REPUBLIC

COUNTY

KITENGELA

INTEGRATED DEVELOPMENT 2019-2028

SEPTEMBER

FOREWORD

I am pleased to introduce this 10-year plan, which is a road map on how Kitengela Town is gear ed to develop. This is the first comprehensive Spatial Plan for Kitengela Town and it has been p repared at time when Kajiado County is grappling with challenges of tackling rapid urbanizatio n. I am happy to note that this plan has been prepared in a participatory manner taking into acc ount the contributions of various stakeholders whose role in the implementation of the proposa ls as detailed in this plan is fundamental.

Kajiado County has witnessed rapid urbanization in the last few decades with people moving in to settle in this County and set up industries and other development activities. Kajiado North w here Kitengela Town is located has taken the bulk of urbanization. It has also witnessed high po pulation growth and economic activities and over the last ten years since the beginning of devo lved governance, bringing with it a lot of development changing our towns' characters.

Due to this rapid growth as a County, we are expected to commit more investment to cope with this expansion. More people needs to be accommodated in a suitable environment with ease o f movement, adequate physical and social infrastructure and create room for additional employ ment opportunities.

However, most of this urbanization is happening in the peri-urban areas with little or no plannin g taking place which is characterized by piecemeal subdivision and change of user events. Due to the absence of planning tools like this Integrated Strategic Urban Development Plan (ISUDP) to guide and manage this rapid urbanization trend, current development in these areas will suff er from uncoordinated growth, land use conflict, inadequate basic infrastructure facilities and s ervices, poor housing and loss of agricultural land among other challenges.

Integrated Strategic Urban Development Plan (ISUDP) 2019 – 2028 is prepared within the globa l commitment and Kenya's existing policy and legal framework, which includes inter-alia global commitments to sustainable development, Kenya's Vision 2030, Constitution of Kenya, 2010, C ounty Government Act, 2012, Urban Areas and Cities Act, 2011, Physical Planning Act, 1996 and other applicable statutes that form the legislative framework within which the County will be ab le implement it. This therefore gives the County and the Town necessary tools to correct and pr ovide a context of addressing the current development trends.

The plan has taken into cognizance the many opportunities and resources that potentially the T own can exploit in addressing these problems and unitizing the resources sustainably. This Pla n will therefore enable the County to direct development growth to the most appropriate locati ons and improve service delivery.

Some the key components of this Plan are the sectoral programmes and projects whose object ive is to ensure integration and co-ordination of development priorities. Another key componen t is the institutionalizing the County Planning Unit (CPU) as provided under Clause 105 of the C ounty Government Act, which will ensure consistency across the entire planning and implement ation cycles. This means that sectoral strategies will be implemented within a spatial framewor k and in turn, this would reflect the socio-economic analysis across the entire Town. The plan h as also identified several action areas and quick-win projects, which will ensure fast tracking of the implementation of the identified priorities, setting pace for realization of the medium and lo ng-term projects.

My administration acknowledges with appreciation the support of the World Bank for the financ ial support in preparing this plan. I recommend the National Government through the Ministry o f Transport, Infrastructure, Public Works, Housing and Urban Development and Directorate of N airobi Metropolitan Development, for providing the technical and supervisory roles. The County

Department of Land, Housing and Physical Planning led CEC Mr. Hamilton Parsimei and his staff have played a pivotal role in steering the planning process thereby seeing the successful completion the preparation of this ISUDP.

I appreciate all other stakeholders namely, professional bodies, resident associations, business community, community-based organisations, and wananchi, for their engagement and valuable-inputs during various preparation stages. My Government pledges to ensure during the course of implementation of this plan that it will continue to involve and collaborate with all stakeholders to achieve full realization of the plan.

The implementation of this plan will without doubt, bring about positive change and improvement in our people's lives.

I welcome all to support this noble course in realizing the vision of this plan.

H.E Joseph Ole Lenku

Governor, Kajiado County

CERTIFICATION AND APPROVAL

This Plan has been prepared and published as per requirements of the Physical and Land Use Planning Act, 2019

CERTIFIED

SIGNATURE..... DATE 2/12/2020

County Director of Physical Planning

APPROVED

SIGNATURE..... DATE 2/12/2020

CECM in charge of Physical Planning/Urban development

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EXECUTIVE SUMMARY

Chapter 1: Planning Framework

The Kitengela Municipality Integrated Strategic Urban Development Plan (ISUDP) 2019 – 2028 is County Government of Kajiado's tool that will support it to meet its key urban development strategy. It is the first component dealing with institutiona l reform and planning the will guide infrastructure and governance capabilities to meet Nairobi Metropolitan Service Improvement Project's (NaMSIP) central agend a.

This Project is being implemented by the Ministry of Transport, Infrastructure, Pu blic Works, Housing & Urban Development (MoTIPWH&UD), Directorate of Nairobi Metropolitan Development (DoNMED), with the support of the World Bank. The c onsulting group comprising VisionRI Connexion Service Private Limited of India w as commissioned by the MoTIPWH&UD to provide technical consultancy services f or the Project.

Objectives of the Project: The objectives of the ISUDP are –

i) To determine demographic changes in the last ten years and those exp ected over the life of the plan for each town, and how these relate to e conomic changes, welfare, and administrative shifts;
ii) To identify development constraints and potentials (social, economic, e nvironmental and infrastructure profiling) and propose strategies to ad dress them;
iii) To provide a basis for infrastructure and service provision for present a nd projected population over the plan period;
iv) To allocate sufficient space for various land uses, including recreation and open spaces, to ensure efficient function and convenience of users and accommodate future growth;
v) To uphold innovative civic and urban design that enhances the charact er and form of the town;
vi) To provide a basis for development control and investment decisions; a nd
vii) To develop a plan implementation and monitoring framework.

Purpose of the Project: In accordance with the Project's Terms of Reference (TO R), the general purpose of the ISUDP meets the following:

i) Articulating the aims of the National and County Governments for the area together with strategies, policies and general proposals which ar e intended to achieve those aims;
ii) Providing a framework for detailed development policies and proposal s for the Municipality;
iii) Indicating Action areas for immediate development or re-developmen

t;

iv) Providing a coordinated basis upon which various implementing agencies can develop their individual programs of work for which they have executive responsibility, for example, housing, transportation, water supply, electricity supply, sewerage development, etc.

Geographical Scope of the Project: Kitengela covers approximately 500 Sq Kilometres and is composed of 2 wards with 2 locations. The wards and locations include Kitengela and Kaputei wards; precisely, Kitengela and Kisaju locations.

Planning Scope of the Project: The Terms of Reference of the Project has outlined the exact tasks that will be employed in delivering the assignment. This includes:

- Delineation of area designated for the new Municipality as guided by the county Government of Kajiado;
- Carrying out contextual analysis of the proposed Municipality and its environs;
- Undertaking an assessment of transport, infrastructure and utility needs, housing and community services;
- Analyse administration and institutional requirements in planning and development;
- Preparation of individual implementation plans to include proposed requisite resource and institutional frameworks; and
- Preparation of zoning plans for the proposed Municipality with requisite development densities and guidelines, among others.

Project Products: The products of the assignment will be as follows:

i) The Situational Analysis: covering a summary of the Municipality; demographics; environment; infrastructure and utilities; local economy; land use and urban design; governance; SWOT Analysis. Other components of the plan include: GIS maps; investment strategy; resource mobilization and revenue enhancement strategy; and the action area plans; and
ii) The ISUDP Proposals Document: complete with the development vision and objectives; refined thematic studies; alternative and preferred development proposals; infrastructure plans; and land use and zoning plans.

Methodology: The methodology used in the planning process underpinned participatory approaches. This is especially evident in the Metropolitan-wide studies performed to contextualize the Municipality's environmental and natural resources setting and transportation linkages with regards to its functional role with the Nairobi Metropolitan Region (NMR). In addition, the methodology took cognizance of the unique relationship between urban areas and its hinterland from an environmental, economic, social and infrastructural perspective in line with determination of well-placed relationships of various sectoral projects. Moreover, the methodology analyses the economic context under which the ISUDP would be prepared throug

h:

i) Identifying the key economic planks and role of the Municipality to contribute in the economic development priorities of NMR, and in turn, the economy of Kenya;
ii) Identifying the key challenges and constraints that the Municipality faces in the process of fulfilling its role in the NMR and Kenyan economy as well as how these challenges and constraints can be managed through strategic urban planning.

Planning Model: The plan has introduced a planning model that ensures that the inter-relationships affecting the planning area's development are adequately identified and considered with succinct implementable development strategies.

Further, it presents a methodological framework that speak to the specific context, situation, integrated development, land use planning, and the implementation cycle. In the end, a defined process for delivering the plan is then proposed. This involves 11 steps that start with organizing the project planning team; developing the project design; stakeholder consultations; and conducting thematic studies, development of vision and objectives; formulation of development alternatives; draft plan preparation and development of proposals; among others.

Chapter 2: Contextual Analysis

This Chapter is on contextual analysis situates the preparation of the plan bearing cognisance of international, national and regional development context and trends, as well as development potentials of the clusters within the NMR at the national, regional and local levels.

Against the background of rapidly expanding urban areas, it behoves a review of sectoral governance structures, infrastructure systems, and support and general service provision resources to be realigned benchmarked against global best practice.

The sectors focused on in this ISUDP include energy supply; water and sanitation; waste management; education vis-à-vis the literacy rate; and health service provision. It also looks at housing and road infrastructure from a historical and present framework with a view to growing its potentials to compose future development. The plan uses urbanization case studies from South Korea, Singapore, Malaysia, Brazil, and Botswana to validate the functionality and success to models that could be implemented.

The plan is keen to review varied urban planning and development trends locally and internationally, urban planning trends in line with sustainable development goals, in order to comprehensively delivery required services to the increasing population. It also aligns itself to the urban agenda, which has focussed on improving the living environments of world's growing urban population an integrated and coordinated manner at the global, regional, national, subnational and local levels, with the participation of all relevant actors.

The plan also explores the possibilities alluded to the Kenyan economy vis-à-vis t he East African region and the global context, bearing that Kenya has consistently attracted high levels of foreign direct investment (FDI) and as the main source of FDI to its neighbours. For example, it increased its FDI from $9 million in 2011 to $1 6 million in 2012 and this growth has continued to expand. The Sectoral Economie s of Nairobi Metropolitan Region will basically rely on Agriculture; Real Estate; Ind ustry and Manufacturing; Service Sector; Tourism; Employment; Poverty and Inco me Inequality; and Micro and Small Enterprises.

The ISUDP has aligned it delivery to Kenya's Long-term Vision – Vision 2030, Nair obi Metro 2030 and Spatial Planning Concept for NMR. The plan also reviews at t he sectoral economies of Nairobi Metropolitan Region, which include agriculture, i ndustry and manufacturing, the service sector, tourism, employment and income generation activities in the formal, small, and micro enterprises. The plan explores this against the backdrop of poverty and income inequality in the county. In the en d, it looks at the bottlenecks that can hinder the development of the NMR, which i nclude GRDP growth, macroeconomic stability, labour market, security and enforc ement of contracts, infrastructure development, and rapid population growth amo ng others.

At the national level, the plan invokes the Nairobi Metro 2030, in providing policy direction for the development of the metropolis in order to support Kenya Vision 2 030, and Spatial Planning Concept in line with the Nairobi Metropolitan Region (N MR). Its delivery will support the National Spatial Plan and the National Spatial Pl anning Concept for the NMR and the Kajiado County Integrated Development Pla n 2013-2017.

This ISUDP has been prepared within the relevant legal and policy frameworks of the Government of Kenya including the Constitution of Kenya, 2010; County Gover nment Act, 2012; Physical and Land Use Planning Act, 2019; Urban Area and Cities Act, 2011; Environment Management Act, 1999; and the Public Health Act – to enh ance effective management of noxious matter or wastewater discharged variousl y across the development area. The relevant policy instruments besought Nationa l Land Use Policy; Urban Development Policy; and the Sessional Paper No. 10 of 20 12.

Chapter 3: The Planning Area

This Chapter deals with the planning area. Kitengela lies within Kajiado County; w ith Kitengela has an area of 500 km^2 with a population density of 809 persons per km^2. It is located at an altitude of 1,700m (a.s.l.). According to Kenya Bureau of Sta tistics Population Census of 2009, Kitengela had a population is 60,652. It is one o f the major towns in the Southern Metropolitan region, in addition to Ngong, Ong ata Rongai, and Kiserian towns.

The proposed Municipality is part of a larger rangeland ecosystem called the Athi -Kaputei Plains, which has undulating slopes that roll towards Ngong Hills, and is characterised by gentle slopes.

The broad strategic and policy guidance for development in the Nairobi Metropoli tan Region comes from The Spatial Planning Concept for Nairobi Metropolitan Re gion (SPC), The Integrated Urban Development Master Plan for the City of Nairobi (NIUPLAN) and The Mass Rapid Transit Harmonization Study (Harmonization Stud y). It also refers to the Kajiado County Integrated Development Plan 2013 – 2017.

NMR offers abundant investment opportunities in manufacturing, infrastructure d evelopment, financial, agro-processing, chemical, pharmaceutical, mining, and mi neral processing sectors as well as in the engineering and construction industry. T he recent economic performance of the hospitality industry and to an extent, tran sport and communication, reflects the rapid growth of the tourism industry.

The ISUDP also looks at the urban growth and development trends; general land use patterns; land market dynamics, administration and management and reflect s this against urban growth scenarios. It reviews the planning areas urban morph ology in line with the prospects for urban design improvements e.g. improvement s in pedestrian mobility; provision of adequate vehicle parking facilities; provision of publicly accessible amenities and an enforcement of regulated architectural de sign standards.

This plan also explores providing an efficient transport system by looking at the e xisting road types; road condition; surface types; and non-motorised transport co mponents and modes. It also discusses improvements in the planning area's physi cal infrastructure including Water supply – through assessing the water demand a nd supply as well as the planned and on-going initiatives; Energy provision – in rel ation to existing sources and potential investment e.g. in biogas, solar and wind e xpansion; ICT Infrastructure in line with the growing demand; Solid Waste Manag ement – through an integrated and sustainable waste management plan; Waste water disposal system; and Storm water drainage – tackling recurrent flooding.

The plan further assesses the current state and projected needs of social infrastr ucture – in relation to housing, health, community facilities such as recreation and public parks; playgrounds; religious facilities; cemeteries; and security centres.

The report addresses governance by reviewing the planning area's institutional fr amework, with the intricacies of planning, implementation, and monitoring, creati ng room for amendment of the plan.

In relation to reducing and managing disasters across the planning area, the repo rt outlines disasters associated with climate change and variability, flooding and deluge control, landslides, drought and famine and the need to set aside funds fo r emergencies.

Chapter 4: Stakeholders Participation

Deals with involvement of stakeholders in the planning process. Their participatio n, engagement, contribution, methods, and management has been stressed, follo wing consultation sessions and stakeholders planning workshops and forums that provided opportunities for feedback to increase ownership.

Chapter 5: Development Plan

This chapter covers the Integrated Strategic Urban Development Plan provides th e overall vision which is a well-planned and secure town with a 24-hour economy; mission that expands the vision through providing an efficient and reliable infrastr ucture network; and goals and objectives. The plan reviews the structuring eleme nts, land use trends, transport system and the physiographical factors such as riv ers and valleys surrounding the town.

In addition, the plan analyses three spatial development models that is: the nil int ervention; concentric zone model; and multiple nuclei model. The three models ar e analysed against the desired development paradigm and a combination of the c oncentric and multi-nuclei models is mooted to come up with an integrated mode l. This mode promotes compact development, which curbs urban sprawl and ribb on development hence leaving undeveloped land for future expansion. Under this model, Kitengela will serve as the main administration centre, commercial, and tra nsport hub, while other nodes such as Saitoti, Yukos, and Ereteti will become the r esidential hubs. Noonkopir will be a sub-administrative centre with some commer cial activities. The model envisage great investments in modern farming enterpris es, industrial development, hospitality especially along the Naitional park interfac e.

Chapter 6: The Land Use Plan

This chapter is on land use plans. It presents long-term development framework f or Kitengela by indicating land use classifications, transportation corridors, and lo cation of utilities and services. The integrated model has been considered most s uitable in Kitengela as it blends multiple activities within multiple nodes, minimizi ng the number of trips and trip length brought about by a mono-centric model. T his plan will ensure equitable distribution of facilities, a good transportation netw ork, green character and protection of sensitive areas.

The plan categorises the proposed land uses in to the following: residential (high, medium and low densities); industrial; institutional zones, offloading commercial i nterface especially on Ongata Rongai spillage zones (Twala and Rangau). Comme rcial reengineering along Namga road and the CBD), public purpose and utilities; transportation; and agriculture. The plan also proposes land for future developme nt and land banks retained under agriculture.

This chapter also provides for building control regulations for the different zones i n accordance with the provisions of the approved national standards.

Chapter 7: Sectoral Programmes and Projects

This Chapter provides sectoral strategies and a summary of the sectorial progra mmes and projects proposed for the implementation of the plan, which are essen tial in achieving the desired goals as articulated during the stakeholder's forum. T he sectoral covers short, medium and long-term programmes and projects

The implementation of the plan requires collective efforts of various agencies. Th

e key institutions include Kajiado County government, various government ministri es, departments and parastatal organizations, neighbourhood associations, other local community groups, landowners and the public. The period for each action ha s been given indicating the expected implementation time, i.e. short term, mediu m term or long term. The sectors include environment and natural resources; phys ical and social infrastructure; energy; local economy; housing; transportation; infor mal settlements upgrading; tourism and heritage; disaster risk management; and finance and revenue enhancement.

Chapter 8: Action Area Plans

This Chapter covers action-oriented plans for specific areas with targeted interve ntions designed to intervene problem areas and objectives. The purpose of Actio n Area Plans is to address the challenges and issues. In Kitengela, three action ar eas are proposed. These are Kitengela CBD; the bus park and market; and the qu arry located near the CBD. The three interventions are meant to provide immediat e action for development or re-development. The section provides systems for di saster management and containment. Environmental sustainability has been key i n developing livable towns. Areas that potent disasters are identified for purpose s of creating awareness. Increased pavement, poor waste disposal systems and e ncroachment of riparian land possesses great danger for flooding. Land harveste d for building material promote dereliction and unforeseen catastrophises. Action plans in these chapter provide a wide range of options for interventions.

Chapter 9: Finance and Revenue Enhancement

This Chapter analyses the financing and revenue enhancement strategies. It ident ifies the current sources of county finance and proposes new opportunities of enh ancing revenue and financing. The main sources of Revenue include national gove rnment allocation; donor funding; own source revenue; single business permit; nat ural resources fees; development application approvals; land rates and rent; moto r vehicle parking and market fees.

The plan proposes the following as the opportunities for revenue enhancement. T his includes the following: automation; effective public participation; formulation of a tariffs and pricing policy; improving revenue administration; determining an a ppropriate structure for revenue administration; better fiscal management; public private partnerships; loans/borrowing; grants/donations; and royalty payments.

The chapter concludes that in order to creating a conducive policy for engagemen t to enhance revenue the following need to be put in place:

- Formulation and implementation of policies to support growth of busine sses in the county.
- Engagement with the private sector in round table sessions to address i ssues affecting them.
- Enforce fair trade practices within the county
- Conducting feasibility studies to determine viability of new business op

portunities and shared with potential investors

- Improving social and physical infrastructure to support business operati ons.

Chapter 10: Implementation Plan

This Chapter addresses the mechanisms of delivering the plan and its implement ation. It offers a comprehensive structure for the action plans. It identifies the role s of the different actors involved in actualising the plan. The key driver for the imp lementation of the plan will be the County Planning Unit, charged with the role of coordinating different departments and agencies. The chapter also shows how th e plan is anchored within the CPU; and provides lists the priority projects under e ach programme.

Chapter 11: Monitoring & Evaluation

This chapter is on monitoring and evaluation provides a performance-based moni toring framework of plan implementation. It identifies the economic impacts, spat ial impacts, social impacts, environmental and governance impacts; identifying ea ch expected outcome and success indicators.

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ABBREVIATIONS & ACRONYMS

ADT	Average Daily Trip
BRT	Bus Rapid Transit
CAGR	Compound Annual Growth Rate.
CBD	Central Business District
CIDP	County Integrated Development Plan
CoK	Constitution of Kenya 2010
CSF	County Spatial Framework
DoNMED	Directorate of Nairobi Metropolitan Development
ECDE	Early Childhood Development Education
EPZ	Export Processing Zone
FDI	Foreign Direct Investment
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GDRP	Gross Region Domestic Product
ICT	Information Communication Technology
ILRI	International Livestock Research Institute
ISUDP	Integrated Strategic Urban Development Plan
KPLC	Kenya Power and Lighting Company
Kshs	Kenyan Shilling
MAVOWASCO	Mavoko Water and Sewerage Company
MoLH&UD	Ministry of Land, Housing and Urban Development
MRTS	Mass Rapid Transit System
MT	Motorised Transport
MTP	Medium Term Plan
NaMSIP	Nairobi Metropolitan Service Improvement Project
NCWSC	Nairobi City Water and Sewerage Company
NEMA	National Environmental Management Authority
NLC	National Land Commission
NMR	Nairobi Metropolitan Region
NMT	Non-motorised Transport
NSDI	National Spatial Data Infrastructure
ODF	Open Defecation Free
OVC	Orphans and Vulnerable Children
PCEA	Presbyterian Church of East Africa
PPP	Public-Private Partnership
PSV	Public Service Vehicle
PWD	Persons with Disabilities
ROW	Right-of-Way
SACCO	Savings and Credit Cooperative
SME	Small & Medium-size Enterprises
STI	Science, Technology & Innovation
SWOT	Strengths-Weaknesses-Opportunities-Threats

TOR	Terms of Reference
TWG	Technical Working Group
WRMA	Water Resources Management Authority

PLANNING

1.1. Introduction

1.1.1 Background

The Kitengela Town Integrated Strategic Urban Development Plan (ISUDP) 2019 – 2028, is being implemented by the County Government of Kajiado, with technical support from NaMSIP, the Ministry of Transport, Infrastructure, Public Works, Housing and Urban Development (MoTIPWH&UD), Directorate of Nairobi Metropolitan Development (DoNMED), with financial support from the World Bank.

The consulting group VisionRI Connexion Service Private Limited of India was commissioned by MoTIPWH&UD to provide technical consultancy services in the preparation of the plan. This is part of 'Component 1: Institutional Reform and Planning,' of the Nairobi Metropolitan Service Improvement Plan's (NaMSIP), that deals with infrastructure and governance capabilities in the Metropolitan area. It meets a broader initiative that addresses key urban development issues in the three towns of Ngong', Ongata Rongai and Kiserian.

Ngong' Municipality ISUDP is among several other plans being prepared within Nairobi Metropolitan Area i.e. Kiambu, Muranga, Machakos and Kajiado Counties. It has been prepared through a participatory approach taking in to account consultative engagements of key stakeholders, the County's Project Implementation Team (PIT) and the World Bank (WB), among others.

The Nairobi Metropolitan area ISUDPs are structured into following four clusters

Cluster 1: Juja – Ruiru – Thika – Nairobi Transport corridor

Cluster 2: Limuru – Kikuyu – Kiambaa

Cluster 3: Ngong' – Ongata Rongai – Kiserian and Kitengela

Cluster 4: Mavoko and Nairobi – Malili Transport corridor

This Project was implemented under the *aegis* of Ministry of Transport, Infrastructure; Housing, Urban Development and Public Works (MoTIHUD&PW) through the Directorate of Nairobi Metropolitan Development (DoNMED), with the support of the World Bank. The consulting group comprising Vision RI Connexion Service Private Limited of India was commissioned by the MoLH&UD to provide technical consultancy services for the Project.

1.1.2 The ISUDP Concept

Integrated and strategic planning approaches underpinned by participatory processes form the cornerstones of an ISUDP. In this context, the integrated approaches include metropolitan-wide studies that contextualized the Kitengela environmental setting, transportation linkages and functional role in the Nairobi Metropolitan Region (NMR), in particular, and Kenya, in general. The integrated approach was further characterized by recognizing the relationship of urban areas to its hinterla

nd from an environmental, economic, social and infrastructural perspective. It like wise entailed the determination of well-placed relationships of various sectoral pr ojects such as, promoting forest conservation while promoting eco-tourism and s ustainable livelihood.

The strategic approach was applied to several aspects of the ISUDP. First was in determining the functional role of Kitengela within the NMR and the key requirem ents to ensure the realization of these functions. The strategic approach was also characterized by determining key interventions that would yield the most benefits such as by putting forward transit-oriented development proposals to improve th e efficiency of land use as well as the viability of transportation systems.

In order to guide the integrated and strategic urban planning process, the econo mic context for the preparation of this ISUDP was analysed with the following obj ectives in mind:

(a) identifying the key economic planks and role of Kitengela to contribute t o the economic development priorities of NMR, and in turn, the economy of Kenya and Kajiado County

(b) identifying the key challenges and constraints which the Kitengela face s in the process of fulfilling its role in the NMR and Kajiado economy as well as how to mitigate these challenges and constraints through strate gic urban planning.

These approaches were underpinned by participatory planning processes oriente d towards engaging stakeholders in problem identification and problem solving a t critical stages of ISUDP preparation. This will not only imbue ownership of the p lans to the stakeholders, it will also contribute to improving the capacities of gove rnment implementers and other stakeholders in planning, implementation and mo nitoring.

1.1.3 Terms of Reference

Detailed Tasks in Preparation of this Plan, involve the following tasks: -

i. Carry out contextual analysis of the towns and their environs;

ii. Undertake a land-use and socio-economic study and survey of the town s, accommodating all the changes that have occurred over time and proj ecting future changes, and comparing how these changes compare in th e metro region;

iii. Prepare an elaborate base map showing the existing spatial structure o f the towns;

iv. Undertake an assessment of transport, infrastructure and utility needs, housing and community services. This will include mapping of the trans port, infrastructure and utility network of the towns;

v. Analyse administration and institutional requirements in planning and development;

vi. Prepare analysis reports indicating projected land use, infrastructure and services requirement over the plan period;

vii. Prepare a detailed short term, 10-year plan;

viii. Detailed study on the redevelopment of the CBDs;

ix. Detailed studies of the existing infrastructure and services including, drainage patterns, sewer, opening of new roads and widening of existing ones with a view to providing a strategy for upgrading;

x. Identify suitable land for both public purpose and utilities and address security issues in the town;

xi. Prepare implementation plans and propose requisite resource and institutional framework;

xii. Prepare zoning plans with requisite development densities and guidelines.

1.1.4 Purpose of Plan

The purpose of the ISUDP include:

- Articulating the aims of the National and County government for the area together with strategies, policies and general proposals which are intended to achieve those aims;
- Providing a framework for detailed development policies and proposals for the Kitengela;
- Indicating action areas for immediate development or re-development;
- Providing a coordinated basis upon which various implementing agencies can develop their individual programmes of work for which they have executive responsibility, for example, housing, transportation, water supply, electricity supply, sewerage development, etc.

1.1.5 General Planning Challenges

The key planning issues that facing Kitengela include the following:

- Unplanned and uncoordinated urban growth;
- Inadequate serviced land to accommodate urban growth;
- Inadequate infrastructure services and facilities (i.e. narrow roads, lack of sewer, and water supply, waste disposal, storm water drainage etc.);
- Poor quality housing and inadequate community services such as school

s, health facilities, community halls and recreation areas.

- Unemployment and declining employment opportunities especially lead ing to high rate of youth unemployment
- Uncontrolled land subdivisions,
- Urban sprawl and uncoordinated corridor development along the main r oads
- Lack of updated development plans that could form the basis for planni ng decisions;
- Proliferation of informal settlements;
- High crime levels;
- Poor coordination among relevant government authorities and NGO's on planning and projects implementation.
- Ineffective participation in planning and development by local communit ies and the private sector;
- Environmental degradation and encroachment on riparian reserves and other fragile areas.
- HIV/Aids pandemic; and
- High incidences of urban poverty.

1.1.6 Objectives of the Plan

In turn, the objectives and scope of the planning process are:

- To determine demographic changes in the last ten years and those expe cted over the life of the plan for each town, and how these relate to eco nomic changes, welfare, and administrative shifts;
- To identify development constraints and potentials (social, economic, en vironmental and infrastructure profiling) and propose strategies to addr ess them;
- To provide a basis for infrastructure and service provision for present an d projected population over the plan period;
- To allocate sufficient space for various land uses, including recreation a nd open spaces, to ensure efficient function and convenience of users a nd accommodate future growth;
- To uphold innovative civic and urban design that enhances the character and form of Kitengela town;
- To provide a basis for development control and investment decisions; an

d

- To develop a plan implementation and monitoring framework

1.2. Scope of Work

1.1.7 Geographical Scope

The geographical scope of the ISUDP was agreed upon after consultations with the County TWG after site visits and mapping work. Kitengela covers approximately 7,439.52 hectares and is composed of 2 wards with 2 sub-locations. The wards and sub-locations include:

Table 1: Wards & Sub-locations covered by the Kitengela ISUDP

Wards	Location
Kitengela	Kitengela
Kaputei North	Kisaju(Isinya)

1.1.8 The Specific Tasks

With reference to the TOR, the preparation of this ISUDP will involve the following tasks:

1. Delineation of the Municipality boundaries of Kitengela;
2. Preparation of base map showing the existing spatial structure of the Municipality to include, at the minimum, planning boundaries, existing road network, landmarks, major natural features and topography;
3. Carry out contextual analysis of the proposed Municipality and its environs;
4. Undertake a land-use, socio-economic study and survey of the Municipality, indicating land use changes that have occurred over time and future projections, and comparing how these changes compare in the metro region and in the County;
5. Undertake a strategic environmental assessment in the Municipality;
6. Undertake an assessment of transport, infrastructure and utility needs, housing and community services. This will include mapping of the transport, infrastructure and utility network of the Municipality;
7. Carry out a detailed study on the redevelopment of the CBDs;
8. Identify suitable land for residential, industrial, education, recreational, public purposes, commercial, public utilities, transportation and other uses applicable to the Municipality;
9. Analyse administration and institutional requirements in planning and development;
10. Analyse reports indicating projected land use, infrastructure, and services requirement over the plan period;
11. Prepare a detailed short term, and 10-year Land Use Plan for the propo

sed Municipality;
12. Prepare a detailed 10-year Sectoral Development Plans in support of th e land use plan for the proposed Municipality. The sectors covered shall be those that are provided in the TOR;
13. Prepare individual implementation plans to include proposed requisite r esource and institutional frameworks; and
14. Prepare zoning plans for the Municipality with requisite development de nsities and guidelines.

The ISUDP's planning period will be ten years i.e. from 2020 – 2029.

1.1.9 Deliverables

The key deliverables and outputs of this Plan include:

i) Spatial plan covering the entire Kitengela Municipality
ii) Action area plans;
iii) Detailed transportation strategy;
iv) Detailed environmental strategy;
v) Detailed residential (housing) strategy;
vi) Detailed informal settlement upgrading strategy in line with the housin g policy;
vii) Detailed social facilities strategy;
viii) Detailed productive activities strategy;
ix) Detailed investment strategy;
x) Local authority financing/revenue enhancement strategy; and
xi) Digitized plan for the municipality.

1.3. Methodology

1.1.10 Planning Approach

Integrated and strategic planning approaches that are underpinned by participat ory processes were utilized in preparing the ISUDP. The integrated approach inclu des Metropolitan-wide studies that contextualize the Municipality's environmenta l setting, transportation linkages and functional role in the Nairobi Metropolitan R egion (NMR), in particular, and Kenya, in general.

The integrated approach is further characterized by recognizing the relationship o f urban areas to its hinterland from an environmental, economic, social and infrast

ructural perspective. Likewise, it entails the determination of well-placed relation ships of various sectoral projects such as, for example, promoting forest conserva tion while promoting eco-tourism and sustainable livelihood.

The strategic approach was applied in determining the functional role of the Muni cipality within the NMR. It was also used in determining key interventions that wo uld yield the most benefits such as putting forward transit-oriented development proposals to improve the efficiency of land use as well as the viability of transport ation systems.

In order to guide the integrated and strategic urban planning process, and analysi s of the economic context under which the ISUDP would be prepared was done as follows:

i) Identifying the key economic planks and role of the Municipality to contri bute in the economic development priorities of NMR, and in turn, the ec onomy of Kenya;
ii) Identifying the key challenges and constraints that the Municipality face s in the process of fulfilling its role in the NMR and Kenyan economy as well as how these challenges and constraints can be managed through strategic urban planning.

In line with this, an analytical framework was adopted and is summarized in the b elow Figure 1.

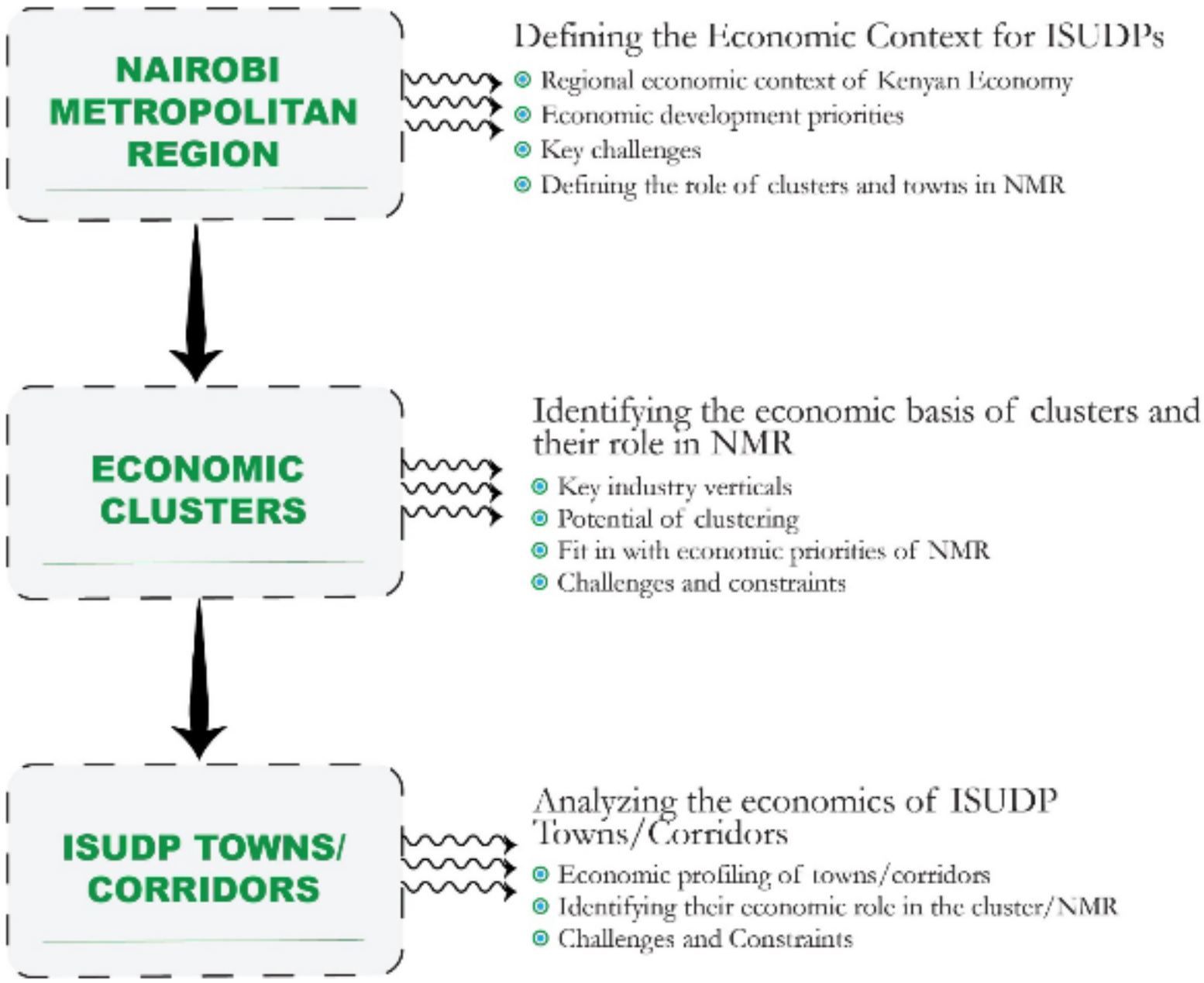


Figure 1: Analytical Framework for Economic Analysis

Source: VisionRI

In this context, special reference was made to Metro 2030 and Spatial Planning C oncept for NMR. The ToRs for the consultant clusters the planning areas (10 towns and 2 road corridors) as four clusters. Discussions with the client revealed that th e basis of such clustering was the geographical proximity of planning areas. How ever, due to the proximity of the clusters, there was homogenous interdependenc e within the clusters necessitating the treatment of each cluster as an economic u nit.

The analysis of planning area economies and transport corridors involved econom ic profiling of each planning area, identifying their role in the cluster economy as well as NMR, key challenges and constraints. Strategic urban planning was used i n addressing challenges and constraints.

The above approaches are underpinned by participatory planning processes orie nted towards engaging stakeholders in problem identification and problem solvin g at critical stages of ISUDP preparation. The aims of this was to encourage stak

eholder ownership of the plans developed as well as contribute to improving the c apacities of government implementers and other stakeholders in planning, imple mentation, and monitoring.

1.1.1.1 Planning Model

A Planning Model Figure 2 that ensures that the inter-relationship of factors atten dant to the planning area's development are adequately considered and that the i dentified development strategies are properly implemented guided ISUDP prepa ration.

The Model provides that the ISUDP be framed within the Municipality's context. It considers aspects that have a bearing on legislation and policies, economics, urba n development contexts and transportation linkages among others. Contextual an alysis also considers related plans and programs at the National, Regional and Co unty levels that will likely affect strategy formulation and implementation.

Thus, ISUDP is based on the Mun icipality's Situation Analysis. This entails a review and analysis of t he current state of various develo pment sectors in relations to dem ographic, economic, land use pat terns and types, urban design an d morphology, transport, social, p hysical infrastructure and govern ance structures involved.

Thus, the model merged the Plan ning Context and Situation Analy sis to form the core for the prepa ration of the plan, effectively gui ding the crafting of the Integrate d Development Analysis. A Spati al Framework Plan was then deve loped, comprising of a crosscutti ng assessment of developmental challenges and potential, collecti ve development vision, mission st atement, goals and objectives to be achieved, along with its physic al translation. It provided the ove rall policy direction that guides d evelopment initiatives for the Mu nicipality within the planning peri od.

This Spatial Framework Plan was

Figure 2: Planning Framework Model
Source: VisionRI

represented at the local level through land use plans. Here the precise locations o f various urban developments are provided along with the locations of environme ntal protection areas. The Land Use Plan was mainly implemented through a Zoni ng Plan, which ensured that development applications will be in line with the inte ntions of the Spatial Framework in terms of type of use, density, and magnitude o f proposed development, etc.

The Land Use Plan is supported by Sectoral Development Plans comprising of pro grams and projects for broad sectors such as social, economic, transport, physical infrastructure, environment, and urban governance. The Sectoral Development Pl ans will be implemented in two streams; through policies, regulations, and a local development investment program.

A monitoring and evaluation mechanism is provided to enable plan implementers to ascertain if outputs and outcomes are within the ISUDP's objectives and target s.

1.1.12 Methodological Framework

The Consultant's Methodological Framework provides a guide to the planning pro cess by way of providing the various aspects of analysis and planning. Below Figu re 3 is the Methodological Framework.

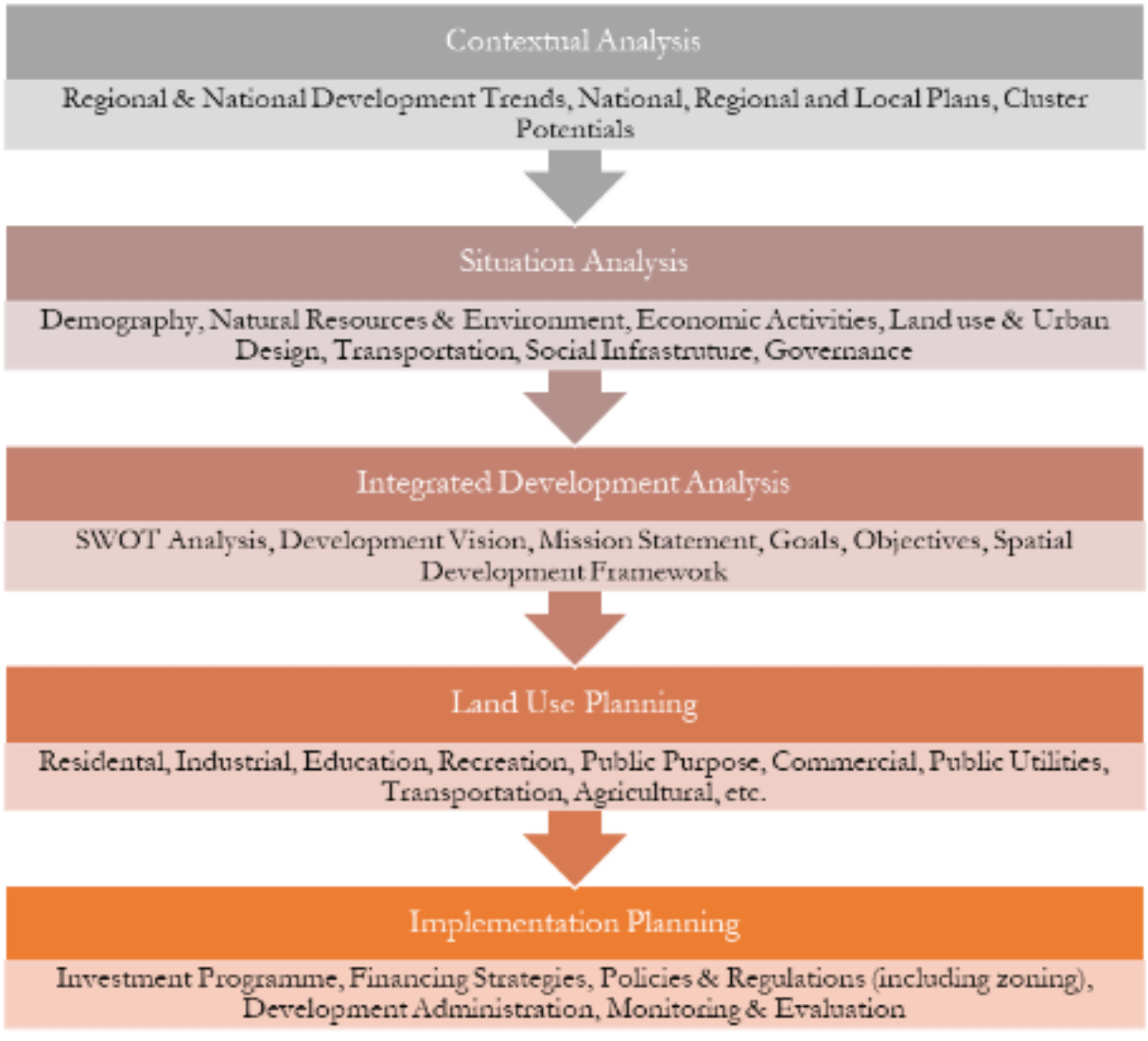


Figure3: Methodological Framework
Source: VisionRI

1.1.13 Planning Process

The Planning Process being observed involves a sequence of 11 tasks based on th e TOR. The Planning Process, with Tasks and corresponding objectives, is presen ted below in Figure 4

TASKS	OBJECTIVES
Task 1. Organising	Introduction of the Project to County Government, and establishment of PIT & County TWG
Task 2. Profiling & Transect Survey	Determine necessary refinements to the problems & objectives of the ISUDP, identification of issues, challenges & opportunities, delineation of the planning area, consolidation of based maps in consultation with the County Government and Directorate
Task 3. Project Design	Fine-tune the scope and timeframe of the Project and production of a detailed work plan
Task 4. Notices of Intention to Plan	Sensitisation of key stakeholders
Task 5. Stakeholder Consultations	Orientation of TWG, identification of other key stakeholders, first stage community consultations, and refinement of the Town's issues & challenges
Task 6. Carrying out of Thematic Studies	Detailed analysis of secondary & primary data and identification of critical issues for planning, findings to be presented to key stakeholders for validation
Task 7. Development Vision & Objectives	Vision and objectives setting through Strategic Planning Workshops involving stakeholders
Task 8. Formulation of Alternative Development	Preparation of alternative spatial development framework plans and selection of preferred alternative in consultation with County TWG
Task 9. Draft Plan Preparation & Development of Proposals	Preparation of plan proposals comprising land use plan, sectoral development plans and implementation plan
Task 10. Stakeholder Forum	Stakeholders' consensus on preferred plans and strategies for approval
Task 11. Plan Finalisation & Approval	Getting County Assembly resolutions, and having the plans gazette for implementation

Figure 4: Planning process

Source: VisionRI

1.1.14 Methodological Approach

The planning process was conducted through secondary data and primary data collection methods. Field surveys were carried out where data was collected, interpreted and presented. The data was obtained from planners, policy makers, developers etc. and other stakeholders. Data was also obtained from secondary, sources from institutions, libraries, internet, and journals among other sources.

Though an inclusion and representative consultation and/ or participation of all residents, communities and stakeholders within the sampled areas, as well as representatives from other spheres of government, sector specialist, and other resource persons. This was by structured participation by organizations and legitimate representatives in stakeholder forums. The benefits of this approach were that;

a) The local people's priority needs and problems are well articulated and the plan proposals are sensitive and relevant to local situation and needs.

b) The local people identify themselves with and own the output of the planning process therefore tremendously improving the chances of the implementation plan.

c) Participation provides an opportunity for the citizens to understand how planning works and therefore improving the working relationship between various stakeholders.

d) Local human resources can be mobilized and sensitized to their crucial role in the development of their county

1.1.15 Preparation

The preparatory steps carried out in the preparation of this Plan, involved profiling, transect survey, preparation of inception report and project design. Profiling involved scanning general aspects of Kitengela Municipality to appreciate the challenges and opportunities. The output were the refinement of the problems and objectives of the plan. Transect survey involved undertaking a reconnaissance survey of the planning region. The output at this stage were: identification and appreciation of the Kitengela's major planning issues, challenges and opportunities in line with metropolitan spatial development plan; delineation of the planning area and consolidation of the base maps as provided for by DoNMED and the County; preparation of the inception report. The project design involved fine-tuning of the scope and timeframe of the project. The output was the production of detailed work

plan.

1.1.16 Sensitization

Sensitization of key stakeholders was carried out through publication of a Notice of intention to plan. This was done in collaboration with the Director Metropolitan Planning & Environment (DoNMED), Director of Physical Planning (Land) and the County. This was followed by stakeholder's engagement through direct interviews, focused groups discussions accumulating to first and stakeholders' workshops where wider ranges of stakeholders took place in validation of the situational analysis and later draft plan. The comments received during these forums have enriched the content of this plan as described below.

1.1.17 Investigation

In order to capture all the data required for planning in such a complex and diverse situation, a variety of methods were used. First, there were surveys to capture household characteristics, economic activities and so on to plan for. Second, focus group discussions especially in the slums, (but also in the towns, and corridors, peri urban and rural areas) to capture data on upgrade expectations/fears, sacred places/heritage sites, infrastructure needs, social problems and so on to plan for were conducted. Third, key informant interviews with key actors were conducted to capture data on the status of social infrastructure, population patterns and respective needs and infrastructure needs among others. Fourth, the data collection endeavoured to the extent possible to seek to access all existing secondary data on population size, density and trends, economic activities, access to social infrastructure and so on. The data capture tools used include interview schedules, focus group discussion guides and key informant interview guides.

Secondary data was collected through desk study from past reports and publications on the planning area. This was carried out before field visits were made with the objective of clearly identifying data gaps to be collected from the towns. Reports such as publications, topo-cadastral maps and land-use plans were reviewed to give clear insights into Kitengela. It also included reviews of existing plans, policies and statutes. Some of the documents reviewed are Kenya Vision 2030 and its two Medium Term Plans; County Integrated development plans for Kajiado County; The Nairobi Integrated Urban Development Masterplan (NIUPLAN), 2014-2030; Nairobi Metro Vision 2030 Strategy; The Kenya Power and Lighting Company Master Plan; and the Konza City Master Plan among others.

Field studies were carried out so as to fill any information gaps which were identified during the desk study. This involved collecting information of existing conditions to assess adequacy and functioning of existing facilities. The field studies also assisted in verifying data collected from secondary sources, identification of planning issues, potential problem areas, and existing and future development potentials of the project areas. Some of the key techniques used to collect various types of data included:

a) **Observations** undertaken to provide information on traffic volumes by day, hour, direction and type of vehicle among other physical conditions affecting development

b) **Conducting Origin-Destination (O-D)** studies to determine the nature of traffic and the present volume of freight and passenger movements. The O-D studies were also used to establish the current traffic flow pattern, and to use the data to forecast future patterns. Other information obtained included the number of trips into, within, and through a connection; and time of day, mode of travel and number of occupants in a vehicle during a trip; current travel patterns; areas that generate the most traffic; and adequacy of transport facilities; and flow rates and road safety; and people's perception of the transport system

c) **Inventory and condition surveys:** These involved determining the surface type of the roads (e.g. paved or gravel), the surface condition (e.g. good or fair), the road classification (e.g. Class A) and the length of the road in the project areas. It also involved determining conditions of other utilities such as water, drainage and sewer systems

d) **Key informant interviews:** The key informant's interviews were used to collect data on the historical as well as current infrastructural information. They include officials from Kenya Urban Roads Authority, Kenya National Highways Authority, Kenya Roads Board, Ministry of Lands, Housing and Urban Development, County Director of Physical Planning, Ministry of Energy and petroleum, Ministry of Transport and Infrastructure, and Kenya Railway Corporation.

e) **Map preparation** was carried out using surveying and GIS software and saved into distributable formats easily understood outside surveying and GIS profession. Field validation was carried out using hand held GPS receivers pre-set to the national grid system. Gaps found in the supplied maps were filled using hand held GPS equipment or current high resolution imagery covering. Spatial Data acquired in hardcopy format was scanned, geo-referenced and digitised into vector maps on the same coordinate system as the project base map. Datasets that were acquired in hardcopy format included, Registry Index Maps (RIMs) showing the land subdivision, administrative maps, existing and proposed road networks, fibre optic cable network, power distribution network etc.

CONTEXTUAL

2.1. Introduction

The ISUDP is prepared within the context of international, national and regional d evelopment trends, as well as directly related plans at the national, regional and l ocal levels. It is also prepared within the context of development potentials of the clusters within the NMR. These trends and plans, and their relevance to the ISUD P are briefly discussed in the following sections.

2.2. International, Regional and National Development Trends

1.1.18 International trends

i) Urbanization and Globalization

According to Manirakiza (2012), the world system structure is arranged according to the global capitalism with a core and a periphery. The production processes th at are advanced in this theoretical perspective require massive concentration of c apital and the highest level of skills (Ibid, 2012). On the other hand, the periphery i s seen more in the developing countries, which lack capital, technologies, market power, wealth and other important factors of production, probably with the excep tion of land while cities are cores that are centre of civilization, labour creation, an d international financial exchanges. In this respect, present development dynamic s requires the creation of modern and competitive cities capable of connecting gl obal actors and economies.

The global economic system shifted from one of protected or closed national eco nomy, to open, liberalization and competitive one (Manirakiza, 2012). The economy later progressively changed its nature from labour intensive in the 1960s to capita l intensive in the 1970s, technology 1980s and information in the 1990s (Manirakiz a, 2012).

According to the National Forum for Sustainable Urbanization, almost, no countrie s can graduate from low-middle income status without reaching 50 per cent urba nization. Kenya is presently at 27 per cent urbanised and has to avoid the challeng es of "premature urbanization", before the urban infrastructure, economic intensit y, and human capital necessary for agglomeration economies have been develope d (National Forum for Sustainable Urbanization. The situational analysis therefore focuses on the current development status of the planning area, with a view of an alysing it with respect to regional and global benchmark.

ii) Benchmarking urbanization with Best Practice

Best practice is equated to sustainable development. Kitengela planning area can learn and draw lessons of best practice from the Singapore, Malaysia, South Kore a, Brazil and Botswana - five countries that have implemented similar national tra nsformation endeavours of their environmental and socio-economic policies and s

trategies to manage urbanization and achieve acceptable levels of sustainable de velopment (Mosha, 1996; Kreimer and Gilbert, 1997:1; and Ellis and Roberts, 2016).

Case Study 1: South Korea

Rapid urbanization in 1950s damaged Seoul high-density metropolitan area. Sout h Korea intervened using technology, modern science, green methods of urban de velopment, landscape character assessment, green belts/ greeneries developme nt around urban limits and eco-friendly waste management to evolve into South K orea's to a unique eco-friendly city model.

Case Study 2: Singapore

The city-state of Singapore has controlled urbanization by focusing on economic growth, improving quality of life, clean and green environment. This is through:

- A series of long-term goals and ten-year plans to reconcile rapid econo mic development and environmental sustainability;
- Pursuing a vision of a clean, green city strong spatial planning and
- A strategy of economic growth and a good quality of life through a clea n, green environment and best use of resources.

Case Study 3: Malaysia

Malaysia's Economic Planning Unit has developed weighted Malaysian Quality of Life Index (MQLI) using time series data in education, urban safety, income levels, and distribution, culture and leisure, family life, environment, transport, and comm unication. These are further developed into a weighted central index to determine centrality of Malaysian urban settlements that are around seven parameters that i nclude economic activities, social services and facilities, transport and communica tion, infrastructure and maintenance, personal services, community organisation, and other services. MQLI is a useful reference in making policies, preparing and i mplementing urban land use plans and carrying out construction by government a nd local authorities.

Case Study 4: City of Curitiba, State Parana (Brazil)

The 1966 "Plano director" i.e. Master Plan for the City of Curitiba provided for crea ted parks and green spaces for recreation on the flood plains along rivers and bus iness growth corridors (Barth, 2014). Only restricted urban development in the rec onstructed and landscaped flood plains led to evolution of key BRT transportation routes with only few tall building allowed to locate along the new system of bus r outes. The Curituba case study has inspired implementation of other urban sustai nable development initiatives in and outside Brazil (Kreimer, A. and Gilbert, R. (19 97).

Case Study 5: Botswana

Botswana's case presented three components: Firstly, the Self-Help Housing Prog ram that had two-pronged strategy i) to manage the fast urbanization resulting fr

om rural-urban migration and development of informal settlements providing self-help squatter settlement upgrading, and a site service programme. This squatter settlement accounts for 60% of Botswana's urban population. (ii) As a cost recovery, cross subsidy and affordability considerations were introduced to secure replication and sustain the self-help housing program. Secondly, it involved Government Actors. This met the Government's service provision aim enabling for shelter provision. In line with this Botswana Housing Corporation provides rental houses and for sale in towns and some urban villages. Thirdly, in its Overall Strategy, the core principles were to continue supporting the social-cultural capabilities of households in their communities, in turn positively influencing marginalized and disenfranchised groups in society living in towns and in clusters/nucleated of rural settlements. This strategy was supported through a tripartite partnership between public, private and community sectors, with community participation, a focus on special interest groups (women, indigenous people, the elderly and disables) being the key enablers and security in the long-term achievement of the goals of the objective.

iii) Urbanisation and Housing Trends

As urban population increases in developing countries, the land occupied by the urban areas has increased at an even higher rate. It was observed that between 1990 and 2000, as the world urban cities population increased at a rate of 17 percent, the area covered by these cities increased by 28 per cent. Built-up area densities have thus been on a decline around the world especially in developing countries where from an average 170 persons per hectare in 1990 to 135 a decade later. A one per cent annual decline in average densities in developing countries is projected to quadruple the urban land area by the year 2050 from 2000 levels. This means that in sub-Saharan Africa, the urban land cover is to increase 7.5, times, over the period. This correlation has been translated to a 2 to 3 ratio (2:3) for the period between 2015 and 2030, where it is projected that from the year 2015 to 2030 the urban population of developing countries will double, while the area covered by this population will triple (UN Habitat, 2016).

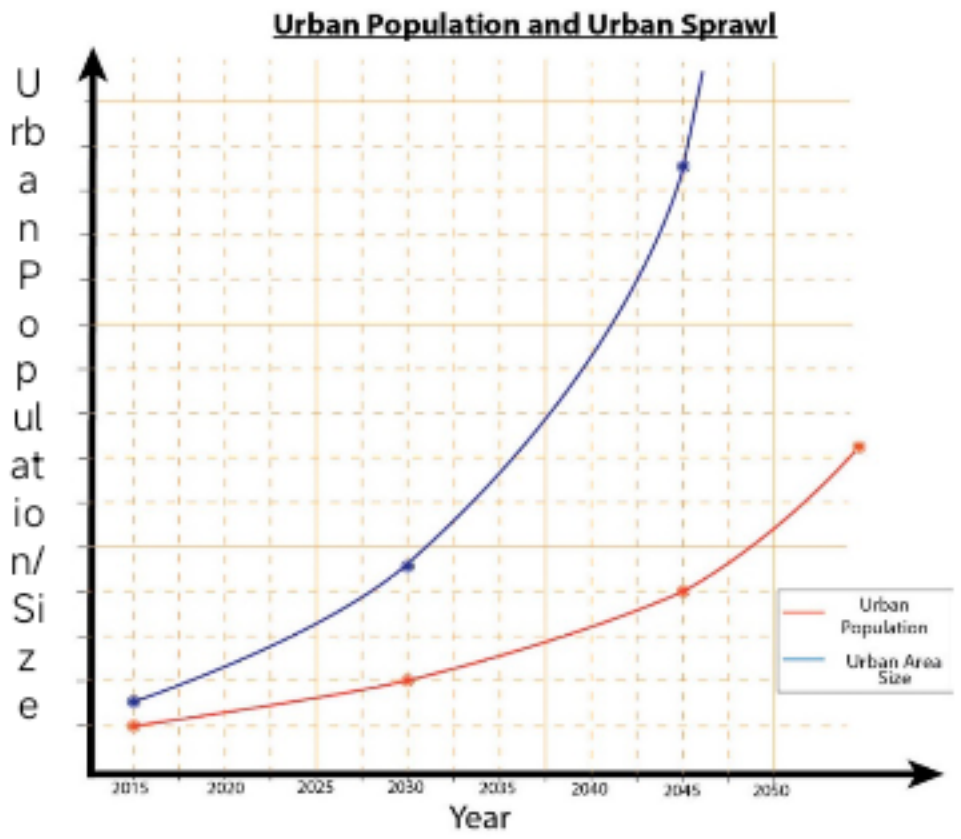


Figure 5: Urban Population and Sprawl
Source: VisionRI 2018

Such urban expansion is not only wasteful in terms of land and energy consumpti

on but increases greenhouse gas emissions. It has also led to the alteration of eco logical systems in many cities over the past two decades (UN Habitat, 2016).

The growth of these urban populations in developing countries is also in large par t growth in the number of young people. From the year 2015 to 2030, the UN fund predicts that 60 percent of those living in urban areas will be under the age of 18. The proportion of young people is particularly high in slum areas, where employm ent opportunities are limited. This combination of youth and poverty can make for high crime rates. Despite the benefits of urbanisation, evidence supports that urb anisation, especially when its pace is rapid, can impede development and exacerb ate environmental problems (Bloom & Khanna, 2007).

This disproportionate growth of cities and urban areas also brings with it the chal lenge of mushrooming informal settlements where the market forces and formal i nstitutions are unable to keep up/ respond to the housing demand more so for the people living below the poverty line. This mushrooming informal settlement, whic h is seen as the urbanisation of poverty results in the challenge of providing adeq uate basic services and infrastructure. This challenge is central to the economic p erformance of cities, and their ability to provide a minimum quality of life to their c itizens. the major services which cities provide include transport networks, water and sanitation connections, electricity, health, education, and a whole host of othe r ancillary services such as street cleaning, the maintenance of public spaces and parks, public lighting, archives, and cemeteries (UN Habitat, 2016).

With this trend, the urban sprawl will further exacerbate the urban chaos in our to wns; this is because there is inadequate space within our planning areas. As such, if left unchecked the urban sprawl will fill up urban regions and spread over to adj acent vacant areas resulting in wasteful, unmanageable, inaccessible and unserve d urban areas in the country/county of Kajiado.

iv) Development Trends of Urban Regions

Large and small cities worldwide are expanding and merging to create urban sett lements in the form of city- regions, urban corridors, and mega-regions. These ur ban configurations act as nodes where global and regional flows of people, capita l goods, research and science, services and information combine and co-mingle, r esulting in faster economic and demographic growth than that of the countries w here they are located. These new configurations are spatially connected and are f unctionally bound by their economic, socio-political and environmental linkages. H owever, these trends have come accompanied by a high rate of suburbanisation w here urbanisations flows to the peripheral areas of major cities and new centres e merge (UN Habitat, 2016).

The growth of Nairobi City has triggered such development in form of satellite to wns, which have over time created and influenced their own fringes in a similar w ay. More dispersed patterns of urbanization in the form of suburbanization, peri-u rbanization, or urban sprawl have constituted a significant trend over the last dec ade. This urban expansion and dispersal is evidenced and spurred not only by indi

vidual preferences for a suburban lifestyle, but also due to: poor land managemen t and lack of sound regulatory control over peri-urban areas; new land subdivision s accommodating highway and automobile expansion; and enhanced ease of mob ility due to improved commuting technologies (UN Habitat, 2016).

As opposed to the upscale suburbanization of developed countries, the peri-urba n areas in developing countries have become divided cities, characterized by of s patial segregation along socioeconomic lines. These large peri-urban areas consis t of informal land-use patterns, accompanied by lack of infrastructure, poor or no n-existent public services, with inferior quality housing and families living in pover ty (UN Habitat, 2016).

Developers of suburbia and exurbia continue to subdivide land and build housing, often creating single purpose communities. These physical patterns of suburban development and car-dependent subdivisions that separate malls, workspaces a nd residential uses by highways and arterial roads are not effective or efficient in delivery of liveable urban areas. City leaders and planning professionals have res ponded and greatly enhanced new community design standards. smart growth is an approach to planning that focuses on rejuvenating inner city areas and older su burbs, remediating brown-fields and, where new suburbs are developed, designi ng them to be town-centred, transit and pedestrian-oriented, less automobile de pendent and with a mix of housing, commercial and retail uses drawing on cleane r energy and green technologies (UN Habitat, 2016).

v) Urban Planning Trends

There is growing consensus that urban planning can reduce sprawl and promote c ompact, contiguous development; unplanned city extensions lead to sprawling cit y-regions. Containment tools have proved quite successful in a variety of settings. Urban growth boundaries, greenbelts, urban service boundaries, and nodal locati on of economic activity centres are each approaches to promoting compact city fo rm.

A city's physical form, its built environment characteristics, the extent and pattern of open spaces together with the relationship of its density to destinations and tr ansportation corridors, all interact with natural and other urban characteristics to constrain transport options, energy use, drainage, and future patterns of growth. Sustainable neighbourhood planning favour high densities. it, however, takes care ful, proper coordination, location and design (including mixed uses) to reap the be nefits more compact urban patterns can bring to the environment (such as reduce d noxious emissions) and quality of life (UN Habitat, 2016).

vi) Sustainable Development Goals

Sustainable development goals are a set of 17 goals meant to be implemented by 2030. The goals aim at; eradicating poverty, achieving food security and improved nutrition, promoting healthy lives and well-being of people, having quality educati on that is inclusive and equitable as well as achieving gender equality and empow ering girls and women. Moreover, it also aims at ensuring availability and sustaina

ble management of water and sanitation, accessibility to affordable, reliable and modern energy, promoting inclusive and sustainable economic growth.

The other goals are building resilient infrastructure that fosters innovation, reduci ng inequality within and among countries, making cities and human settlements i nclusive, safe and resilient ensuring sustainable consumption and production patt erns.

Lastly, they aim at taking urgent action to combat climate change and its impacts, conserving marine resources, protecting, restoring and promoting sustainable use of terrestrial ecosystems, forests and combat desertification, promoting peaceful and inclusive societies, and strengthening the means of implementation and revit alize the global partnership.

The sustainable development goals informed the preparation of this plan and the goals were incorporated especially in preparation of land use plans and action pla ns.

vii) Urban Agenda

By 2050, the world's urban population is expected to nearly double, making urban ization one of the twenty-first century's most transformative trends. Populations, economic activities, social and cultural interactions, as well as environmental and humanitarian impacts, are increasingly concentrated in cities, and this poses mas sive sustainability challenges in terms of housing, infrastructure, basic services, fo od security, health, education, decent jobs, safety, and natural resources, among o thers.

The New Urban Agenda will help to end poverty and hunger in all its forms and di mensions; reduce inequalities; promote sustained, inclusive and sustainable econ omic growth; achieve gender equality and the empowerment of all women and gir ls in order to fully harness their vital contribution to sustainable development; imp rove human health and wellbeing; foster resilience; and protect the environment.

The New Urban Agenda reaffirms the global commitment to sustainable urban de velopment as a critical step for realizing sustainable development in an integrate d and coordinated manner at the global, regional, national, subnational and local l evels, with the participation of all relevant actors. The implementation of the New Urban Agenda contributes to the implementation and localization of the 2030 Ag enda for Sustainable Development in an integrated manner, and to the achieveme nt of the Sustainable Development Goals and targets, including Goal 11 of making cities and human settlements inclusive, safe, resilient and sustainable.

1.1.19 Regional Trends

Current Development Status in East African Region

The current development status of urbanization can be analysed using key indicat ors guided by the United Nations Millennium Development Goals (MDGs).

Urban Population Growth

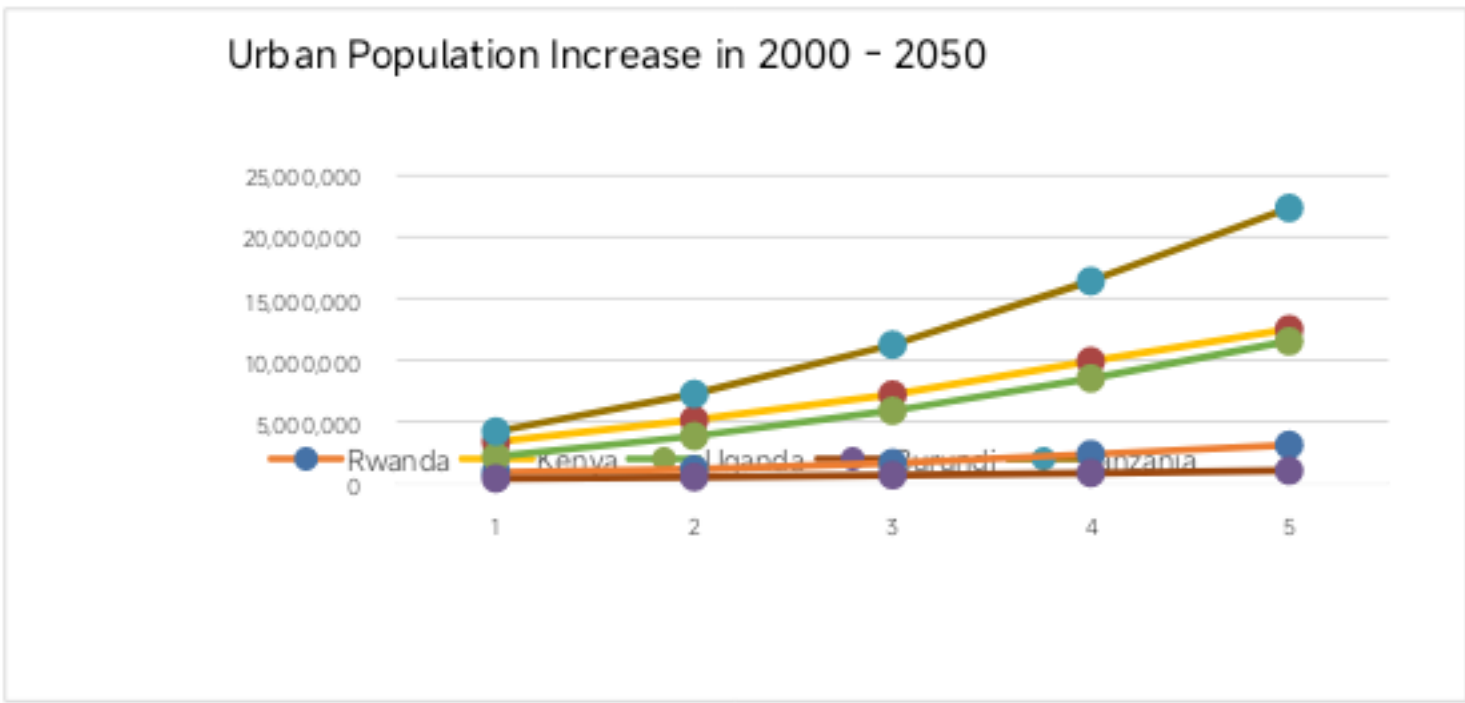
The total population of Kenya is estimated at 47.6 M. It has a population growth ra te of 1.69%.

Table 3: Projected Population of Kenya

Age Group	% of the total popul ation	Total number of ma le	Total number of fe male
0-14	40.2	9,557,247	9,497,870
15-24	19.15	4,552,448	4,567,751
25-54	33.91	8,170,264	7,976,751
55-64	3.92	856,092	1,009,075
65 years and above	3	614,751	813,320

Source: Figures adapted from Kenya National Census, 2009

Kenya is urbanizing at a very high rate. The concentration of Kenyans in urban are as is mainly attributed to migration to urban areas from rural areas, and annexatio n (geographical expansion) of cities). The net migration rate is 0.2/1000 migrants.



The capital city, Nairobi has the highest urban population of nearly 2,750,547inha bitants. Kenya has the highest rate of urbanization compared to other East Africa n countries as shown by the graph below

Figure 6: Urban Population growth rate of Kenya in comparison to other East Afric an countries

Energy and Electricity

Higher access to electricity is correlated with higher development and human wel fare indicators. East Africa has the second largest potential of hydropower resour ces in Africa, of which about 20 per cent have been developed. In Kenya, electricit y generation is higher compared to other East African Countries (UNHABITAT 201 4). Table 4 below shows the hydropower potential of Kenya compared with other E