildings: To avoid the feeling of congestion in residential neighborhoods, it is recommended that the distance between any two dwellings, front to front, across a street, walk or common area shall be not less than 2 times the total height of the taller buildings.

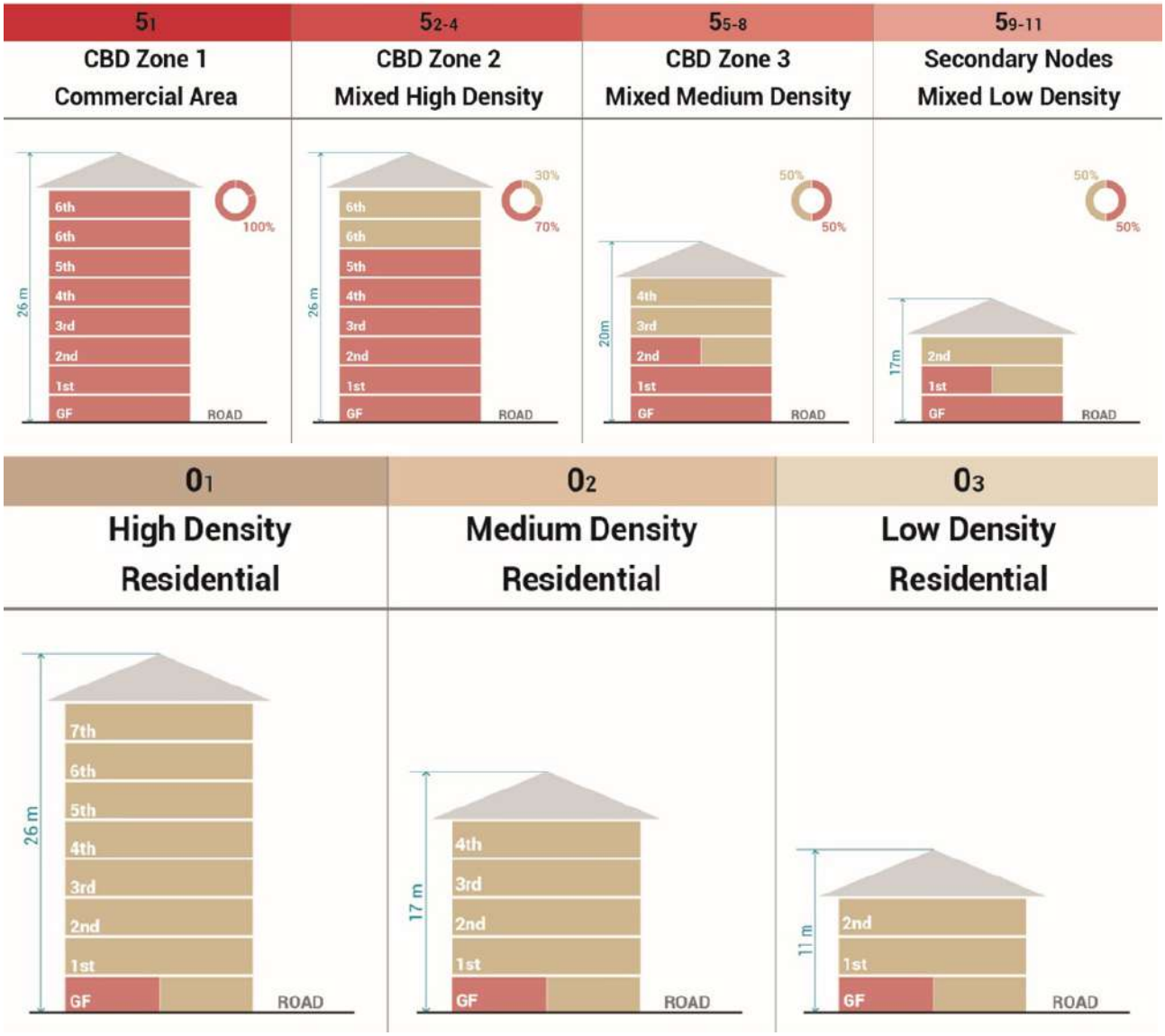
Table 15.6 - Regulations at the Plot Level

	Zone	Plot Cov.	Setback	Building Height	Use
0	Residential				
0_1	High Density Residential	50%	Front > 3m Side > 4.5 m Rear > 4.5 m	GF+7	GF: Commercial Other Floors: Residential
0_2	Medium Density Residential	60%		GF+4	GF: Commercial or Residential Other Floors: Residential
0_3	Low Density Residential	70%		GF+2	GF: Commercial or Residential Other Floors: Residential
1	Industrial	50%	Front > 12m Side > 6 m Rear > 6 m	GF+2 (BH = 15m)	Industrial
2	Educational				
$2_{1\text{-}19}$	ECDC, Primary and Secondary schools	35% If purely ECD or Nursery school: 50%	Front > 12 m Side > 6 m Rear > 6 m If purely ECD or Nursery school: Front > 6 m Side > 3 m Rear > 3 m	GF+2 (BH = 11m)	Educational
$2_{20\text{-}24}$	Vocational Training Centre	50%	Front > 12 m Side > 6 m Rear > 6 m	GF+3 (BH = 14 m)	
2_{25}	Proposed Hola Agricultural University	50%	Front > 12 m Side > 6 m Rear > 6 m	GF+5 (BH = 20m)	
3	Recreational				
$3_{1\text{-}4}$	Open Green Spaces	10%		GF (BH = 4m)	Recreational and Conservation
3_5	Tana River Public Space	0%	-	-	
$3_{6\text{-}15}$	Open Green Spaces	10%		GF (BH = 4m)	
3_{16}	Urban Forest	0%	-	-	
4	Public Purpose	Plot coverage, Height, and Specific use is determined on a case-by-case basis according to relevant laws and the permitted function			

	Zone	Plot Cov.	Setback	Building Height	Use
5	Commercial				
5_{1}	CBD Zone 1 – Commercial area	50%	Front > 3m Side > 4.5 m Rear > 4.5 m	GF+7	100% Commercial
$5_{2\text{-}4}$	CBD Zone 2 – Mixed High density Commercial Promotion	60%		GF+7	70% Commercial 30% Residential
$5_{5\text{-}8}$	CBD zone 3 – Mixed Medium density Commercial Promotion	60%		GF+4	50% Commercial 50% Residential
$5_{9\text{-}11}$	Secondary Nodes – Mixed Low density Commercial Promotion	70%		GF+2	50% Commercial 50% Residential
6	Public Utility	Plot coverage, Height, and Specific use is determined on a case-by-case basis according to relevant laws and the permitted function			
7	Transportation	Plot coverage, Height, and Specific use is determined on a case-by-case basis according to relevant laws and the permitted function			
8	Conservation				
$8_{1\text{-}4}$	Old Town Preservation and built-up Tana River Riparian Reserve	Plot coverage, Height, and Specific use is determined on a case-by-case basis according to relevant laws and the permitted function			
$8_{5\text{-}6}$	Tana River Riparian Reserve	0%	-	-	Conservation
$8_{7\text{-}14}$	Proposed Buffer of Public Utilities and Livestock Corridors				

Source: UN Habitat & TRC Technical Team

Figure 15.8 - Building Height and Use for Residential, Commercial and Mixed-Use buildings



Source: UN Habitat & TRC Technical Team

15.4.6 Outdoor Advertising and Signage Regulations

Table 15.7 - Regulations for Outdoor Advertising and Signage

Advertisement type	Location and Site Requirements
Advertisement On Bus Shelter	• Minimum size 5595mm x 1200mm only • Two bus shelters are allowed per stage. • The colors of a new bus shelter to conform with those of the existing one. • To pay application and license fees as will be determined by the Municipal Council
Advertisement on canvas	• Colors to conform to those of the surrounding areas canvas. • Lengths should not exceed the building heights. • To pay application and license fees as will be determined by the Municipal Council
Advertisement on Hoarding	• Hoarding to be undertaken along the perimeter fence of construction sites. • Advertising agencies submit copies of approved building plans for construction on site. • Hoarding material not to exceed the height of hoarding iron sheet. • Colors to conform to those of the surrounding areas • To pay application and license fees as will be determined by the Municipal Council
Banners	Banners on road reserves to be 9000mm x 750mm in size. Banners to advertise events only. To pay application and license fees as will be determined by the Municipal Council
Billboards	Billboards are not allowed on road reserves. A distance of 150 m is maintained between billboards. Colors of billboards to conform to those of adjacent areas. No billboards to be allowed within the main commercial area in Hola Billboards to have a height of 5 M above ground. Standard billboards to have a size of 12 x 10 M Big billboards (20 x 10 m and 10 x 30 m) to be put up in the outskirts of the town. Billboards not to hang on road reserves Billboard applications be accompanied by structural drawings To pay application and license fees as will be determined by the County/Municipality Planning brief and PPA 1 to accompany application
Branded Umbrella	Permanent umbrellas not allowed on the streets To pay application and license fees as will be determined by the County/Municipality
Bridge Advertisements	The face of the bridge should not be completely covered by the advert. Gaps of 400mm should be left in between. Bridge construction for advertisement purpose to be done in consultation with public works classified roads and The Council Engineer. To pay application and license fees as will be determined by the County/Municipality.
Bus Stop Advertisements	One advert per bus stop. Maximum size 1sq.m (1000m x 1000m) To pay application and license fees as will be determined by the County/Municipality

Advertisement type	Location and Site Requirements
Change of User Board Per Fortnight	Not to exceed 1200mm x 600mm. To be placed on or against the fence of the plot To pay application and license fees as will be determined by the County/Municipality
Clock Advertisement	To be located on roundabouts, road junctions, bus stops, outside supermarkets, parking e.t.c Maximum size to be outer cube (1140 x 1540) mm, inner cube (960 x 1350). To pay application and license fees as will be determined by the County/Municipality
Construction site boards	To observe the size of multiple directional signs To pay application and license fees as will be determined by the Municipality
Directional Signs	To be located on road reserves of non-classified roads (600mm x 1200mm) Multi-directional signs allowed on road junctions only 150mm x 1500mm each plate to be paid individually. Directional signs on road junctions leading to classified roads should be off classified road reserves. Directional signs side road junctions to be placed inside the plot as free standing.
Display flags	Allowed for public buildings, hotels, international corporate etc. Should not be below 15ft. Only cloth material of 1m.sq is allowed. To pay application and license fees as will be determined by the County/Municipality
Leaflets & Handbills	Maximum size A5 Not to be spilled on ground To pay application and license fees as will be determined by the County/Municipality
Lamp Post Advertisements	To be allowed on every fourth post maximum size 1sq.m (1000mm x 1000mm) To pay application and license fees as will be determined by the Municipal Council
Landscape Scheme	Pedestrian's walkway of 1200mm to be observed the size of the drainage to be determined by one road. Roadside trees to observe a spacing of not more than 15 meters. To pay application and license fees as will be determined by the County/Municipality
Mobile Advertisements	Sound not to exceed sound pollution level. To pay application and license fees as will be determined by the County/Municipality
Posters	Maximum size A3 poster to be placed at designated locations such as bus stop parking, supermarkets, schools, churches etc. All public buildings, commercial buildings and apartments blocks provide space for posters board. Preferably, poster board erected on ground shall not exceed 3000mm height by 1500mm in width To pay application and license fees as will be determined by the County/Municipality
Sale Sticker, Decorations on Wall, Windows, Canopies etc	On stickers per windows only A4 size is allowed. Colours to conform to those of the building. Shall not be less than 8 feet from the ground level. To pay application and license fees as will be determined by the County/Municipality
Signboards	Different sizes if the length does not exceed that of the building. Not exceed 5ft x 2ft different sizes not allowed for the same building Shall not be less than 8ft from the ground level. To pay application and license fees as will be determined by the County/Municipality

Advertisement type	Location and Site Requirements
Sitting on canopy (Illuminated and non-illuminated signs)	Different length sizes allowed as determined by the size of the canopy. Shall not be below 12ft from the ground level. To pay application and license fees as will be determined by the County/Municipality
Sky sign (Above canopy and over anything above 12ft properties)	To be 12 ft above the ground. Structural integrity report of buildings to be mounted with the structures to be submitted by registered engineers. Structural drawings for the proposed advert be submitted to the Council. To pay application and license fees as will be determined by the County/Municipality Planning brief and PPA 1 to accompany application
Street Name Advertise-ment	To be located at the junction, size not to exceed 1sq.m (1000mm x 1000mm) product advertisement model not allowed. To pay application and license fees as will be determined by the County/Municipality
Suburb and Public Facility Signs	Only one sign per facility is allowed. Structure sign not to exceed 2700mm x 1200mm. Advert size not to exceed 1600mm x 1200mm To pay application and license fees as will be determined by the County/Municipality
Wall Painting Adverts on Permanent Premise	Allowed in commercial and industrial zones only. Any painting above 10 sq.m to pay 500 for every additional sq.m To pay application and license fees as will be determined by the County/Municipality

Source: UN Habitat & TRC Technical Team

15.4.7 Urban Design Guidelines

Table 15.8 - Design Guidelines and Recommendations per each area of Hola town

Planning Locality		Design Guidelines	
Design Element		Recommendations	
1	Laza	- Building Restoration and Flood resilient Structures - Public Spaces - Tourism infrastructures - Heritage Conservation	• Preserve historical and cultural heritage, restoring and maintaining traditional architectural styles where possible. Use local, eco-friendly materials for both new constructions and renovations, respecting the cultural and environmental character of the area. • Promote flood-resilient designs, incorporating elevated structures and natural barriers to reduce the risk of flood damage and enhance disaster preparedness, educating the community on flood risks and establishing clear evacuation routes for vulnerable areas. • Upgrade informal residential areas incrementally, widening streets and improving utilities while maintaining the existing community layout. • Create green public spaces that encourage community interaction and help manage flood risks, incorporating greenery, seating, recreational areas, and amenities. • Develop tourism infrastructure that highlights cultural and historical elements, such as walking paths and signage to attract visitors.
2	Makaburini & Kibuyu	- Multi story residential housing - Mixed use building in line along major roads - Settlement Upgrading - Settlement Relocation - Heritage Conservation	• Encourage vertical expansion primary along main roads to maintain high-density development without overcrowding, while creating open spaces like pocket parks and ensuring adequate spacing between buildings. • Ensure affordable housing by supporting incremental building techniques that allow homes to grow over time, adapting to local economic conditions. • Implement flood-resilient designs for all new developments, including raised foundations and efficient drainage systems, to minimize the impact of future disasters. • Relocate Flood-Prone Residents: Move households from high-risk areas to safer locations with essential services and community amenities. • Promote mixed-use buildings along major roads to boost local businesses and provide residential units, enhancing accessibility and community interaction. • Reclaim riparian areas by creating buffer zones to mitigate flood risks, enhance biodiversity, and provide green public spaces for the community. • Upgrade informal settlements by improving infrastructure (wider roads, utilities, public spaces), while maintaining community layouts and supporting gradual improvement. • Open and upgrade streets to improve accessibility, promoting safe spaces for pedestrians and cyclists while enhancing connectivity. • Preserve local heritage by maintaining significant cultural and historical structures, integrating them into the urban landscape to protect the area's identity.
3	Hola Civic District	- Public Purpose and Governmental offices - Public Services and Infrastructures - Commercial and mixed use buildings - Public spaces and Urban Forest	• Encourage compact and mixed-use development: Promote denser housing options with integrated commercial spaces, while supporting land swaps to optimize land use and create vibrant neighborhoods. • Build with local materials and ensure affordable housing: Use locally sourced materials in construction to reduce environmental impact, while prioritizing the inclusion of affordable housing that meets community needs. • Enhance transport connectivity and public transport access near residential and commercial hubs to better connect the area to the rest of the city and reduce reliance on private transport. • Integrate green spaces and parks: Plan for parks, urban forests, and other designated open spaces to enhance recreational opportunities and support biodiversity.

Planning Locality		Design Guidelines	
Design Element		Recommendations	
4	Mji Ya Waze/Mji wa Kale	- Public and Open spaces - Riverine Riparian reserve	• Restore the riparian reserve with sustainable landscaping: Reclaim and enhance natural buffers along the river to improve flood resilience and biodiversity. Incorporate native plants to create habitats, provide shade, and offer recreational opportunities for the community. • Designate community open spaces: Create parks and green areas along the river for recreation, enhancing the locality's aesthetics and acting as flood mitigation zones. • Relocate Flood-Prone Residents: Move households from high-risk areas to safer locations with essential services and community amenities. • Enhance connectivity: Ensure relocated housing is well-connected to essential services like schools, healthcare, and markets to help families maintain their livelihoods.
5	Kalaule	- Multi story residential housing - Mixed use building in line along major roads - Settlement Upgrading	• Encourage vertical expansion primary along main roads to maintain high-density development without overcrowding, while creating open spaces like pocket parks and ensuring adequate spacing between buildings. • Open and upgrade streets to improve accessibility, promoting safe spaces for pedestrians and cyclists while enhancing connectivity. • Support Housing Upgrades: Facilitate the gradual transition of informal housing into durable, multi-story units using local materials. Encourage mixed-use developments along main roads, integrating residential and commercial spaces for better access to services. • Flood-Resistant Infrastructure: Construct raised buildings and use permeable materials for roads to manage stormwater and prevent flooding in narrow streets. Include green buffers and drainage systems to protect residential areas from water damage. • Enhance Safety and Disaster Preparedness: Implement early warning systems for floods, establish evacuation routes, and ensure that buildings and streets are designed for emergencies. Prioritize public space improvements, such as sidewalks and community areas, to promote safety and accessibility. • Respect Community Character: Ensure new developments integrate seamlessly with the existing organic layout of the neighborhood, preserving its character while enhancing overall functionality.
6	Hola Mission	- Industrial Park and Public Utilities - Low density residential housing - Educational facilities	• Protect Riparian Areas: Reclaim and safeguard the riparian reserve, creating buffer zones along flood-prone areas to minimize flood risks and prevent encroachment. • Relocate Vulnerable Households: Move residents from the flood zone to safer areas with essential services, ensuring access to affordable, flood-resistant housing and upgraded infrastructure to prevent displacement. • Develop Industrial and Educational Facilities: Create an industrial park on elevated land with necessary utilities, while upgrading schools like Hola Primary to function as both learning centers and emergency shelters. • Plan for Disaster Resilience: Design all new developments to incorporate disaster risk management strategies, including early warning systems, evacuation routes, and flood-resistant infrastructure. Educational facilities should also include disaster preparedness programs to ensure community readiness. • Integrate Green Spaces: Include parks and community areas in redevelopment plans, especially near schools and residences, to improve the living environment and provide recreational spaces.

Planning Locality		Design Guidelines	
Design Element		Recommendations	
7	Mwangaza	- Multi story residential housing - Mixed use building in line along major roads - Settlement Upgrading	• Encourage vertical expansion primary along main roads to maintain high-density development without overcrowding, while creating open spaces like pocket parks and ensuring adequate spacing between buildings. • Open and upgrade streets to improve accessibility, promoting safe spaces for pedestrians and cyclists while enhancing connectivity. • Support Housing Upgrades: Facilitate the gradual transition of informal housing into durable, multi-story units using local materials. Encourage mixed-use developments along main roads, integrating residential and commercial spaces for better access to services. • Create Mixed-Use Areas: Designate spaces along main transport routes for buildings that integrate residential units with essential services like shops and clinics, fostering vibrant community hubs and improving accessibility. • Flood-Resistant Infrastructure: Construct raised buildings and use permeable materials for roads to manage stormwater and prevent flooding in narrow streets. Include green buffers and drainage systems to protect residential areas from water damage. • Enhance Safety and Disaster Preparedness: Implement early warning systems for floods, establish evacuation routes, and ensure that buildings and streets are designed for emergencies. Prioritize public space improvements, such as sidewalks and community areas, to promote safety and accessibility.
8	Zubaki	- Multi story residential housing - Major educational facilities - Green Public spaces and Conservation areas for Preservation and reducing risk of flooding	• Encourage Densification: Build multi-story residential buildings (3-5 stories) along Class C road, gradually decreasing density towards conservation areas to optimize space and increase housing options. • Enhance Education Access: Integrate major educational facilities within the area, ensuring they are accessible and include recreational spaces for community events. • Create Green Spaces: Develop parks and conservation areas that serve as flood buffers, using features like ponds and rain gardens to manage stormwater. • Enhance Connectivity and Promote Active Transportation: Open new streets to improve access and connectivity while creating pedestrian-friendly pathways and bike lanes in public spaces to encourage walking and cycling. • Upgrade Utilities: Enhance water, electricity, and waste management services to support the growing population, connecting all new developments to reliable infrastructure. • Assess Flood Risks: Conduct a flood risk assessment to inform urban planning, ensuring new developments are resilient to climate change.
11	Malindi ya Ngwena	- Low density residential housing and auxiliary functions and services - Riverine Riparian reserve	• Reclaim River Buffers: Restore the riparian reserve along the River Tana to reduce flood risks and improve environmental quality with native vegetation. • Relocate Flood-Prone Residents: Move households from high-risk areas to safer locations with essential services and community amenities. • Upgrade Housing and Accessibility: Replace unsafe homes in informal settlements with flood-resistant units, ensuring essential services like community centers and clinics are within walking distance. • Implement flood-resilient designs for all new developments, including raised foundations and efficient drainage systems, to minimize the impact of future disasters. • Improve Streets: Widen narrow roads and enhance accessibility to ensure they are safe for emergency response and equipped for drainage.

Planning Locality		Design Guidelines	
Design Element		Recommendations	
16	Peri-Urban Hola town	- Educational and Industrial Hub - Open Spaces and Conservation	• Incorporate Conservation Areas: Protect local biodiversity and create green spaces for recreation and community activities. • Connect Educational and Industrial Areas: Design green corridors and parks linking the Agricultural University with the Industrial Park for collaboration and public events. • Balance Development and Conservation: Develop an environmental management plan to integrate ecological considerations into planning.
17	Makutano	- Low and medium density residential housing and auxiliary services - Livestock Market and related activities - Conservation area and Livestock Corridor	• Encourage Strategic Densification: Develop low and medium-density housing in key areas to accommodate displaced communities with adequate living space. • Create Conservation and Green Spaces: Designate areas for conservation and integrate green spaces, such as parks and community gardens and enhance liveability while providing recreational opportunities for residents.. • Include Essential Services: Ensure new residential areas have schools, clinics, and community centers within walking distance to improve residents' quality of life. • Improve Accessibility: Open new streets for safe transportation, ensuring they have proper drainage to reduce flooding risks. • Develop Utility Infrastructure: Plan for necessary services like water, waste management, and electricity to support the growing population. • Incorporate Sustainable Practices: Use eco-friendly building methods, like rainwater harvesting and solar energy, to minimize environmental impact and improve resilience.

Source: UN Habitat & TRC Technical Team

15.4.8 Housing Provision

Housing provision supports the residential developments designated by this plan. Delivering adequate and affordable housing over the plan period and beyond is key to sustainable urbanization in the municipality.

The housing provision for Hola town is proposed under:

1. New housing provision
2. Rehabilitation/Improvement of existing stock
3. Informal Settlements Upgrading

1. New Housing Provision

As further detailed in chapter 14, the existing housing market struggles to meet the escalating demands of the growing population, within Hola Urban Core. In addition, there is a lack of diversity within the housing stock, leading to an inadequate response to the varied needs of different social groups and household types.

Considering a current population (2023) within Hola Urban Core of 43,072 and a projected growth up to 66,890 by 2032, and a current estimated housing supply of around 8,500 units, it is projected an **additional housing need** of 4,700 units by 2032 to accommodate the needs of the growing city.

It is key to ensure **equitable access** to adequate housing, increasing **affordable housing** in line with demographic growth, and incentivizing investment in the sector. Policies should also include optimizing vacant land for development, offering diverse housing types, fostering public-private partnerships, and promoting local materials and alternative building technologies.
Table 15.9 highlights general development guidelines to apply to new development within Hola urban Core

Figure 15.9 - Rural Housing



Source: UN Habitat, Jane Muriuki, 2023

Location

Public sector-led housing developments should be prioritised on the sites closest to the existing urban fabric in areas designated for land use development. Such projects should be design as planned urban expansions. Investments for such projects should factor connectivity to town-wide infrastructure systems- electricity, mobility networks, and water and sanitation, as well as factor in social facilities and commercial spaces.
Self-build housing should be prioritised in areas envisioned as urban extension areas, following the appropriate design guidelines and the land use provisions of this plan.

Building Design and Layout

Adhere to the requirements outlined in Part VII of the National Building Code, specifically addressing space within buildings. As a base, habitability standards dictate that each dwelling room should have a minimum area of 7.0m² for single room occupancy, with an internal width of 2.1m and a minimum ceiling height of 2.4m.

Aim for designs that lower costs of production in order to promote affordability.
In addition, it is recommended to integrate elements of local traditional architecture.

Construction Materials

Allow construction of residential and commercial buildings using materials that are durable, have aesthetic value and are safe, from an environmental and public health perspective, for human habitation.
Promote the use of affordable, high quality **locally sourced materials** such as earth bricks, earth stone blocks, rammed earth, or coral stone for wall construction. Additionally, encourage the adoption of innovative construction methods such as prefabrication or the use of recycled materials, compressed earth blocks with local soil.

Participation and Inclusivity

Promote inclusive design principles by ensuring that buildings cater to the needs of persons with disabilities and the elderly. This includes features such as leveled or ramp access with a maximum slope of 1:12, as well as corridors with a minimum width of 1.2m. Furthermore, involve end-users in the design process to ensure that housing solutions are tailored to their specific needs and preferences.

Table 15.9 - Proposed housing typologies

Typology	Description	Proposed Density	Surface per unit	Code
Bungalow	1 story single family house – 2 to 5 bedrooms	10-20 units/ha	50-180 m^2	0_2 0_3
Maisonnette	2 or 3 storey single family house – 3 to 6 bedrooms	10-20 units/ha	100-300 m^2	0_2 0_3
Multi-family Row housing or courtyard compound	1 storey multifamily house - 3 units per building	60 units/ha	50-100 m^2	0_1 0_2 0_3
Flat in Mixed-used development: Maisonnette over retail	2 or 3 story building – multifamily residential flats over commercial ground floor	40 units/ha	50-90 m^2	0_2 0_3 $5_{9\text{-}11}$
Flat in Multi-storey residential building	3 to 5 story multifamily house – 2-3 units per floor	40-160 units/ha	50-90 m^2	0_1 0_2 0_3
Flat in Multi-storey mixed used building	5 to 8 story building – multifamily residential flats over commercial ground floor 2-3 units per residential floor	160-220 units/ha	50-90 m^2	0_1 0_2 $5_{2\text{-}8}$

Source: UN Habitat & TRC Technical Team

Light and Ventilation

Ensure that buildings incorporate adequate natural lighting and ventilation in line with National Building code articles: 136, 137, 138 and 139. Prioritize passive cooling strategies, including cross and stack ventilation systems, as well as incorporating overhangs to shield the building from direct sunlight and rain. Ensure effective control of ventilation and infiltration. Moreover, strategically locating openings on the shaded side of the building or to capture prevailing winds can optimize natural airflow and thermal comfort within the home.

Basic Services

Facilitate accessibility to essential services such as electricity and water networks in a well-phased process that ensure availability of such services before housing occupancy. Additionally, encourage the integration of sustainable practices, such as renewable energy sources, by using solar panels for electricity generation and rainwater collection systems.

Disaster Risk and Environmental management

Develop floodproof housing through appropriate architectural detailing at technical design stage. This involves sealing vulnerable points of entry for water, such as doors and windows, and ensuring the integrity of building envelopes to prevent water infiltration. Additionally, the use of durable materials resistant to water damage, such as concrete, masonry or treated timber, can enhance the structural integrity of buildings. Moreover, raising the elevation of buildings above flood levels and incorporating elevated foundations can increase construction cost, but handy in risk of disaster management.

Figure 15.10 - Floods affecting housing



Source: UN Habitat, Jane Muriuki, 2023

2. Rehabilitation of Existing Housing Stock

Within Hola urban core, many homes, especially those located in the old town area are vulnerable to flooding and harsh weather conditions, which is escalated by poor planning or lack of it. Additionally, spatial inadequacy is an issue for several housing units, as they possess cramped living spaces, unfit for their household size. Furthermore, the limited financial resources and technical expertise available to residents impede their ability to access the means necessary for housing improvements.

The aim is to improve the quality, adequacy, and resilience of existing housing and neighborhoods, empower residents to make sustainable home improvements, and develop local skills in building technologies. Sectoral policies should focus on progressively upgrading housing stock, providing technical and financial support for home improvements, guiding incremental housing enhancements, enforcing development standards, and consolidating and densifying residential areas.

Below are highlighted general development guidelines to apply to rehabilitation of the existing housing stock

Roof Improvement

- Conduct assessments of existing roofs and provide recommendations for improvements in accordance with Part XIII of the National Building Code.
- Offer guidance on roof replacement, considering different materials and structural requirements for enhanced resilience and longevity. It is recommended to allow corrugated iron sheets, roofing tiles, concrete slabs and restrict grass thatched, plastic, carton, and tin roofing.
- Provide expertise on structural enhancements to ensure roofs can withstand environmental stresses and load requirements.
- Recommend installation of rainwater collection systems and guttering to enhance water harvesting and management.
- Advise on the installation of damp proof courses to prevent water penetration and moisture damage.

Wall improvement

Ensure waterproofing in compliance with Article 118 of the National Building Code to reinforce walls against water intrusion and structural degradation.
Provide structural improvements to strengthen walls, ensuring they meet safety and durability standards outlined in Part IX of the National Building Code.

Floor improvements

Ensure compliance with Part XIV of the national building codes, address moisture issues, using more durable materials and installing damp proof courses when appropriate.

Flood Proofing

Beyond waterproofing, appropriate floodproofing measures can be adopted such as foundation elevation or landscaping to divert water away from homes. Measures should be in line with Part XIV of the National Building Code.

Layout modifications (Extensions and Partitioning)

Provide guidance on building extensions and incremental construction to accommodate additional bedrooms, kitchen spaces, or overall enlargement of existing structures.
Support partitioning efforts to optimize space utilization and enhance living conditions for households.

Figure 15.11 - Aerial view of settlement area



Source: UN Habitat, Jane Muriuki, 2023

3-Informal settlement upgrading & Redevelopment

There are numerous informal settlements and ageing housing stock across Hola Municipality, particularly in the urban core and environmentally sensitive areas along Tana River. They face several **challenges**, ranging from uncertain land tenure, unsafe and degrading buildings, vulnerability to flooding, small plot sizes, to insufficient basic services and infrastructure.

The emergence of informal settlements is a consequence of multiple factors including the **inadequacy of affordable housing** alternatives as well as **uncoordinated development** and planning, socio-economic challenges and failing to account for population growth.

The aim is **upgrading informal settlements** within Hola town, improving housing conditions, providing safe housing alternatives for low-income residents, enhancing access to basic services, and preventing the creation of new informal settlements. Sectoral policies should include community-led planning for upgrades, promoting improvements in safe areas, relocating communities in high flood-risk zones, expanding water, electricity, and sanitation services, developing infrastructure, enforcing building regulations, and conducting awareness campaigns about the risks of informal settlements and promoting affordable formal housing options.

In Malindi Ya Ngwena, Makaburini, Kibuyu and Hola Mission, there are ongoing interventions through **KISIP**. It is key to institutionalize a review of the KISIP plans to implement the plans according to identified priorities and develop local plans to upgrade settlements that are not currently covered by KISIP plans, such as in Mwangaza and Kalaule.

Figure 15.12 - Old town



Source: UN Habitat, Jane Muriuki, 2023

Sections of the **old town** also require rehabilitation and or redevelopment alongside conversation and preservation. So is Zubaki and Laza areas. Local action plans are required for each respective locality to guide the appropriate action for each existing development.

15.4.9 Basic Services Improvement

Overall, there is an urgent need for improvement of basic services across Hola Town. This entails both the infrastructure and configuration of service delivery. The municipality and respective county departments should prioritize improving and scaling up infrastructure development and setting-up functional utilities for the entire municipality, decentralized as envisioned in the SDF of this plan.

Solid Waste Management

The issue of waste management is crucial given its direct impact on public health and the quality of life of the local population.

Solid Waste is collected and transferred to the **Solid Waste Transfer Station** where it is sorted according to its nature (organic, plastic, paper, etc.) before it is recycled or directed to the Municipal landfill. However, health centers should have their own collection system given the risks and specificities of medical waste - Hola County Hospital will be equipped with differentiated containers for sorting medical waste.

The Solid Waste Transfer Station in Hola is proposed in an area that balances accessibility, environmental protection, regulatory compliance, and community acceptance. The ideal site is in industrial or peri-urban areas with proper infrastructure and buffer zones, ensuring efficient operation with minimal negative impacts.

Although effective waste management is a priority for improving the quality of life and hygienic conditions in Hola, other measures remain essential to properly manage this sector and an **integrated, neighborhood-based approach** is essential to ensure the success of this strategy. This approach includes:

- Establishing a team of **pre-collection operators** to collect solid waste produced and deposit it in the ZTT through door-to-door collection.
- Setting up **voluntary drop-off points** to temporarily support the door-to-door collection system.
- Installing **special collection points** at markets and healthcare facilities.
- Placing **bins** in green spaces and public areas.
- Implementing a **system to monitor** household subscription rates to track the performance of pre-collection service providers.
- Creating **local committees** to oversee and support the waste management system.

Finally, waste could represent an important resource and constitute an **employment-generating sector.** Therefore, it is recommended that local authorities strengthen their recycling and waste transformation capacities to create a circular economy that produces income and improves the environment and living conditions.

Water Management

A **Water Treatment Plant** is proposed close to the Tana River to minimize the cost and complexity of raw water intake infrastructure, ensuring an abundant and consistent water supply. The site is slightly elevated from the riverbank to protect against flooding and located on flat terrain. Accessibility via local roads is essential, hence the proximity to the town to facilitate easy distribution of treated water, yet far enough to avoid contamination risks from urban activities.

Figure 15.13 - Water pump



Source: UN Habitat, Jane Muriuki, 2023

The plant should have a starting **capacity** to treat 1,000 m^3 of water per day, with a modular design to allow for capacity expansion as demand increases. This capacity, jointed with the current estimated capacity of 600 m3 per day of the existing water treatment plant, should provide enough water for domestic use within Hola Urban Core.

Subsequently, **gradually increasing** the capacity of the new treatment plant up to 4,000 m3 per day and fully restore the existing treatment plant to its full capacity of 1,400 m3 per day will assure the water demands of the growing population will be fulfilled.

Table 15.10 - Estimated Water demand for Hola Urban Core population

YEAR	Urban Population	Water demand (m^3/day) 50-130Lpcd	Water needs per year (m^3/year)
2022	25,026	1,251 [50 Lpcd]	456,615
2027	33,760	2,363 [70 Lpcd]	862,495
2032	45,542	5,920 [130 Lpcd]	2,160,80

Prior to construction, it is recommended to conduct an **Environmental Impact Assessment (EIA)** to ensure the project complies with Kenyan environmental regulations, minimizes ecological impact, and engages the local community in the planning process. Treated water will ideally be pumped to elevated storage tanks or water towers, which help in distributing the water by gravity to the surrounding areas, ensuring consistent water pressure and availability even during peak times. In the case of Hola, the precise number and locations of water towers relative to the water treatment plant should be defined in consultation with local water authorities and communities.

However, it is recommended that they be **evenly distributed throughout the town area**, particularly utilizing public spaces and public facilities. A mixed approach is suggested: initially placing the majority of the towers (between 5 to 7, each with a capacity of 200-300 m3) within the treatment plant area to cover initial needs, with additional towers (up to 5) to be placed in strategic locations across town in subsequent stages, according to the town's growth direction and the needs of underserved areas. These towers will ensure consistent water pressure in outlying areas, increase the resilience of the water supply system, and allow for future expansion without overloading the central facility.

These measures must be reinforced by a municipal network that ensures the maximum number of households are connected to potable water.

Figure 15.14 - Mapping Activity



Source: UN Habitat, Jane Muriuki, 2023

Liquid Waste management and Sanitation

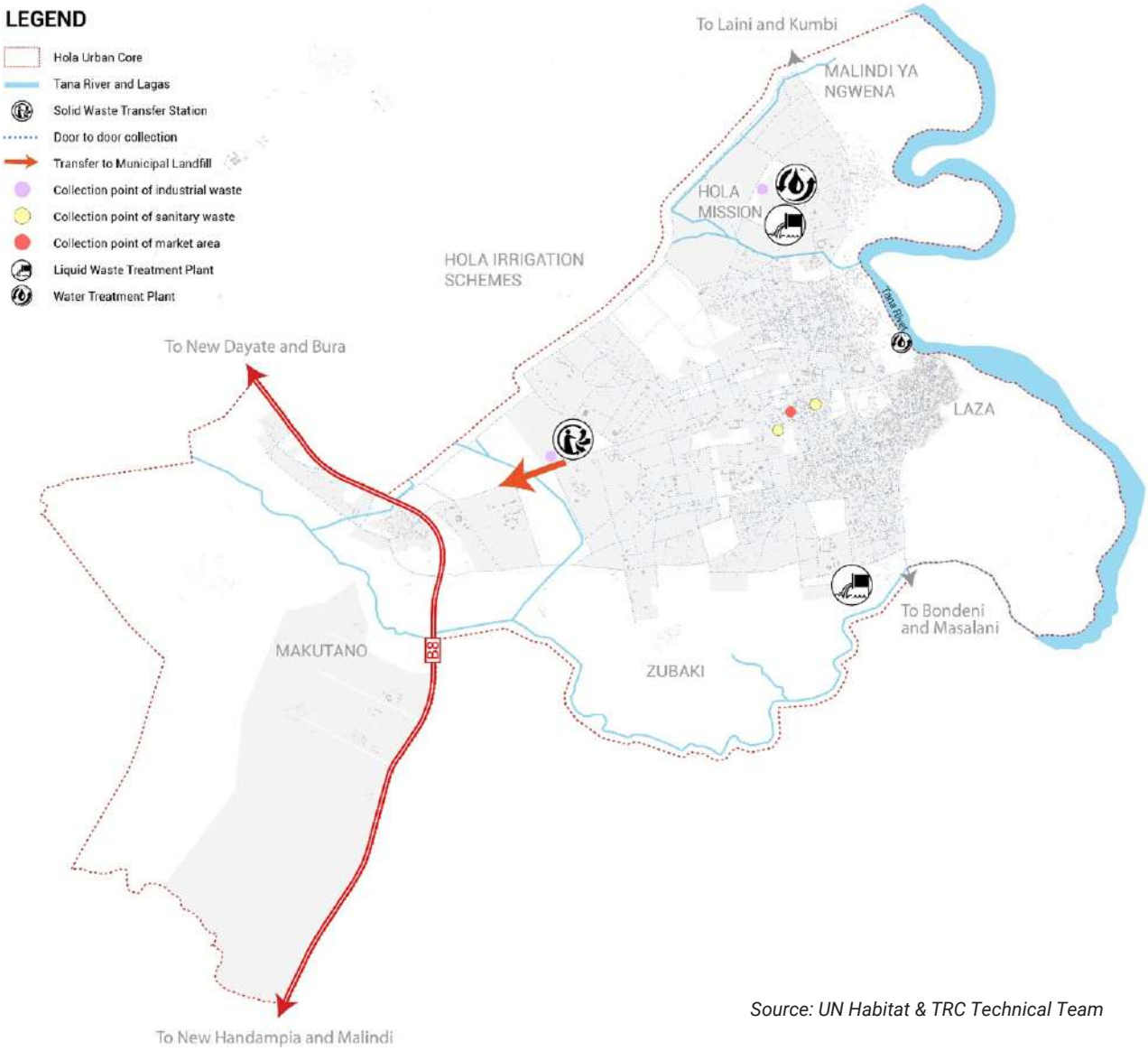
Hola Town **lacks a collective wastewater** sanitation system, which forces the local population to resort to individual solutions that can sometimes pose significant health and environmental risks.

It is recommended a **gradual replacement** of all unsustainable management methods with Manual flush toilets and improved dry sanitation systems. Due to the current absence of a networked sewerage infrastructures, a system of vacuum trucks which periodically transport sludge to the wastewater treatment plant planned in the urban core is set to be implemented- with adherence to NEMA regulations for handling and transportation of such waste. In continuation of these efforts, the establishment of a collective sanitation network could replace these autonomous solutions, ensuring better wastewater management at the municipal level.

Two Liquid Waste Treatment Plant are proposed to be located relatively near residential areas to minimize transportation costs and infrastructure requirements.
It should be downwind, on a site not prone to flooding, in proximity to the river, and accessible via local roads. The plant should have the **capacity** to treat 80% of the water consumption rate. Co-locating the water treatment plant and the liquid waste treatment plant is effective, provided that careful planning and design considerations are taken into account. Ensuring proper separation, hydraulic isolation, and adherence to environmental and safety regulations will help maximize the benefits of co-location while minimizing risks. Engaging the local community and conducting thorough environmental assessments will further support the successful implementation of this integrated infrastructure solution.

It should be noted that these strategies should serve as a guideline for implementing sanitation and drainage systems. Detailed technical studies will be necessary to establish a detailed plan for these systems.

Map 15.8 - Solid and Liquid Waste management



Source: UN Habitat & TRC Technical Team

15.4.10 Hola Town Mobility Improvement

Transportation is promoted by **upgrading** and improving the current road network within the Hola urban core. The B8 road and the Old Malindi Road are to be fully upgraded to class B and class C roads, respectively. Concurrently, the town's road network will be further developed. The existing road connecting B8 and the Old Malindi Road (C256) within the Hola core will be incrementally upgraded to class C.

Additionally, two other roads with similar functions will be upgraded to class D to alleviate traffic and congestion on the main east-to-west axis.

An additional east-to-west axis and several north-to-south routes will be established to complete the main road network. These will be secondary roads with a width of 15-20 meters, while tertiary roads, with a width of 10-15 meters, will provide detailed and comprehensive connectivity.

All main roads will include **Non-Motorized Transport (NMT)** infrastructure, such as sidewalks and cycling paths. Additionally, strategically located bus stops will be established, linking to the main, existing, and upgraded bus terminus in the town center.

Figure 15.15 - Old Malindi road

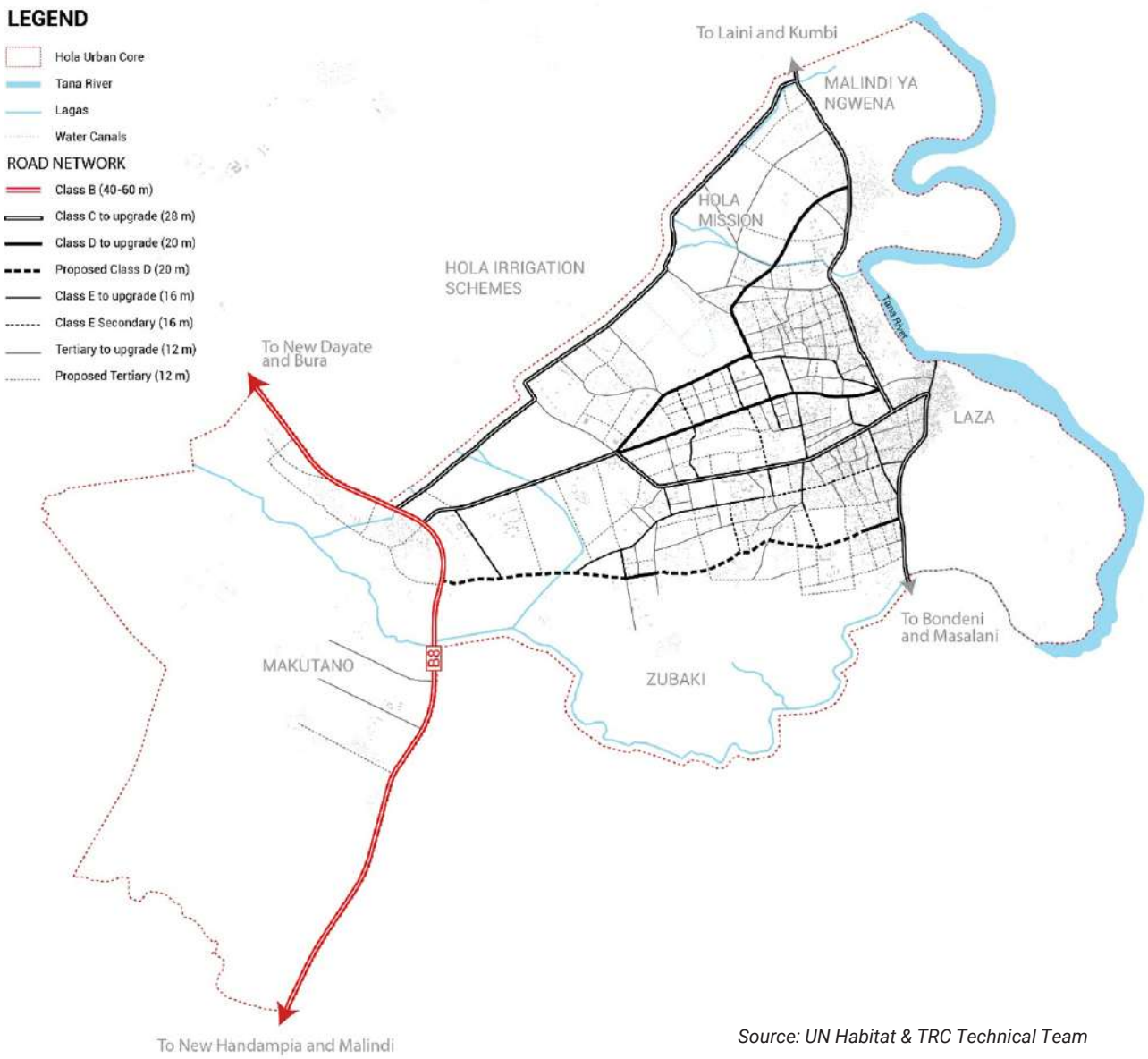


Source: UN Habitat, Jane Muriuki, 2023

The new road network will incorporate parking spaces along the roads. Furthermore, a designated parking area will be set up in the city center, between the hospital and the newly designed multipurpose space.

The accessibility and usability of the Tana River will be enhanced with new pedestrian access paths, a promenade along the riverbanks, and a pedestrian bridge to facilitate crossing to the other side.

Map 15.9 - Proposed Road Network of Hola Urban Core

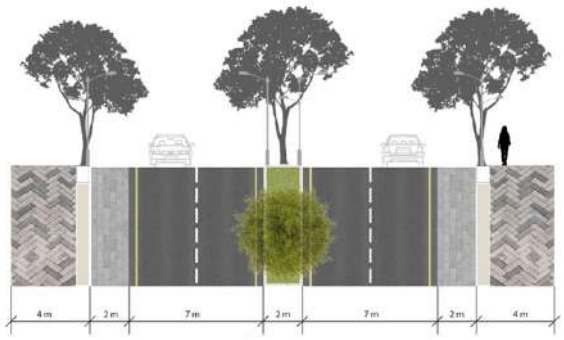


Source: UN Habitat & TRC Technical Team

Table 15.11 - Road Classification

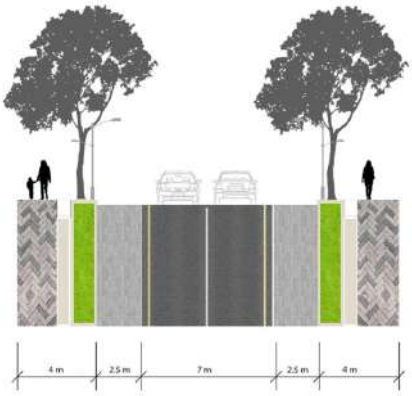
Classification		Proposed Reserve
National Trunk road	Class B [40-60 meters]	Variable
Primary road	Class C [25-30 meters]	28 m
Secondary road	Class D [20 meters]	20 m
Minor road	Class E [15-20 meters]	16 m
Tertiary road	-	12 m

Class C - 28 meters



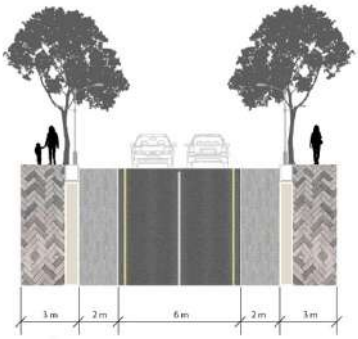
The road comprises a dual carriageway with each direction, accommodating two lanes for motorized traffic. On each side of the roadway, a 2-meter-wide lane is provided, ensuring ample space for temporary vehicle stops.
On both sides of the road, there are 4-meter-wide sidewalks that incorporate an efficient drainage system to manage stormwater runoff. These sidewalks are designed to provide a comfortable and safe environment for pedestrians.

Class D - 20 meters



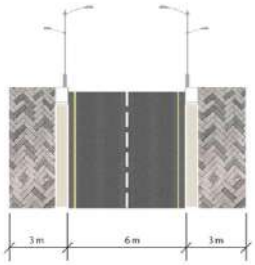
The intervention on the designed class D roads aims to improve the visual, ecological, and functional quality of the street for both pedestrians and motorists. This includes optimizing pedestrian traffic through the widening and enhancement of sidewalks and include the possibility of greening the street by planting two rows of trees to provide shade and improve the visual quality of the road.
Additionally, dedicated parking spaces are introduced on both sides of the road to prevent cars from encroaching on the sidewalks.

Class E – 16 meters



Secondary two-way road planned with temporary vehicle stop space and sidewalks on both sides to ensure pedestrian safety. The sidewalks will also include drainage gutters.

Tertiary Road – 12 meters



Tertiary two-way road planned with sidewalks on both sides to ensure pedestrian safety and safe drainage of stormwater.

Source: UN Habitat & TRC Technical Team

It is recommended that all residential units have road access of between 9m to 18m to enhance site usability and all access roads to provide dedicated Non-Motorized Transport paths for use by pedestrians, cyclist, trolleys and other NMT modes along the road shoulders

It is recommended a minimum of 1.5 vehicle parking spaces per residential unit with dedicated parking areas in residential areas and restrict parking along road reserves in residential neighborhoods. Class D, E and tertiary roads shall provide parking along roadsides.

Figure 15.16 - Road to Laini



Source: UN Habitat, Baraka Mwau, 2023

Stormwater Management Strategy

As Hola City expands westward along the Tana River, it is essential to **implement a robust liquid waste** and **stormwater management strategy**. This strategy aims to address both environmental sustainability and public health concerns by integrating an efficient drainage system with advanced wastewater treatment facilities.

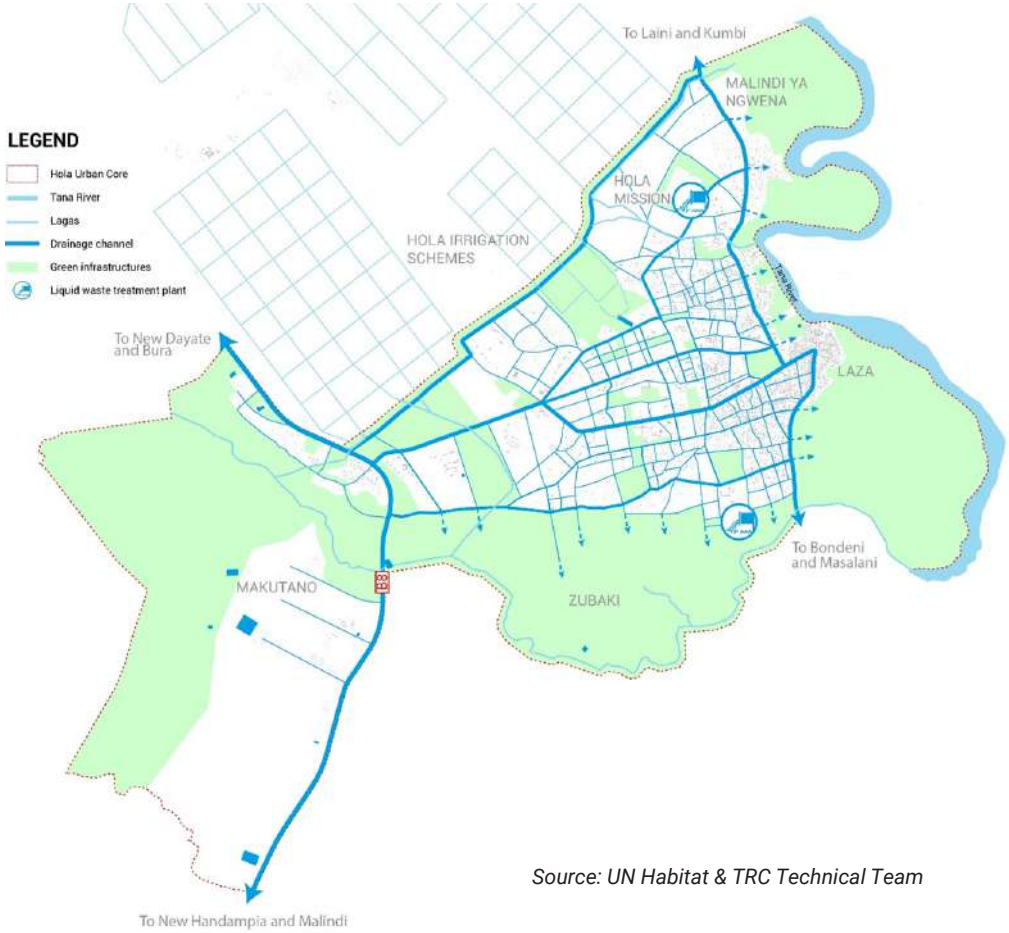
To effectively manage stormwater, the new road network will feature dedicated **drainage channels** on both sides of all major and secondary roads. These channels are designed to guide rainwater away from the streets, reducing the risk of flooding and erosion. They should be constructed with appropriate materials and slopes to ensure smooth water flow and minimize sediment accumulation. In addition, it incorporates **green infrastructure elements,** such as bioswales and permeable surfaces, to enhance stormwater absorption and support the overall drainage system.

Stormwater collected by the drainage channels will first undergo preliminary **treatment** to remove large debris and sediment, such as with grated inlets, installed at strategic points along the drainage channels. The stormwater collected will be directed to two strategically located wastewater treatment plants near ensuring that stormwater is efficiently managed and treated before being released or reused.

Once treated, **stormwater** should be **reused** for various non-potable purposes. For example, it can be used to irrigate public parks and green spaces, which will help reduce the demand for potable water and enhance the city's green infrastructure. This approach not only supports sustainability but also contributes to the beautification of Hola City.

The strategy plans to extend the network of gutters along the main arteries and define no-build zones in risk areas and along watercourses to minimize flooding. It should be noted that these strategies should serve as a guideline for the implementation of drinking water supply, sanitation, and drainage systems. In-depth technical studies will be necessary to establish a detailed execution plan for this project.

Map 15.10 - Stormwater management of Hola Urban Core



Source: UN Habitat & TRC Technical Team

15.4.11 Stimulating Local Economic Development

The economy of Hola Town depends significantly on the **agriculture production** in the wider area, especially the riparian agriculture and the Hola Irrigation Scheme, with the planned county farmlands anticipated to boost this production. Another significant economic sector is the **livestock production** happening and planned for intensification in the wider municipality and region.

Therefore, to realize the **vision of** an **"Agricultural Municipality"**, agriculture and livestock production need to be scaled up and modernized. Making the Hola Irrigation Scheme and County Farmlands fully functional will create thousands of jobs, increase per capita income, and stimulate other related economic activities. Without making agriculture and livestock production fully functional and optimized, the economic sustainability of Hola Municipality and town lie in jeopardy.

The proposed **industrial promotion** areas are strategically located near the NIA land to foster the development of **agriculture-based value addition** and **light industries** within the urban setting. These areas are envisioned to support a diverse range of activities.

The **Agro-Industry Promotion Area**, located northeast of the Urban area, aim at enhancing the development of agriculture-based activities, including distribution warehouses, agricultural data and research centers (in collaboration with the proposed agricultural university and existing training center), logistics hubs, and agro-processing and manufacturing facilities.

Additionally, the plan encourages the establishment of light industrial uses, in the western area of Hola, in the **Jua Kali promotion area**. This area will accommodate a variety of light industrial activities, including artisanal workshops, small-scale manufacturing, collection points, grain storage, milling facilities, and cooling and storage facilities for fruits, fish, and meat products. These industries will be well-integrated with the surrounding agricultural activities, supporting related commercial operations and contributing to the local economy.

Situated in close proximity to the city center, the industrial area is nonetheless adequately isolated with a buffer zone to mitigate any adverse impacts on the surrounding population. The **zoning** also ensures adjacency to essential public utilities, creating a dedicated industrial hub. Furthermore, an abattoir is proposed near the existing livestock market to be implemented, close to Makutano junction, enhancing the infrastructure for livestock processing and trade.

Figure 15.17 - Settlement area



Source: UN Habitat, Jane Muriuki, 2023

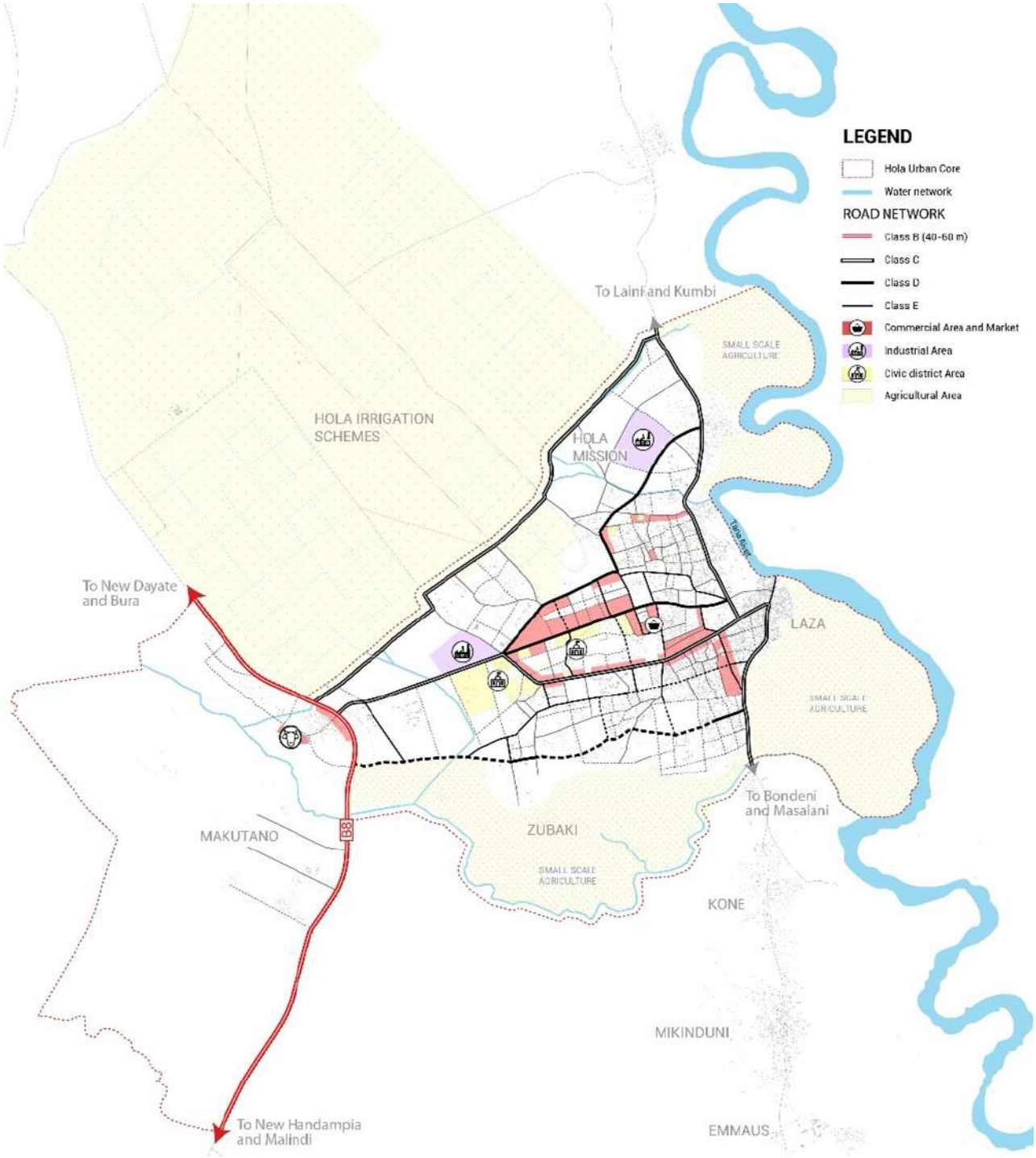
This structured approach to industrial zoning aims to optimize land use, support economic growth, and ensure the sustainable development of the urban area.
Commercial activities are promoted within the existing Hola Urban Core, along the main city corridors, and in secondary nodes such as Makutano and Kalaule. The Hola Urban Core area is **subdivided into three zones** to manage and organize different commercial densities:

CBD Zone 1 is the downtown area, surrounding the bus terminus, hosts the market and features the densest commercial developments; **CBD Zone 2** is a zone that encourages mixed-use and high-density commercial development, primarily along the two main roads that traverse Hola from west to east; **CBD Zone 3** promotes mixed-use and medium-density commercial developments along the main secondary roads. Secondary nodes, including Kalaule and Makutano, are designated for mixed-use low-density development.

This strategy aims to foster commercial growth while integrating residential development and auxiliary services **avoiding isolated commercial zones**, ensuring that commercial activities are seamlessly integrated into the urban structure.

Additionally, a **new livestock market** is proposed in the peri-urban area, near the B8 road and outside the city center. This location is intended to prevent livestock from encroaching upon and disrupting the city center.

Map 15.11 - Principal Economical nodes and driver in Hola Urban Core Area



Source: UN Habitat & TRC Technical Team

15.5 CONCLUSION

This sub-report has presented the **proposed plan** for the **future wider urban area of Hola Town**, and the **Hola Town plan** for the next decade. Priority is to be retrofitting the town, and ensuring new growth is guided by a planning framework.

The land use planning has paid attention to planned urban expansion, promotion of local economic development, land use optimization including recommending a new approach for managing land in the exiting civic district, housing development and improvement of the residential function, flood risk and disaster management, environmental management, functionality and compatibility of land uses.

CHAPTER 15

PART B: KUMBI-RHOKA AND BONDENI LOCAL PLANS, AND GROWTH MANAGEMENT

15.6 OVERVIEW PART B

The section presents **plans for two secondary centers** identifies by the community: **Kumbi - Rhoka** and **Bondeni centers**. It details the methodology used to develop the local plans, incorporating community feedback and the Spatial Development Framework approach employed in the broader municipal plan. The section also emphasizes the importance of growth management to ensure sustainable urban development in the planning area.

15.7 KUMBI-RHOKA LOCAL PLAN

This plan is **derived from** the Municipal Spatial Development Framework (**SDF**) and Land Use Plan. It is part of the decentralization vision of the municipal plan and is designed to guide the future local economic development of the northern parts of the municipality.

15.7.1 Purpose and Objectives of the Plan

A consolidated Kumbi-Rhoka is proposed as the main secondary center for the Northern parts of Hola municipality. The center's catchment targets the following settlements: Kumbi, Amani, Rhoka, Dafoma, Mansabubu, Ngomeni, Shika-adabu, and Nyangwani, and aims to establish linkages with the planned LAPSSET corridor.

The specific objectives of the planning for Kumbi as a secondary center are to:

- **Strengthen** the **connection** between Kumbi-Rhoka-Mansabubu.
- **Guide** future **development** of Kumbi center and its consolidation with Rhoka.
- **Designate land uses** for building facilities that are needed to decentralize county and municipal services
- Establish an **economic hub** for pastoralists and agricultural communities in the northern sections of the municipality and enhance linkages with Bura Irrigation Scheme and external markets.
- Provide a **planned framework** for resilient residential development in the northern sections of the municipality.

Location of the Planning Area

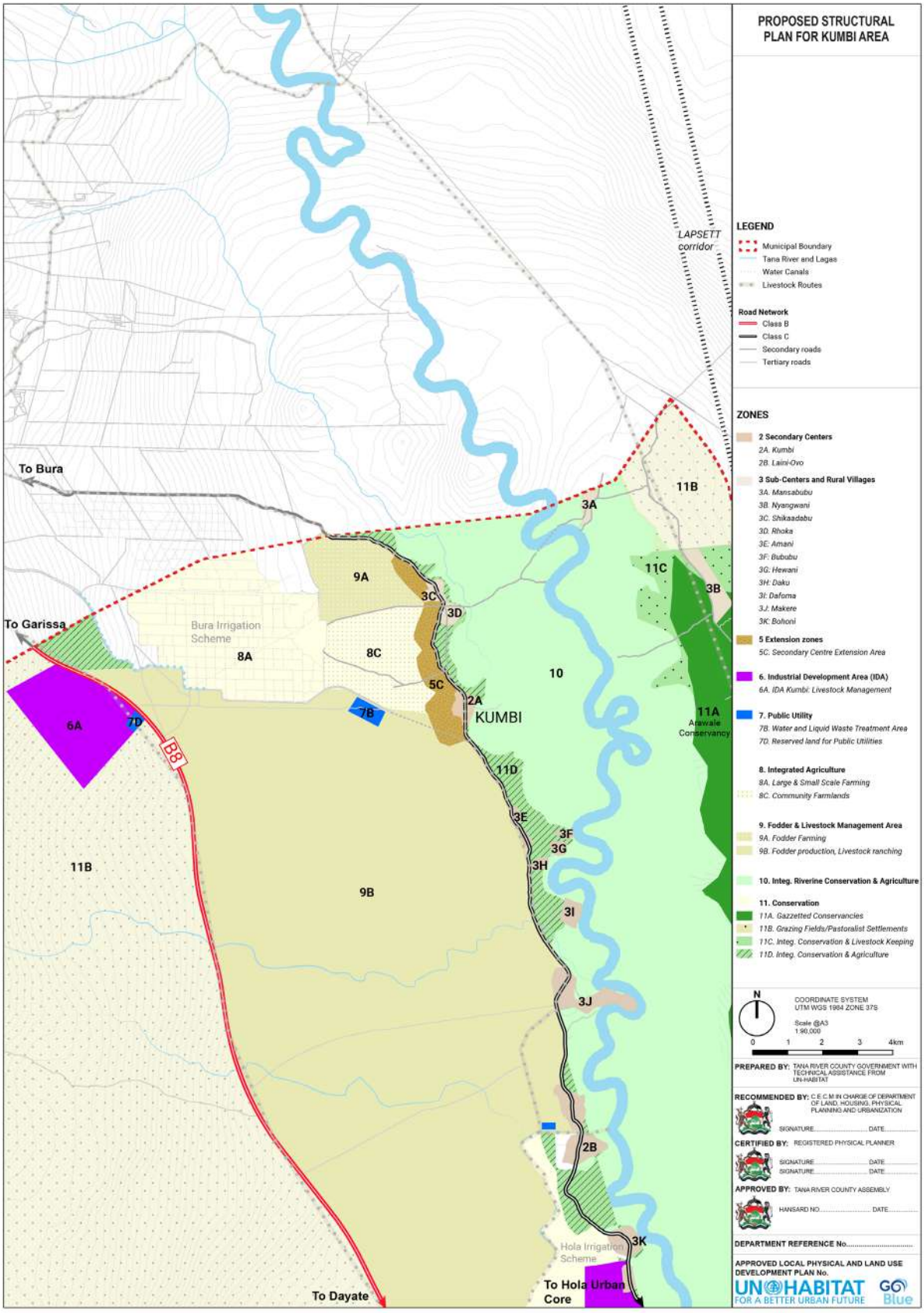
Kumbi-Rhoka is **located** about 30km from Hola town and 18 km from Bura town along the C256, Makutano_Hola _Ruka (old Malindi road). Administratively, the area lies within Chewani ward. The area is connected to the neighboring Bura Subcenter urban centers and abuts Bura Irrigation Scheme.

The current center serves an estimated **population** of 1,870 people and is expected to serve a population of about 6,336 as a secondary center.

This center is envisioned to be a **vital hub** for linking the municipality to future opportunities associated with the LAPSSET corridor- through Mansabubu.

However, **managing** the **spatial expansion** of Hola and overall spatial development of the municipality requires careful analysis of feasibility and viability of new settlements, including their social, economic and political implications, and a cost-benefit analysis that guides choices between undertaking planned extensions and creation of new isolated settlements. While retaining the ongoing initiatives, this plan strongly advocates for planned extensions and consolidation of settlements, with consideration for environmental conditions and flood-risk assessments.

Map 15.12 - A contextual location of Kumbi-Rhoka Settlements within the SDF context.



Source: UN-Habitat & TRC Technical Team

15.7.2 Area Assesment

Table 15.12 - Assessment of Characteristics of Existing Kumbi Settlement

Basic Area Assessment	Theme	Key Descriptions
Natural Environment	Topography and Terrain	- The land is fairly gentle sloping towards River Tana from West to East.
	Vegetation Cover	- Dense trees cover of indigenous species along the Tana River. - The community also has large mango farms along River Tana.
	Natural Water systems	- The settlement has a north laga draining toward Kumbi from the outside the municipality: Hirimani laga. - Multiple water pans used for livestock water and irrigation are present within the settlement. - Additional manmade canals are evident on the edge of Bura irrigation scheme that supply water to farmlands, and water for the water pans.
	Existing Development/settlement/Land use	- Clustered community settlements within key villages. - There is a planned settlement on the scheme land towards the west of old Malindi road. - corridor along the old Malindi road.
	Flood risk	- Kumbi and Shika-adabu settlements have a high risk of flooding from flash floods attributed to poor drainage systems.
	Wildlife	- The community face human-wildlife conflict with baboons, especially on their farms. The baboons destroy mangoes and farm produce when ready for harvest, thus insurmountable losses are experienced.
Projected Demand	Population (current and projected)	- Current population (4,591) - Future anticipated population by 2033 (6,336)
	Existing infrastructure/Facilities	- 1 dispensary and 1 Health center - 2 Education (Primary and ECDE) - 4 Religious facilities (mosques and churches)
	Growth Direction	- Linear development pattern along the old Malindi road and around the settlements in Mansabubu and Nyangwani. - Growth is poorly coordinated, and it occurs towards any available land.
	Existing Economic Activities	- Horticulture Farming - Livestock rearing - Local business
Land Management	Land ownership	- Land is communally owned, and settlement is allocated per family
	Projected demand for land (1,745 persons – 349 new households) **Assumptions: current population occupy reasonably enough land	- Estimated 3,450 acres (50% - 5 acres and 50% - 10 acres)
	Traditional planning and architecture of organizing space- a communal concept.	- Community shared open spaces, water areas. - Riverine ecosystems farmland

Source: UN-Habitat & TRC Technical Team

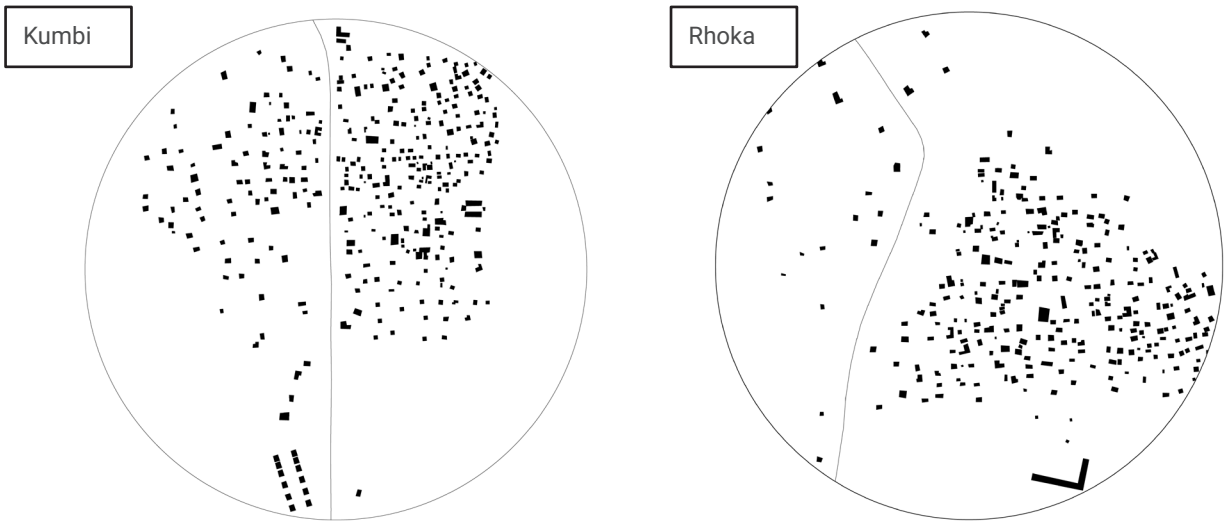
15.7.2.1 Key Settlement Indicators

Table 15.13 - Assessment of Characteristics of Existing Kumbi Settlement

Indicators	Description
Population	Low population density and a tight knit social structure characterizes Kumbi - Rhoka area. The population of Kumbi center is currently estimated to be 5,000, and it is anticipated to double throughout the plan period (2033). Natural growth and immigrants from nearby Garissa County will also contribute to population expansion. Each household has an average of five persons per household.
Livelihood	Livestock keeping and horticultural agriculture are the primary sources of income for the community. Other sources of income include teaching, administrators, and retail businesses, which account for a smaller population.
Settlement Form	Kumbi has a mixed settlement pattern with evidence of clustered and organized settlements. Settlement in Rhoka is clustered towards the river and scattered on the East of the C256 road.
Housing	Kumbi has mixed housing typologies ranging from traditional Swahili and Pokomo-design houses made from mud walls and grass thatched roofs to modern story houses with iron sheet roofs.
Market	In Kumbi the center is gradually transforming with roadside shops evident along the main road connection. As they are unable to transport mangoes to markets, the town has community-based mango harvesting and processing efforts in place. The facility, however, lacks a viable market to maintain its commercial functions.
Water	Shallow wells and taps located in common areas in Kumbi and Shikaadabu serve as the community's primary source of water. Across the settlements in Mansabubu and Nyangwani, the community faces major water shortages and strained access to the river.
Sanitation	The center currently lacks a waste management system. Most homesteads have a dug pit latrine for human waste disposal, while a portion of the population practices open defecation. NGO -developed community latrines are positioned in public areas and are free to use.
Income level	The population has low-income levels with a large part of the population earning between KES 5,000 – 10,000 per month.
Business	Kumbi has small retail businesses located strategically along the Malindi-Hola-Ruka road. Most businesses are not registered and lack permits for operations. Informal roadside stalls are used as market center for the community.
Education	The population of Kumbi is served by existing primary and secondary centres. ECDE's are located within primary schools. The facilities have space for expansion to accommodate a share of the demand from the projected population growth.

Source: UN-Habitat & TRC Technical Team

Figure 15.18 - A contextual location of Kumbi-Rhoka Settlements within the SDF context.



Source: UN-Habitat & TRC Technical Team

Figure 15.19 - Housing typologies in Kumbi Settlement



Source: UN-Habitat, Baraka Mwau, 2023.

Figure 15.20 - Shikaadabu Primary School



Source: UN-Habitat, Jane Muriuki, 2023.

15.7.2.2 Land Governance

Land within Kumbi-Rhoka is **communally owned** and managed through the **local management committee** (clan based). Public utilities get land allocation from a committee that comprise of community elders. Similarly, households are granted equal amounts of land for settlement and farming operations. Land is allocated based on requests made to the land committee.

15.7.2.3 Public Participation for the Plan

To ensure this plan comply with statutory and technical standards of planning, a **community planning forum** as held on 16th August 2023, convening community representatives from Kumbi, Rhoka, Shikaadabu, Mansabubu and Nyangwani.

Table 15.14 summarizes the key issues and recommendations from the forum.

Figure 15.21 - Participatory workshop in Kumbi, 16th Aug 2023



Source: UN-Habitat, Baraka Mwau, 2023.

Table 15.14 - Outcomes from public participation engagement with the community from Kumbi-Rhoka center

Issue	Recommendations
Need for Improved Mobility	▪ The connection between Nyangwani and Mansabubu needs to be improved by constructing an all-season road and a bridge across River Tana. ▪ Kumbi to Malindi-Garissa Road. ▪ Improve the road connecting the settlement to the Farmlands towards the river, it is often inaccessible during the rainy season.
Economic Development:	▪ Construct a modern livestock/fresh produce market ▪ Establish waste management systems and employ locals. ▪ Establish a livestock value addition and marketing facility. ▪ Designate land for irrigated agriculture and fodder production.
Social Services:	▪ Develop a sub-center hospital well equipped with facilities and services especially for maternity care. ▪ Construct new and improve existing early childhood development (ECDE), primary and secondary education facilities. ▪ Establish a vocational training facility ▪ Improve human resources for educational and health facilities.
Basic Services:	▪ Provide infrastructure for supply of clean water for domestic and commercial needs. ▪ Enhance Electricity Connections ▪ Develop drainage systems that can help mitigate risks of floods. ▪ Establish a waste management system for the center.
Land Administration:	▪ The community members present agreed to the proposed land management strategy that will be informed by a plan, and act as the key tool to guide the elders and county land/physical planning department in the land allocation
Agriculture development:	▪ Establish facilities for agricultural extension services. This includes veterinary and farming advisory officers. ▪ Allocate land and provide water for irrigation farming, away from riverine farming, including extending supply from the Bura Irrigation Scheme. ▪ Conserve areas for wildlife and green buffers to manage human-wildlife interactions. The community faces human-wildlife conflict with baboons, particularly in their fields. Baboons destroy crops, resulting in agricultural losses.

Source: UN-Habitat & TRC Technical Team

15.7.2.4 Level of Existing Service.

Table 15.15 - Existing services within Kumbi -Rhoka Secondary Center

Function/Facility [public owned/provided] County Referral Hospital		Chewani Ward			Chewele Ward	
		Kumbi (1869pp)	Shika Adabu (375pp)	Rhoka (806pp)	Mansabubu (1265pp)	Nyangwani (276pp)
Health care Facilities	Sub-county Health Centre					
	Health Centre					
	Dispensary	×				
	College/Tertial Level Training					
Education /Training Facilities	Secondary/High School [junior]					
	Secondary/High School -Senior]		×			
	Primary School	×	×	×	×	
	ECD	×		×	×	
	Public Playground	×		×	×	
Public Spaces & Recreational Facilities	Public Park					
	Stadium					
	Community/Town Hall					
	Public/Communal Cemetery					
	Wholesale & Chain Stores			×	×	
Commercial Facilities/ Function	Public Market					
	Local Shops					
	Sub-County Offices	×		×	×	
Civic Functions	Ward offices					
	Chiefs' offices					
	Sewer Services	×				
Basic services	Water points					
	Mosque	×		×	×	
Religious	Church	×		×		
	Cemetery				×	

Source: UN-Habitat & TRC Technical Team

Service Gaps**

√ Tertiary Level Training
√ Public/Open Space
√ Active Commercial Center (open and closed markets)
√ Sewer systems
√ Administrative offices Cemetery

15.7.3 Issues and Planning Recommendations

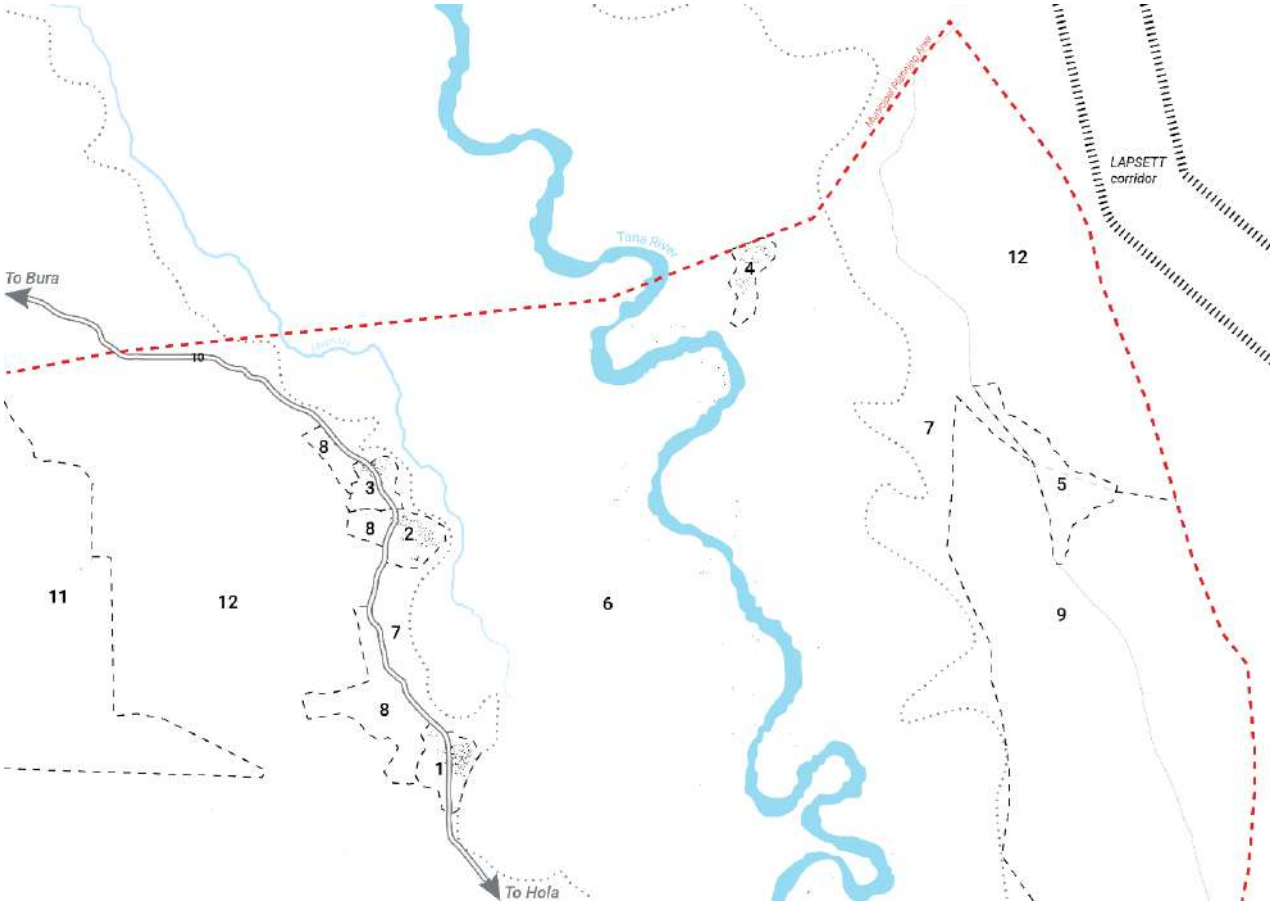
The development of **Kumbi-Rhoka as the northern secondary center** for Hola Municipality is anchored on interactions with the following localities:

- **Neighboring villages** of Shikaadabu, Mansabubu and Nyangwani
- Part of the **Tana River Corridor** and the **Bura Irrigation Scheme.**
- **Core** along the Makutano_Hola_Ruka road.

The center's **planning boundary** is delineated as:

- Towards the **North** by the Municipality boundary
- Towards the **East** along the Riparian extent (highest water mark level)
- Towards the **South** on a laga below Kumbi settlement
- Towards the **West** by Bura Irrigation Scheme Boundary

Map 15.13 - Planning Context of Kumbi Center



Source: UN-Habitat & TRC Technical Team

Table 15.16 - Key Planning area development issues and planning recommendations

Planning Locality		Description/Issues	Recommended Planning Interventions
1	Kumbi Population 1,869	- The zone is a key settlement center and service area for its residents and surrounding settlements. - Growth constrained by natural features – flooding area, existing settlement scheme	- Secondary Urban Center - Organizing streets - Redevelopment - incremental upgrading of infrastructure and services - Allow opportunities for agrarian reform and small-scale farming - Street-led transformation/ opening streets
2	Rhoka Population 806	- Rural settlement area partly within the county farmland - Lack of basic services and structures - Seasonal flooding - Low level access/ lack of street connectivity	- Rural Center - Allow opportunities for agrarian reform and small-scale farming
3	Shika Adabu Population 375	- Rural settlement area - Low level health care due to lack of adequate staff, limited equipment.	- Rural Center
4	Mansabubu Population 466	- Rural settlement area - Disconnection from west side of the river - Limited access to basic services: water, sanitation	- Rural Center - Propose connection to Kumbi through a bridge - Close to an existing water pump
5	Nyangwani Population 384	- Rural settlement area - Limited access to basic services - Proposed for relocation however the community lifeline is along the river	- Follow county relocation plan - Restricted Development - Disaster Risk measures
6	Tana Riparian area	- Area prone to flooding from Tana River - Intermittent small scale agricultural farms.	- Flood management and conservation. - Seasonal food crop production and perennial fruit farming
7	Tana River corridor	- Undeveloped area abutting riparian extent. - Prone to high levels of flooding.	- Flood management and conservation. - Seasonal food crop production
8	Undeveloped land	- Undeveloped zones abutting rural settlements	- Expansion areas for the peri-urban and rural settlements
9	Arawale National Park	- Gazetted National Park - It was established in 1976 as the main in-situ conservation area for the relic Hirola.	- Protected Area in accordance with the KWS. - Tourism circuit corridor. - Grazing is permitted.
10	Road Reserve	- Existing old Malindi Road linking Hola to Kumbi - Rhoka	- Proposed reserve preservation of 60m.
11	Bura Irrigation Scheme	- Existing agricultural land under the National Irrigation Authority - It extends to the northern part of the municipality	- Adhere to the NIA guidelines on the utilization of land.
12	Conservation and Livestock Grazing	- Open grazing field with high potential for agricultural and livestock grazing. - Covered by shrubs, herbaceous trees and grazing land.	- Potential for future agricultural land - Adopt regulated grazing fields.

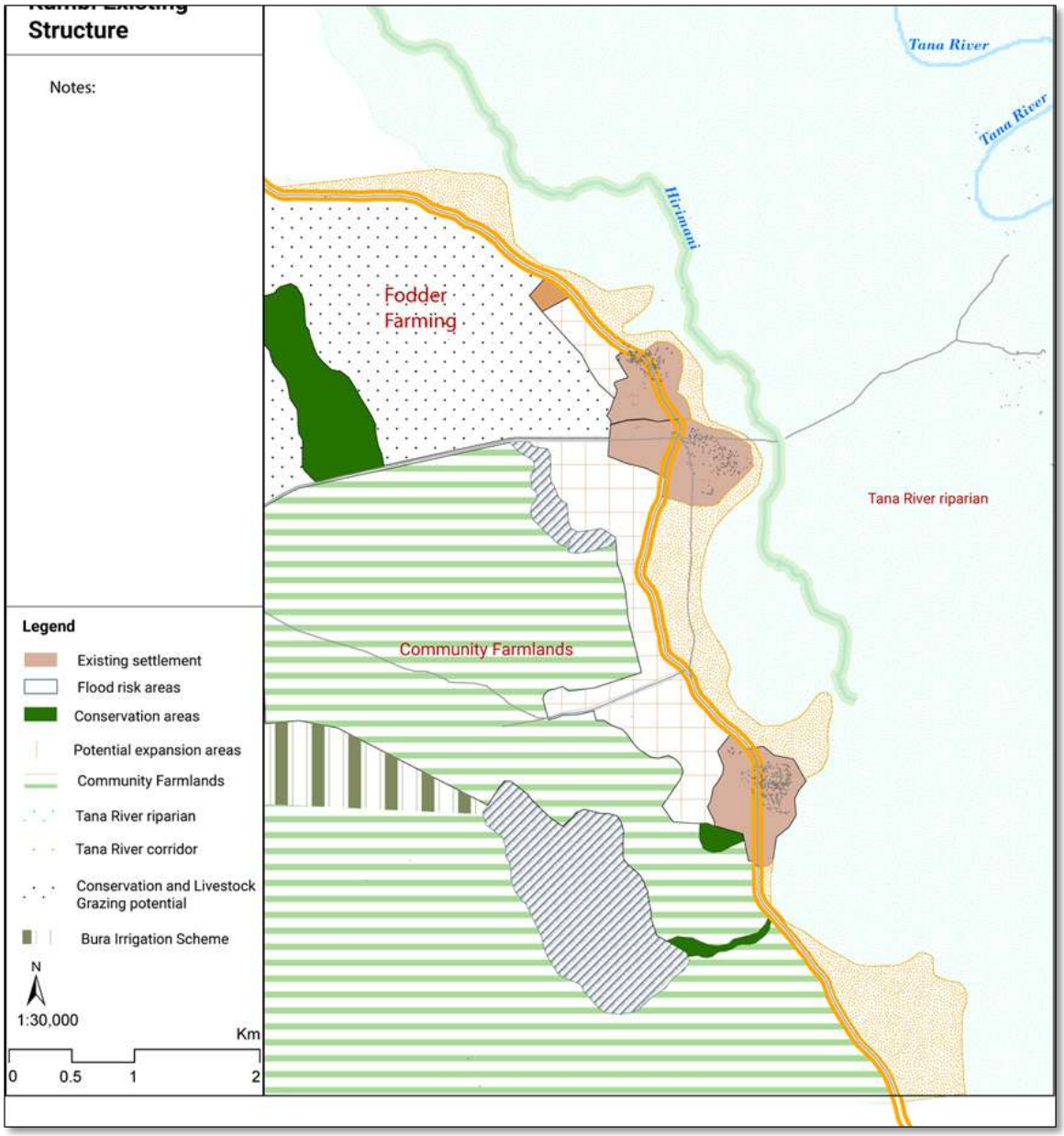
Source: UN-Habitat & TRC Technical Team

15.7.4 Wider Area Structure Plan

The structure plan is informed by the following **key structuring elements**:

- **Existing settlements** (Kumbi-Rhoka), which are unplanned.
- **River Tana**: Existing river network- requires a setback to keep human settlements far from the riparian reserve and flood-risk areas along the river.
- **Green areas** and natural water systems
- **Flood risk areas** in the wider area – need to isolate and protect wetlands, marshlands and lagas
- **Open field** with potential for agricultural farming and livestock keeping
- **Existing** transport infrastructure
- **Arawale Forest**- a gazetted national park.
- **Bura Irrigation** Scheme

Map 15.14 - Existing structural element for Kumbi Secondary Center



Source: UN-Habitat & TRC Technical Team

15.7.4.1 Spatial Concepts

Key land use and **spatial interventions** proposed for the center are anchored on:

1. **Spatial organization** and improvement of existing settlement
2. Improving **access to services**
3. Enhanced **connectivity** and **mobility** through proper road network
4. **Functional** and integration **centers** with active civic districts and integrating mixed use development.
5. Promoting **local economic development**
6. **Environmental management** and **disaster risk** reduction
7. **Infrastructure development** and improved delivery of basic services.
8. **Agricultural** enhancement

Building on the key intervention areas, the land use plan will **delineate locations for**:

- **Mixed residential developments** with varying densities and a mix of agriculture and housing
- Key **public utility** spaces
- Enhanced **road network** that combines existing and newly proposed roads.
- **Industrial** development areas
- **Variety** of public spaces
- **Social facilities'** areas and social service nodes (education, health care etc.)
- **Commercial** spaces
- **Civic district**- government services areas
- **Conservation** areas
- **Water management** areas
- **Livestock** movement corridors

The plan also seeks to leverage the local opportunities for planned spatial development and social economic transformation, while addressing various constraints as indicated by Table 15.17.

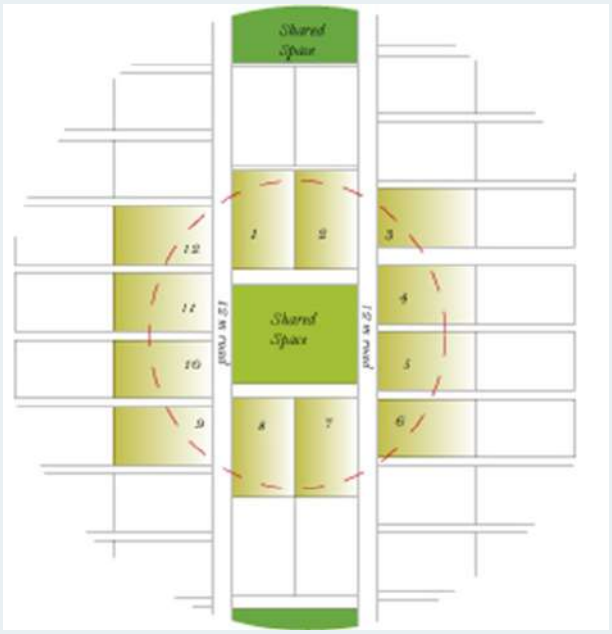
Table 15.17 - Opportunities and constrains in developing Kumbi Center

Opportunities to Leverage	Constraints to address
▪ Strategic Sections: ○ Location of Arawale Forest positions the settlement as a tourist hub. ○ About 18 km from Bura town.	▪ Flooding areas: Settlements have risk of flooding. Existing Hirimani laga that floods during the rainy seasons limiting accessibility between the settlements across the river
▪ Strong Connectivity: ○ Along the C256, Makutano_Hola_Ruka (Old Malindi) Road. ○ Easy to connect to the B8 Malindi-Garissa Road	▪ Riparian Extent: The riparian extents cover up to the highest water mark during the rainy season. This limits the growth of the settlement East of Rive Tana.
▪ Strength Agricultural Context: ○ Closer to Bura Irrigation scheme on the West ○ A fertile river ecosystem supporting agricultural activities.	▪ River Tana: the river acts as a constraint of development across the river due to limited access.
▪ Proximity: ○ Closer to the LAPSSET corridor in Garissa County ○ Close to Bura Town to the north of the municipality	

Source: UN-Habitat & TRC Technical Team

As the center is developing, there are several **considerations to key areas** identified as the commercial zones, residential zones and the urban ones.

Table 15.18 - Table detailing the structuring elements for Kumbi Center (2 pages)

Structuring Elements	Descriptions
1. **Commercial/Civic Centre**  *Source: City Think Space, 2012 (used for illustrative purposes only).*	- Proposed commercial blocks fronting the streets. - Second row of blocks encompass mixed development with commercial cum residential - Minimum plot sizes recommended is 0.25 acres. - Proposed civic district with government office blocks, public transport node, social activities, open market and a multifunctional green open space.
2. **Residential Zones** Urban (concept of the small blocks subdivision with arterial street design)  *Source: UN-Habitat & TRC Technical Team*	- Proposed 0.5 – 1 acres of land blocks. - Proper service access to the blocks with minimum street width of 12m.

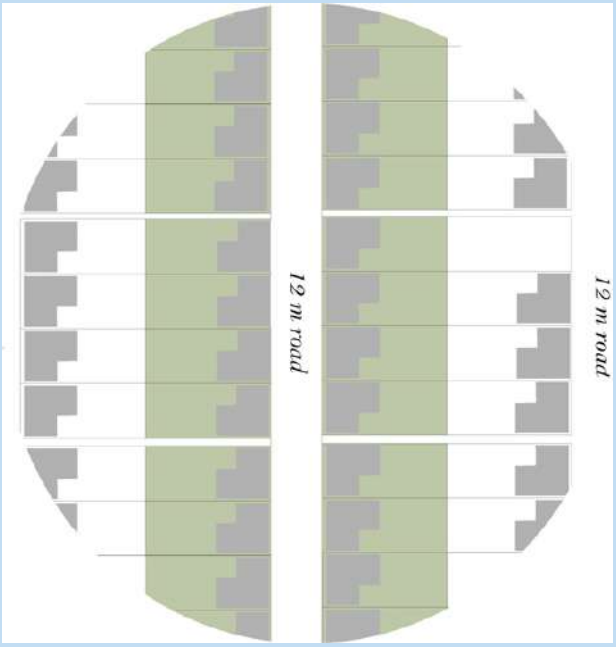
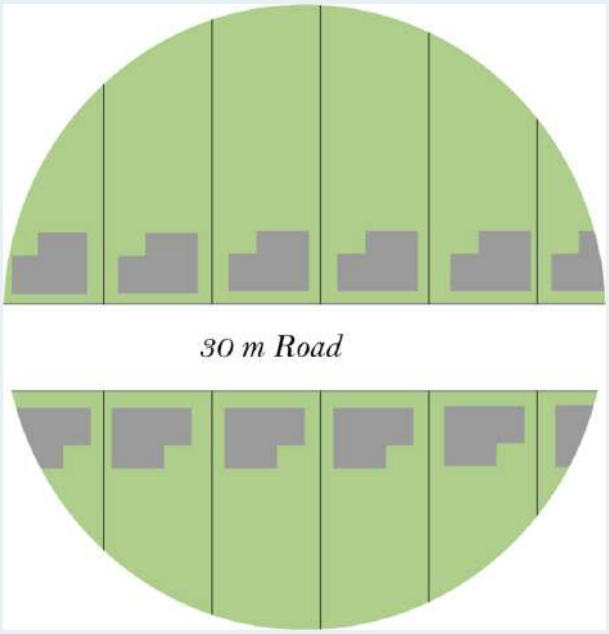
Peri Urban/Rural  *Source: UN-Habitat & TRC Technical Team*	- Proposed 1-2 acres of land per family. - Settlements promoting Urban agriculture.
Farmlands  *Source: UN-Habitat & TRC Technical Team*	- Proposed 5-10 acres developments. - Recommended large scale (commercial) agriculture for fruits, vegetables. - Land can be allocated under leases with clear conditions.

Table 15.19 - Table of Land use Zone and recommendations

Land Use Issue	Concern	Assessment	Recommended Policy Guidelines/ Action Needed
Residential: • Poorly planned centers • Limited access to resources	- Lack of access - Limited access to existing services and facilities	- Proper planning strategies - Detailed layout of settlements, with proper land allocation per family.	- Proper land management systems by designating land uses, regulations and development guidelines for the areas. - Encourage households in the rural areas to live in designated areas/settlements while they - Commute to their farms to facilitate efficient provision of services and security. - Enhanced land tenure systems with joint county and local land management systems. - Promote use of appropriate technologies and programs in advocating for improvement of rural shelter
Industrial: • Lack of a defined industrial land	- Low production - Lack of employment opportunities	- Create industrial nodes for value addition.	- Delineate industrial land use zones (light and heavy industry)
Educational: • Undefined extents of the primary facility • Poor sanitation systems (lack of water, clean latrines). • Limited staff and equipment	- Encroachment and land grabbing - Poor urban health	- Proper identification and management of all education facilities - Identify future spaces for schools (tertiary) for the community	- Define and delineate all education facilities - Set aside land for future education centres development (ECDE and tertiary institution)
Recreational: • Poorly defined public spaces • Underdeveloped and underutilized public spaces	- Lack of recreational sites	- Defining the open and public spaces to promote use	- Delineating open and public spaces - Promote design elements for the public facility
Public purpose • Undefined extents of health facilities, government offices.	- Encroachment and public land grabbing - Underutilization of land	- Proper identification of the public needs for land allocation.	- Delineate public land for government offices and health facilities.
Commercial • undefined commercial nodes. • Unexploited revenue sources	- Loss pf possible revenue - Limited access to commercial spaces.	- Proper identification of commercial zones: open and closed markets and mixed-use zones.	- Develop strategies for encouraging local economic development (LED).

Land Use Issue	Concern	Assessment	Recommended Policy Guidelines/ Action Needed
Public Utility • Lack of defined and adequate land for cemeteries • Limited water management system and infrastructure	- Limited access to basic services (water) - Environmental degradation due poor waste management systems	- Identification of zones for waste management - Develop a decentralized water reticulation system.	- Adhere to minimum standards related to provision of water, sanitation, waste management and lighting. - Encourage incremental construction to achieve. - Establish independent service units to manage the delivery of basic services.
Transportation: - Narrow and Constrained roads - Undefined paths and road reserves - Lack of a public terminus	- Poor connectivity within the centers and to other parts of the municipality	- Clearly defining the road network system. - Establish public nodes on the main axis and formal bus stop area.	- Open up (widen) local roads. - Upgrading roads to bitumen standards
Agriculture: - Over exploitation of existing land - Poor farming practices - Periodic flooding affect produce - Wastage of produce in high seasons		- Promote sustainable farming practices - Limit the farming areas to designated zones - Periodic capacity building to the community on best farming practices - Establish an agricultural office permanently in the region. - Diversity farming products and activities. - Develop cold room facilities and value addition centres within the area.	- Designated farming zones with detailed regulations for agriculture. - Register farmers within the area.

Source: UN-Habitat & TRC Technical Team

15.7.5 Application of Existing Policies and Regulations

15.7.5.1 Existing General Policy Provisions

Policy	Requirement
National Urban Development Policy	• Improve access to quality land for urban area development • Guide the development of the requisite services and infrastructure • Support the development of affordable housing of acceptable quality • Promote disaster risk management to enhance urban safety and security • String governance systems and capacity building at the community level
National Housing Policy sessional paper No. 3, 2016	• Support sustainable mixed-income housing developments • Establish mechanisms for provision of adequate and affordable housing • Support adequate growth, maintenance and improvement of housing stock to meet the housing needs • Encourage use of appropriate and low-cost building materials and technologies
National Urban Policy	• Compact, integrated, connected, resilient and socially inclusive urban areas • Integration of governance, infrastructure, basic services and urban financing in the planning process. • Promote efficient and transparent land management system. • Promote local economic development for job creation.

Source: UN-Habitat & TRC Technical Team

15.7.5.2 Guiding Principles for Regulated Development

The plan intends to facilitate a **shift** from the current unplanned growth and uncoordinated planning interventions **to a planned settlement development,** informed by the overarching principles informing the municipal's Spatial Development Framework (SDF).

Part of achieving these principles during implementation is the reference to the national building code guidelines and the formulation of appropriate local regulations whose **aim** will be to achieve:

- **Adequate Accessibility:** All developments, properties and residents shall be designed with adequate access.
- **Guide development:** All developments must align to or with policies, standards and other development tools to achieve the desired outcomes
- **Public Health and Safety:** All developments should promote human health, safety and well-being and result in healthier communities.
- **Resilience and Adaptability:** All developments must be established in a manner that promotes the ability to recover and adapt rapidly from disaster impacts and stress with ease.
- **Sustainability:** All developments must ensure protection of biodiversity, conservation of environmentally sensitive areas and optimum utilization of resources without compromising the needs of the future generation.
- **Orderly growth:** Promote orderly developments and aesthetic values, that it will be good to see, visually impressive and predictable patterns that can assist in prediction of needs and user capacity.
- **Promote quality:** Set standards provide for utilities of premium, permissible standards, competitive to meet preferred threshold.

15.7.5.3 Existing Relevant Key Regulations

Regulation	Requirement
PLUPA- Development Control Stipulations	• Guidelines on the actions when undertaking a commercial, residential, industrial and institutional development project within the centre. • Ensure an orderly physical and land use development of the settlement. • Identify zones for conservation and protection.
UACA	• Requirements of a town area within a municipality • Guide the plan preparation at local level with proper land use and infrastructure development. • Provides mandate for the land subdivision, zoning, and development control
County Governments Act, 2012	• County governments have an obligation to plan and promote citizen participation in the planning process. • Municipal plans shall be the instrument for development facilitation and development control within the respective city or municipality.
The Physical and Land Use Planning (Building) Regulations, 2021	• Adhere to development guidelines provided for buildings plans, public facilities and infrastructure. • Prohibit or control the use and development of land and buildings in the interests of proper and orderly development. • Control or prohibit the subdivision of land. • Consider and approve all development applications and grant all development permissions. • Reserve and maintain all the land planned for open spaces, parks, urban forests and green belts in accordance with the approved physical and land use development plans; and
The Tana River County Livestock Grazing Control Act, 2017	• Enforcing grazing areas • Appropriating grazing permit to pastoral communities
The Tana River County Agriculture Development Act, 2016	• facilitate the growth and development of agriculture and veterinary services in the county. • Established the Tana • River Agriculture Development Authority – oversight for agricultural funds in the county.
Community Lands Act, 2016	• Complements the management of community land. • Advises the registration of community lands with the Registrar and advises the formation of Community Land Management Committee (CLMC) to create a comprehensive register of its members and their land interests. • Enforces the designation of land uses for various purposes such as farming, settlement, conservation, cultural heritage, urban development, and other public interest initiatives. • Ensures alignment of community land laws to national and county laws related to forestry, fisheries, wildlife, environment, and mining.

Source: UN-Habitat & TRC Technical Team

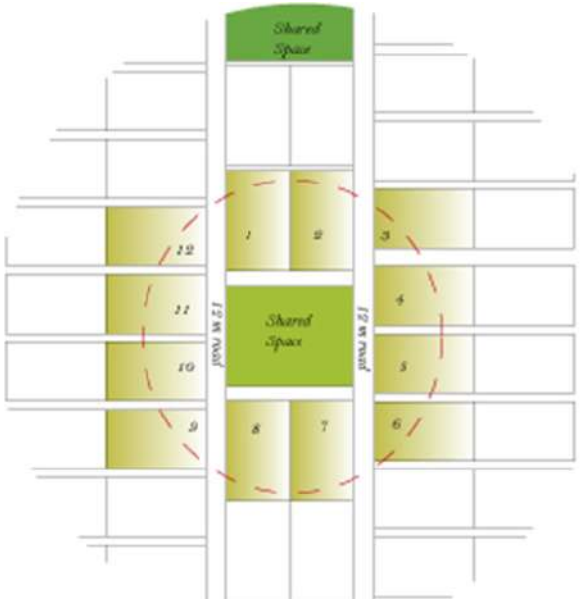
15.7.6 Proposed Kumbi-Rhoka Land Use Plan

The land use plan aims to organize **land use based on broad categories**: residential, industrial, education, recreational and conservational zones, public purpose and utility, transportation and commercial, mixed use and agricultural.

0 – Residential Developments

Incorporating vital amenities like social infrastructure, day care and early childhood development (ECD) facilities, health clinics, access routes, public utilities, green parks, and service centers, the designated residential areas will cater for complementary **mixed uses.** In this section the proposed development should be in blocks with a shared common space.

Figure 15.22 - A spatial concept design of the residential blocks with shared common spaces.



Source: UN-Habitat & TRC Technical Team

1 – Industrial Developments

The proposed industrial hub is strategically located adjacent to the fodder grazing area to promote the **livestock-value addition.** The second **agro-processing industry** is located closer to the core, adjacent to the river ecosystem to support agriculture-based value addition from farms and light industries. The industrial zones are envisioned to be environmentally sustainable, specifically linked to the livestock framing economic activities, and aimed at diversifying the economy of the northern part of the municipality.

2 – Educational and Training Facilities

This land use designation seeks to **enhance** and **expand** existing educational or training facilities, establish news ones and reserve land for future improvement of these facilities, beyond this plan period. It considers allocation of land for primary, secondary and tertiary schools designed to accommodate future population growth, contingent upon the proper implementation and upgrading of this structure.

Kumbi has a **proposed tertiary education center** to support agro- based training for the community as well as offer alternative technical skills programs for the communities. The zone is strategically positioned between Kumbi and Rhoka settlements, and adjacent to the community farmlands and the fodder grazing areas.

3 – Green Public Spaces

The proposed recreational and conservation areas aim to create an **extensive network** of public parks and open spaces that connect different parts of the center and the municipality. Currently, the planning area lacks a defined system of green spaces.

Key spaces identified will include community parks (located within each residential blocks), shared multipurpose open space within the civic district, botanical garden for the preservation of existing indigenous species and forest areas. Street networks will also act as green spaces connecting sections of the center.

The main **multipurpose shared space** will incorporate a decentralized water tower for water provision; sanitation blocks, infrastructure, street lighting and bins, parking spaces (vehicular and cycling).

Tana River riparian corridor is part of the **proposed conservation areas**, with proposed connectivity between Kumbi to the LAPSSET corridor on the East of the Municipality. This link should create a scenery corridor for accessing Arawale National Park.

4 – Public purpose

Public purpose buildings are to be **strategically promoted within existing zones** designated for government offices, health facilities, social services, cultural centers, police services, and religious facilities.

The plan proposes the location of these facilities within the core urban area for the center and strategically within settlements commercial nodes.

Each center should have a health center well equipped and advance to handle medical cases at first level. A police post is also recommended in all centers and all administrative functions will be clustered in one common area of for ease of access and to promote civic engagement.

5 - Commercial

Commercial nodes are promoted within the **centers core**, and it is **divided into** open market areas, commercial buildings and mixed-use structures with commercial and residential functions. The strategy is to set aside designated marker areas and promote zones of integration with residential functions.

6 – Public Utility

The public utility land use plan aims to **enhance existing** facilities **while integrating essential new infrastructure,** including a solid waste transfer station, a liquid waste treatment plants, a water treatment plant, a cemetery, and a fire station, strategically located throughout the area.

7 – Transport

Transportation is promoted by **opening up link roads** to existing settlements, while ensuring all residential blocks are served by a main axis road of 12 m. Residential roads are expected to be a minimum of 9m wide. The C256 road will be upgraded and tarmacked to enhance access to Bura and Hola.

All main roads will include Non-Motorized Transport **(NMT)** infrastructure, such as sidewalks and cycling paths. A **bus stop** has been provided linking the center to other key nodes.

8 – Conservation

Conservation is clustered into: **Wetlands, Forested areas,** and the **river Tana ecosystem**. The green corridor is extended to link with the tana river ecosystem and allow natural flow of water to reduce flood risk. No development is permitted along the conservation zone.

9 – Agriculture

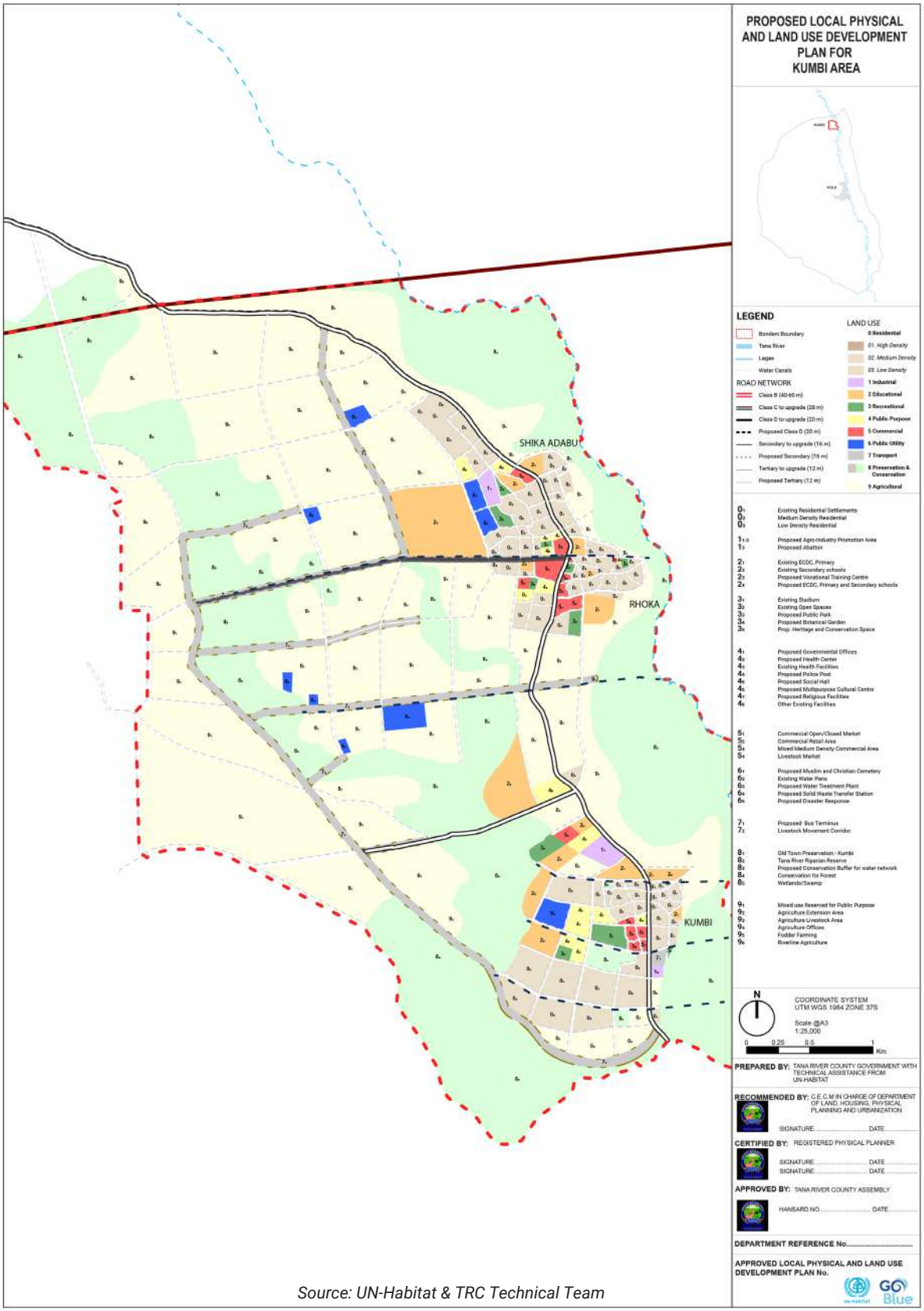
The section promotes agricultural activities abutting **Bura irrigation scheme**. Proximity fosters access to water canals from the existing irrigation. The northern section of Rhoka promotes fodder farming and livestock farming. While the southern section towards Kumbi promotes horticultural farming.

Table 15.20 - Land allocation within Bondeni settlement

Land use	Size	% of the total (6268 acres)
Residential	338.72	5.43
Industrial	25.92	0.42
Education	217.09	3.48
Recreation	43.37	0.70
Public purpose	63.02	0.97
Commercial	45.17	0.72
Public Utility	108.73	1.79
Transportation	436.22	6.99
Conservation	2494.60	39.99
Agriculture	2465.20	39.52

Source: UN Habitat & TRC Technical Team

Map 15.15 - Proposed Land use Kumbi-Rhoka Secondary Center



Source: UN-Habitat & TRC Technical Team

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Open Green Spaces [43.37 acres]	3_1	Proposed Stadium [10.46 acres]	• Football Stadium	• Develop stadium to Football Kenya Federation (FKF) Standards. • Develop stadium terraces to a capacity of around 1,000 other support facilities such as changing rooms, lavatories, PWD support facilities etc. • Connect the zone to a municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Provide auxiliary services as car parking spaces
	3_2	Proposed Open Spaces	• Maintain as per existing use	• Creation of stringent management rules to guide their use. • Enhance the natural environment and view sheds through existing open space design while preserving sensitive biodiversity, cultural, religious and historic resources. • Planting of indigenous ornamental trees species and grass. • Outdoor play facilities. • Installation of sitting benches and lighting. • Proper and constant maintenance. • Connect the space to a municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Improve open space based on landscaping plans that incorporate on-site runoff/ stormwater management.
	3_3	Proposed Public Park	• Public Park Auxiliary services • Sanitation facilities, kiosks, water towers, food and beverage outlets	• Design and locate to minimize risk from both natural and man–made hazards. • Connect the proposed parks to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • To be designed with access consideration for people of all ages and PWDs. • Prohibit construction of any building structure apart from management offices, stores and toilet facilities. • Plant ornamental indigenous tree species • Weather protection shelters positioned at strategic locations within the park.
	3_4	Proposed Botanical Garden Square	Botanical Garden and Conservation	• Prohibit any structures within this zone • Prohibit cultivation of the forest • Design of the public space should be sustainable and safeguard ecological restoration, conservation and improvement of biodiversity, increased habitat corridor potential, improved public trail access, open-space amenities, and environmental education. • Preservation of existing vegetation and consider planting of indigenous ornamental trees species and grass.

Source: UN-Habitat & TRC Technical Team

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Residential [338.72 acres]	0_1	Mixed use Medium Density Residential > 5,000 habitants/ km^2 [104.73 acres]	- Residential developments. - Mixed- Use developments [Residential-cum-commercial] Auxiliary Services: Retail commercial establishments, social infrastructures, corner shops, daycare & ECD facilities, health clinics, access routes, public utilities, green parks, children's playgrounds and service centers, warehouses, transportation picking and dropping points, restaurants, and accommodation facilities	• Maximum number of floors is 5. • Allowable plot coverage: 50% • Minimum building setbacks: Front 3m, Side 4.5m & Rear 4.5m • Minimum plot size of 50 by 100 ft (0.11 acres) • Assess and review each existing development and stipulate minimum standards for adjustment in relation with the zone requirement, in particular for any existing informal residential development • Recommended residential typologies: 3-4 floors apartments, maisonette, Bungalows Semi-detached Row housing [only existing that conform to other standards within the zone] • Provide recreation spaces and shopping areas within a radius of 100m of residential neighborhood. • New education facilities within residential area limited to ECD facilities and must be located within 500 meters from one another and must conform to other standards for educational land use purpose. • Minimum of 9m wide access road serving each residential plot • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	0_2	Low Density Residential > 2,500 hab/ km^2 [152.06 acres]	- Residential developments - Mixed residential developments Auxiliary Services: Retail commercial establishments, social infrastructures, corner shops, daycare & ECD facilities, health clinics, access routes, public utilities, green parks, children's playgrounds and service centers, warehouses, transportation picking and dropping points, Bars, cafes and Restaurant, Lodgings and accommodation facilities	• Maximum number of floors is 4. • Allowable plot coverage: 60% • Minimum building setbacks: Front 6m, Side 4.5m & Rear 4.5m • New subdivisions must ensure a minimum plot size of 0.25 acres • Assess and review each existing development and stipulate minimum standards for adjustment in relation with the zone requirement, in particular for any existing informal residential development • Recommended typologies: apartments, maisonette, Bungalows, Semi-detached and row housing [only existing that conform to other standards within the zone] • New education facilities within residential area limited to ECD facilities and must be located within 500 meters from one another and must conform to other standards for educational land use purpose. • Allow centralize shopping node and recreational space within each low-density zone. • Minimum of 9m wide access road serving each residential plot • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	0_3	Rural Residential development [100.41 acres]	- Low density residential development - Educational facilities and higher learning institution Auxiliary Services: Social infrastructures, corner shops, access routes, public utilities, children's playgrounds.	• Maximum number of floors is 3 • Allowable plot coverage: 50 – 60 % • Minimum building setbacks: Front 6m, Side 6m & Rear 6m. • New subdivisions must ensure a minimum plot size of 0.5 Acres • Minimum of 9m wide access road serving each residential plot. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Source: UN-Habitat & TRC Technical Team

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Industrial [25.92 acres]	1_1	Proposed Agro-Industry Promotion Area [16.32 acres]	- Light Industries - Bulk distribution warehouses - Logistic Center - Agro-Processing and Manufacturing buildings Auxiliary services Health center for workers and staff, open spaces for emergency response, corner shop and eatery for workers and staff.	• Maximum number of floors is 3 • Allowable plot coverage: 50% • Agro-based industrial development aimed at agriculture value addition shall be the main industrial developments within the timelines of this plan. • Compulsory building line to minimize the effects of environmental pollutants likes noise, industrial fumes, odor, dust, vibration, fire, heat, glare and other hazards. • On solid waste management, each site requires a rubbish compound/bin storage area with the actual requirements (size, construction material and location) being defined by the waste stream characteristics. Rubbish compound storage area is to be screened for public view and provide with a tap and adequate mains supply. • A comprehensive environmental assessment should be done before project commencement
	1_2	Proposed Abattoir [7.39 acres]	- Industrial building - Cold Storage facilities Auxiliary services Office for management and fee collection. Waste management facilities	• Maximum number of floors is 3. • Allowable plot coverage: 50% • Shall be located in an area which is reasonably free from objectionable odors, smoke and dust. • Provide adequate dust-proof access-ways connecting the abattoir with public. • Must be located separate from any other buildings used for other industrial use, commercial, agricultural, residential or other purposes other than connected building used for the processing of the meat. • Hygiene standards must be ensured. • Waste management should be handled appropriately as well as ensuring vermin are kept out; Waste disposal system must be of adequate size and must comply with local and general NEMA regulations as provided under EMCA (Act No. 8 of 1999); • Arrangements for the safe disposal of paunch contents, lairage manure, blood and condemned carcasses and meat must be made, and drawings and specifications must indicate how this will be accomplished. • Provide fenced cattle races from the lairages to the slaughterhouse, properly drained and in a suitable place equipped with facilities for washing the animals. • Must provide separate room for the cleaning and treatment of intestines and stomachs. • Must provide separate room for the storage, disposal and treatment of inedible and condemned animals, carcass and meat. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Source: UN-Habitat & TRC Technical Team

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Educational [217.09 acres]	2_{1-2}	Existing ECD, Primary and Secondary schools 1. ECD/Primary 2. Secondary	- Outdoor recreational facilities consistent with educational land use - Classrooms and Administration blocks - Allowed co sharing of facilities Auxiliary services Accommodation for subordinate and key staff	• Educational land use will continue to be promoted and implemented in existing education facilities • To be connected to principal pedestrian network • Vertical development encouraged for optimal land use • Encourage sharing of different education level within the same plot • All buildings to incorporate design to cater to physically challenged persons • No existing education structure/building should be upgraded to more than 3 floors during this plan's period. • Minimum of 9m wide access road for Primary and Secondary schools • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	2_{3}	Proposed Vocational Training Centre	• Classrooms and Administration blocks • Outdoor recreational facilities consistent with educational land use	• The developer should have to fulfill the conditions outlined in the Technical and Vocational Education and Training (TVET) Act 2013 • To have access by a road of a minimum of 12 meters and be connected to principal pedestrian network • All buildings to incorporate design to cater to physically challenged persons • Tuition blocks building height does not exceed 3 levels • Co-sharing of facilities is allowed • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Source: UN-Habitat & TRC Technical Team

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Educational [217.09 acres]	2_4	Proposed ECD, Primary and Secondary schools	• Outdoor recreational facilities consistent with educational land use • Classrooms and Administration blocks • Allowed co sharing of facilities Auxiliary services Accommodation for subordinate and key staff	General Guidelines: • The developer should have to fulfil the conditions outlined in the (Education Act CAP 211, Basic education act 2013 (including subsidiary regulations). • All the education institutions' developments should be approved by the County Education Officer. There shall be issuance of operation certificates from the ministry of Education or County government as provided in (a) above. • County registered Physical Planner shall inspect the site suitability for development of education institutions and make independent judgment on its suitability. • No education facility shall be occupied or operated without the approval of the county government education and physical planning departments. • Every education institution must provide minimum health facilities within the institution for first aid emergencies. • Every learning institution should provide disaster preparedness and mitigation facilities and measures • All site development plans for education facilities to incorporate runoff/ stormwater management and greenery/landscaping. Guidelines Proposed ECD facilities: • Minimum plot size: 0.1ha • Allowable plot coverage: 35% • Locate within residential neighborhoods. • Minimum of 9m wide access road. • Not to be accessed from a major road exceeding 15m; • Not on high rise buildings exceeding two levels. • Not to be located within a commercial and industrial area/premises; • All buildings to incorporate design to cater to physically challenged persons. • To be connected to principal pedestrian network. • Encourage sharing of different education level within the same plot. • Not within a commercial and industrial area/premises. Guidelines for Proposed Primary Schools: • Minimum plot size: Single stream (0.15 ha), Double stream (0.2 ha), and Triple stream (0.3 ha) ; • Minimum of 12m wide access road. • Not to be accessed from major roads exceeding 30m wide • Tuition blocks building height must not exceed 3 levels; • Not located within 100 m of a liquor outlet, marketplace, industrial park or waste management site. • Provide accommodation for subordinates and key staff for boarding schools. • Co sharing of facilities is allowed. • Vertical development is encouraged for optimal land use. Guidelines Proposed Secondary Schools. • Minimum plot size: Single stream (3.5 ha), Double stream(4.0ha) and Triple stream(4.8ha) • Day secondary schools to be located close to residential areas related to principal pedestrian networks. • Minimum of 12m wide access road. • Not to be accessed from major roads exceeding 30m wide • Tuition blocks building height must not exceed 3 levels. • Not located within 100 m of a liquor outlet, marketplace, industrial park or waste management site. • Provide accommodation for subordinate and key staff for boarding schools. • Co-sharing of facilities is allowed • Vertical development is encouraged for optimal land use

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [63.02 acres]	4_1	Proposed Governmental Offices	• Any development in line with the permitted land use	• Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads • All buildings must be designed with access consideration for people of all ages and PWDs. • 10% of the land of the existing facilities should be under tree cover to promote sustainable practices. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans
	4_2	Proposed Health Center	• Health Center	• This zone shall be for development of a Level 3 Health Center • ALL structures must be designed with access consideration for people of all ages and PWDs. • The health center shall be constructed in accordance to Ministry of Health standards for a Dispensary • Connect the zone to a municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans
	4_3	Existing Health Facilities	• As per existing Health Facilities Use	• The site will continue to be used to promote existing purposes. • Upgrading of the structure is recommended. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • Retrofit with On-site runoff/stormwater management and greenery/landscaping
	4_4	Proposed Police Post	• Any development in line with the permitted land use	• Should be located near the core administrative centers, within residential neighborhoods, as well as within large commercial and industrial areas. • Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads • To have a space requirement of 0.2 Ha (0.484 acres) • Connect the zone to municipal-wide power grid, sewer system, water

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [63.02 acres]	4_5	Proposed Social Hall	• Social Hall and Any development in line with the permitted land use Auxiliary services • Sanitation facilities, Parking spaces, public Wifi hotspot zones	• Equip the Social Hall with appropriate ICT infrastructure and technology. • All structure must be designed with access consideration for people of all ages and PWDs. • Fence the zone with live fences and landscaping within the area to improve aesthetics and tree cover within the zone. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	4_6	Proposed Multipurpose Cultural Centre	• Museum, Cultural Centre and Library • Recreational Auxiliary services Sanitation facilities, parking spaces, public Wifi hotspot zones, and eateries.	• All new development in this zone must aim to maintain and enhance the area's distinctive identity and sense of place. • This zone shall be for development of Multi-Cultural Centre including facilities such as museum and cultural center, library, social hall, shopping places and recreational areas. • Promote only architecture and urban design that serves to enhance the ongoing cultural heritage significance of the area. • To be designed with access consideration for people of all ages and PWDs. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Promote enhancement of existing or new natural environment while preserving sensitive biodiversity, cultural, heritage and historic resources
	4_7	Proposed Religious Facilities	• Any development in line with the permitted land use	• Religious activities under public purpose use shall be promoted in the religious facilities. • All buildings must be designed with access consideration for people of all ages and PWDs. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	4_8	Other Existing facilities	• As per existing use	• Religious activities under public purpose use shall be promoted in the religious facilities. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • New structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs.

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Commercial [45.17 acres]	5_1	Commercial Open/ Closed Market	- Open and Closed Market - Warehouses Auxiliary services Parking areas for vehicles, bies and motorcycles, public water points for vendor and costumers, sanitation blocks, Loading and offloading zones, Bars and Restaurant, facilities,	• Maximum number of floors is 3. • Minimum building setbacks: Front 9 m, Side 6 m and Rear 6 m • Provision of support infrastructures • All buildings must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	5_2	Commercial Retail Area	- Commercial Business and activites, Retail shops Auxiliary services - Bodaboda sheds/stops, Loading and offloading zones, Bars and Restaurant, Recreation,	• Maximum number of floors is 3. • Allowable plot coverage: 70%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • New structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans
	5_3	Mixed use Commercial Area	- Commercial Uses - Offices - Mixed use commercial developments - Residential Uses Auxiliary services Residential Offices, Bodaboda sheds/stops, Loading and offloading zones, Terminal facilities, Retail shops, Hotels and night clubs, Bars and Restaurant, Lodgings and accommodation facilities, Banks, Health facilities, Utility facilities, Recreation, Religious and other public purpose	• Maximum number of floors is 3. • Allowable plot coverage: 70%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • New structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	5_4	Proposed Livestock Market	Any type of development in line with the permitted land use	• Maximum number of floors is 3 • Allowable Plot Coverage 50%. • All buildings should observe building setbacks of not less than 9m while fronting a major road and not less than 6m while fronting secondary access roads • Open auction yards for cattle within the proposed Livestock Market • Provide extension services and adequate space for parking • New structures and new upgrading of existing structures MUST be designed with access consideration for people of all ages and PWDs. • Provide adequate water at least 250 liters of portable water per head of livestock with conveniently placed outlets • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Conservation [2494.60 acres]	8_1	Built up Tana River Riparian Reserve	Conservation	• The primary objective is to protect human life, health and provide safety from flood hazard. This zone has been identified as river riparian zone and high-risk flood zone. This plan does not recommend settlement within this zone. • Gazettement of this zone as River Tana riparian reserve & flood control zone. • Planning permits shall not provide for construction of any new building in this zone • The Municipal Management, County Government & National Government should partner and facilitate existing settlements to relocate to safer grounds within the municipality boundaries. • Other control guidelines provided for zone 8_2 SHALL apply to this zone.
	8_2	Tana River Riparian Reserve	• The area is zoned for conservation of River Tana water resources and biodiversity.	• Planting of appropriate indigenous trees and vegetation cover • Creation of stringent management rules to guide their use • Prohibit any new permanent structure within this zone • Restrict cultivation and any human activities within 30m from the highest water mark of Tana River and allow flood-controlled cultivation from 30m beyond flood prone areas within the zone. • The 30m riparian corridor MUST be uninterrupted to enhance natural vegetation growth that aid to reduce the concentrated flows to the water body and providing continuous habitat for biodiversity that require undisturbed access to food, shelter and water. • Allow and implement traditional and innovative flood mitigation projects/measures such as canals, gibbons of levees, dykes, floodwalls, impoundments, improved conveyances, acquisition & relocation of existing flood-prone properties, storm water harvesting etc.
	8_3	Proposed Conservation buffer for water network	• Green conservation buffer zone for water network.	• Plant indigenous tree species within the proposed conservation buffer zone to increase vegetation cover of the areas. • Prohibit any new permanent structure within this zone.
	8_4	Proposed Conservation Area for forest	• The area is zoned for urban forest and conservation.	• Prohibit any structures within this zone • Prohibit cultivation of the forest • Design of the riverfront public space should be sustainable and safeguard ecological restoration, conservation and improvement of biodiversity, increased habitat corridor potential, improved public trail access, open-space amenities, and environmental education. • Planting of indigenous ornamental trees species and grass.

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Agriculture [2465.20 acres]	9_1	Community Farmlands	• Agricultural • Rural homesteads and farms	• Enforce agroforestry with at least 10% tree cover (fruit trees and/or indigenous tree species) in every farm under this to promote conservation. • Allow medium and small-holder agriculture mechanization to improve productivity. • Allow for a minimum access road of 12 meters within the farms. • Allow for development of single dwelling farmhouses and farm produce collection points. • Restrict planting of eucalyptus and other tree species that have similar characteristics.
	9_2	Agriculture Extension Area	• Agricultural research center, laboratory seedlings production, training and capacity buildings. • It will be green houses, open farms, trees, capacity buildings	• Develop the area in line with the "Kenya Agricultural Sector Extension Policy" of 2023 • Institutions and facilities in the area could include experimental and demonstration farms, agricultural training institutions, Agricultural Technology Development Centers (ATDCs), Agricultural Mechanization Stations (AMSs), Aquaculture Training Institutions, Hatcheries, Efficacy Trial centers and Livestock Genetic Conservation centers
	9_3	Agriculture Livestock Area	• Any development in line with the permitted land use, such as Veterinary and vaccination office, extension offices, service department.	• Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads. • All buildings must be designed with access consideration for people of all ages and PWDs. • 10% of the land of the existing facilities should be under tree cover to promote sustainable practices. • On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans
	9_4	Agricultural Extension Services Facility	• Offices, training facility, demonstration farms, and other developments linked to the functioning of the Agriculture Extension Services Facility.	• Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads • All buildings must be designed with access consideration for people of all ages and PWDs. • 10% of the land of the existing facilities should be under tree cover to promote sustainable practices. • On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans
	9_5	Fodder Farming	• Agricultural farms and fodder production	• Allow medium and small-holder agriculture mechanization to improve productivity. • Allow for a minimum access road of 12 meters within the farms. • Allow for development of single dwelling farmhouses and farm produce collection points. • Restrict planting of eucalyptus and other tree species that have similar characteristics.

Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Utility [108.73 acres]	6_1	Proposed Muslim and Christian Cemetery [13.75 acres]	• Developments in line with the permitted land use, including religious facilities for burial processes, fencing, site offices, parking lots and other related facilities.	• Provision of support infrastructure • Land scaping with appropriate indigenous and ornamental tree species and vegetation cover. • Provide access roads and paths to facilitate movement into and within the cemetery. • The site to be connected to the municipal wide storm water drainage system. • Connect the area to electricity grid for lighting or installation of solar powered lighting. • Crematoriums, funeral homes, restaurants, banquet halls and conference facilities shall not be permitted as part of the cemetery. • The cemetery development shall meet various religious considerations and the requirements of any other applicable national, county and municipal policies, plans, regulations or by-laws.
	6_3	Existing Water Pans	• As per existing use	• Rehabilitation works
	6_3	Proposed Water Treatment Plant [11.8 acres]	• Treatment facilities, including engineering works and other developments related to the permitted land use such as offices, stores etc.	• Fencing of the facility and restrict access to ensure water safety • The site should free from flooding and the elevation of the site should permit free flow of water intake and outlet by gravity • The plant site should always be accessible to maintenance and emergency response vehicles.
	6_4	Proposed Solid Waste Transfer Station 6.0 acre]	• Transfer facility and related works, and auxiliary facilities.	• Promote recycling of solid waste • Fencing and creation of a buffer around the treatment facility planted with appropriate trees to provide for public safety, to exclude livestock, and to discourage trespassing. • No long-term storage of waste should occur at the transfer station. Waste has to be quickly consolidated and loaded into a larger vehicle and moved off site
	6_5	Proposed Disaster Response Area [2.76 acres]	• Developments in line with the permitted land use, including open ground preparations, fencing, storage for response equipment and supplies, sites for temporary shelter constructions, basic infrastructure installations, and any other related facility, and development.	• Implement only developments whose primary objective is disaster prevention, mitigation, preparedness, response and recovery. • Ensure clear and unobstructed roads and pathways leading to the site and design evacuation routes leading to the area • Plan for multipurpose and durable shelters. • Allocate space for storing emergencies and ensure clean water and portable sanitation. • Open spaces for rescue assembly, as a public park when not in use for disaster response. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system.
	6_6	Proposed Fire station	• Fire station	• The site should always be accessible to maintenance and emergency response vehicles.

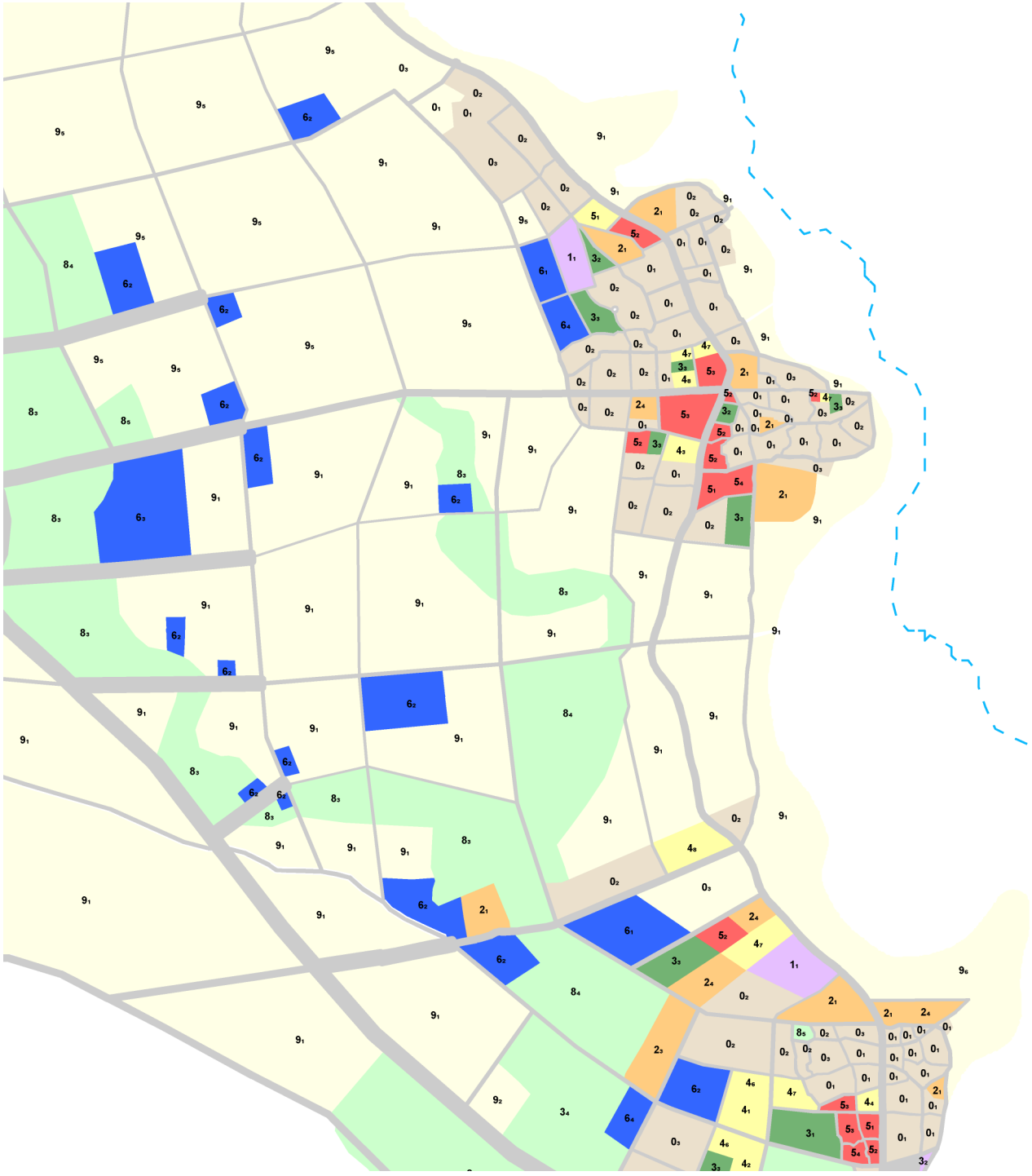
Land Use	Land Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Transportation [463.22 acres]	7_1	Proposed Bus Terminus [3.4 acres]	• Transport and supportive services • Convenient shops • Sanitation blocks • Parking Auxiliary services Support amenities such as water points, toilet facilities, eateries, information & ticketing offices etc.	• Provide access to the station for people of all ages and PWDs, • Integrate the proposed bus station with other modes of transport such as Bodaboda and NMT. • Common bays shall be preferred if average layover time is less than or equal to 20 minutes. • Angular boarding bus bays shall be preferred for optimum space utilization and allow proper turning of public buses. • Complete public ownership shall be necessitated when private participation and complete equity cannot be attracted because of locational attributes of site. • Maintenance facility for buses may not be provided inside the terminal premises in case of space constraints. • The new bus station shall be connected to municipal-wide storm water drainage, sewer, water reticulation and power grid. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	7_2	Livestock movement corridor [244.83 acres]	• Green Buffer zone for livestock movement corridor. • Section between 50 to 100 meters • No permanent structures shall be allowed on riparian reserve	• To be located at the couth of Kumbi linking towards Bura adjacent to Bura irrigation scheme and. Avoid as much as possible linking with main transport corridors and vehicular circulation networks. • To take form of nature trails along existing Lagas and linking to the main animal market area, fodder areas, and water resources • Planting of appropriate indigenous trees and vegetation cover • Creation of stringent management rules to guide their use • Prohibit any new permanent structure within this zone • Restrict cultivation within the movement corridor • The corridor must be uninterrupted to enhance natural vegetation growth
		Main Road Network [530 acres and 113 Km] Main Roads for Upgrading • Class B: 14.10 Km • Class C: 17.61 Km • Class D: 5.97 Km • Class E: 8.48 Km • Tertiary: 27.07 Km		Proposed road reserves for different road classes: • Class B: 40-60 m • Class C: 25-30 m (recommended 28 m) • Class D: 20 m • Class E: 15-20 m (recommended 16 m) • Tertiary: 10-15 m (recommended 12 m) • Residential: recommended 5-10 m Other Standards: • Observe the hierarchy of roads to promote urban characteristics and morphology in the residential areas • All access roads to provide dedicated NMT paths for use by pedestrians and cyclists • All residential units should have tarmacked or standard graded murram access roads. • stormwater management and greenery/landscaping must be integrated in design and construction of all roads.

Source: UN-Habitat & TRC Technical Team

15.7.7 Proposed Kumbi-Rhoka Layout Plan

To provide specific and detailed guidance on the implementation of the Kumbi-Rhoka secondary center, a layout plan has been designed to guide land administration and development management is proposed by this plan as shown by Map 15.16. This plan is informed by the plot sizes discussed in the land use plan.

Map 15.16 - Proposed Kumbi-Rhoka Layout Plan



Source: UN-Habitat & TRC Technical Team

15.8 BONDENI LOCAL PLAN

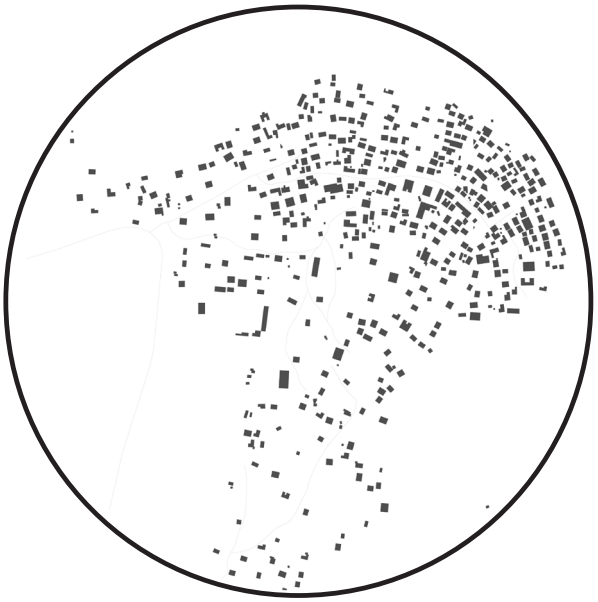
15.8.1 Purpose and Objectives of the Local Plan

The level of service offered and proposed for Bondeni presents the area as a **potential secondary center** for decentralizing Hola Municipality. A planned secondary center in this area is expected to serve communities in the existing Bondeni settlement, Kelo Kelo, Gafur, Maweni and Old Handampia. However, to develop the secondary center, a **new site is required**. Such site is considered in a site with low risk of flooding, provided flood management infrastructure is developed, and an area close to the exiting settlement which reduces negative socio-economic impacts that are associated to resettlement actions.

The Bondeni therefore seeks to:

- **Guide future development** of a new and resilient Bondeni settlement.
- **Establish a center** for decentralized services and future needs
- To **enhance the socio-economic development** of the targeted residents

Figure 15.23 - Illustration of the Assessment of Characteristics of Existing Bondeni Settlement



Source: UN-Habitat & TRC Technical Team

15.8.2 Location of the Planning Area

Bondeni is **located** 15 km away from Hola Town along the C256, Makutano_Hola _Ruka (old Malindi road) and lies within Mikinduni ward (see Map 15.17). The settlement abuts the Tana River and Kelo Kelo settlements. The new site proposed for new settlement further from the riparian reserve and a site analyzed as potentially developable with less flood risk.

The current **population** within the existing Bondeni settlement is about 3,641 inhabitants. This is projected to rise to 8560 inhabitants in the planning period.

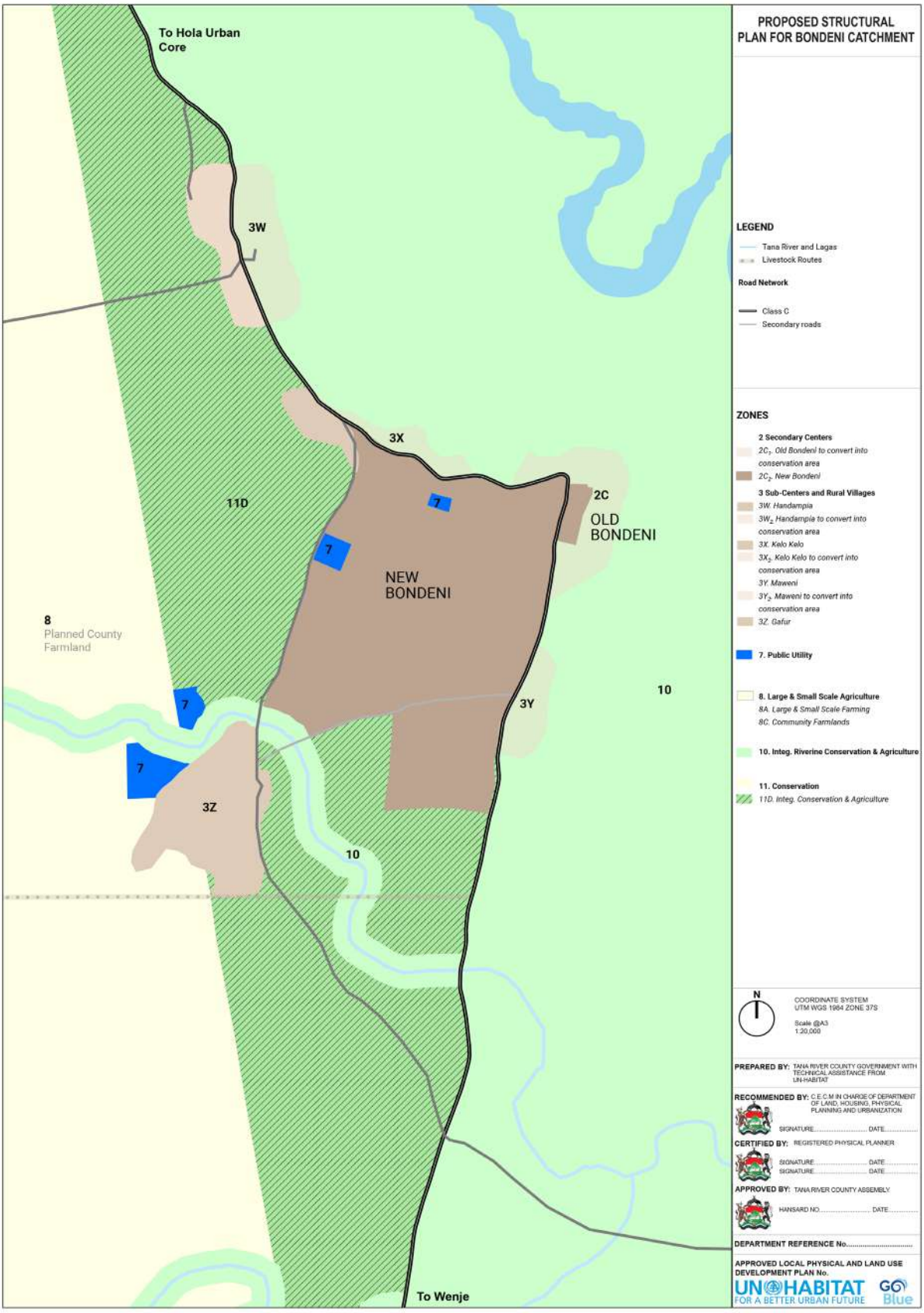
The **SDF** positions the center as a vital local economic development node for the municipality, and important for offering essential services such as administrative support, with an active commercial and trading areas, and linked to both large- and small-scale agriculture.

Bondeni planning boundary is depicted by capturing the following localities (see Table 15.21 & Figure 15.20)

Table 15.21 - Planning localities within Bondeni Center

No.	Planning Locality
1	Bondeni
2	Kelo Kelo
3	Gafur
4	Maweni
5	Extension areas
6	County Farmlands
7	Part of the Tana River Corridor
Total Area: 2731.74 Acres	

Map 15.17 - Bondeni localities



Source: UN-Habitat & TRC Technical Team

15.8.3 Area Assessment

Table 15.22 - Assesment of Characteristics of Existing Bondeni Settlement

Basic Area Assessment	Theme	Key Descriptions
Natural Environment	Topography and Terrain	- The land gently slopes eastward towards the Tana River.
	Vegetation Cover	- Dense trees cover of indigenous species at Kelo Kelo and Bondeni
	Natural Water systems	- Seasonal waterway/lagas at Gafur
	Existing Development/settlement/Land use	- Organic development - Cluster settlements – Gafur. - Livestock corridor (Gafur)
	Flood risk	- Predominant at Bondeni and Gafur areas
Projected Demand	Population (current and projected)	- Current population (6,160) - Future population (8,560)
	Existing infrastructure/Facilities	- Health centers - Education (Primary and ECDE) - Religious facilities (mosques and churches)
	Growth Direction	- linear development model along the old Malindi road and link road connecting Via Bondeni. - Growth towards the western side of Old Malindi Road – availability of land
	Existing Economic Activities	- Farming - Local business
Land Management	Land ownership	- Community owned and settlement is allocated per family
	Projected demand for land (2,300 persons – 460 new households) **Assumptions: the current population have adequate housing	- Estimated 3,450 acres (50% - 5 acres and 50% - 10 acres)
	Existing concepts of organizing space	- Community shared open spaces, water areas. - Riverine ecosystems farmland

Source: UN-Habitat & TRC Technical Team

15.8.3.1 Key Settlement Indicators

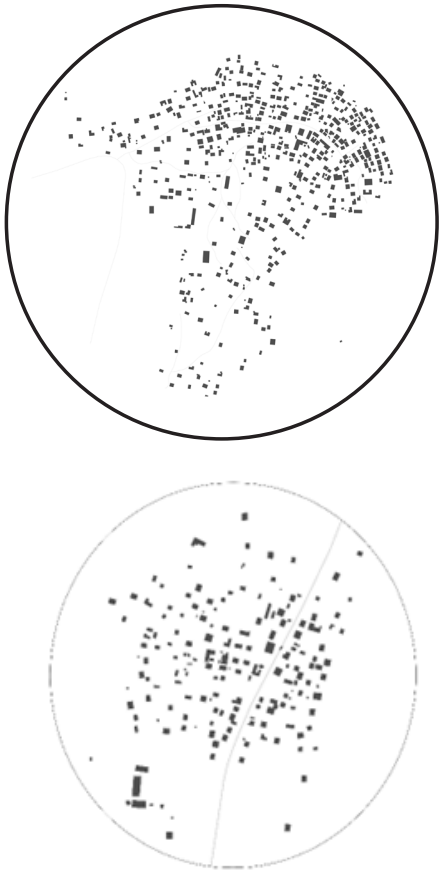
Housing and Settlement Organization

High population density and communal spatial organization characterizes the existing Bondeni settlement. However, the current site is **prone to floods** and has **limited area** for expansion.

The housing stock is also **degrading** and increasing, getting overcrowded-each household has an average of five persons per household. There are **mixed housing typologies** ranging from traditional Swahili houses made from mud and cement walls and grass thatched roofs or iron sheet

Bondeni has an **organic form** without a defined street network. The current density is at 11, 400 inhabitants per square kilometer. Average household sizes are low covering about 30m by 15m.

Figure 15.24 - Illustration on the spatial distribution of houses in Bondeni and Maweni settlement area respectively.



Source: UN-Habitat & TRC Technical Team

Figure 15.25 - Housing typologies in Bondeni Settlement



Source: UN-Habitat, Jane Muriuki, 2023.

Livelihoods and Economic Activities

Horticultural agriculture is the **primary source of income** for the community. This agriculture is primarily done across the Tana River, resulting in **high risks** associated with daily crossings across the river. A smaller part of the population earns income from teaching, administration and retail businesses.

The **center** hosts about 4.8% of the municipality's businesses, as per this plan's socio-economic survey. Most of the businesses are retail and small-scale shops. Out of the businesses, 2.9% are registered with the county government and the rest are operated informally. Additionally, the center lacks a designated market and residents access retail services in small retail shops within the settlement and is highly dependent on external markets, especially Hola Urban Center.

The population has **low-income levels**, with the majority of households earning less than Kes 5,000 per month.

Water Services

The community's **main source of water** is borehole supported by a solar water pump located at the entrance of the settlement. The demand for water is higher than the current supply and residents rely on River Tana for water.

Sanitation Services

The center currently **lacks a waste management system.** Most homesteads have a dug pit latrine for human waste disposal, while a portion of the population practices open defecation.

Education and Training

Bondeni **Primary School** provides ECDE and primary education to most of the households. The **secondary school** education is provided in Ndura Secondary School.

Figure 15.26 - Makere primary sanitation



Source: UN-Habitat, Jane Muriuki, 2023.

Opportunities and Constraints

Bondeni Center planning area is anchored on opportunities and constraints that guide the growth and development.

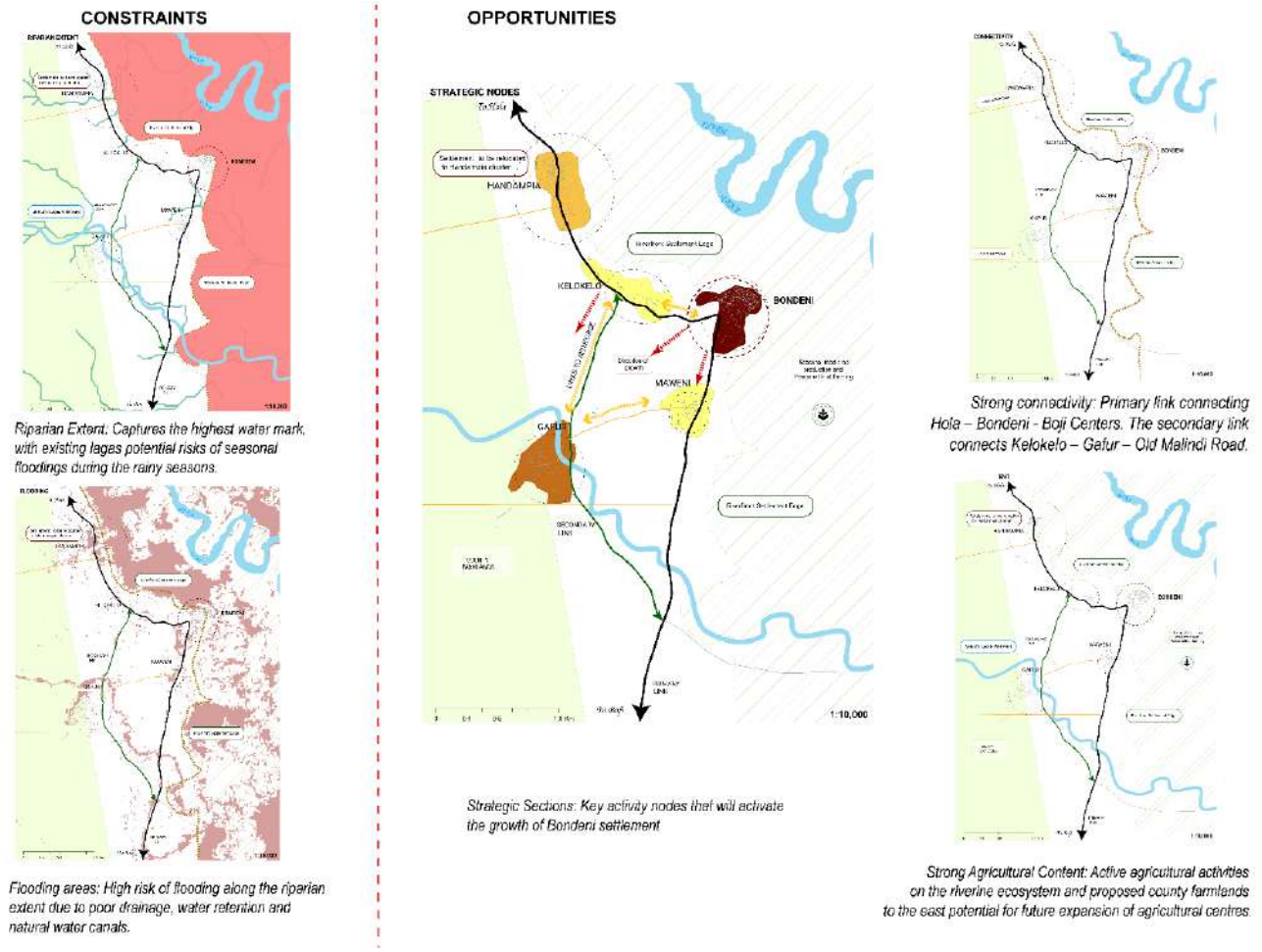
Opportunities

- **Strategic Sections:** Key activity nodes that will activate the growth of Bondeni settlement
- **Strong connectivity:** Primary link connecting Hola – Bondeni - Boji Centers. The secondary link connects Kelokelo – Gafur – Old Malindi Road.
- **Strong Agricultural Context:** Active agricultural activities on the riverine ecosystem and proposed county farmlands to the east potential for future expansion of agricultural centres.
- **Proximity**

Constraints

- **Flooding areas:** High risk of flooding along the riparian extent due to poor drainage, water retention and natural water canals.
- **Riparian Extent:** Captures the highest water mark, with existing lagas potential risks of seasonal floodings during the rainy seasons.

Map 15.18 - Illustration of opportunities and constraints in Bondeni



Source: UN-Habitat & TRC Technical Team

15.8.3.2 Land Governance

Land within the center is **communally owned** and managed through the **local management committee** (clan based). Public utilities and public purposes use get land allocation from the committee.

Households get allocated land based on a **patriarchal system** for housing development and farming activities. In these settlements, land is usually allocated equally (by size) to families.

Figure 15.27 - Participatory workshop in Bondeni p, 17th Aug 2023



Source: UN-Habitat, Jane Muriuki, 2023.

Figure 15.28 - Bondeni Primary School



Source: UN-Habitat, Jane Muriuki, 2023.

15.8.3.3 Public Participation

On August 17, 2023, a **participatory engagement session** was conducted with the community to gather their insights and priorities. In summary, the participants recommended the following:

- Due to flood risks, establish a new settlement across the existing Bondeni, while ensuring the plan preserves the indigenous trees' forest.
- Provide alternative land for agriculture (as an alternative to the limited riparian agriculture).
- Conserve the existing settlements- as a cultural heritage area for the community.
- Provide a modern livestock and fresh produce market.
- Provide water management systems.
- Increase/improve clean water supply.
- Construct and improve ECDE centers.
- Lower licenses and permit fees for trading and build a modern market.
- Ensure public participation is well executed in future planning of 'New Bondeni'.
- Create a drainage system for the new settlement.
- Enhance security in the new settlement design.
- Expand health care services.

15.8.3.4 Level of Existing Services.

Table 15.23 - Existing services within Bondeni Secondary Center

Function/Facility [public owned/provided] County Referral Hospital		Health care Facilities				Education /Training Facilities					Public Spaces & Recreational Facilities					Commercial Facilities/ Function			Civic Functions			Basic services		Religious	
		Sub-county Health Centre	Health Centre	Dispensary	College/Tertial Level Training	Secondary/High School [junior]	Secondary/High School -Senior]	Primary School	ECD	Public Playground	Public Park	Stadium	Community/Town Hall	Public/Communal Cemetery	Wholesale & Chain Stores	Public Market	Local Shops	Sub-County Offices	Ward offices	Chiefs' offices	Sewer Services	Water points	Mosque	Church	Cemetery
Mikinduni Ward	Bondeni (3,631pp)			×				×	×									×			×		×	×	
	Kelo Kelo (378pp)						×											×							
	Old Handampia (1,078pp)						×	×	×	×					×			×					×	×	×
Kinakomba Ward	Maweni (466pp)							×	×	×					×			×					×		×
	Gafur (1,666pp)							×	×	×					×			×					×		×

Service Gaps**

Source: UN-Habitat & TRC Technical Team

- ✓ Tertiary Level Training
- ✓ Public/Open Space
- ✓ Active Commercial Center (open and closed markets)
- ✓ Sewer systems
- ✓ Cemetery

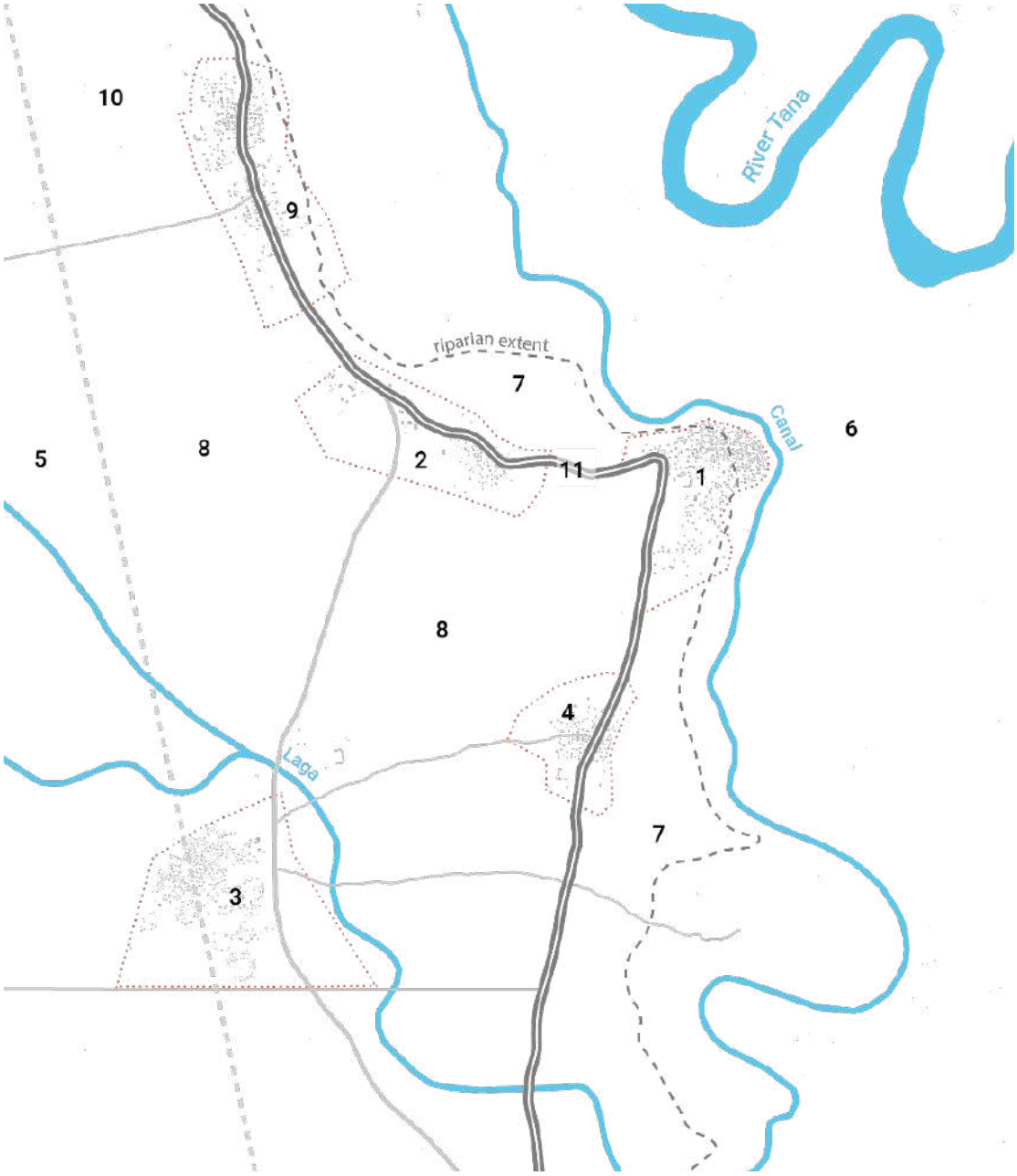
15.8.3.5 Structure and Action Plan

The Land Use and Structure Plans presents a **comprehensive set** of land use and development management guidelines. Informed by the municipal SDF and land use plan, the Bondeni plan considers several factors, such as service levels required for the secondary center, population and land use demand projections, land availability and the current land tenure system, land use suitability, integrating stakeholder concerns, pertinent regulations and policies currently in place, and taking into account recent developments and patterns.

15.8.4 Issues and Planning Recommendations

Bondeni Center encompasses the settlements of Bondeni, Gafur, Kelo Kelo, Maweni, and Old Handampia. These settlements have **evolved organically, lacking formal plans** and structures to guide their growth and development. Each settlement faces **unique challenges** that the plan must address, as outlined in Table 15.24.

Map 15.19 - Planning Context of Bondeni Settlement

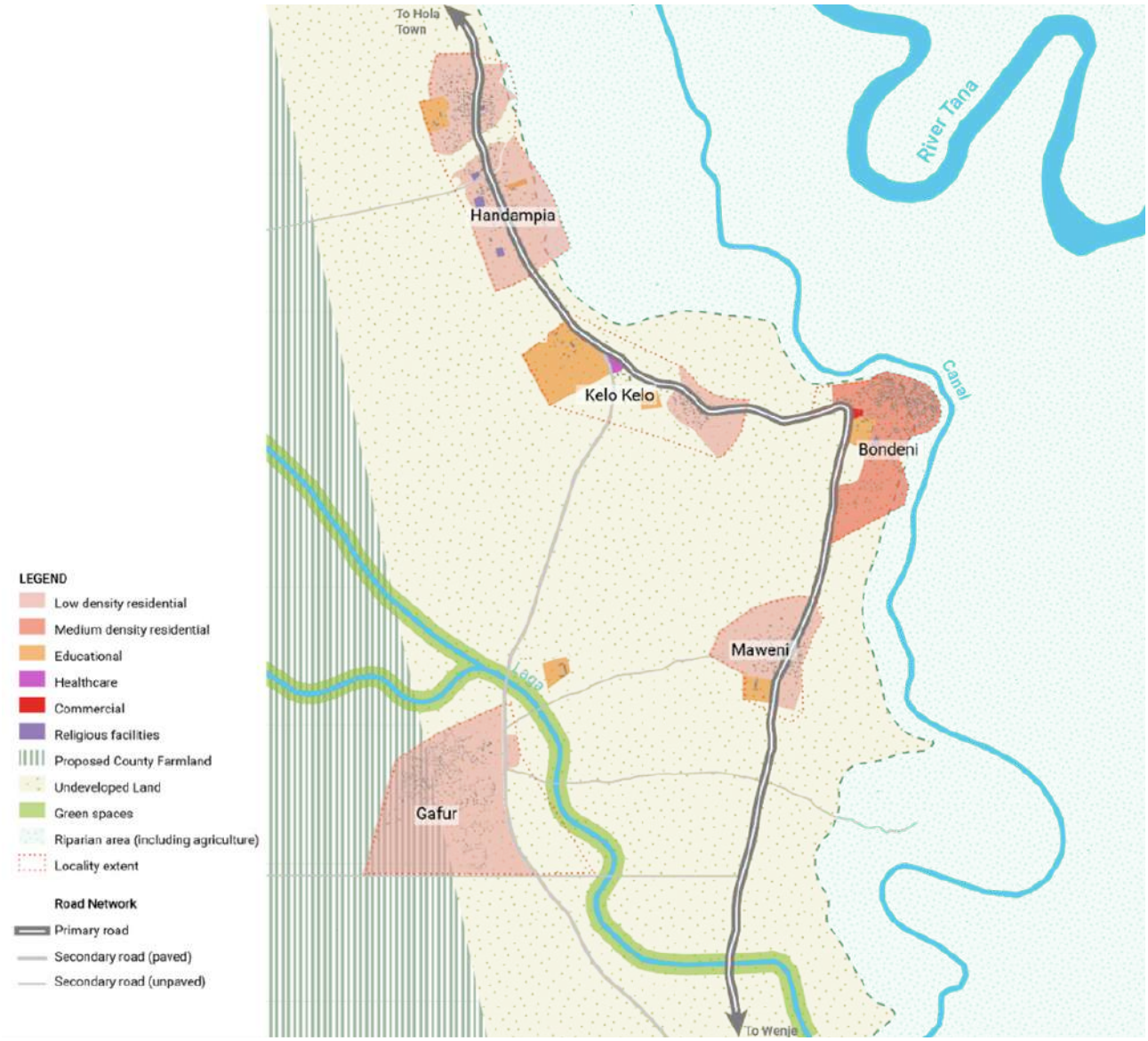


Source: UN-Habitat & TRC Technical Team

15.8.4.1 Existing Land Use Pattern

The existing situation in Bondeni is as shown below:

Map 15.20 - Existing land use in the planning area



Source: UN-Habitat & TRC Technical Team

Table 15.24 - Key Planning area description and planning recommendations

	Planning Locality	Description/Issues	Recommended Planning Interventions
1	Bondeni Population 3,641	• The zone is a key settlement center and service area for its residents and surrounding settlements. • The settlement is congested and overcrowded. • Lack of basic services and structures • The face frequent floods restricting farmers from accessing farms. • Limited connection with Hola is attributed to high transport costs. • Low-income levels • Limited accessibility within the built-up area. • Dilapidated infrastructure • Growth constrained by natural features – flooding area, indigenous trees.	• Program for relocation and resettlement in the new Bondeni for households located in high-risk areas (flooding). • Restrict any new developments within the area and promote development in the resettlement area. • Redevelopment • Municipal utility and basic service provision
2	Kelo Kelo Population 387	• The locality is a rural settlement area developing organically along the old Malindi road. • The community experience low levels of health care due to lack of adequate staff, limited equipment.	• Rural Center
3	Gafur Population 1,666	• The settlement is primarily rural settlement area partly extended within the county farmland • The locality has limited basic services and structures • Seasonal flooding • Street networks are narrow and not well defined, characterized by tracks and foot paths.	• Rural Center • Opening of the streets
4	Maweni Population 466	• The locality is a rural settlement area • The street networks within the settlements are narrow and in an organic layout. • The community has limited access to basic services	• Rural Center • Opening of the streets
5	County Farmland	• Undeveloped land proposed by the county for future agricultural potential	• Small-large scale agricultural integration
6	Tana Riparian area	• Area prone to flooding from Tana River • Intermittent small scale agricultural farms.	• Flood management and conservation. • River & Riparian reserve resource management • Seasonal food crop production and perennial fruit farming
7	Tana River corridor	• Undeveloped area abutting riparian extent. • Prone to high levels of flooding.	• Flood management and conservation. • Riparian reserve reclamation • River & Riparian reserve resource management • Seasonal food crop production
8	Undeveloped land	• Undeveloped zones abutting rural settlements	• Expansion areas for the peri-urban and rural settlements. • Promote agricultural production that will integrate to schemes with the county and municipal economic strategy
9	Handampia Population 1,078	• Existing rural settlement • The population is located within a flood prone area. • Proposed for relocation however the community lifeline is along the river	• Follow county relocation plan • Restricted Development • Disaster Risk measures
10	Handampia Expansion Area	• Open field prone to perennial flooding within the year.	• Agricultural potential
11	Road Reserve	• Existing old Malindi Road linking Hola to Bondeni – Boji.	• Proposed reserve preservation of 60m.

Source: UN-Habitat & TRC Technical Team

15.8.5 Policy Interventions and Guidance

Table 15.25 - Land Use Issues and Recommended Policies/Interventions

Land Use Issue	Concern	Assessment	Recommended Policy Guidelines/Action Needed
Residential: - Over population - Poorly planned centers - Limited access to resources	- Lack of access - Limited access to existing services and facilities	- Proper planning strategies - Detailed layout of settlements, with proper land allocation per family.	- Proper land management systems by designating land uses, regulations and development guidelines for the areas. - Encourage households in the rural areas to live in designated areas/settlements while they - Commute to their farms to facilitate efficient provision of services and security. - Enhanced land tenure systems with joint county and local land management systems. - Promote use of appropriate technologies and programs in advocating for improvement of rural shelter
Industrial: - Lack of a defined industrial land	- Low production - Lack of employment opportunities	- Create industrial nodes for value addition.	- Delineate industrial land use zones (light and heavy industry)
Educational: - Undefined extents of the primary facility - Poor sanitation systems (lack of water, clean latrines). - Limited staff and equipment	- Encroachment and land grabbing - Poor urban health	- Proper identification and management of all education facilities - Identify future spaces for schools (tertiary) for the community	- Define and delineate all education facilities - Set aside land for future education centres development (ECDE and tertiary institution)
Recreational: - Poorly defined public spaces - Underdeveloped and underutilized public spaces	- Lack of recreational sites	- Defining the open and public spaces to promote use	- Delineating open and public spaces - Promote design elements for the public facility
Public purpose - Undefined extents of health facilities, government offices.	- Encroachment and public land grabbing - Underutilization of land	- Proper identification of the public needs for land allocation.	- Delineate public land for government offices and health facilities.
Commercial - undefined commercial nodes. - Unexploited revenue sources	- Loss pf possible revenue - Limited access to commercial spaces.	- Proper identification of commercial zones: open and closed markets and mixed-use zones.	- Develop strategies for encouraging local economic developments (LED).

Land Use Issue	Concern	Assessment	Recommended Policy Guidelines/Action Needed
Public Utility - Lack of defined and adequate land for cemeteries - Limited water management system and infrastructure	- Limited access to basic services (water) - Environmental degradation due poor waste management systems	- Identification of zones for waste management - Develop a decentralized water reticulation system.	- Adhere to minimum standards related to provision of water, sanitation, waste management and lighting. - Encourage incremental construction to achieve. - Establish independent service units to manage the delivery of basic services.
Transportation: - Narrow and Constrained roads - Undefined paths and road reserves - Lack of a public terminus	- Poor connectivity within the centers and to other parts of the municipality	- Clearly defining the road network system. - Establish public nodes on the main axis and formal bus stop area.	- Open up (widen) local roads. - Upgrading roads to bitumen standards
Agriculture: - Over exploitation of existing land - Poor farming practices - Periodic flooding affect produce - Wastage of produce in high seasons		- Promote sustainable farming practices - Limit the farming areas to designated zones - Periodic capacity building to the community on best farming practices - Establish an agricultural office permanently in the region. - Diversity farming products and activities. - Develop cold room facilities and value addition centres within the area.	- Designated farming zones with detailed regulations for agriculture. - Register farmers within the area.

Source: UN-Habitat & TRC Technical Team

15.8.6 Land use considerations and Justifications

The proposed plan for a secondary center envisions a **mix of land uses.** Table 15.26 describes these land uses, their justification and overall development guidelines.

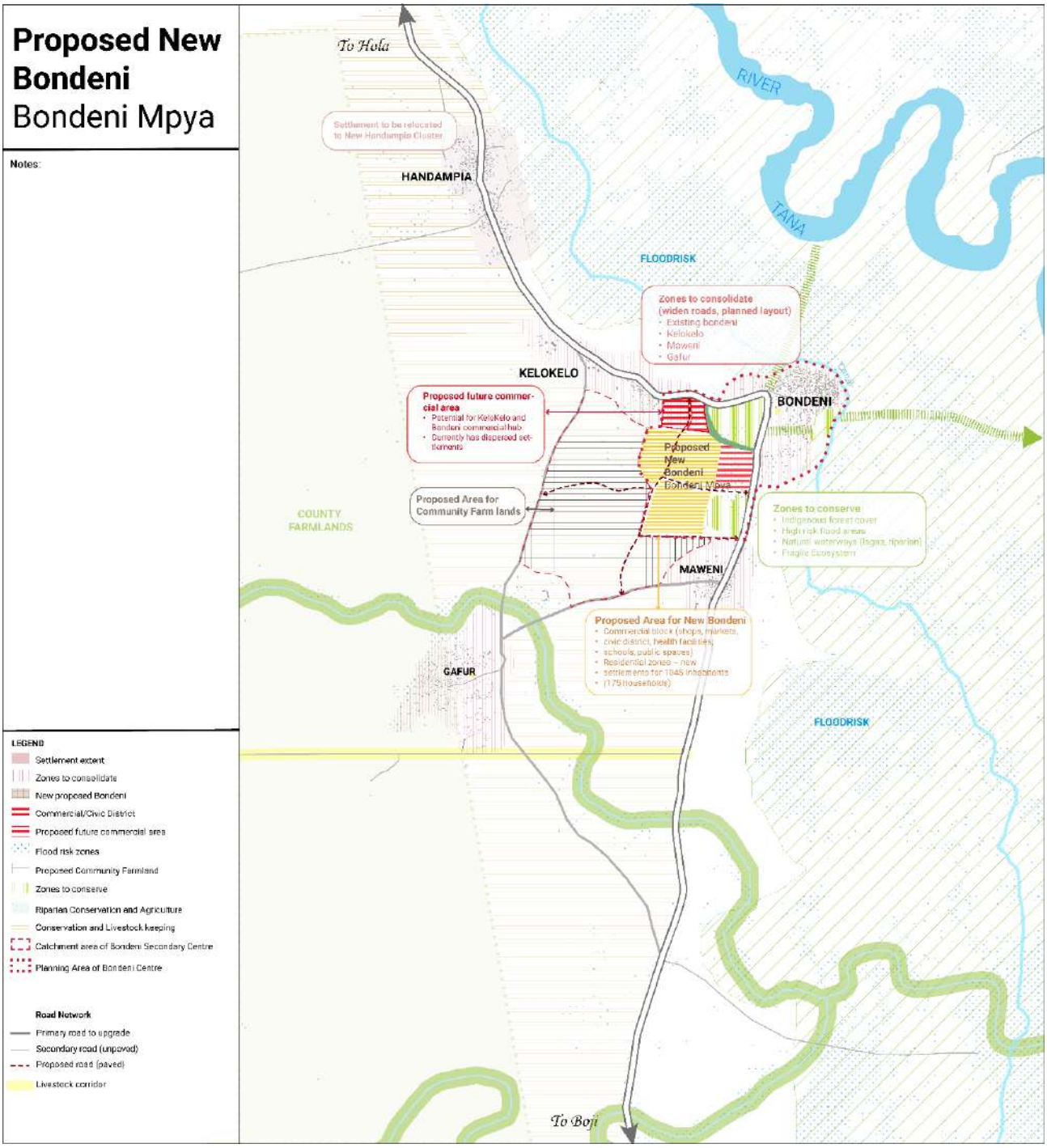
Table 15.26 - 'New Bondeni' land use zones, justifications and development guidelines

General Land use zone	Description and Justification	General Guidelines for Proposed developments
Proposed Future Commercial Area Bondeni Civic District	This zone is set aside to control future urban development and expansion of Bondeni secondary center. It is the civic district for the center and promotes development of commercial activities.	• High and medium density residential • Commercial developments and offices • Mixed use: Commercial–cum-residential, commercial-cum-light industries. • Administrative and public purpose uses • Public utilities land uses • Open-air and closed markets • Open spaces and recreational uses • Transportation purposes • Educational and Health purposes • Accommodation and tourist facilities
Proposed New Bondeni	A new site, with adequate land to resettle the existing Bondeni settlement, accommodates future population, while providing land for alternative farming (irrigated) and an area away from the flooding zones.	• Medium and low density residential • Mixed use: Commercial –cum-residential
Zones to consolidate Maweni Kelokelo Gafur	This entails existing villages within the urban extended area. The growth of these areas will be confined within the proposed zone limit/boundary. The plan is tailored to promote development and growth within these zones, aiming at further decentralizing services from the urban core and promote rural development of the municipality	• Medium and low density residential • Mixed use: Commercial–cum-residential • Public purpose and public utilities use • Periodic open-air markets and animal auction yards • Open spaces and recreational uses • Educational and Health purposes
Proposed Community Farmland Integrated Mixed Use Industrial Development Future integrated industrial and mixed-use development zone	Areas within the settlement suitable for agricultural practices.	• Agro-based processing industries • Low density rural residential homesteads (5-10 acres) • Retain existing infrastructure and social facilities • Conservation agriculture • Agricultural produce collection and aggregation nodes. • Agricultural extension services • Rural development • Agro-based processing industries • Flood control and disaster mitigation facilities

General Land use zone	Description and Justification	General Guidelines for Proposed developments
Flood risk zone	Areas prone to flood risk during the rainy seasons.	• Zone to be used for Disaster Risk Management only. • Implement only developments whose primary objective is disaster prevention, mitigation, preparedness, response and recovery. • Open spaces for rescue assembly • Connect the zone to municipal-wide storm water drainage system. • Allow and implement traditional and innovative flood mitigation projects/measures such as gibbons of levees, dikes, floodwalls, impoundments, improved conveyances, acquisition & relocation of flood-prone properties, stormwater harvesting etc. • Prohibit development of any new physical development for residential, commercial, industrial and educational uses.
Large- and Small-scale farming Community Farmlands County Farmlands	Integrated within the community lands and the proposed county farmlands.	• Large scale and small-scale Agriculture • Low density rural residential homesteads* • Retain existing physical infrastructure and social facilities (roads, canals, schools, religious places, water points etc.) • Conservation agriculture • Agricultural produce collection and aggregation nodes.
Settlement to relocate	The location identifies the Handampia settlement that is planned for relocation to new Handampia cluster located on the East of the B8 road.	• Prohibit new commercial, industrial and residential developments. • Small scale subsistence and commercial agriculture
Integrated Riverine Conservation and Agriculture - Tana River Riparian corridor - Lagas buffer	Within the river corridor up to the highest water mark.	• Conservation of water resources and riparian reserve • Eco-Tourism activities • Small scale subsistence and commercial agriculture • Conservation and Agroforestry practices • Prohibit new commercial, industrial and residential developments • Flood control and disaster mitigation facilities • Prohibit unsustainable exploitation of water and vegetative resources on rivers, lagas and their respective riparian reserves.
Zones to conserve	Areas within highly sensitive biodiversity corridors.	• Grazing and natural fodder production • Rural hamlets and homesteads • -Integrated conservation measures • -Livestock -production and raring • Conservation practices • Flood control and disaster mitigation measures • Small scale agriculture and agroforestry
Livestock corridor	Existing routes used by livestock farmers.	• Livestock crossing and grazing fodder

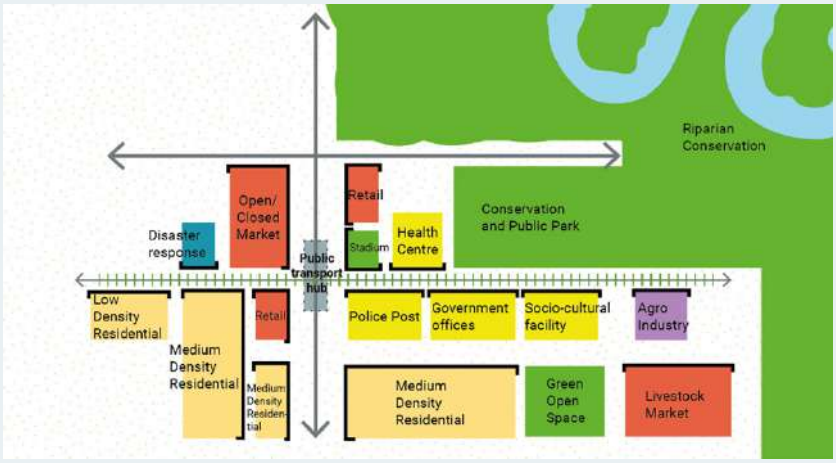
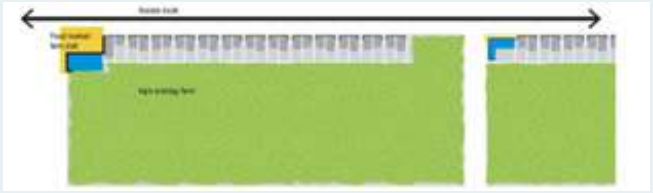
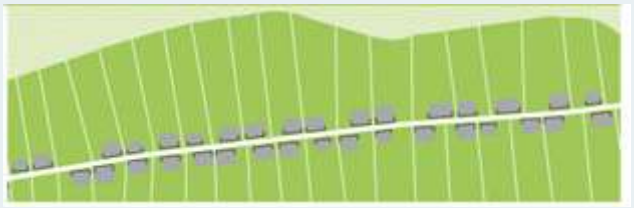
Source: UN-Habitat & TRC Technical Team

Map 15.21 - Proposed Structural Plan for Bondeni Center



Source: UN-Habitat & TRC Technical Team

Table 15.27 - A detailed structuring element for the structure plan

Structuring Elements	Descriptions
1. **Commercial/Civic Centre** 	- Proposed commercial blocks fronting the streets. - Second row of blocks encompass mixed development with commercial cum residential - Minimum plot sizes recommended is 0.25 acres. - Proposed civic district with government office blocks, public transport node, social activities, open market and a multifunctional green open space.
2. **Residential Zones**	
Urban (concept of the small blocks subdivision with arterial street design) 	- Proposed 0.5 – 1 acres of land blocks. - Proper service access to the blocks with minimum street width of 12m.
Peri Urban 	- Proposed 1-2 acres of land per family. - Settlements promoting Urban agriculture.
Rural 	- Proposed 5-10 acres developments. - Recommended large scale (commercial) agriculture for fruits, vegetables. - Land can be allocated under leases with clear conditions.

Source: UN-Habitat & TRC Technical Team

15.8.7 Spatial Strategy

Bondeni settlement faces **spatial challenges** such as overcrowding, flooding, narrow access routes that have increased disaster for the population lowering the quality of life and economic growth of the center.

15.8.7.1 Guiding Principles for Regulated Development

The approach of this plan is to facilitate a shift from the current unplanned growth and uncoordinated planning interventions to a consolidated planning framework. This **regulated development** seeks achieve:

- **Adequate Accessibility:** All developments, properties and residents must have adequate access.
- **Guide development:** All developments must align to or with policies, standards and other development tools to achieve the desired outcomes
- **Public Health and Safety:** All developments should promote human health, safety and well-being and result in healthier communities.
- **Resilience and Adaptability:** All developments must be established in a manner that promotes the ability to recover and adapt rapidly from disaster impacts and stress with ease.
- **Sustainability:** All developments must ensure protection of biodiversity, conservation of environmentally sensitive areas and optimum utilization of resources without compromising the needs of the future generation.
- **Orderly growth:** Promote orderly developments and aesthetic values, that it will be good to see, visually impressive and predictable patterns that can assist in prediction of needs and user capacity.
- **Promote quality:** Set standards provide for utilities of premium, permissible standards, competitive to meet preferred threshold.

15.8.7.2 Key Policies

Table 15.28 - A table of Key Policies integrated in the Plan

Policy	Requirement
National Urban Development Policy	• Improve access to quality land for urban area development • Guide the development of the requisite services and infrastructure • Support the development of affordable housing of acceptable quality • Promote disaster risk management to enhance urban safety and security • String governance systems and capacity building at the community level
National Housing Policy sessional paper No. 3, 2016	• Support sustainable mixed-income housing developments • Establish mechanisms for provision of adequate and affordable housing • Support adequate growth, maintenance and improvement of housing stock to meet the housing needs • Encourage use of appropriate and low-cost building materials and technologies
National Urban Policy	• Compact, integrated, connected, resilient and socially inclusive urban areas • Integration of governance, infrastructure, basic services and urban financing in the planning process. • Promote efficient and transparent land management system. • Promote local economic development for job creation. • Inter-connect transportation. • Plan urban peripheries alongside the respective urban areas.
National spatial plan	• Integrate the industrialization process and environment conservation. • Provide an integrated, efficient, reliable and sustainable road transport infrastructure. • Increase availability of clean water and improve sanitation. • Discharge of safe/ clean industrial waste into water bodies shall be encouraged. • Promotes intensified Agriculture/food production in Hola through the irrigation schemes • Sustainable use and exploitation of natural resources. • Environmental conservation. • Increased investment in social and physical infrastructure

Source: UN-Habitat & TRC Technical Team

15.8.7.3 Key Regulations

Table 15.29 - Table of Key Regulations Integrated in the Plan

Regulation	Requirement
The Constitution of Kenya	• Article 60: Land shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable, and in accordance with the National Land Policy. • Article 66:Regulation of use of any land, interest in or right over land in the interest of defense, public safety, public order, public morality, public health or land use planning. • Section 21 of Part I the Fourth Schedule – General principles of planning and the coordination of planning by counties • Section 8 of Part II of the Fourth Schedule - planning and development
PLUPA- Development Control Stipulations	• Guidelines on the actions when undertaking a commercial, residential, industrial and institutional development project within the centre. • Ensure an orderly physical and land use development of the settlement. • Identify zones for conservation and protection. • Formulate by-laws to regulate zoning in respect of use and density of development. • Reserve and maintain all the land planned for open spaces, parks, urban forests and green belts in accordance with the approved physical and land use development plans.
Urban areas and Cities Act, UACA	• Requirements of a town area within a municipality • Guide the plan preparation at local level with proper land use and infrastructure development. • Provides mandate for the land subdivision, zoning, and development control
County Governments Act 2012	• Section 104 – county governments have an obligation to plan and promote citizen participation in the planning process. • Section 105 – coordinating integrated development planning within the county and effective implementation of the planning function • Section 107- to guide development, counties to prepare County Integrated Development Plans, County Sectoral Plans, County Spatial Plans, and Cities and Urban Area Plans. • Section 110 (2) (f) – delineate urban edges and formulate strategies of managing urban rural interfaces • Section 111 (2) - municipal plans shall be the instrument for development facilitation and development control within the respective city or municipality.
EMCA, 1999 (Revised 2015)	• Section 42 and 43 - conservation of water resources. Allowable development in these areas is only possible after an Environmental Impact Assessment and written approval of the Director General. • Protection of hill and mountainous areas (47), forests (48), use of renewable energy (49), biological diversity and genetic resources (50-54), are also outlined in EMCA.
The Physical and Land Use Planning (Building) Regulations, 2021	• Adhere to development guidelines provided for buildings plans, public facilities and infrastructure.
The Tana River County Livestock Grazing Control Act, 2017	• Enforcing grazing areas • Appropriating grazing permit to pastoral communities
The Tana River County Agriculture Development Act, 2016	• facilitate the growth and development of agriculture and veterinary services in the county. • Established the Tana • River Agriculture Development Authority – oversight for agricultural funds in the county.
Community Lands Act, 2016	• Complements the management of community land. • Advises the registration of community lands with the Registrar and advises the formation of the Community Land Management Committee (CLMC) to create a comprehensive register of its members and their land interests. • Enforces the designation of land uses for various purposes such as farming, settlement, conservation, cultural heritage, urban development, and other public interest initiatives. • Ensures alignment of community land laws to national and county laws related to forestry, fisheries, wildlife, environment, and mining.

Source: UN-Habitat & TRC Technical Team

15.8.8 Proposed Bondeni Land Use Plan

Bondeni land use plan has proposed 10 key land use zones as indicated by Table 15 -B. 19.

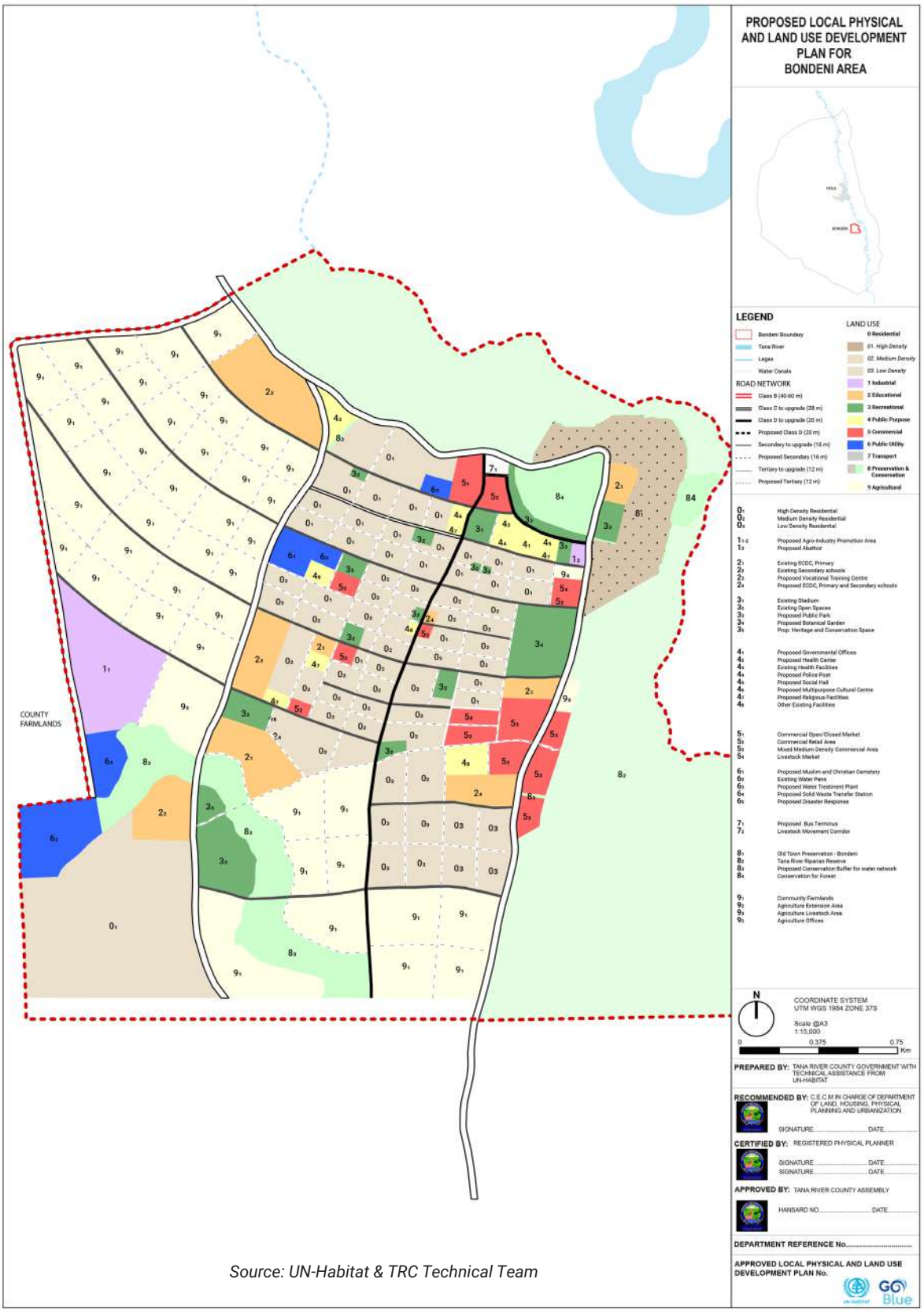
Table 15.30 - Table of each land use category and the planning guidelines/regulations / management priorities that apply

Land Use Code	Applicable Development Category	Proposed Developments
0	Residential	• Medium Density > 4,000 hab/km^2 [110 acres] • Low Density > 1,000 hab/km^2 [230 acres] • A design of a building shall provide adequate structural resistance, serviceability, durability and reliability.
1	Industrial	• Proposed Light Industrial Zone [20 acres] • Abattoir [4 acres]
2	Educational	• Proposed 2 ECDE facilities [10 acres] • Proposed University [30 acres]
3	Recreational	• Proposed multifunctional Open space [10 acres[1]] • 15% of the land should be public space (streets, recreation)
4	Public Purpose	• Proposed civic center [25 acres] • Proposed police post – [5 acres]
5	Commercial	• Proposed commercial blocks • Open market area • Livestock market
6	Public Utility	• Cemetery land [10 acres] • Waste collection/processing center [10 acres] • Water treatment plant [10 acres]
7	Transport	• Widening of roads • Public transport
9	Agriculture	• Proposed small scale farming with residential settlements [280 acres] • Proposed large scale farmland [230 acres]
10	Conservation	• Flood prone areas will be marked or conservation • Areas with indigenous vegetation • Lagas and water ways will be preserved as conservation areas

1 Recommended WHO 9 inhabitants per sqm. UN-Habitat. (2018). Developing Public Space and Land Values in Cities and Neighbourhoods. Discussion Paper.

Source: UN-Habitat & TRC Technical Team

Map 15.22 - Proposed Bondeni land use Plan



Source: UN-Habitat & TRC Technical Team

15.8.8.1 Detailed Description of the Land Use Plan

Table 15.31 - Detailed Description of the Land Use Plan

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Residential [501.42 acres]	0_1	Mixed use Medium Density Residential > 5,000 habitants/ km^2 [273.85 acres]	- Residential developments. - Mixed- Use developments [Residential-cum-commercial] Auxiliary Services: Retail commercial establishments, social infrastructures, corner shops, daycare & ECD facilities, health clinics, access routes, public utilities, green parks, children's playgrounds and service centers, warehouses, transportation picking and dropping points, Bars and Restaurant, Lodgings and accommodation facilities	• Maximum number of floors is 5. • Allowable plot coverage: 50% • Minimum building setbacks: Front 3m, Side 4.5m & Rear 4.5m • Minimum plot size of 50 by 100 ft (0.11 acres) • Assess and review each existing development and stipulate minimum standards for adjustment in relation with the zone requirement, in particular for any existing informal residential development • Recommended residential typologies: 3-4 floors apartments, maisonette, Bungalows Semi-detached Row housing [only existing that conform to other standards within the zone] • Provide recreation spaces and shopping areas within a radius of 100m of residential neighborhood. • New education facilities within residential area limited to ECD facilities and must be located within 500 meters from one another and must conform to other standards for educational land use purpose. • Minimum of 9m wide access road serving each residential plot • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	0_2	Low Density Residential > 2,500 hab/ km^2 [167.60 acres]	- Residential developments - Mixed residential developments Auxiliary Services: Retail commercial establishments, social infrastructures, corner shops, daycare & ECD facilities, health clinics, access routes, public utilities, green parks, children playgrounds and service centers, warehouses, transportation picking and dropping points, Bars, cafes and Restaurant, Lodgings and accommodation facilities	• Maximum number of floors is 4. • Allowable plot coverage: 60% • Minimum building setbacks: Front 6m, Side 4.5m & Rear 4.5m • New subdivisions must ensure a minimum plot size of 0.25 acres • Assess and review each existing development and stipulate minimum standards for adjustment in relation with the zone requirement, for any existing informal residential development • Recommended typologies: apartments, maisonette, Bungalows, Semi-detached and row housing [only existing that conform to other standards within the zone] • New education facilities within residential area limited to ECD facilities and must be located within 500 meters from one another and must conform to other standards for educational land use purpose. • Allow centralize shopping node and recreational space within each low-density zone. • Minimum of 9m wide access road serving each residential plot • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Residential [501.42 acres]	0_3	Rural Residential development [60.00 acres]	- Low density residential development - Educational facilities and higher learning institution Auxiliary Services: Social infrastructures, corner shops, access routes, public utilities, children's playgrounds.	• Maximum number of floors is 3 • Allowable plot coverage: 50 -60% • Minimum building setbacks: Front 6m, Side 6m & Rear 6m. • New subdivisions must ensure a minimum plot size of 0.5 Acres • Minimum of 9m wide access road serving each residential plot. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Source: UN-Habitat & TRC Technical Team

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Industrial [52.13 acres]	1_1	Proposed Agro-Industry Promotion Area [50.37acres]	- Light Industries - Bulk distribution warehouses - Logistic Center - Agro-Processing and Manufacturing buildings Auxiliary services Health centre for workers and staff, open spaces for emergency response, corner shop and eatery for workers and staff	• Maximum number of floors is 3 • Allowable plot coverage: 50% • Agro-based industrial development aimed at agriculture value addition shall be the main industrial developments within the timelines of this plan. • Compulsory building line to minimize the effects of environmental pollutants likes noise, industrial fumes, odor, dust, vibration, fire, heat, glare and other hazards. • On solid waste management, each site requires a rubbish compound/bin storage area with the actual requirements (size, construction material and location) being defined by the waste stream characteristics. Rubbish compound storage area is to be screened for public view and provide with a tap and adequate mains supply. • A comprehensive environmental assessment should be done before project commencement
	1_2	Proposed Abattoir [1.75 acres]	- Industrial building - Cold Storage facilities Auxiliary services Office for management and fee collection. Waste management facilities	• Maximum number of floors is 3. • Allowable plot coverage: 50% • Shall be located in an area which is reasonably free from objectionable odours, smoke and dust. • Provide adequate dust-proof access-ways connecting the abattoir with public. • Must be located separate from any other buildings used for other industrial use, commercial, agricultural, residential or other purposes other than connected building used for the processing of the meat • Hygiene standards have to be ensured. • Waste management should be handled appropriately as well as ensuring vermin are kept out ; Waste disposal system must be of adequate size and must comply with local and general NEMA regulations as provided under EMCA (Act No. 8 of 1999); • Arrangements for the safe disposal of paunch contents, lairage manure, blood and condemned carcasses and meat must be made and drawings and specifications must indicate how this will be accomplished. • Provide fenced cattle races from the lairages to the slaughterhouse, properly drained and in a suitable place equipped with facilities for washing the animals. • Must provide separate room for the cleaning and treatment of intestines and stomachs. • Must provide separate room for the storage, disposal and treatment of inedible and condemned animals, carcass and meat. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Educational [117.00 acres]	2_{1-2}	Existing ECD, Primary and Secondary schools 1. ECD/ Primary 2. Secondary	• Outdoor recreational facilities consistent with educational land use • Classrooms and Administration blocks • Allowed co sharing of facilities Auxiliary services Accommodation for subordinate and key staff	• Educational land use will continue to be promoted and implemented in existing education facilities • To be connected to principal pedestrian network • Vertical development encouraged for optimal land use • Encourage sharing of different education level within the same plot • All buildings to incorporate design to cater to physically challenged persons • No existing education structure/building should be upgraded to more than 3 floors during this plan's period. • Minimum of 9m wide access road for Primary and Secondary schools • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	2_3	Proposed Vocational Training Centre	• Classrooms and Administration blocks • Outdoor recreational facilities consistent with educational land use	• The developer should have to fulfill the conditions outlined in the Technical and Vocational Education and Training (TVET) Act 2013 • To have access by a road of a minimum of 12 meters and be connected to principal pedestrian network • All buildings to incorporate design to cater to physically challenged persons • Tuition blocks building height does not exceed 3 levels • Co-sharing of facilities is allowed • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Source: UN-Habitat & TRC Technical Team

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Educational [117.00 acres]	2_4	Proposed ECD, Primary and Secondary schools	• Outdoor recreational facilities consistent with educational land use • Classrooms and Administration blocks • Allowed co sharing of facilities Auxiliary services • Accommodation for subordinate and key staff	General Guidelines: • The developer should have to fulfil the conditions outlined in the (Education Act CAP 211, Basic education act 2013 (including subsidiary regulations). • All the education institutions' developments should be approved by the County Education Officer. There shall be issuance of operation certificates from the ministry of Education or County government as provided in (a) above. • County registered Physical Planner shall inspect the site suitability for development of education institutions and make independent judgment on its suitability. • No education facility shall be occupied or operated without the approval of the county government education and physical planning departments. • Every education institution must provide minimum health facilities within the institution for first aid emergencies. • Every learning institution should provide disaster preparedness and mitigation facilities and measures. • All site development plans for education facilities to incorporate run-off/stormwater management and greenery/landscaping. Guidelines Proposed ECD facilities: • Minimum plot size: 0.1ha • Allowable plot coverage: 35% • Locate within residential neighborhoods. • Minimum of 9m wide access road. • Not to be accessed from a major road exceeding 15m; • Not on high rise buildings exceeding two levels. • Not to be located within a commercial and industrial area/premises; • All buildings to incorporate design to cater to physically challenged persons. • To be connected to principal pedestrian network. • Encourage sharing of different education level within the same plot. • Not within a commercial and industrial area/premises. Guidelines for Proposed Primary Schools: • Minimum plot size: Single stream (0.15 ha), Double stream (0.2 ha), and Triple stream (0.3 ha) ; • Minimum of 12m wide access road. • Not to be accessed from major roads exceeding 30m wide • Tuition blocks building height must not exceed 3 levels; • Not located within 100 m of a liquor outlet, marketplace, industrial park or waste management site. • Provide accommodation for subordinate and key staff for boarding schools. • Co sharing of facilities is allowed. • Vertical development is encouraged for optimal land use. Guidelines Proposed Secondary Schools; • Minimum plot size: Single stream (3.5 ha), Double stream(4.0ha) and Triple stream(4.8ha) • Day secondary schools to be located close to residential areas related to principal pedestrian networks • Minimum of 12m wide access road. • Not to be accessed from major roads exceeding 30m wide • Tuition blocks building height must not exceed 3 levels; • Not located within 100 m of a liquor outlet, marketplace, industrial park or waste management site. • Provide accommodation for subordinate and key staff for boarding schools. • Co-sharing of facilities is allowed. • Vertical development is encouraged for optimal land use

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Recreational [86.20 acres]	3_1	Proposed Stadium [4.40 acres]	• Football Stadium	• Develop stadium to Football Kenya Federation (FKF) Standards. • Develop stadium terraces to a capacity of around 1,000 other support facilities such as changing rooms, lavatories, PWD support facilities etc. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Provide auxiliary services as car parking spaces
	3_2	Proposed Open Spaces	• Maintain as per existing use	• Creation of stringent management rules to guide their use. • Enhance the natural environment and view sheds through existing open space design while preserving sensitive biodiversity, cultural, religious and historic resources. • Planting of indigenous ornamental trees species and grass. • Outdoor play facilities. • Installation of sitting benches and lighting. • Proper and constant maintenance. • Connect the space to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Improve open space based on landscaping plans that incorporate on-site runoff/ stormwater management.
	3_3	Proposed Public Park	• Public Park Auxiliary services • Sanitation facilities, kiosks, water towers, food and beverage outlets	• Design and locate to minimize risk from both natural and man–made hazards. • Connect the proposed parks to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • To be designed with access consideration for people of all ages and PWDs. • Prohibit construction of any building structure apart from management offices, stores and toilet facilities. • Plant ornamental indigenous tree species • Weather protection shelters positioned at strategic locations within the park.
	3_4	Proposed Botanical Garden Square	• Botanical Garden and Conservation	• Prohibit any structures within this zone • Prohibit cultivation of the forest • Design of the public space should be sustainable and safeguard ecological restoration, conservation and improvement of biodiversity, increased habitat corridor potential, improved public trail access, open-space amenities, and environmental education. • Preservation of existing vegetation and consider planting of indigenous ornamental trees species and grass.

Source: UN-Habitat & TRC Technical Team

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Utility [53.36 acres]	6_1	Proposed Muslim and Christian Cemetery [8.35 acres]	• Any type of development in line with the permitted land use	• Provision of support infrastructure • Land scaping with appropriate indigenous and ornamental tree species and vegetation cover. • Provide access roads and paths to facilitate movement into and within the cemetery. • The site to be connected to the municipal wide storm water drainage system. • Connect the area to electricity grid for lighting or installation of solar powered lighting. • Crematoriums, funeral homes, restaurants, banquet halls and conference facilities shall not be permitted as part of the cemetery. • The cemetery development shall meet various religious considerations and the requirements of any other applicable national, county and municipal policies, plans, regulations or by-laws.
	6_3	Existing Water Pans	• As per existing use	• Preservation and Implemented rejuvenation of existing pans through desiltation process to maximum capacity as a measure to harvest surplus flood water during rainy seasons
	6_3	Proposed Water Treatment Plant [10.9 acres]	• Any type of development in line with the permitted land use	• Fencing of the facility and restrict access to ensure water safety • The site should free from flooding and the elevation of the site should permit free flow of water intake and outlet by gravity • The plant site should always be accessible to maintenance and emergency response vehicles.
	6_4	Proposed Solid Waste Transfer Station [2.79 acre]	• Any type of development in line with the permitted land use	• Promote recycling of solid waste • Fencing and creation of a buffer around the treatment facility planted with appropriate trees to provide for public safety, to exclude livestock, and to discourage trespassing. • No long-term storage of waste should occur at the transfer station. Waste has to be quickly consolidated and loaded into a larger vehicle and moved off site
	6_5	Proposed Disaster Response Area [2.85 acres]	• Any type of development in line with the permitted land use	• Implement only developments whose primary objective is disaster prevention, mitigation, preparedness, response and recovery. • Ensure clear and unobstructed roads and pathways leading to the site and design evacuation routes leading to the area • Plan for multipurpose and durable shelters. • Allocate space for storing emergencies and ensure clean water and portable sanitation. • Open spaces for rescue assembly, as a public park when not in use for disaster response. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system.
	6_6	Proposed Fire station	• Fire station	• The site should always be accessible to maintenance and emergency response vehicles.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [32.24 acres]	4_1	Proposed Governmental Offices	• Any development in line with the permitted land use	• Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads • All buildings must be designed with access consideration for people of all ages and PWDs. • 10% of the land of the existing facilities should be under tree cover to promote sustainable practices. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans
	4_2	Proposed Health Center	• Health Center	• This zone shall be for development of a Level 3 Health Center • ALL structure must be designed with access consideration for people of all ages and PWDs. • The health center shall be constructed in accordance to Ministry of Health standards for a Dispensary • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans
	4_3	Existing Health Facilities	• As per existing Health Facilities Use	• The site will continue to be used to promote existing purposes. • Upgrading of the structure is recommended. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • Retrofit with On-site runoff/stormwater management and greenery/landscaping
	4_4	Proposed Police Post	• Any development in line with the permitted land use	• Should be located near the core administrative centers, within residential neighborhoods, as well as within large commercial and industrial areas. • Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads • To have a space requirement of 0.2 Ha (0.484 acres) • Connect the zone to municipal-wide power grid, sewer system, water
	4_5	Proposed Social Hall	• Social Hall and Any development in line with the permitted land use Auxiliary services • Sanitation facilities, Parking spaces, public Wifi hotspot zones	• Equip the Social Hall with appropriate ICT infrastructure and technology. • All structure must be designed with access consideration for people of all ages and PWDs. • Fence the zone with live fences and landscaping within the area to improve aesthetics and tree cover within the zone. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Public Purpose [32.24 acres]	4_6	Proposed Multipurpose Cultural Centre	• Museum, Cultural Centre and Library • Recreational Auxiliary services Sanitation facilities, Parking spaces, public Wifi hotspot zones, small food and beverage outlets	• All new development in this zone must aim to maintain and enhance the area's distinctive identity and sense of place. • This zone shall be for development of Multi-Cultural Centre including facilities such as Museum, Cultural Centre, Library, Shopping places and recreational areas. • Promote only architecture and urban design that serves to enhance the ongoing cultural heritage significance of the area. • To be designed with access consideration for people of all ages and PWDs. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • Promote enhancement of existing or new natural environment while preserving sensitive biodiversity, cultural, heritage and historic resources
	4_7	Proposed Religious Facilities	• Any development in line with the permitted land use	• Religious activities under public purpose use shall be promoted in the religious facilities. • All buildings must be designed with access consideration for people of all ages and PWDs. • Connect the zone to municipal-wide power grid, sewer system, water reticulation and storm water drainage system. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	4_8	Other Existing facilities	• As per existing use	• Religious activities under public purpose use shall be promoted in the religious facilities. • No upgrading of existing structure shall be allowed without connection to municipal-wide sewer system, water reticulation and storm water drainage system. • New structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Commercial [64.64 acres]	5_1	Commercial Open/ Closed Market	- Open and Closed Market - Warehouses Auxiliary services Parking areas for vehicles, bikes and motorcycles, public water points for vendor and costumers, sanitation blocks, Loading and offloading zones, Bars and Restaurant, facilities,	• Maximum number of floors is 3. • Minimum building setbacks: Front 9 m, Side 6 m and Rear 6 m • Allowable plot Coverage: 50% • Provide space for Open Air Market • Provision of support infrastructures • All buildings must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • Solid waste collection to be done daily • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	5_2	Commercial Retail Area	- Commercial Business and activities, Retail shops Auxiliary services - Bodaboda sheds/ stops, Loading and offloading zones, Bars and Restaurant, Recreation,	• Maximum number of floors is 3. • Allowable plot coverage: 70%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • New structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans
	5_3	Mixed use Commercial Area	- Commercial Uses - Offices - Mixed use commercial developments - Residential Uses Auxiliary services Residential Offices, Bodaboda sheds/stops, Loading and offloading zones, Terminal facilities, Retail shops, Hotels and night clubs, Bars and Restaurant, Lodgings and accommodation facilities, Banks, Health facilities, Utility facilities, Recreation, Religious and other public purpose	• Maximum number of floors is 3. • Allowable plot coverage: 70%. • Allowable plot ration 400%. • Minimum building setbacks: Front 3m, Side 4.5m and Rear 4.5m • New structure and new upgrading of existing structures must be designed with access consideration for people of all ages and PWDs. • Building design to encourage use of natural lighting as much as possible and incorporate green spaces • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Source: UN-Habitat & TRC Technical Team

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Commercial [64.64 acres]	5_4	Proposed Livestock Market	Any type of development in line with the permitted land use	• Maximum number of floors is 3 • Allowable Plot Coverage 50%. • All buildings should observe building setbacks of not less than 9m while fronting a major road and not less than 6m while fronting secondary access roads • Open auction yards for cattle within the proposed Livestock Market • Provide extension services and adequate space for parking • New structure and new upgrading of existing structures MUST be designed with access consideration for people of all ages and PWDs. • Provide adequate water at least 250 liters of portable water per head of livestock with conveniently placed outlets • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Transportation [206.80 acres]	7_1	Proposed Bus Terminus [2.10 acres]	• Transport and supportive services • Convenient shops • Sanitation blocks • Parking Auxiliary services Support amenities such as water points, toilet facilities, eateries, information & ticketing offices etc.	• Provide access to the station for people of all ages and PWDs, • Integrate the proposed bus station with other modes of transport such as Bodaboda and NMT. • Common bays shall be preferred if average layover time is less than or equal to 20 minutes. • Angular boarding bus bays shall be preferred for optimum space utilization and allow proper turning of public buses. • Complete public ownership shall be necessitated when private participation and complete equity cannot be attracted because of locational attributes of site. • Maintenance facility for buses may not be provided inside the terminal premises in case of space constraints. • The new bus station shall be connected to municipal-wide storm water drainage, sewer, water reticulation and power grid. • On-site runoff/stormwater management and greenery/landscaping must be integrated in site development plans.
	7_2	Livestock movement corridor [138.86 acres]	• Green Buffer zone for livestock movement corridor. • Section between 50 to 100 meters • No permanent structures shall be allowed on the riparian reserve	• To be located on the southern side of Bondeni settlement and avoid as possible linking with main transport corridors and vehicular circulation networks. • To take form of nature trails along existing Lagas and South extents of county farmlands, linking to the main animal market area and water resources • Planting of appropriate indigenous trees and vegetation cover • Creation of stringent management rules to guide their use • Prohibit any new permanent structure within this zone • Restrict cultivation within the movement corridor • The corridor must be uninterrupted to enhance natural vegetation growth
		Main Road Network [206.80acres and 58.21 Km] Main Roads for Upgrading • Class C: 13.18 Km • Class D: 3.40 Km • Class E: 13.30 Km • Tertiary: 29.24 Km		Proposed road reserves for different road classes: • Class B: 40-60 m • Class C: 25-30 m (recommended 28 m) • Class D: 20 m • Class E: 15-20 m (recommended 16 m) • Tertiary: 10-15 m (recommended 12 m) • Residential: recommended 5-10 m Other Standards: • Observe the hierarchy of roads to promote the urban characteristic and morphology in the residential areas • All access roads to provide dedicated NMT paths for use by pedestrian and cyclist • All residential units should have tarmacked or standard graded murram access roads. • stormwater management and greenery/landscaping must be integrated in design and construction of all roads.

Source: UN-Habitat & TRC Technical Team

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Conservation [1019.9 acres]	8_1	Built up Tana River Riparian Reserve	Conservation	• The primary objective is to protect human life, health and provide safety from flood hazard. This zone has been identified as river riparian zone and high-risk flood zone. This plan does not recommend settlement within this zone. • Gazettement of this zone as River Tana riparian reserve & flood control zone. • Planning permits shall not provide for construction of any new building in this zone • The Municipal Management, County Government & National Government should partner and facilitate existing settlements to relocate to safer grounds within the municipality boundaries. • Other control guidelines provided for zone 8_2 SHALL apply to this zone.
	8_2	Tana River Riparian Reserve	• The area is zoned for conservation of River Tana water resources and biodiversity.	• Planting of appropriate indigenous trees and vegetation cover • Creation of stringent management rules to guide their use • Prohibit any new permanent structure within this zone • Restrict cultivation and any human activities within 30m from the highest water mark of Tana River and allow flood-controlled cultivation from 30m beyond on flood prone areas within the zone. • The 30m riparian corridor MUST be uninterrupted to enhance natural vegetation growth that aid to reduce the concentrated flows to the water body and providing continuous habitat for biodiversity that require undisturbed access to food, shelter and water. • Allow and implement traditional and innovative flood mitigation projects/measures such as canals, gibbons of levees, dykes, floodwalls, impoundments, improved conveyances, acquisition & relocation of existing flood-prone properties, storm water harvesting etc.
	8_3	Proposed Conservation buffer for water network	• Green conservation buffer zone for water network.	• Plant indigenous tree species within the proposed conservation buffer zone to increase vegetation cover of the areas. • Prohibit any new permanent structure within this zone.
	8_4	Proposed Conservation Area for forest	• The area is zoned for urban forest and conservation.	• Prohibit any structures within this zone • Prohibit cultivation of the forest • Design of the riverfront public space should be sustainable and safeguard ecological restoration, conservation and improvement of biodiversity, increased habitat corridor potential, improved public trail access, open-space amenities, and environmental education. • Planting of indigenous ornamental trees species and grass.

Land Use	Land-Use Code	Sub-Categories	Permitted Land Use	Planning Guidelines and Development Management Priorities
Agriculture [567.51 acres]	9_1	Community Farmlands	• Agricultural • Rural homesteads and farms	• Enforce agroforestry with at least 10% tree cover (fruit trees and/or indigenous tree species) in every farm under this to promote conservation. • Allow medium and small-holder agriculture mechanization to improve productivity. • Allow for a minimum access road of 12 meters within the farms. • Allow for development of single dwelling farmhouses and farm produce collection points. • Restrict planting of eucalyptus and other tree species that have similar characteristics.
	9_2	Agriculture Extension Area	• Agricultural research centre, laboratory seedlings production, training and capacity buildings. • It will be green houses, open farms, trees, capacity buildings	• Develop the area in line with the "Kenya Agricultural Sector Extension Policy" of 2023 • Institutions and facilities in the area could include experimental and demonstration farms, agricultural training institutions, Agricultural Technology Development Centres (ATDCs), Agricultural Mechanization Stations (AMSs), Aquaculture Training Institutions, Hatcheries, Efficacy Trial Centres and Livestock Genetic Conservation Centres
	9_3	Agriculture Livestock Area	• Any development in line with the permitted land use, such as Veterinary and vaccination office, extension offices, service department.	• Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads • All buildings must be designed with access consideration for people of all ages and PWDs. • 10% of the land of the existing facilities should be under tree cover to promote sustainable practices. • On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans
	9_4	Agriculture Office	• Any development in line with the permitted land use	• Maximum number of floors is 4 • Allowable plot coverage: 50% • Minimum building setbacks of minimum 9 meters fronting a major road and 6 meters fronting secondary access roads • All buildings must be designed with access consideration for people of all ages and PWDs. • 10% of the land of the existing facilities should be under tree cover to promote sustainable practices. • On-site runoff/stormwater management and greenery/ landscaping must be integrated in site development plans

Source:UN-Habitat & TRC Technical Team

15.8.9 Proposed Bondeni Layout Plan

To provide specific and **detailed guidance** on the implementation of the Bondeni Secondary center, a layout plan has been designed to guide land administration and development management is proposed by this plan as shown by Figure 15.23. This plan is informed by the plot sizes discussed in the land use plan.

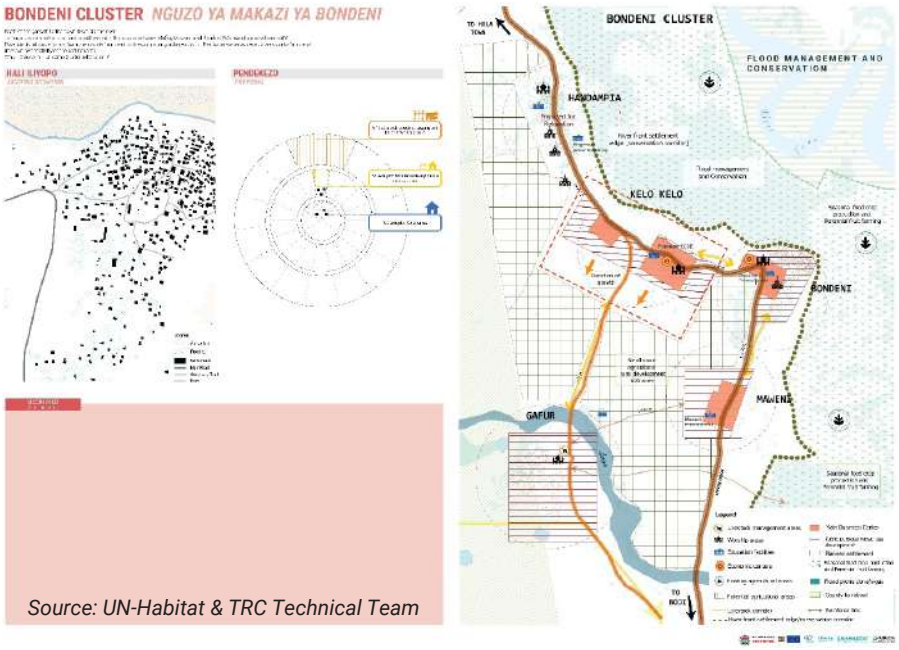


Figure 15.29 - Proposed Bondeni Layout Plan

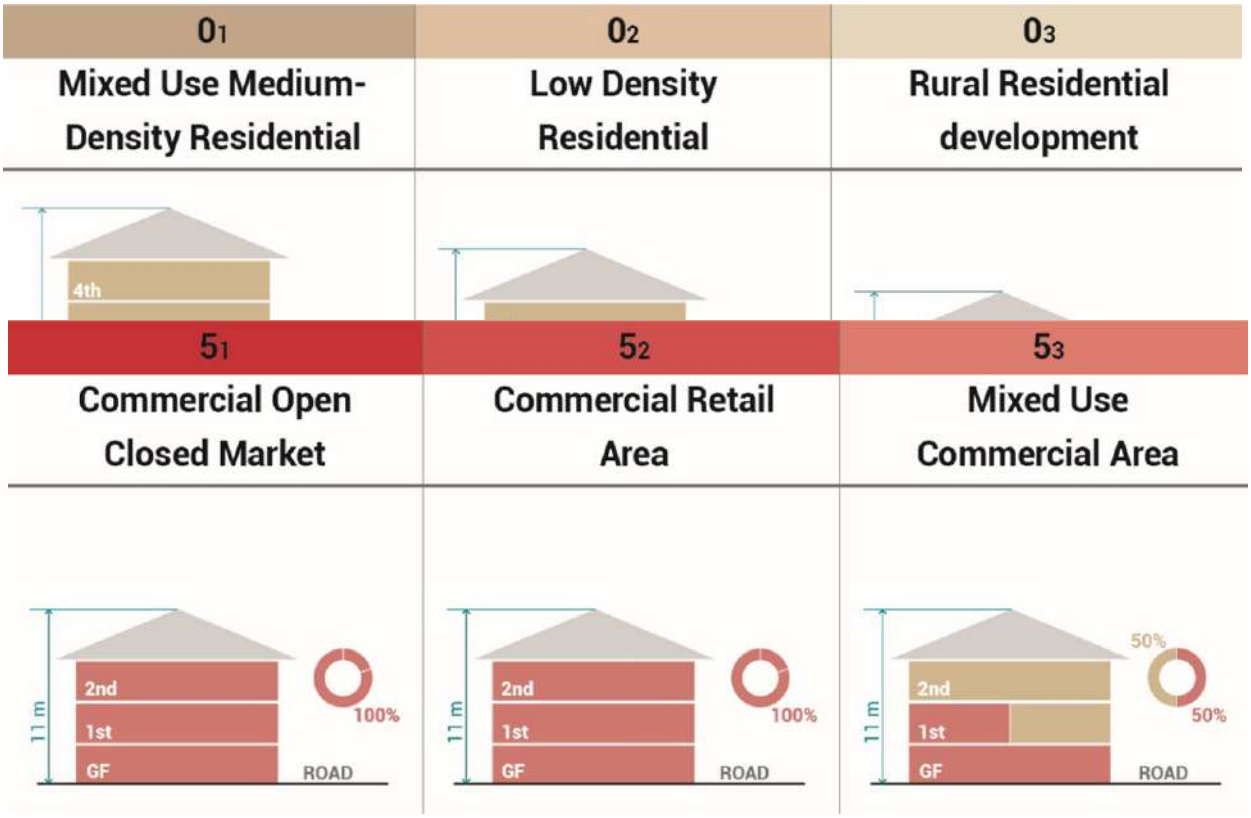
15.8.8.2 Site/plot Level Regulations

Table 15.32 - Table showing the plot level regulation

	Zone	Plot Coverage.	Setback	Building Height	Use
0	Residential				
0_1	Mixed Use Medium Density Residential	50%	Front > 3m Side > 4.5 m Rear > 4.5 m	GF+4	GF: Commercial Other Floors: Residential
0_2	Low Density Residential	60%		GF+2	GF: Commercial or Residential Other Floors: Residential
0_3	Rural Residential development	70%		GF+2	GF: Commercial or Residential Other Floors: Residential
5	Commercial				
5_1	Commercial Open/Closed Market	50%	Front > 9m Side > 6 m Rear > 6 m	GF+2	100% Commercial
5_2	Commercial Retail Area	70%	Front > 3m Side > 4.5 m Rear > 4.5 m		100% Commercial
5_3	Mixed use Commercial Area	70%			50% Commercial 50% Residential

Source: UN-Habitat & TRC Technical Team

Figure 15.30 - Building Height and Use for Residential, Commercial and Mixed-Use buildings



Source: UN-Habitat & TRC Technical Team

15.9 CONCEPTS AND GUIDELINES FOR PLANNING ADDITIONAL SECONDARY CENTERS

To decentralize services, promote local economic development and enhance community resilience, the municipality needs to **incrementally plan, develop and redevelop a system of secondary centers** and new settlements where most appropriate. The SDF provides the geographical distribution of these systems of settlement. Key among them is Laini - Ovo and Wenje.

The planning of these centers should be informed by the following **objectives**:

1. Enhancing **access to** county and municipal **services**.
2. Optimizing existing resources for **local economic development.**
3. Enhancing **community resilience** and **disaster risk management.**
4. **Environmental** conversation and **heritage** preservation.
5. Strengthening established system of settlements and **planned accommodation** of population growth, with reference to the SDF.
6. Improved **housing conditions**
7. Strengthening **community life.**

The plan should therefore be anchored on aspects such as emerging planning issues, projections on population and land use demands, land availability/existing land tenure system, land use suitability, integration of stakeholders' concerns, existing relevant laws and policies, consideration of existing developments and patterns, among others.

Planning guidelines for this area should provide for a Land use plan, economic development strategy, social and community development strategy, and an environmental management and sustainability plan (see Table 15.33).

Table 15.33 - General outputs of the planning process

Output	Expected Content
Land use plan	Promotion of mixed-use development such as residential, commercial, and institutional, to create a vibrant and dynamic center. Ensuring adequate infrastructure, including roads, water supply, sanitation, and electricity, to support the centers growth and development. Inclusion of green spaces for the community for both recreation and agricultural activities.
Economic Development Strategy	Promote agribusiness, small businesses and local industries at settlement levels to create employment opportunities and boost the local economy. Tourism potential consideration in centers with unique natural or cultural attractions.
Social and Community Development Strategy	Involve the community in the planning process considering the local priorities, needs and preferences. Promote the provision of public services in the centers that include education, health care, cultural centers, cemeteries, administrative offices, religious centers, and veterinary services.
Environmental Management and Sustainability strategy	The plan promotes sustainable resource management, including water conservation, waste management, and energy efficiency. Inclusion of climate change impacts and measures to build resilience to climate risks such as flooding and drought, prevalent in the region.

Source: UN-Habitat & TRC Technical Team

15.9.1 Guidelines for Areas Analysis and Assessment of Potential Developments

In analysing the planning area, the following are the **key considerations:**

- **Account for** environmental and heritage protection, and flood risk management.
- **Identify** the number of households, their socio-economic status of the households, and factors driving population growth in the settlement.
- **Consider** the economic activities, their potential and challenges, and their spatial needs.
- **Map out** stakeholders and their activities in the area.
- **Identify** a set of priorities for planning and development of the area.
- **Work with** community leaders and local administration in assessing land administration and governance, and land needs for future development of the center.
- **Identify** the services required at the center, and their spatial needs.
- **Consider** how the center will be connected to its catchment population, and with other centers I the rest of the municipality.
- **Access** the potential for the site for irrigated agriculture, considering the potential for water transfer from Tana River.
- **Overall assess** the viability of the area as the optimum location of target functions.

The assessment should also survey the land potential and demarcate settlement fridges

Survey Land Potential.
Survey and conduct land potential analysis to establish which areas require biodiversity conservation and that can be developed. For the areas to be developed, establish potential for:

- **Commercial** activities (non-farm economic activities).
- **Residential** development
- **Mixed** residential and agriculture development
- **Agriculture** - for range of agricultural activities.
- **Livestock** keeping (Zero grazing or range management)
- **Public purpose** facilities
- **Infrastructure** development

Demarcate Settlement Fridges

Establish the settlement interface with adjacent land use such as grazing areas, farming lands, hazard prone areas and environmental and heritage protection areas.
In establishing the fridges, undertake the following:

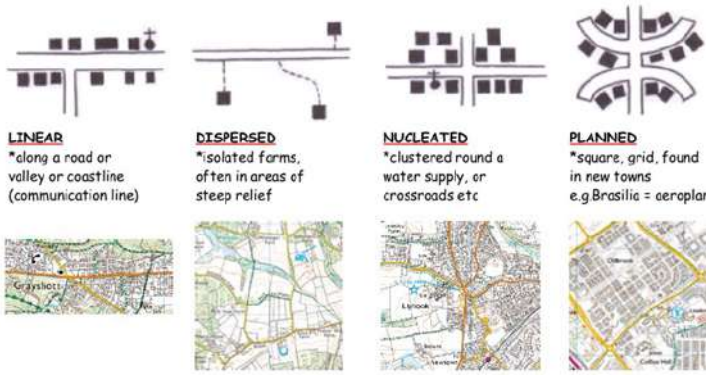
- **Survey** of agricultural resources (good soils, water resources etc.)
- **Assess** the environmental conditions (protection areas, vegetation cover etc.)
- **Determine** compatibility of the land uses that interface the fridges and the settlement
- **Topography** and **flood risk**
- **Determination** of the spatial requirements of the future growth, assessing how much space is required to accommodate the settlement population in a defined period.

15.9.2 General Spatial Development Concepts

The centres to have a spatial pattern comprise the core, and outer core, the residential development area and the transition area.

1. **Core of the centre -** Commerce, key public facilities (health care, education/training, administrative etc.), public markets, public square (Baraza) and recreational facilities
2. **Outer Core -** small residential plots with small farm (1/2 acre to 1 acre)
3. **Mixed Residential** - Agriculture development
4. **Reserved Land for Future expansion** and land use adaptation
5. **Transition**/ Buffer area.

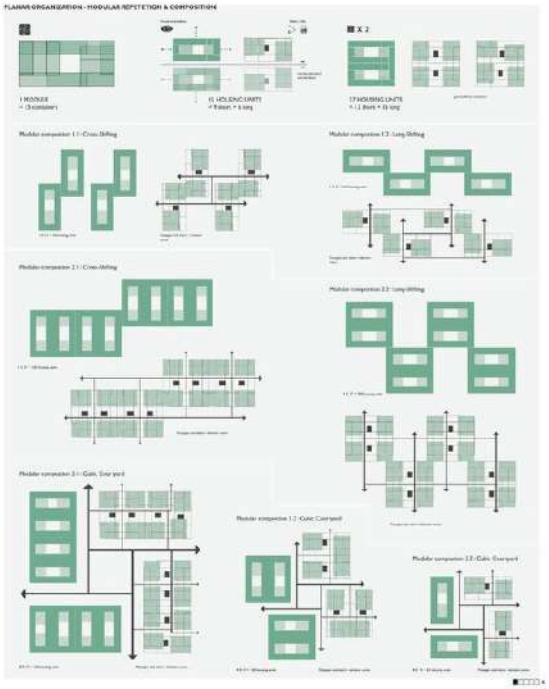
Figure 15.33 - Abstract illustration of Settlement Patterns Concept



Source: Image adapted from an online source (original creator unknown; used for illustrative purposes only).

Figure 15.31 - Illustration of Proposed Concept





Source: Image adapted from an online source (original creator unknown; used for illustrative purposes only).

Figure 15.32 - Example of Community Design



Source: UN Habitat 2016

Planning for the Transition/Buffer Area

The expansion of rural centres and villages need to be planned, with a transition/buffer area provided. This transition is for sustainable management of the interface between build-up/ settlement growth limit and the adjacent land uses.

The plan proposes the following **guidelines for planning the transition/buffer area**:

- Allow for **environmental conservation activities** including preservation of indigenous forests and vegetation cover, reforestation and afforestation.
- Allow for **extensive agriculture considering**:
  - Irrigated farmlands
  - Managed grazing lands
  - Biodiversity conservation

Planning for Housing Development

Plan for housing in the sub-centres and rural settlements with the following considerations:

- Implement the **municipal wide strategy for housing** at the local level, with priority to affordability and adequacy.
- Prioritise **providing serviced sites** for housing development-minimum level of service for long-term incremental scaling up.
- Provide **planning controls** that prevent construction of housing on:
  - Buffer areas and green conversation areas
  - Designated farming areas
  - Water ways and flood risk areas
  - Land uses not designated for housing development.

Planning for Basic Infrastructure and Utilities

Incorporate plans for secondary centers in the municipal's long-term plan, with timeline and estimated costs for gradually improvement of levels of services.

Water Supply

- Access to water Piped water in compound/houses
- Piped water on community stand: distance less than 200 m from house
- Piped water on community stand: distance greater than 200 m from house
- Borehole/rainwater tank/well
- Communal Clean Water Taps
- Canalized or pumped bulk water transfer for irrigation (from Tana River).

Fecal Waste Management - Plan for a phased transition from dry sanitation and wet sanitation systems.

Mobility – Plan for adequate infrastructure for MT and NMT mobility, including roads and footpaths -connecting clusters of households, aligned to roads or dedicated footpaths.

Plan for County Institutions and Social Facilities

The critical county institutions and social facilities need to be provided at the appropriate access distance and for the recommended catchment population. The **following facilities need to be considered**- depending on size of the center:

- County/Municipal Services center
- Schools
- TVET and colleges
- Farming Training Centers
- Clinics and hospitals
- Police stations/posts
- Fire stations
- Libraries
- Community hall
- ICT access hubs
- Homes for vulnerable (Orphanage, Persons with Special Needs and in need for home/shelter etc.)

15.9.3 Spatial Development Concept for Rural Centre 3: Laini-Ovo

On August 15, 2023, a **participatory engagement session** conducted with the community to gather insights and priorities areas for the plan. The community identified the following **key challenges** that a plan for the area should address:

- **Activation of Laini canal** to supply water into the farmlands
- Improve **connectivity**
- **Upgrade links roads:** Laini – Ngamu road; Komorajila – Makere road,
- **Improving the support** to Makere - ghores agricultural project and Uhuru na Kazi farm.
- Develop a **sub-center hospital** meeting level 3 hospital requirements.
- Deleneate land for **cemetery** (Muslim and Christian Cemetery allocations).
- Improve **recreation spaces** - Provide a well-designed football pitch for the community.
- Provide **community farmlands** for the community.
- Create a **crossing point** to the other side of the river Tana, either through a bridge or a motorboat.
- **Diversity seedlings** for farmers to improve quality of harvest.
- Develop a **disaster management** plan for the area especially for flooding and canal spillages.
- Create an **industrial processing zone** for mango processing and milk processing plant within the center.
- **Improve water quality** for the community – treating to reduce salinity.
- **Development of a land management strategy** that will guide the elders in the land allocation process to promote equity and fairness in land allocation for all community members.

Figure 15.34 - Participatory workshop in Laini/Ovo Workshop, 15th Aug 2023



Source: UN-Habitat, Jane Muriuki, 2023.

Laini - Ovo Structure Plan presents a **comprehensive strategy** designed to **address the pressing planning challenges** faced by the community living in Laini and Ovo. This structure focuses on several key areas to ensure integrated development and improved quality of life for residents. It includes infrastructure upgrade to enhance transportation and connectivity, the creation of green spaces to promote environmental sustainability, settlement planning for proper land utilization. The plan includes feedback from **community decision-making processes**, ensuring that the needs and perspectives of residents are prioritized (see Table 23 on the next page).

Table 15.34 - Land use guidelines

Zone Name	Description and Justification	Land Use Guidelines
Proposed Future Commercial Area Laini Civic District	This zone is set aside to control future urban development and expansion of Laini -Ovo rural center. It is the civic district for the center and promotes development of commercial activities.	• High and medium density residential • Commercial developments and offices • Mixed use: Commercial–cum-residential, commercial-cum-light industries. • Administrative and public purpose uses • Public utilities land uses • Open-air and closed markets • Open spaces and recreational uses • Transportation purposes • Educational and Health purposes • Accommodation and tourist facilities
Residential areas		• Medium and low density residential • Mixed use: Commercial –cum-residential
Zones to consolidate Existing settlements Laini and Ovo Bohoni Salama Ghalamani Chewani	This entails existing villages within the urban extended area. The growth of these areas will be confined within the proposed zone limit/ boundary. The plan is tailored to promote development and growth within these zones, aiming at further decentralizing services from the urban core and promote rural development of the municipality	• Medium and low density residential • Mixed use: Commercial–cum-residential • Public purpose and public utilities use • Periodic open-air markets and animal auction yards • Open spaces and recreational uses • Educational and Health purposes
Proposed Community Farmland Integrated Mixed Use Industrial Development Future integrated industrial and mixed-use development zone		• Agro-based processing industries • Low density rural residential homesteads (5-10 acres) • Retain existing infrastructure and social facilities • Conservation agriculture • Agricultural produce collection and aggregation nodes. • Agricultural extension services • Rural development • Agro-based processing industries • Flood control and disaster mitigation facilities
Flood risk zone		• Zone to be used for Disaster Risk Management only. • Implement only developments whose primary objective is disaster prevention, mitigation, preparedness, response and recovery. • Open spaces for rescue assembly • Connect the zone to municipal-wide storm water drainage system. • Allow and implement traditional and innovative flood mitigation projects/measures such as gibbons of levees, dikes, floodwalls, impoundments, improved conveyances, acquisition & relocation of flood-prone properties, stormwater harvesting etc. • Prohibit development of any new physical development for residential, commercial, industrial and educational uses.
Large- and Small-scale farming Community Farmlands		• Large scale and small-scale Agriculture • Low density rural residential homesteads* • Retain existing physical infrastructure and social facilities (roads, canals, schools, religious places, water points etc.) • Conservation agriculture • Agricultural produce collection and aggregation nodes.

Source: UN-Habitat & TRC Technical Team

Zone Name	Description and Justification	Land Use Guidelines
Settlement to relocate		• Prohibit new commercial, industrial and residential developments. • Small scale subsistence and commercial agriculture
Integrated Riverine Conservation and Agriculture - Tana River Riparian corridor - Lagas buffer		• Conservation of water resources and riparian reserve • Eco-Tourism activities • Small scale subsistence and commercial agriculture • Conservation and Agroforestry practices • Prohibit new commercial, industrial and residential developments • Flood control and disaster mitigation facilities • Prohibit unsustainable exploitation of water and vegetative resources on river, lagas and their respective riparian reserves.
Zones to conserve		• Grazing and natural fodder production • Rural hamlets and homesteads • Integrated conservation measures • Livestock -production and rearing • Conservation practices • Flood control and disaster mitigation measures • Small scale agriculture and agroforestry
Livestock corridor	Existing livestock routes	• Livestock crossing and grazing fodder

Source: UN-Habitat & TRC Technical Team

15.9.4 Spatial Development Concept for Rural Centre 4: Wenje -Gubani

On August 17, 2023, a **participatory engagement session** conducted with the community to gather insights and priorities areas for the plan. The community identified the following **key challenges** that the plan should address:

- **Expansion of the market** at Wenje to attract external communities.
- **Improve connectivity:** tarmac the link road from Wenje to the B8; Malindi – Garissa Road.
- Develop a **disaster management plan** for the area especially for flooding and canal spillages.
- **Promote diversity** of activities for economic vibrancy: dairy farming.
- Create an **industrial processing zone** for a dairy processing plant and mango collection center for farmers.
- Improve **access to clean water** at household level.
- Development of a **land management strategy** that will guide the community elders in the land allocation process to promote equity and fairness in land allocation for all community members.
- **Improve education services** in the area with provision of quality teachers and supply water to school.
- Enhance **sanitation** in education facilities and public centers (markets and health centers).
- **Support the farming activities** within the farmlands: Connection to reliable water supply, improved seedlings, support with mechanised farming equipment; demarcation of farmlands and capacity building for farmers.

Figure 15.35 - A photograph of the findings of participatory workshop in Wenje/Gubani Workshop, 17th Aug 2023



Source: UN-Habitat, Baraka Mwau, 2023.

The **Wenje-Gubani Structure Plan** provides a comprehensive solution to the community's planning challenges, focusing on infrastructure, green spaces, and community-driven development.

Table 15.35 - Land Use Guidelines

Zone Name	Description and Justification	Land Use Guidelines
Proposed Future Commercial Area Wenje	This zone is set aside to control future urban development and expansion of Laini -Ovo rural center. It is the civic district for the center and promotes development of commercial activities.	• High and medium density residential • Commercial developments and offices • Mixed use: Commercial–cum-residential, commercial-cum-light industries. • Administrative and public purpose uses • Public utilities land uses • Open-air and closed markets • Open spaces and recreational uses • Transportation purposes • Educational and Health purposes • Accommodation and tourist facilities
Residential areas		• Medium and low density residential • Mixed use: Commercial –cum-residential
Zones to consolidate Existing settlements Wenje Gubani Vukoni Hara Kapedi Waroni Masalani Majengo Duwayo Jamhuri Kilindini	This entails existing villages within the urban extended area. The growth of these areas will be confined within the proposed zone limit/boundary. The plan is tailored to promote development and growth within these zones, aiming at further decentralizing services from the urban core and promote rural development of the municipality	• Medium and low density residential • Mixed use: Commercial–cum-residential • Public purpose and public utilities use • Periodic open-air markets and animal auction yards • Open spaces and recreational uses • Educational and Health purposes
Proposed Community Farmland Integrated Mixed Use Industrial Development Future integrated industrial and mixed-use development zone		• Agro-based processing industries • Low density rural residential homesteads (5-10 acres) • Retain existing infrastructure and social facilities • Conservation agriculture • Agricultural produce collection and aggregation nodes. • Agricultural extension services • Rural development • Agro-based processing industries • Flood control and disaster mitigation facilities

Source: UN-Habitat & TRC Technical Team

Zone Name	Description and Justification	Land Use Guidelines
Flood risk zone		• Zone to be used for Disaster Risk Management only. • Implement only developments whose primary objective is disaster prevention, mitigation, preparedness, response and recovery. • Open spaces for rescue assembly • Connect the zone to municipal-wide storm water drainage system. • Allow and implement traditional and innovative flood mitigation projects/measures such as gibbons of levees, dikes, floodwalls, impoundments, improved conveyances, acquisition & relocation of flood-prone properties, stormwater harvesting etc. • Prohibit development of any new physical development for residential, commercial, industrial and educational uses.
Large- and Small-scale farming Community Farmlands		• Large scale and small-scale Agriculture • Low density rural residential homesteads* • Retain existing physical infrastructure and social facilities (roads, canals, schools, religious places, water points etc.) • Conservation agriculture • Agricultural produce collection and aggregation nodes.
Settlement to relocate		• Prohibit new commercial, industrial and residential developments. • Small scale subsistence and commercial agriculture
Integrated Riverine Conservation and Agriculture - Tana River Riparian corridor - Lagas buffer		• Conservation of water resources and riparian reserve • Eco-Tourism activities • Small scale subsistence and commercial agriculture • Conservation and Agroforestry practices • Prohibit new commercial, industrial and residential developments • Flood control and disaster mitigation facilities • Prohibit unsustainable exploitation of water and vegetative resources on river, lagas and their respective riparian reserves.
Zones to conserve		• Grazing and natural fodder production • Rural hamlets and homesteads • Integrated conservation measures • Livestock -production and raring • Conservation practices • Flood control and disaster mitigation measures • Small scale agriculture and agroforestry • Conservancies with unique habitat species
Livestock corridor	Existing Livestock routes.	• Livestock crossing and grazing fodder

Source: UN-Habitat & TRC Technical Team

15.10 PLANNING POLICIES AND GUIDELINES FOR VILLAGES

Table 15.36 - Development policies for Small Rural Centers and Villages

Development Category	Description	Applicable Areas
Residential	Designated for medium and low-density housing structures.	All settlements
Transport	Accessible road links to residential areas with a minimum width of 9m. Each block should have direct access to a road.	All settlements
Recreation	Open and green spaces reserved for shared community activities such as playgrounds, stadiums, open green areas, and parks.	All settlements
Commercial	Designated for market functions: open and closed markets, livestock markets and commercial enterprises. All commercial centers should have sanitation blocks with adequate provision of water.	Major settlement with over 1000 in population.
Agricultural	Sections dedicated to small scale and large-scale farming areas. Proposed for horticulture farming, livestock farming and fodder farming. Promote irrigation systems for farming.	All settlements
Education	Designated for learning functions providing access to ECDE, Primary and Secondary School opportunities.	Major settlement with over 1000 in population.
Public purpose	Designated for shared community purposes. These include health care provision; religious centers; cemetery areas; administrative offices when needed; agricultural extension services; police posts etc.	All settlements

Source: UN-Habitat & TRC Technical Team

15.11 GUIDELINES FOR LAND MANAGEMENT IN IMPLEMENTATION OF SECONDARY CENTERS

15.11.1 Key Issues Emerging from the Planning process

Land management practices were identified as a **primary concern** by both local communities and the county government. Concerns centered on land allocation methods, ownership strategies, and the distribution of public land. The local plan proposes a strategy of developing land use plans to guide land utilization. In communities without existing land use plans, creating such plans that promote balanced land use is essential.

15.11.2 Role of Traditional/Community Leadership

In Hola, a **large part** of the **municipality** is **under the management** of **community leaders** depending on the settlement. The system of management is within communities and the plan seeks to integrate the land management system with a legal framework that mandates the county planning department with the responsibility.

15.11.3 Role of County Planning/Land Administration

The **county government plays a key role** in land management within its jurisdiction. Legally, in the absence of registered community land, the county government manages communal land in trust. The **department of county planning mandate include**:

- **Developing and implementing land use plans**. The county has the mandate to create comprehensive plans that outline use of land providing zones for different purposes, such as residential, commercial, and industrial areas.
- **Managing land records.** The county has the mandate to create and maintain accurate and up-to-date records of land ownership, boundaries, and transactions. The department works with local communities, landowners, and other stakeholders to ensure that land is used sustainably and equitably, contributing to the overall development and well-being of their respective regions.
- **Managing public land.** The county government has the mandate to managing public land such as parks, forests and other open spaces.
- **Resolving land disputes.** In areas of conflict, the county has the legal mandate to mediate and solve issues arising from land ownership, boundary and usage among others.
- **Enforcing land use plans and development control.** The county planning department has to ensure that lands is used in accordance with the approved plans and the stipulated development control guidelines.

15.11.4 Proposed Institutional Structure

Hola land management will adopt the **integrated land management** that integrates customary land governance structures with formal county and national legal frameworks, ensuring participatory, equitable, and legally compliant land management. This **hybrid model** is rooted in the principles of subsidiarity, inclusivity, sustainability, and accountability, and is aligned with key land legislation and planning instruments.

15.11.5 Key Steps Required to Make the Institutional Structure functional

- Land surveying and block/plots demarcation
- Phased land allocation

Table 15.37 - A hybrid structure defining the role of each governance structure for land management in Hola municipality and within the secondary centers.

Level	Entity	Mandate/Function
Community Level	Traditional Councils / Community Land Committees	• Identify, demarcate, and protect communal lands • Mediate intra-community land disputes • Lead local participatory planning efforts • Custodianship of customary practices
Ward Level	Ward Land Management Forums (composed of community reps, elders, technical staff)	• Coordinate between traditional and county structures • Monitor implementation of land use plans • Recommend zoning adjustments or infrastructure needs
Municipality Level	Municipal Planning Unit (under County Department of Lands and Planning)	• Develop and implement local physical/land use plans (PLUPA compliant) • Supervise land allocation, surveying, titling • Oversee enforcement of development controls • Coordinate environmental and infrastructure planning
County Level	County Department of Lands, Housing & Physical Planning	• Provide policy direction • Develop and approve spatial plans • Maintain land registries and GIS databases • Coordinate with national agencies (NLC, MoL, NEMA)
National Level	National Land Commission (NLC) Ministry of Lands and Physical Planning	• Registration and adjudication of land • Oversight of public land and dispute resolution • Policy formulation and legal compliance

Source: UN Habitat & TRC Technical Team

15.12 GROWTH MANAGEMENT EDGES

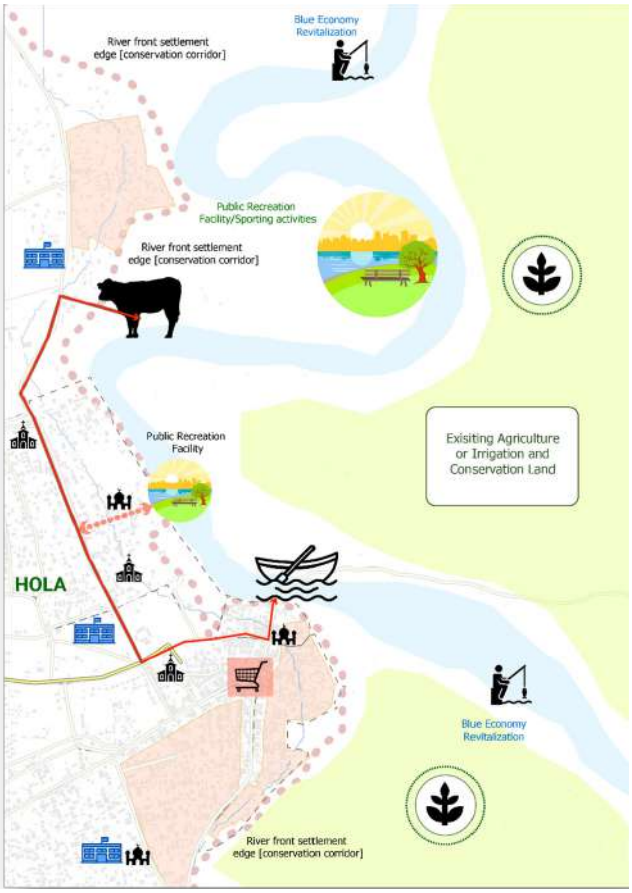
Hola municipality's **growth is inevitable** with the increase in population in the future. Growth management edges play a key role in limiting **urban development while protecting the natural and agricultural lands.** Also, the edges preserve the quality of the distinct land uses, enhancing the quality of life for the residents. Different strategies have been adopted for the plan varying from the type of center, the landscape and the needs of the community. Key strategies are anchored in planning regulations and zoning guidelines.

15.12.1 Management Hola Growth Edges

Hola urban area growth management aims to balance urban expansion with environmental protection, social equity, and economic development.

- **Towards the South** the city's growth is restricted by the Galole laga. Periodic flooding and activation of wetlands is dominant in Kone. Zoning the laga as a conservation area limits the growth of the town towards the south.
- Restricting further development **on the East** of C256 road is recommended. The are however has existing settlement that it is marked for preservation and historic conservation with limited development of new infrastructure.
- **To the north**, the National Irrigation Authority scheme acts as a natural boundary, restricting urban expansion. A linear buffer zone, designated as a livestock corridor, has been proposed between the irrigation scheme and the settlement.

Figure 15.36 - An illustration of growth management strategies for the planned centers



Source: UN-Habitat & TRC Technical Team

15.12.2 Managing Growth Edges of Secondary Centers

Growth of secondary centers anticipated after activation requires strategic interventions to manage. The plan recognizes the contiguity factors and addresses this by:

- **Restricting development** on the East side of C256, Makutano_Hola _Ruka (old Malindi road). The section between River Tana and the road is designated as a riparian zone for conservation purposes, supporting sustainable agriculture along the river.
- **Promoting concentration** of settlement on designated residential areas. The periphery to the centre is designated as agricultural farmland with a focus of horticulture, fodder, and livestock farming.
- **Corridors of wetlands and ecologically sensitive areas** act as barrier to growth within the settlement. Kumbi's southern boundary is a conservation corridor that drains water into the River Tana.

15.12.3 Managing Riverine and Wetlands Edges

The riverine and wetland areas in Hola play crucial roles in ecological balance, flood control, and biodiversity conservation. The plans' main objective is to protect these areas from encroachment and human activities. **Key strategies** adopted include:

- **Establishing protected areas** such as conservation zones to safeguard the ecological integrity of riverine and wetland ecosystems.

Figure 15.37 - An illustration of growth management strategy for riverine and wetlands edges



Source: Water front ideas from Lamu Urban Economic Plan by Tetra Tech International Development Europe

- **Implement land use zoning regulations** and development controls restricting harmful development activities in sensitive areas.
- **Creating buffer mechanisms** to protect the riverine and wetland ecosystem such as road infrastructure and livestock corridor.



Source: Image adapted from an online source (original creator unknown; used for illustrative purposes only).

- **Advocate for local communities' engagement** in planning and decision-making processes to ensure their needs and concerns are addressed while creating awareness of their role in ecosystem management.
- **Restriction** of development in areas is prone to high risk of flooding.
- **Promote flood control measures** such as levees or detention ponds, to mitigate flood risks

15.13 CONCLUSION

The planning framework for Hola Municipality and its secondary centers including Kumbi-Rhoka and Bondeni presents a **comprehensive, inclusive, and forward-looking approach to sustainable urban and rural development.** Anchored in the vision of decentralizing municipal services and leveraging strategic opportunities such as the LAPSSET corridor, the **plan offers a clear roadmap** for guiding spatial growth, optimizing local resources, and enhancing service delivery.

At its core, the framework **promotes inclusive and resilient development** by integrating community priorities with land governance, environmental sustainability, and strategic infrastructure investment. It balances urban expansion with the protection of ecological systems, safeguarding riverine areas, wetlands, and agricultural lands through clearly defined growth management edges. These edges serve to control urban sprawl, mitigate flood risks, and preserve the ecological integrity of Hola's natural landscape.

The spatial development concept introduces a **thoughtful combination of nucleated settlement patterns and linear development** aligned with rural livelihoods, facilitating efficient land use while preserving cultural identity and fostering social cohesion. Designated development zones including urban cores, agricultural buffers, and mixed-use areas are structured to enhance accessibility, functionality, and inclusive service provision.

The plan acknowledges the important role of traditional community leadership in land management, advocating for a hybrid institutional framework that **integrates customary systems with formal statutory structures**. This collaborative model strengthens transparency, promotes equitable land allocation, and ensures that land use planning aligns with both local needs and legal mandates.

Through participatory engagement, strategic land use planning, and infrastructure provision tailored to community needs, the plan ensures **people-centered development** that is contextually grounded. In doing so, it lays the foundation for vibrant, economically productive, and environmentally sustainable urban and rural centers that contribute meaningfully to the socio-economic transformation of Hola Municipality and its surrounding regions.

PART IV
IMPLEMENTATION FRAMEWORK

CHAPTER 16

IMPLEMENTATION PLAN

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16.1 OVERVIEW

This section presents an overview of the implementation framework for the Hola LPLDP. It outlines the institutional arrangements, financing mechanisms, policy linkages, and coordination structures necessary to translate the plan from vision into action. The framework emphasizes the shared responsibility between the municipality, county departments, national agencies, and development partners in ensuring that proposed strategies are effectively delivered. The implementation framework serves as a roadmap for operationalizing the plan's goals, ensuring that Hola's growth trajectory aligns with sustainable development principles, national legislation, and global agendas.

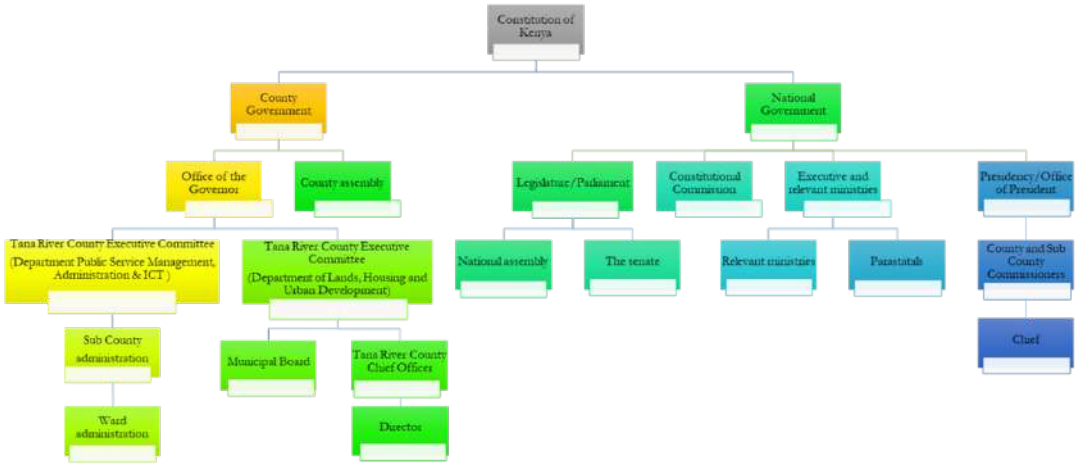
The plan will complement the CIDP 2023-2027 towards integrating projects and programs that will aid to achieve the county vision to be

"A peaceful, cohesive and prosperous County offering high quality of life to its citizens'

and the mission:

'To ensure effective and accountable leadership, promote a just, democratic and secure and establish strong governance institutions to empower citizens, for the achievement of economic transformation and wealth creation.'

Figure 16.1 - Overview of governance stakeholders



The team shall ensure that local-level coordination, community engagement, and execution. Of the plan is achieved in alignment with the broader development objectives of the County Government of Tana River.

16.2 IMPLEMENTATION MANAGEMENT MECHANISM UNDER COUNTY PLANNING

The implementation of the plan will be anchored in the constitutional provisions and the county planning framework, ensuring that interventions are carried out in a coordinated and legally compliant manner. This approach promotes cross-sectoral collaboration, enabling the adoption and integration of strategies across different departments and stakeholders, thereby enhancing efficiency, inclusivity, and sustainability in the delivery of the plan's objectives.

The Municipal Board of Hola and the County Department of Planning will collaborate with other departments championing the implementation of the plan. The Municipal Board, established under the Urban Areas and Cities Act, 2011 (revised 2019), serves as the primary coordinating body for municipal-level planning, development, and service delivery. Its role will focus on translating the priorities of the Hola Plan into actionable projects, mobilizing local resources, and ensuring that community needs are reflected in decision-making.

The County Planning Department, mandated under the County Governments Act (2012) and the Physical and Land Use Planning Act (2019), will provide technical oversight, policy direction, and regulatory support. It will guide the Municipal Board in aligning the plan with county-wide development frameworks, budget processes, and statutory requirements.

16.2.1 Key Implementation Management Issues

In the implementation of the plan, key elements are essential for the implementation and execution of the proposed programs.

1. Land Management

Land remains a central issue for the people of Hola, serving as a critical resource that underpins community livelihoods through farming and livestock keeping. The plan has therefore been developed with a clear recognition of the importance of land to both social and economic well-being. Notably, land in the area is managed under a dual framework involving both government and community groups. These dynamics have been carefully considered and are further addressed in Chapter 15, ensuring that land management priorities are sustained to support the effective implementation of the plan within the municipality.

2. Budgeting and Financing

The successful implementation of the plan is closely tied to the availability of adequate financial resources to support the proposed projects. In preparing annual budgets, the County should explicitly reference the projects outlined in the plan and allocate dedicated funds to ensure their realization. Furthermore, the County is encouraged to actively pursue support from development partners, donors, and Public-Private Partnerships (PPPs) as complementary financing mechanisms to advance the implementation of the plan's objectives.

3. Risk and Environmental Management

The plan factors in environmental risks and proposes management approaches. With periodic flooding and drought cases, the plan reflects these natural factors while mitigating the risk. These considerations should be sustained and implemented across all sectors.

4. Institutional Capacity

The institutional capacity of both the County and the Municipality is critical to the successful implementation of the plan. Where gaps exist, targeted training and capacity-building initiatives should be prioritized to strengthen the ability of institutions to effectively deliver on the plan's objectives.

5. Rural- Urban Integration

Throughout the duration of the plan, rural-to-urban migration is expected to continue. This population influx should be regularly monitored to ensure that emerging settlements align with the provisions and objectives of the plan, thereby supporting orderly growth and sustainable development.

16.2.2 Linkage with County Integrated Development Plan and Sector Plans

Notably the plan aligns with the CIDP. The table below outlines key projects of alignment with the plan as indicated in chapter 14.

Table 16.1 - Key projects of alignment with the CIDP

Plan Sector consideration	CIDP
1. Environmental Management	- Strengthen regulatory framework - Regularize land allocation - Enhance development control - Support of community participation in conservation. - Development and implementation of sustainable nature-based enterprises - Sustainable forest conservation and management
2. Social Amenities Development	- Strengthen Disaster management in urban centres. - Develop ICT infrastructure - Provision of schools and institutional facilities - Develop infrastructure for women, PWDs and youth - Develop health facilities
3. Economic Growth	- Improve tourism products diversification and competitiveness - Develop market infrastructure - Promote trade - Promote industrial growth - Strengthen aquaculture development – Fingerlings provision/production - Livestock breed improvement - Strengthen pests and disease control/management - Strengthen veterinary services
4. Urban and Rural Land Management and Development	- Develop Land use plans - Development and implementation of the development control
5. Mobility	- Develop and maintain road infrastructure - Enhance connectivity for the county.
6. Housing and Informal Settlements	- Strengthen integrated urban planning - Development of housing infrastructure
7. Utilities	- Electrification of public institutions - Increase street lighting - Promote renewable energy - Promotion of clean cooking solutions - Promote energy efficiency - Promote clean cooking solutions - Water resource conservation and protection - Exploit new water sources - Strengthen water resources conservation and protection - Strengthen water sanitation - Establish solid waste management infrastructure
8. Public Space, Culture and Heritage	- Develop sports infrastructure - Establish a sports fund Culture promotion activities - Empowerment/Capacity building of cultural practitioners - Development of cultural infrastructure Development of housing infrastructure

16.2.3 Linkages with Municipal Integrated Development Plan (IDeP)

The Integrated Development Plan (IDeP) plays a central role in the implementation of municipal plans as it serves as the statutory budgeting and financing framework for municipalities under the Urban Areas and Cities Act (UACA). All proposed projects, investments, and activities outlined in the municipal plan should be reviewed against the current IDeP to ensure alignment, resource allocation, and prioritization. Furthermore, the phasing of interventions within the municipal plan provides a roadmap for informing subsequent IDeP cycles, thereby strengthening continuity and coherence in development programming. This alignment creates a direct linkage between planning, budgeting, and implementation, while also anchoring progress within the annual performance review and reporting mechanisms of the county. In doing so, the IDeP ensures accountability, effective resource utilization, and measurable outcomes in municipal development.

Figure 16.2 - Community participation in Wenje



Source: UN Habitat, Baraka Mwau, 2023.

16.3 PRIORITY IMPLEMENTATION PROGRAMS AND INVESTMENTS

The selection of priority programs and projects in the Hola Municipal Plan was guided by a systematic evaluation process to ensure the plan achieves its intended development outcomes. This process involved identifying projects that align closely with the plan's strategic objectives, address key local challenges, and leverage existing opportunities to maximize impact.

Criteria for selection included the urgency of addressing land tenure issues, the feasibility of implementation within the existing legal and financial frameworks, and the potential for socio-economic transformation. Special attention was given to projects that could mitigate challenges such as informal developments, limited institutional capacity, and outdated cadastral data, while promoting inclusive and sustainable growth.

The selection process also considered the readiness of various stakeholders, including the County Government, private institutions, and the local community, to collaborate effectively. Projects with strong community support, demonstrated goodwill from local leaders, and access to resources such as construction materials and labor were prioritized to ensure implementation feasibility.

This structured prioritization ensures that selected programs and projects address the most pressing needs of Hola, while fostering a coordinated and resource-efficient approach.

16.3.1 Phasing and Sequencing of Key Projects

This section focuses on the phased and sequenced delivery of key projects derived from the broader pool of programs and initiatives outlined in Chapter 14: Sectoral Strategy. The selected projects represent the most critical and impactful interventions across various sectors, chosen based on their strategic importance, feasibility, and potential to address the municipality's immediate and long-term development needs.

The projects are organized under sector-specific strategies to ensure their alignment with the Spatial Development Framework (SDF) and the land use plan. These strategies include:

1. Environmental Management
2. Social Amenities Development
3. Economic Growth
4. Urban and Rural Land Management and Development
5. Mobility
6. Housing and Informal Settlements
7. Utilities
8. Public Space, Culture and Heritage

The programs and projects are proposed for implementation in phased approach:

- **Short Term** (1≤3 years) - Focus on immediate priorities identified through situation analysis and stakeholder input, laying the groundwork for longer-term initiatives.
- **Medium Term** (≥3 ≤5 years) - Require more time and resources, addressing mid-level priorities and bridging short-term actions to long-term goals.
- **Long Term** (≥5-10+ years) - Strategic initiatives extending beyond 5 years, aligning with the planning horizon up to 2030 and requiring significant investments.

The following table provide a detailed overview of the selected projects, illustrating their alignment with sectoral strategies, key implementation actors, and timelines for execution. This phased approach ensures a systematic and sustainable pathway toward achieving Hola's development goals.

Table 16.2 - Identified Projects under the Infrastructure Development Program for the Municipality

ID.	PROJECT NAME	TIME FRAME			LOCATION					
		SHORT	MID	LONG	HOLA	KUMBI	BONDENI	LAINI OVO	WENJE	MUNIC-IPAL
ENVIRONMENTAL MANAGEMENT										
EM01	Creation of 50 meters buffer around the gazetted areas									
EM02	Delineation of ecologically sensitive areas									
EM03	Tree planting and introduction of vegetation cover in the eroded areas									
EM04	Build water management infrastructure, such as contour bunds and water harvesting structures, to control runoff and capture rainwater.									
Riverfront and Water System Management										
EM05	Survey, map and gazette of riparian land to avoid encroachment and grabbing									
EM06	Develop a relocation program of encroachers on the Riparian reserves of rivers in the Municipality									
EM07	Delineation and protection of wetlands through the creation of a performance buffer zone to filter and intercept pollutants.									
EM08	Undertake reforestation efforts to restore degraded forests and afforestation initiatives to establish new forested areas.									
EM09	Control discharge of wastewater and polluting agents from towns, industries, and agriculture.									
EM10	Implement a landscape management program to manage upstream pollution.									
Disaster Risk Management										
EM11	Formulation of a Disaster Preparedness and Management system within the Municipality: Financing, Formulate the plan, hire skilled staff and conduct regular trainings and drills									
EM12	Build rainwater harvesting wells, underground cisterns, and water pans to collect and store the stormwater both for human and livestock use									
EM13	Identify and promote the use of drought-resistant early maturing crops & indigenous plant: Identification of target farmers, training of farmers and provision of fertilizer and seeds at subsized prices									
EM14	Acquire land and build a fully equipped disaster management centre: Financing, Identification and acquisition of land, Feasibility Study and Site Plan									

ID.	PROJECT NAME	TIME FRAME			LOCATION					
		SHORT	MID	LONG	HOLA	KUMBI	BONDENI	LAINI OVO	WENJE	MUNIC-IPAL
SOCIAL AMENITIES DEVELOPMENT										
Education										
E01	Improve the conditions of existing ECDE, Primary, Secondary and Tertiary Schools									
E02	Redevelopment and upgrading of 11 ECDE/2 Primary/ 2 Secondary schools									
E03	Acquire land and build 2 decentralized vocational institution									
E04	Acquire land and build a University Development in Hola									
Health										
H01	Improve and Upgrade Hola CBD Level County Referral Hospital									
H02	Acquire land and build a Level 4 County Hospital in Hola Expansion Area									
H03	Acquire land and build a Level 3 Health Centre in Kumbi, Bondeni, Laini and Wenje									
H04	Improve and upgrade existing facilities infrastructure, equipment and service.									
Amenities										
A01	Develop community facilities (Social Halls, Museum, Library, Theatre)									
A02	Construct community Centers									
A03	Delineate land for strategic burial sites for the community (Public, Muslim and Christian)									
URBAN AND RURAL LAND MANAGEMENT AND DEVELOPMENT										
UR01	Carry out cadastral survey and boundary demarcation (including revisions as per the approved plan) of public land and un-surveyed land parcels									
UR02	Construct cold rooms and fresh farm produce collection points in primary and secondary centers									
UR03	Establish and renovate farm-fresh produce markets									
UR04	Put up dry grain silos in Hola, Laini and Wenje									
UR05	Expand the capacity of existing fruit processing plant									
UR06	Relocate and construct a new and double capacity main Municipal livestock market									

ID.	PROJECT NAME	TIME FRAME			LOCATION					
		SHORT	MID	LONG	HOLA	KUMBI	BONDENI	LAINI OVO	WENJE	MUNICIPAL
UR07	Carry out decentralization veterinary services from Hola to Secondary centers	■				■	■	■	■	
UR08	Map and create database of all livestock routes	■								■
UR09	Construct water points for livestock across the Municipality		■							■
MOBILITY										
M01	Upgrading Old Malindi road from Wachakone towards north, from Lenda towards south and to Masalani	■								■
M02	Upgrading Kumbi to B8 road	■				■				
M03	Upgrading Wenje to B8 road	■	■						■	
M04	Upgrading roads within the Municipality to improve connectivity: Malindi Garissa B8 road		■							■
M05	Creation of the Laini to B8 road		■					■		
M06	Maintenance and consolidation of the Tana River bridge in Majengo		■						■	
M07	Construction of stormwater drainage channel along all main roads and in major urban centers	■			■	■	■	■	■	■
M08	Creation of cycling and pedestrian lanes along Old Malindi Road		■							■
M09	Creation of cycling and pedestrian lanes in Hola town	■	■		■					
M10	Installation of speed bumps and pedestrian crossing in Hola town and Secondary centers	■			■	■	■	■	■	
M11	Upgrading and consolidation of the Heller Bus Park in Hola town	■			■					
M12	Creation of bus stops in Hola, Secondary Centers and Sub-Centers	■			■	■	■	■	■	
M13	Creation of a regular public transportation system connecting Bura to Wenje along the Old Garissa Road		■		■	■	■	■	■	
HOUSING AND INFORMAL SETTLEMENT										
H01	Conduct comprehensive assessments of existing housing infrastructure to identify areas for improvement and prioritize rehabilitation efforts	■								■
H02	Densify Hola's urban Core by increasing plot ratios and accommodating vertical growth		■	■	■					
H03	Conduct a survey and a socio-economic assessment of informal settlements	■								■

ID.	PROJECT NAME	TIME FRAME			LOCATION					
		SHORT	MID	LONG	HOLA	KUMBI	BONDENI	LAINI OVO	WENJE	MUNICIPAL
H04	Draft comprehensive local plans incorporating infrastructure, housing, service provisions and resettlement strategies per each Secondary Center	■				■	■	■	■	
H05	Extend basic services such as electricity, water supply, and sanitation infrastructure to informal settlement in Hola and Secondary centers		■			■	■	■	■	
H06	Establish sustainable financing mechanisms to support long-term upgrading projects			■						■
UTILITIES										
Water Supply										
W01	Increase the water treatment capacity for the TAWASCO plant and expand the existing water reticulation systems		■		■					
W02	Create a Municipality Comprehensive Water Master plan	■								■
W03	Acquire land and build a Water Treatment Plant in Hola	■			■					
W04	Acquire land and build two Water Treatment Plants, one in Kumbi and one in Wenje		■			■			■	
W05	Construction of a water reservoir and a decentralized reticulation network for the communities in Wenje, Kumbi, Laini and Ovo		■			■		■	■	
W06	Construction of water storage facilities in Gururi, Handampia and Mansabubu		■							■
W07	Drilling of Boreholes in the following sections: Haroresa, Jamhuri, Bububu, Duwayu, Mahono	■								■
W08	Connection of Boreholes to storage facilities and distribution channels		■	■						■
W09	Construction of water pans and ponds in the western area of the Municipality	■								■
W10	Create a 10m buffer around water sources	■								■
Fecal and Liquid Waste Management										
LW01	Develop a comprehensive stormwater system in urban areas	■			■	■	■	■	■	
LW02	Acquire land and build a Liquid Waste Treatment Plant in Hola	■			■					
LW03	Provide clean communal sanitation blocks (latrines) in strategic public locations with flowing water.	■			■	■	■	■	■	

ID.	PROJECT NAME	TIME FRAME			LOCATION					
		SHORT	MID	LONG	HOLA	KUMBI	BONDENI	LAINI OVO	WENJE	MUNIC-IPAL
LW04	Identify sections for future development of decentralized sanitation systems for sub-centers areas of Wenje, Laini, Bondeni and Kumbi.			■		■	■	■	■	
Solid Waste Management										
SW01	Consolidate regular weekly municipal collection and safe disposal of waste	■		■						■
SW02	Provision of waste collection receptacles along the streets of every Urban Center	■								■
SW03	Acquire land and build a modern Landfill		■							■
SW04	Acquire land and build 3 Solid Waste Transfer Station in Hola, Kumbi, Bondeni	■			■	■	■			
SW05	Purchase 4 to 8 refuse collection trucks	■		■						■
Energy										
E01	Urban household connections in informal settlements in Hola and Secondary Centers		■	■	■	■	■	■	■	
E02	Expand solar-powered water pumping system to increase agricultural productivity in Kumbi, Laini, Bondeni, Wenje	■				■	■	■	■	
PUBLIC SPACE, CULTURE AND HERITAGE										
PS01	Develop a plan for increased accessibility to the river front through the introduction of a network of public spaces, including paths and promenades along the river			■	■					
PS02	Develop a plan to turn Hola GK prison into a cultural landmark or public facility.		■		■					

Key Projects- Institutional and Delivery Support Systems

To activate and actualize the projects listen in the previous section, key priority programs need to be implemented. These are:

Implementation Mechanism	Key Objectives	Key Actions/Projects	Implementation Period		
			1-3rd Yr	3-7th Yr	7-10th Yr+
Land Administration and Information System	▪ To develop an integrated municipal plan information system ▪ To facilitate processing of planning applications	Phase 1: Project Design/Preparation (Human resources, equipment, public participation forums, procurement, team set-up including communal land leadership etc.)			
		Phase 2: Consolidation of existing land parcels data (GIS database)			
		Phase 3: Land ownership Assessment			
		Phase 4: Integration of community land management alongside the municipal land management.			
Development Applications Management System (Development Control).	Strengthening enforcement of zoning regulations, land allocation systems, and building codes. To ensure orderly urban growth, protect public spaces, and prevent unplanned/informal settlements.	Phase 1: Approval of the plan and the enactment of the development control guidelines.			
		Phase 2: Community sensitization and education of the plan, regulations and control.			
		Phase 3: Enforcement of the guidelines and penalties for defaulters.			
Economic Development and Livelihoods Program	Promotion of agribusiness, livestock value chains, small-scale enterprises, and sustainable resource-based industries. To diversify the local economy, create jobs, and build resilience against poverty.	Phase 1: Provide training on modern farming techniques, climate-smart agriculture, and sustainable livestock practices.			
		Phase 2: Support establishment of small-scale processing units (e.g., dairy, meat, fish, or crop products). Improve market access through feeder roads, storage facilities, and cold chain infrastructure.			
		Phase 3: Facilitate access to credit, microfinance, and grants for small enterprises and cooperatives. Also, Encourage public-private partnerships to invest in sustainable, resource-based industries.			
		Phase 4: Scale up successful models across the municipality.			

Implementation Mechanism	Key Objectives	Key Actions/Projects	Implementation Period		
			1-3rd Yr	3-7th Yr	7-10th Yr+
Institutional Capacity and Governance Strengthening Program	Building the capacity of the Hola Municipal Board and Tana River County planning teams in planning, financing, M&E, and participatory governance. To ensure effective implementation, transparent budgeting, and accountability in service delivery.	Phase 1: Conduct an institutional capacity assessment of the Board and County planning teams. Identify skill gaps in planning, financing, monitoring & evaluation (M&E), and participatory governance.			
		Phase 2: Deliver structured training sessions on spatial and municipal planning, budgeting processes, and M&E frameworks.			
		Phase 3: Set up clear accountability and reporting mechanisms between the municipal board and county departments.			
Urban Infrastructure Development Program	Phased delivery of roads, drainage, water supply, sanitation, electricity, and ICT infrastructure. To improve connectivity, enhance service delivery, and create a conducive environment for growth and investment.	Phase 1: Actualize quick win but needed projects such as upgrading /rehabilitating key access roads to improve connectivity. Develop a phased investment and financing plan with timelines and budgets.			
		Phase 2: Seek funds to support the development and implementation of the selected projects in phase 1			
		Phase 3: Complete interlinked infrastructure networks for roads, drainage, and utilities. Establish systems for maintenance, monitoring, and community participation in infrastructure management.			

16.3.2 Infrastructure Coordination

Strategic recommendations for Dayate New Town and New Settlements/The 'Cluster program'

The implementation of Dayate New Town and New Settlement established are recognized as special projects. These projects require special financing and implementation mechanisms, specifically designed for them. However, the municipal-wide infrastructure prioritized by this plan will support their implementation.

The key recommendations concerning implementation of Dayate and the new settlements are as follows:

- Develop a **financing mechanism** for each project, with consideration of the existing financial base and urgency of investments required in the municipality.
- Undertake a **Socio-Economic Impact Assessment** for communities affected by resettlement and **Environmental Impact Assessment** of the new areas, thereafter, develop mechanisms to mitigate negative impact.
- Develop and implement an **economic growth strategy** linked to the new settlements and Dayate new town. The resettlement of communities aways from their current livelihood means has a negative socio-economic impact and does not motivate resettlement. Prioritize should thus be institutionalizing alternative livelihood hood means. The revival of NIA Irrigation schemes, and investments in County Farmlands can provide alternative farming areas for communities related away from the riparian agriculture.
- Guide the development of the settlement such that it **conserves** high productivity agricultural lands, important biodiversity, natural habitats and sensitive ecological systems. The development should also aim to protect wetlands, flood plains and reduce land degradation.
- Promote **community engagement** in the processes of land utilization.
- The implementation of Dayate and the new settlements will not occur in isolation but as part of the larger Hola Municipal Plan. **Municipal-wide** infrastructure investments in roads, drainage, water supply, sanitation, electricity, and ICT will be sequenced in a way that directly supports the growth of these settlements.
- The settlement will promote **sustainable land use** and settlement Planning. Dayate and the new settlements will be guided by a sustainable land use framework that protects high-value agricultural land, biodiversity hotspots, wetlands, and floodplains. Settlement design will integrate climate-smart infrastructure, green spaces, and disaster risk reduction measures.
- **Effective land management** will be critical to ensure equitable access, minimize conflicts, and safeguard long-term sustainability. This will establish clear land allocation and tenure systems, balancing government authority with customary rights and community interests. Community members will be actively engaged in identifying land priorities, demarcating settlement boundaries, and safeguarding communal resources such as grazing areas, water points, and riparian zones.

16.3.3 Action Plans and Further Planning Required

This section outlines the priority action plans and additional planning initiatives necessary to achieve the objectives of the Hola Municipal Land Use Plan over the 10-year implementation period. It highlights specific areas requiring detailed or redevelopment planning, as well as sectoral master plans essential for sustainable development and improved service delivery. The subsequent table provides an overview of these plans, including a brief description and an indicative timeline categorized as short-term, medium-term, or long-term priorities.

Plan	Description	Time Frame
Hola GK Prison Area Transformation Plan-	A detailed plan to guide the transformation of the area to an integrated public space, heritage, market – costing of the plan, resettlement action plan	Short-term
Riverside Accessibility and Public Space Plan	Develop a plan to enhance accessibility to the riverfront by creating a network of public spaces, including paths and promenades along the river	Short-term
Detailed Mobility Plan of Hola Urban Area	Detail the mobility strategy based on the land use plan, focusing on sustainable transport, improved connectivity, and enhanced accessibility within the Hola urban area	Short-term
Local Plan for Secondary Center – Laini Ovo	Prepare a detailed plan to guide sustainable development, infrastructure provision, and land use management in the secondary center, following as a reference Chapter 15	Short-term
Local Plan for Secondary Center – Wenje		
Local Plan for Sub-Centers	Prepare a detailed plan to guide sustainable development, infrastructure provision, and land use management in the secondary center, following as a reference Chapter 15	Medium to Long-term
Disaster Management Plan (DMP)	Develop a comprehensive plan addressing flooding and drought, integrating stormwater systems, enhancing water security, and promoting renewable energy. Strengthen community participation and institutional capacities for effective disaster response and resilience building.	Medium-term
Water Management Plan for the Tana River	Develop a plan for the Tana River to enhance water management, maximizing efficiency and productivity.	Medium-term
Integrated Water Masterplan (IWM)	Develop a comprehensive plan to ensure equitable water access, protect water sources, and manage wastewater and stormwater strategically	Short-Term
Municipal Sanitation and Sewerage Reticulation Plan	Develop a comprehensive plan for sanitation and sewerage systems to ensure efficient waste management and improve public health within the municipality	Medium-Term

16.4 INSTITUTIONAL DEVELOPMENT PLAN

Hola Municipality operates within the framework of Kenya's devolved governance system. The municipality is administered through a Municipal Board established under the Urban Areas and Cities Act (2011, amended 2019), with oversight from the Tana River County Government. While the municipality is mandated to manage urban development, service delivery, and local planning, its effectiveness is highly dependent on **collaboration with county departments**, which retain responsibility for most financing, infrastructure development, and social services.

At the same time, several functions, particularly water resources, riverine management, roads, and education, fall under shared or exclusive jurisdiction of **national agencies**. This multi-level structure often results in overlaps, unclear mandates, and delayed implementation of municipal priorities.

Implementation Coordination Institution

Figure 16.3 - Roles and Responsibilities of Implementation Actors

Institutional Autonomy	Intergovernmental Coordination	Budget Planning and Financing Alignment	Capacity Development
• Enhance administrative and financial autonomy by building its capacity to mobilize own-source revenues, manage local projects, and oversee contracts and service delivery agreements.	• Establish formal intergovernmental coordination forums between Hola Municipality, Tana River County departments, and relevant national agencies (e.g., NEMA, NLC, NIA, and Ministry of Transport) to harmonize planning, avoid duplication, and streamline resource allocation.	• Strengthen the integration of municipal development priorities into the County Integrated Development Plan (CIDP) and Annual Development Plans (ADPs), ensuring dedicated budget lines for municipal projects. Joint financing mechanisms should be created between county and municipal authorities, while also aligning with national programs and external donor support.	• Invest in technical capacity for planning, GIS-based monitoring, procurement, and financial management to ensure professionalization of municipal functions.

Table 16.3 - Roles and Responsibilities of Implementation Actors

Actor Name	Roles and Responsibilities
Municipal Board	The oversight body for strategic planning, prioritization, and stakeholder engagement. Build the Board's ability to review and approve budgets, monitor project performance, and ensure alignment with the LPLDP.
Municipal Manager and Technical Staff	Empower the municipal manager to coordinate directly with county departments on resource allocation and project implementation. Technical units should be reinforced in land use planning, infrastructure development, environmental management, and local economic development.
Municipal and County Team	Establish or strengthen a multi-stakeholder Implementation Coordination Committee for the Hola LPLDP, with representatives from the municipality, county departments, national agencies, CSOs, and the private sector. This body should track implementation, resolve conflicts, and provide accountability for the plan's outcomes.
County team – interdepartmental team	Clearly define shared roles between county line departments (water, health, education, transport, agriculture) and the municipality to avoid duplication and ensure municipal priorities are mainstreamed into county programs.
Community Leaders	Formalize community forums to ensure local voices are integrated into implementation, monitoring, and evaluation of the Hola LPLDP, in line with the constitutional principle of public participation.

16.4.1 Mechanisms to Strengthen Municipal Institutions

To ensure the effective implementation of the Hola Local Physical and Land Use Development Plan (LPLDP), institutional strengthening is paramount. The municipality must adopt reforms and clear guidelines that enhance coordination, transparency, and accountability in planning, financing, and the delivery of basic services. Strengthened municipal institutions will provide the backbone for sustainable growth, improved service delivery, and resilience building.

1. **Strengthening Intergovernmental Planning and Budgeting**

- Establish structured coordination mechanisms between Hola Municipality, Tana River County departments, and relevant national agencies to ensure joint planning and harmonized budgeting.
- Integrate municipal priorities into County Integrated Development Plans (CIDPs) and annual budgets to secure sustainable financing.
- Adopt participatory budgeting practices to enhance transparency and community ownership of development initiatives.

2. **Enhancing Financial Management and Resource Mobilization**

- Build the capacity of municipal staff in financial management, procurement, and revenue generation.
- Diversify municipal revenue streams by leveraging property rates, user fees, and partnerships with private sector actors.
- Explore innovative financing mechanisms, such as public-private partnerships (PPPs), climate funds, and donor-supported financing windows aligned with the Hola LPLD Plan.

3. **Strengthening Planning and Monitoring Capacity**

- Institutionalize a technical planning unit within Hola Municipality to guide spatial planning, infrastructure development, and service delivery. This will include both municipal staff and county staff.
- Develop robust Monitoring and Evaluation (M&E) frameworks for tracking progress, ensuring accountability, and enabling adaptive management.
- Foster capacity development through training in GIS, data management, and evidence-based planning.

4. **Improving Service Delivery and Infrastructure Management**

- Formalize service delivery agreements with county departments (e.g., water, sanitation, health, education) to clarify mandates and ensure accountability.
- Adopt integrated service delivery models to enhance efficiency, particularly in remote and peri-urban areas.
- Prioritize maintenance systems for infrastructure and utilities to safeguard investments and reduce service disruptions.

5. **Governance and Stakeholder Engagement**

- Strengthen participatory governance platforms to engage citizens, CSOs, and the private sector in decision-making processes.
- Establish grievance redress mechanisms to enhance accountability and build public trust.
- Promote inclusivity by mainstreaming gender, youth, and vulnerable groups in planning and service delivery

16.5 MONITORING AND REVIEW

The Hola Municipal Plan will adopt a structured review cycle to ensure continuous monitoring, adaptive management, and compliance with statutory requirements. The framework will align with the County Governments Act (2012) and the Physical and Land Use Planning Act (2019), which mandate the preparation, implementation, and periodic review of county and municipal plans.

1. Annual Monitoring and Reporting

- Each year, progress on the implementation of projects and programs will be reviewed alongside the county's budget cycle and the Integrated Development Plan (IDeP).
- Monitoring will include an analysis of funding allocations, expenditure levels, completion status of projects, and progress toward institutional strengthening.
- An Annual Implementation Report will be prepared by the municipal board in collaboration with the County Department of Planning and shared with the public for accountability.

2. Mid-Term Review (Every 5 Years)

- A comprehensive mid-term review will be conducted at the halfway point of the plan's implementation period.
- This review will evaluate the effectiveness of strategies, identify gaps in financing or institutional capacity, and assess community satisfaction with progress.
- The mid-term review will inform adjustments in project phasing, resource allocation, and policy priorities, ensuring the plan remains relevant to emerging socio-economic and environmental challenges.

3. Full-Term Review (Every 10 Years)

- At the end of the plan period, a full review will be undertaken to measure overall achievements against the set objectives.
- This review will document lessons learned, evaluate long-term impacts on land use, infrastructure, environment, and socio-economic development, and inform the preparation of the next municipal plan.
- The full review will also consider alignment with county, national, and international frameworks such as Kenya Vision 2030 and the Sustainable Development Goals (SDGs).

4. Continuous Public Participation

- Throughout the cycle, structured public engagement forums will ensure citizens, civil society, and private sector actors actively participate in monitoring and review.
- Feedback mechanisms, including annual forums, community scorecards, and digital reporting platforms, will enhance transparency and ensure the plan adapts to local needs.

This cycle ensures annual accountability, mid-term adaptability, and long-term sustainability, creating a clear link between planning, budgeting, implementation, and reporting.

16.5.1 M&E Framework for Implementation

Monitoring and Evaluation (M&E) Framework for the Hola Municipal Plan provides a structured approach for tracking progress, ensuring accountability, and enabling adaptive management. The framework will point to specific indicators that can be assessed to measure the effectiveness of the plan and in evaluation of the project, these indicators are key to assess the review. Data collection is key metric for assessing the effectiveness of the plan, the county therefore needs to prioritize evidence-based planning by recording progress of action post plan implementation.

Key assessments are:

Infrastructure Projects

- Indicator: % of infrastructure projects completed on time and budget.
- Indicator: % of projects aligned with phasing in the Municipal Plan.
- Data Source: Project reports, County M&E Unit, site inspections.

Land Use Regulations and Development Control

- Indicator: % of development applications reviewed and approved in compliance with the zoning framework.
- Indicator: Number of violations recorded and resolved.
- Data Source: Development control permits, GIS-based compliance mapping.

Spatial Transformation

- Indicator: Change in built-up areas, green space coverage, and settlement patterns.
- Indicator: Extent of informal settlements and rate of densification.
- Data Source: GIS/remote sensing data, municipal records.

Housing Delivery

- Indicator: Number of new housing units delivered annually (by type and affordability level).
- Indicator: % of low-income housing relative to total housing delivery.
- Data Source: Housing Authority records, county housing department, field surveys.

Basic Services Improvement

- Indicator: % of households with access to improved water and sanitation.
- Indicator: % of solid waste collected and safely disposed of.
- Indicator: Road coverage (km of tarmacked/gravel roads per ward).
- Data Source: Sector reports, household surveys, utility providers.

16.5.2 Guidelines for Future Planning Review

The future review of the Hola Municipal Plan should be guided by a **structured, participatory,** and **evidence-based** process that aligns with Kenya's legal and policy framework. Reviews should be conducted at defined **intervals**, preferably every five years for mid-term evaluation and at the end of the plan cycle for comprehensive assessment. This ensures there is a continued relevance in addressing emerging urban challenges and opportunities.

Key areas for review will include assessing the status of project implementation, examining whether the sequenced infrastructure projects, programs, and service delivery targets were achieved. It will also involve evaluating institutional capacity and governance arrangements, identifying gaps in resources, technical skills, and stakeholder coordination. Reviews should measure compliance with land use regulations and development controls, while also monitoring spatial transformation using geospatial tools to track settlement patterns, growth trends, and environmental conservation outcomes.

Public participation should remain central to the review process, ensuring that community aspirations, feedback, and concerns are incorporated to build ownership and accountability. The review should establish clear linkages between planning, budgeting, implementation, and annual performance reporting, thereby strengthening adaptive management.

CHAPTER 17

FINAL RECOMMENDATIONS

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17.1 OVERVIEW

This chapter provides a conclusive assessment of the Hola LPLDP, drawing attention to the potential risks and challenges that may hinder its effective implementation. Some of these risks arise from natural occurrences and external factors that cannot be fully anticipated, while others are institutional, social, and infrastructural in nature. Recognizing these challenges is essential to ensure that appropriate mitigation measures are integrated into the implementation framework. Proactive planning, capacity building, and adaptive management will therefore be critical in safeguarding the plan's success and sustaining the envisioned growth of Hola Municipality.

17.2 GUIDELINES FOR ACTION

The Hola Local Physical and Land Use Development Plan (LPLDP) sets out a comprehensive framework to guide the municipality's growth over the coming years. Hola's development is shaped by complex social, economic, spatial, and environmental systems that are often interdependent, yet not always mutually supportive. Unplanned settlements have expanded into environmentally fragile areas, agricultural and livestock activities have altered natural ecosystems, and recurring floods and droughts continue to threaten lives, livelihoods, and investments. At the same time, inadequate infrastructure, limited connectivity to rural areas, and underutilized economic potential have constrained inclusive growth.

Despite these challenges, Hola is well-positioned to emerge as a resilient regional hub. Its central role as the county headquarters, service center, and economic node creates opportunities to strengthen urban–rural linkages and enhance the municipality's competitiveness. The plan recognizes Hola Town as the municipality's main center, supported by a system of secondary rural centers, enabling a balanced urban–rural structure. This model promotes equitable access to services, fosters community development, and strengthens resilience against natural and human-induced risks.

A central theme of the LPLDP is effective land use integration and sustainable resource management. The plan emphasizes the importance of conserving fertile farmland, riverine ecosystems, and biodiversity hotspots while guiding urban expansion into suitable areas. It also underscores the need to protect pastoralist corridors and ensure coexistence between farming and livestock activities.

This balanced approach will help reduce conflicts, mitigate environmental degradation, and promote sustainable livelihoods.

The plan also highlights the importance of connectivity and infrastructure. Phased investments in roads, drainage, water supply, sanitation, electricity, and ICT will not only improve service delivery but also create a conducive environment for private sector growth and job creation. Enhanced connectivity will strengthen linkages between Hola and rural settlements, facilitating access to markets, education, healthcare, and other essential services.

Economic development is another key pillar of the LPLDP. The proposed county farmland program, covering 37,000 acres, alongside the revival of irrigation schemes and agro-processing industries, has the potential to transform Hola into a vibrant agricultural hub. The municipality's role as an administrative, commercial, and cultural center is to be reinforced by investments in SMEs, markets, tourism, heritage conservation, and innovation hubs that can incubate entrepreneurship.

Environmental management and disaster risk reduction are woven throughout the plan. Measures such as flood zoning, restoration of wetlands, and sustainable land management practices are critical to reducing vulnerabilities while enhancing resilience. At the same time, cultural heritage sites and community values are recognized as key assets for strengthening identity and promoting inclusive development.

For successful implementation, the LPLDP stresses the importance of institutional strengthening, financial innovation, and participatory governance. Clear roles and coordination mechanisms between the municipality, county, and national agencies are essential to ensure efficiency, transparency, and accountability. Innovative financing, including donor partnerships, public-private initiatives, and municipal revenue reforms will be required to deliver the programs outlined.

17.3 RISKS FACING THE PLANS SUCCESS

While the Hola Local Physical and Land Use Development Plan (LPLDP) provides a robust framework for guiding sustainable growth, several risks could undermine its successful implementation if not adequately addressed. These risks span across institutional, social, economic, and environmental sectors, and require proactive mitigation strategies.

1. Human Resources and Institutional Capacity

The effective implementation of the plan is heavily dependent on skilled personnel within the municipality and county government. Limited technical capacity in areas such as spatial planning, infrastructure development, environmental management, and monitoring may constrain progress. High staff turnover, inadequate training, and insufficient resources for municipal offices further exacerbate this risk, potentially delaying delivery of planned interventions.

2. Education and School Infrastructure

Hola's projected population growth will increase demand for educational facilities at primary, secondary, and tertiary levels. The risk lies in the current inadequate number of schools, poor distribution of facilities, and limited resources for teachers and learning materials. If these gaps persist, the municipality could face rising rates of dropouts, overcrowding in classrooms, and reduced quality of education, which would undermine human capital development and local economic growth.

3. Health Care Services

The municipality is already experiencing strain in healthcare provision due to inadequate facilities, shortages of medical personnel, and limited access to specialized care. A growing population, coupled with vulnerabilities such as floods, droughts, and disease outbreaks, presents a major risk to the health sector. Failure to expand healthcare infrastructure and services in line with projected growth could exacerbate health inequalities, reduce productivity, and undermine social well-being.

4. Mobility, Connectivity, and Linkages

The success of the LPLDP relies on strengthening linkages between Hola's urban core, rural settlements, and regional economic centers. However, risks persist in the form of poor road infrastructure, limited public transportation systems, and seasonal disruptions caused by floods that cut off access routes. Inadequate mobility weakens trade, restricts access to education and healthcare, and delays emergency response efforts. Unless addressed, this will hinder local economic development and social inclusion.

5. Economic and Financial Risks

The realization of the plan depends on sustained investments from both public and private sectors. However, fiscal limitations at the county and national level, coupled with fluctuating donor support, pose financial risks. Additionally, informal land markets and speculative practices could distort planned investments, reducing the municipality's ability to achieve orderly development.

6. Environmental and Climate-Related Risks

Flooding, drought, and degradation of the riverine ecosystem continue to pose significant threats to the municipality. Unchecked environmental risks could derail agricultural productivity, displace communities, and strain resources such as water and grazing land. Climate variability further compounds these challenges, requiring adaptive planning and investment in resilience.

Without addressing these cross-sectoral risks, the plan's implementation may be slowed, fragmented, or rendered unsustainable. Strengthening institutional capacity, improving service provision in education and health, enhancing mobility networks, securing adequate financing, and prioritizing climate resilience will be essential to safeguarding the success of the Hola LPLDP.

In conclusion, Hola's path to sustainable development lies in embracing integrated urban rural growth, resilient environmental stewardship, inclusive economic strategies, and participatory governance. The LPLDP provides not only a roadmap for managing current challenges but also a vision for harnessing Hola's potential as a thriving, resilient, and inclusive municipality. Its successful implementation will require collaboration across institutions, communities, and partners, with a shared commitment to sustainable development and improved quality of life for all.

Figure 17.1 - Aerial View of Hola town



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