



# LAMU COUNTY SPATIAL PLAN (2016 - 2026)

## ABRIDGED VERSION



**VOLUME II**

**MAY 2017**



## DEVELOPMENT PARTNERS

THE LEAD CONSULTANT IN THE PREPARATION OF THIS COUNTY SPATIAL PLAN:



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Bruce House, Standard Street, 15<sup>th</sup> Floor, Nairobi.

THE CLIENT:



The County Government of Lamu (CGL), P.O. Box 74-  
80500, LAMU

IN PARTNERSHIP WITH:



World Wildlife Fund for Nature, Lamu-Kenya Office

THE MAKING OF THIS CSP ALSO BENEFITED FROM THE INPUT OFFERED BY AUTHORITIES SUCH AS:



The National Land Commission (NLC), Nairobi



The Kenya Wildlife Service (KWS) & The County Wildlife & Conservation Committee (CWCC), Lamu



The LAPSSET Authority as a flagship project of Vision 2030 being undertaken in Lamu County



Kenya Forest Service (KFS), Lamu



International Center for Research in Agroforestry



National Museums of Kenya, through the World Heritage Site Office in Lamu Island



Water Resources Management Authority, Kenya

## FOREWORD

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The Constitution of Kenya 2010 bestows the mandate of County Planning to County Governments. The Constitution further provides for the various rights and freedoms that can be fully realized through the preparation and implementation of County Spatial Plans.

The County Governments Act 2012 in section 110(1)(a) stipulates that the County Spatial Plans shall give effect to the principles and objects of county planning and development contained in section 102 and 103 of the same Act. Further, section 110 (2)(c)(iv) of the Act requires that the County Spatial Plans should set out basic guidelines for a Land Use management system in the County taking into account any guidelines, regulations or laws as provided for under Article 67(2) (h) of the Constitution.

In furtherance to this responsibility, the law obligates each County Government to prepare a ten-year GIS-based County Spatial Development Plan in respect of their area of jurisdiction. The plan is a broad framework for organizing and distributing population and activities in the county; This is to achieve both national and county development objectives. It also serves the purpose of enabling the county government to strengthen the coordination of sectoral projects, programmes and to mitigate duplication of efforts and waste of resources.

Lamu County is destined to be one of the new growth frontiers with a number of large-scale economic development and infrastructure investments. The Lamu Port, South Sudan and Ethiopia Transport (LAPSET) corridor project among other projects that are expected to change the economic landscape of the County and thus the need for a spatial framework to provide a basis for planned investments.

The County also experiences a myriad of challenges related to land based resources such as human-wildlife conflicts, encroachment on fragile ecosystem, unplanned settlements and depletion of water sources. These challenges can best be addressed within a planned framework.

Whilst the expected developments could generate substantial economic and social benefits, they also pose significant environmental and social risks. They could lead to irreversible damage to the County's most important natural assets such as forests, mangroves, water sources, beaches, seagrass beds, coral reefs and fisheries. These natural assets provide a flow of goods and services that are vital to Lamu's economy and the wellbeing of the people). Lamu's natural environment also holds important cultural and spiritual values for many communities. However, many of these assets are already in decline due to human activities, and the losses would have profound implications for Lamu's future.

The Lamu County Spatial Plan (2016-2026) addresses the aforesaid challenges in order to improve the standards of living of the people through employment creation, reduction of poverty, and creation of wealth as well guide sustainable development. The plan also provides comprehensive strategies and policy guidelines to solve the problems of rural and urban development, industry, infrastructure and human settlement, ecotourism and sustainable environmental management. The implementation plan will be a major milestone towards securing biodiversity hotspots, sustainable management of natural resources and improvement of the quality of life and wellbeing of the residents of Lamu County.

Special thanks to our Key Partners World Wide Fund (WWF) led by Mr. Mohamed Awer (Chief Executive Officer), Mr. Kiunga Kareko (Coastal Program manager) and the entire WWF team for their invaluable financial and technical support. The County is also grateful to the County Assembly for their active role in plan preparation and approval. Lastly to the County team (National and County Departments), local community and other stakeholders to the timely preparation and completion of the plan. We look forward to the support of every stakeholder in the implementation of the plan.

**Hon. Issa A. Timamy**  
**The Governor**  
**County Government of Lamu**

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## PREFACE



Lamu County, forms part of the larger coast region that include Kwale, Mombasa, Kilifi, Tana River and Taita/Taveta counties. Except Taita/Taveta County, all the other counties front the

Indian Ocean with a coastline extending almost 600 kilometres from the boundary with Tanzania to the south to the boundary with Somalia to the North. Lamu County has approximately 130 kilometres of sandy beach coastline which is characterized by some unique and environmentally sensitive coastal ecosystems which include the coastal sand dunes, mangrove swamps, coral reefs, coastal tropical forest and rangelands that are so important for the pastoral communities in the Coast, North Eastern and Northern Kenya. These ecosystems are of great interest in view of their protective role against siltation and sea erosion. The National Environment Management Authority (NEMA) and the World-Wide Fund for Nature (WWF) working in collaboration with County Government of Lamu and other Stakeholders recently completed the preparation of an Environmental Sensitivity Atlas for Lamu County which we hope if used together with this Spatial Plan will go a long way to guiding future development of County.

World Wide Fund for Nature (WWF) has been an active partner in the preparation of this Spatial Plan and their contribution in logistical arrangements and expertise is highly appreciated. The preparation of a County Spatial Plan is legal requirement under the County Government Act, 2012. Section 110 (1) States that there shall be a ten-year GIS based database system 'Spatial Plan' for the County which shall be a component part of the County Integrated Development Plan (CIDP). The preparation of this spatial Plan is based on a GIS database that has carefully been prepared capturing property boundaries of all surveyed land parcels in the entire County. A GIS officer from the County Government of Lamu has been trained on data capture, entry, retrieval and updating process. WWF has established a GIS laboratory within Lamu County Government on which all data collected during the preparation of this Plan will be entered and archived.

The County Spatial Plan has been developed through a robust and all-inclusive stakeholder process. The process included integration of national policies that have relevance to the County Government Planning and budgeting needs. Stakeholders meetings were held in all the wards in recognition of the fact that the ward has become an important Planning unit as far as the County Government Act 2012 is concerned. In each ward, the participants were able to develop the vision for their ward which were later merged to form County vision. The Spatial Plan is strategic and therefore aims at addressing spatial problems facing the County's geographical space. Spatial concepts have been used to better describe and depict the unique land forms that make up the said geographical space.

This Plan has ensured that pursuit of equity in resource allocation within the County has been promoted, and that short-term gains are not favoured above long-term sustainability. The Plan has provided a platform for unifying Planning, budgeting, financing, programme implementation and performance review.

The ultimate aim of preparing Lamu County Spatial Plan has been to strategically guide sustainable development in Lamu County for a period of 10 years and facilitate the transformation of the lives of the citizens of the County. This Plan has aimed at providing an overall spatial framework for the County to guide sustainable development, providing an agreed land use Plan for the County, which include clearly designated land use zones, developing a GIS database as mentioned earlier which has supported the Plan making process. The Plan has also helped in interpreting and localizing strategic national and regional policies and strategies, identifying the natural assets within the County, outlining strategies to protect and where appropriate improve renewable natural assets, providing a basis for efficient and cost-effective delivery of infrastructure services through a long-term programme of investment and providing a framework for revitalizing industries, trade and commerce for sustainable economic development.

The Plan has depicted the spatial dimension of the social-economic, political and environmental development programmes of the County as articulated in the County Integrated Development Plan. It has also presented a clear statement of how the spatial Plan is linked to the Regional, National and the County Plans, clarified on the anticipated sustainable development outcomes of the Spatial Plan through controlling the order and nature of activities on land in the County.

The preparation of this Pro-Conservation Spatial Plan has benefited from the dedication and collaboration of the County Government of Lamu, National Land commission, Director of Physical Planning, Ministry of Lands and Physical Planning and the World-Wide Fund for Nature (WWF), The National Museums of Kenya, The LAPSET Authority, the County Residents (Public).

**Hon. Amina R. Masoud**  
**County Executive Committee Member**  
**Lands, Physical Planning, Water, Infrastructure & Urban**  
**Development**  
**County Government of Lamu**

## ACKNOWLEDGEMENT

The County Spatial Plan 2016-2026 (CSP) is as a result of a comprehensive participatory process that lasted for approximately 18 months under the guidance of the Consultant - Centre for Urban & Regional Planning. The approach was multi-disciplinary and multi-sectoral approach with the involvement of all the stakeholders including the community.

The process involved participants from all the ten wards of the County (Witu, Bahari, Hongwe, Mkunumbi, Hindi, Basuba, Shella-Manda, Amu, Faza and Kiunga), Planners from the County Government, Centre for Urban and Regional Planning (CURP) and Technical Departments of various Ministries within the County. Other participants involved in the process included: National Land Commission (Directorate of Planning), Ministry of Lands and Physical Planning (Department of Physical planning), Ministry of Interior and Coordination of National Government (Office of County Commissioner Lamu), Kenya wildlife Society, and Non-State actors (WWF), World Agroforestry Centre and local conservation groups. These are acknowledged for participating and supporting the entire process.

The CSP has been prepared with the institutional and financial support of the County Government of Lamu and the World Wildlife Fund (WWF) for Kenya Office. The County is particularly grateful to H.E. Hon. Issa Timamy - Governor of Lamu, Hon Amina R. Masoud - County Executive Member in charge of Land and Physical Planning and Mr. Mohamed Awer Mohamed - Chief Executive Officer, WWF for their guidance, financial and institutional support in preparation of this plan. WWF-Kenya has supported the establishment of a fully-fledged GIS lab as per the threshold set by the National Land Commission guidelines in preparation of County Spatial Plans. WWF-Kenya has also supported the CSP development process by supporting a participatory process where transect surveys, focus group discussions and validation workshops were conducted. Capacity building programmes in GIS and M&E have also been supported to enhance capacity in operation of the GIS laboratory and effective preparation and implementation of the plan.

We appreciate the Consultant for steering the process in a highly professional manner. The support and goodwill of both the County Executive Committee Members, the County Assembly Members and County Administration is highly appreciated.

The County is also grateful to: Dr. Stephen Holnes - a conservation specialist from South Africa, courtesy of WWF; Consultants from World Agro forestry Centre; National Museums of Kenya; Dr. H. Musoga; Planner R. Kitur; and C. Onyango from National Land Commission for their insightful contribution to the process of the County Spatial Planning.

This document could not also have been prepared without the invaluable input and guidance of the County Planning Team led by Eric Randu (Director of Lands & Physical Planning), Vincent Osewe (County Physical Planner) and Swabra B. Mohamed (County GIS Analyst). The Consultant's Team included: Planners R.K. Mbwagwa, Osengo Charles, Joakim Nyarangi, Samuel M. Gituara, John Nduru, and GIS specialist Peter D. Nyamai.

The County Department of Lands further also acknowledges the support and mobilisation efforts of the WWF Lamu Office spearheaded by Kiunga Kareko (Coastal Project Manager, WWF) and Nathan Mutunga (Planner). Finally, we highly appreciate the Lamu community in all the ten wards for their active participation and input during the plan preparation process. As it is not possible to list the names of all the persons in this section of the report, a detailed list of all these contact persons has been attached as an appendix to this report.



**Eric Randu**  
**County Director of Lands & Physical Planning**

## EXECUTIVE SUMMARY

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The second volume of Lamu County Spatial Plan is intended for a quick perusal and grasping by interested parties especially policy makers, implementing agencies and development partners. Methodological approach and detailed sectoral analysis are in the first volume of the County Spatial Plan. This volume comprises key components of the spatial plan namely; a summary of the existing situation, interpretation of the spatial possibilities and constraints in form of spatial concepts, sectoral perspectives, synthesis and formulation of the Integrated County Spatial Plan, a land use zoning framework for the implementation of the plan proposals, plan implementation strategy, the County Investment Programme, and finally monitoring and implementation.

The fulcrum of the Lamu County Spatial Planning exercise is the detailed analysis of the existing situation based on an accurate GIS base map that brought out the configuration of sectors on space as well as the spatial interpretation of possibilities and constraints. The existing spatial analysis is composed of the natural capital (geology and soils, rainfall patterns, solar and wind, biodiversity and conservation, marine resources) its relationship with social economic system of the County leading to various outcome; cultural and heritage capital of the County; the people of Lamu and the growth in numbers projected from a detailed trend analysis from 1969 to date and beyond to 2028; land and human settlements within the County, their distribution and level of services; the economic base of Lamu or livelihoods (agriculture and rural development, livestock and range management, fishing, tourism and heritage, public sector, commerce and trade); transport, infrastructure facilities and services (both Physical & Social Infrastructure) and; Governance & Institutions (functions, of executive, policy arm and planning organisation at the County level).

As aforementioned this gave the consultant the ability to step up the spatial analysis to unique spatial interpretation of the Lamu County Space as constitutionally defined. This translated into spatial concepts that provide various possibilities and constraints for development besides highlighting the various conflicts involved (Human/Wildlife conflicts, Farmers/Pastoralists conflicts, Established livelihoods/LAPSSET development related conflicts etc). The spatial concepts as shown in detail on a map within the text are:

The Shielded Hinterland, The Productive Scapes (Agriculture), The Productive Scapes (Livestock), The Punctures Scapes, The Tana Delta Foot print, The Strategic Gates, The Port Precinct, The Archipelago, The Pristine Ecosystem, The Mangrove Ring and The Blue Pearl.

This spatial interpretation gave the basis of juxtaposition of the sectoral perspectives in a way analysing its current location, distribution and contribution to the quality of life in the County. The approach on sectoral perspectives was: formulation of the strategy, objective, characterisation of the issues, policies to address the issues, action to be taken in specific areas to solve as a solution to the issues. The broad sectors at this juncture are: Natural Resources and Environmental Conservation; Transport and Accessibility; Land and Human Settlements; Education; Health; Water and Sanitation; Energy and Communication; Safety and Security; Economy and Livelihood; Recreation and Open Spaces; Community Development; and Institutions and Governance. Moving to integration it implies merging the sectoral perspectives with the spatial concepts and being able to develop or define the utilisation of space to march the vision developed in the process of the Spatial Planning for the County.

Emerging from the spatial concepts and related to sectoral perspectives in a highly summarised form are key broad areas around which planning issues and opportunities isolated from analysis converge. These planning issues and opportunities are:

- Conservation of the natural heritage of Lamu County and by extension the Country
- The pattern of human settlement and by extension concentration of human activities
- Livelihoods of Lamu, (the productive scapes)
- Tourism and heritage (Wildlife, Culture & Marine Tourism)
- Infrastructure facilities and services
- Institutions and Governance

The findings in the above areas explain what is happening to the County of Lamu in an integrated County Spatial Framework that meets the aspirations of the Lamu people, as expressed in the vision. From the integrated County Spatial Plan, the consultant stepped it down to the County Land Use Zoning Framework, the Plan Implementation Strategy showing projects in various parts of the County specifically wards, the Capital Investment Programme, and

the Monitoring and Evaluation Framework of the Plan. It should be emphasized that the Integrated County Spatial Plan of Lamu confers diverse benefits to multiple stakeholders as well as to posterity. The diverse benefits are: economic; social; environmental; public administration; and political in nature. The second volume of the plan is as elaborated.

**R. K. Mbwagwa**  
**Principal Consultant**

## ABBREVIATIONS & ACRONYMS

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C.C. – County Commissioner

C.O. – Chief Officer

CBNRM – Community Based Natural Resource Management

CBO – Community Based Organizations

CCS – Comprehensive Community Strategy

CDF – Constituency Development Fund

CEC – County Executive Commissioner

CFA – Community Forest Association

CGL – County Government of Lamu

CGTR – County Government of Tana River

CIDP – County Integrated Development Plan

CIP – Capital Investment Plan

CSO – Civil Society Organization

CSP – County Spatial Plan

CURP – Center for Urban and Regional Planning

CWCC – County Wildlife & Conservation Committee

DNR – Dodori National Reserve

DPS – Development Partners

EEZ – Exclusive Economic Zone

EMCA – Environmental Management and Control Act

ESIA – Environmental and Social Impact Assessment

FBO – Faith Based Organization

FGD – Focused Group Discussion

FGM – Female Genital Mutilation

FPE – Free Primary Education

FSE – Free Secondary Education

FY – Financial Year

GASP – German Assisted Settlement Programmes

GIS – Geographical Information System

GoK – Government of Kenya

GTZ – German Organization for Technical Cooperation

HIMWA – Hindi Magongoni Water Association

IBA – Important Bird Areas

ICT – Information Communication and Technology

ISUDP – Integrated Strategic Urban Development Plan

JKUAT – Jomo Kenyatta University of Agriculture and Technology

K.D.F. – Kenya Defense Forces

K.P.R. – Kenya Police Reservists

KAA – Kenya Airports Authority

KENHA – Kenya National Highway Authority

KENTTEC - Kenya Tsetse fly and Trypanosomiasis Eradication Council

KeRRA – Kenya Rural Roads Authority

KETRACo - Kenya Electricity Transmission Company

KFS – Kenya Forest Service

KFS – Kenya Forest Service

KIP – Kenya Institute of Planners

KMA – Kenya Maritime Authority

KMNR – Kiunga National Marine Reserve

KNBS – Kenya National Bureau of Statistics

KPL Company

KPLC – Kenya Power and Lighting Company

KPR – Kenya Police Reservist

KU – Kenyatta University

KURA – Kenya Urban Roads Authority

KWS – Kenya Wildlife Service

LAKWA - Lake Kenyatta Water Association

LAPSET – Lamu Southern Sudan Ethiopia Transport Corridor

LAWASCO - Lamu Water and Sewerage Company

MIPC – Manda Island Port City

MP – Member of Parliament

NCIC – National Cohesion and Integration Commission

NEM – Northeast Monsoon

NEMA- National Environmental Management Authority

NGO – Non-Governmental Organization

NLC – National Land Commission

NMK – National Museums of Kenya

NMT – Non-Motorized Transport

PPPS – Public Private Partnerships

RAP – Resettlement Action Plan

SEM - Southeast Monsoon

SEZ – Special Economic Zone

SoK – Survey of Kenya

TARDA – Tana Athi River Development Authority

TJRC – Truth Justice and Reconciliation Commission

UNESCO – United Nations Educational, Scientific and Cultural Organization

VCT – Voluntary Counseling and Testing

VIP – Ventilated Improved Pit

WFE – Witu Forest Ecosystem

WRM – Water Resource Management

WRUA – Water Resource Users Association

WWF – World Wildlife Fund



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# CHAPTER 1: SUMMARY OF THE EXISTING SITUATION

## OVERVIEW

Emerging Planning problems are presented according to the sectors under analysis. These sectors are: Physical, Natural Resources and Environment; The People of Lamu, Heritage and Culture; Land and Human Settlements; Economic Base of Lamu County; Transport, Infrastructure Services and Utilities; and Institutions and Governance.

## PHYSICAL, NATURAL RESOURCES AND ENVIRONMENT

- Planning problem and opportunities singled out from the above broad sector during the analysis are as presented below:
- Lamu County is generally flat with a low gradient and therefore prone to flooding during rainy seasons on land, and periods of high tides on the shore-scape bordering the sea. It has three distinct landscape units namely: the seascape unit (that is at zero altitude and contains the blue pearl); the immediate coastal plain landscape unit; and gentle rising **landscape unit**.

## GEOLOGY AND SOILS

- The County's geological structure sits on a basin with a succession of sediments in which a sequence of conformities has developed leading to a great area of hydrocarbon potential both on land and sea. This provides a high chance of the presence and discovery of oil and natural gas; the result of which has been the identification of current natural gas and oil exploration blocks.
- Its geological structure is characterised by variation in grain sizes, porosity, permeability, compaction, texture, and cementation thereby influencing ground water availability.

- The County has soils of varied characteristics, i.e., texture, depth and potential for different farming activities- depending on availability of water. The variety of crops grown in the County and available agro ecological zones attest to this fact.
- Availability of fresh water in lakes, swamps, seasonal and permanent rivers, is a great asset to the County. The fresh water sources, however, are increasingly facing degradation due to excessive utilisation by human settlements and grazing. A case in point is the drying up of Lake Kenyatta which is an important source of fresh water for farmers in Mpeketoni settlement scheme.
- Beaches and sand dunes serve important public functions as recreation areas and a protective wall against tidal waves respectively. These are important public assets that require careful Planning interventions for posterity. They have been greatly encroached upon by human activities and greed of land market forces.

## CLIMATE

Lamu County experiences inadequate rain. In addition, the rainfall is highly variable spatially. It has a bimodal rainfall pattern occurring in March to May and October to December, and average quantity of about 540mm annually. Rainfall is highest along the immediate coastal plain with rainfall of 1000mm recorded in the areas of Witu, Mpeketoni and in Lamu archipelago but it decreases as one moves away to the rising landscape unit.

## GREEN ENERGY

- The County is richly endowed with a variety of green energy sources. These are solar, wind and tidal waves. It experiences wind speeds of 100knots which is adequate for wind power generation. Besides wind potential, Lamu also has high solar irradiation of 1900-2500 Kwhr/m<sup>2</sup>, highest near the sea and decreases as one moves away from the

sea. This is more environmentally friendly than the proposed Amu Power Plant.

- The monsoon winds influence the movement of goods and services in the Indian Ocean especially with regard to small scale sea vessels and fishing activities. The onset of monsoon winds creates different seasons and is also associated with variations in the roughness of the sea, which, by and large, determine the safety of sea transport.

## BIODIVERSITY AND CONSERVATION

- A large part of the County, approximately 18% has both protected and community forests that provide various biodiversity benefits to the County. They are habitat to wildlife and various bird species, and also form part of the conservancies found in the County. Large parts of forested area contain tsetse fly which has influenced human settlement in the County. They do contain also wet lands, and swamps besides being part of livestock and wildlife grazing and migration zones.
- Human activities such as settlement, farming as well as land needs for national infrastructure projects, however, pose a threat to the County's biodiversity.
- Implementation of major National infrastructure project (LAPSSET) is set to enhance access and enhance employment opportunities however it has adverse impact on existing natural resources ie the Mangrove forest and the migratory route for Wildlife. The County Spatial Plan takes this into consideration and points to the requirement of integrating wildlife movement channels with the LAPSSET project.
- The green mangrove ring that forms the interface between the land and the sea is a great natural land mark of Lamu County. This natural landmark-containing over 70% of the Country's mangrove resources. However, the forest faces

threat of destruction due to indiscriminate logging, reclamation of sea front, and implementation of national development projects (**LAPSSET**) which will lead to a clearance of 16Km stretch of the mangrove for the Port of Lamu project causing adverse impacts on diversity and livelihoods.

### MARINE RESOURCES

The Indian Ocean has a variety of resources that can be a game-changer in providing employment and generating revenue necessary to grow the economy of the County. These Marine resources include marine parks at Kiunga, a variety of sea fish, sea grass, coral reef, sea turtle, oil and natural gas.

### SOLID WASTE DISPOSAL

Dumping of sea vessels on the sea shoreline coupled with open solid waste-in the erstwhile aesthetic view of the sea-is an eye sore to the citizens and visitors. Recycling of waste is definitely a good opportunity for the youth of Lamu County.

### THE LAMU ARCHIPELAGO

- The Lamu archipelago contains 57no Islands. These Islands include, Amu, Manda, Pate, Ndau and Kiwayu which are fairly large and provide habitat for the Swahili Culture.
- Amu Island, apart from being a world Heritage site according to UNESCO.
- The archipelago contains several archaeological/ Historical sites of great significance such as the TAKWA ruins which are important assets for tourism developments.
- Lamu County has a complete package of tourism potential that is enviable. This comprises; culture and heritage; wildlife and bird species; and sea sport and beaches

### THE PEOPLE OF LAMU, HERITAGE AND CULTURE

Emerging Planning issues and opportunities are as explained below:

- The County has sparse population distribution. This pattern of distribution is partly influenced by the rainfall distribution, availability of arable land, availability of social services, accessibility, and livelihood opportunities. Most of the Lamu population is concentrated within the immediate coastal plains and archipelago.
- The current composition of the population is cosmopolitan and to some extent represent the face of Kenya. However, there are local indigenous communities who feel threatened by the growing number of migrants moving to Lamu in search of land for agriculture and settlement. There is need to identify the local communities and protect their land rights. The County Government working in consultation with the National Land Commission have responsibility to insulate these communities by registering their land rights
- Population of Lamu County is rapidly rising as supported by the mean growth rate from 1969 to 2009 of about 4.8 percent. In-migration from other parts of the Country due to the intended development of the LAPSSET infrastructure project and periodic movement of pastoralists in search of pasture during the dry season greatly contributes to the growing population. It creates demand for settlement and associated facilities and services leading to encroachment into protected and fragile spaces within the County; not to mention the declining per capita space.
- The County experiences relatively high infant and child mortality of 76 and 116 per 1000, as compared to the National average. This is an indication that public health related to children and education of mothers must be looked into.
- Lamu County has one of the highest maternal mortality rates of 676 per 100,000 live births and a high female mortality rate of 1000. This is attributable to cultural practices of giving birth at home as well as accessibility to health facilities. Accessibility to health facilities, education of women and awareness, as such, are crucial in improving maternal health in the County.

- In the Analysis, it has been noted that there is bias propagated against the girl child with regard to access to education and employment opportunities.
- There is rapid growth in the formation of households in Lamu as seen from the projections. It is a pointer to the need for provision of well-Planned human settlements with services where housing can be availed.

### LAND AND HUMAN SETTLEMENTS

- The County has vast earth surface land as well as marine land both of which have unique characteristics and potentials for varied human uses in different magnitudes.
- The port area of the LAPSSET and its corridor will influence human settlement growth. Human settlement growth will gradually take a metropolitan nature. This implies Planning the towns within the central point of the infrastructure and adjacent ones immediately, with enhanced linkage among them.
- The County has control of additional public land which was revoked by the National Land Commission from private developers. They had irregularly been allocated land parcels in conservation areas that accommodate wildlife, grazing lands, as well as migration channels for wildlife.
- Fraudulent land acquisition and land invasions in the past and at present have led to tension between the settlers and indigenous communities. This has occasioned encroachment on vital fragile ecosystems including wetlands, forests and ranches.
- Beaches and sand dunes have been encroached upon as earlier mentioned by farmers and private developers respectively.
- The County suffers from competition for land arising from increasing population, and location of national development projects within the sensitive fragile ecosystem.

- The County has two main population distribution patterns; concentrated and dispersed. The concentrated, which is almost nucleated, are within the archipelago and to some extent the coastal plain while the dispersed are found within the mainland area of Lamu away from the coastal plain.
- Human settlements in the County lack a proper hierarchy, function and are inadequately serviced (water and sanitation, telecommunication, drainage, solid waste management, power). These are mandatory core urban services upon which the quality of human life is predicated and they greatly support private sector performance.
- Extents of settlements are not properly defined and are also inadequately Planned. This has led to uncoordinated growth, sprawl, and encroachment on accessibility spaces like roads.
- Settlements are inadequately linked spatially both internally and spatially. Internal settlement linkage focuses on local integrated strategic urban Plans with a clear layout. External settlement, on the other hand, focuses on the road hierarchy that provides linkages between the urban settlements and their productive hinterlands or scapes.

## ECONOMIC BASE OF LAMU

- Lamu County has a rich natural capital resource base which ranges from terrestrial forest, wildlife, rich agricultural land, beaches and sand dunes, coral stone, sand, limestone, solar, wind, marine mangrove forest, ocean, sea grass, marine parks and other ocean resources.
- There is inadequate skilled human resources in the County (as exhibited by low literacy levels and inadequate technical training opportunities). This inadequacy also represents a constraint in that it exerts pressure on available natural resources and calls for more spending on social services.
- Lamu's economy is basically based on the primary sector (farming, fishing, livestock, mining, tourism, and gathering

honey from the forest). It represents the first level of resource utilisation and tends to fetch low returns on investments, and worsens when there is an oversupply.

- Diversification of the economy into commercial, service and industrialisation is vital in future.
- The potential of the primary sector to create value and employment has not been fully exploited. Value addition, for instance would go a long way in growing the economy and creating employment in the County.
- Land utilisation should be seen from the economic rationale of optimisation to boost agro industrialisation.
- Inadequate and poor economic infrastructure has affected economic operations of the County (roads, ICT, energy & water & sanitation). The infrastructure necessary for growing the economy is either in bad condition and inadequate, or completely non-existent thereby negatively affecting the economy of Lamu.
- Revenue mobilization in the County is a function of economic vibrancy. The County Government is yet to tap into all potential sources of revenue.
- Central Government allocation is based on national statistics about Lamu that are at times misleading, particularly on population. Ignored in the allocation, are the classified road infrastructures suffering from long periods of neglect.
- Insecurity situation in some parts of the County has affected economic activities and curtailed inflow of investments leading to a decline of tourists visiting the archipelago.

## AGRICULTURE & RURAL DEVELOPMENT

- Available arable land is approximately 198,000Ha while only about 70,000Ha of land is utilised for farming. Main crops grown are indicated in the relevant chapter of analysis, the

quantity over the years and value created. The County can achieve more in terms of production by use of appropriate modern farming methods- (Map of the farming areas).

- The implementation of LAPSSET has the effect of reducing the farming area of the County and hence affecting production volume. There will be need to expand farming into other parts that are currently underutilised but are suitable for farming. However, the implementation of infrastructure project will enhance market access for the farm products.
- The County experiences inadequate agricultural input support (seeds, tools and equipment). Farmers require adequate inputs as indicated to enhance production. Seeds and other inputs have been out of reach due to high costs of inputs unaffordable to some farmers.
- Agricultural support services of research, and dissemination by extension staff, provision of storage and marketing are vital for enhancement of the performance of the sector. Inadequacies in this area of support services have affected the performance of the agricultural sector. A positive note is that the County has provided tractors to be used for cultivation by farmers to enable large scale to medium scale farming.
- Conflicts between crop farmers and pastoralists and between crop farmers and wildlife have become common as a result of drought and search for water and pasture. There has been also agricultural expansion into areas of wildlife as well as migration corridors both for wildlife and livestock increasing the chances of conflict.
- There is lack of value chain approach to analysis and improvement of the crop farming sector in order to diversify the County economy. Using the value chain approach implies spatially linking all the sectors that contribute to the performance of farming, harvesting, transportation, storage, manufacturing and processing to distribution and marketing.

## LIVESTOCK & RANGE MANAGEMENT

- The County has expansive land for grazing covering areas of swamps, wetlands, and seasonal rivers as well as the Tana Delta area. These happen to be areas where ranches are located as well as livestock migration channels. It closely interacts with wildlife spaces and their migration patterns.
- There is heavy dependence on pasture that grows naturally leading to scarcity at times and hence conflicts.
- LAPSSET infrastructure development is expected to help the livestock sub sector in terms of enhancing the market access and providing opportunities for value addition. Conversely, space for the project will definitely reduce the current livestock grazing areas and interfere with livestock migration patterns. This requires the attention of the spatial Plan to integrate not only the livestock and wildlife movement channels but also the County road system.
- It has been observed that livestock mode of production is still too traditional facing lack and inadequate livestock infrastructure (dips and vaccination crushes, grazing and, water facilities). Further, it is still viewed greatly from the prisms of cultural prestige; sentimentally rather than in the economic rationale. This has an impact on the productivity of the sector, and the failure to leverage improved techniques to expand the sector on an industrial scale for export market
- Potential of the sector to create wealth through value chain analysis and spatial Planning has remained underutilised.

## FISHING

- The County has an expansive fishing area of the sea (40 traditional fishing grounds and 32 landing sites) and availability of a variety of fish species with potential for improving the economy.
- The volume of fish harvested in the County is low compared to available resources. This is due to inadequate infrastructure for fishing. The infrastructure to grow the

fishing industry includes research, laboratory testing, vessels used, cold storage chain in fish landing sites, ease of transportation and marketing.

- Fish harvested in most cases is sold in raw form and fish being highly perishable, turns many fishermen into desperate suppliers at the mercy of the buyers. A focus on the whole fish value chain will lead to improved livelihoods of the fishermen and greatly benefit the County.
- There are some unprotected fish landing sites which constrain the operation of the fishermen. These are spread throughout the County and require immediate attention for their protection from the concerned authorities.
- Over the years there is a gap in collaboration between the national Government and the County Government with regard to the policing of the territorial waters of the Country. This has been worsened by inadequate policy focus on the blue pearl as a frontier of wealth creation and opportunity. It has therefore motivated foreigners to encroach on Kenya's territorial waters reducing the quantity of fish available to the fishermen of Lamu.

## TOURISM & HERITAGE

- Lamu boasts of rich unique tourism package both terrestrial and marine (wildlife, ox bow lakes, beaches, ocean, marine park, traditional crafts, culture and Heritage). Already referred to as the "complete package", this unique feature is yet to be aggressively marketed as the land mark of Lamu.
- The proposed national development project (resort city, access to Lamu by air, road and railway) will enhance the access to the County and make it easier to market its tourism uniqueness.
- There is encroachment on wildlife spaces and forest through development projects, human settlements and poaching thereby affecting wildlife as an input in tourism. It is however hampered by the tsetse fly menace and insecurity posed by terrorism.

- Current heritage sites are characterised by inadequate maintenance. The qualities of these sites need to be diversified and package appropriately as tourist destination. This calls for partnership between the National Museum of Kenya and the County Government of Lamu.
- Lamu does not benefit from past and current tourism activities (fortified tourism enclave). Investments in tourism are dominated by foreigners who have Planned comprehensively for their visitors from arrival, and transportation into their tourism facilities. This tends to limit the participation of the local people in tourism.

## TRADE & COMMERCE

- County has commercial centres where trade activities take place with a number of them specialising in provision of certain services. They form the nucleus of urbanisation, commercial development and industrialisation. It is imperative that they be Planned and provided with required services to facilitate investments, and accommodate more people in a compact manner.
- The County suffers from limited investor knowledge of opportunities due to lack of aggressive marketing and inadequate infrastructure facilities and services. It has culminated into low level of operation of current trade and commercial activities within the County.
- LAPSSET infrastructure development project presents an opportunity to increase the trade and investment capacity of Lamu.

## TRANSPORT, INFRASTRUCTURE, FACILITIES, SERVICES & UTILITIES

This sector is the cornerstone of social economic development (both quality of life and creation of wealth) by providing inputs and efficient accessibility to opportunities and services. Emerging Planning issues and opportunities touching on transport, telecommunication, energy, water and sanitation, education, health, security and recreation are summarized below;

## TRANSPORT

- Road conditions linking the County to the outside are in bad conditions limiting accessibility and marketing of local produce externally. The same applies to accessing goods externally for use within the County. Air transport is out of reach of the majority while sea transport is limited within the archipelago and not safe and secure for external accessibility.
- County faces unreliable public transport both by sea and land due to bad roads and insecurity brought about by terrorism. Roads are in bad conditions due to long periods of neglect and isolation from the main economic development artery of road and railway from Mombasa Port to Kisumu, Eldoret, Busia and Malaba.
- County faces expensive public transport both on sea and land hampering accessibility to opportunities and land. Sea transport is not well organised due to lack of Planned terminal facilities at the jetties within the County.
- Poor public safety of sea transport where small sea vessels are utilised to ply high and rough water routes to transport goods, services, and people (Kiunga, Pate, Ndau, Faza, Pata, Manda, Shella, Matondoni, Kiwayu, Mokowe, etc). It is worsened by untrained sea vessel personnel, without insurance and warning equipment. It is also characterised by inadequate monitoring and patrol for safety by the maritime authority.
- There is lack of enforcement of maritime regulations about safe sea transport and requirements in the County. Safety and security of sea transport is therefore compromised by the current operations of sea transport.
- On land, the LAPSSET project constitutes a key spatial organising element of the County dividing it into almost two equal parts of East and West. It will exert influence on the land use along it and there is need to link it to the rest of the County at various junctions by proper integration with existing road system of the County.

## ENERGY

- Currently the County has a variety of energy sources both for domestic, commercial and industrial use. These are gas, diesel, kerosene, charcoal, wood, and electricity. Utilisation of the above is according to one's social economic status. Some of the energy sources are not sustainable like wood and charcoal.
- It has great potential of tapping into renewable energy such as solar and wind. This is supported by wind speeds in some parts of the County as well as solar irradiation intensity. It is a better alternative to the coal power Plant.
- Only a small part of the County is served by electricity.

## WATER & SANITATION

- Available sources of fresh water are experiencing pressure of over utilisation, inadequacy due land use practices while others contain water that is unsafe for human use.
- County is experiencing rising demand for water occasioned by rapid population growth (of people and animals) and urbanisation. There is urgent need to identify a variety of sources of fresh water supply to the people of Lamu.
- No human settlement in Lamu has a Planned sewer system hence current approaches of septic tanks are unsustainable for compact urban settlements and for increased population. Currently within the archipelago domestic waste water runs in open drains, and is directed into the sea.
- County has a best practice of solid waste separation but lack solid waste value chain to properly manage the solid waste in a modern way (green techniques or approaches). This includes transfer stations, recycling; organic waste centres and final land fill area.

## EDUCATION

- The County has adequate school facilities corresponding to the settlement pattern or concentration but faces the

challenge of getting the pupils to schools and retaining them to the end of the education cycle. Some schools are inaccessible, like in some parts of Kiunga, and Basuba wards.

- County has adequate secondary facilities which are underutilised due to inadequate enrolment for secondary education.
- Low levels of secondary school attainment are widespread in Lamu partly due to their unequal distribution within the County. It is also difficult for transition from primary to secondary schools and to retain the students in school up to the end of the education cycle. Young people are affected by drugs, easy money from tourism in the past and cultural practices affecting the girl child.
- Unequal access to education among boys and girls in favour of the boys' due to cultural practices has led to high illiteracy among the ladies and unequal participation in the labour market place.
- Performance of the learners in national examinations both in primary and secondary schools is poor due to lack of discipline on the part of the students, lack of parental follow up and inadequate school administration.
- There are fewer tertiary institutions in the County for skills training and development, while the available ones have deteriorated.
- Understaffing in some of the schools denies the learners the attention and guidance required from the teacher.
- In future, the County will face increasing demand for both primary and secondary education as population grows. There is need for Planning for future education needs in view of increasing population needs from population projections.

- The menace of drug addiction is affecting the education of the boy child and young men in the County leading to a loss of labour and productivity besides spread of HIV/ AIDS.

#### HEALTH

- County has made attempts to distribute various health facilities across the County but the people still face accessibility problem to the health facilities in terms of distance and affordability of the services.
- Hierarchy of the facilities and distribution has not been well ordered to facilitate proper referrals in accordance with complexity of the medical issue.
- County is unable to retain qualified health personnel (both doctors and nurses) within the County and in many cases falling below the required threshold as per the WHO. .
- Mortality rates are high within Lamu leading to low life expectancy in the County compared to the national one.

#### TELECOMMUNICATION

Poor network availability in most parts of the County by the major service provider's hampers connectivity and information flow internally and externally.

#### RECREATION

County is characterised by inadequate and lack of recreational spaces. Within the archipelago there are some public open spaces, and on the beaches. In the rest of the County apart from educational facilities and show ground, there are no public recreation spaces for the residents of the County.

#### SECURITY SERVICES

- Security provision is under the central government through the office of the Ministries of internal security and defence. The County Government would therefore be not the best placed to curb insecurity matters in the region

- Insecurity in the County is more in the areas that are less accessible occasioned by poor road conditions and network, forest thickets and intermittent development areas
- Areas of resource competition like pasture and water also form the areas of potential livelihood conflicts and threat to security

#### CEMETERY

- Cemeteries available in Lamu County are in areas occupied by the people of Islamic faith while those of the Christian faith have no cemetery
- The county faces the problem of providing adequate cemetery facilities where they are provided, and currently where they are lacking

#### INSTITUTIONS AND GOVERNANCE

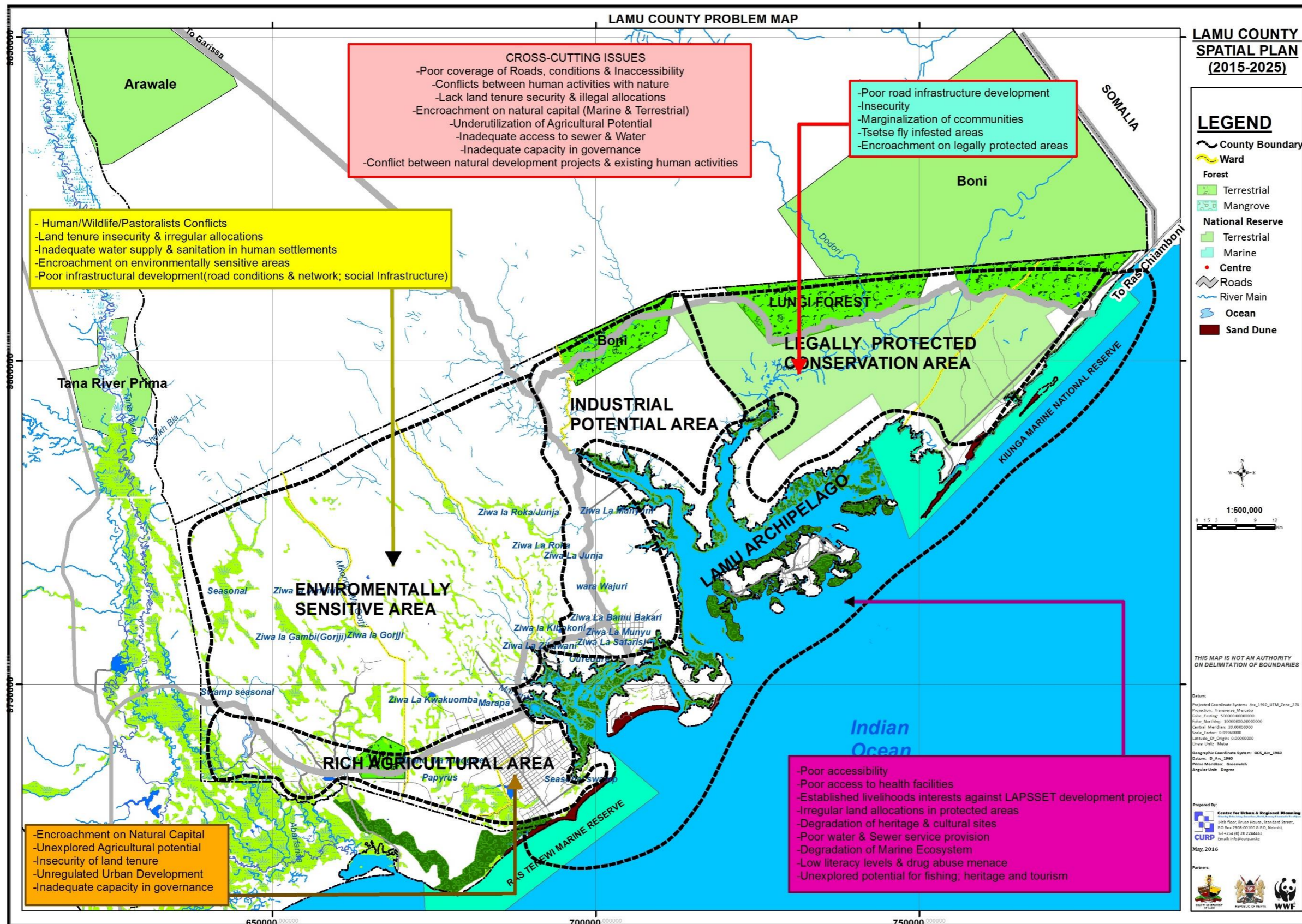
- Governance is crucial for the success of formulation of County Spatial Plans, implementation and for favourable intended outcomes. It functions in a milieu of layers guided by national values and principles; constitutionally established, and legitimacy of performance in addressing Planning and development challenges. In it is the value of guardian of and on behalf, direction, cohesion, and motivation. Emerging challenges that impact on Planning;
- There exists some conflict between autonomy of County Governments to articulate the needs and rights of the citizens within the County in relation to the domineering approach of the central Government demands and state corporations. In certain instances, the local community are at the receiving end of decisions made without their participation, and adequate advocacy for them by their guardians.
- The institutional and governance realm also faces the challenge of inadequate collaboration and coordination of development efforts among state actors leading either to conflict or duplication of efforts. For instance, County

Government, central Government, state corporations, and state actors)

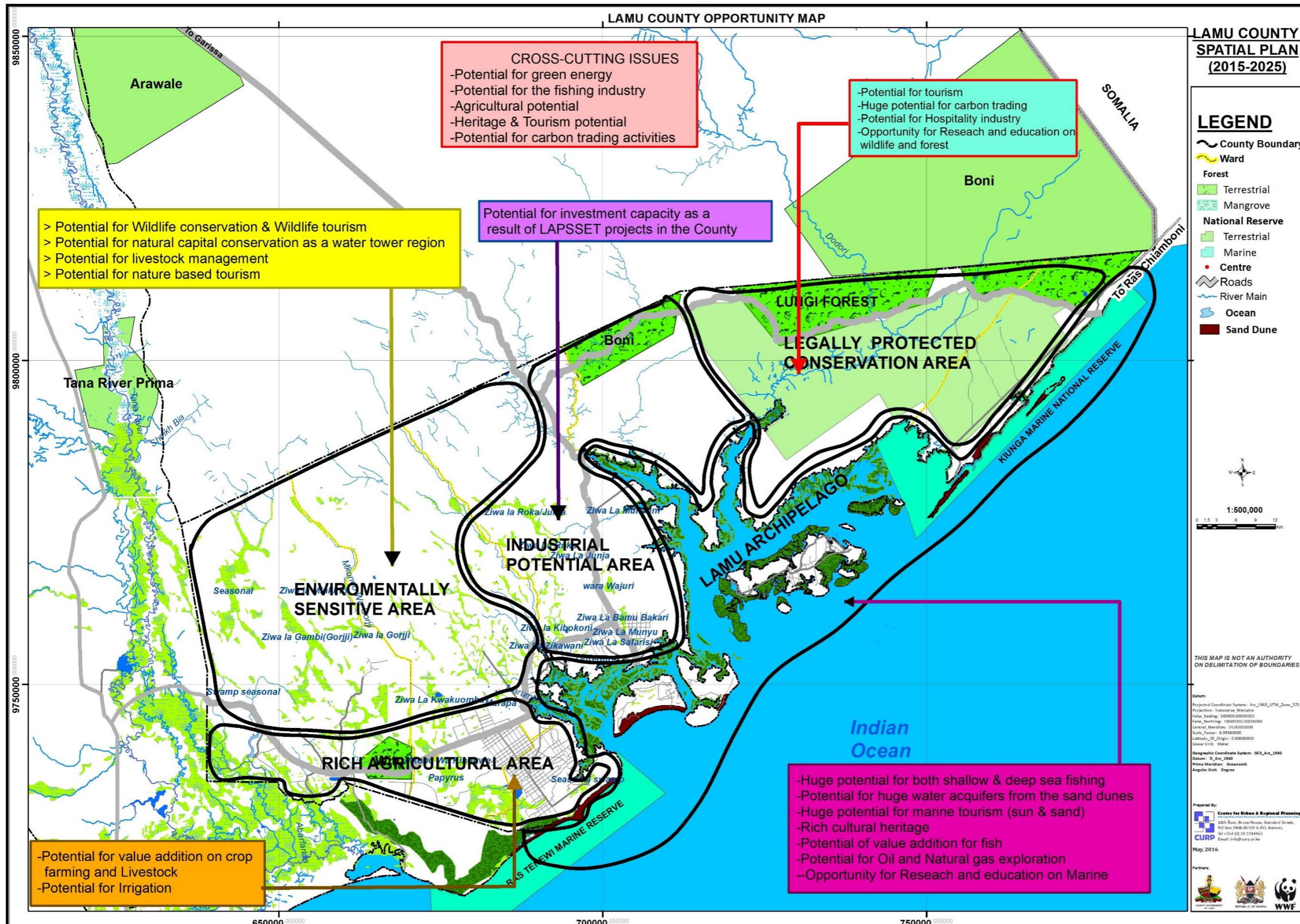
- There is lack of sector wide approach to the implementation of development project, leading to sub optimal outcomes of development efforts. This is due to lack of or inadequate sectoral coordination and collaboration among departments and sectors within the County. It warrants the formulation of a County Strategic Plan to oversee the implementation of the County Spatial Plan.
- Within the County Government, there is inadequate understanding of what the County Spatial Plan is, what it entails, and the value it creates for the executive and the ward representatives. It represents a negotiated agreement on the solution of the people's problems by the people and the location of those problems thereby empowering everyone.
- Currently the County has inadequate capacity in all forms to implement the spatial Plan across the sectors (financial, technical officers, office requirements, vehicles). Each sector is expected to translate the strategies, policies, and projects of the spatial Plan into a sectoral Plan that guides its operations.
- Planning capacity within the County is weak to oversee both County Spatial Planning and formulation of integrated urban development Plans envisaged in the County Spatial Plan for all the wards, sub County towns, other emerging towns besides development control. Capacity in the land and physical Planning office urgently requires strengthening broadly to tackle the land use Planning and development requirement in a timely manner.



Map 1: Summary map of the problem areas in the County



Map 2: Summary map of the opportunity areas in the County

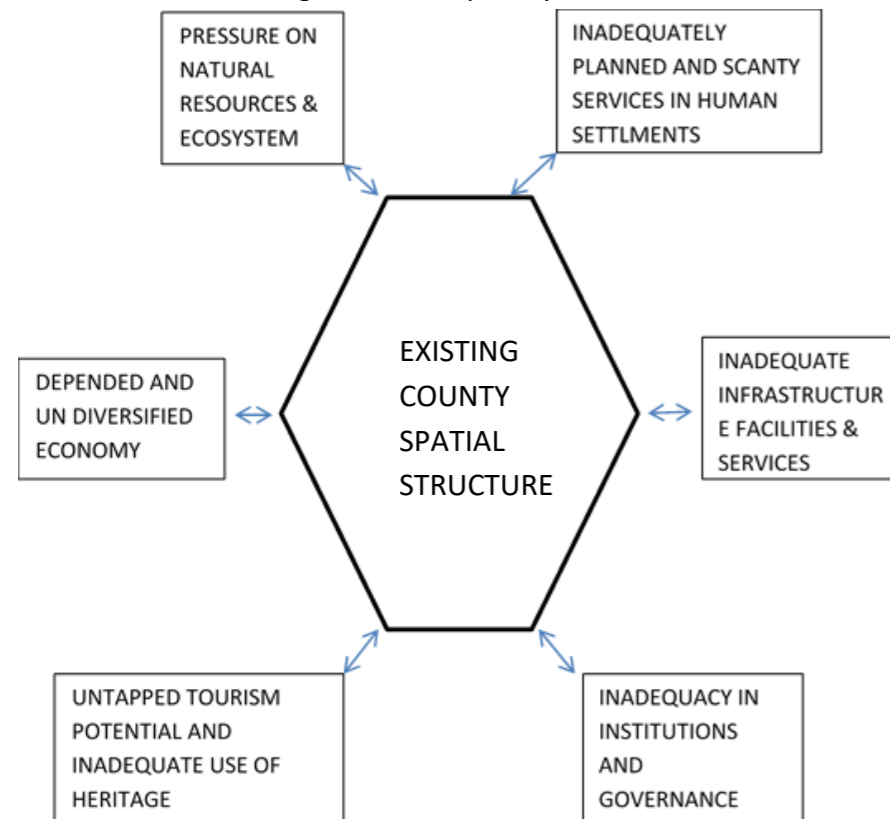


## CHAPTER 2: SYNTHESIS AND SPATIAL DESIGN CONCEPTS

### OVERVIEW

Having presented the situational analysis above, some conclusions can be drawn regarding the thematic areas discussed above that have a direct bearing on how the spatial Plan will be designed. The conceptual basis of the Plan was discussed as follows:

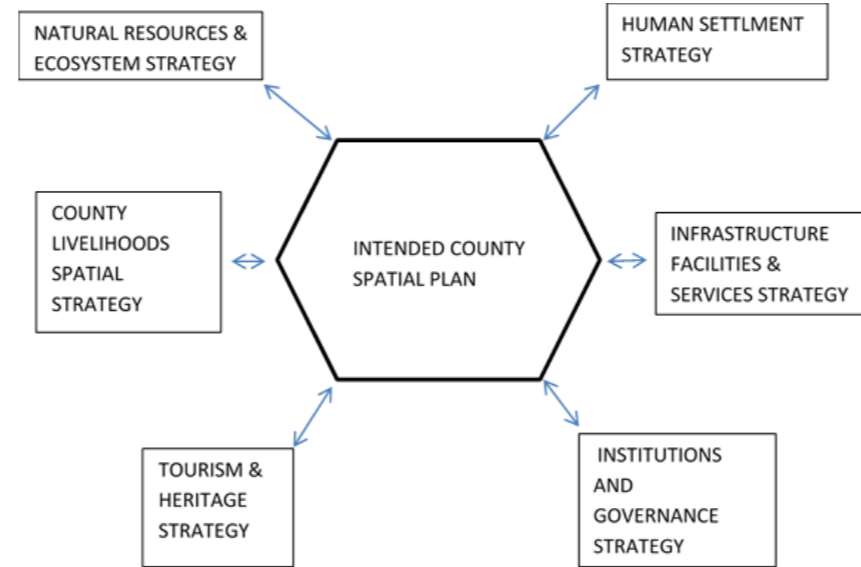
Where are, we coming from conceptually?



Where do we **WANT TO GO** conceptually?

**VISION (Diagrammatic steps from the ward stakeholder workshops)**

“Sustainable utilisation of the County’s natural, human, and cultural capital assets towards an economically prosperous competitive County”



Source: CURP

The thematic areas are discussed below under:

### PHYSIOGRAPHY, NATURAL RESOURCE BASE & ENVIRONMENT;

As far as Spatial Planning is concerned, attention is given to the physiographical characteristics of Lamu County as a space upon which economic development can take place taking into consideration environmental, social, political and cultural values of the County. The success of any Planning exercise is largely dependent upon the degree to which it is able to interpret the manner in which resources and human activities locate in spaces. Thus, the Planning research must determine the role that space plays in the intermediation of natural environment and human processes in the space and the challenges and prospects that this presents. The Planner therefore looks at the existing spatial structure as a process to better understand the territorial spatiality of natural resources and representative ecologies.

The disaggregation of County spaces into specific structural elements is the first step in understanding the spatial structure of the Lamu County. Each layer is interpreted as an independent entity with its own unique spatial attributes and structural

qualities. However, it is often the case that the very properties of a spatial component are determined by those of another. Consequently, it becomes necessary to overlay one or two elements (say transport and settlement structure) in order to gain further insight regarding the importance of each to the other and how they relate. An overlay of all the various layers’ results in a synthesis of the existing County spatial structure.

The analysis of the existing spatial structure has the following advantages.

- To shed light on past and present processes of the County’s structural existence.
- To uncover strengths and weaknesses associated with the County’s form and assess its suitability as a durable template upon which to adapt and orientate strategic and programmatic aspiration of ending the Planning exercise.
- To suggest programmes and policies for the subsequent readjustment and re-alignment of specific spatial – structure components in line with a preferred option.

### THE COMPONENTS OF LAMU’S NATURAL ECOSYSTEMS INFLUENCING THE STRUCTURE OF THE CSP

Lamu’s ecological structure consists of two major components namely, **Terrestrial and Marine eco-systems**. The former refers to Plant and animal ecologies that are land-based while the latter refers to water based ecologies. The terrestrial ecosystems can further be disaggregated into the following elements.

#### THE PHYSICAL STRUCTURE

The analysis of the physical structure seeks to examine the properties of the landscape and geomorphology of the County including topography, geology, soils and hydrology.

## TOPOGRAPHY

The County's physical structure is defined by east –west graduated height differences that include the coastal plains lying between 0-30 meters above sea level. The land rises gradually from Mokowe to Bodhei a distance of 58 kilometers at an altitude of about 0-50 meters above sea level. This gives a fairly gentle slope from Bodhei to Mokowe dictating the drainage pattern into the Indian ocean.

## GEOLOGICAL FORMATION AND THE SOIL STRUCTURE

The coastline of Lamu is characterized by a predominance of sand dunes. The sand dunes are formed over a long period of time by winds blowing from the Indian Ocean picking sand particles and depositing the same in a linear formation along the coastline to form a barrier between the sea and the mainland. The formed sand dunes act as sea walls and prevent rough ocean waves from flooding into the human settlements fronting the sea. Additionally, the sand dunes are very important ecosystems as they act as breeding grounds for sea turtles and other sea species.

The present coastal geological structure evolved during the Pleistocene era – this was a period marked by numerous fluctuations in sea levels. Because of its evolutionary history, the principle rocks observed in Lamu are of sedimentary origin. The dominant rocks within the County are marls and limestone characterized by sandstones, clays conglomerates and gravel. Thus, its typical to find well developed reef complex, consisting of coral reef, coral rubble and sandstone occurring extensively along the Lamu archipelago and the hinterland. This rock formation is extensively exploited by the building industry within the County and forms a basis of the structure of this proposed County Spatial Plan.

It is this rock formation that actually determines the soil distribution of the County. In the formulation of this Plan, it was very important to assess the soil distribution of the County which required the Planners to interrogate the agro-ecological zones occasioned by this soil distribution. It is no doubt that the altitudinal variation in the landscape structure provides soils that are fertile for both agricultural and livestock production.

This understanding would then help in shaping the structure the County Spatial Plan was to take and the various recommendations to be proposed for the various zones identified in the Spatial Plan.

## HYDROLOGY.

Lamu's hydrology is a factor of Kenya's topography and oceanography. One of the County's principle rivers is the Tana River which emanates from Kenya's water towers of Mt. Kenya and the Mangai river which traverses the County through the forest rich areas of Basuba and Kiunga Wards. Mangai river is a seasonal river with a considerable river flow during the rainy seasons. Compared with other seasonal rivers flowing from Garissa County through Hindi and Mkunumbi wards, Mangai river can be considered a source of fresh water within the County with a potential for the construction of a dam on its channel in the future.

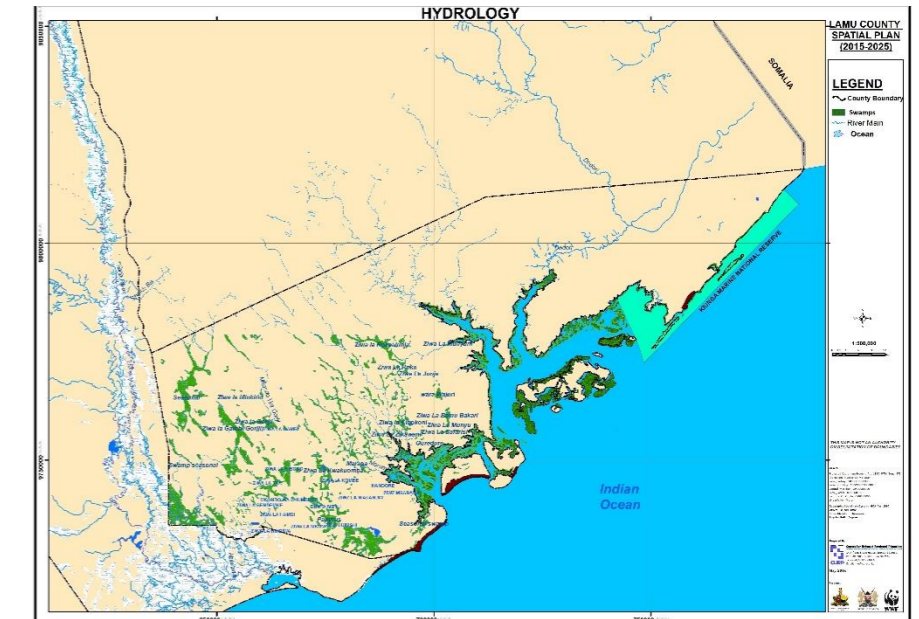
The Tana River on the other hand is the longest river in Kenya. It covers a distance of 850 Kilometers as it traverses through a number of Counties in Central, North Eastern and Coast region. It has a catchment area of 127,00 Kilometers and it discharges an average of 4,000 million cubic meter of fresh water and 6.8 million tons of sediment annually into the Indian Ocean. The river enters the ocean at Kipini in Ungwana Bay. About 30 Kilometers from its mouth, River Tana branches with its tributaries forming the Tana delta. One of its tributaries meanders into Lamu County to the South West of Witu township.

The hydrology of Lamu also includes other surface and underground water sources notably Lakes, springs, swamps and other seasonal rivers in Witu, Mkunumbi and Hindi Wards forming a spectacular site of immense importance as wetlands requiring great care in their management. Up to this point in time the area is devoid of encroachment by farmers but it is a haven for pastoralist and the Wildlife.

Consequently, this has resulted to rampant farmers-wildlife conflict within the region which largely overflows to Lamu County from Kipini conservancy through Nairobi Ranch. In some cases, the pastoralists have permanently settled within the region masquerading as squatters in the notion that the land they occupy is no man's land. This has resulted to the locals coining a term to this process of self-allocation of land as 'Witemere' a direct

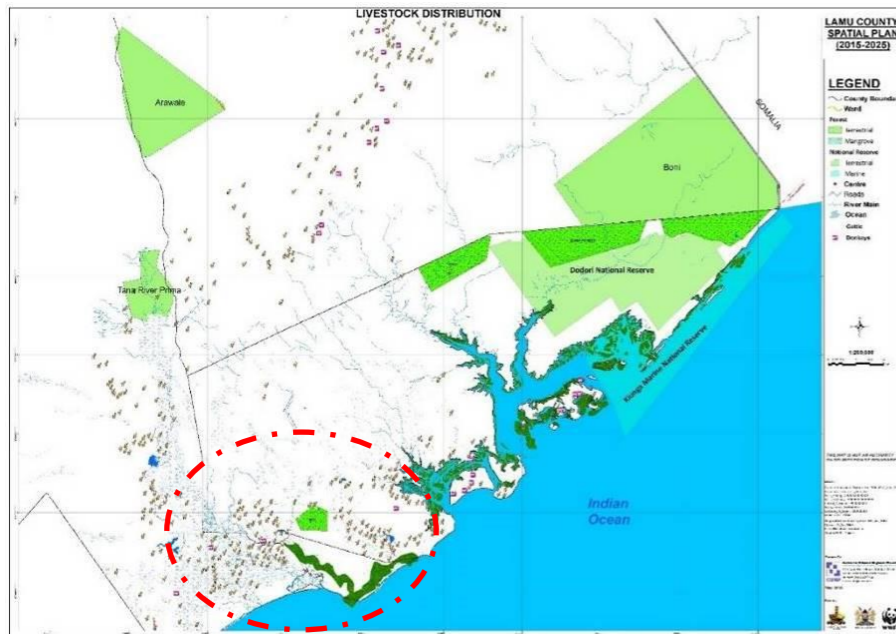
translation of 'cut for yourself'. Consequently, it is such acts of no control in the use of land that ultimately pose a great danger to this fragile ecosystem.

Understanding the hydrological drainage of the County was very important as some key proposals to the Spatial Plan were really guided by this hydrological character as in the map below:



Source: CURP, 2016

The livestock distribution map below has been used to illustrate some of these conflict prone areas (bounded by red ribbon). The conflict is a result of various activities including farming, pastoralism, and wildlife conservation happening around this region. Solutions were sought in the making of the most desired Spatial Plan as presented in this report:



Source: CURP, 2016

### The continental shelf and Oceanography

Kenyan's continental shelf is relatively narrow about 5-10 nautical mile (nm) wide with depths dropping below 200 meters in under 4 nautical miles of shoreline. At the mouth of the Tana Delta, the Shelf is significantly wider, exceeding 15 kilometers off the Northern end of Ungwana Bay. Beyond the continental shelf, the sea bed slopes away to a depth in excess of 4,000 meters. The shelf is sedimentary, dominated by fine sands, salt and mud derived from terrigenous sources (Obura, 2001).

In the making of this Spatial Plan, our definition for 'Land' included the mass occupied by the 20 nautical miles territorial waters and the 200 nautical miles international waters. This amount of land interpreted elsewhere in this Plan as the Exclusive Economic Zone was very important to understand and interrogate as the bulk or resources anticipated to lift the economic capacity of the County lie within this zone including fish and other minerals like the potential for Oil and Gas exploration. The narrow continental shelf means that deep sea fishing can only take place if the fishers are empowered with the requisite fishing gear otherwise they can only fish within shallow waters.

On the same line, it was very important to understand the oceanic currents influencing Kenya's coastal waters which are: The East African coastal current (EACC), the Somali current (SC), the

Southern Equatorial Current (SEC) and the Equatorial Counter Current (ECC) that blow in different times of the year locally known as the 'kas kazi' and the 'kas kuzi'. Sea surface temperatures are highest during the North –East Monsoon averaging 28.4°C (maximum 29°C) and lowest during the south – East monsoon averaging 26°C (minimum 24 °C).

### FOREST AND WOODLANDS.

Lamu County is home to some of Kenya's most unique and indigenous forest woodlands, courtesy of the regions agro - climatic regime. 70% of all the mangrove forest in Kenya is found in Lamu County. Mangrove forests are the predominate vegetation growing on the shallow water within the Lamu Archipelago and the mainland around the ocean creeks. In the islands of Pate, Ndau, Manda and to some extent Lamu, the mangrove forests form a ring like pattern of a very pristine environment.

The mangrove forest therefore gives Lamu County its unique identity and all efforts should be made to preserve and protect the mangrove forest to at least maintain the cover in its current level or increase to a higher level. Other forests in Lamu include the coastal lowland forests of Witu, Boni-Lungi forest ecosystems and the Dodori National Reserve. Like the forests of Arabuko Sokoke in Kilifii County, these forests are extremely important for their variety of Plant species; and other biodiversity they support which are very key in the integrated making of this Spatial Plan. Both Witu, Boni and Lungu forests are gazetted forest with unique challenges posed by human settlements and incursion by livestock in search of water and pasture.

The understanding of these environmental natural resources as key pillars to the economy of Lamu County are very important in the making of this Spatial Plan.

### WILDLIFE HABITATS

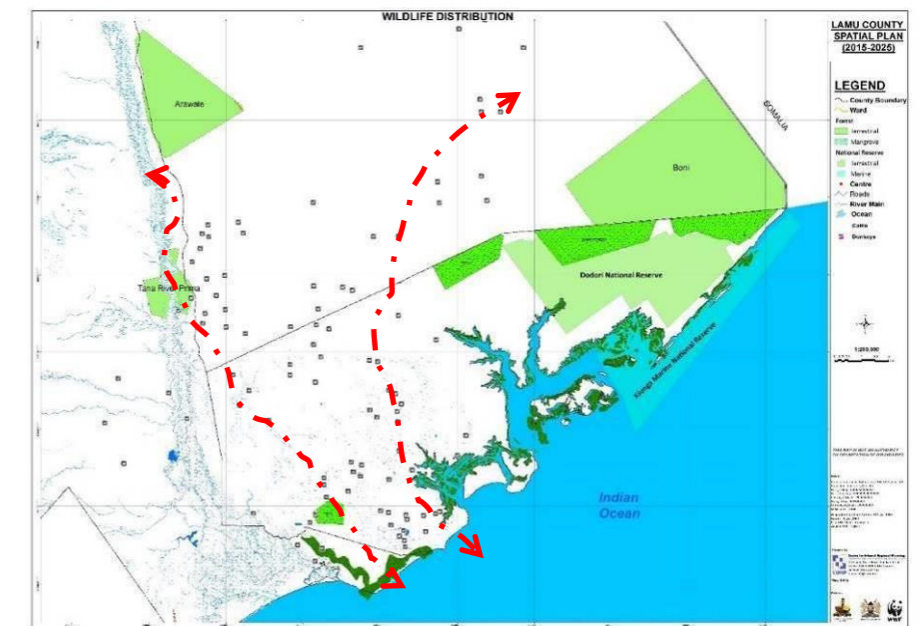
A substantial portion of Lamu County is inhabited by an innumerable variety of wildlife. The wildlife areas may be grouped into terrestrial and aquatic inhabitanancies. The former consists of Game Reserves (Dodori National Reserve) while the aquatic habitat includes the Fisheries and Marine park of Kiunga. Although Dodori National Reserve is a gazetted wildlife conservation area, most of the wildlife is found outside this area since the Reserve is not

fenced. This necessitates both farmers from the County and pastoralists incursion from Garissa County and beyond particularly during drought period to displace the wild animals from their habitat areas.

The insecurity posed by armed terrorists from Somalia has made the situation worse. The Elephants which in the past were frequently sighted in the area are rare to find today partly due poaching by the said armed terrorist and other related human wildlife conflicts. Wildlife from this habitat move freely to the south west of the County towards the Tana Delta and its environs in search of water and pasture.

Understanding this phenomenon and interrogating the factors leading to the resulting wildlife movement really shaped the direction of the most desired County Spatial Plan.

The map below shows the wildlife movement map:



Source: CURP, 2016

### SWAMPS AND MARSHLANDS

Low lying wetlands with grassy vegetation are mainly situated in transition zones between the Indian ocean and mainland. These swamps and marshlands are a normal occurrence in Bahari, Hongwe, Witu, Mkumumbi and Hindi Wards. These habitats provide ideal location for wildlife and livestock particularly during

the droughts and dry seasons. In these wards, therefore human/wildlife conflicts are a common phenomenon.

These swamps and marshlands are very important as water retention areas and their distribution in this pro-conservation County Spatial Plan was very important. From the foregoing discussion on the Natural ecosystems, a few issues as discussed below informed the Plan formulation. These issues are:

- Human/wildlife conflict and farmers/pastoralists conflicts. Question of how a sustainable solution can be brought about by the Plan were interrogated to inform a most desired pattern of the Spatial Plan while still considering the other components and solutions to other issues.
- The threat of promoting conservation of sensitive ecosystems like the mangrove forests, sand dunes, indigenous forests, wetlands and swamps etc. Reasons limiting pro-conservation practices of such ecosystems was interrogated, viable options proposed which were then translated into concepts upon which the Spatial Plan was anchored.
- The issues relating to communities living in cross cutting ecosystems of the County as discussed above. It was a common objective that the Plan should not Plan in isolation of the People. It is on such understanding that ideologies such as those of integrating the Boni – Aweer / Sanye community (which lives and drives its livelihood from hunting and gathering within the Boni – Lungi forest and Dodori National Reserve) into the conservation efforts by the Kenya Forest Services (KFS) and Kenya Wildlife Services (KWS) was arrived at.

## HUMAN SETTLEMENTS, STRUCTURE

Human settlement structure clearly shows the distribution of human inhabitants across the entire County. The settlement structure can broadly be grouped into two categories i.e urban and rural settlements

### Urban Settlements

These are inhabitants that agglomerate land - use practices and occupation of a mostly urban nature, together with associated support systems including community facilities and infrastructure services. In Lamu County these settlement characteristics can be observed along the main highway traversing the County from Nyongoro through Witu, Majembeni, Kibaoni, Mkumumbi, Hindi and terminating at Mokowe. The other urban settlements are found located along the main road from Hindi, Bargoni, Majengo and Bodhei. The other linear settlements pattern can be observed from Majengo, Milimani, Basuba, Mangai, Mararani and Kiunga. The other settlement pattern is also linear in its formation running parallel to the Indian Ocean from Mkokoni to Kiunga.

The understanding of this distribution is very important as Urban Centres have been known over time to form the basis of growth. The identified Centres were therefore assessed and their growth potentials determined to give a trajectory direction to which their areas of influence would take in the future. This important aspect was considered in the shaping of this County Spatial Plan.

### Settlement pattern within the Lamu Archipelago

The human settlement pattern found within the Archipelago is unique in their form and distribution. The formation of the settlements represents a clustering of several independent urban Villages as nodes. The settlements are compact and well supplied with the necessary infrastructure services. However, Access roads are narrow typical of settlements that were developed in the 19<sup>th</sup> century. The Settlements include Faza, Kizingitini, Pate, Ndau, Bwajumwali, in Pate islands and Amu, Matondoni and Kipungani in Lamu Island. The compact nature of the settlements provide security and provide an ideal opportunity for the community to access social and infrastructural services. The cost of providing social and physical infrastructure is fairly cheaper in this type of settlement.

On this understanding, formulation of the CSP strategies within the archipelago considered these settlements as centres of growth and the proposed interventions for the outlying areas were highly influenced by the growth of these settlements.

### Rural Dispersal Settlement

The concept of rural dispersal is used to delineate settlements of a purely rural nature and of a relatively low density. In Lamu this type of settlement structure can be found in Mpeketoni settlement scheme. The agricultural plots were in various sizes ranging from 2 hectares to 4 hectares. Each individual farmer located their residential house on one corner of the plot. Provision of services to this type of settlement is expensive but increases the land available for agricultural production.

### SYNTHESIS OF THE SETTLEMENT STRUCTURE

- Intensive Human settlement is limited to the south of the main highway Nyongoro section - Mokowe leaving the hinterland apart from Pandanguo free of human settlement. Some of the questions this pattern raised is how does this impact on the direction of development of the County? How can the hinterland be opened for access to decentralize development without the unmitigated effects environmental conservation? How can service Centres be improved to be more economically viable with raised levels of service delivery etc. such questions formed the basis of providing the solution through the CSP.
- What best practices can be borrowed from the distribution and arrangement of the human settlements? Can Future Planning of Human Settlement adapt the compact village setting witnessed in the Lamu Archipelago? Is it a viable/sustainable practice when concerned with service delivery?

### SYNTHESIS OF THE TRANSPORT STRUCTURE

Poor roads condition and road network has immensely limited economic development of the County. To spur growth, the main access road to the County i.e Nyongoro – Witu - Mokowe road must be improved to bitumen standard. The other important road is Hindi - Bodhei and Majengo - Kiunga road both of which are security road. These roads when improved to bitumen standard will greatly enhance the security of the County.

Water transport from Amu island to Pate, Ndau and Kiwayu is erratic, unsafe and unreliable. The County Government should explore possibilities of securing a more reliable seat worth vessel

and introduce a more regular, safe and reliable sea transport within the Archipelago

The only way to access Lamu County by air is through the Manda airstrip. There is a proposal to put up an airport in Mkunumbi. Based on the anticipated developments to be proposed in the County, there would be need to open up more options for air transport by improving the airstrip in Faza and Kiunga to have a more connected air link from the mainland and the archipelago.

The County Government of Lamu should be involved in the Planned development of the LAPSSET project particularly in the design of the railway, oil pipe line and the road corridor between Lamu port and Isiolo resort city. As this corridor traverses between the port of Lamu and Bodhei Township at the border, the design should take cognizant of wildlife and livestock crossing this corridor considering these are high value wildlife and livestock movement corridors.

Understanding the current transportation infrastructure guided us in determining the unserved areas and potential development areas where this infrastructure reach could be proposed to enhance access and open development. The proposals under this Spatial Plan were therefore made in a way that improves the standards of the existing infrastructure and to provide other infrastructure where none is existent.

### HERITAGE STRUCTURE

Lamu County has a unique historical and cultural heritage sites. These have emerged over the centuries and behind each historical site, whether archaeological, cultural or religious is an intriguing story of how it came to be. This is what has given the County its rich cultural and historical heritage. If these Historical sites are renovated to their original splendor and documented, they can be prime tourist attraction. Amu old town is already a UNESCO heritage site. The open space in-front of Lamu Fort could be designed by floating a tender for international competition to seek for the best design that will take cognizant of the immense importance of the square within the heritage site.

### LANGUAGES IN LAMU COUNTY

Languages are a fundamental part of Lamu culture and heritage. There are numerous languages spoken in Lamu due to the cosmopolitan nature of the County and its rich history of trade with middle East and Asian countries. However, Kiswahili has emerged as a unifying language among the people of Lamu.

Lamu is a rich material culture ranging from the kangas, building materials as makuti, the architecture and music. The different ethnic communities have different cultures e.g the Swahili have the taarab music and a unique architecture for constructing curved doors, balconies and roofs. It is important to note that the direction of this CSP really considered the cosmopolitan nature of the County as an integral part of the people of Lamu.

### PLAN FORMULATION PROCESS

#### THE INTENDED SPATIAL STRUCTURE:

In our analysis of the existing spatial structure use, we have attempted to characterize the County space by highlighting its fundamental qualities and the underlying components to guide this Plan formulation process as discussed above. We have underscored the critical function of space as a bedrock or basis upon which natural resources and human activities are situated.

In view of the fore going, we appreciate the need for remedial measures to improve the space qualities in order to achieve environmental sustainability and development of the County given the aspiration of the people of Lamu who through consultation forums have expressed their desire for positive change in the manner in which both natural and human resources are utilized.

To this end, we wish to deploy three key instruments towards the spatial reorganization and restructuring of the County's space in order to achieve a set of desired goals which include, inter-alia:

- Achieving a sustainable County wide development framework
- Securing a balanced and equitable development for the County

- Securing competitiveness of Lamu County within the supra-regional context

To achieve this, the thought process towards achieving the desired Spatial Plan were as follows:

#### PRELIMINARY SPATIAL CONCEPTS

Globally, Spatial Planners use concepts in order to better understand the region or County for purpose of determining overall strategy of intervention in an effort to re-organize /restructure the space one is dealing with. The spatial concepts are informed by the existing spatial structure and build upon fundamental assets and opportunities displayed by the space under study. Concepts respond to the question of **what can** and ought **to happen?** Fundamentally and in response to the question **where?** They indicate a select number of areas for targeted, strategic intervention, the aim being to investigate synergies and domino effect across the County.

After a critical and thorough analytical consideration of all the thematic areas to inform our most desired Spatial Plan as discussed above, a few spatial concepts with very specific objectives for the most desired Spatial Plan were identified. The objectives for the Spatial Concepts were identified for the purposes of:

- Promoting conservation of key natural resources and biodiversity within the County
- Improving the transportation infrastructure and provision of basic services in the County
- Boosting the economic situation of the County by promoting the local production sector in fishing; agriculture; and livestock
- Improving the livelihoods and standards of living of the people

In a bid to achieve this, the preliminary spatial concept below started shaping the thought process and the analytical output of the desired County Spatial Plan.

The Preliminary spatial concept bubble diagram was derived as follows:

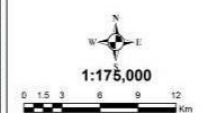
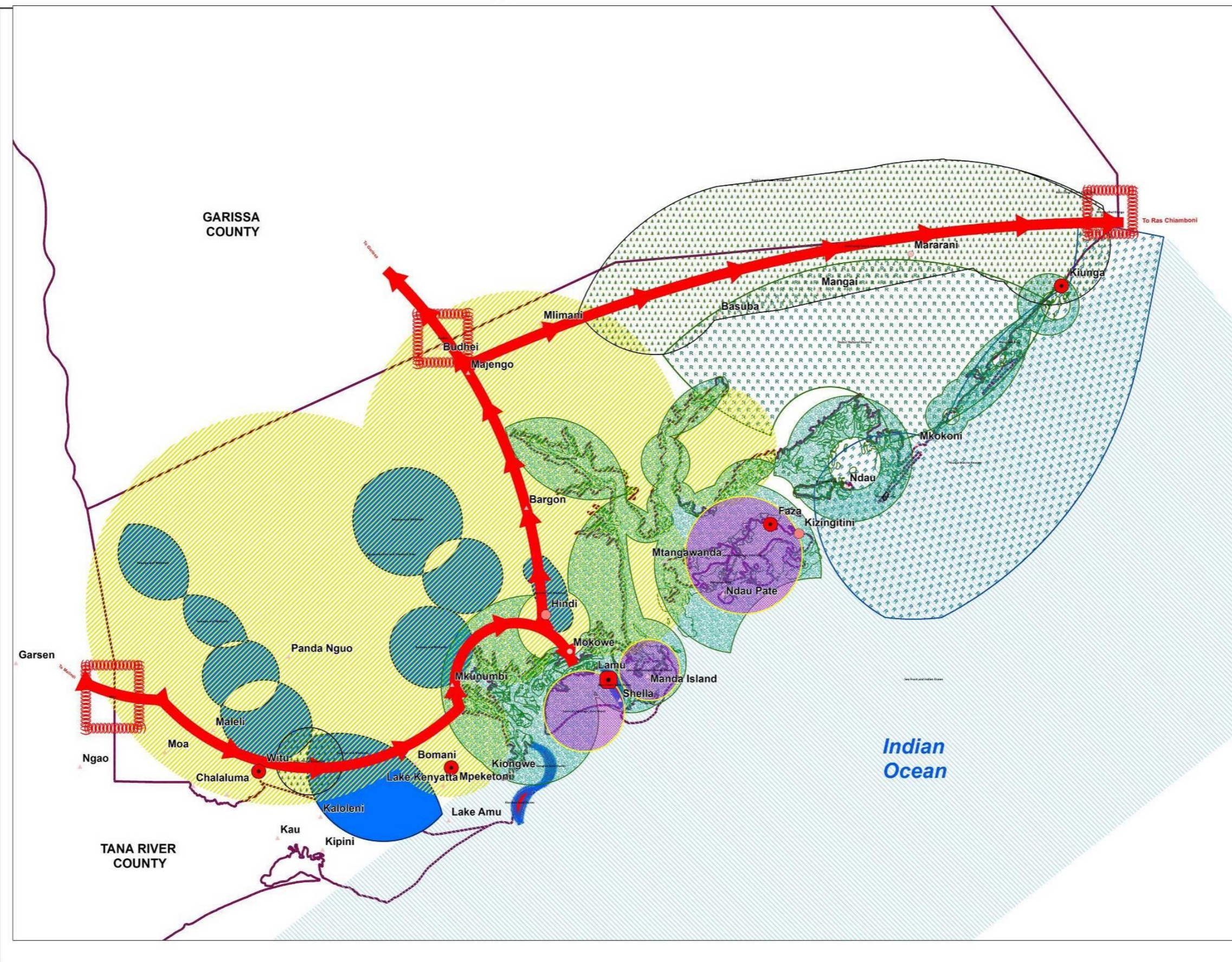
SPATIAL CONCEPT\_LAMU COUNTY SPATIAL PLAN

**LAMU COUNTY  
SPATIAL PLAN  
(2015-2025)**

**LEGEND**

**SPATIAL CONCEPTS**

-  Economy corridor
-  Strategic Gate
-  Punctured Landscape
-  Lamu Lungs
-  Hinterland Shield
-  Marine Sanctuary
-  Pearls of Lamu
-  Fish Paradise
-  Productive Hinterland
-  Productive Ocean
-  Wildlife Sanctuary



THIS MAP IS NOT AN AUTHORITY ON DELIMITATION OF BOUNDARIES

**Scale:**  
 Projected Coordinate System: Aic\_1960\_UTM\_Zone\_37S  
 Projection: Transverse\_Mercator  
 False\_Easting: 500000.00000000  
 False\_Northing: 1000000.00000000  
 Central\_Meridian: 39.00000000  
 Scale\_Factor: 0.99960000  
 Latitude\_Of\_Origin: 0.00000000  
 Linear Unit: Meter

**Geographic Coordinate System: GCS\_Arc\_1960**  
 Datum: D\_Arc\_1960  
 Prime Meridian: Greenwich  
 Angular Unit: Degree

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May, 2016





- The preliminary design highlighted the central corridor (Nyongoro – Witu – Hindi – Mokowe: and Hindi – Bargon – Milimani – Bodhei: and Milimani – Majengo – Kiunga roads) as the main development corridors that need to be improved first to enhance connection and promote public transport;
- It also highlighted a zone of various wetlands and swamp areas as the punctured scapes above which the rich agricultural zone transcends;
- The Mangrove forest rings around the archipelago were also highlighted as a defining spatial concept where their conservation would be promoted;
- This also included the Lamu lungs defined by the Boni – Lungi forest ecosystem; the Witu Forest; the Dodori National Reserve; and the Kiunga Marine Reserve where pro conservation practices would be highly encouraged;
- The other concept was the shielded hinterland defined by the stretch of sand dunes and this also emphasized the need for pro conservation practices owing to their importance as a natural resource;
- The last spatial concept on the preliminary design was the archipelago, where comparative strengths of the Islands would be assessed and practical spatial proposals to enhance the livelihoods of the people made;
- Another concept that was explored on this preliminary design was the Lamu Gates where these were interpreted as the Urban Centres of Witu; Bodhei and Kiunga.

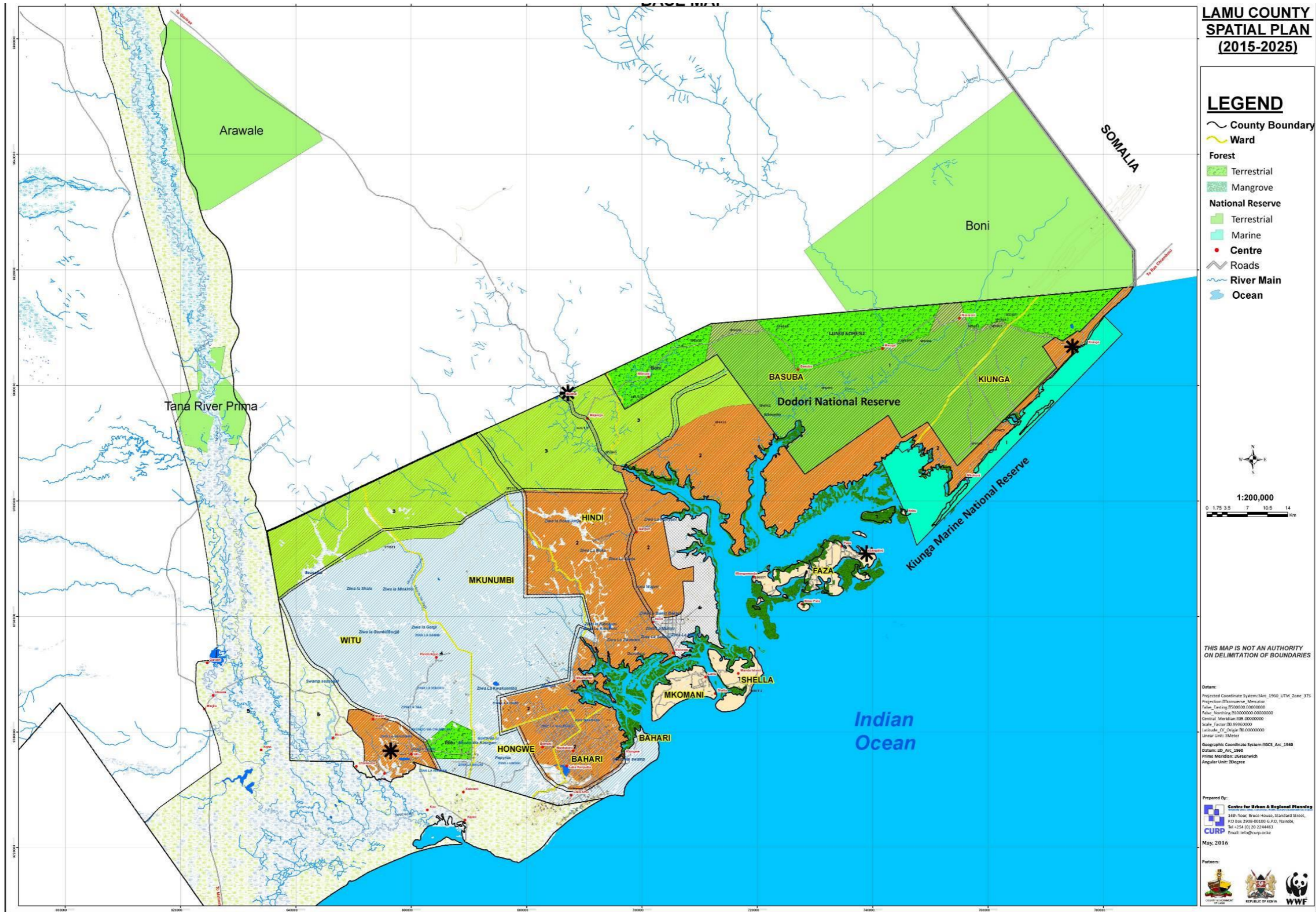
It is on these preliminary spatial design concepts that our most preferred and desired spatial Plan concepts were anchored upon and arrived at. These are discussed below:

## THE DESIRED SPATIAL PLAN CONCEPTS

In the designing of the Lamu County Spatial Plan, twelve (12) Spatial Concepts were developed to guide the preparation of a County Plan

with a difference. Just as discussed above, these had very specific overall objectives in anticipation of the desired outcome of the Spatial Plan.

The most desired Spatial Plan concepts were as follows:



The twelve concepts are discussed in details below:

### THE SHIELDED HINTERLAND;

This is a concept we have assigned to the scenic sand dunes that define the edge of the coast line in Lamu County. Sand dunes are formed over a long period of time by the sea currents that pound the coast line accompanied by strong winds that blow the fine to medium grained sand on the beach and depositing it in a longitudinal pattern along the coast running parallel to the shore. Geologically therefore the sand dune is covered by the said fine to medium grained sand. Other rare and isolated rock types may occasional occur. Quite often than not the rock types may include calcareous sandstone and pink-red limestone. The front part facing the sea tend to be acquire a curvilinear shape. Lose vegetation particularly the creeping type grow on the side and on top of the sand dune. Rain water percolate through the surface of the sand dune to form an aquifer which as in the case of Amu Island sand dune, supply the town of Amu, Shella and Manda with portable water.

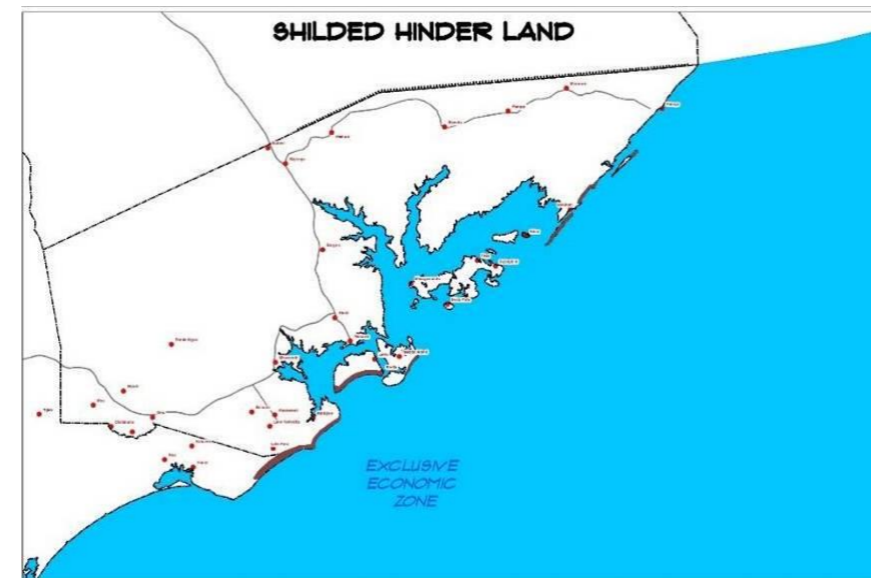
These sand dunes are found in Bawayas in Kiogwe (Bahari Ward), Lamu Island, Manda Island, Kiwayu Island, Mkokoni, Rubu Island, and Kiungamwini Island. The Sand dunes vary in height from as low as 23 meters to 70 meters above the mean sea level. The longest sand dune is the one found in Amu Island which stretches up to 13 kilometers from Kizingoni to Shella, while Bawayas in Kiogwe is 10.5 Kilometers long, Kiwayu 9.5 Kilometers, Mkokoni 5.0 Kilometers, Rubu 8.5 Kilometers long and finally the one in Kiungamwini is only 3.0 Kilometers long.

The sand dunes in Kiwayu, Mkokoni, Rubu and Kiungamwini Islands fall within the Gazetted Kiunga Fish and Marine Reserve. As is shown elsewhere in this report, parcels of land have been allocated in Kiwayu Island despite the area falling within the Gazetted Marine Park. It is our considered opinion that these allocations be revoked as soon as possible. The same goes for the allocations witnessed in Bawayas in Kiongwe, and Amu. The sand dune in Bawayas is facing a more serious challenge in the form of encroachment by the farming communities. The threat here is pose by the illegal cultivation of Watermelon on the slope of the sand dune.

Watermelon is a creeping Plant and grows very fast on the fine to medium grained sand.

The sand dunes are important but fragile ecosystem. Apart from being a water tower for the surrounding communities they provide an ideal breeding ground for Turtles. They therefore need to be preserved at all cost. The Lamu County Spatial Plan is a strategic Plan and this concept therefore provides us with the opportunity to come up with area specific strategies on how these fragile environmental assets can be conserved to ensure continued provision of secure breeding ground for sea turtles which is one of the endangered species requiring global attention.

The spread and stretch of these sand dunes in Lamu County is as shown below:



### THE PUNCTURED SCAPES

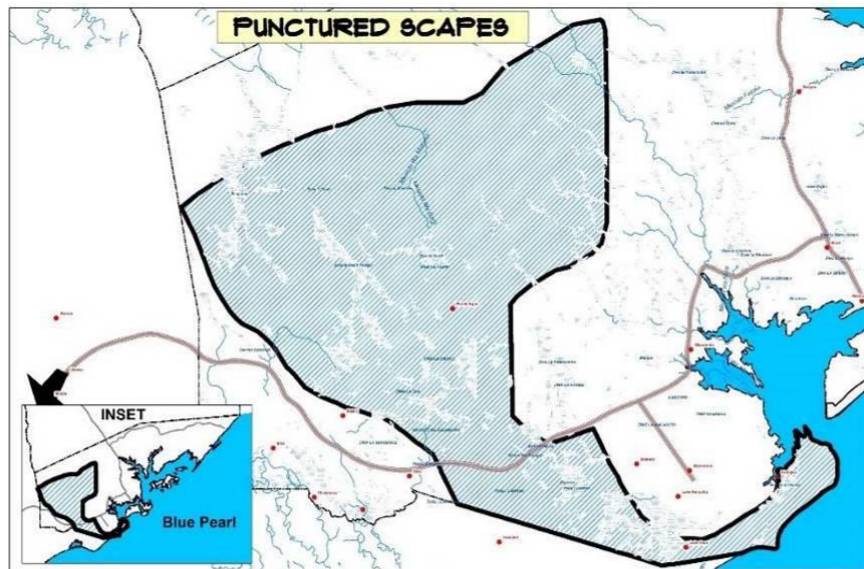
The land form of the area of Lamu County lying to the north of the main Highway form Nyongoro through Witu, Majembeni. Kibaoni, Mkunumbi, to Hindi and to the northwest of the road from Hindi through Bargon, Majengo to Budhei on the border with Garissa County, portray a unique landscape characterized by shallow depressions on the earth surface that collect water during the rainy season as the water percolates into the ground, reed vegetation and other Plant species associated with swampy conditions germinate to provide fodder for Livestock and Wildlife. Some of these depressions were infact lakes which overtime have dried up

due to climate change except Lake Mukungunya (later renamed Lake Kenyatta). The dried-up lake includes Lake Amu, ziwa la Luimshi, ziwa la Gambi, ziwa la Kiboko, Ziwa la Kwakuomba, Ziwa la Roka, Ziwa la Kibokoni, Ziwa la Shalu, Ziwa la Munkirio, Ziwa la Kombe, Zuiwa la Sendembe and Ziwa la Taa.

The concept of punctured scapes enables us to isolate this fragile ecosystem in order to prescribe the necessary interventions for sustainable development. When one superimposes the rain pattern on this area you will notice that rain tends to reduce in intensity as you move from Witu to the North and northwest.

The Swampy vegetation helps to retain underground water sources. However, if the area is opened up for agriculture, the underground water table will be adversely affected and this would lead to depletion of the aquifer with serious consequences to communities downstream. Already the communities in Mpeketoni are complaining of reduced water levels in Lake Kenyatta and if we do not prohibit Agricultural activities in the area falling within this Concept then the County will find it extremely difficult to sustain water provision for the people of Hongwe; Mkunumbi; Hindi; Witu and Bahari wards in the future. In our view, the area should be zoned for Wildlife conservancies similar to what Narok County has done in the Mara Conservancy and on that note double up as the wildlife movement corridor.

The zoning of the area as conservancy is in line with the attempts by Private Ranches in Witu who have struggled to introduce Wildlife conservation in their ranches to attract tourism. We applaud the Lamu County Government and the National Land Commission for the positive steps they have taken to revoke the illegal allocation of land in this area. The land has reverted back to the County Government and submit therefore that the most sustainable way of using this land is by zoning it for conservancy and Livestock production. These kinds of preferred uses will strengthen the conservation intended for this zone. The concept cuts across the areas below:



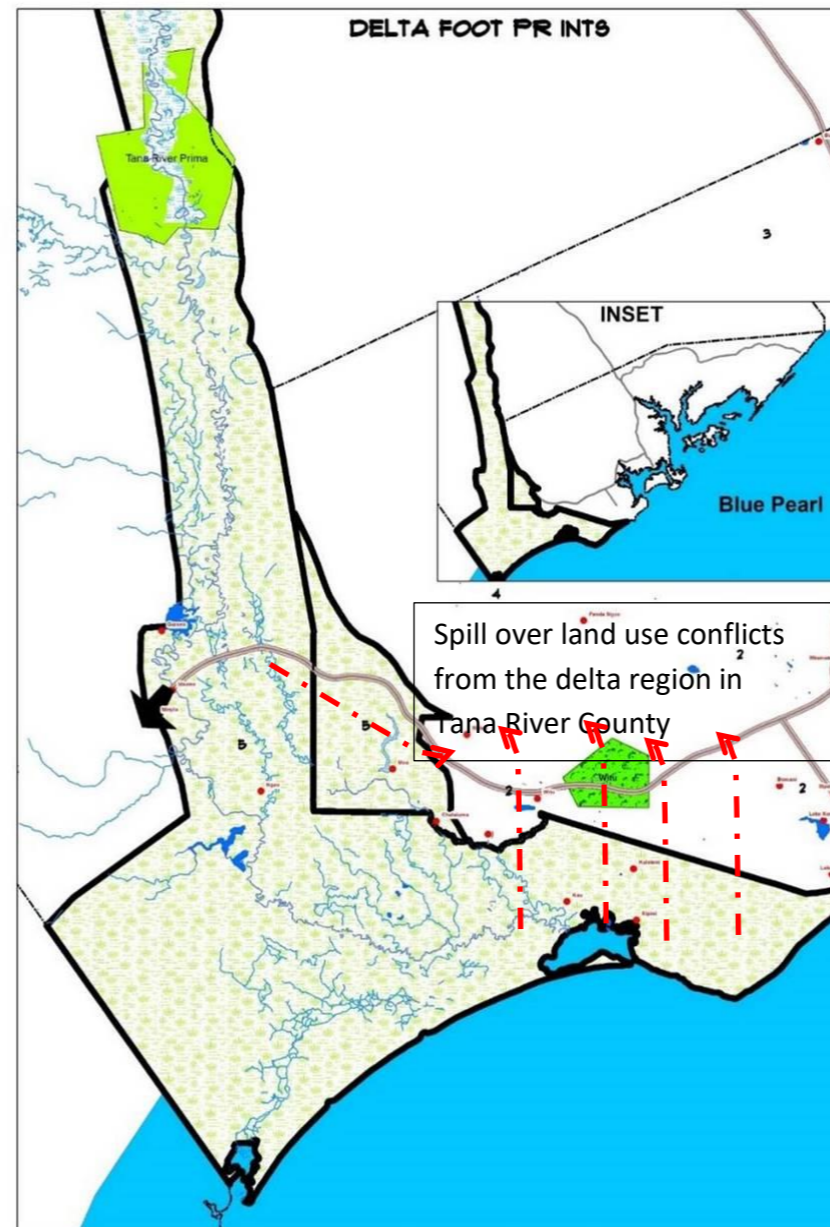
### THE TANA DELTA FOOT PRINT

As discussed elsewhere in this report, the Tana River enters the Indian Ocean bringing in a load of sediments through its 850 Kilometer journey from its source around Mt Kenya and deposit it in an area stretching almost 30 Kilometers from its mouth in Kipini town. This area forms its Delta which is a unique ecosystem. The delta area covers any area which in approximately 132,600 Hectares. Of this total area, 16,800 Hectares fall within Lamu County.

The Delta is a wetland of immense importance in Kenya. It is a Birds sanctuary and a haven for unique Biodiversity. It provides a fertile ground for agriculture and because of its quality as wetland, it remains green throughout the year making it a **place of last resort** for Pastoralists who travel long distance from as far as Marsabet, Mandera, Wajir and Garissa to bring their Livestock for water and pasture during Drought or any dry season.

We have isolated this space to enable us look in details at some of the challenges posed by the various interest groups competing for the right to use the land. This becomes a very important area as most of the activities happening on that lower area of the County spills over to Lamu County from Kipini Conservancy through Nairobi Ranch. When this is happening, various forms of land use conflict occur including Farmers/Pastoralists conflicts and Human/Wildlife conflicts. We therefore can not Plan Lamu County without

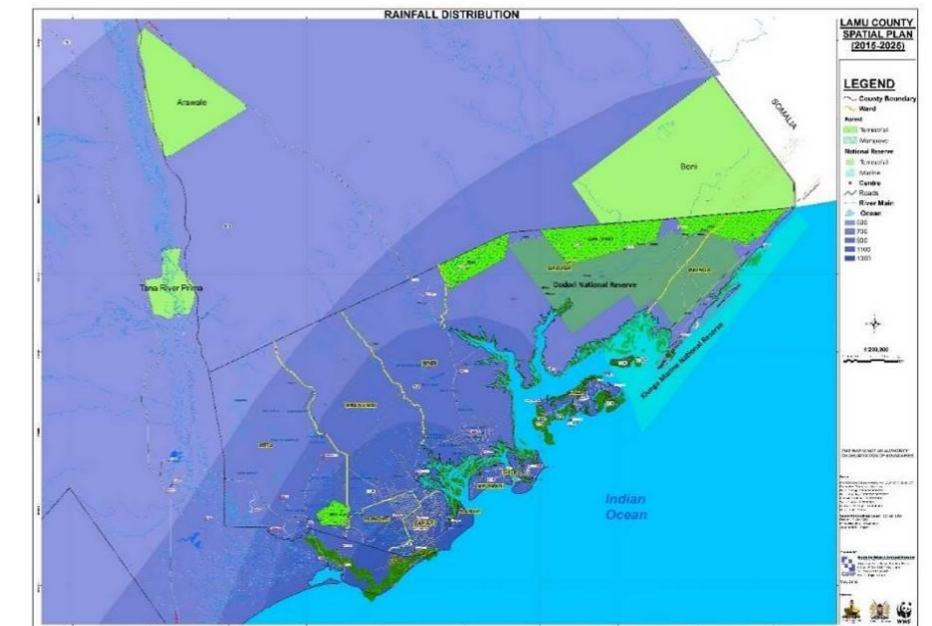
considering this area as a Spatial Concept with direct impacts to Lamu County. The Concept covers the area shown in the map below:



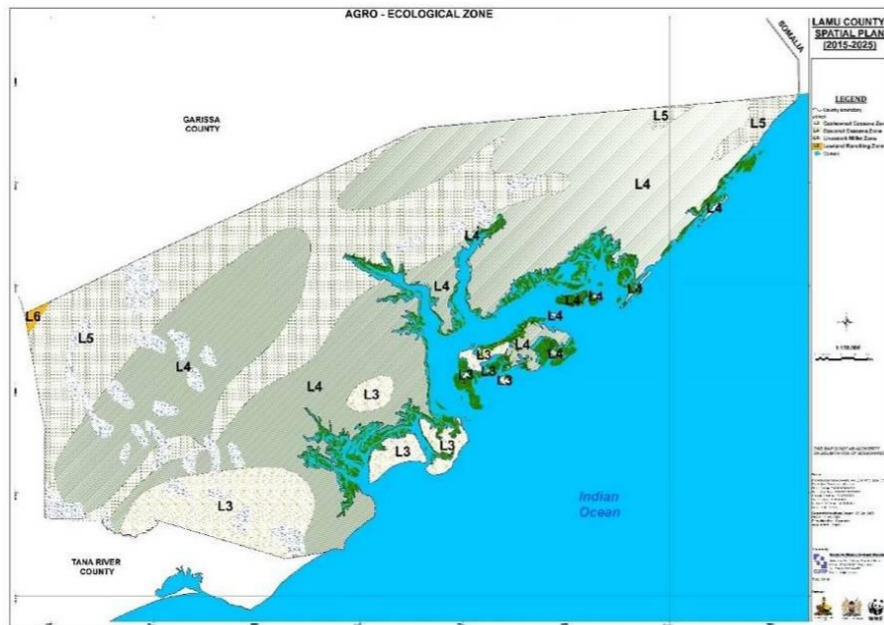
### THE PRODUCTIVE SCAPES (AGRICULTURE)

In our discussion of the agro-ecological zones and rainfall distribution in the County, we observed that it is well endowed with fertile soils and receives adequate rainfall for agricultural production. However, the rainfall is not evenly distributed and tends to reduce in intensity away from the Indian Ocean.

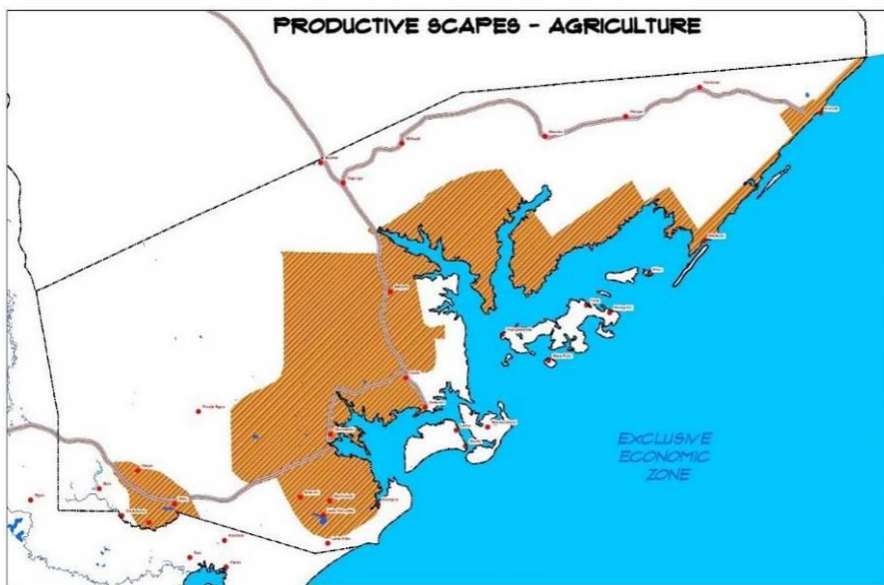
The areas close to the coastline receive up to 1100mm of rain per year while the area around Budhei at the boundary with Garissa County receives less than 500mm per year. The soils also tend to generally conform to the variation in the precipitations with the fertile soils found in Hongwe, Bahari and the lower part of Mkunumbi and Hindi ward. We have therefore coined a concept that appropriately addresses the concerns of this area. Refer to the maps below for better understanding:



This first map shows the rainfall distribution. The rains are much high around Witu; Bahari; Hongwe; Mkunumbi Wards and the Archipelago. For this reason, a lot of farming activities take place around those places.



On the second map, we appreciate that the agroecological potential of the County is more where the County receives higher rainfall patterns.



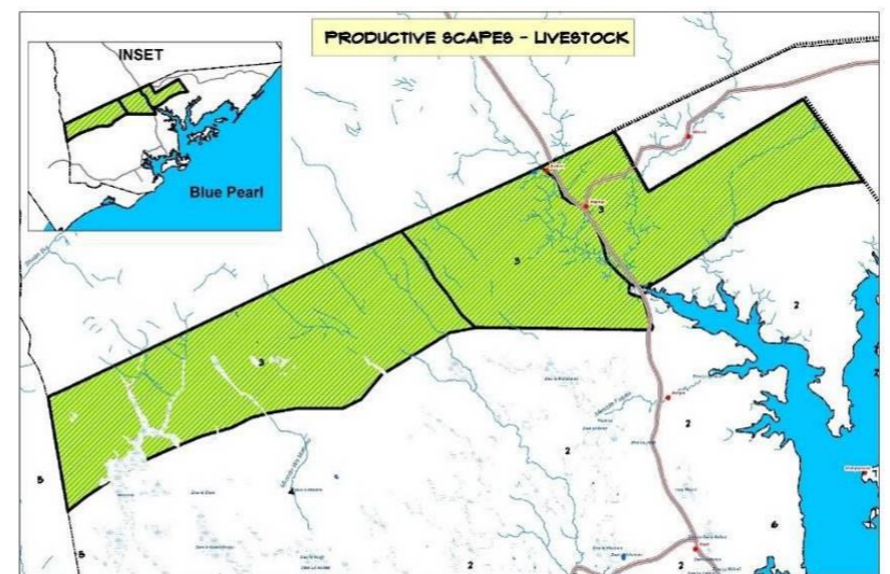
The map above is the concept zone map for productive scapes agriculture. This concept was highly influenced in its zoning by the rainfall patterns and the agro-ecological potentials of the cross-cutting areas.

### PRODUCTIVE SCAPES (LIVESTOCK);

As discussed above elsewhere in this report Livestock keeping is a major economic activity in Lamu County. The livestock in the County not only refers to Livestock in the local ranches but also Livestock in transit to the Tana River Delta from the neighboring counties of Mandera, Wajir and Garissa. The County due its skewed distribution of the population to the southern part of the County (see the Map below), the northern part of the County remained devoid of human occupation.

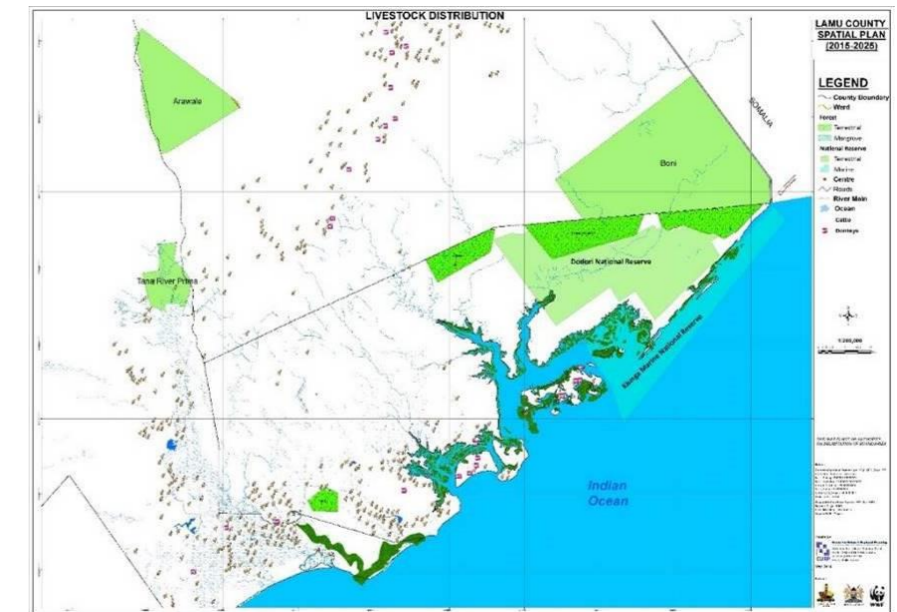
Earlier efforts by the defunct County council of Lamu in collaboration with the Central Government assigned this area for Livestock ranching and this allowed the Pastoralist from the counties in the northern part of Kenya to move with their livestock unhindered. However due to conversion of a few ranches to agriculture by way of subdivision, the Land available as open grassland is diminishing progressively to the extent that we are now witnessing frequent conflicts between the farmers and Pastoralists.

The isolation of this area through the above-mentioned concept will enable the Planning team to suggest spatial solutions to mitigate the conflict by delineating a very convenient zone for livestock movement shown below:



Source: CURP, 2016

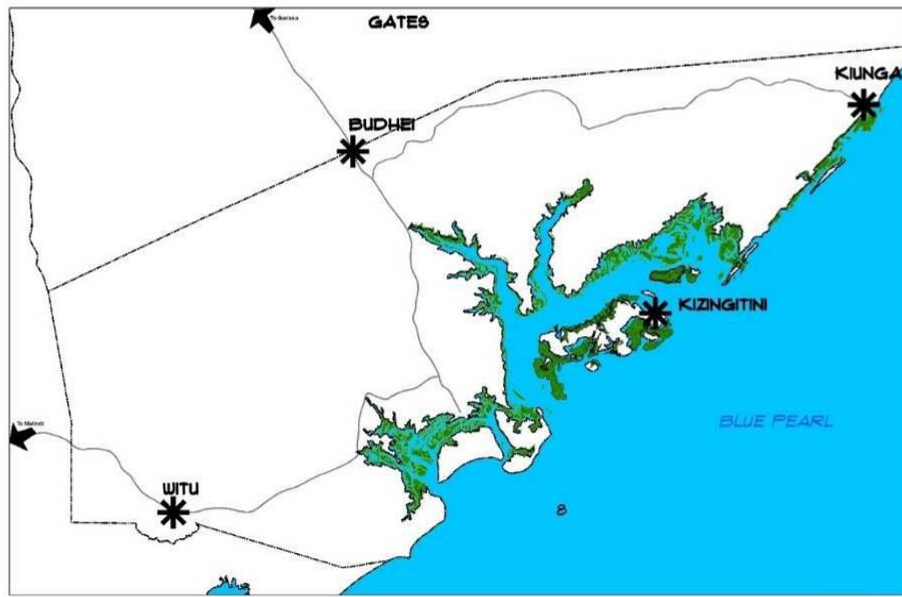
This concept was highly influenced by the livestock movement and as shown in the map below. Other factors such as the proposed holding grounds on that upper region of the County were considered in the delimitation of this zone as a productive livestock zone to double up as the livestock movement corridor.



Source: CURP, 2016

### THE STRATEGIC GATES OF LAMU

These are Urban nodes that are located strategically at the entrance to the County on land and water. It is the intention of the County Spatial Plans to assign these urban node functions that will enable them to grow in future by directing investments by the County and the private sector. The concept will therefore enable the Planning team to focus attention to these towns and prescribe appropriate interventions in the form of programmes and projects.



Source: CURP, 2016

### THE ECONOMIC CORRIDOR;

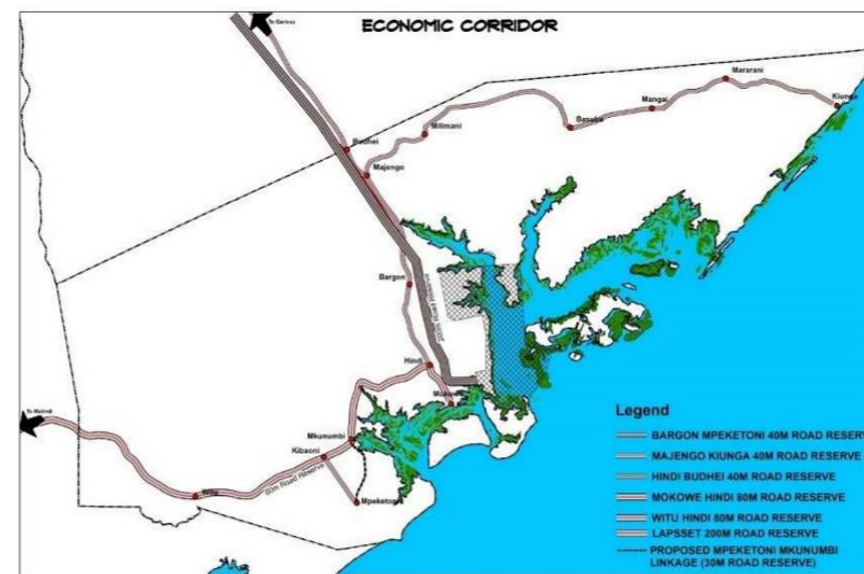
There are Plans by the Kenya National Highways Authority (KeNHA) to improve the main Highway linking Lamu County to Malindi and Mombasa to bitumen standards. Lamu County is perhaps the only County in Kenya that has never had a tarmacked road and thus the low level of Urban Development. The improvement of this Highway will certainly generate demand for establishment of a number Economic activities that will require careful consideration to ensure safety and avoid the pitfalls witnessed in other similar project in other parts of the County.

The corridor is Planned to be implemented in three Phases with phase 1 which starts from Nyongoro at the border with Tana River County and traversing through Witu, Majembeni, Kibaoni, Mkunumbi, Hindi, and ending up at Mokowe. Within this phase the road from Kibaoni to Mpeketoni will also improve. One would have wished that the road on reaching Mpeketoni, a loop would have been constructed to join the tarmac road at Mkunumbi township.

Along with objectives of this Spatial Concept, it is proposed that the Lamu County Government take up this issue and approach KeNHA with a view to asking for a variation in the contract sum to include the said loop. Phase 2 of the project will involve the construction of the road from Hindi, Majengo, Milimani, to Basuba then phase 3 is

from Basuba to Kiunga sea port. In our view the road from Hindi, Majengo, and Kiunga Port is an important security road which when tarmacked will go a long way to not only improve security and rid the County of the Al shabaab menace, but open up Dodori National Reserve and Kiunga Fish and Marine Reserve to tourists.

KeNHA has proposed a road reserve of 40.0 meters but the Spatial Plan is providing a **corridor of 80.0 meters wide** to accommodate future infrastructure needs. We fore see a need in future to connect the Port of Lamu to the Port of Mombasa by SGR Railway line. We have recommended elsewhere in this report that the County Government of Lamu should prepare a **Relocation Action Plan (RAP)** to ensure that the corridor is achieved. The Planning team is determined to suggest ways that would enable the County Government better manage this Transport corridor in a sustainable way by restricting ribbon Urban development and encourage the development of orderly urban centers in designated areas.



Source: CURP, 2016

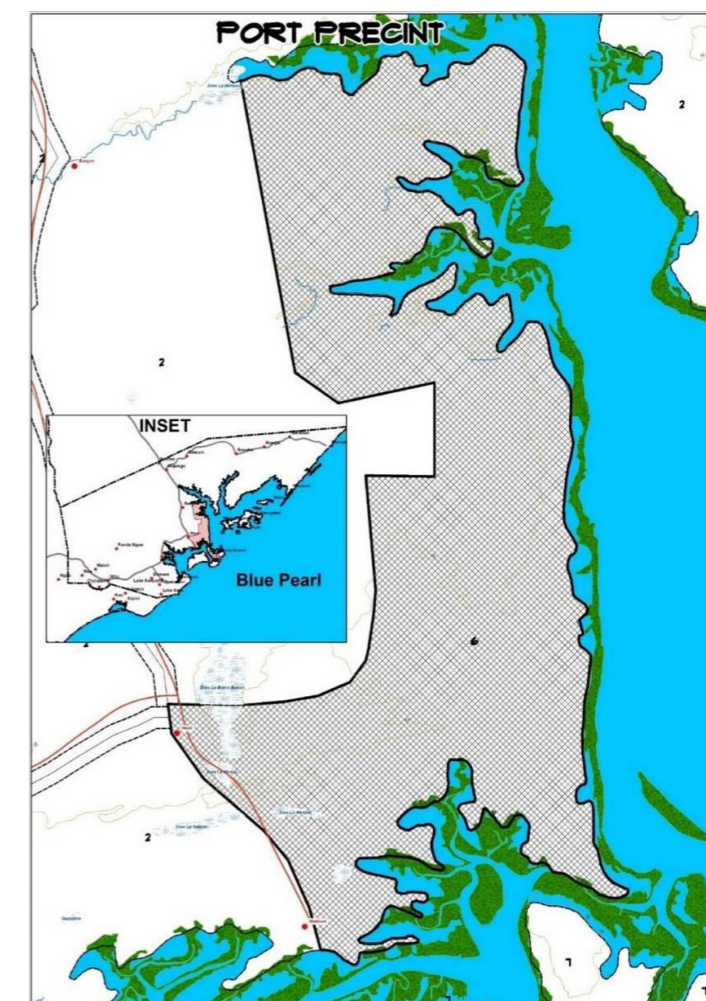
### THE PORT PRICINCT

Lamu County has a natural deep-sea neighborhood of Kililana. The area has recently been identified for the Kenya Vision 2030 flagship project commonly referred to as the **Lamu-Southern Sudan Ethiopia Trasport Corridor(LAPSSET)**. This is a transport and infrastructure project that, when completed, will be Kenya's second transport corridor. The only other corridor which is existing

is the Mombasa- Nairobi- Kampala- Kigali corridor. The development of the LAPSSET project has received support from the County Government of Lamu and the effort to consider this area as concept in the preparation of the Spatial Plan is to ensure that the County Government incorporates the project in the County Spatial Plan in in order assess the impact of these projects in the overall development of the County.

Of particular interest to Lamu County, is the implementation of social infrastructure services and security which will ensure that schools, health centers, towns, water and sanitation services, security services and other social amenities are provided at optimal level to make LAPSSET corridor secure, desirable, livable and providing an environment conducive for future generation.

The concept area is shown below:

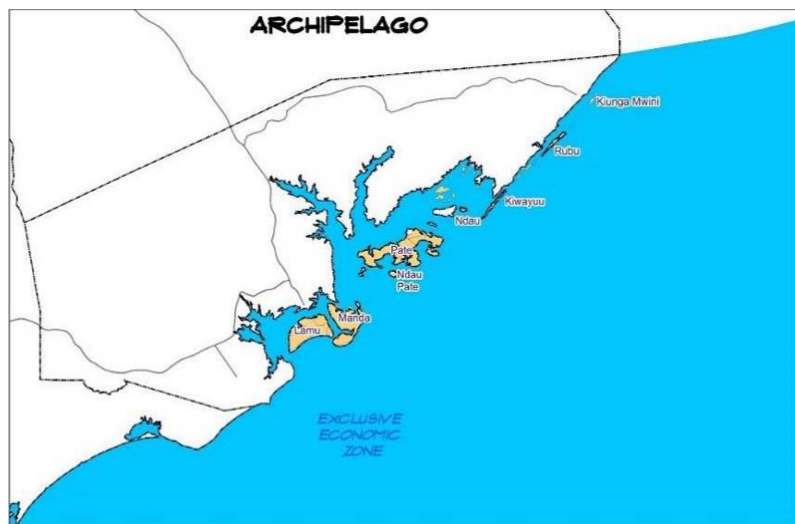


Source: CURP, 2016

### THE ARCHIPELAGO;

Lamu Archipelago is perhaps one of the most interesting human settlement in the coast region with a story line that is captivating and inspiring. The Archipelago is made up of some 57No. Islands spread along the coastline from Lamu town to Kiunga. In terms of size, Amu, Manda, Pate, and Kiwayu are the largest while the rest are small Islands. Lamu town is one of the original Swahili City State of East Africa and it represents one of the oldest urban settlements in Kenya. It is estimated to be close to 700-years-old.

The town has the most intricate architectural decoration as can be seen by the design of the roofs, veranda, the doors and carved plaster works. We have coined a concept that best capture the importance of Islands in the history and culture of the County. Also considered within this concept of the archipelago as a spatial concept is the economic activities taking place in them and how they can be revitalized to boost the revenue generation in the County which will ultimately improve the people's livelihoods. For the purposes of this concept, the Spatial Plan considered only the habited Islands as shown below:



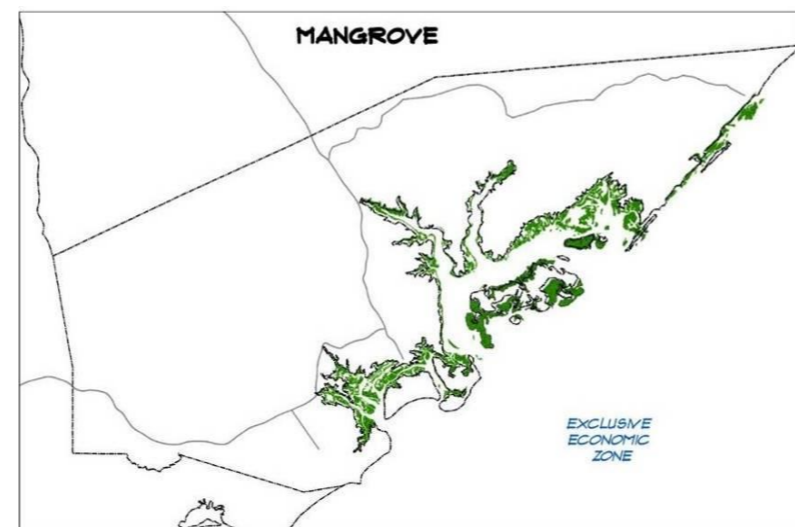
Source: CURP, 2016

### THE MANGROVE RING

Mangroves are shrubs or small trees that grow in coastal saline or salty water. There are about 80 different species of mangrove trees. They grow in areas with low-oxygen soil where slow moving

water allows sediments to settle out of the water and build up the muddy bottom.

Mangrove forests stabilize the coastline, reducing erosion from storm surges, currents, waves and tides. The intricate root system of mangrove also makes these forests attractive to fish and other organisms seeking food and shelter from predators. 90% of all mangrove forest found in Kenya are in Lamu. They form a conspicuous ring around the edges of the Islands within the Archipelago and thus the concept "mangrove ring". The exploitation of this resource leaves much to be desired and the County Spatial Plan will attempt to suggest intervention measure to ensure sustainable utilization and conservation of the mangrove forests. The concept covers the zone shown below:

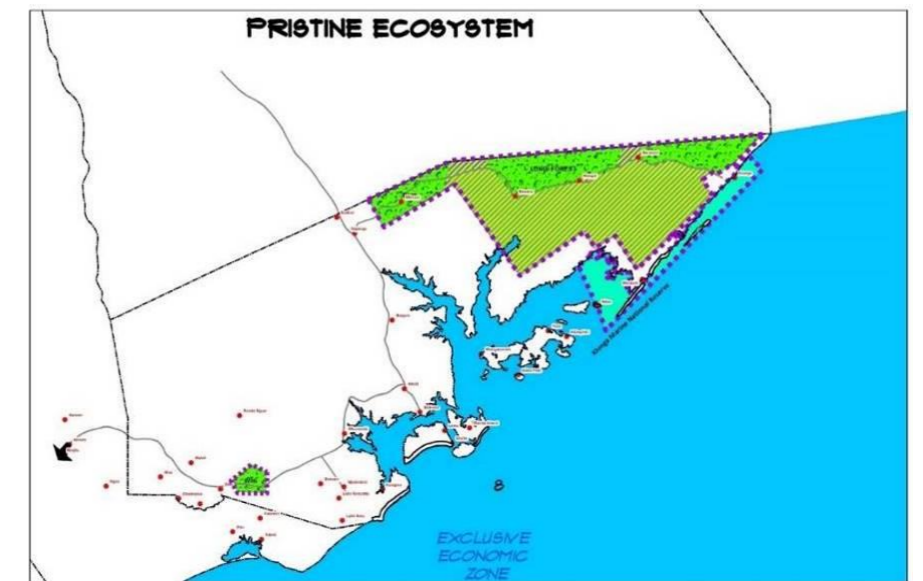


Source: CURP, 2016

### THE PRISTINE ECOSYSTEM

This is a concept we have assigned for that part of the County located to the northeastern part of the County, defined by the border with Garissa County, Somali boundary and the Indian Ocean. This area is home to Boni-Lungi Forest ecosystem, the Witu Forest; Dodori National Reserve and Kiunga Marine National Reserve. We consider this area pristine because the area has very limited human settlements and it is inhabited by a community(s) well known for conservation of the environment. The Boni-aweer tribe inhabit this area and their way of life as community rely on hunting and gathering. This community is marginalized and the

County Spatial Plan will attempt to suggest interventions aimed at conservation at the same time suggesting how the interests of the community(s) can be incorporated within the conservation area.



Source: CURP, 2016

### THE BLUE PEARL (THE EXCLUSIVE ECONOMIC ZONE)

In the making of this Spatial Plan, a different definition of land was adopted where the water mass including the ocean was defined as part of land. It is evident that most of the residents in the County especially the Archipelago derive their livelihoods from the sea mostly from fishing which is a major economic venture in the County. Additionally, there are prospects of oil and gas exploration in the ocean and as so, Lamu County will benefit through revenue sharing with the National Government.

This as a concept will be highlighting the strengths of the ocean as a resource and how the livelihoods of the people of Lamu County can be improved by tapping into this resource. Various programmes and projects have been discussed on how best this zone can be utilized maximally to benefit the County and the people of Lamu in general. This discussion (above) later led to the formulation of most desired and preferred land use model and its land use guidelines and regulations. This was arrived at from various stakeholder consultations that were held at this level. The preferred model is discussed below in the next chapters.

## CHAPTER 3: THE SECTORAL PERSPECTIVES

### NATURAL RESOURCES; BIODIVERSITY AND ENVIRONMENTAL CONSERVATION

Under this section, the CSP endeavours to promote the conservation and protection of ecologically sensitive bio-diversity since this form the main spatial organising element of the Lamu County. It does imply that only developments that are environmentally friendly will be allowed in the County of Lamu. Some of the objectives under this section are discussed below:

- Empower the people of Lamu to utilise the Natural capital sustainably to meet their diverse needs.
- Reclaim and rehabilitate ecologically sensitive areas that have been lost
- Establish and empower existing Natural capital community groups to protect and conserve natural capital in their own area of jurisdiction

#### strategies

- Protect and conserve the demarcated natural capital areas in the County spatial plan
- Reconciliation of all development activities on both land and sea with expected widespread impacts on natural capital in the County
- Community awareness programmes on all projects and their impact on the natural capital in their own County and area
- Establish sustainable community initiatives of utilisation of natural capital
- Promote community awareness campaigns of the state of the current natural capital base use practices and its consequences now and for posterity

- Establish collaborative mechanisms among the stakeholders with the Community to protect and conserve demarcated natural capital areas
- Establish collaborative mechanism in form of county pacts to monitor common resource use across county borders
- Central and County Governments to establish measures of improving security in the County to enable effective protection of natural capital and its utilisation
- All development projects to be subject to plan guidelines and natural capital assessment criterion and participation of the local community
- Fully utilise the tourism potential of the County based on the triple package integrated with the community to bolster conservation efforts
- Natural capital resource plans and guidelines for natural capital will be prepared for detailed implementation of the plan
- National government and the government of Somalia, and others to initiate mechanisms of conserving and sustainable use of natural capital

The environmental aspects are later divided into terrestrial & marine aspects and are discussed below:

#### TERRESTRIAL

##### Forests

Lamu's gazetted forest areas cover 37.5% of the total County land surface area. The ecosystems are habitat to monkeys, baboons, buffalos, wild pigs, elephants, hippos, snakes, birds, butterflies and the rare rumped back elephant shrew (a rare and endangered mammal). The forest is being harvested for non-commercial activities on an area of 280 km<sup>2</sup> within Boni/Dodori, Lungi, Pandanguo, Witu, Kipini Forest and Lake Kenyatta buffer zone area. The aspirations of the CSP on this sector are discussed below:

##### a) Objective

To promote sustainable conservation of forests and forest resources

##### b) Issues

- Illegal land allocation and encroachment on forest land
- Possibility of higher instances of insecurity in the forested areas
- Unsustainable harvesting of mangrove forests in particular
- Unexplored potential of forest areas including the capacity to carbon trade
- Human-Wildlife conflicts are more rampant in forest areas
- Etc

##### c) Policies

- Establish suitable community based mechanisms for resolution of human-wildlife conflicts and put in place a framework for mitigation of the effects of wildlife menace.
- Introduce awareness to general public to protect and enhance biodiversity.
- Introduce community benefits sharing mechanisms for conservation and utilization of the natural resources.
- County Government to control encroachment on natural resource areas by proposing buffer zones or other integrative mechanisms in their management

##### d) Actions

- Revocation of titles under forested areas
- Develop a comprehensive natural resource inventory and intensify research programmes focusing on specific aspects of the environment: for example, water catchment, biodiversity, renewable energy, etc.
- Conduct community awareness programmes to enrich civil awareness on environmental matters
- Conduct a survey of all Forests ecosystems
- The gazzement of all surveyed forests as protected areas



## Parks & Wildlife

Wildlife assets include the African buffalo, topi, giraffes, zebras and a variety of bird species. Kipini provisional forest reserve is both a conservancy and a wildlife corridor. It was formerly known as the Nairobi ranch and measures 220km<sup>2</sup> shared between Tana River and Lamu Counties but it's managed from Lamu County with 70% of the forest in Lamu.

### a) Objective

To promote wildlife tourism in Lamu County

### b) Issues

- Insecurity and wildlife poaching
- Poor infrastructure development including hotel facilities and good network of roads in areas deemed as wildlife hotspots
- High prevalence of Human wildlife conflicts along wildlife corridors

### c) Policies

- Ensure there is adequate wildlife protection and mitigate human wildlife conflicts
- Enhance infrastructure development to improve access to the touristic rich areas
- Promote wildlife conservation in the County

### d) Actions

- Establishment of hotel facilities and eco lodges in identified areas of wildlife conservancy
- Employment of more KWS officers in protected areas under their mandate
- Promote local benefit sharing mechanisms with local communities in areas where wildlife conservancies fall
- Fencing of wildlife protected areas

## Wetland & Swamp Areas

Lamu has various swamps from which the majority of the rivers/streams that flow through the County drain into or from. These wetlands and swamp areas are mostly dominated on the area in the south-western side of the County referred the punctured scapes in the land use concepts discussed elsewhere in

this report. These include the fresh water marshes of Ziwa Roka, Ziwa Gambi, Ziwa Kiboko, and Ziwa Kambe among others.

### a) Objective

To identify, survey, document and ensure that all the wetlands and swamp areas are protected and conserved.

### b) Issues

The major issue around this is the rampant encroachment of the wetlands for farming activities and human settlement

### c) Policies

- Promote legal protection and conservation of the wetland resources for environmental posterity
- Enhance drainage pollution control using appropriate cost effective and efficient technologies and urban water management to conserve resources and prevent entry of ground water and surface water resources.

### d) Actions

- Conduct surveys for Ziwa la Gorjji, Ziwa la Kiboko, Ziwa la Taa, Ziwa la Kiboko, Ziwa la Sendemke, Ziwa la Hindiwa and Ziwa la Shalu wetlands etc
- Revoke all irregularly acquired land titles and allotments within Ziwa la Gorjji, Ziwa la Kiboko, Ziwa la Taa, Ziwa la Kiboko, Ziwa la Sendemke, Ziwa la Hindiwa, Ziwa la Shalu wetlands wetlands and revert the land to Lamu County Government
- Regulate access and activities within Ziwa la Gorjji, Ziwa la Kiboko, Ziwa la Taa, Ziwa la Kiboko, Ziwa la Sendemke, Ziwa la Hindiwa, Ziwa la Shalu wetlands by proposing land use buffer zones around the wetlands

## Mangrove forests

The mangroves of Lamu County cover approximately 54,000Ha, equivalent to 90% of the national mangrove coverage in Kenya. Nine species of mangroves are found in Lamu i.e. *Sonneratia alba* (Mlilana), *Rhizophora mucronata* (Mkoko), *Bruguiera gymnorhiza* (Muia), *Ceriops tagal* (Mkandaa), *Avicennia marina* (Mchu), *Xylocarpus granatum* (Mkomafi), *Xylocarpus moluccensis*

(Mkomafi dume), *Lumnitzera racemosa* (Kikandaa), and *Heritiera littoralis* (Mkungu).

Mangroves of Lamu County are classified into five management blocks namely; Northern Swamps, Pate Island Swamps, North Central Swamps, Southern Swamps, Mongoni and Dodori Creek Swamps. The Northern Central Swamps are within the Kiunga Marine National Reserve (KMNR) and are dominated by pure stands of *Rhizophora* which are relatively pristine. The average stand density and volume is 2,225 stems/ha and 382.8 m<sup>3</sup>/ha respectively. In terms of forest structure and productivity, the most complex mangroves in Lamu occur in the KNMR; particularly at Mambore and Rubu.

### a) Objective

To promote sustainable conservation of mangrove forests and corals as part of the County's natural resource assets

### b) Issues

- Unsustainable harvesting of the mangrove forests
- Encroachment on the forest areas

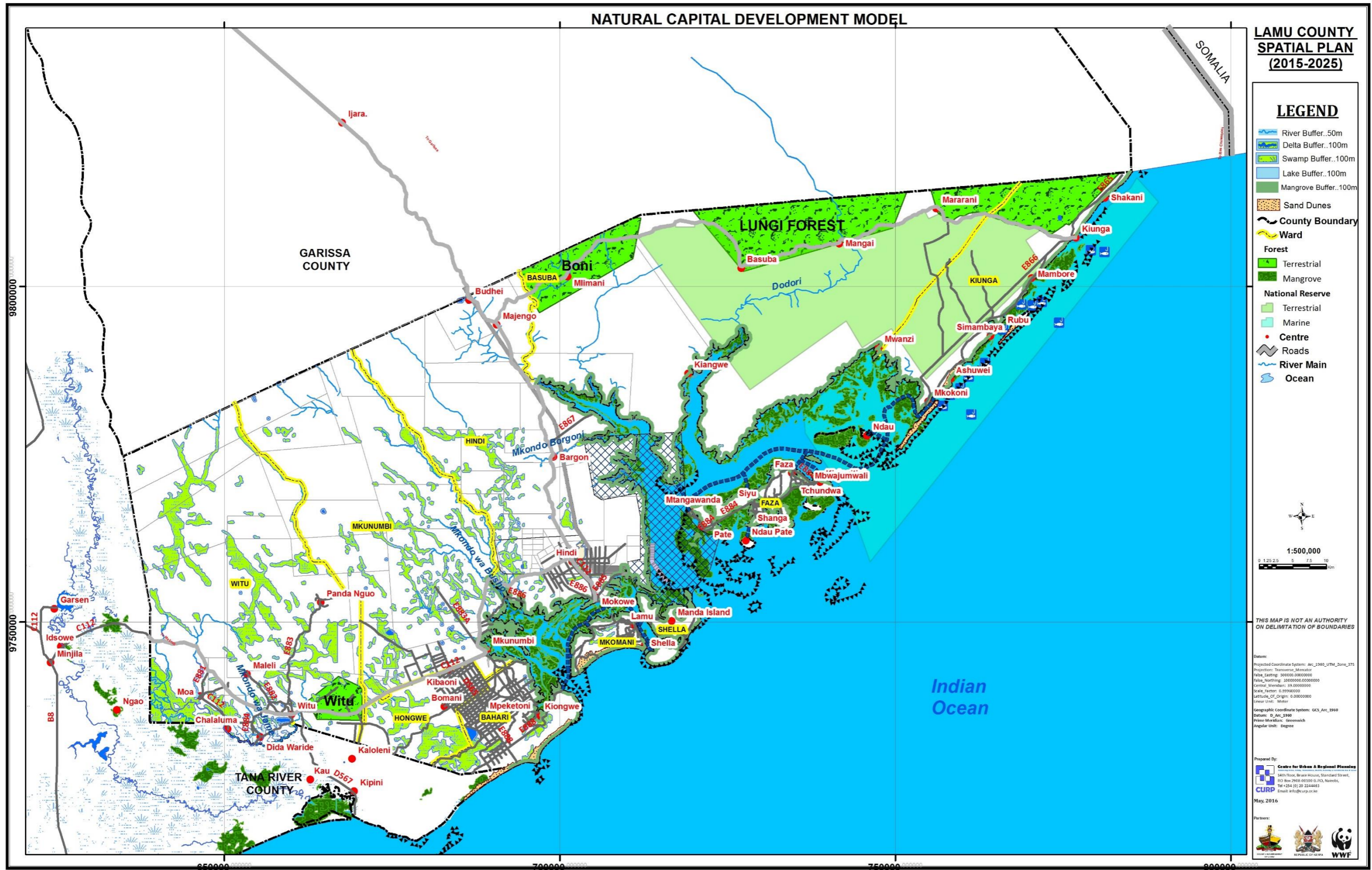
### c) Policies

- Ensure re-afforestation programmes are initiated in the mangrove ring areas
- Ensure there is protection and conservation of the mangrove forests
- Promote sustainable harvesting

### d) Actions

- Determine the actual acreage of land under mangrove by surveying and formerly protecting them through gazettment
- Provide a buffer of atleast 100 metres around the edge of the mangrove rings from the measured from the highest watermark
- Re-afforestation of cleared mangrove trees
- Prepare Environmental Management Plans for the mangrove forests
- Carry out public sensitization programmes to increase civil awareness necessary conservation purposes

Map 3: The Environmentally Sensitive Ecosystems Development Model



## TRANSPORT & ACCESSIBILITY

### ROAD TRANSPORT

The development of road networks has economic, social and political functions in the social economic development process. This Plan ultimately recognized the viability of good and quality road networks in enhancing the competitiveness of the county to attract business, investments and inclusiveness.

#### a) Objective

- To improve the road network to enhance accessibility and open up poorly served areas of the County.
- To have a navigable road system that is well linked and in a good condition that promotes public transport within the County.

#### b) Issues

**Road network:** It was evident that there was a good network of roads linking various human settlements within Lamu County. Specifically, roads in Witu; Bahari; Faza; Hongwe; Mkunumbi; and Hindi wards are well laid out in a good connected network to enhance linkage in the various human settlements in the wards. In spite of this, the roads are in a deplorable condition that often limits accessibility to those areas. Other wards such as Mkomani; Basuba; and Kiunga have a poor road linkage and their accessibility by road is highly limited.

**Road Size(s):** Lamu as a County still hold tremendous advantage for road infrastructure expansion as most of the roads are not encroached. There is enough space for road expansion on need for all roads based on their respective classifications and the current standards as per the Planning Handbook and other legislations.

**Road Conditions:** Across the County, all roads are unpaved and in a deplorable state which makes travel time increase by 300% compared to the normal time it would take to reach a destination. The main Class C road from Mokowe to Witu is in a poor condition and often floods; large potholes rendering the road impassable by use of small vehicles. This is the main economic corridor of the

County and needs the most immediate intervention to improve its standards if economic potential of Lamu is to be realized.

Other Class D roads connecting to Mpeketoni from Mkunumbi; and Kibaoni consecutively and to Bodhei from Hindi are equally in poor states. These are agricultural rich areas and serves as the County's food basket while the surplus produce is exported to other Counties including Nairobi. Improving the road standards connecting to these regions will enhance accessibility and efficiency in transport to promote the market reach.

The roads in Lamu County generally link Centres and areas; or Counties of high importance and needs to be improved to Bitumen; and or Tarmac standard gradually over time to realize the maximum economic potential of the County.

**Public Transport:** It was evident that most residents of Basuba; Kiunga; Witu; Hindi wards have limited means of public transport by road. The economic losses; exposure to current world affairs; untapped biodiversity potentials in these regions caused by this gap was highly felt during the interactions with the residents from the wards. The need to provide viable means of public transport by road was highly emphasized by these residents as a way of linking them up with the rest of the Lamu County; Country; and the world in general.

**The LAPPSET Project:** The project is still set to take off. It will serve great connectivity and opening up of the Lamu County. It will consist of a road highway; a rail connection; and a pipeline. Both the rail and highway will serve great connectivity importance for the County and will in the long run open up the County to major mutual economical gains from trade with the rest of the Country; regionally; and the rest of the world.

#### c) Policies

- Ensure every ward has at least 30kilometers of tarmac connecting service Centres in the next 10 years.
- Ensure the minimum standard for all roads within the County is gravel whether classified; or un-classified and should be maintained quarterly

- Ensure linkage and opening up of areas that are less linked to the rest of the County
- Ensure every ward centre is connected by a 30 metre road except where they are connected already by a higher class of road
- Integrate LAPSSET road and railway infrastructure with the internal road network to facilitate social economic development
- Ensure concerned road authorities endeavor to include non-motorized transport facilities on all roads to ensure equity and social justice
- Formally demarcate and survey all roads within the County
- Ensure that all wards in the mainland are served by at least four 14-seater public transport vehicles owned by individuals facilitated by the County Government of Lamu through joint Public-Private Partnership initiatives.
- The County Government to liaise with the National Government Institutions in charge of roads to formally classify un-classified roads that currently link to various human settlements

#### d) Actions

- Tarmacking of the 114 kilometers Garsen-Witu-Mokowe road (C112) – (Mokowe-Nyongoro section) shown below. the proposal is in line with a current National Government Proposal.
- Tarmacking of the Kibaoni-Mpeketoni road; Mkunumbi-Mpeketoni road; Hindi-Bargon road; Majengo-Kiunga; Witu-Moa road; and Faza-Pate-Siyu-Mtangawanda road

Hindi-Majengo Road



Source: CURP, 2016

- Improving the Mpeketoni-Kiongwe road to Gravel Standard in the next 5years and to tarmac in the next 10years
- Improving Mkokoni-Kiunga road; Witu-Kipini; Witu-Pandaguo; Witu-Maleli roads to gravel standards

A section of the Witu-Kipini Road



Source: CURP, 2016

- Classification of Witu-Moa-Chalaluma road
- The County Government to create an enabling environment to facilitate the purchase of at least sixteen 14-seater matatus for public transport by private individuals to offer viable

options of public transport for residents living in Bargon; Majengo; Milimani; Mangai; Kiunga; Moa; Pandaguo; Kipini; Chalaluma; and Basuba.

- Provision of a 12-meter cabral/bitumen road to link Lamu town; Matondoni village; and Kipungani village; and another road to act as buffer from the Agricultural land and the sand dunes within the island on the southern end.

### WATER TRANSPORT

#### a) Objective

To promote and improve public water transport in the County

#### b) Issues

**Public Transport:** residents of Faza; Kiunga and Basuba wards are highly limited on public transport means since their most viable option of transport currently is by water. It was however noted that there are no dedicated public transport boats and the ones available are very few; old; and slow. The faster boats that offer public transport for the residents as an alternative are the speed boats that ferry 'miraa' to Kiunga for transit to Somalia. More often, the available means of water transport is either not safe; convenient; or time efficient. It was evident that there was need to provide a viable solution for safe; convenient; and faster public transport by water for the residents of Kiunga; Basuba; and Faza wards.

A boat ride from Mokowe to Lamu Island



**Public Jetties:** The County Government has made commendable efforts to construct jetties for ease of public transport in most

human settlement areas within the County. In particular, is the jetty in Lamu; Matondoni; Kizingitini; Mokowe; Manda; Mtangawanda among others. These jetties act as the terminal facilities where public transport boats dock awaiting passengers. Provision and construction of more jetties on connected sea spaces need to be assessed and proposed to offer more viable and connected public water transport in the County.

KPA Jetty



Source: CURP, 2016

**Sustainability of public water Transport on Lamu-Faza route:** On the onset of the LAPPSET project, the port area will cut across the deep waters of Mtangawanda rendering sustainability of public transport using this route from Lamu to Faza in uncertainty. This is because this section will be now controlled owing to the economic significance against the security situation once the LAPPSET port area is fully operational.

#### c) Policies

- Law requiring that all boat captains; and/or their assistants are in possession of first aid certificates; and all passenger boats are fitted with basic first aid kits; and life saver jackets
- Ensure that boats smaller than 24ft do not to ply the high waters of Kiunga and Mtangawanda section while carrying passengers
- Ensure that all settlements accessed by sea are served by convenient and efficient means of public water transport provided by the County Government.

- Ensure that all public transport boats are covered by an insurance policy in the event of a disaster.
- Ensure that the docking facilities for the public transport boats are well secured and established
- Ensure that an alternative route is identified to connect Pate and Amu islands in the event that the LAPSSET project curtails movement around the Port area
- Ensure connectivity of the Lamu Port and other ports in East Africa to enhance cruise Tourism activities in the regions

**d) Actions**

- The County Government to facilitate the purchase of at least 10 speed boats not less than 32ft with a capacity of at least 28 passengers to provide public transport to residents of Kiunga; Basuba; and Faza wards
- First aid training lessons to be made mandatory to all boat captains and assistants who ferry passengers to either Manda jetty; Mokowe jetty; Matondoni; Faza; Mtangawanda; Kiunga or any other jetty
- Establishment of a boat marina in Lamu Island – Old Town of Amu
- Securing of water linkage route from Mtangawanda jetty to a creek in Basuba Ward in the mainland
- Formation of a boat owners Sacco to necessitate issuance of an insurance policy.
- Construction of a sea walls at Siyu Village, Mbwajumwali, and Kiangwi(e)
- Reconstruction of Siyu foot bridge connecting to the Siyu Fort which is currently being restored under a County Government project.



A section of the bridge



The sea wall at Siyu village



Source: CURP, 2016

**AIR TRANSPORT**

**a) Objective**

- To enhance linkage of Lamu County through air transport
- To promote air transport as an efficient means of produce delivery

**b) Issues**

**Current Condition of Airstrip(s)/Airport:** Manda airstrip, with recent efforts to upgrade it to an airport is the biggest and serves as the County’s main linkage regionally; and to the rest of the world through air transport. The airstrip as it is, is small with a low number of passenger flights flying into Lamu. There are Plans proposed under the LAPPSET project to construct an airport in Mkunumbi. The proposed airport site has far reaching economic benefits owing to its locational setting. It is proposed in a location of rich agricultural value where farmers undergo huge losses every year due to the perishability of their products that miss on time to get to the market. Additionally, there is enough land in this area for expansion of the Airport on need considering it is within the mainland of Lamu County.

The proposed location in Mkunumbi is the most viable location considering it will be serving the residents of Lamu County and more specifically the Agriculturally rich Bahari; Hongwe; Mkunumbi; Hindi wards; and the LAPPSET port activities at the same time. It was also evident that the residents of Mkunumbi; Hongwe; Bahari; and Hindi wards are highly receptive of the project and welcome it.

**c) Policies**

- Ensure that the County is served by at least 1 Airport and at least 2 functional Airstrips
- Promote the use of air transport as the alternative means to export farm/livestock products
- Publicize and advertise the use of air transport to Lamu as a way of attracting and promoting both domestic; and foreign tourism

**d) Actions**

Siyu village showing the bridge highlighted in red

- Upgrading of Mkunumbi airstrip to an Airport in the next 5years in anticipation of the LAPPSET project and owing to its locational advantage; and the availability of land for expansion on need
- Maintain and expand Manda Airstrip as the second biggest commercial Airstrip to accommodate a larger number of passenger flights.
- Upgrade Faza Airstrip to serve Pate Island

## RAIL TRANSPORT

### a) Objective

To have a well-established rail system that links Lamu County to the rest of the Country; and East African Region as a whole

### b) Issues

**Rail Network:** Lamu County is not served by any rail network. It is anticipated that the proposed LAPPSET project will introduce a rail connectivity to Lamu. It was noted that there is need for a rail connection of Lamu to the existing network at Mombasa owing to the huge traffic of people visiting; and/or anticipated to visit Lamu in the near future. Additionally, the tourism; agriculture & Livestock potentials of Lamu need to be linked by rail to other counties; and regionally to expand the current market structure and as a means of an efficient means of transport.

### c) Policies

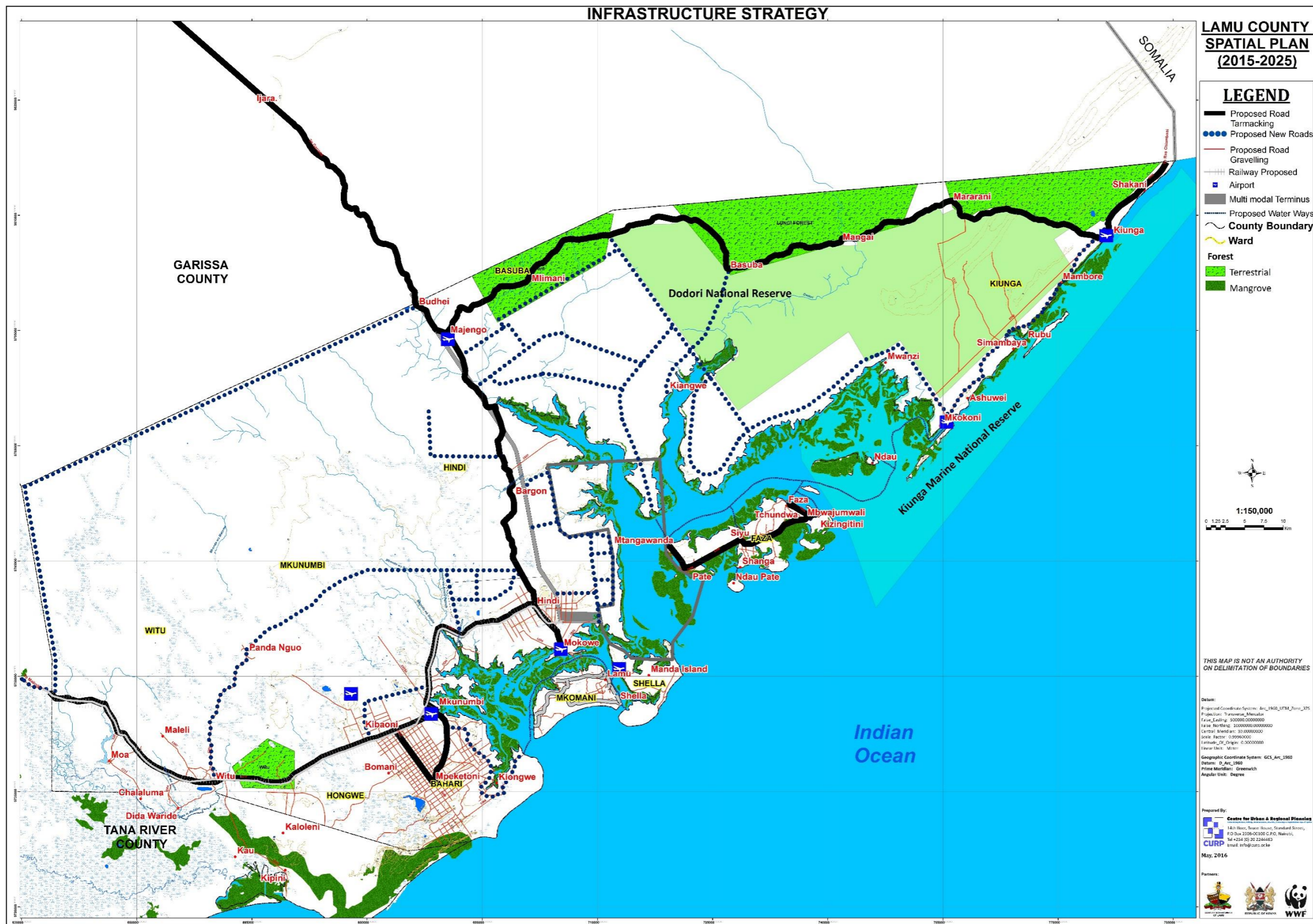
- Ensure there is a rail connection of Lamu and the rest of the Country; and East Africa region
- Prepare a Resettlement Action Plan to offer guidelines on resettlement of Project Affected Persons in the event that a rail route is identified.
- To promote industrial activities within the County to emphasize the need for the rail network

### d) Actions

- To identify; survey; and demarcate a best route alternative for the rail system to connect to the existing Mombasa rail network

- To liaise with the national Government to ensure the construction of the rail network in the next 10years
- To identify and delineate land in all the wards across the County for industrial establishments in the next 10 years based on comparative strength as follows:
  - Witu Ward – Slaughter House and Value Addition industry in meat processing
  - Bahari; Hongwe; Mkunumbi Wards – Agro processing industries and warehouses
  - Hindi Ward – The LAPPSET project
  - Mkomani Ward – Craftsmanship Industries

Map 4: Proposed Road Hierachy in the County



## LAND & HUMAN SETTLEMENTS

The County Government of Lamu is custodian of public land from recently revoked ranches irregularly allocated to private developers. Lack of land tenure is a common problem in the County as majority of Lamu residents have neither title deeds nor letters of allotment to the land they live or draw their livelihoods from, this threatens Lamu's biodiversity and local livelihoods.

### a) Objectives

- Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (Sustainable Development Goal number 15)
- Reduce inequality within and among countries (Sustainable Development Goal number 10)
- Efficient, sustainable and equitable use of land for prosperity and posterity (Kenya National Land Policy)
- To ensure security of tenure to residents and investors in Lamu County

### b) Issues

#### Undocumented indigenes land claims

Demographic estimates place the indigenous title ownership in Lamu between 10-20% depending on the area of settlement. It has been found that most locals sell their land due to the high poverty levels and expensive land adjudication process that led the impoverished owners to relinquish their lands. This situation is causing ethnic tensions in the region since indigenous populations remain insecure on ancestral lands and access to natural resources

#### Blatant Encroachment on Land

Plots in gazetted water towers and catchment areas, such as the Shela sand dunes where wells for the town are located have been encroached by numerous individuals and companies laying claims to ownership of the land. (Save Lamu)

Encroachment into recognised grazing corridors for the pastoralist communities has created conflict between different communities. Some have illegally subdivided the ranches and sold the land later to outside parties who have opted to develop the areas.

Fish landing sites have additionally been grabbed and thus threatened livelihoods and biodiversity in the area, especially turtle breeding grounds

#### Illegal acquisition of land

Reclaimed lands in the Wiyoni area of Lamu Island created from dredging operations and meant for public utility have also been encroached by private investors and squatters who have already begun developing the area.

Hotel owners on Kiwayu Island who have irregular/fraudulent title deeds on the land have developed resorts on the island, which is a National Marine Reserve. This prejudice has developed mistrust amongst community and natural resource agencies and also encouraged locals to sell land rather than conserve their resources as there is no direct observed to retaining the land

Huge swathes of land held for speculative purposes

#### Prevalence of squatter problems

There is continual degradation of Boni and Witu Forests as the region is invaded by recent immigrants under the false pretense of being squatters so as to benefit from the existing settlement scheme program

#### Increase Land Bank for the County

Title deeds of 12 parcels of land totaling 353,770 acres (143,227 hectares) were cancelled and the land returned to Lamu County for public use. The County Government can now best manage and utilize these lands for the sustainable development of Lamu County

### c) Policies

- Provide security of land tenure to indigenous people of Lamu in areas they live and draw their livelihoods

- Require title deeds of land both for agriculture and ranching are to be issued they should be leasehold not freehold.
- Conduct an inventory of land ownership to determine land availability and identify illegal land acquisition in Lamu County,
- Revocation of titles illegally or irregularly issued
- Raising awareness among local communities on their land rights and mechanisms of securing their land
- Prepare checks and balances to prevent irregular and illegal land sales as well as on illegal sale of letters of allotment.
- Allow indigenous communities land access rights for sustainable traditional livelihoods within formally protected areas
- Provide direct support on a trial basis with formalization of land rights for selected communities.
- Advocate for devolving powers over public land under control of the National Government to the Lamu County Government.

### d) Actions

- Resettle indigenous squatters and other landless Lamu citizens in settlement schemes and allocate them title deeds,
- Provide community titles to areas where communities draw their livelihood and live
- Require title deeds of land both for agriculture and ranching are to be issued they should be leasehold not freehold.
- Conduct an inventory of land ownership to determine land availability and identify illegal land acquisition in Lamu County,
- Revocation of titles illegally or irregularly issued
- Raising awareness among local communities on their land rights and mechanisms of securing their land
- Prepare checks and balances to prevent irregular and illegal land sales as well as on illegal sale of letters of allotment.
- Provide recognized community land access and utilization within formally protected areas to indigenous communities for sustainable traditional livelihoods



- Formalization of land rights for selected communities who may have suffered from historical land injustices
- NLC to set up framework to devolve powers over public land under control of the National Government to the Lamu County Government.

## HUMAN SETTLEMENT

Human settlement strategy reflects a concentration of people, their activities and influence on the natural capital or environment. Human settlements alter significantly the natural environment in which they are located, and draw upon various services and products from the environment besides releasing by products of human activities to the environment. The natural environment too influences the human settlement in terms of centrality and topographical characteristics. Its critical functions or roles are to reduce pressure on land and fragile ecosystems, facilitate efficient delivery of services, enhance competitiveness of urban areas for economic opportunities, and reduce costs of production. Other roles include commerce, administration, industry, education, health, recreation and resort/tourism and entertainment.

This strategy incorporates aspects from a variety of concepts that have been developed earlier. These are; port precincts, archipelago, economic nodes, the gates and economic corridors. In developing the future human settlement strategy for the County, the spatial Plan has taken into consideration the following;

- The previous hierarchy of human settlements (Local, market and Urban Centres)
- The gates of Lamu town emerging from the spatial Plan analysis
- Emerging areas of concentration of human settlements outside the designated hierarchy
- Emergence of devolution that has singled out sub counties and wards as administrative territorial units within the County and being used as territorial units of service delivery
- Implementation of LAPSETT, especially port facilities, town and airport (Port area or precinct)
- Predominance of sensitive biodiversity and natural environment of the County

- Availing mandatory services for liveable sustainable human settlements
- Functions to be performed by human settlements and relationship to their resource hinterlands
- Optimum utilisation of land
- Heritage conservation and Swahili culture
- Distribution of human settlements in line with devolution

### DISPERSED AND CONCENTRATION STRATEGY

The above strategy of human settlement has been adopted for the Lamu spatial Plan as strengthened by the support mentioned above. Secondly, it combines the concepts developed in the spatial Plan, administration, emerging pattern of human settlements and the priming decisions of central Government and County Government within a given natural environmental setting. Applying the concept of strategic gates, urban human settlements that form the strategic gates of Lamu containing landmarks and unique welcome to the County are singled out. These urban centres are; Witu, Budhei, Kiunga, Manda, Mkunumbi, and Kizingitini. The size, functions and services required are as explained in the table below. The gates on the other hand provide a dispersal that is distributed in the County as follows: Kiunga, Kizingitini/Faza, Manda, Witu, Mukunumbi and Budhei.

### DISTRIBUTED AND CONCENTRATED STRATEGY

Distributed and concentration purely focuses on the administrative components that give us three level hierarchies of human settlements. In addition, it takes note of the other emerging centres within the County that require special attention of Planning and management. These three level hierarchies are: Capital City of the County at Mokowe; Sub-County urban Centres at Amu for Lamu West and Faza Urban Centre for Lamu East; finally, 10 lower centres as ward administrative areas. Concentration is crosscutting among all the human settlements to discourage proliferation of settlements into productive livestock or agricultural zones as well as conservation areas. It also ensures efficient and cost-effective provision of services.

The application of the gates and administration incorporates the following previously designated human settlements; Amu, Witu,

Faza, Mkunumbi, Kiunga, Manda, Kizingitini, and Mokowe. Some areas of concentrated development of people outside the above-mentioned areas are; Mkomani, Kiongwe, Pandanguo and Mapenya. Within this strategy, it is expected that around the port area the growth of a metropolitan character will take place in the long term. Metropolis is envisioned to grow within the towns of Hindi, Mkunumbi and Mokowe. It is likely to expand to Bargoni, and Mpeketoni if not properly Planned and contained.

### HUMAN SETTLEMENTS REQUIREMENTS IN THE SPATIAL PLAN

- All the urban settlements must be guided by integrated urban strategic Plans
- Proper management systems to be put in place to guide the development of the proposed system of urban centres according to the reviewed Urban Areas and Cities Act
- Adequate palatable water supplies
- Adequate sanitation system
- Liquid water collection system from the settlement
- Proper management of solid waste
- Adequate drainage system
- Availability of energy supply in the urban settlements
- Regulate development to take place within the Planned area to avoid sprawl
- Spatial linkage of the settlements in terms of connection between the centres and between centres and their primary production spaces (terrestrial and marine)
- Adequate appropriate circulation system to open up opportunities and enhance integration
- Human security provision and its maintenance

### GUIDELINES

- Human settlements within the Archipelago to grow and maintain the preservation of heritage and culture as an important input for tourism beyond opportunities provided by the sea (Manda, Shella, Ndau, Kizingitini, Pate, Faza etc.)
- Conservation of the biodiversity and marine ecosystem is a necessary requirement for enhancing the natural asset for

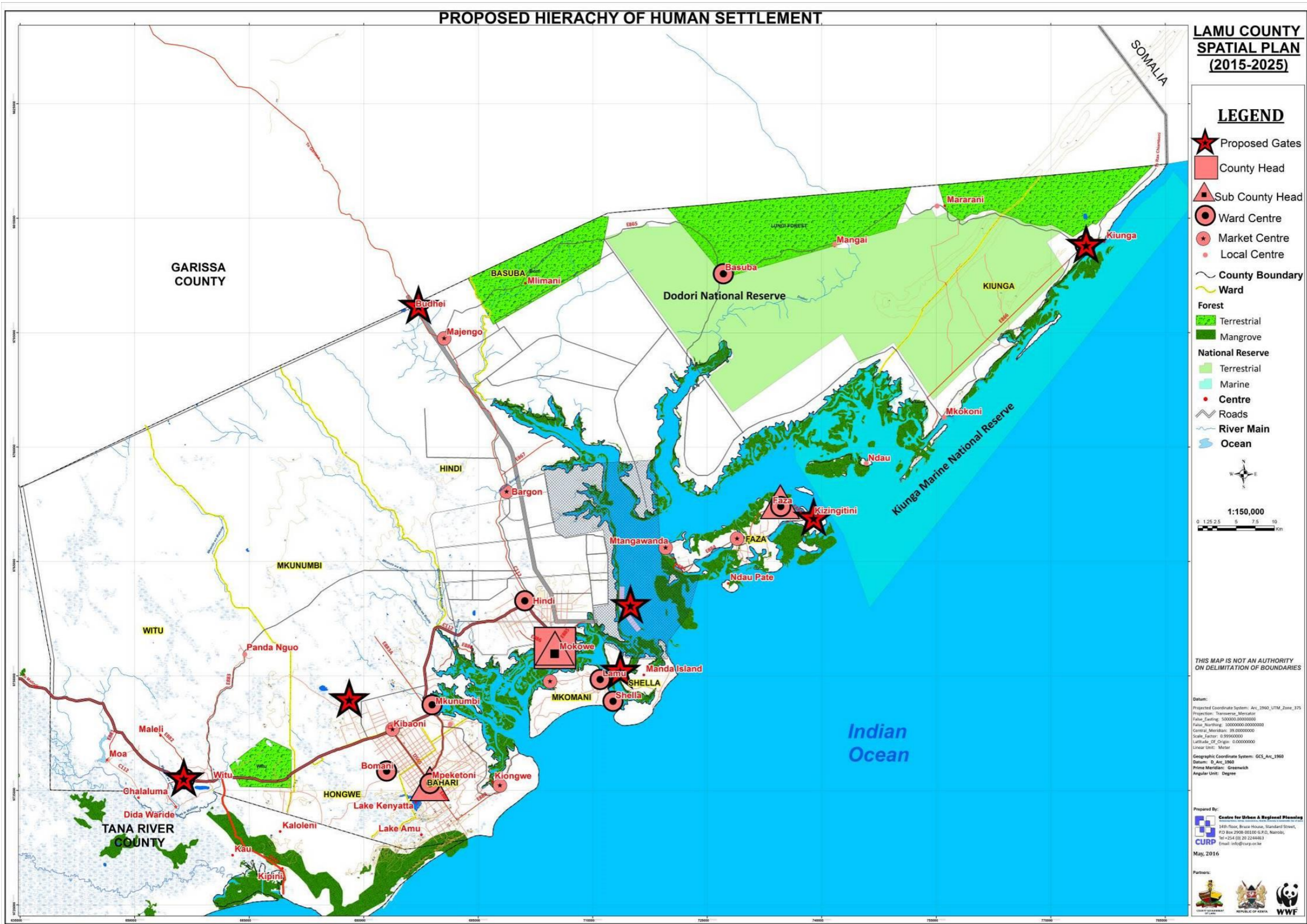
economic utilisation both for fishing and tourism as well as other ecosystems services

- Core framework of services as mentioned above to be provided by County and stakeholders
- Improvement of security will enable the establishment of ward administrative centre at Kiunga moving it from NDAU and also setting up of the ward administrative centre in Basuba ward
- Growth and development of the human settlement system in the spatial Plan is linked spatially through interdependence related to services and also primary production activities
- Planned connections of the urban centres and markets to economic corridors and avoid future mobility problems especially at junctions
- Centres of Hindi, Mkunumbi, and Mokowe should be connected by well-Planned adequate road network and well linked to the LAPSETT economic corridor which has the potential to grow into a metropolis

**PROPOSED HUMAN SETTLEMENT HIERARCHY**

| Urban Centres                 | Resident Population | Catchment Population | Core Functions & Services  | Actual urban Centres  |
|-------------------------------|---------------------|----------------------|--|---|
| <b>Primary Urban Centre</b>   | 40,000              | 150,000              | Administration (County & Central Government), Level 5 Hospital, Centre of Telecommunication, Centre of Financial Institutions, Primary Commercial Centre, Central National Security Coordination Area, Industrial, Logistics, Small Scale Industrial Parks, Central Park & Hierarchy of Open Spaces, Research & Institutions of Higher Learning, Large Wholesale & Retail, Education, Building & Construction, Professional Services, Main Postal Service Centre                                       | Mokowe,   |
| <b>Secondary Urban Centre</b> | 20,000              | 80,000               | Sub County Administration for both County & National Government, Some Gates (Mkunumbi) Fishing Industry (Faza, & Amu), Jetty Facilities, Agro Industrial, Logistics, Level 4 Hospital, Heritage Conservation & Tourism, Parks, Financial Institutions, Secondary Commercial Centres, Micro & Small Scale, Education, Parks, Hotels, Sub County Security, Veterinary & Extension Services, Telecommunication Services, Sub Postal Service Centres   | Amu, Faza, <b>Mpeketoni, Mkunumbi,</b>  |
| <b>Rural Centre</b>           | 5,000-8000          | 40,000               | Ward Administrative Centres, Input Supply Centres, Agro ware House & Collection Centres, Agro-Processing, Commercial Centre, Financial Institutions, Primary Education Coordination, Security, Level 3 Hospital, Maternity Facilities for Mothers, Extension Officers for both Crop & Livestock, Jetty Facilities, Livestock Value addition, Attractive Commercial & Service Facilities, Telecommunication services, Money Transfer, Carpentry & Metal Fabrication, Heritage Conservation and Tourism. | All the ward headquarters that do not have higher functions, and new trends in settlement growth and the Gates (Witu, Kiunga, Hongwe, Kizingitini, Budhei, Manda, |
| <b>Market Centre</b>          | 2000                | 15,000               | Trade and Shopping area, Level 2 Health Facility, Telecommunication Services, Jetty Facilities, Money Transfer, Markets for Local Produce, Carpentry, & Metal Fabrication, Local Crafts,   | Pate, Matondoni, Siyu, Bargoni, Kiongwe, Mapenya, Mtangawanda   |
| <b>Local Centre</b>           | <2000               | 10,000               | Shopping area, markets, Level 1 Health Facilities, Central Meeting Point, Telecommunication Needs, Money Transfers,  | Ndau, Mangai, & Mararni, Pandanguo,   |

Source: CURP 2016



## EDUCATION

The County's literacy level is estimated at 70% but this proportion represents the highly-exposed residents of Lamu west Sub County. Literacy levels for Lamu East are estimated to be less than 30%. (keya County Data). Lamu County has no tertiary level institutions except four commercial colleges and a youth polytechnic that are under equipped and with poor enrolment. The County's youth economic empowerment lies with acquisition of relevant tertiary level skills (CIDP). The main objectives for this section in the making of this Spatial Plan are:

### a) Objectives

- Ensure inclusive and quality education for all and promote lifelong learning (Sustainable Development Goal 4)
- Enhance accessibility and number of Education institutions
- To improve learning resources ensuring effective monitoring and evaluation of the education institutions
- Promote tertiary level institutions in the County

### b) Issues

#### Poor Literacy levels

A total of 33% of Lamu County residents have no formal education. Basuba ward has the highest percentage of residents with no formal education at 59%. This is three times Bahari ward, which has the lowest percentage of residents with no formal education.

A total of 54% of Lamu County residents have a primary level of education only. Hongwe ward has the highest share of residents with a primary level of education only at 65%. This is 25 percentage points above Basuba ward, which has the lowest share of residents with primary level of education only. Hongwe ward is 11 percentage points above the County average.

#### Poor Transition Rates

Only 13% of Lamu County residents have secondary level of education or above. Bahari ward has the highest share of residents with secondary level of education or above at 20%. This is 19

percentage points above Basuba ward, which has the lowest share of residents with a secondary level of education or above.

#### Poor Performance in Schools

Lamu County seems to have adequate number of both primary and secondary schools with above average enrolment and retention rates but they have been performing extremely poorly for a very long time. In 2014 KCSE, for instance, there were several A's in Lamu West from candidates in schools like Lamu Boys, Lamu Girls, Mpeketoni Boys and Shella Girls. The story was however different in Lamu East, with the top student only managing to score C plain.

#### Inadequate Educational Facilities

Most of the schools in Lamu County have inadequate educational facilities such as learning and laboratories. In Lamu East Sub-County only Faza and Kizingitini secondary schools have science laboratories.

Most of the schools do not have adequate facilities for effective education of persons with disability. This has impeded the access and enrolment for this vulnerable group.

Furthermore, Lamu County does not have a public library to promote effective knowledge and information flow

#### Inadequate ECDE centers and Trained teachers

Lamu County experiences an un-even distribution of ECD centres and trained teachers especially in Lamu East Sub-County where most of the ECD centres are not well equipped with learning and play resources and most ECD teachers are being paid by parents.

#### Inadequate Tertiary Level Institutions

Lamu County does not host a University and only has four youth polytechnics that are poorly equipped.

#### Poverty effect in Schools Performance

The poor performance has been attributed to high poverty levels in Lamu County creating a situation whereby a student maybe willing to go to school but has to endure an empty stomach by doing so. Indeed, it has been noted that the introduction of feeding

programmes in some Lamu schools, resulted in a notable increase in school enrollment

#### Drug Abuse effect in Schools Performance

The use of illicit drugs among school going children both in primary and secondary schools within Lamu is also a major cause of the poor performance of the County schools. This menace, especially manifested in Lamu East and may be one of the significant explanation to the extreme poor educational performance in this sub-County.

#### Retrogressive Cultural Practices

The backward cultural practices of Female Genital Mutilation (FGM) and early marriages among school girls and have been rife in Lamu County. This is mostly practiced among the indigenous Aweer and Sanye communities who still hold on to traditional cultural and religious beliefs. In some instances, school going girls opt to get married in the belief that their husbands will rescue them from the poverty in their maternal homes.

Furthermore, the traditional indigenous communities of the Aweer and Sanye and some Bajuni do not believe in contemporary education and discourage their school going children from attending schools.

#### Insecurity

Lack of adequate security has affected the performance of some Lamu County schools. This is especially so in for schools in Basuba, Mangai, Milimani and Mararani which are close to the Kenya-Somalia border. In fact, attackers invaded Mangai primary school and burnt school property including the administration block, mattresses, all the textbooks and the school's solar panel. Indeed, some three public primary schools in Lamu East sub-County had to be closed down indefinitely and teachers redeployed to other schools in the region due to insecurity.

Insecurity of land tenure in most school in the County is also an issue. Some schools in Lamu County have been encroached on by intruders and squatters and most other school land remains unsecured.

### c) Policies

- Enhancing access to lower level education facilities across the County
- Improving the capacity of the training institutions for both equipment and personell
- Enhance access to education facilities and school enrollment rates across the County
- Institute measures to improve performance at all levels of school while ensuring higher retention and transition rates
- Enhancing access to tertiary and vocational training institutions in the County to diversify on skill set for County residents
- Institute measures that will eradicate drug abuse among the young people as well as removing cultural biases against the girl child
- Develop more ECDE centres within Lamu East Sub-County;
- Train and employ more ECDE teachers in Lamu;
- Increase access and enrolment for persons with disability;
- Encourage public universities and colleges to set up campuses in the County;
- Ensure effective access to public library services;
- Strengthen teacher supervision and monitoring in schools within Lamu County;
- Create mechanisms for harnessing the varied talents of students

### d) Actions

- Develop 180 ECDE centres in Lamu ensuring effective distribution to households in Bargon, Majengo, Mlimani, Mararani, Mangai, Basuba and Kiunga by 2018;
- Lamu County Government to employ 540 ECDE teachers and by 2018;
- Equip all exsiting ECDE Centres with adequate learning and play facilities;
- Develop boarding primary schools in Mararani, Majengo, Bargoni ensuring the schools are friendly to persons with disabilities;

- Provide school feeding programmes in all public primary schools, especially school in Lamu-east Constitutency;
- Public primary and secondary Schools' Boards of Management to ensure they acquire and safeguard titles to their respective school's land and secure the school's perimeter though adequate fencing;
- Develop adequate and secure staff housing for teachers and staff within public Primary and secondary schools in Lamu County,
- Develop prizes, awards, and effective incentives rewarding exemplary performance by teachers, pupils and schools in Lamu County;
- Develop a Secondary school for every primary school in Lamu County ensuring the schools are friendly to persons with disabilities;
- Set up a university majoring in agricultural and Technological development in Majembeni;
- Engage University of Nairobi, Egerton, KU and JKUAT universities encouraging them to open campuses in Lamu County;
- Develop an institute majoring in Maritime and Biodivesity development in Kiunga,
- Set up an Archeological, Culture and Heritage preservation institute in Amu island;
- Develop a Hospitality and Tourism college in Mokowe,
- Set up a Medical practioners training college attached to the Lamu County Hospital in Amu;
- Set up a Teachers training institute in Bargon;
- Develop more youth polytechnics in Bargon, Majengo, Mlimani, Mararani, Kiunga and Witu;
- Revamp and operationalize the existing 4 youth polytechnics by 2018;
- Set up of public libraries in Witu, Mokowe, and Majengo by 2018
- Conduct a survey to determine the existing number of special education pupils/students aimed at recruit special education teachers
- Develop an ICT, youth and Talent growth centre of excellence in Mokowe.

## HEALTH

Lamu County has a total of forty-four health facilities spread across the County. The County has three hospitals of which one is a County Hospital and two are Sub-County Hospitals; five Health Centres, twenty-four Dispensaries, twelve Medical Clinics and one Nursing Home. The most notable Hospitals are Lamu County Hospital, Faza and Mpeketoni Sub-County Hospitals. The County has thirteen medical officers, six degree nurses and one hundred and sixty six diploma nurses, thirty-six registered clinical officers, one dentists, five pharmacists, three physiotherapists, five nutritionists and one mortuary attendant. The most prevalent Diseases in the County are malaria, respiratory tract infections, skin diseases and HIV/AIDS.

### a) Objective

- Ensure healthy lives and promote well-being for all at all ages (Sustainable Development Goal 3);
- To provide an efficient integrated and high quality affordable health care to all citizens. Priority will be given to preventive care at community and household levels, through a de-centralised national health-care system. (Kenya Vision 2030);
- To provide a robust health infrastructure network in Lamu County; and
- To promote wellness and efficient access to effective health services in Lamu.

### b) Issues

#### Inadequate Medical Personnel

The County suffers from inadequate numbers of qualified personnel with only thirteen medical doctors, 24 clinical officers, 94 nurses, 17 public health officers, 5 pharmacists and 30 technical personnel. This create a disparity in doctor to patient ratio of 1:9,000 which is inadequate compared to the one doctor for every 1000 patients recommended by the World Health Organisation

Despite presence of some good hospitals in Lamu County, most qualified medical practioners shun working in Lamu County. This situation has created an unwarranted problematic situation for the County Government responsible for ensuring adequate medical

personnel in Lamu. The lack of adequate personnel is worst experienced in Faza sub-County hospital which provides medical services to nearly 30,000 people on the entire Lamu East sub-County. Furthermore, the theatre at the Faza sub-County hospital has not been operational for years since it was installed in 2009.

*A section of Faza Hospital showing idle medical facilities due to lack of medical personnel*



**Source: Bocha Galgalo, Nation Media Group, December 2014**

#### **Inadequate Health Facilities**

Lamu County patients suffer from inadequate access to adequate healthcare. The average distance to the nearest health centre in Lamu County is approximately five kilometers. This evaluation considered with the County's poor road infrastructure and limited availability of transport services, means access to proper health care in Lamu County is a major challenge.

Lamu East sub-County has only Faza sub-County hospital, one health centre in Kiunga and eleven dispensaries. Basuba ward has only one dispensary in Mangai whereas Hongwe ward is only served by a Catholic Dispensary. This dire situation in terms of numbers, distribution and access of health care providers in Lamu County is precarious to the welfare of the Lamu people.

#### **Inadequate Disaster Management and Medical Emergency Response Services**

Lamu County has no a Disaster prevention and management Plan, services nor adequate medical emergency response services. The County does not have a proper emergency call centre and no

adequate services in case of disasters and emergencies. There are inadequate ambulance services which is a threat to adequate response to medical emergencies. There is worsen by the human settlement patterns of some communities living in dispersed clustered villages mostly accessible by through the Indian Ocean. This fact came to life in during 2009 fire disaster in Faza village and since then no adequate measures have been put to ensure acceptable disaster prevention, preparedness and management.

#### **Poor Preventative Health Care Provision**

Preventative healthcare is a challenge in Lamu County as most communities live in remote and dispersed settlements that are not adequately accessible. The Dispersed settlements coupled with poor road infrastructure poses a challenge to the provision of preventive healthcare. Furthermore, most of the remote communities undertake rudimentary livelihoods that makes them susceptible to diseases that are otherwise preventable. It is noted, for example, that malaria accounts for 63.3% of illness in the County. Despite the high prevalence rates, only 30% of children under 5 years sleep under treated nets due to inadequate access to these lifesaving mosquito nets. However, there is increased success in immunization programmes and incidence of malnutrition is rare in Lamu County.

#### **Shortage of medical equipment and drugs**

Although the County seems to have spread health physical infrastructure throughout most settlements, there are no medical equipment and drugs to sufficiently provide proper medical service. Most of the health care providers are dispensaries and medical clinics without adequate medical equipment and drugs.

#### **Prevalence of drug abuse**

Lamu County is drug abuse especially among its youthful population. It is reported that bhang and cocaine are heavily used among the youth in Kizingitini, Majengo Village in Mokowe, Witu Town, Kashmir Village in Lamu Town, Faza, Tchundwa and Mbwajumwal. This situation is a threat to the healthcare of the County especially ase there are no drug users rehabilitation facilities or infrastructure to support drug addicts willing to abandon the vice.

#### **Poor Maternal Healthcare**

Lamu County has the highest number of maternal deaths in Kenya according to a Kenya Demographic Health Survey. Most maternal deaths in Lamu County occur due to failure of most mothers to reach health facilities during child birth. It is reported that although most pregnant women, in Lamu County, attend prenatal clinics, over 45 per cent of the women prefer home deliveries assisted by traditional birth attendants. This is especially in Lamu East Sub County, where most women deliver their babies at home without proper care.

Poor access to health facilities during childbirth, especially in case of birth complications is attributed to lack of proper infrastructure, as well as few dispensaries in the County that experience both human resource and crucial medical equipment shortages. It also noted that social and cultural barriers keep some mothers in Lamu County away from health facilities during child birth.

#### **HIV AIDS Prevalence**

Lamu County's healthcare is challenged by the HIV and AIDS prevalence in the County. The prevalence rate in the County stands at an average of 3.2% with the male prevalence rate is at 3.7% while for female is at 2.7%. The prevalence is higher in urban settlements as compared to rural areas. This prevalence rate should be reduced to 1% and complemented with complete eradication of mother to child transmission.

There are positive measures being undertaken as in addition to all the County health facilities, there are 13 VCT centres that provide voluntary testing and counseling services. However, there is need to expand VCT and maternity care outreach, train the infected and affected to provide better homecare, mobilize increased community participation and capacity build of health care providers to guarantee effective monitoring and evaluation.

#### **Funding and National Equalisation**

Healthcare provision in Lamu is set to b positively impacted by inceresed funding to promote proper healthcare provision in the County. Indeed, the County signed a Memorandum of Understanding with the national Government, in January 2016, and

received KES200 million to upgrade hospitals in the County. This was in line with the National Government's programme of improving medical facilities throughout the Country to ensure Kenyans access better healthcare services. Lamu County Government dedicated KES 100 million to upgrade the Lamu County Hospital to level 5 status from the allocation from the National Government. It further allocated KES 50 million each to Mpeketoni and Faza sub-County hospitals to facilitate their modernization.

Furthermore, the County received medical donations worth KES 250 million from well-wishers in 2014 and has availed more funds to fight HIV leading to more people accessing VCT services, increased uptake of ARV's and increased awareness and reduced mother to child transmission.

The County is also to benefits from equalisation fund receiving KES 186 million annually from 2013 upto the year 2016. This fund is constitutionally set up to ensure provision of basic services including water, roads, health facilities and electricity to its marginalised areas aimed at bringing the quality of those services in those areas to the level generally enjoyed by the rest of the nation.

Lamu County was fully kitted mobile clinic in May, 2016 courtesy of The Beyond Zero campaign. The campaign is aimed at accelerating the implementation of the elimination of new HIV infections among children and promoting maternal, newborn and child health in Kenya. The mobile clinics also serve as immunisation centres for children, besides providing emergency delivery services for mothers. HIV/Aids testing and minor surgical operations are also available at the mobile clinics

#### c) Policies

- Strengthen the existing hospitals and health care providers to render enhanced services;
- Prepare a Disaster Prevention and Management Plan for Lamu County;
- Improving the quality of health service delivery to the highest standards;

- Promotion of partnerships with the private sector in ensuring effective health care provision;
- Providing access to those excluded from health care for financial or other reasons;
- Require all County wards to have effective health service facility;
- Promote preventative healthcare provision;
- Reduce HIV prevalence rate in the County to 1% and ensure complete eradication of mother to child HIV transmission;
- Promote training of medical personnel in the County;
- Create awareness about the dangers and risks of drug abuse and change attitudes towards drugs among the youth;
- Encourage medical colleges to establish themselves in the County in order to absorb local students;
- Collaborate with NGOs and international partners on provision of healthcare facilities and equipment;
- Facilitate the marginalized communities to take up training in health sector;
- Empower locals to provide voluntary services in their localities through a community health program.

#### d) Actions

- Increase the number of medical personnel in Lamu County by 30% by 2018;
- Increase equipment and facilities in health centres and dispensaries by 20% by 2018;
- Elevate Lamu County Hospital to level 6, referral hospital by 2020;
- Develop Medical training institute in Amu attached to Lamu County Hospital by 2018;
- Upgrade the Mangai Dispensary into a Health Centre by with a functioning, well equipped Maternity Wing, 2018;
- Upgrade Patte Dispensary to a health care centre with a functioning, well equipped Maternity Wing;
- Upgrade Faza dispensary to a health care centre with a functioning, well equipped Maternity Wing;
- Develop and Improve Health Centre in Mararani, Bargon, Tchudwa, Majengo and Milimani;

- Upgrade Ndaui Clinic to a Dispensary with a functioning, well equipped Maternity Wing;
- Develop an emergency call centre in Mokowe by 2018;
- Purchase 3 well equipped mobile marine clinics to serve all villages in Pate, Manda and Amu islands as well as Kiunga and Kiwayuu;
- Purchase 5 Speed boat Ambulances to be stationed in Pate, Manda and Amu islands as well as Kiunga and Kiwayuu;
- Mobilizing more funds to expand VCT and maternity care outreach;
- Undertake training of the HIV infected and affected persons on provision of better homecare;
- Undertake programmes to ensure increased community participation and reduction of capacity building on HIV prevalence rate;
- Develop Medical practitioner residences in Faza Hospital, And all upgraded Health centres in all wards;
- Set up a drug abusers' rehabilitation centre in Hindi town.

## WATER AND SANITATION

### a) Objective

Water is a huge problem in Lamu County as depicted by the residents during the FGD meetings. Therefore, the main objectives are:

- To have improved access to potable water
- To have improved access to water for wildlife
- To have an integrated Solid & Liquid waste management system
- To have a good system for solid and liquid waste disposal

### b) Issues

#### High Rainfall:

Lamu County receives high rainfall in the rainy season which when tapped can serve the population during the dry seasons.

In Faza ward, this is already being practiced as they use djambias to harvest water. This helps them practice agriculture even during the dry season. They use that water for drinking and cooking purposes



when the salinity levels in the wells are too high. The high rainfall is a huge potential for the Country as they are able to practice agriculture which is a major driver of their economy.

**Sand dunes:**

There are many sand dunes within the County, in Bahari and Shella wards. Sand dunes act as water reservoirs and sieve out salty water. The wetland areas near the sand dunes are the result of this and the water is clean and fresh. There are also other water catchment areas within Hongwe ward. allusion

**Water Resources:**

There are many water resources including rivers and underground water; for example, Mangai River. There is thus availability of fresh water in such areas that can be used wisely. In Hongwe, Bomani hill is the highest point where a water reservoir can be situated and water supplied to the households through gravity.

**Inadequate supply of clean water & high salinity levels:**

There is inadequate supply of clean water in many parts of Lamu County including kiunga, bahari, Hindi, Mkunumbi, Hongwe, Kihobe, Mararani and Manda. People rely on shallow wells that have high salinity levels. This poses a major problem for the residents as they have to deal with lack of fresh potable water. There are a few lakes that they can fetch clean water from but even those are under threat; one of the lakes, Lake Amu is already dried up. In areas such as Kizingitini, Hongwe; Faza and Bahari, the problem of high salinity levels in water was highly mentioned.

**Encroachment on water catchment areas and wetlands:**

The numerous water catchment areas and wetland areas existing in Hindi ward are also under threat. This is because of the encroachment by human beings onto the areas. This leads to depreciating water content and could consequently lead to the wetland areas drying up.

*Lake Kenyatta*



*Sand dunes and a swamp in Bahari*



*Lake Amu which has completely dried up*



*Source: CURP, 2016*

**Limited Number and capacity of water officers:**

Residents in Faza ward expressed that there are no water officers to help them in making wise decisions about the use of water.

**No water points for wildlife:**

In areas, such as Mkunumbi, there are **no water points for wildlife**. The animals walk long distances looking for water and pasture; they are therefore found in large numbers in Hindi and Witu wards. These are the areas that still have wetland areas.

**Lack of an integrated solid & liquid waste management system**

The situation of sanitation within Lamu County is wanting as there are several inadequacies in solid/liquid waste disposal management and human waste disposal. There are few to no dumping sites leading to careless dumping of waste anyhow within the County. In Bahari ward, there is no dumping site and inadequate personnel required for the town’s cleanliness. The few personnel are unable to maintain cleanliness due to the large size of the town.

There is no sewer system in Mkomani, Bahari and Hindi wards; they therefore have to rely on pit latrines. This poses a health risk as the pit latrines are situated near shallow wells. There is a high chance of the water mixing with waste, which when consumed leads to outbreak of diseases. In Hongwe ward, the main problem on sanitation was that there is no sewage Plant.

**c) Policies**

- Ensure protection and conservation water catchment/wetland areas to sustain underground water recharge
- Ensure water sustainability through diversified and better storage and harvesting techniques
- Ensuring a clean environment free of solid and liquid waste degradation
- Diversifying water sources including rain water and the implementation of water recycling where possible

- Educate the local communities on water related issues
- d) Actions**
- Preparation of a Water Master Plan for the entire County
  - Delineate; survey and register all wetlands & swamps with the County Government and the NLC
  - Prepare an integrated solid & liquid waste management plan
  - Assess the possibility of damming Mangai River at several points to serve both humans and wildlife
  - Establish specific water points for wildlife and livestock in the delineated wildlife and livestock movement corridors
  - Set aside land for solid waste management/ garbage disposal site in all wards
  - Construct a water office and increase the number of officers in Faza, Kiunga, Basuba, Hindi, and Witu wards

## ENERGY AND COMMUNICATION

### a) Objective

- To have good access to communication facilities and good network
- To ensure every household is provided with electricity

### b) Issues

#### Poor network connectivity:

There are telecommunication challenges, that is, poor network connectivity in most parts of the County. The problem is highly experienced Kiunga and Basuba Wards and also parts of Witu and Hindi Wards.

Poor communication is a connotation of lack of development; business activities can barely take place in these areas.

#### Poor Electricity Connectivity:

Rural electrification from the National Grid already started in many parts of Lamu but many residents have not received the power connection. They therefore rely on generators for electricity and other alternative sources of energy like solar.

### Potentials

One of Lamu's strengths is that it is connected to the national grid and the rural electrification programme is already underway. Other than electricity, Lamu County has potential for:

- Wind Energy- The strength of wind received in the area is enough to generate wind power. A proposed project by Kenwinds in Bahari Ward to tap this energy is ongoing.
- Solar Power- The equator passes through Kenya and thus the Country receives sunlight throughout the year with a Direct Normal Irradiation (DNI) of between 2200 – 2350 kWhr/M<sup>2</sup> annually.

### c) Policies

- Ensure that the telecommunication network coverage is accessible from any human settlement area within the County.
- Enhance efficient and fast connection of the power from the National grid line
- Tap into enormous renewable energy opportunities available in the County
- Promotion of public private partnership investments in green energy and less polluting thermal power
- County and KPL Company & network service providers to put in place a power supply/service provision programmes that connects key strategic investment areas of the County
- Ensure supply of affordable diverse energy options at a competitive rate for the economy of Lamu
- Ensure energy wayleave spaces have been demarcated and distributed equally in the County

### d) Actions

- Set up service providers network boosters in Bargoni, Chalaluma, Pandanguo, Basuba and Kiunga

## SAFETY AND SECURITY

### a) Objectives

- To ensure the upscale of security within the County

- To ensure safe means of public water transport
- To ensure disaster preparedness in all parts of the County

### b) Issues

#### Insecurity:

Insecurity was noted to be a huge problem in many Wards including Witu, Kiunga; Basuba; Bahari; Hongwe, Mkomani and Shella. The alshabaab menace make up a huge part of the insecurity problem.

The national Government has continually made efforts to curb this menace by introducing KDF camps in the County and this has really helped the residents. The Insecurity issue in the County is a big threat to the overall growth of the County as it has great impacts on the businesses within the County and cumulatively loss of investor confidence. This has resulted to the County's continued economic losses as opposed to the tremendous economic gains that the County holds.

#### No police stations and lack of community policing:

The distribution of police stations within the County is skewed with only a few wards having established police stations. Police stations are required so as to have police officers available at all times to maintain law and order.

Where the scarcity of police surveillance is evident, the use of Kenya Police Reservists and community policing is adopted. It was reported that some wards lack both KPR officers or good structures of community policing rendering such areas very insecure for both the residents and the business community.

#### Safety

Safety can simply be defined as the condition of being protected from harm and the control of recognizable harm in order to reduce risks. Some of the risks in Lamu include incidences of fire, boat accidents, drowning among others.

*Lack of disaster preparedness:* There lacks measures put in place to prevent fire occurrences. The width of the streets within most nucleated settlements in the archipelago are small and this limits

chances of rescue in case of a fire. It is widely accepted that these settlements have been established for long times along the cultural and heritage values but in spite of all this, measures have to be put in place to ensure preparedness in times of disaster like fire.

*Increased incidents of drowning:* Many boats do not have life jackets and first aid equipment which can help save lives in case of accidents.

*Degraded sea walls:* The degraded sea walls allow sea water to the main land which poses a flood risk.

#### c) Policies

- Improved security within the County to enhance accessibility to most parts of the County to facilitate security operations
- Integrating different security dockets to improve their efficiency in handling security matters
- Institute collaborative measures between security agencies and the local communities
- Ensure safe and reliable public water transport

#### d) Actions

- The Police Station established at the Port Area to increase the patrols; and surveillance of the area
- The Kenya Maritime Authority to conduct routine surveillance on the waters within the Port Area
- Improvement of security in the villages through addition of KPR officers;
- Improvement of Nyumba Kumi Initiative
- Ensure that every ward is served by a police station
- Better remuneration for KPR officers and integration into the police force
- Construction of sea walls at Siyu; Mbwanjmwali villages

## RECREATION AND OPEN SPACES

#### a) Objective

To have an adequate number of recreation areas and open spaces

#### b) Issues

##### Few recreation parks and open spaces:

Lamu County is well endowed by vast and available land but lack recreation parks and other open spaces that add value to urban centres and human settlement areas. They serve as meeting points for residents; relaxation sites and also act as areas where talents can be nurtured.

The old town of Lamu have a very vibrant open space which is used as an active space by the residents for various purposes. The public square is shown below:



*Source: CURP, 2016*

##### Lack of resource centres

There was an expressed need by the residents of various wards including Witu; Bahari; Hongwe; Mkunumbi; and Faza to locate and establish various resource centres for youth talent growth in the various Urban Centres within the wards

#### c) Policies

- Ensure provision of recreation and open spaces to strengthen the social fabric; and add value to land
- Ensure sustainable talent development programmes & facilities to promote the well being of the youth

- Developing a mechanism of facilitating the enjoyment of natural assets available in the county
- Enhancing access to active recreation spaces across the County
- Enhance tapping of youth talent in the County

#### d) Actions

- Identify and delineate sites for recreation in all wards within the County
- Establish resource Centres including social halls; theatres in all Urban Centres across the County
- Undertake town beautification in Amu, Mpeketoni, Kibaoni, Hindi and Witu
- Development of a stadium in Mokowe
- Set aside land for a playing field in Lamu Island

## ECONOMY & LIVELIHOOD DEVELOPMENT OF LAMU PEOPLE

The livelihood strategy of the CSP integrates sectoral perspectives, and the spatial concepts to provide the future direction of the sector. The overall objective of the sector is to:

***'Ensure secure enabling environment for sustainable competitive diversified economy'***. To achieve the above, the following sub-objectives have to be realized:

- Location of various economic activities including corridors and nodes of development according to their Natural and cultural capital suitability
- Enhancement of skills of the local population to participate in the economy of Lamu by the public and private sector
- Integration of the National infrastructure development project with associated components with current realities and future projections
- Enhanced maximum contribution of the primary sector to the County economy through value chain and value

addition driven by both public and private sector partnerships

- Provision of adequate first class infrastructure through public and private sector initiatives (Roads, railway, airports, Ports, Energy, Water and Sanitation, ICT)
- Adequate provision of security on both sea and land

Key sectors of focus for livelihood development are as indicated below. These sectors are heavily borrowed from the situational analysis, sectoral perspectives, and the spatial concepts.

#### **a) Objective**

To ensure a secure enabling economic environment for a sustainable competitive and diversified economy

#### **b) Issues**

##### **Rich natural capital resource base of the County**

The County is well endowed with natural resources from which various economic activities arise. Resources are both terrestrial and non-terrestrial (ocean and freshwater). On terrestrial land is classified into categories of varied potential for crop farming, livestock, forest and forestry, wildlife and aquaculture. On water resources, there is underground un surveyed minerals, sea grass, mangroves and a variety of fish species in addition to the waves and currents. Wind and long hours of sunshine create a potential of green energy generation.

##### **Available population of the County (human capital)**

Human capital is essential for social economic development from which is derived the market potential, labour force and increase in the number of people. Population if not well harnessed exerts pressure on both natural and financial resources of an area leading to negative consequences. Lamu has a working population of over 50% of the total population and is expected to benefit from the influx of skilled personnel from the rest of the Country due to the implementation of the LAPSSET infrastructure and urban development project. However, Lamu human capital is low skilled and will require investments for its improvement

##### **Planned national development projects (LAPSSET project)**

The infrastructure and urban development project is set to enhance accessibility of the County and open it up for both national and international investments. There will be the creation of an economic corridor of development and a unique commercial and industrial zone of a resort City. It creates direct employment opportunities, housing, and commercial, besides making Lamu a favourable place for investments. Its potential impact however on natural capital and current livelihoods of the Lamu people.

##### **Revenue mobilization in the County & central Government allocation**

Main revenue sources of the County Government are allocations from central Government and local revenue collected from the County. The County has a variety of revenue sources from which revenue is collected, and a few where revenue is not collected such as boat transport and honey production. Actual social economic situation of the County should be reflected in the criteria used to allocate revenue to counties by the revenue allocation commission

##### **Economy is basically based on the primary sector (farming, fishing, livestock, mining, tourism)**

The County has a rich natural capital resource base from which a variety of economic activities and products are produced. Crop farming activities yield a variety of crop products sold directly to consumers within Lamu while others are marketed outside the County. Livestock activities as a means of livelihoods ranging from cattle, sheep and goats, bee keeping, fishing, aquaculture, poultry and pigs are widely practiced in the County. Mining activities are limited to sand harvesting, and stone quarrying besides tourism supported by Lamu heritage, beaches, and water sport. The County has not ventured into value addition to enable rationalization of its production system thereby diversifying its economic base.

##### **The potential of the primary sector to create value and employment is not fully exploited (value addition)**

The primary sector is not well linked backwards to support services, the necessary policies and forward to manufacturing processing,

packaging, marketing and distribution. Transformation of the primary sector into value addition requires a Planned scientific approach to farm production and involvement of the Community.

##### **Inadequate and poor economic infrastructure has affected economic operations of the County (roads, ICT, energy & water & sanitation)**

The competitiveness of localities for investment and economic prosperity is depended upon the quantity and quality of infrastructure facilities and services. These facilities and services provide support to the economy and besides facilitate the movement of skilled and non-skilled labour to spaces of opportunities. Lamu County has available road network connecting production and residential spaces, other social spaces but is poor quality and impassable. There are also areas of missing links in the County making it difficult for production activities and movement of people. Water and sanitation services are inadequate in the County as well as ICT facilities and services, which increases the costs to investors. It limits the capacity of the Country to attract investment.

##### **Insecurity situation in the County has affected economic activities and curtailed inflow of investments (local, sea, and terrorism)**

Lamu Country faces insecurity both within due to inability of many of the young population to attend school and increasing cases of drug addiction. Recently there has a risen the problem of terrorism and radicalization from Somali and gaining a lot of momentum along the coast. It is also attributed to many years of lack of investments in the County particularly roads, water and sanitation. This has created a fertile ground for the spread of insecurity within that works against investments in the County. The insecurity has affected tourism industry of the County leading to underutilization of available hotel facilities.

### **Inadequate skilled human resource in the County (literacy levels, and technical training)**

The labour force is handicapped by lack of skills due to very low levels of school attendance attained in the County. This has a variety of implications namely, inability to utilize the available opportunities provide by the natural capital, and inadequately prepared to be part of the implementation of national development project of LAPSSET.

#### **c) Policies**

- Harness the natural capital potential to diversify the County economy to meet local and export market needs (dependent on crop farming, livestock, and fishing, tourism)
- Utilise a value chain approach in the primary sector to help tap all the potential of the primary sector moving it to the first stage of industrialization (input supply, production, processing, marketing and distribution)
- Improve economic infrastructure to attract business and industry (roads, energy, ICT, landing sites)
- improve security and safety in partnership with central Government and other actors in Lamu (local, terrorism, sea safety)
- Develop human resource capacity of the County to tap into local resources and meet the demands of diversified competitive economy (Education & technical training)

#### **d) Actions**

- Training support to various local economic groups
- Construct value chain diagrams for various primary sector products where there is potential to expand economic opportunities through value addition
- Lobby central Government investment in areas of roads, energy, ICT water and sanitation
- Put in place local security system or infrastructure with the help of central Government

- County to spearhead education activities both at primary and secondary school level that is well distributed with all the facilities
- Set up technical training institutes in the County through partnerships

### **TOURISM & HERITAGE**

The making of this CSP noted that to devise a complete County-based tourism model, it had to consider the socio-economic, and natural aspects of the County revolving around culture/heritage, wildlife and marine.

#### **a) Objective**

- Promotion of Lamu as a unique investment destination with a complete triple package (culture/heritage, wildlife, and Marine assets)
- Increase tourist revenue through quality services and new high value niche products
- Improve and diversify accommodation facilities and services to attract tourists as well as design a complete package promotion campaigns to market the potential of Lamu as a tourist destination

**Targets:** Increase the number of tourists visiting Lamu

#### **b) Issues**

### **Rich unique tourism input resources both terrestrial and marine (wildlife, ox bow lakes, beaches, ocean, marine park, mangroves)**

Lamu County is naturally blessed with tourism attraction sites that are on land, water and heritage sites. The land has a variety of tourism resources in form of wild animals and birds, while the sea has green mangrove ring, beaches, marine park and heritage sites. Some of the sites have been declared world heritage sites adding a lot of value to the County, which it has not been able to utilize. There are hotels but of limited capacity and class to accommodate the number of visitors the County is capable of attracting when properly.

### **Intended national development project (resort city, access to Lamu by air, road and railway)**

National infrastructure and urban development projects are to be implemented by the national Government in Lamu. These projects are a superhighway, railway, and an oil pipeline to Southern Sudan, and Ethiopia. In addition, there will be a resort city and an international airport constructed. They will open up the County for more people inform of investors, tourists and workers. This will facilitate trade between Lamu, the rest of the Country and beyond. At the same time, the location of the projects will interfere with current land use and conservation activities both on land and on water.

### **Encroachment and on wildlife spaces, forest and poaching (development projects, human settlements, poaching)**

Terrestrial tourism attraction based on wildlife, punctured scapes, and forests are threatened by encroachment of human settlements into wildlife and forest areas, and rising cases of poaching. This has the effect of reducing the wildlife, and forest resources and diminishing water resources thereby weakening its tourism potential. Conservation efforts are constrained by the current state of marauding radicalized groups in forests and wildlife areas.

### **Inaccessibility of the beaches and pollution (properties to the sea, point pollution sources)**

Beaches as recreation and tourist attraction assets have been greatly interfered with by privatization hence limiting public access. Some areas of the beach fronting human settlements are experiencing pollution from human activities both liquid and solid waste. This has also compromised safety along the beaches in case of dawning in the ocean in relation to safety areas for rescue which are unavailable.

### **Inadequate publicity of tourism potential/resources of Lamu (heritage sites)**

The vast tourism opportunity of the County as mentioned earlier has not been marketed effectively within Kenya and to the rest of the world. Besides, the County has faced a long period of infrastructure marginalization from the main development corridor limiting accessibility choices to use of water and air transport. This

has culminated into underutilisation of the tourism potential of the County that is both terrestrial and marine, culture, and heritage.

#### **Inadequate maintenance of current gazetted heritage assets**

Lamu County is on the world heritage map by being part of a UNESCO world heritage site of the old Lamu town, Kiunga Marine National Park, and the Tana Delta area. The current heritage area of Lamu Old town is inadequately maintained due to ignorance of people about heritage value and lack of affirmative action from the authorities in charge of the heritage area. Local people of the town have not made use of the heritage status to maintain and improve the town for heritage and investments. Heritage value is latent to many in the town and tapped by those who come to invest in the County particularly on the beach front. Value of heritage has not been recognized by the local people

#### **Numerous heritage sites have not been recognized and gazetted**

It has also numerous historical sites that have not been surveyed and secured as heritage sites such as Siyo in Kizingitini, Witu and others. This is an opportunity to the County requiring to be prioritized for identification, and put in place measures to gazette them. Addition of the other heritage sites to those already gazetted enhances the cultural and heritage identity of the County to be marketed for tourism attraction.

#### **Traditional crafts have not been well harnessed as tourism assets**

Traditional crafts are also available in the County from local people. It forms part of cultural expression and material culture transformed into beautiful products of value to the visitors. Special markets for traditional design crafts can go a long way to make opportunities available to the people involved in traditional crafts.

#### **Lamu does not benefit from past and current tourism activities (fortified tourism enclave)**

Value of plots on the beaches has been on the rise hence out of reach to the local people. There has been a tendency to allocate and reclaim plots from the sea on the beach front by investors from Europe and the Country. Investments in hotels along the beaches

are owned by foreign investors who run their operation without involvement of the local people in any of the hotel chain activities

#### **c) Policies**

- County should resolve to protect and conserve available heritage sites through regulation and maintenance
- Resolution of conflict revolving around wildlife, LAPSET infrastructure project and associated components, and human settlement to enable protection and conservation of wildlife areas through appropriate land use Planning
- Encourage and promote the establishment of conservancies on the model of NAROK but linked to culture, heritage and marine tourism
- Package tourism attraction assets and market the County locally and internationally using various channels (Posters, billboards, website)
- Institute measures in collaboration with partners to restore and maintain sites that have been abandoned (Museum, WWF, UNESCO, County, Community)
- Beaches should be protected as public assets and their accessibility enhanced
- The benefit sharing principle should be applied to enable the County and its residents to benefit from tourism
- Community to be educated and motivated to offer a variety of services to tourists (crafts, culture, taarab music, local food)
- Decentralize the resort city concept with core functions at one place while others are dispersed according to unique assets offered in specialized locations
- Enhancement of security and safety both on land and water to achieve a peaceful environment for social economic activities
- Linkage of the port of Lamu and Port of Mombasa and possibly up to Durban in South Africa for Cruise Tourism
- Improve tourism facilities and services by private sector

#### **d) Actions**

- Pass a policy for reclamation abandoned heritage sites
- Prepare an inventory of the sites for reclamation

- Prepare subject Plans, survey, gazette and rehabilitate the sites
- Map out the conflict areas and segregate the activities through zoning
- Carry out regular maintenance of heritage sites
- Advertise the available tourism attraction using different media
- Breakdown tourism into various activities and assign responsibilities to various actors
- Reclaim and regularly maintain public beaches as public recreation spaces for locals and visitors
- Hold capacity building seminars to enable them take advantage of heritage value (capture training on specific sites)
- Identify areas for locating training centres to train locals in tourism and hospitality
- Register and license tourist porters and tour guides
- Generate revenue from passengers to support the local porters and boat operation

### **AGRICULTURE & RURAL DEVELOPMENT**

#### **a) Objective**

Enhance productivity and production of agriculture and emphasize on value addition for economic improvement.

#### **b) Issues**

#### **Available arable land and diversified farming activities**

The County has a land surface area of 6,474.7 Km<sup>2</sup> out of which **5,557 km<sup>2</sup>** is agricultural land. The County falls within the CL3-coconut cassava zone taking 9.2 percent of the arable land size measuring **511 km<sup>2</sup>**; CL4-cashewnut cassava zone forming 60.4 percent of the land size measuring **3356 km<sup>2</sup>**, and CL5-livestock millet zone with 30 percent having land size of **1666 km<sup>2</sup>**; **CL6-ranching zone with 0.43 percent having land size of 24 km<sup>2</sup>**. Farming takes place on only 69,025 Ha out of the total size of 196, 900 Ha. Various crops are grown in accordance to agro ecological zones. Crops farming employ the majority of people in Lamu and in 2014, a total of 314, 550 tonnes of both food and cash crop was realized.

### *Mechanized farming on a land in Mpeketoni*



Source: CURP, 2016

### **Conflicts between crop farmers and pastoralists and between crop farmers and wildlife**

There is specialization of economic activities within the County as dictated by the agro ecological zones. These specializations in livelihood are crop farming, livestock rearing, wildlife, and commerce and trade in various urban spaces. Growing number of people has led to the intensification of land use activities and in times of drought, conflict between farmers and wildlife and also wildlife and human beings and between pastoralists and farmers is enhanced. The conflict is compounded by pastoralists from other counties who flock to the County in search of pastures and water during drought. This calls for regularization of land use with clear recognition of land use for the activities in conflict together with livestock and wildlife migration corridors.

### **Poor road conditions and communication network**

Road network infrastructure in Lamu is relatively good but in a poor state. There are only 7 kms which are tarmacked while the rest of the road network lacks drainage and impassable when it rains.

The roads linking to productive scapes and market centres which are basically urban pose a serious challenge of mobility. It leads to

problems of transporting inputs to the farm as well as produce to the markets. Some parts of the County are not linked by road, hence difficulty of connection. Besides affecting agricultural production, the poor roadnet work, post-harvest losses to farmers produce, and insecurity discourage investment. This calls for increased investment in roads and communication network.

### **Inadequate agricultural support services (research and extension, storage, and marketing)**

Agricultural production for commercial and supply of raw materials for industrialization requires specialized research, extension services for application of improved techniques, facilities for storage and ready outlets for the products. This provides incentives for the producers to enhance production, thereby generating more income and creating more employment either directly or indirectly. These services are inadequate leading to only a small part of crop production potential being realized. For instance, out of the total 196,900 Ha of arable land only a third of it is utilized. This calls for investment of in higher learning institutions, research development and enhancing ICT in information dissemination.

### **Inadequate input support (seeds, tools and equipment)**

Input requirements in the production of crops range from affordable high-quality seeds, appropriate fertilizer, tools, and machinery and farm chemicals. Besides the above regular supply of water is required and farm labour for better output. Policies to streamline input support to the crop farming subsector is essential for transformation of agriculture in the County.

### **Untapped irrigation potential**

Crop production is rain-fed and seasonal. In the County, less than 100 ha of irrigation potential have been developed out of 3,000 ha existing irrigation potential. Success in irrigated farming is limited to Lamu West where individual farmers practice irrigation around swamps, water pans and shallow wells for horticultural crop production despite existence of river tana. The irrigation potential is based on surface and underground water including water harvesting and storage but remain unexploited.

### **Inadequate market infrastructure**

The County has two physical markets for farm produce: one at Amu and the other one at Mpeketoni and are administered by the County Government. Other areas of Witu, Hindi, Kiunga and Faza are concentrated with vegetable kiosks situated in the town centres and along the major roads. The kiosks mainly sell vegetables, fruits and cereals sourced locally from local farmers. Inadequacy in storage and processing facilities in the County has continued to constrain marketability of particularly perishable goods such as fruits and vegetables. As a result, farmers are left at the mercy of exploitative middlemen who buy farmers' produce at very low farm gate prices thus impoverishing them.

### **Lack of value chain approach to analysis and improvement of the crop farming sector**

Crop production in the County is affected by inadequate policies, standards, laws and regulations, pre-production, production, harvesting and storage, transportation, manufacturing and processing, marketing and distribution. Consistent high production from this subsector is affected by lack of value chain approach to Planning for agriculture linking it to inputs, production, processing and marketing. This brings about spatial linkage between production and urban centres for value addition besides exploiting backward and forward linkage. Agriculture is characterized by scarcity of value addition leading to excess capacity.

#### **c) Policies**

- Improvement of the road network and connectivity of the farming spaces to facilitate movement of labour, inputs and output
- Establishment of crop value chains to enhance production, productivity, and value addition to diversify the economy
- Strengthen the spatial linkage agricultural productive scapes and commercial nodes for value addition and marketing
- Protection of crop farming areas from grazing zones to avoid pastoralist- farmer conflict

- Improvement of agricultural support services (research and extension, storage and marketing of produce) through public-private partnerships
- Liaison with the private sector to facilitate improved quality inputs supply to farmers (seeds, fertilizer, and tools and equipment)
- Promotion of irrigation farming to grow high value crops throughout
- Establishment of marketing policy and regulation
- Apply value chain to link all the activities from input supply to production, processing and marketing so as to diversify opportunities
- Diversify opportunities and increase incomes through value addition
- Improve production of agricultural produce by using better techniques of farming to provide the required raw material for agro-based industries
- County to promote mechanization of agriculture through purchase and availing of farm machinery

#### **d) Actions**

- Construction of feeder roads to farming areas
- Presentation of the road network improvement programme to either Kenya Rural Roads Authority or Kenya Highways Authority for their action (Specific roads in farming areas)
- Clear zoning of land for various activities to resolve conflicts
- Setting aside of land for research station and demonstration purposes to the farmers of new seeds and modern farming practices
- Establishment of irrigation infrastructure to grow high value crops
- Training and employment of extension workers
- Breaking into various activities the process of each crop production from input supply to production, harvesting, to marketing for improvement (Value chain mapping)
- Strengthening of public- private partnership
- Mobilization of the private sector in agriculture investment and also agribusiness

- Planning for industrial zones in selected urban areas for establishment of agro-based industries

### **FISHING**

#### **a) Objective**

Improve productivity and production of fish both fresh and marine for economic enhancement and value addition

#### **b) Issues**

#### **Expansive fishing area of the sea and availability of a variety of fish species**

Sources of fish in the County are from marine waters, fresh water and to a small extent aquaculture. There is expansive fishing area of the sea to the extent of the exclusive economic zone of 200 nautical miles. This fishing area has a variety of fish and in large quantities like lobsters, crabs, octopus, sea cucumbers, and turtles. Lamu has some of the unique/ rare fish species along the coast of Kenya. However, all these marine and fresh sources are underutilized, leading to less output, low revenue and low rate of employment. This is a livelihood for over 5,000 fishermen.

#### **Low volume of fish harvested in the County compared to available resource**

Quantity of fish harvested in the County estimated at 2500 metric tonnes worth ksh 380 million in 2015 and from fish landing sites from County. However, inland fish sources do not contribute much due to low adoption of fish farming. Fishing activity in the County is limited to the shallow waters due to lack of modern fishing equipment.

#### **Inadequate fish cold storage**

There is inadequate fish cold storage for the fishermen at all available 22 fish landing zones, leading to post-harvest losses and low generation of income.

#### **Low value addition to fish harvested**

There is inadequate comprehensive Planning in pre-fishing stage, fishing, storage, processing, marketing and distribution value chain.

This has denied the County employment opportunities and revenue generation.

#### **Conflict with LAPSET infrastructure projects**

Implementation of LAPSET infrastructure project and resort City has the potential to enhance demand for fish and its products. However, the LAPSET will bring about disruption to current livelihoods, degradation of environment especially conservation areas, fish landing sites and transport on waters among the islands. Clearance of mangroves and taking of fish landing and fishing ground by the port infrastructure will affect the current livelihoods based on fishing and fish breeding areas.

#### **Unprotected fish landing sites**

The County has 32 recognised fish landing sites out of which 22 are registered. There is need for recognition and securing of all the fish landing sites.

#### **Illegal foreign fishing vessels encroaching territorial waters**

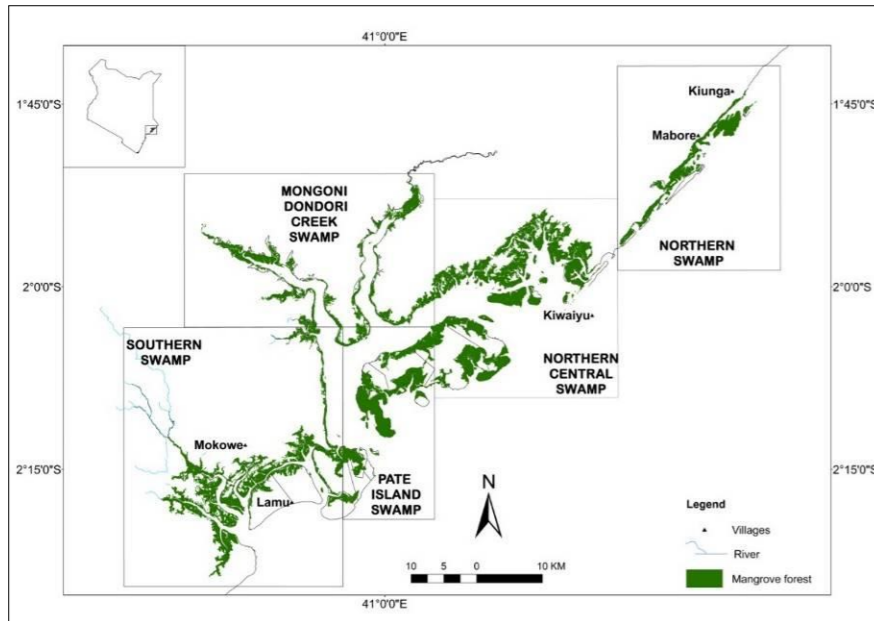
Due to lack of effective monitoring and surveillance of the exclusive economic zone along the Kenyan, there has been illegal fishing from the Kenyan waters by other Countries contrary to international law. International Companies do indiscriminate fishing and exhaustion of certain fish species. It is an opportunity area for the County of Lamu to harness the economic potential of the blue pearl.

#### **Threats to fish breeding sites due to destruction of mangrove forests and corals**

The County of Lamu boasts of the largest reserve in the world. Mangrove and corals provide sufficient fish breeding ground for some fish species. Mangrove sites constitute an important fish breeding area and contribute to protection of the inland and islands against the sea, as well as reducing carbon emissions. Logging and clearing of mangrove for LAPSET and Coal Plant is a threat to fish multiplication and mangrove survival in the County.

The ring of mangrove forests in the County below:





### c) Policies

- Modernize fishing equipment to enable deep sea fishing
- Incorporation of the defined ocean area into the land space of Lamu and the Country as recognized internationally
- Improve on fish marketing by provision of cold storage facilities
- County in partnership with stakeholders to promote marine research
- Mainstream fishing activities in LAPSET
- Provide incentives for local community to undertake fish farming in the mainland
- Improve and maintain all the fish landing sites
- In partnership with the Central Government, appropriate measures be instituted to protect the territorial waters of the Country
- Zone and protect the mangrove forests from destruction
- Diversify opportunities for improving incomes and employment through value addition of fish resources
- Capacity building of the local people on how on modern fishing equipment
- Strengthen MCS framework for sustainable exploitation of fisheries resources

### d) Actions

- Purchase of initial modern fishing equipment by the County Government
- Construction of fish cold storage facilities
- Establish fish processing facilities with partners
- Establish a fisheries research and training institutions with partners
- Prepare regulations to guide the fishing industry
- County Government in partnership with central Government to provide land for establishment of more maritime police station to safeguard the exclusive economic zone (site)
- Train and employ maritime police
- Delineate, survey and protect the mangroves as a fish breeding source
- The surveyed land to be made public land
- Rehabilitate the fishing landing sites

### LIVESTOCK PRODUCTION, HEALTH & RANGE MANAGEMENT

#### a) Objective

To improve livestock production, management and value addition for economic development

#### b) Issues

##### Unprotected expansive land for grazing

The ranches provide livestock grazing areas for both local and migrant pastoral communities from neighboring Tana River and Garissa Counties especially during the dry season between June and October. These ranches are Pandanguo at 60,000Ha; Witu Nyogoro at 32,000Ha; Amu at 26,000Ha; Witu Cooperative at 9,600Ha and Nairobi at 8,800Ha. Part of Nairobi ranch is on the Tana River side within the delta and its total size is 23,000Ha. The vast land available attracts illegal grazing and during the period of June to October approximately 111,160 cattle from neighbouring counties graze within the ranches. These grazing areas have traditional livestock routes that link them and hence require protection.

### Accessibility to water sources and pasture in the Tana River delta

Ranches within Lamu as pointed above are within the punctured scapes which contain swamps, seasonal rivers, local lakes, and Tana River delta water and pasture that is crucial for livestock. Water and pasture along the livestock routes in the ranches are important attraction to pastoralist communities in Lamu. The seasonal increase in the number of cattle grazing in the ranches and wetlands points deplete pastures and water which is a potential for pastoralist-farmer conflict.

### Encoachment of water catchment areas and apiary sites that support livestock livelihood

Human settlement and development have encroached wetland areas which are watering points for livestock and bee keeping. This reduces water accessibility for livestock watering leading to community conflicts and also reduces production and income.

### LAPSSET infrastructure development and livestock subsector

LAPSSET infrastructure project and resort City comprises of highway, standard gauge railway, Lamu port, airport, oil pipe line and a resort City. The above infrastructure project will affect the livestock and wildlife movement routes interfering with community livelihoods and conservation. The project will attract illegal human settlements eating up into food production thereby compromising on food security for the County.

### Agro-pastoralists conflict due to lack of designated grazing zones

A conflict among farmers, pastoralists and wildlife constrains coexistence relations. This has a risen as a result of expansion of human settlements and crop farming activities into livestock grazing areas. Lack of designated zones for farmers, livestock and wildlife besides encroachment by settlements has opened up avenues for conflicts which need to be considered in the spatial Planning process. Conflicts are evident on border zones of the land uses for activities mentioned.

### **Inadequate livestock Health infrastructure (dips and vaccination crushes, grazing and, water facilities)**

Inadequate Livestock health infrastructure comprising cattle dips, vaccination crushes, abattoir, tanneries and, auction yards, holding grounds) increase the control of livestock diseases.

Provision of the above infrastructure in designated livestock zones reduces conflicts, animal diseases and ensures enhanced production of high value animals (beef, cattle sheep, goats, donkeys, dairy cattle and goats and others which are raised intensively at home.

*A water point in Bahari Ward*



*Source: CURP, 2016*

Provision of the above infrastructure in designated livestock zones reduces conflicts, animal diseases and ensures enhanced production of high value animals (beef, cattle sheep, goats, donkeys, dairy cattle and goats and others which are raised intensively at home. A number of livestock producing areas are lacking the infrastructure mentioned such as Hongwe, Baharini, Mapenya, Uziwa, Hindi, Faza and Kizingitini.

### **Lack of value chain analysis of the livestock sector for enhanced performance**

Livestock subsector just like crop farming and fish production lacks a comprehensive Planning approach based on value chain for enhanced performance and opening up of more opportunities. The value chain approach entails consideration of policies, laws, regulations, standards, inputs, roads, markets, slaughter houses, actual livestock production, processing, marketing and distribution. This has led to low investment and business in livestock sub-sector.

#### **Policies**

- Zoning and protecting livestock grazing areas and stock routes (mapping)
- Preparation of land use policy to cater for the needs of crop farmers, livestock keepers County and national development needs and wildlife through appropriate land use policies
- Improvement of the livestock infrastructure (research and extension, livestock export zones, dips, vaccination crush, crush pens, abattoir, water points, holding grounds and auction yards.
- Improvement of the marketing of livestock and its products (auction yards, livestock markets) where livestock is located
- Diversify opportunities of income and employment through value addition
- Establish fodder conservation areas and strategic fodder reserves

#### **c) Actions**

- Map out demarcate the livestock grazing areas and routes
- Secure the demarcated livestock routes as public land
- Clear zoning of land uses for farmers, livestock, and wildlife with respective land use regulations
- Identify sites for livestock infrastructure and develop the infrastructure (research and extension, markets, cattle dips, loading ramps and holding grounds)
- Rehabilitate mokowe livestock dock yard
- Improve current livestock market area at Nagele
- Identify appropriate site for an abattoir and construct value addition industries (meat, and leather processing)

- Create a livestock disease free zones for dairy and beef export purposes
- Identify a land among the revoked ranches and develop it for a pilot project fodder on production
- Train and employ veterinary officers from diploma to degree level

#### **TRADE & INVESTMENT**

##### **a) Objective**

To upscale current trade and commercial activities through promotion of trade and investment for enhanced economy of Lamu

Lamu Old Town below:



*Source: CURP, 2016*

##### **b) Issues**

#### **Available commercial centres where trade activities take place in a specialized manner**

Existing trading commercial nodes and emerging ones provide space for the location of diverse wholesale and retail activities. Commercial nodes within the County appear to have specialized in activities they perform best for instance Hindi and Mpeketoni for agricultural produce and farming, Lamu town for heritage, cultural festivals and tourism, boat making and repair in other centres,

besides small scale industrial activities of carpentry, metal welding and fabrication.

The commercial nodes need proper land use Planning and provision of infrastructure facilities and services (roads, parking, public transport, water and sanitation, financial services, security, energy and street lights) to enhance the commerce and trade function. This will open up the County for investors to take advantage of the available investment opportunities in Lamu.

#### **Limited investor knowledge of opportunities in Lamu**

Available diverse investment opportunities in Lamu are yet to be exploited by investors through marketing and County annual investment forums. There is need therefore to rethink the promotion strategy besides working closely with the communities, national Government and other partners to guarantee security and safety to investors in an era of terrorism attacks and operations. Promotion activities will be complemented by investments in infrastructure facilities and services to move the County from a basic level of existence to a secondary level of achievement motivation.

#### **LAPSSET infrastructure development project presents an opportunity to increase the trade capacity of Lamu**

Transport and Resort City components in the national development project of LAPSSET are vital for trade, commerce and industrial future of the County. With provision of adequate security there will be increment for investments and export of Lamu products to other destinations. Lamu County stands to gain more through export trade and enhanced use of its resources. To avoid polarization along the LAPSSET infrastructure corridor, there is need to invest in other road network of the County urgently and provide the missing links, besides advance land use Planning of commercial nodes and economic corridors. Local population should be prepared to take advantage of the national development projects in various fields through skills enhancement.

#### **Low level of operation of current trade and commercial activities**

Commercial nodes in the County suffer from low level of economic operation due to inadequate Planning, poor infrastructure and

services. Trade and commercial activities have been affected by insecurity and transport challenges particularly access to the County by road. This reduces the attractiveness of the County for investment hence low volume of trade. A periodic County economic survey is required to take stock of public sector economic activities and private sector, levels of operation, and constraints to business operation so as to evolve a package for enhancing business and industrial activities in the County.

#### **c) Policies**

- Development of legal framework that create enabling environment for trade and commerce
- Improvement of the commercial nodes for enhanced trade and commerce along lines of specialization through Planning and provision of necessary services
- promotion of local and external investors by harnessing the available opportunities in the country
- Improvement of the capacity of the local people to participate in trade and commerce and take advantage of the opportunities brought about by the LAPSSET infrastructure and resort city project
- Periodic carrying out of business census and surveys to gauge the level of economic operation and constraints to economic performance
- Strengthening of partnerships between locals and foreigners to tap into investments opportunities of the County

#### **d) Actions**

- Identification of commercial nodes in the County, their specialization and determine levels of services (Witu, Mpeketoni, Kibaoni, Mokowe, Hindi, Faza, Kiunga, Kizingitini, Majengo, Amu)
- Planning of the commercial nodes and provision of services to create an enabling trade and investment environment
- Develop an inventory of trade and investment opportunities in the County
- Develop an opportunity investment package for marketing the County to both local and international investors

- Organize trade fares and investors fora
- Enforce weight and measures regulation
- Provide incentives to potential investors
- Establish funds for entrepreneur for empowerment
- Train local people and provide them with incentives to participate in trade and investment (Skills upgrading, and imparting of new skills)-Kenya Institute of Management, Cooperative College,
- Carry out a business survey for purposes of enhancing business performance
- Provide a one stop shop centre for trade and investment information, and processes investment in the County

### **RESOURCE MOBILIZATION AND UTILIZATION**

#### **a) Objective**

To diversify revenue mobilization to provide effective services to the public and also invests in capital for prosperity of Lamu County.

#### **b) Issues**

#### **Available local infrastructure for collection of revenue**

The County has available infrastructure of revenue mobilization inherited from the previous system of central and local Governments. This provides the sources of revenue and means of mobilization of the revenue at the County and incooperate modification of more sources.

#### **Economic infrastructure development gap arising from past policies of a centralized Government system and a weakened semi-autonomous local Government**

County Government of Lamu faces a difficult task to create a favourable environment to attract investments to boost and diversify its economic base beyond primary production. The above has a risen due to the past policies of giving little attention to infrastructure development in the County especially roads, water and sanitation, and energy by the centralized national Government. The County is further located very far from the traditional main economic development corridor of the Uganda road and railway now being improved to standard gauge. Capacity of local Government is also weak to respond to challenges of Planning and

investing in infrastructure. This has isolated the County for a long time making it unable to attract investments and has been worsened by current state of insecurity from terrorism activities. The County has a weak economic base dominated by the primary sector impacting on revenue collection

**Inadequate provision of resources from the national Government allocated by the revenue commission**

Revenue allocation by the central Government is largely on indicators that continuously leave the County receiving low allocations. Recent spree of investment in road infrastructure in the County and Planning of towns have made the County further marginalising it. A County faced with past neglect of investments in road network, water and sanitation, and energy and now faced with infrastructure requires more national attention in resource allocation to allow for consolidation of development efforts and cohesion. Implication is the collection of revenue from limited sources.

**Inadequate use of available funding opportunities**

Available funding sources are in form of partnerships and depend on a clear inclusive framework of development provided by County Governments for various sectors. Clarity of development projects and outcomes and with appropriate policies for crafting partnership can go a long way in providing opportunities for different funding source apart from central Government allocation. This can benefit projects in health, education, water and sanitation.

**Disproportionate resource allocation between functions of recurrent and development**

Allocation of resources to categories of capital development and recurrent is in favour of the latter at the expense of the former. This affects the creation of the physical capital base that is essential for social economic progress. This state of affairs has a risen due to lack of appropriate policies of transition from a centralized system of governance to a devolved system. To the past central and local Government employees has been added County Government employees expanding the number of employees, besides allocation

of more functions to County Governments that are not marched by adequate resources.

**Inadequate use of the cooperatives as a vehicle of resource mobilization and investment**

Employees and transport saccos have been very successful in mobilization of resources for investments. The same success story can be translated into production sector and help create local value addition enterprises to diversify the economic base of the County.

**c) Policies**

- Diversify the local economy to expand the revenue base of the County
- Enhancement of local revenue collection through appropriate measures and rationalization
- Institute frameworks of private public partnerships and also public/ public partnerships
- Formulate policy issues and social economic characteristics for presentation to Revenue Allocation Commission to get more allocation
- Encourage and improve the cooperative sector as a mechanism of mobilization of resources for investment
- Explore mechanisms of allocation of more funds to capital development projects

**d) Actions**

- Inventory and rationalization of revenue sources of the County (rates, user charges, marine transport, licenses, motorcycle transport, Planning permission, royalties, benefit sharing etc)-**GIS inventory**
- Formulate policy and regulations to guide partnerships in areas of investments, infrastructure projects and implementation of Plans
- Carry out local social economic survey and past gaps of lack of good network of roads to lobby the CRA for more allocations

- Sensitization of the people on the benefits of cooperative movement in mobilization of resources
- Employment of cooperative officers to implement the objectives of the County Government
- Allocate more funds to capital development projects

**COMMUNITY DEVELOPMENT**

Lamu County, being of international repute, is cosmopolitan and made of population composed of indigenous communities, settler migrant communities from the rest of the Kenya as well foreign settlers. The major communities in Lamu County are mostly the Bajuni, kikuyu, Giriama, and Pokomo. The Bajuni, a mix of Arab and Bantu ancestry, is the predominant community in Lamu. The minority communities are the Aweer, Dahalo, and Orma. The indigenous Lamu communities include the Bajuni mostly found in Mkomani, Faza, Shella and Kiunga wards, Aweer living in Basuba, Hindi and Kiunga wards, Dahalo, Orma, and Wardei-Somali who are a marginalized community in Kenya experiencing land insecurity, having very low education levels and poor access to other basic services and facilities.

Immigrant settler communities from within Kenya are majorly the Agikuyu and Pokomo communities who practice agriculture and trade in Bahari, Hongwe, Witu and Mkunumbi wards; the Luo community who practice inland fishing in Witu Ward; and the Somali community who are settling pastoralists in Witu and Mkunumbi wards. Pristine Lamu has attracted renowned foreigners who have invested and settled in the County. Arabs, European and Africans from other nations have been attracted by the heritage and lifestyle in Lamu and have now settled in the County.

A majority of the communities in Lamu County still depend on nature-based livelihoods such as: fishing, mangrove cutting, hunting and gathering, pastoralism, farming, eco-tourism operators, and many others. Therefore, it would be sustainable to incorporate communities in the development agenda of Lamu County based on their historical and livelihood character.

## Objective

- Build capacity for the local community in natural resource rights access, utilization and benefit
- Ensuring a just and cohesive society enjoying equitable social development (Kenya's Vision 2030)
- Optimizing community resourcefulness to improve Lamu people's Welfare
- Ensure Community equalization through integration in governance and development

## Issues

### Community Prowess

The various communities residing and drawing their livelihoods within Lamu have distinct dexterities that can be parlayed to enhance development of the County. Influenced by their strategic and historical location, deep culture, rich history, welcoming nature and fishing and trading heritage the Bajuni Community appeals as the community to enhance tourism, trade, marine biodiversity conservation and fishing activities at the Lamu Archipelago. The Agikuyu and Pokomo would be best to enhance agro-production and commerce as they have developed these enterprises since settling in Lamu. The Luo would be promoted to enhance inland freshwater fishing as they have endeavoured on this front in Moa. Due to their location within biodiversity protection areas, biodiversity conservation heritage, dependency on forest livelihood and community vulnerability the Aweer and Dahalo communities appeal as the communities to enhance tourism and biodiversity conservation within Lamu County mainland. The Orma are the ideal community to promote livestock keeping, ranching and wildlife conservation within Lamu County.

### Land Dispossession

Hunter-gatherers depend on the availability of forestlands where their freedom of movement and their access to the natural resources on which their subsistence relies on are not limited. However, the indigenous hunter-gatherers have experienced a continuing process of land dispossession and mobility restriction, putting their traditional livelihood at risk. Their ancestral forests were turned into protected areas, while they themselves were

gradually deprived of their previous user rights and eventually forcibly evicted. The Dahalo and Aweer, who live deep within the Witu and Boni forests respectively, are faced with a similar fate as a consequence of the gazettement of their forests by the Government. Government restrictions on cutting down of mangrove trees, which is a significant income earner for Bajuni community members who traditionally have been harvesting mangroves.

### Mobility Restriction

Pastoralist communities depend on the availability of large tracts of rangelands where their freedom of movement as they marshal their livestock to access good pasture and water are not obstructed. The Lamu wetlands used for livestock during drought seasons are shrinking and further restricting livestock movement within the County. The Boni-Lungi forest ecosystems has over the years been shrinking with consequently less wildlife limiting the nomadic lifestyle of the Aweer community. Moreover, hunting in the Lamu forests became illegal and controlled by the Kenyan Wildlife Services (KWS) making hunting and gathering an obsolete livelihood for the Aweer and Dahalo communities. They are trying to adopt other livelihoods such as farming and livestock keeping without much success so far. The Aweer and Dahalo communities may become extinct if they will not be made aware of their rights and given special attention and protection.

### Community Insensitive National Development Projects

Infrastructural developments also affect the development of communities in Lamu County. The proposed, Lamu Port and Lamu Southern Sudan Ethiopia Transport Corridor (LAPSSET), national project will strongly affect the livelihoods of the indigenous Bajuni and Aweer Communities living on the coast as well as the indigenous Orma pastoralists using rangelands along the corridor as it is expected to take up large tracts of land. In the Tana Delta area, large irrigation and Plantation projects, among others, are threatening the livelihoods of the Dahalo, Luo and Pokomo and the environment they base their livelihood in. Despite the community's lacking awareness and failing to be consulted most proposed development projects are ongoing without adequate consideration

of the fragility of the local ecosystem on which the Lamu communities are highly dependent on.

### Climate and Environmental Changes

Climate change is a reality especially for Lamu communities who draw their livelihoods from natural environment. The pastoral areas of Tana River and Garissa Counties dry lands have become more and more unreliable for livestock keeping due to the slow but surely depletion of its rangelands caused by erratic rainfalls patterns and overgrazing livestock population. The situation is worsened by high evaporation rates as global temperatures rise. The 2009 and 2010 droughts are considered the worst in the last 30 years affected the communities in Lamu especially the Orma who lost most of their livestock.

The livestock populations of Tana River and Ijara have been depending on Tana Delta and Lamu wet rangelands respectively during the dry season and this dependency has been increasing over the time. As by now, for example, the herds from Ijara are spending more time in Lamu County, counting for 8 months of the year, than in Ijara with 4 months of the year spent there only. As the arid lands of Tana River and Ijara can hardly support its livestock population and the traditional dry season grazing areas of Tana Delta and Lamu are shrinking over time, the pressure felt in Tana River and Ijara by its own livestock and livestock from the North of Garissa County is being transferred as a ripple effect down southwards to Lamu and the Tana Delta. This has resulted into a drastic reduction of nomadic movements in terms of geographical scope and led into pastoralists versus farmers' conflicts.

Massive siltation of the Tana River, has made it change its course and reduced its water level, threatening to the small indigenous communities whose production systems and livelihoods are linked to the dynamics and functioning of the river-wetlands ecosystem. This also affects the Orma pastoralists, who graze their cattle in the areas around the floodplains. Agricultural communities in Lamu County are also affected as traditional knowledge regarding Planting and flooding seasons is now inadequate due to the unpredictability of local weather conditions.

### **Inter Community Conflicts**

There have been recurrent conflicts between pastoralist and farming communities in Lamu County as mutual accusations of trespass often end in hostilities, with casualties on both sides. These conflicts are a result of complex combination of causes including land occupation, increasingly severe and more frequent droughts leading to competition over control and access to pasture and water, increasing levels of poverty, and the diminishing role of traditional governance systems. The consequences of these inter-ethnic armed conflicts are a loss of human lives, widespread destruction of valuable property, increased hatred between communities, and increased economic hardship as a result of a loss of livelihoods, leading to high levels of starvation and malnutrition among the displaced groups and unprecedented dependency on relief food. The situation is precarious, intercommunity conflict in Lamu County is still under control as mechanisms are in place to prevent and solve the conflicts. In this regard, young herders are being instructed by elders not to bring animals near the farms; when an incident happens, compensation follows; in Lamu where several communities live together, elders from different communities happen to meet at their own initiative as a committee to discuss the problems in the area.

The conflict issue is not limited to pastoralists versus farmers in Lamu County as Wildlife and farmers' conflict is another recurrent issue in Tana Delta and Lamu and is caused increasing population, competition for land and land-based resources and encroachment into fragile ecosystems. Lack of a general framework to guide development and resource utilization of the Tana Delta and Lamu wetlands continues to undermine natural resource conservation efforts and community interests and sustains probabilities of community conflicts.

### **Insecurity**

Insecurity has been a major issue to community development in Lamu County for many years as a result of Shifta bandits and terror groups from the neighboring war-torn Somalia. The insecurity is affecting community livelihoods and trade. Recent attack against settler communities linked to Al-Shabab terror group has in

affected agro-production and commerce within the County. The terror attacks led to killings of over hundred people mainly from the settler communities, uprooting of thousands of people from their homes while businesses, public transport and farming were ground to a halt. The terror incidences in Lamu caused the deployment of Kenya Defence Forces to Somalia and along the Kenya-Somalia borders and Ocean. It also necessitated a joint security operation being carried out by the Kenya Defence Forces (KDF), the National Police Service, the National Intelligence Service (NIS) and other State security agencies to restore peace and security within Lamu County. The security campaign was concentrated in Boni Forest, which traverses the Kenya-Somalia border but extended to Bodhei, Pandanguo, Witu, Pangani and surrounding areas.

Insecurity in Lamu has led to foreign countries issuing travel advisories against tourist travel to the County. This resulted in drastically low tourist turnout in the County whose economy was largely dependent on tourism and caused close down of hotels and restaurants resulting in job losses, loss of business for local communities relying on tourism and poor market for the agricultural and fishing communities.

Security operations undertaken in Lamu has affected the livelihood of the hunting & gathering communities as their subsistence is considered highly suspicious and activity movements of persons are also limited as they can be mistaken for parties involved in the conflict. This has resulted in Aweer and Dahalo communities being forced out of protected forest ecosystems and limiting their access to their livelihoods. The insecurity situation also affects the Pastoralist communities as the existence of many herders in most parts of Lamu, particularly Pangani, Mkunumbi and Witu areas seemed to have contributed to insecurity in the County. The National Government ordered pastoralists from neighbouring counties of Tana River and Garissa to return to their homes to pave way for the security operation in Pangani, Mkunumbi and Witu.

Insecurity in Somalia has also affected the fishermen communities of Lamu, due to fishing restrictions as a result of insecurity in Somali

waters. Kenyan traders are forced to buy fish in Kiunga from Somali fishermen based in Ras kamboni as Kenyan fishermen are not adequately fishing.

### **Access to Justice**

Indigenous communities in Lamu have a challenging access to justice especially in bringing their grievances and claims to courts of law. There is inadequate state administration, including courts, in their areas and are forced to travel long distances to access justice systems. Furthermore, the cost of legal proceedings is extremely high by the income standards of indigenous peoples and entails great sacrifices from the indigenous plaintiffs even on instances they get pro bono lawyer services.

### **Poverty**

Lamu, is among five counties that lead in the poverty index in Kenya, with its community members experiencing problems of low income, expenditure and immense inequality. These counties are the poorest in terms of general poverty, income disparity, access to education, sanitation, water, lighting and housing. The ratio of expenditure by the wealthiest to the poorest is 20 to 1 in Lamu County meaning that those in the top ten percentage have 20 times as much expenditure as those in the bottom ten percentage. This is compared to an average for Kenya of nine to one. This bad situation is exacerbated as livelihoods are not promoted to boost the economic welfare of communities. In the Tana Delta, for example, small-scale farming and fishing no longer provide sufficient food or income to people and the absolute poverty rate (76.9%) is significantly higher than the national average (46%).

### **Provision of Basic Services**

There is insufficient and disproportionate provision of civic services and utilities in Lamu with Bahari, Hongwe, Mkomani and Witu wards seemingly well provided compared to Faza, Kiunga and Basuba wards. The settler agricultural community are seen to be enjoying better facilities compared to local indigenous communities who lack adequate facilities to enhance their livelihoods such as motorable roads, public transport, adequate fishing gear, electricity supply, piped water, and health facilities.

Poor service provision among indigenous Lamu communities may be brought about by their dispersed Settlement pattern of clustered villages which does not encourage effective service provision as it becomes very costly.

#### **Poor Administrative and Political Representation**

The Indigenous hunting and gathering communities have complained about their invisibility and lack of recognition at the administrative and political level and indeed there is no meaningful participation of these indigenous communities in civil service and public office. The indigenous communities also exhibit high illiteracy levels mainly due to Community and cultural beliefs and this has led to poor governance of the indigenous communities. This, together with their limited participation in politics at both local and national level, translates into a weak voice in public decision-making, including inadequate consideration in development projects and lack of access to important resources such as the substantial Constituency Development Funds (CDFs), administered by local MPs. There is need for affirmative action to ensure indigenous hunting and gathering communities' peoples are provided with opportunities for greater participation in decision-making processes relevant to their situation. The NCIC audit of the Civil Service shows the prevalence of discrimination against indigenous peoples.

#### **Lack of Identity and Discrimination**

Indigenous communities in Lamu also suffer discrimination and marginalization because of their way of life, which is seen as primitive especially for the Hunter-gatherer and fishing communities as well as violent and lawless for the pastoralist communities. Members of these communities, continue to face difficulties in obtaining recognition and accessing citizenship rights and their inherent freedoms, particularly ID cards and still feel discriminated and increasingly harassed.

#### **The situation of indigenous women**

Most of the indigenous communities in Lamu are highly patriarchal and traditional and although women's status and role may vary according to age, most indigenous women enjoy few rights as many traditional customs discriminate directly against the girl child and

women in general. Indigenous women in these communities have many chores that are physically demanding despite often having many children and being responsible for obtaining food for all household members, while also working outside their homes. In most of these communities, the girl child is often denied the right to education, and thus illiteracy is prevalent among indigenous women. Most indigenous women have little access to healthcare and their mortality rate is high. Furthermore, Female Genital Mutilation (FGM), usually related to early marriages, remains widespread within the indigenous communities.

#### **Enabling legislation**

The Kenyan constitution and laws recognize community rights over areas they live and draw their livelihood. The Constitution in section 204, through the Equalisation Fund requires provision of basic services including water, roads, health facilities and electricity to marginalised areas to bring the quality of those services in those areas to the level generally enjoyed by the rest of Kenya. The Forest Act also recognizes forest communities 'rights to continue to use the forest produce customarily taken from the forest, as long as these products are not to be sold on.

The act recommends empowering local communities to take an active role in forest management by registering as Community Forest Associations (CFA) and developing a management Plan. Communities doing so may be granted a number of forest user rights relating to, for instance, the collection of medicinal herbs; harvesting of honey; harvesting of timber or fuel wood; grass harvesting and even grazing. The Environment and Land Court Act (2011) establishes a superior court that will hear and determine disputes relating to the environment and the use and occupation of land. The National Land Commission Act (February 2012) defines the functions and powers of the independent commission which will be tasked with registering land transfers, resolving disputes and ending gender discrimination. The Truth, Justice and Reconciliation Act (2008) that established the commission (TJRC) to probe human rights abuses since independence in 1963, and to assess the perceived economic marginalization of communities and make recommendations on how to address their marginalization.

#### **Policies**

- Ensure equitable sharing of national resources;
- Linking ecotourism and biodiversity conservation with community-based natural resource management (CBNRM) and ensuring a share of benefits;
- Allocate protected natural resource access rights to communities, and controlling utilization of forests, and sensitive terrestrial and marine ecosystems;
- Development of community co-management agreements with KWS and KFS as well as with private sector in utilization of protected natural resources;
- Establish monitoring programs on the impact of development initiatives on marine biodiversity and community livelihoods;
- Empower communities to take charge of their own development processes through capacity building and inclusion in County Government;
- Promote more involvement of the indigenous communities in Government at local, County and national levels;
- Nominate representative of the Aweer and Dahalo communities to the County Assembly of Lamu;
- Promote proper management of devolved funds and reduce the interference of community development projects by political leaders
- Promote community livelihood gained skills/traditional economic activities of the indigenous communities including fishing, boat making, biodiversity conservation, and agriculture
- Promote cultural change to ensure women empowerment among indigenous communities;
- Promote development of designated compact urban centres allowing and protecting traditional community lifestyle of off-homestead farming in the hinterland;
- Promote and safeguard constitutional and legal rights of indigenous communities in Lamu

#### **Actions**

- Require conducting of Environmental and Social Impact Assessment (ESIA) on development projects affecting community development requiring effective dissemination of

information to locals on project intentions, issues and their engagement;

- Require adequate capacity building of indigenous community members ensuring they are beneficiaries by getting proper training to be employed to manage approved development project before their implementation;
  - Undertake programmes to educate locals and increasing community awareness on the significance of Lamu being a UNESCO World Heritage Site indicating specific areas of potential investment for the local communities;
  - Appoint representatives of the Aweer and Dahalo communities to the Lamu County Executive committee;
  - Develop high end five-star tourist hotel in Basuba, Mkomani, Shella and Kiunga wards engaging local communities;
  - Undertake Training in hospitality industry for the Bajuni, Aweer and Dahalo Community members and engage them in promoting and improve the Tourism industry in Lamu;
  - Undertake Training in ranching and wildlife conservation for the Orma, Aweer and Dahalo Community members and engage them in promoting biodiversity conservation in Lamu;
  - Undertake training in modern fishing and boat making techniques and provide adequate vessels, fishing gear, fish cold storage facilities and fishing zones and regulations for the Bajuni community and engage them in promoting efficient and profitable fishing and sailing in the Indian Ocean;
  - Develop strategies and programmes to ensure diversification of economic activities within Lamu archipelago;
  - Educate the Bajuni, Aweer and Dahalo of their indigenous communities' rights and set mechanisms for special protection of these rights;
  - Facilitate setting of Community Forest Association (CFA) among the Aweer, Bajuni and Dahalo communities to ensure they are granted forest user rights;
  - Source for adequate funds from the County and national Government, private sector and donors for all community development projects;
  - Require community co-management of the Boni, Lungi and Witu, Kipini-Nyangoro forests through appropriate incentives, including community tenure security;
- Prepare Integrated Urban Plans for Majengo, Bargoni, Witu, Faza, Kiunga, Mokowe, Pandaguo as urban centres and setting their urban limits allowing and protecting traditional community lifestyle of off-homestead farming in the hinterland;
  - Undertake community programmes on structured public participation the indigenous communities in public affairs effectually increasing citizen awareness on devolved system of Government;
  - Set up an Environment and Land Court in Mokowe and Witu

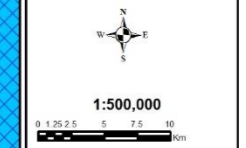


LIVELIHOOD DEVELOPMENT MODEL

LAMU COUNTY SPATIAL PLAN (2015-2025)

LEGEND

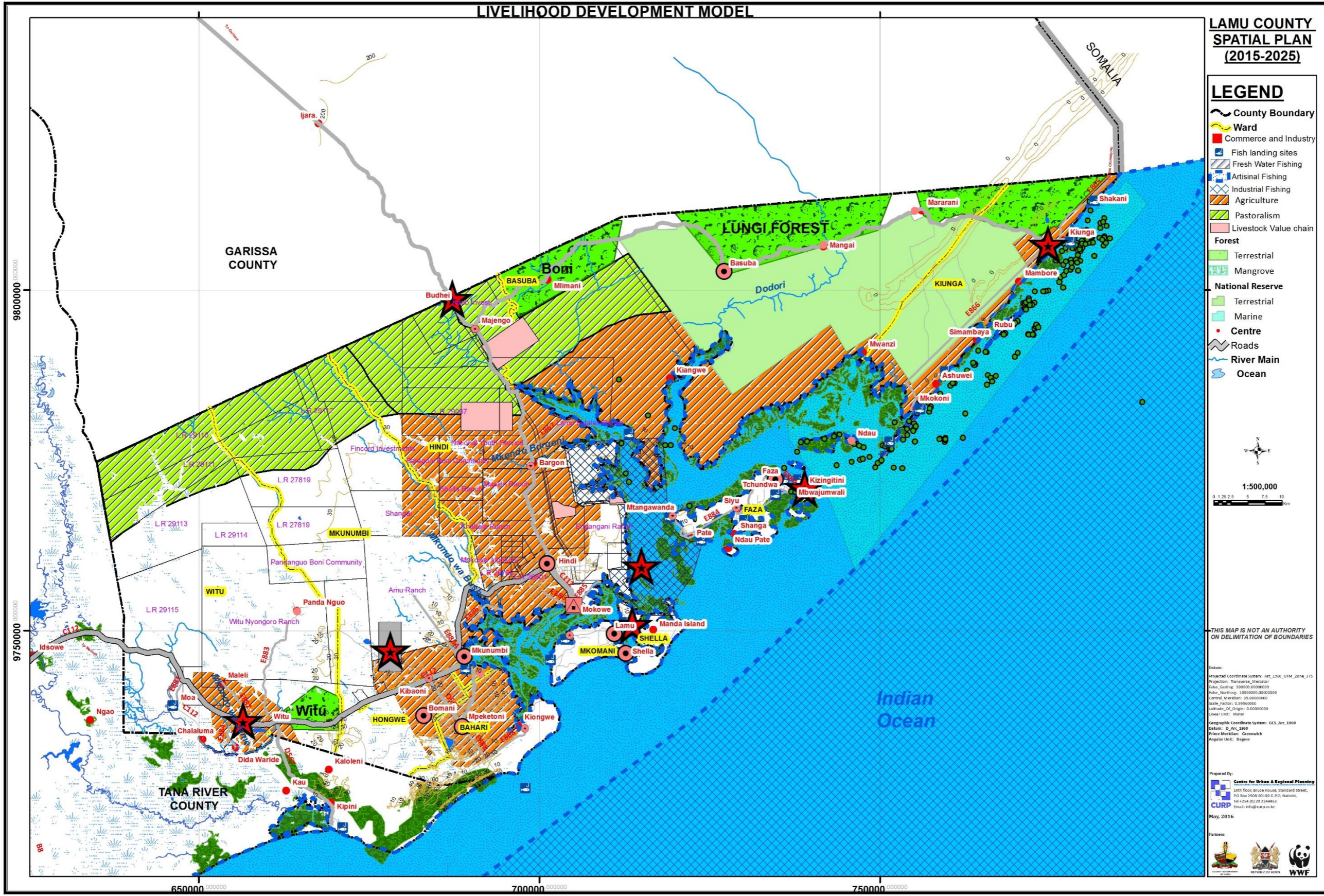
- County Boundary
- Ward
- Commerce and Industry
- Fish landing sites
- Fresh Water Fishing
- Artisanal Fishing
- Industrial Fishing
- Agriculture
- Pastoralism
- Livestock Value chain
- Forest**
- Terrestrial
- Mangrove
- National Reserve**
- Terrestrial
- Marine
- Centre
- Roads
- River Main
- Ocean



THIS MAP IS NOT AN AUTHORITY ON DELIMITATION OF BOUNDARIES

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 Projection: Transverse\_Mercator  
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 Prime\_Meridian: Greenwich  
 Angular Unit: Degree

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## INSTITUTIONS & GOVERNANCE

Effective and efficient governance relies on planning to provide direction, action areas and coordinated implementation of development for the benefit of all citizens. Planning likewise depends on good governance to provide the support and resources required crowned by responsive politics resonating with planned decisions for it to play its proper role. In the above active citizen involvement is mandatory for responsive planning and decision making.

### a) Objective

- To ensure effective governance of the County through coordinated and integrated roles of both public; and private institutions.
- Devolution of functions and services to the lowest units of the county based Co-production for effective and efficient delivery of services
- Establishment of stakeholder groups in the ward to represent the interest of the People
- Capacity building of community leaders for effective representation of the interests of the Community

### b) Issues

**Diverse Institutions:** Lamu County is one of the Counties in Kenya where very key institutions both in the public and private domain have expressed a lot of interest to be enjoined in governance and management of certain key resources in the County. Of importance, these institutions include;

- The Kenya Forest Service – Protection of Mangroves
- Kenya Maritime Authority
- Kenya Ports Authority
- Different Marine Ecosystem Specialists including the military
- International organizations such as the World-Wide Fund, among others.

All these institutions are concerned with different roles within the County in the management; and/or protection of certain key resources and pristine ecosystems that are very key to the economic growth of the County.

**Devolved Governance:** The onset of devolution has seen Counties make remarkable strides in development by establishing different devolved institutions at Ward Levels and below to manage the affairs of the County effectively; Lamu County has not been left behind on this front.

**Corruption:** Rampant corruption on Government officials in key Government dockets especially on matters related to land was reported as high in all wards within the County.

**Decentralization of Institutions:** Government institutions such as law courts; and Agricultural extension offices are decentralized and sparsely located within the County. There was an expressed need to locate various Government institutions in various Centres across the ward.


### c) Policies

- Promote integrative roles of different Government and private institutions within the County
- Quarterly sharing information on cross cutting roles; projects; or programs of different institutions in the County
- Promote Government supported projects; and programmes within the County to assist the residents in their different community economic engagements.
- Promotion of a public sensitization campaign against drug abuse in the County
- Central government of Kenya and that of Somalia to establish policy and laws relating to planning and management of resources and jurisdictions across national boundaries and ensure security
- Kenya government and those of nationals which come to violate Kenyan water space as recognized by international maritime laws and treaties to resolve such matters by enforcing the laws and treaties governing the blue economy

- Mutual respect, consultation and cooperation among all government agencies in carrying out their mandates within the County of Lamu emphasizing all aspects of coordination (horizontal, and vertical to the Community)
  - Formulation of inter-county pacts guided by inter government relations act to plan and implement development across counties
  - Institutionalize sector wide approach based on integrative frameworks for implementation of all projects to maximize on synergies for greater public value
  - Rationalisations of the County governance structure aimed at elevating the planning ministry above the others and enhance its capacity to plan, and coordinate implementation of projects
  - Tripartite collaboration with one vision among the county administration, county assembly and the planning function to enable the transformation of the County
  - To enhance the awareness to the county government about the primacy of planning and its contributions to rapid transformation of the County particularly leveraging more funding for implementation of the proposed projects
  - Institute a clear process and requirements of development applications and approvals to guide implementation of projects and plans in the County
  - Rationalisation of devolution to the lowest unites of the county government for effective and efficient delivery of services in collaboration with other actors
- ### d) Actions
- Set up Agricultural extension offices in Witu; Mpeketoni; Faza; and Hindi Towns with at least 10 staff per office
  - Initiate a Government funded public sensitization campaign against drug abuse all over the County to be spearheaded by selected youths selected from different wards
  - Set up an information sharing digital platform for institutions engaging in rather common roles to enhance efficiency in updating and circulation of the information
  - Set up a lower level Court in Witu Ward

## CHAPTER 4: THE PREFERRED INTEGRATED COUNTY SPATIAL PLAN MODEL AND LAND USE ZONING FRAMEWORK

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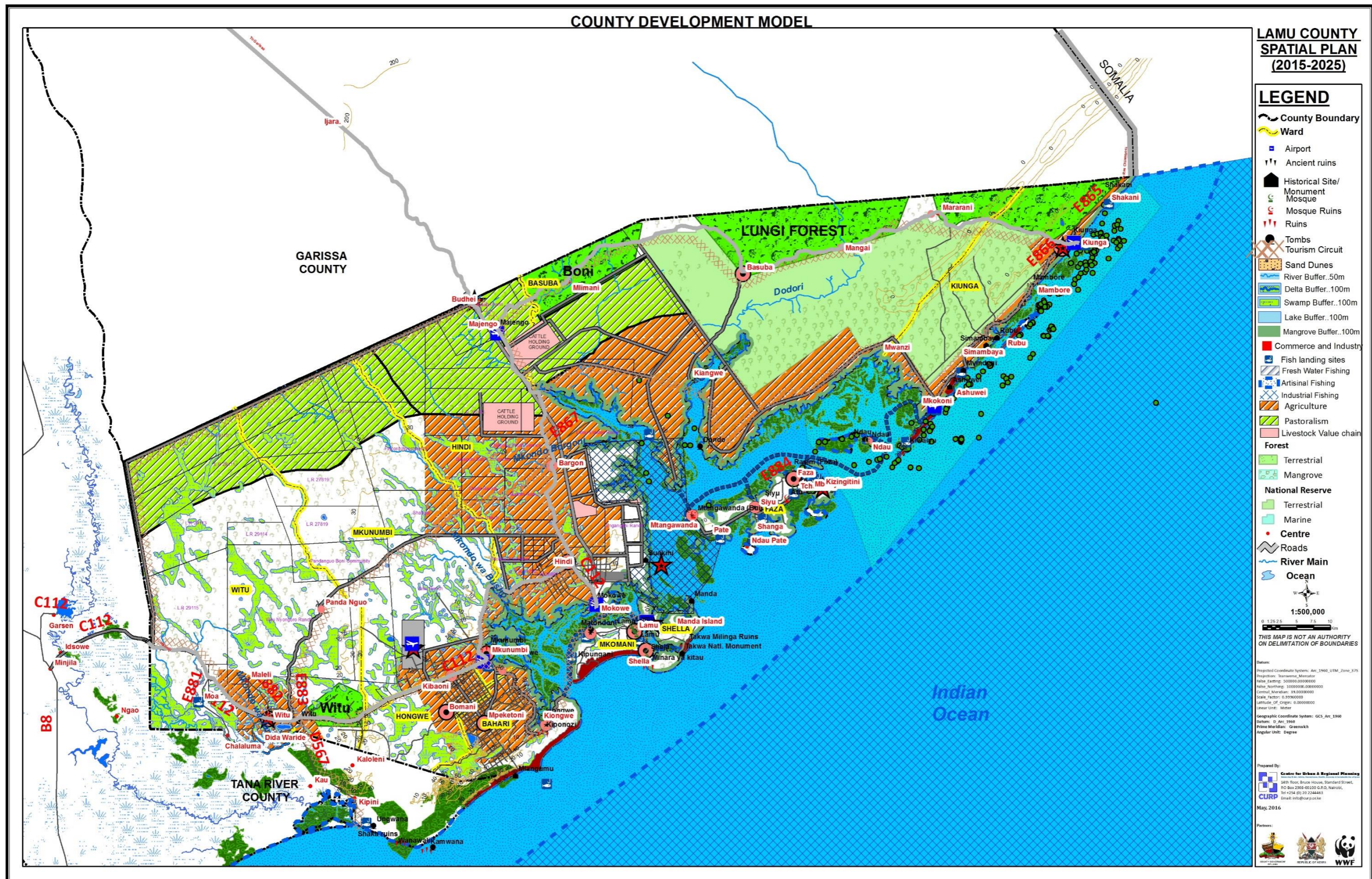


This chapter addresses the issues and challenges outlined in the previous chapters of this planning report. It presents an integrated Planning model that focuses on both the Spatial and sectorial aspects of Planning by playing an integral role of the sectoral perspectives and giving recommendations on Land Use Zones.

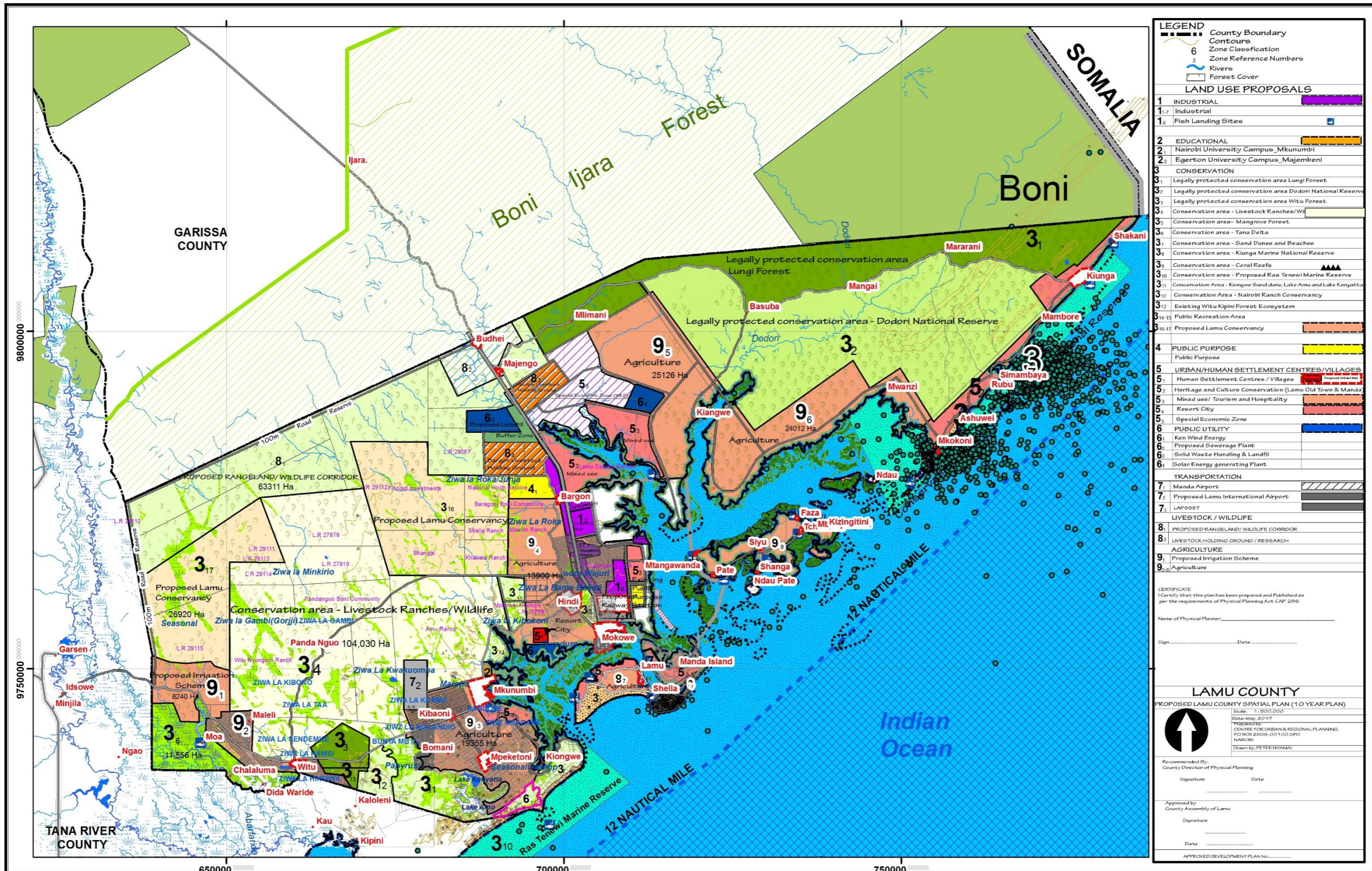
These zones have been proposed to address the overall issues identified in the County to be effective for the next 10 years. It is however notable that the Plan offers flexibility and is prone to review annually to track the progress of development as proposed in the different zones.

The Integrated land use model arising from the immediate previous chapter and the proposed land use zoning framework are as indicated in the next two pages:

Map 5: Integrated Land Use Model



Map 6: The Preferred County Spatial Plan Land Use Zoning Framework



| LAND USE ZONE         |                  | KEY DEFINING ELEMENT OF THE ZONE                                     | PERMITTED USE   | LAND USE REGULATIONS  |
|-----------------------|------------------|--|---|---|
| Industrial (1)        | 1 <sub>1-7</sub> | Promotion of industrial development and value addition in the County | Industrial Development  | At least 0.5 Acres for a Light Industrial Complex/Warehouse development<br>At least 5 Acres for Heavy Industrial Users  |
|                       | 1 <sub>8</sub>   | Fish Landing Sites sub-zone  | <ul style="list-style-type: none"> <li>Landing site development</li> <li>Fish cold storage/depot establishment</li> </ul>   | The building footprint for the storage facilities should not exceed 0.125 Acres   |
| Educational (2)       |                  | Promotion of education development in the County                     | Educational Uses only   | At least 0.5 Acres for any ECDE educational facility<br>At least 2 Acres for a Primary School with 2 streams per class<br>At least 5 Acres for any secondary school with 2 streams per class<br>At least 8 Acres for a University Campus/other Tertiary institution   |
| Conservation Zone (3) | 3 <sub>1</sub>   | Legally Protected area Boni-Lungi Forest conservation sub-zone       | <ul style="list-style-type: none"> <li>Wildlife Conservation and Natural Forest</li> <li>Local Pro-conservation communities' settlements that are already existent.</li> </ul>  | <ul style="list-style-type: none"> <li>The extent of the settlements should/will not exceed ones prescribed in formal boundary survey in their integration in the forests for conservation purposes</li> </ul>  |
|                       | 3 <sub>2</sub>   | Legally Protected area Dodori National Reserve conservation sub-zone | <ul style="list-style-type: none"> <li>Wildlife Conservation; Natural Forest &amp; Forest Reserves</li> <li>Eco-tourism; &amp; Hotel Developments</li> <li>Infrastructure Development – Roads and Power Connectivity</li> </ul> | <ul style="list-style-type: none"> <li>All gazetted boundaries will remain un-altered and selfishly maintained as they are currently surveyed</li> <li>No building, structure, road, parking lot, driveway, games court, or other impermeable surface shall be located within a setback set for the protection and conservation of wetlands/streams or water point.</li> <li>The wildlife corridors from the protected areas will be linked with the corridors linking to the wildlife conservancies to the west and south west of the County (Conservation Sub zones 3<sub>3-6</sub>)</li> </ul> |
|                       | 3 <sub>3</sub>   | Legally protected area Witu Forest conservation sub-zone             | <ul style="list-style-type: none"> <li>Wildlife Conservation and Natural Forest</li> <li>Naturte Trails for eco-tourism</li> </ul>  | No other use other than forest  |

| LAND USE ZONE |    | KEY DEFINING ELEMENT OF THE ZONE                     | PERMITTED USE   | LAND USE REGULATIONS   |
|---------------|----|--|---|--|
|               | 34 | Livestock Ranches/Wildlife conservation sub-zone     | <ul style="list-style-type: none"> <li>Wildlife Conservancies</li> <li>Eco-tourism; &amp; Hotel Developments</li> <li>Infrastructure Development – Roads and Power Connectivity</li> <li>Proposed LAPSET airport</li> </ul> | <ul style="list-style-type: none"> <li>The setback from the highest water mark of any wetland, stream, lake or ponds within the spatial concepts will be 100 meters longitudinally or all around if it is a lake or a pond.</li> <li>All streams/wetlands will be maintained in an open state (not enclosed or covered over in a culvert or other engineered material apart from a point where a road/path is crossing it).</li> <li>No building, structure, road, parking lot, driveway, games court, or other impermeable surface shall be located within a setback set for the protection and conservation of wetlands/streams or water point.</li> <li>The runways and/or other airport structures should be offset and oriented on dry land and or other fragile areas though protected and confined within the airport land left in their natural setting</li> <li>The footprint area of any hotel building (s) will not surpass 0.5 Ha</li> </ul> |
|               | 35 | Mangrove Forest areas conservation sub-zone          | Mangrove Forest only or mangrove seedlings seedbeds   | A setback (buffer sub-zone) of 100 meters from the highest visible water mark or last mangrove tree on the edge before any development can be allowed. Then this should be followed by a road/path of width as prescribed by the County Government depending on the area to separate the buffer sub-zone and developable area  |
|               | 36 | The Tana Delta conservation sub-zone                 | No other use other than the Tana Delta Ecosystem  | A setback (buffer sub-zone) of 500 meters from the highest visible water mark before any development/Agriculture is allowed  |
|               | 37 | The Sand Dunes & Beaches conservation sub-zone       | No other use other than the sand dune itself  | A setback (buffer sub-zone) of 100 meters from the lowest point of a sand dune ecosystem before any development can be allowed. Then this should be followed by a road/path of width as prescribed by the County Government depending on the area to separate the buffer sub-zone and developable area   |
|               | 38 | Kiunga Marine National Reserve conservation sub-zone | <ul style="list-style-type: none"> <li>Marine biodiversity conservation &amp; Recreation</li> <li>Kiwayuu Island human settlements</li> </ul>   | No other land use other than those allowed   |

| LAND USE ZONE                                  |                    | KEY DEFINING ELEMENT OF THE ZONE  | PERMITTED USE   | LAND USE REGULATIONS  |
|--|--------------------|---|---|---|
|  | 3 <sub>9</sub>     | The Coral Reefs conservation sub-zone   | Coral reefs only  | No marine development project should be allowed on areas where coral reefs are situated   |
|  | 3 <sub>10</sub>    | The proposed Ras Tenewi Marine Reserve conservation sub-zone                          | Marine biodiversity conservation & Recreation   | No other use  |
|  | 3 <sub>11</sub>    | Kiongwe 'Bawaya' Sand dune Lake Kenyatta water catchment system conservation sub-zone | <ul style="list-style-type: none"> <li>• Water catchment conservation</li> <li>• Wildlife conservation &amp; Recreation</li> </ul>  | No development should be allowed on a set buffer setback of 100 meters from the highest water mark of any lake, swamp, or wetland or the lowest point of the sand dune. Special conditions for a buffer setback of 500 meters around lake Kenyatta may be executed by the County Government (Reference to Volume III on Action Plans) |
|  | 3 <sub>12</sub>    | Nairobi Ranch Conservancy conservation sub-zone                                       | <ul style="list-style-type: none"> <li>• Wildlife conservation &amp; Recreation</li> <li>• Transportation &amp; Energy infrastructure wayleaves</li> <li>• Eco lodges Development</li> </ul>                  | <ul style="list-style-type: none"> <li>• The road wayleaves will not exceed 30 meters</li> <li>• The energy wayleaves will be follow the prescribed standards</li> <li>• The building footprints for the eco-lodges will not exceed 0.5 Acres</li> </ul>  |
|  | 3 <sub>13</sub>    | Witu Kipini Forest Ecosystem conservation sub-zone                                    | Wildlife conservation & Recreation  | No development allowed  |
|  | 3 <sub>14-15</sub> | Public Recreation areas conservation sub-zone   | <ul style="list-style-type: none"> <li>• Wildlife conservation &amp; Recreation</li> <li>• Active public open spaces &amp; related amenities</li> <li>• Eco-lodges &amp; Eco-tourism nature trails</li> </ul> | All land use regulations prescribed for other conservation subzones including the buffer setbacks of all wetlands/swamps prevail where they occur in this subzone   |
|  | 3 <sub>16-17</sub> | Lamu Conservancy conservation sub-zone  | <ul style="list-style-type: none"> <li>• Wildlife conservation &amp; Recreation</li> <li>• Transportation &amp; Energy infrastructure wayleaves</li> <li>• Eco lodges Development</li> </ul>                  | <ul style="list-style-type: none"> <li>• The road wayleaves will not exceed 30 meters</li> <li>• The energy wayleaves will be follow the prescribed standards</li> <li>• The building footprints for the eco-lodges will not exceed 0.5 Acres</li> </ul>  |
| <b>Urban/Human Settlement Centres/Villages</b> | 5 <sub>1</sub>     | <i>Urban Centres/Human Settlement Villages:</i><br>Witu<br>Kibaoni                    | <ul style="list-style-type: none"> <li>• Commercial (Retail Outlets, Office, Hotels etc)</li> <li>• Residential</li> </ul>  | <ul style="list-style-type: none"> <li>• All urban centres will be delimited and urban and urban peripheral boundaries proposed appropriately</li> </ul>  |



| LAND USE ZONE |                | KEY DEFINING ELEMENT OF THE ZONE  | PERMITTED USE  | LAND USE REGULATIONS   |
|---------------|----------------|---|--|--|
| (5)           |                | Mpeketoni<br>Mkunumbi<br>Hindi<br>Bargoni<br>Bodhei<br>Kiunga<br>Mokowe<br>Faza<br>Kizingitini<br>Pate<br>Kiongwe<br>Ishakani<br>Tchundwa<br>Langoni<br>Etc.... | <ul style="list-style-type: none"> <li>Public Facilities (Hospitals, Schools, Research Institutions, etc)</li> <li>Industrial (Value Addition Industries for Agriculture and Livestock)</li> <li>Other Industries as proposed by the LAPSSET authority</li> <li>Public Utilities (Power substations, etc)</li> <li>Transportation Utilities (Petrol Stations, Loading Areas for cargo lorries, Terminus etc)</li> <li>Open Spaces/Parks</li> </ul> | <ul style="list-style-type: none"> <li>Any land falling outside the delimited urban/peripheral boundaries will be agricultural land and the agricultural land regulations prescribed above will prevail</li> <li>Value addition industries proposed in either the livestock development areas or Agricultural development areas will be confined within the delimited urban/peripheral boundaries of the nearest Centre</li> <li>All LAPSSET industrial developments falling in different zones eg. Conservation zone will be strictly guided in their developments by regulations of that zone</li> <li>All public utilities like substations will be limited within proposed industrial areas</li> <li>Other public utilities such as cemeteries will be located in designated areas within the delimited urban boundaries</li> <li>All residential uses within delimited Urban/Peri urban boundaries will either be single dwelling or multi dwelling</li> <li>All residential properties on outside urban/peri urban boundaries will strictly be single dwelling residential</li> <li>Open spaces will be any public land left as green areas for public recreation purposes and leisure which could have public amenities like benches and fountains if parks or walk/cycle tracks – they also include all buffer setbacks protecting fragile ecosystems</li> </ul> |
|               | 5 <sub>2</sub> | Lamu Old Town<br>Proposed Manda Island Port City<br><i>(Heritage &amp; Culture conservation sub-zone)</i>   | <ul style="list-style-type: none"> <li>Commercial/Retail activities</li> <li>Institutions; and Offices</li> <li>Educational and Religious Uses</li> <li>Compact Residential and serviced apartments</li> <li>Hotels and public facilities</li> </ul>   | <ul style="list-style-type: none"> <li>All permitted use should and must conform to all stipulated guidelines of the World Heritage Site as per the NMK and UNESCO policies</li> <li>Where the heritage zone is an entire urban centre like the Old Town or the proposed Manda Island Port City (MIPC), then the permitted users are allowed with highly controlled regulations in their building character, form, and function</li> </ul>   |

| LAND USE ZONE |                | KEY DEFINING ELEMENT OF THE ZONE | PERMITTED USE   | LAND USE REGULATIONS   |
|---------------|----------------|----------------------------------|---|--|
|               |                |                                  | <ul style="list-style-type: none"> <li>• Non-Motorized means of Transport</li> <li>• Manda Airport and related activities</li> <li>• Light Industrial activities in the proposed MIPC</li> </ul>  | <ul style="list-style-type: none"> <li>• All buildings in the proposed Manda Island Port City should and must conform to known Swahili architecture in their design no matter how modern the city is envisioned to be</li> <li>• No building will surpass four floors in the proposed MIPC excluding the ground floor</li> <li>• Where this conservation of heritage is composed of just a building like the Siyu Fort, or the Said bin Said house in Faza, then the building itself should be maintained in its original form</li> <li>• Where the heritage zone covers only a site, like shanga ruins, then strict regulations as prescribed by the NMK should be ascribed to in their conservation</li> </ul>   |
|               | 5 <sub>3</sub> | Mixed Use Zones                  | <ul style="list-style-type: none"> <li>• Residential</li> <li>• Educational including Child Care</li> <li>• Facilities and Kindergatens</li> <li>• Hotel &amp; Visitor accommodation Use</li> <li>• Commercial</li> <li>• Natural and cultural values management institutions and offices</li> <li>• Passive recreation</li> <li>• Sports; recreation; and talent nurturing</li> <li>• Religious Use</li> <li>• Public Utilities</li> </ul> | <ul style="list-style-type: none"> <li>• To be allowed up to 4 floors including the ground floor</li> <li>• Child Care and Kindergarten is mandatory within the residential blocks. Other educational uses to be determined by catchment population</li> <li>• A mix of hotel facilities to be allowed on all blocks on the front row from the mangrove rings of the proposed blocks.</li> <li>• All hotel facilities should be multi-storey up to 5 floors to allow view of the ocean</li> <li>• Low traffic commercial uses like convenient stores and shops</li> <li>• Only if intended for conservation purposes or management of the residential blocks</li> <li>• Use that allow public access to the beach fronts like cycle tracks and footpaths or well-designed open spaces for public purpose on the proposed buffer zone</li> <li>• Single dwelling with an extended guest house</li> <li>• Public facilities and open spaces</li> </ul> |

| LAND USE ZONE                     |                | KEY DEFINING ELEMENT OF THE ZONE                  | PERMITTED USE  | LAND USE REGULATIONS  |
|-----------------------------------|----------------|---|--|---|
|                                   |                |   |  | <ul style="list-style-type: none"> <li>• Only if mosque or other religious facility facility</li> <li>• Land fill sites; fire assembly points and cemeteries</li> </ul>                         |
|                                   | 54             | Resort City                                       | <ul style="list-style-type: none"> <li>• Commercial</li> <li>• Hotel Development &amp; Recreation Facilities</li> </ul>  | Land Use regulations to be determined by the County Government  |
|                                   | 55             | Special Economic Zone (SEZ)                       | LAPSSET related light industrial uses or other institutional uses  | Design and land use regulations highly determined by the LAPSSET authority in consultation with the County Government for development approval  |
| <b>Public Utility (6)</b>         | 61             | Proposed wind power farm                          | Wind power generating infrastructure and related use   | No adverse development should be carried out within the water catchment subzone (3 <sub>13</sub> ) passing through the site and all land use regulations prescribed for the subzone will abide. |
|                                   | 62             | Proposed sewerage plant                           | Sewer treatment related infrastructure   | Land use regulations of the site highly determined by the concerned Authority   |
|                                   | 63             | Solid waste land fill site                        | Land fill site and related solid waste handling & transfer facilities  | The site regulations to be highly determined by the County Government but influenced by the zoning regulations of adjacent zones  |
|                                   | 64             | Solar generating power farm                       | Energy generating solar panels & related management offices and staff housing  | The administrative offices and residential houses will not be developed on any land exceeding 5 acres   |
| <b>Transportation Utility (7)</b> | 7 <sub>1</sub> | Manda Airport                                     | Airport related uses   | No high development land uses will be allowed adjacent to the airport land  |
|                                   | 7 <sub>2</sub> | Proposed Lamu International Airport under LAPSSET |  |   |
|                                   | 7 <sub>3</sub> | LAPSSET Corridor                                  | <ul style="list-style-type: none"> <li>• Railway Development</li> <li>• Road Development</li> <li>• Pipeline Development</li> <li>• Power line wayleave</li> <li>• Light Industrial development</li> </ul> | Land use alignment within the corridor will be greatly determined by the LAPSSET Authority in consultation with the County Government for development approvals                                 |

| LAND USE ZONE   |                | KEY DEFINING ELEMENT OF THE ZONE     | PERMITTED USE   | LAND USE REGULATIONS  |
|---|----------------|--------------------------------------|---|---|
| <b>Proposed Range land for Livestock/Wildlife Movement Corridor (8)</b> | 8 <sub>1</sub> | Wildlife/Livestock Movement Corridor | <ul style="list-style-type: none"> <li>• Forest rangelands conducive for wildlife/livestock movement and related water point development</li> <li>• Transportation &amp; Energy infrastructure Wayleaves</li> </ul>                                     | <ul style="list-style-type: none"> <li>• The transportation wayleaves will not exceed 30 meters</li> <li>• The water points will strategically be located on radius not exceeding 5 kilometers from each other</li> </ul>   |
|   | 8 <sub>2</sub> | Livestock Development sub-zone       | <ul style="list-style-type: none"> <li>• Livestock Research establishments</li> <li>• Livestock Value Addition &amp; packaging industries</li> <li>• Level 1 slaughter houses</li> </ul>  | Any establishment in this subzone will be situated in a land of not less than 5 acres   |
|   | 8 <sub>3</sub> | Bodhei Livestock Holding Ground      | <ul style="list-style-type: none"> <li>• Animal feed warehouses</li> </ul>  | All land use regulations for these zones to be determined by the concerned authority in consultation with the County Government   |
|   | 8 <sub>4</sub> | Bargon Livestock Holding Ground      | <ul style="list-style-type: none"> <li>• Development of pasture &amp; hay grounds</li> <li>• Slaughter houses &amp; Abbatoirs</li> </ul>  |   |
| <b>Agriculture (9)</b>  | 9 <sub>1</sub> | Proposed Irrigation Scheme           | Agriculture only & Related Storage warehouses   | The storage warehouses will not be built on land exceeding 2 Acres  |
|   | 9 <sub>2</sub> | Agricultural sub zones               | <ul style="list-style-type: none"> <li>• Agriculture (Agro-production;</li> <li>• Livestock Production; &amp; Fisheries)</li> <li>• Human settlement &amp; Urban Centres</li> <li>• Conservation sub-zones</li> <li>• Industrial Development</li> </ul> | <ul style="list-style-type: none"> <li>• Small scale agriculture: Minimum land subdivision should be 0.75 Ha; and</li> <li>• Large scale agriculture: fruits and other cash crops - minimum subdivision shall be 2 Ha</li> <li>• Human settlements must be confined within prescribed urban boundaries and not further</li> <li>• All prescribed land regulations above for the conservation subzones within the concept stand</li> <li>• Only value addition industries like fruit processing Plants; fish canning/packaging</li> </ul> <p><b>REZONING OF AGRICULTURAL LANDS</b></p> |

| LAND USE ZONE | KEY DEFINING ELEMENT OF THE ZONE | PERMITTED USE | LAND USE REGULATIONS  |
|---------------|----------------------------------|---------------|---|
|               |                                  |               | <p>The rezoning of land zoned as agricultural land to a different zone shall be allowed only if all of the following criteria are met:</p> <ul style="list-style-type: none"> <li>• The parcels for which rezoning is requested (“subject parcels”) are adjacent to uses other than agriculture or agricultural support uses.</li> <li>• The rezoning will not be detrimental to existing agricultural operations.</li> <li>• The subject parcels are adjacent to existing development or infrastructure and conversion will constitute a logical contiguous extension of a designated user.</li> <li>• No feasible development alternative exists that is less detrimental to agriculture.</li> <li>• The rezoning will not otherwise interfere with the Lamu County Spatial Plan vision including the by-laws and set land use policies.</li> </ul> |

## CHAPTER 5: PLAN IMPLEMENTATION STRATEGY AND THE CAPITAL INVESTMENT PLAN (CIP)

| CONCEPT ZONE DEFINITION   | STRATEGIES                                    | PROGRAM  | PROJECTS  | ACTORS  | OUTCOME   |   |
|---|---|--|---|---|---|---|
| <p><b>THE PUNCTURED SCAPES</b></p> <p><i>(This concept covers the Coastal lowland plains feature punctured with rich wildlife biodiversity, seasonal rivers, swamps and wetlands (Ziwa la Gorrji, Ziwa la Kiboko, Ziwa la Taa, Ziwa la Kiboko, Ziwa la Sendemke, Ziwa la Hindiwa, Ziwa la Shalu</i></p> <p><i>Ranches to west of Lamu County Including Witu-Nyongoro, Pandaguo, Tulu, Bujraas, Akilo and Nairobi ranch</i></p> <p><i>Fragile Ecosystems including Kipini ecosystem, lake Kenyatta, Lake Amu, Lake Moa</i></p> <p><i>Pandaguo centre, Maisha Masha settlements etc.)</i></p> | Promote Wildlife Conservation                 | Promote the formation of wildlife conservancies            | Prepare a wildlife management Plan for the wildlife corridor including the land that reverted back to the County Government of Lamu after various Ranch titles were revoked | <ul style="list-style-type: none"> <li>• KWS</li> <li>• KFS</li> <li>• CGL</li> <li>• CSOs</li> <li>• CWCCC</li> </ul>  | <ul style="list-style-type: none"> <li>• Reduced human wildlife conflicts</li> </ul>  |   |
|   |   |  | Identify and develop conservancy sites in Witu-Nyongoro, Pandaguo, Tulu, Bujraas, Akilo and Nairobi ranch while still recognizing indigenous community land rights          |   | <ul style="list-style-type: none"> <li>• Increased Revenue generation for the County Government</li> <li>• Boost in Tourism</li> <li>• Improved standards of living</li> <li>• Employment creation</li> </ul> |   |
|   |   |  | Ensure the protection of the wildlife movement corridor within the scapes   |   | Protect and gazette dense intact forest and grassland ecosystems for wildlife movement in Witu-Nyongoro, Pandaguo forest, Tulu, Bujraas, Akilo and Nairobi ranch  | <ul style="list-style-type: none"> <li>• Conserved forest areas as sensitive ecosystems</li> </ul>  |
|   | Promote the conservation of Forest ecosystems | Determine and protect the diversity of forest tree species | Develop policy, legislation and regulation to protect forest ecosystems   | Undertake an inventory to determine rare tree species within Witu-Nyongoro, Pandaguo, Tulu, Bujraas, Akilo and Nairobi ranch  | <ul style="list-style-type: none"> <li>• KFS</li> <li>• SoK</li> <li>• CGL</li> <li>• CSOs</li> <li>• GoK</li> </ul>  | <ul style="list-style-type: none"> <li>• A researched inventory of all tree species within the identified areas</li> </ul>                                      |
|   |   |  |   | Prohibit cutting down of indigenous unique tree species   |   | <ul style="list-style-type: none"> <li>• Protected rare tree species</li> </ul>   |
|   |   |  |   | Conduct a survey in Pandaguo, and Kipini Forests ecosystems   |   | <ul style="list-style-type: none"> <li>• Demarcated forest boundary</li> </ul>  |
|   |   |  |   | The gazetement of Pandaguo and Kipini Forests as protected areas  |   | <ul style="list-style-type: none"> <li>• Gazzeted forests</li> </ul>  |
|   | Conservation of Wetlands; rivers; and swamps  | Ensure the protection of fragile wetlands                  |   | Conduct surveys for Ziwa la Gorrji, Ziwa la Kiboko, Ziwa la Taa, Ziwa la Kiboko, Ziwa la Sendemke, Ziwa la Hindiwa and Ziwa la Shalu wetlands and prepare respective water catchment Plans  | <ul style="list-style-type: none"> <li>• NLC</li> <li>• SoK</li> <li>• CGL</li> <li>• Ministry of Water and Environment</li> <li>• WARMA</li> </ul>   | <ul style="list-style-type: none"> <li>• Formally demarcated and surveyed wetlands; and swamp areas</li> <li>• Enhanced conservation of the wetlands</li> </ul> |
|   |   |  |   | Revoke all irregularly acquired land titles and allotments within Ziwa la Gorrji, Ziwa la Kiboko, Ziwa la Taa, Ziwa la Kiboko, Ziwa la Sendemke, Ziwa la Hindiwa, Ziwa la Shalu wetlands wetlands and revert the land to Lamu County Government |   | <ul style="list-style-type: none"> <li>• Enhanced conservation of the wetland areas</li> </ul>  |
|   |   |  |   | Preparation of RAPs for Maisha masha, Ngombe, Moa squatters   |   |   |
|   |   |  |   | Regulate access and activities within Ziwa la Gorrji, Ziwa la Kiboko, Ziwa la Taa, Ziwa la Kiboko, Ziwa la Sendemke, Ziwa la Hindiwa, Ziwa la Shalu wetlands  |   | <ul style="list-style-type: none"> <li>• Protected water catchment areas from encroachment</li> <li>• Increased water supply</li> </ul>                         |

| CONCEPT ZONE DEFINITION | STRATEGIES                               | PROGRAM   | PROJECTS   | ACTORS  | OUTCOME   |
|-------------------------|--|---|--|---|---|
|                         | Promote Ecotourism to boost Lamu economy | Allow development of High end eco-lodges              | Identification and construction of High-End hotels in Witu-Nyongoro, Pandaguo, Tulu, Bujraas, Akilo and Nairobi ranches  | <ul style="list-style-type: none"> <li>• CGL;</li> <li>• Ministry of Tourism</li> <li>• Private Investors</li> <li>• KWS</li> </ul> | <ul style="list-style-type: none"> <li>• Increased revenue collection</li> <li>• Employment creation</li> <li>• Opened up area by proposing new road connections to the area</li> </ul>   |
|                         |  | Promote Accessibility and infrastructural development | Upgrade Witu-Pandaguo road to gravel standard  | <ul style="list-style-type: none"> <li>• CGL</li> <li>• KURA</li> </ul>   | <ul style="list-style-type: none"> <li>• Enhanced efficiency and convenience in transport</li> <li>• Enhanced accessibility to Witu; Pandaguo; and adjoining areas</li> <li>• Enhanced public transport to the areas</li> <li>• Enabled business environment</li> </ul>   |
|                         |  |   | Upgrade Pandaguo-Mkunumbi road to gravel standard  |   | <ul style="list-style-type: none"> <li>• Enhanced efficiency and convenience in transport</li> <li>• Enhanced accessibility to Mkunumbi; Pandaguo; and adjoining areas</li> <li>• Enhanced public transport to the areas</li> <li>• Enabled business environment</li> </ul>   |
|                         |  |   | Upgrade Pandaguo-Majengo road to gravel standard   |   | <ul style="list-style-type: none"> <li>• Enhanced efficiency and convenience in transport</li> <li>• Enhanced accessibility to Majengo; Pandaguo; and adjoining areas</li> <li>• Enhanced public transport to the areas</li> <li>• Improved security of the northern region of Lamu County</li> <li>• Enabled business environment</li> </ul> |
|                         |  |   | Identify a site for and construct a health Centre in Pandaguo  |   | <ul style="list-style-type: none"> <li>• Enhanced access to health services in Pandaguo</li> <li>• A healthy population</li> <li>• Improved standards of living of the people</li> </ul>  |
|                         |  |   | Extend the National grid power line to reach the established investments within the wildlife corridor  | <ul style="list-style-type: none"> <li>• KPLC</li> <li>• KWS</li> <li>•</li> </ul>  | <ul style="list-style-type: none"> <li>• Enhanced access to electricity power</li> <li>• Enabled business environment</li> </ul>  |
|                         |  |   | Extend a water distribution pipe network from Bomani Hill Reservoir managed by Lake Kenyatta Water Users Association to the established investments within the wildlife corridor | <ul style="list-style-type: none"> <li>• LAKWA</li> <li>• CGL</li> <li>• CBOs</li> <li>•</li> </ul>                                 | <ul style="list-style-type: none"> <li>• Increased water supply</li> <li>• Enabled business environment</li> <li>• Increased revenue collection by LAKWA</li> </ul>   |
|                         |  |   |  |   |   |

| CONCEPT ZONE DEFINITION   | STRATEGIES                              | PROGRAM   | PROJECTS  | ACTORS  | OUTCOME  |
|---|---|---|---|---|--|
|   |   | Promote local community engagement and benefit from tourism     | Encourage established Conservancies and hotels to employ from local communities   | <ul style="list-style-type: none"> <li>• CGL</li> <li>• Private Investors</li> <li>• Local business organizations</li> <li>• Ministry of Tourism and Culture</li> <li>• CBOs</li> </ul> | <ul style="list-style-type: none"> <li>• Improved standards of living for the people</li> <li>• Enhanced tourism in the region</li> <li>• Increased revenue collection</li> </ul>                                  |
|   |   |   | Encourage integration of local businesses, eg displaying and selling of local curios and artifacts within the established hotel investments         |   | <ul style="list-style-type: none"> <li>• Improved standards of living for the people</li> <li>• Enhanced tourism in the region</li> <li>• Increased revenue collection by the County Government of Lamu</li> </ul> |
|   |   |   | Encourage local communities to develop tourist home-stays for medium tourist  |   | <ul style="list-style-type: none"> <li>• Improved standards of living for the people</li> <li>• Enhanced tourism in the region</li> <li>• Increased revenue collection by the County Government of Lamu</li> </ul> |
|   |   |   | Designate strategic locations to have cultural villages and traditional gear selling areas  |   | <ul style="list-style-type: none"> <li>• Improved standards of living for the people</li> <li>• Enhanced tourism in the region</li> <li>• Increased revenue collection by the County Government of Lamu</li> </ul> |
|   | Integrate and Promote livestock keeping | Regulate livestock grazing and movement                         | Identify and develop Water points within Witu-Nyongoro Ranch for livestock movement   | <ul style="list-style-type: none"> <li>• Ministry of Livestock Development</li> <li>• CGL</li> <li>• CBOs (Livestock Development)</li> <li>•</li> </ul>                                 | <ul style="list-style-type: none"> <li>• Reduced farmers' pastoralists conflict</li> <li>• Improved welfare of the pastoralists</li> <li>• Increased livestock production</li> </ul>                               |
| <b>THE TANA DELTA</b><br><i>(This is the Lower delta triangle</i><br><br><i>From Tana River Primate Reserve to Kipini</i><br><br><i>And the Strategic Urban centres that are;</i><br><br><i>Witu,</i><br><i>Moa,</i><br><i>Chalaluma,</i> | Sustainable water utilization           | Regulate irrigation for sustenance of the water for other users | Allow limited uptake of water for irrigation upstream just after the Tana River Primate Reserve   | <ul style="list-style-type: none"> <li>• Ministry of Agriculture</li> <li>• Ministry of Livestock;</li> <li>• CGL</li> </ul>  | <ul style="list-style-type: none"> <li>• Conserved and protected river riparian reserve</li> <li>• Increased water supply</li> </ul>   |
|   |   | Regulate livestock access to Tana River                         | Provide livestock water points off the Tana River delta   |   | <ul style="list-style-type: none"> <li>• Controlled livestock movement</li> <li>• Reduced pastoralists-farmers' conflicts</li> </ul>   |
|   |   | Undertake Flood control measures                                | Identify and designate areas for human settlements  |   | <ul style="list-style-type: none"> <li>• Mitigated human settlement areas</li> <li>• Foreseen disaster management</li> </ul>   |
|   |   |   | Relocate all human settlements within flood prone zones   |   |  |
|   |   |   | Dig canals from the highest water mark of the delta riparian reserve to control excess water flow to farmlands and pasture areas during heavy rains | <ul style="list-style-type: none"> <li>• Controlled flooding in the lower Tana Delta region</li> </ul>  |  |
| Protect diversified livelihoods dependant on the Tana Delta   |   |   | Allow water uptake to fill the designated livestock water points  | <ul style="list-style-type: none"> <li>• Ministry of Livestock</li> </ul>   | <ul style="list-style-type: none"> <li>• Controlled livestock movement</li> </ul>  |



| CONCEPT ZONE DEFINITION | STRATEGIES | PROGRAM  | PROJECTS  | ACTORS  | OUTCOME  |
|-------------------------|------------|--|---|---|--|
| Kipini<br>Etc)          |            | Ensure promotion and support of pastoralist communities  | Designate one of the revoked ranches for a pilot project as areas for pasture growing for livestock during extreme famine seasons | <ul style="list-style-type: none"> <li>• CGL</li> </ul>   | <ul style="list-style-type: none"> <li>• Reduced pastoralists-farmers' conflicts</li> </ul>  |
|                         |            |  | Identify sites for livestock holding grounds at Dide-Waride   |   | <ul style="list-style-type: none"> <li>• Controlled livestock disease spread</li> <li>• Controlled and structured livestock movement</li> </ul>  |
|                         |            |  | Set up cattle dips to control animal diseases   |   |  |
|                         |            | Ensure promotion and support of agricultural communities | Determine suitable farming areas for intensive agriculture in Witu, Chalaluma and Moa   | <ul style="list-style-type: none"> <li>• Ministry of Agriculture</li> <li>• Community</li> <li>• Ministry of Roads (KURA);</li> <li>• CGL</li> <li>•</li> </ul>     | <ul style="list-style-type: none"> <li>• Increased food production</li> <li>•</li> </ul>   |
|                         |            |  | Fencing of farms to minimize human-wildlife conflicts   |   | <ul style="list-style-type: none"> <li>• Reduced human wildlife conflict</li> <li>•</li> </ul>   |
|                         |            |  | Upgrade Witu-Chalaluma road to gravel standard  |   | <ul style="list-style-type: none"> <li>• Enhanced accessibility to Witu; Chalaluma; Moa; and adjoining areas</li> <li>• Improved road standard</li> <li>• Enhanced public transport to Witu; Chalaluma; Moa; and adjoining areas</li> </ul>    |
|                         |            |  | Upgrade Witu - Moa road to bitumen standard   |   |  |
|                         |            | Ensure promotion and support of fishing communities      | Diversify fishing activities by promoting aquaculture in Moa and Kipini   | <ul style="list-style-type: none"> <li>• Ministry of Fisheries</li> <li>• CGL</li> <li>• CGTR</li> <li>• CBOs</li> <li>• Fishing Cooperatives</li> <li>•</li> </ul> | <ul style="list-style-type: none"> <li>• Enhanced fishing activities</li> <li>• Improved standards of living of the people around Moa; and Kipini</li> <li>• Increased revenue generation for the County Government; and the people</li> </ul> |
|                         |            |  | Determine highly regulated seasons to allow fishing within Tana River Delta   |   | <ul style="list-style-type: none"> <li>• Enhanced sustainable fishing methods</li> <li>•</li> </ul>  |
|                         |            |  | Provide modern boats and fishing gear for the fishermen   |   | <ul style="list-style-type: none"> <li>• Increased fish production</li> <li>•</li> </ul>   |
|                         |            |  | Provide cold storage facilities for fish in Moa   |   | <ul style="list-style-type: none"> <li>• Allowed longer time to market access</li> <li>• Increased fish production</li> <li>• Increased revenue collection</li> </ul>  |
|                         |            |  | Identify a site for a fish processing and canning Plant in Moa  |   | <ul style="list-style-type: none"> <li>• Value added fish</li> <li>• Increased revenue collection</li> <li>• Employment creation</li> </ul>  |
|                         |            |  | Provide extension services by having a Fisheries experts' office in Moa   |   | <ul style="list-style-type: none"> <li>• Increased knowledge of fish farming; and harvesting</li> </ul>  |
|                         |            |  |   |   |  |

| CONCEPT ZONE DEFINITION | STRATEGIES                                  | PROGRAM   | PROJECTS  | ACTORS   | OUTCOME  |   |
|-------------------------|---|---|---|--|--|---|
|                         | Conservation and Protection of Biodiversity | Protection of Wetland habitats  | Regulate human activities and access to wetlands  | <ul style="list-style-type: none"> <li>• CGL</li> <li>• SoK</li> <li>• CBOs</li> <li>• KWS</li> <li>• WARMA</li> <li>• NEMA</li> </ul> | <ul style="list-style-type: none"> <li>• Enhanced sustainable fishing techniques</li> <li>• Conserved and protected wetland areas as water catchment ecosystems</li> <li>• Increased water supply</li> </ul> |   |
|                         |   |   | Protection of Forest habitats   | Undertake an inventory of indigenous and unique animal; and Plant species within Kipini, Witu-Nyongoro Ranch and Nairobi Ranch         | <ul style="list-style-type: none"> <li>• KFS</li> <li>• KWS</li> <li>• CGL</li> </ul>  | <ul style="list-style-type: none"> <li>• A well-researched inventory of unique and rare species within the identified areas</li> <li>• Promoted biodiversity</li> </ul> |
|                         |   | Develop policy, legislation and regulation to curb encroachment into the Tana Delta                     |   | Designate bird watching trail and sites in all the forest areas  | <ul style="list-style-type: none"> <li>• TARDA</li> <li>• CGL</li> <li>• KFS</li> </ul>  | <ul style="list-style-type: none"> <li>• Improved tourism</li> <li>• Increased revenue collection</li> <li>• Employment creation</li> </ul>                             |
|                         |   |   | Set 100 meters from highest visible water mark of the Tana River as riparian reserve (a special proposal made by the Plan that is not guided by any existing legislation) | <ul style="list-style-type: none"> <li>• Protected water catchment system</li> </ul>   |  |   |
|                         |   | Prepare inter-County development pacts  | Tana Delta management Pact  | Relocation of human settlements within Tana River riparian reserve   | <ul style="list-style-type: none"> <li>• TARDA</li> <li>• CGTR</li> <li>• CGL</li> <li>• CBOs</li> <li>• WARMA</li> <li>•</li> </ul>   | <ul style="list-style-type: none"> <li>• Enhanced conservation and management of the Tana Delta water tower</li> <li>• Increased water supply</li> </ul>                |
|                         |   |   |   | Revoke irregularly acquired land titles and allotments within the Tana Delta and revert the land to Lamu County Government             |  | <ul style="list-style-type: none"> <li>• Conserved indigenous forests and ranches</li> <li>• Enhanced biodiversity; and tourism</li> </ul>                              |
|                         |   |   |   | Prohibit cutting down of indigenous, unique species within Kipini, Witu-Nyongoro Ranch and Nairobi Ranch                               |  | <ul style="list-style-type: none"> <li>• Regulated livestock movement</li> <li>• Reduced pastoralist-farmers' conflicts</li> </ul>                                      |
|                         |   |   |   | Utilization of Tana River water for irrigation in identified pasture areas   |  | <ul style="list-style-type: none"> <li>• Rich pasture areas</li> <li>• Increased livestock products</li> <li>• Promoted regional economic integration</li> </ul>        |
|                         |   | Utilization of Tana River water for livestock water points  | <ul style="list-style-type: none"> <li>• Promoted wildlife conservancies</li> <li>• Increased revenue collection</li> </ul>   |  |  |   |
|                         |   | Develop a Hay and Pasture Banking Pact  |   |  |  |   |
|                         | Conservation Management Pacts               | Develop a Wildlife and Livestock Movement Corridor Pacts between Lamu, Tana river and Garrissa Counties | <ul style="list-style-type: none"> <li>• TARDA</li> <li>• CGL</li> <li>• CGG</li> </ul>   |  |  |   |

| CONCEPT ZONE DEFINITION   | STRATEGIES   | PROGRAM   | PROJECTS  | ACTORS  | OUTCOME   |
|---|--|---|---|---|---|
|   |  |   |   | <ul style="list-style-type: none"> <li>• KWS</li> <li>• CWCCC</li> </ul>  | <ul style="list-style-type: none"> <li>• Improved tourism</li> <li>• Reduced human wildlife conflicts</li> <li>• Promoted regional economic integration</li> </ul>  |
| <p><b>THE PRODUCTIVE SCAPES (Agriculture)</b></p> <p><i>High agro-production areas of Lamu County. Experience high rainfall, fertile soil and inhabited by agricultural communities</i></p> <p><i>Hinterland Bahari, Mkunumbi, Hongwe, Hindi, Basuba, Witu, Kiunga,</i></p> <p><i>Urban Areas Mpeketoni, Mokowe, Bargon, Witu, Hindi,</i></p> | Promote agriculture as a profitable economic activity in the County  | Manage land fragmentation by setting zoning regulations to limit subdivision of agricultural land to uneconomical sizes                             | Develop land use regulation guidelines for high potential agro-productive areas like Bahari; Mkunumbi; Hongwe; and Witu   | <ul style="list-style-type: none"> <li>• NLC</li> <li>• CGL</li> <li>• CWCCC</li> </ul>   | <ul style="list-style-type: none"> <li>• A land use zoning guideline that promotes large scale farming</li> <li>• Increased Agricultural products</li> <li>• Improved standards of living for the people of Lamu</li> <li>• Increased monetary circulation within the County</li> </ul> |
|   |  |   | Set 5 acres as the minimum land size for high potential agro-productive areas   | <ul style="list-style-type: none"> <li>• NLC</li> <li>• CGL</li> </ul>  |   |
|   |  | Diversify agricultural activities to complement the agro-ecological zone  | Encourage Simsim farming in Basuba  | <ul style="list-style-type: none"> <li>• Ministry of Agriculture and Livestock</li> <li>• CGL</li> <li>• LAKWA</li> <li>• CBOs</li> </ul> | <ul style="list-style-type: none"> <li>• Rise of specialized industries to shape development</li> <li>• Increased employment opportunities</li> <li>• Improved standards of living for the people of Lamu</li> </ul>  |
|   |  |   | Promote cereal and horticulture farming in Mkunumbi, Bahari and Hongwe Wards  |   |   |
|   |  |   | Promote dairy farming in Bahari, Hindi and Hongwe Wards   |   |   |
|   |  |   | Promote inland fresh water fishing in Bahari Ward (Lake Kenyatta)   |   |   |
|   |  | Promote affordable and easy access to agro production inputs  | Provide affordable seeds and fertilizers for Bahari; Hongwe; Hindi; Mkunumbi Wards  | <ul style="list-style-type: none"> <li>• Ministry of Agriculture and Livestock</li> <li>• CGL</li> <li>• Private Investors</li> </ul>     | <ul style="list-style-type: none"> <li>• Enabled farmers</li> <li>• Increased production</li> <li>• Improved farming techniques</li> <li>• Enabled business environment</li> </ul>  |
|   |  |   | The County Government through Public Private Partnerships to facilitate the purchase of tractors and farming machinery for large scale farming  |   |   |
|   |  | Promote extension and research development  | Develop Egerton University in Majembeni (near the NYS Farm) to specialize in Agricultural Research and Technological Development  | <ul style="list-style-type: none"> <li>• Ministry of Agriculture;</li> <li>• Ministry of Education</li> <li>• CGL</li> </ul>              | <ul style="list-style-type: none"> <li>• Increased farming knowledge</li> <li>• Improved and assured quality agricultural products</li> <li>• Employment creation</li> </ul>  |
|   |  |   | Provide agricultural extension services in Bahari; Hongwe; Mkunumbi; Witu; Basuba; and Hindi Wards  |   |   |
| Enhance road network linkage and condition to improve the market reach  | Improving the C112 road; and the Hindi-Bodhei road (LAPSSET corridor) to bitumen standard                                      | <ul style="list-style-type: none"> <li>• KENHA</li> <li>• KeRRA</li> <li>• LAPSSET Authority</li> <li>• CGL</li> <li>• Local land owners</li> </ul> | <ul style="list-style-type: none"> <li>• Improved accessibility</li> <li>• Increased revenue and money circulation in the County</li> <li>• Sustainable food security</li> <li>• Improved livelihoods for the people</li> </ul> |   |   |
|   | Upgrading the Kibaoni-Mpeketoni; Mpeketoni-Mkunumbi; to bitumen standard   |   |   |   |   |
|   | Improving all other class E roads in Mkunumbi; Hongwe; Bahari; Hindi wards; and the archipelago to all weather gravel standard |   |   |   |   |

| CONCEPT ZONE DEFINITION | STRATEGIES   | PROGRAM   | PROJECTS  | ACTORS   | OUTCOME  |
|-------------------------|--|---|---|--|--|
|                         |  |   | Rehabilitation of Kizuke jetty in Mkunumbi  |  |  |
|                         | Promote value addition of agro-production products | Set up agro-based packaging and processing industries                 | Set up an industrial agro-production zone in Hongwe<br>Identify a site for a fruit juice extraction and packaging factory in Pangani; and Witu<br>Identify a site for a cereals processing Plant in Hongwe<br>Identify a site for a meat and leather processing Plant in Witu<br>Identify a site for an animal feed Plant in Mkunumbi | <ul style="list-style-type: none"> <li>Ministry of Agriculture and Livestock</li> <li>CGL</li> <li>Livestock Cooperatives</li> <li>Farmers' cooperatives</li> <li>Private Investors</li> </ul> | <ul style="list-style-type: none"> <li>Value added agricultural products</li> <li>Increased value of products</li> <li>Increased monetary circulation</li> <li>Increased revenue collection</li> <li>Increased employment opportunities</li> <li>Improved standards of living</li> </ul> |
|                         |  | Provide access to high level Markets                                  | Provide accessible storage facilities for agricultural products in Mpeketoni; Hongwe; Kibaoni; Mkunumbi; Hindi; Witu and Bahari Centres<br>Organize and promote farmers' cooperatives in Basuba<br>Strengthen existing farmers' cooperatives in Bahari and Hongwe<br>Upgrade rural roads in Mkunumbi and Bahari to gravel standard    | <ul style="list-style-type: none"> <li>Ministry of Agriculture and Livestock</li> <li>CGL</li> <li>The Community (Farmers)</li> <li>KURA</li> </ul>  | <ul style="list-style-type: none"> <li>Enhanced market reach and accessibility</li> <li>Enhanced efficiency and convenience in road transport</li> <li>Enabled farmers' cooperatives</li> <li>Increased agro-production capacities</li> <li>Improved standards of living</li> </ul>      |
|                         | Promote sustainable urbanization                   | Establish livable and compact urban human settlements and urban nodes | Prepare an Integrated Strategic Urban Development Plan (ISUDP) for Mpeketoni, Hindi, Mokowe, Mkunumbi, Witu and Bargon<br>Demarcate and set urban limits for Mpeketoni, Hindi, Mokowe, Mkunumbi, Witu and Bargon to avoid unsustainable growth<br>Establish a farmers' market in Mpeketoni, Witu, Hongwe and Bargon                   | <ul style="list-style-type: none"> <li>CGL</li> <li>SoK</li> <li>Farmers' Cooperatives</li> </ul>  | <ul style="list-style-type: none"> <li>Enhanced order in the arrangement of the urban Centres</li> <li>Improved human settlement areas</li> <li>Enhanced ease of service provision to human settlements</li> </ul>   |
|                         |  | Ensure provision of basic facilities in the area                      | Construct more primary schools in Mpeketoni; Bargoni; Witu (Chalaluma, Moa, Meleli, Nagele, Pangani; and Hamasi); and Hindi   | <ul style="list-style-type: none"> <li>Ministry of Education</li> <li>Ministry of Health</li> </ul>  | <ul style="list-style-type: none"> <li>Enhanced access to health services</li> </ul>   |

| CONCEPT ZONE DEFINITION   | STRATEGIES   | PROGRAM  | PROJECTS  | ACTORS  | OUTCOME  |  |
|---|--|--|---|---|--|--|
|   |  |  | Construct a health centre in Bargoni; Witu (Chalaluma, Moa, Maleli); and Hindi  | <ul style="list-style-type: none"> <li>• CGL</li> <li>• Kenya Police</li> </ul>   | <ul style="list-style-type: none"> <li>• Enhanced access to basic education</li> <li>• Enhanced and improved security</li> <li>• Enhanced sustainable waste management practices</li> <li>• Improved standards of living and general welfare of the residents</li> </ul> |  |
|   |  |  | Upgrading existing health Centre in Mpeketoni to a sub-County hospital  |   |  |  |
|   |  |  | Set up a police station in Hindi  |   |  |  |
|   |  |  | Prepare a solid and liquid waste management Plan for the towns  |   |  |  |
|   |  | Ensure infrastructure development in the areas   |   | Extend a pipe network from Bomani Hill to Urban Centres in Bahari; Mkunumbi; and Hongwe Wards   | <ul style="list-style-type: none"> <li>• LAKWA</li> </ul>  | <ul style="list-style-type: none"> <li>• Improved water supply and distribution coverage</li> <li>• Enhanced access and coverage of the electricity power supply</li> <li>• Improved sanitation methods</li> </ul>   |
|   |  |  |   | Extend the National Grid power line to Urban Centres in Bahari; Mkunumbi; and Hongwe Wards  | <ul style="list-style-type: none"> <li>• KPLC</li> <li>• CGL</li> </ul>  |  |
|   |  |  |   | Construct a sewer line in Mpeketoni; Hongwe; Mkunumbi; and Hindi Urban Centres  | <ul style="list-style-type: none"> <li>• CGL</li> </ul>  |  |
|   | Promote land security for locals and Investors     | Ensure Land tenure security for local communities  |   | Issue title deeds for all formally surveyed land for the people of Lamu County  | <ul style="list-style-type: none"> <li>• NLC</li> <li>• Ministry of Lands</li> <li>• CGL</li> <li>• CBOs</li> </ul>  | <ul style="list-style-type: none"> <li>• Guaranteed land tenure security</li> <li>• Enabled business environment</li> <li>• A knowledgeable population on land matters especially related to land leasing</li> <li>• More public land gained from revoked title deeds and allotment letters</li> </ul> |
|   |  |  |   | Review and uphold legally acquired land titles/allotment letters and revoke all illegally acquired land                                 |  |  |
|   |  |  |   | Undertake public awareness campaigns sensitizing local communities on land matters  |  |  |
| Form local land community pacts guiding engagement with Government and potential investors while investment opportunities arise |  |  |   | <ul style="list-style-type: none"> <li>• CGL</li> <li>• Private Investors</li> </ul>  |  |  |
| Encourage local residents to lease their land to investors through a benefit sharing platform as opposed to selling the land    |  |  |   |   |  |  |
| Minimize conflict between agricultural communities, pastoralist communities and wildlife  | Determine livestock grazing and movement corridors | Identify, document and open up livestock grazing and movement corridors to the North West of Lamu County | <ul style="list-style-type: none"> <li>• Ministry of Agriculture and Livestock</li> <li>• Ministry of Lands</li> <li>• NLC</li> </ul> | <ul style="list-style-type: none"> <li>• Reduced human wildlife conflicts</li> <li>• Reduced pastoralists farmers' conflicts</li> </ul> |  |  |
|   | Determine Wildlife movement corridors              | Identify and gazette wildlife and livestock movement corridors to the West of Lamu County                | <ul style="list-style-type: none"> <li>• CGL</li> <li>• KWS</li> <li>• CWCCC</li> </ul>   |   |  |  |
| Promote trade and commerce  |  |  | Set up a one stop business hub to offer relevant business information in Mokowe   | <ul style="list-style-type: none"> <li>• CGL</li> <li>• University of Nairobi</li> </ul>  | <ul style="list-style-type: none"> <li>• Enabled business environment</li> </ul>   |  |

| CONCEPT ZONE DEFINITION  | STRATEGIES  | PROGRAM   | PROJECTS  | ACTORS  | OUTCOME  |  |
|--|---|---|---|---|--|--|
|  |   | Promote business activities in Lamu County                              | Promote Education and Business-related courses to be offered in University of Nairobi Campus to be established in Mkunumbi  | <ul style="list-style-type: none"> <li>Ministry of Education</li> </ul>   | <ul style="list-style-type: none"> <li>Increased business performance knowledge; and technical know how</li> </ul>   |  |
|  | Promote Youth development and talent  | Enhance youth resourcefulness and growth                                | Identify a site for a stadium in Mokowe<br>Identify a site to establish a resource Centre and theatre in Hindi  | <ul style="list-style-type: none"> <li>CGL</li> <li>Ministry of Youth and Enterprise</li> <li>Youth Groups</li> </ul> | <ul style="list-style-type: none"> <li>Improved livelihoods for the youth</li> <li>Increased employment opportunities</li> <li>Improved creative arts and culture</li> </ul>   |  |
| <b>THE PRODUCTIVE SCAPES (Livestock)</b><br><br><i>Area of High Livestock Potential to include the livestock grazing and movement corridor</i><br><br><i>Covering North Western part of Lamu County (Boundary with Garissa County) including the Ranches that were revoked (Nuclear Sugar Project Ranch; Akiro Ranch; County Council Ranch; Magolas Ranch) by NLC and reverted back to the County Government of Lamu</i> | Promote Livestock keeping as a viable economic activity   | Identify and set up livestock production facilities                     | Demarcate the proposed livestock holding grounds<br>Provide strategic water points within the livestock zone and movement corridor<br>Provide strategic cattle dips within the livestock zone and movement corridor                                   | <ul style="list-style-type: none"> <li>Ministry of Livestock</li> <li>CGL</li> </ul>                                  | <ul style="list-style-type: none"> <li>Formally established livestock holding grounds</li> <li>Controlled spread of livestock diseases</li> <li>Controlled and structured livestock movement</li> </ul>                                  |  |
|  | Sustainable utilization of the land held by the County by minimizing influx of animals from neighbouring counties | Minimizing Farmers-pastoralists conflicts at the Lower Tana River Delta | Forge policy; and agreement pact between the County Government of Lamu; and Tana River County<br>Identify alternative pasture area in Tana River County as alternative holding ground for livestock   | <ul style="list-style-type: none"> <li>Ministry of Agriculture &amp; Livestock</li> <li>CGL</li> <li>CGTR</li> </ul>  | <ul style="list-style-type: none"> <li>Reduced pastoralists farmers' conflicts</li> <li>Increased Livestock production</li> </ul>  |  |
|  | Sustainable Livestock Development   | Set up value addition industries in the livestock zone                  | Identify and establish Dairy; and Meat processing industry within the livestock zone<br>Establish a livestock auction market in the livestock zone<br>Propose a road to open up the area linking the livestock corridor with Witu; and Pandaguo areas | <ul style="list-style-type: none"> <li>Ministry of Livestock</li> <li>CGL</li> </ul>                                  | <ul style="list-style-type: none"> <li>Established dairy and meat processing industries</li> <li>An established industrial zone for livestock</li> <li>Improved linkage between the livestock corridor and neighbouring towns</li> </ul> |  |
|  | Promote Extension and Research development  | Promote research and Breed improvement                                  | Establish a livestock breeding centre at Majengo offering Artificial Insemination Services  |   | <ul style="list-style-type: none"> <li>An Established livestock breeding centre at Majengo</li> <li>Better provision of Artificial Insemination Services</li> </ul>  |  |
|  | Promote interaction of livestock movement and Wildlife movement in the North-Western end of the County            | Preserve existing wildlife corridor movement areas                      | Protect dense intact forest ecosystem for wildlife movement   | <ul style="list-style-type: none"> <li>KWS,</li> <li>WWF,</li> <li>NLC</li> </ul>                                     | <ul style="list-style-type: none"> <li>Un-inhibited Movement of wildlife between Arawale, Boni-Lungi and Witu habitat areas</li> </ul>   |  |
|  |   |   |   |   |  |  |
|  |   |   |   |   |  |  |
| <b>PRISTINE ECOSYSTEMS</b><br><br><i>(These are gazette natural ecosystems that include:</i>   | Promote conservation and maintenance of the protected reserves  | Determine the extent of the protected Forests and National Reserves     | Erect visible pillars strategically to indicate the extent of Dodori National Reserve   | <ul style="list-style-type: none"> <li>KWS</li> <li>WWF</li> <li>CGL</li> <li>SoK</li> <li>NLC</li> </ul>             | <ul style="list-style-type: none"> <li>Increased employment opportunities</li> </ul>   |  |

| CONCEPT ZONE DEFINITION   | STRATEGIES | PROGRAM   | PROJECTS   | ACTORS  | OUTCOME  |   |
|---|------------|---|--|---|--|---|
| <p><i>Dodori national Reserve</i><br/> <i>Kiunga Marine National Reserve</i><br/> <i>Boni-Lungi Forest Ecosystem</i><br/> <i>Witu Forest</i><br/> <i>Settlements within the ecosystems including Kiunga; Mangai; Milimani; Basuba; and Mkokoni)</i></p> |            | Strengthen the border control between Kenya and Somalia to enhance the security of the National Reserve | Set up a border security camp at Dar es alam point in Kiunga<br>Establish a Kenya Wildlife Service camp in Dodori National Reserve | <ul style="list-style-type: none"> <li>National Government through relevant security agencies</li> <li>KWS</li> </ul> | <ul style="list-style-type: none"> <li>Improved security within the pristine ecosystems</li> </ul>   |   |
|   |            | Determine the extent of the protected Marine Reserve  | Conduct a survey of the Kiunga Marine Reserve  | <ul style="list-style-type: none"> <li>KMA</li> <li>SoK</li> <li>CGL</li> <li>KWS</li> <li>WWF</li> </ul>             | <ul style="list-style-type: none"> <li>A definite boundary of Kiunga Marine Reserve</li> </ul>   |   |
|   |            | Promote sustainable land tenure within the marine reserve   | Prepare an Integrated Marine Reserve Management Plan   | <ul style="list-style-type: none"> <li>NLC,</li> <li>KIP</li> </ul>   | <ul style="list-style-type: none"> <li>A complete Integrated Marine Reserve Management Plan</li> </ul>   |   |
|   |            |   | Revoke titles irregularly allocated within Kiwayuu and other areas within the Kiunga Marine National Reserve                       | <ul style="list-style-type: none"> <li>NLC</li> <li>CGL</li> </ul>  | <ul style="list-style-type: none"> <li>Reclamation of land under Kiunga Marine Reserve</li> </ul>  |   |
|   |            | Protection of the Forest Ecosystem  | Survey and fence the boundary of the Boni-Lungi Forest ecosystem   | <ul style="list-style-type: none"> <li>KFS;</li> <li>CGL</li> </ul>   | <ul style="list-style-type: none"> <li>Improved protection of Boni-Lungi Forest Ecosystem</li> </ul>   |   |
|   |            |   | Conduct Community awareness programme in conservation of Boni-Lungi and Witu Forest ecosystems                                     | <ul style="list-style-type: none"> <li>KFS;</li> <li>CGL</li> </ul>   |  |   |
|   |            | Promote Eco-tourism within the protected forests  | Allow local forest communities (Aweer) access to traditional livelihood within the Boni-Lungi Forest Ecosystem                     | <ul style="list-style-type: none"> <li>KFS</li> <li>CBOs</li> <li>CGL</li> <li>Other Conservation Groups</li> </ul>   | <ul style="list-style-type: none"> <li>Improved livelihoods of the forest communities</li> <li>Increased revenue collection</li> </ul>                             |   |
|   |            |   | Develop sustainable and paid access footpath routes within Witu Forest to enhance eco-tourism activities within the forest         |   |  |   |
|   |            | Promotion of Indigenous Community livelihoods   | Promote Sustainable fishing within Kiunga Area   | Regulate the fishing periods to prevent over fishing  | <ul style="list-style-type: none"> <li>Ministry of Fisheries</li> <li>CGL</li> <li>Private Conservation NGOs</li> <li>KWS</li> <li>Fishing Cooperatives</li> </ul> | <ul style="list-style-type: none"> <li>Maintenance of the amounts of fish in the water resources</li> <li>Empowered community on sustainable fishing techniques</li> <li>Increased and sustained fish production</li> <li>Improved livelihoods</li> <li>Higher returns from the fishing sector</li> </ul> |
|   |            |   |  | Undertake programmes on community awareness on sustainable fishing  |  |   |
|   |            |   |  | Regulate methods and equipment for fishing within Kiunga  |  |   |
|   |            |   |  | Establish a fish cold storage at Kiunga and Mkokoni   |  |   |
|   |            | Promotion of eco-tourism  | Develop and promote a Tourism circuit  | Upgrade the Mkokoni-Kiunga Road to gravel standard  | <ul style="list-style-type: none"> <li>CGL</li> <li>Private Investors</li> <li>KWS</li> </ul>  | <ul style="list-style-type: none"> <li>Higher Revenue Collection</li> </ul>   |
| Upgrade the proposed road to connect at Moa from Majengo to gravel standard   |            |   |  |   |  |   |

| CONCEPT ZONE DEFINITION  | STRATEGIES   | PROGRAM  | PROJECTS  | ACTORS  | OUTCOME   |
|--|--|--|---|---|---|
|  |  |  | Identify strategic sites for High End Hotel development along the Tourism circuit   | <ul style="list-style-type: none"> <li>• KENHA</li> <li>• KURA</li> </ul>   | <ul style="list-style-type: none"> <li>• Enhanced efficiency in road transport due to improved road standard</li> <li>• Access to more employment opportunities</li> <li>• Improved standards of living</li> <li>• Improved tourism</li> </ul>                              |
|  |  | Attraction of PPP controlled investments in the reserve  | Establish and develop hotel facilities within the Dodori National Reserve; and Kiunga Marine National Reserve             |   |   |
|  |  | Marketing of the reserve   | Develop a website for the reserve and have adverts on the local media   |   |   |
|  | Promote community integration in conservation and management of the Forest Ecosystem | Enhance access to basic facilities and infrastructure to communities involved in conservation of the Boni-Lungi Forest Ecosystem | Set up a boarding Primary School in Basuba, Mararani and Mangai   | <ul style="list-style-type: none"> <li>• Ministry of Education</li> <li>• CGL</li> <li>• KENHA</li> </ul>   | <ul style="list-style-type: none"> <li>• Improved access to education in the settlement areas</li> <li>• Increased literacy levels</li> </ul>   |
|  |  |  | Set up a boarding Secondary School in Mararani and Majengo  |   |   |
|  |  |  | Construct a Health Centre in Mararani and Majengo   |   |   |
|  |  |  | Upgrade the Kiunga-Majengo road to bitumen standards  |   |   |
|  | Promote sustainable security   | Security enhancement within the security corridor  | Establish strategic security checkpoints along Kiunga-Majengo road  | <ul style="list-style-type: none"> <li>• National Government</li> <li>• CGL</li> </ul>  | <ul style="list-style-type: none"> <li>• Improved health services in the wards (Kiunga; and Basuba)</li> <li>• Improved security along the corridor</li> <li>• Enhanced transport efficiency and connectivity</li> <li>• Improved public transport in the region</li> </ul> |
|  | Promotion of sustainable urban Development   | Prepare Strategic Development Plans and determine urban limits for efficient Service Provision                                   | Survey and Prepare a Local Plan for kiunga  | <ul style="list-style-type: none"> <li>• CGL</li> <li>• SoK</li> </ul>  | <ul style="list-style-type: none"> <li>• Planned urban centres</li> </ul>   |
|  |  |  | Survey and Prepare a Local Plan for Mkokoni   |   |   |
|  |  |  | Survey and Prepare a Local Plan for Majengo   |   |   |
|  |  |  | Survey and Prepare a Local Plan for Mararani  |   |   |
|  |  |  | Survey and Prepare a Local Plan for Kiwayuu   |   |   |
| Promote conservation of Wildlife habitat; and their movement corridor in the reserve | Identification of animal species in the reserve                                      | Conduct animal census in Dodori National Reserve   | <ul style="list-style-type: none"> <li>• KWS</li> <li>• Ministry of Environment</li> <li>• CGL</li> <li>• CBOs</li> </ul> | <ul style="list-style-type: none"> <li>• Determined number; and species of animals in Dodori National Reserve</li> <li>• Reduced wildlife poaching in the habitat areas</li> <li>• Protected water catchments</li> </ul>              |   |
|  |  | Relocate identified species to the reserve from other parks  |   |   |   |
|  | Reduction of Poaching  | Increase KWS Officers physical presence  |   |   |   |
|  |  | Create community awareness on importance of wildlife conservation  |   |   |   |
| Promote conservation of the forest   | Promote integration of pro-conservation communities within the forest                | Demarcate; survey; and Plan integrated human settlement boundaries   | <ul style="list-style-type: none"> <li>• CGL</li> <li>• SoK</li> <li>• KWS</li> <li>• KFS</li> <li>• CBOs</li> </ul>      | <ul style="list-style-type: none"> <li>• Surveyed human settlement areas</li> <li>• Increased fresh water supply</li> <li>• Promoted culture of the Boni-Aweer community</li> <li>• Revenue generation from carbon trading</li> </ul> |   |
| Protect water catchment sources  | Controlled Human activities in the forest  | Regulate land use activities for the integrated communities by policy/law  | <ul style="list-style-type: none"> <li>• CGL</li> <li>• KWS</li> <li>• KFS</li> </ul>                                     | <ul style="list-style-type: none"> <li>• Promoted wildlife conservancies</li> </ul>   |   |



| CONCEPT ZONE DEFINITION | STRATEGIES   | PROGRAM  | PROJECTS   | ACTORS  | OUTCOME  |
|-------------------------|--|--|--|---|--|
|                         |  |  |  | <ul style="list-style-type: none"> <li>• CBOs</li> <li>•</li> </ul>   | <ul style="list-style-type: none"> <li>• Increased revenue collection</li> <li>• Improved tourism</li> <li>• Promoted regional economic integration</li> </ul> |
|                         | Promotion of synergies in Conservation and management of Boni-Lungi Forest; and Kiunga Marine Ecosystems | Promotion of Inter-Country conservation and management Pacts | Develop a Policy document; and agreement pacts between Kenya; and Republic of Somalia for the management (Boni-Lungi Forest; and Kiunga Marine Ecosystems) | <ul style="list-style-type: none"> <li>• GoK</li> <li>• Government of Somalia</li> <li>• KWS</li> <li>• CGL</li> <li>• CGG</li> <li>• KFS</li> <li>•</li> </ul> |  |
|                         | Promotion of sustained livelihoods   | Inter-County conservation and management Pacts               | Develop a Policy document; and agreement pacts between Lamu County; and Garissa County (Boni-Lungi Forest Ecosystem)                                       | <ul style="list-style-type: none"> <li>• CGL</li> <li>• KWS</li> <li>• KFS</li> <li>• WWF</li> <li>• CBOs</li> </ul>  | <ul style="list-style-type: none"> <li>• Continued conservation of the forest areas</li> <li>• Sustainable livelihoods of the communities</li> </ul>           |

| CONCEPT ZONE DEFINITION  | STRATEGIES   | PROGRAM   | PROJECTS  | ACTORS   | OUTCOME  |
|--|--|---|---|--|--|
| <b>THE SHIELDED HINTERLAND</b><br><br><i>(These are the sand dunes that are evenly distributed along the Coastal line of Lamu County in Amu-Shellia; Bahari Ward (Bawayas); Kiwayuu; Manda Island; island near Kiwayuu. These sand dunes are very important in fresh water retention and act as barriers between sea and land)</i> | Promote the conservation of the sand dunes as water towers and barriers between the sea and the land             | Formally establish the extent and boundaries of the sand dunes  | To demarcate and survey the extent of the sand dunes that have not been surveyed in Bahari Ward (Bawayas); Kiwayuu Island; and Manda Island | <ul style="list-style-type: none"> <li>• KWS;</li> <li>• CGL;</li> <li>• NEMA</li> <li>• WWF;</li> <li>• NATURE KENYA</li> <li>• CBOs</li> <li>• OTHER NGOs</li> </ul>           | <ul style="list-style-type: none"> <li>• Surveyed sand dune boundaries</li> <li>• Enhanced conservation measures of the sand dunes as water catchments</li> <li>• Sensitized community on conservation of sand dune</li> <li>• Reduced encroachment on the sand dune areas</li> <li>• Increased fresh water supply</li> <li>• Gazetted sand dune areas as fragile ecosystems</li> <li>• Controlled land use activities around the sand dune areas</li> </ul> |
|  |  |   | Gazette the sand dunes as fragile ecosystems  |  |  |
|  |  |   | Revoke of the titles and letters of allotment issued in the Bawayas; and Kiwayuu Island which is within a gazette National Marine Reserve   |  |  |
|  |  |   | Prepare a detailed Environmental Management Plan for the sand dunes   |  |  |
|  | Carry out community awareness campaign on the importance of conservation of the sand dunes as fragile ecosystems |   |   |  |  |
|  | Protect the quality of water in the sand dunes   | Discourage encroachment onto sand dunes particularly in Kiongwe (Bawayas) where there is evidence of farmers encroaching to farm water melons |   |  |  |
| Adopt mutually compatible land uses that promote conservation of the sand dunes  | Provide zoning guidelines for the sand dunes   | Discourage encroachment onto sand dunes particularly in Kiongwe (Bawayas) where there is evidence of farmers encroaching to farm water melons | <ul style="list-style-type: none"> <li>• CGL</li> <li>• NEMA</li> <li>• KMA</li> <li>• WWF</li> <li>• CBOs</li> <li>• Other NGOs</li> </ul> |  |  |
|  |  | Undertake a ground water survey in Bawayas, Manda and Kiwayuu to establish the quantity and quality of the water                              |   |  |  |
|  |  | Prepare an Action Plan for any proposed wind/solar power projects in the County   |   |  |  |
| Promote conservation of the sand dunes as breeding grounds for the turtles   | Promote inter-agency cooperation in the management and protection of the sand dunes                              | Propose a 100-meter buffer zone separated by a 12-meter road in Lamu island along the sand dune strip   | <ul style="list-style-type: none"> <li>• CGL</li> <li>• NEMA</li> <li>• KMA</li> <li>• WWF</li> <li>• CBOs</li> <li>• Other NGOs</li> </ul> |  |  |
|  |  | Prepare Environmental Management Plans (EMPs) for all the sand dunes within Lamu County   |   |  |  |
| <b>THE MANGROVE RING</b><br><br><i>(These are areas populated by mangroves along the shore line and within the archipelago that depicts a ring pattern in their natural occurrence)</i>  | Promote the conservation of the Mangroves as breeding grounds for fish; and other sea species                    | Securing the Land tenure for the Mangrove Forest  | Formulation of Policies and inter-agency agreements outlining roles and responsibility of each agency                                       | <ul style="list-style-type: none"> <li>• Minsitry of Lands</li> <li>• NLC</li> <li>• SOK</li> <li>• KFS</li> <li>• CGL</li> <li>• NEMA</li> <li>• WWF</li> <li>• CBOs</li> </ul> | <ul style="list-style-type: none"> <li>• Surveyed mangrove ring boundaries</li> <li>• Enhanced conservation measures of the mangrove ring as breeding grounds for fish</li> </ul>  |
|  |  |   | Survey; and Gazette the mangrove forests  |  |  |
|  |  |   | Determine the actual acreage of land under mangrove   |  |  |
|  |  |   | Preventing encroachment by providing a buffer zone of at least 100 meters along the edges of the mangrove ring cf. Proposed Manda Plan      |  |  |
|  | Prepare Environmental Management Plans for the Mangrove rings across the County                                  |   |   |  |  |
| Promote mutually compatible land uses that enhance the conservation of the Mangrove Forests  | Encourage eco-tourism activities around the mangrove rings   | Propose eco-lodges in Manda Island; and Pate Island around the Mangrove rings   |   |  |  |

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|  | Promote sustainable and controlled harvesting of the Mangroves 'Mikoko'                                      | Form Community Forest Organizations to collaborate with the KFS; and the County Government of Lamu in the management and use of the Mangrove Forest Resource | <p>Establish Community Based Groups for conservation of mangrove forests</p> <p>Encourage Bee keeping as an economic activity for the pro-conservation communities living around the mangrove rings</p> <p>Set aside land for mangrove tree nurseries based on their specific species in compatible areas</p> <p>Re-afforestation of cleared mangrove species annually</p> <p>Introduce Prohibitive legislation in the use of Power Saws and other mechanized tools in mangrove harvesting</p>                     |   | <ul style="list-style-type: none"> <li>• Sensitized community on conservation of the mangrove rings</li> <li>• Reduced encroachment of the mangrove ring</li> <li>• Increased fish production and breeding</li> <li>• Gazetted mangrove ring as fragile ecosystems</li> <li>• Controlled land use activities along the mangrove rings</li> <li>• Increased mangrove tree cover along the coast line</li> </ul>                                    |
|  | Promote Research institutions for marine life along the Mangrove rings                                       | Establish training institutes to do research and train personnel on mangrove; and marine life  | Put up complementary Marine research institutions in Manda Island  |   |   |
|  | Promote mangroves forest as carbon sinks for revenue generation to both the National; and County Governments | Sale of carbon credits to companies; and other countries   | <p>Maintain at least the 70% mangrove cover in the County</p> <p>Public sensitization programmes on the benefits of carbon trading</p>   |   |   |
|  | Promote inter-agency cooperation in the management and conservation of mangrove forests                      | Establishment of appropriate governance structures for collaboration in management; and protection of mangrove forests                                       | Establishment of an inter-agency enforcement unit  |   |   |
| <p><b>THE ARCHIPELAGO</b></p> <p><i>(These are a series of 57 Islands along the Coast of Lamu County. The largest of these are: Amu; Manda; Pate; and Ndau Islands. The rest of the Islands including Kiwayuu Island fall under the Gazetted Kiunga National Marine Reserve)</i></p> | Promote economic vibrancy of the archipelago   | Enhancing tourism activities in the Islands  | <p>Upgrade Faza Airstrip to enable air transport to serve Pate Island</p> <p>Rehabilitation of the Siyu Fort; Said bin Said house in Faza village; Shanga Ruins and other heritage sites in Pate Island</p> <p>Advertise and Market the Lamu Sunset dhow cruises among other tourist attraction activities in the County</p> <p>Allow for the establishment of more hotel facilities along Kipungani's white sandy beaches</p> <p>Adopt; Implement; Advertise and market the proposed eco-city in Manda Island</p> | <ul style="list-style-type: none"> <li>• KAA</li> <li>• Ministry of Tourism</li> <li>• Ministry of Agriculture</li> <li>• CGL</li> <li>• Private Investors</li> </ul> | <ul style="list-style-type: none"> <li>• Enhanced efficiency in transport by incorporating air transport in the island</li> <li>• Improved tourism potential</li> <li>• Increased revenue collection</li> <li>• Efficient money circulation</li> <li>• Increased agro production capacity</li> <li>• Improved standards of living</li> <li>• Access to more employment opportunities</li> <li>• Enhanced trade and economic activities</li> </ul> |
|  |  | Enhancing Agricultural activities in the Islands   | Set up Agricultural extension offices; and officers at Faza; Pate; Amu Town to promote Agricultural activities in the Islands including provision of farm inputs   |   |   |

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|  |   |  | Set up of Agricultural cooperatives in the Islands to ease markets sourcing and access to finance   |  | <ul style="list-style-type: none"> <li>• Improved access to a larger market</li> <li>• Increased fish production</li> <li>• Empowered citizen population</li> <li>• Improved fishing techniques</li> </ul>  |
|  |   |  | Set up collection centres and storage facilities for Mangoes; Coconuts; Simsim; and 'madafu' in Faza; Siyu; Mtangawanda; Kizingitini; Amu; and Matondoni  |  |   |
|  |   | Enhancing Fishing activities in the Islands  | Set up cold storage facilities in Faza; Siyu; Nda; Amu; Matondoni; Kipungani; Tchundwa; Pate and Kizingitini villages ( <i>Generally all fishing villages in Pate &amp; Lamu Islands</i> )                  |  |   |
|  |   |  | Establish cooperatives for fishermen through which microfinance institutions; and the County Government can channel funds for the improvement and acquisition of fishing equipment; and appropriate vessels |  |   |
|  |   |  | Subsidies (County Government Kitty) on fishing equipment through a collaborative effort by the County Government; and other partners  |  |   |
|  |   |  | Set up fishing extension programmes and facilities in Amu Town; and Faza to train on sustainable fishing techniques   |  |   |
|  |   |  | Introduce maritime police to patrol and secure our territorial waters to control invasion of the fishing grounds by external forces   |  |   |
|  |   | Enhancing cultural activities in the Islands | Patent; Advertise and market Lamu cultural festival and other local cultural initiatives through a website; and local media channels  |  |   |
|  |   | Promote oil & gas exploration in Pate Island | Identify and survey specific sites for the oil exploration  |  |   |
|  |   |  | Preparation of RAPs for affected in the drilling sites in Siyu  |  |   |
|  |   |  | Require that the company fully engage on CSR activities to the community  |  |   |
|  | Promoting development of infrastructure | Enhancement of road networks and standards   | Improving Faza-Pate-Tchundwa-Mtangawanda road through Kizingitini village to bitumen Standard   | <ul style="list-style-type: none"> <li>• CGL;</li> <li>• Ministry of Health;</li> <li>• Ministry of Education;</li> <li>• KMA</li> </ul> | <ul style="list-style-type: none"> <li>• Improved road standards within the archipelago</li> <li>• Enhanced connectivity of the archipelago settlements</li> <li>• Empowered fishermen cooperatives</li> <li>• Enhanced safety in water transport; and disaster preparedness</li> <li>• Improved security in both water and land</li> </ul> |
|  |   |  | Provide a 12-meter cycling/walking cabro road to connect Amu Town; Matondoni; and Kipungani villages to a possible future jetty at Kipungani to link to Kiongwe   |  |   |
|  |   |  | Improve roads linking to villages in Pate island to gravel standard   |  |   |
|  |   |  | Reconstruction of the Siyu footbridge connecting to the Siyu Fort   |  |   |
|  |   | Enhancement of water transport               | The County Government to facilitate the purchase of at least 10 speed boats not less than 32ft with a capacity  |  |   |

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|  |   |  | <p>of at least 28 passengers to provide public transport to residents of Lamu Island; Ndau; Kiunga; and Pate Island</p> <p>First aid training lessons to be made mandatory to all boat captains and assistants who ferry passengers to either Manda jetty; Mokowe jetty; Matondoni; Faza; Mtangawanda; Kiunga or any other jetty within the Islands</p> <p>Formation of a boat owners Sacco to necessitate issuance of an insurance policy</p> <p>Mandatory requirement for Licenses for all boat captains offered by the Maritime Authority</p> <p>Set up a boat marina (sort of terminal facility for the boats) in Lamu Island connected to the various jetties along the sea wall of the Old Town</p> <p>Dredging of Nyabogi water channel</p> |  | <ul style="list-style-type: none"> <li>Improved access to basic education</li> <li>Improved access to health services</li> </ul>   |
|  |   | Enhancement of safety                                      | <p>Set up a Maritime police post at Mtangawanda Jetty</p> <p>Construction of Siyu; and Mbwajumwali sea walls</p> <p>Establish small scale fire stations at Faza; Kizingitini; Siyu villages for rapid response in case of a fire</p>   |  |  |
|  |   | Enhancing health access                                    | <p>Establish a dispensary in Ndau</p> <p>Upgrade Faza health Centre to a level 4 Hospital with equipment and trained personnel</p> <p>Accommodation for the medical personnel Faza Hospital</p>  |  |  |
|  |   | Enhancing education access                                 | <p>Establish a secondary school for all existing primary schools in the archipelago to increase the Primary-Secondary transition rate</p> <p>Established equipped science and ICT laboratories in all secondary schools</p>  |  |  |
|  | Promote Heritage value in the Archipelago | Identify and map out all heritage sites in the archipelago | <p>Prepare a zone guide for the gazetted UNESCO World heritage site (Amu Town)</p> <p>Prepare a Planning Policy; and Zoning Regulations for Wiyuooni; Shella; and Langoni informal settlement</p> <p>The Kenyan Museums to train local personnel on the value and history of heritage sites to act as guides to tourists</p> <p>Public sensitization programmes on the value of the World heritage site</p> <p>Prepare a Heritage Impact Assessment &amp; Management Plan for the County</p> <p>Rehabilitate Pate village ; Siyu Village ; and Shanga Village Historical Ruins and incorporate them as part of heritage value towns/villages</p>   | <ul style="list-style-type: none"> <li>UNESCO</li> <li>National Museums of Kenya</li> <li>CGL</li> </ul> | <ul style="list-style-type: none"> <li>Promoted heritage significance of Lamu County</li> <li>Rehabilitated ruins of Pate; Siyu; and Shanga</li> <li>Trained personnel on heritage value</li> <li>Improved tourism on heritage sites</li> <li>Improved revenue collection</li> </ul> |

|  |  |   |   |  |  |
|--|--|---|---|--|--|
|  | Promote Livable human settlements within the Archipelago   | <p>Access to clean potable water</p> <p>Promote sustainable urbanization</p> <p>Promote access to sustainable liquid and solid waste management practices within the Archipelago</p> <p>Enhance security within the Islands</p> | <p>Construction of 'Djabias' for rainwater collection in Faza, Pate, Tchundwa, Siyu and Mbwajumwali villages in Pate Island</p> <p>Assessing the viability of a desalination plants in Island settlements ie. Mtangawanda, Siyu, Pate, and by extension Kiunga</p> <p>Adopt policies that discourage sinking of shallow wells</p> <p>Prepare Integrated Strategic Urban Development Plans (ISUDPs) for all Centres to guide anticipated growth</p> <p>Prepare up to date Urban Land Information System on all urban Centres to capture all properties on ground</p> <p>Prepare Valuation Rolls for all Urban Centres to enhance Revenue Sharing between the County and National Government</p> <p>Identify probable land fill sites for solid waste management in Lamu and Pate Islands</p> <p>Enforce donkey cells on those found roaming at night without owners in Amu Old Town to curb uncontrolled waste</p> <p>Lighting programmes within the villages of Pate and Ndau Islands</p> <p>Put up police posts at Siyu Village</p> <p>Encourage community policing within the settlements</p> <p>Maritime Police posts at all jetties in the Islands to serve as security checkpoints</p> | <ul style="list-style-type: none"> <li>• CGL</li> <li>• KMA</li> <li>• The Kenya Police</li> <li>• CBOs</li> </ul> | <ul style="list-style-type: none"> <li>• Improved access to fresh water supply</li> <li>• Improved sanitation</li> <li>• Improved standards of living</li> <li>• Improved health</li> <li>• Improved security</li> </ul>   |
| <p><b>THE ECONOMIC CORRIDOR</b></p> <p><i>(This is the main road corridor in Lamu County upon which all other secondary roads hinge. It is a 2-part corridor; the first running from the Boundary with Tana River County through Witu-Hindi-Mokowe. The second part runs from Hindi Town through Bargon to Bodhei at the Border with</i></p> | <p>Promote dialogue with the National Government to have the road class upgraded</p> <p>Promotion of Public Private Partnerships in development of the project</p> | <p>Enhancing transport efficiency of Lamu County to other regions of the Country</p> <p>Improvement of the road standard</p> <p>Develop a Resettlement Action Plan for Project Affected Persons</p>                             | <p>Demarcate; survey the 80-meter road corridor that in future will include a railway line connecting the proposed Lamu port to Kilindini port in Mombasa</p> <p>Tarmac the 114-km road from Garsen to Mokowe</p> <p>Tarmac the 39-km road from Hindi to Bodhei parallel to the LAPSSSET corridor</p> <p>Preparation of the Resettlement Action Plan (RAP)</p> <p>Identification of sites for relocation</p> <p>Public sensitization and awareness of adopted RAP procedures</p>  | <ul style="list-style-type: none"> <li>• KENHA</li> <li>• CGL</li> <li>• The World Bank</li> <li>• SoK</li> </ul>  | <ul style="list-style-type: none"> <li>• Improved transport efficiency and economic interaction</li> <li>• Improved Public Transport</li> <li>• Improved security</li> <li>• Increased employment opportunities</li> <li>• Improved access to a wider market</li> <li>• Improved service delivery</li> </ul> |

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|--|--|---|---|---|---|
| <p><i>Garissa County. This economic corridor presents opportunities for various Centres along it and a parallel railway line)</i></p>  | Promotion of economically viable development centres along the corridor  | Guide development growth for urban centres along the corridor                                 | <p>Prepare Integrated Strategic Urban Development Plans (ISUDPs) for all centres to guide anticipated growth occasioned by the proposed economic corridor</p> <p>Prepare up to date Urban Land Information System on all urban Centres to capture all properties on ground</p> <p>Prepare Valuation Rolls for all Urban Centres to enhance Revenue Sharing between the County and National Government</p> |   |   |
|  | Promoting controlled developments along the economic corridor  | Development control programmes managed by the County Government of Lamu                       | Prepare a land use Plan for the economic corridor which will provide detailed Planning policy and zoning regulations  |   |   |
|  | Promote the highway corridor as a link to enhance Tourism; Trade; and Commerce between the County and Malindi; Kilifi; and Mombasa | Develop partnership to enhance Tourism; Trade; and Commerce                                   | Formulate strategies to enhance Tourism; Trade; and Commerce in partnership with Tourism Development Board; and Chambers of Commerce and Industry   |   |   |
| <p><b>THE PORT PRECINCT (Lamu Port)</b></p> <p><i>This captures the site of the proposed Lamu port as a component of the LAPSSET project, and the impacts it will have on the adjacent areas and Lamu County as a whole)</i></p> | Promote the LAPSSET project as an economic asset to Lamu County  | Boost the livelihoods; and the standards of living of the people of Lamu County               | Train locals to work in the various LAPSSET sectors   | <ul style="list-style-type: none"> <li>• LAPSSET Authority</li> <li>• KMA</li> <li>• KAA</li> <li>• KPC</li> <li>• GoK</li> <li>• Government of Ethiopia</li> <li>• Government of S. Sudan</li> <li>• KENHA</li> <li>• CGL</li> <li>• Kenya Police</li> <li>• CBOs</li> </ul> | <ul style="list-style-type: none"> <li>• Increased sea trading activities in Lamu</li> <li>• Increased employment opportunities</li> <li>• Improved standards of living</li> <li>• Improved revenue generation for the County</li> <li>• Increased monetary circulation within the County</li> <li>• Improved road condition</li> <li>• Enhanced accessibility of areas along the LAPSSET Highway</li> <li>• Improved public transport</li> <li>• Improved Air Transport</li> </ul> |
|  |  |   | Formulate an affirmative action requiring at least 40% to be local employees of the LAPSSET project   |   |   |
|  |  |   | Compensate local fishermen affected by the LAPSSET project within the port area   |   |   |
|  |  |   | Buffer the Port Precinct from the adjacent human settlement areas   |   |   |
|  |  | Enhancement of infrastructural linkage of Lamu to other Counties; and the rest of the Country | Construct a first rail line network connecting Lamu Port to the rest of the Country and extend the line to Ethiopia and Southern Sudan  |   |   |
|  |  |   | Construct and design the proposed tarmacking of the Hindi-Bodhei Corridor and provide a safe crossing for livestock and wildlife moving toward the Tana Delta in search of pasture and water around Bodhei Livestock Centre   |   |   |
|  |  |   | Construct the first oil pipeline that will connect Lamu Port to the rest of the Country; Ethiopia; and Southern Sudan   |   |   |
|  |  |   | Construction of the Lamu Port berths on the naturally deep harbor that will not require a lot of dredging   |   |   |
|  |  |   | Allow movement of the passenger boats; and other small vessels through the Port area to Islands such as Pate; Ndau; and Kiwayuu   |   |   |
|  |  |   | The construction of the Airport proposed in Mkunumbi which will enhance air Transport; and convenient foreign trade   |   |   |
| Enhancing Tourism  | The port will provide docking berths for tourist cruise ships; and other passenger ships   |   |   |   |   |

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|  |  |  | Initiating the projects under the LAPSET project components including the Amusement Centre; Fisherman's Wharf; and the Resort City to promote Tourism  |   |   |
|  |  | Enhancement of security  | The Police Station established at the Port Area to increase the patrols; and surveillance of the area<br>The Kenya Maritime Authority to conduct routine surveillance on the waters within the Port Area |   |   |
|  |  | Sustainable Waste Management for the Port Precinct   | Prepare an Integrated Solid; and Liquid (including oil effluents and spillages in the sea) Waste Management Plan   |   |   |
| <p><b>THE STRATEGIC GATES</b></p> <p><i>(These are the main towns/entry or exit points into and out of the County in the mainland and archipelago.</i></p> <p><i>Here as a concept, they have been interpreted as the Centres of Witu; Bodhei; and Kiunga in the Mainland; and Kizingitini Village in the Archipelago)</i></p> | Promote Witu Centre as a tourism and hospitality hub                 | Provide an enabling land use environment for a sustainable growth of the town                    | To prepare ISUDP for Witu Town that promotes Eco-Tourism and Hospitality   | <ul style="list-style-type: none"> <li>• CGL</li> <li>• Private Investors</li> <li>• KENHA</li> <li>• LAPSET Authority</li> <li>• KWS</li> <li>• Kenya Police</li> <li>• National Museums of Kenya</li> </ul> | <ul style="list-style-type: none"> <li>• Planned Witu Town</li> <li>• Controlled growth of Witu Town</li> <li>• Improved accessibility due to road improvement</li> <li>• Improved public transport</li> <li>• Wide access to product market</li> <li>• Improved standards of living</li> <li>• Empowered youthful generation</li> <li>• Improved tourism</li> <li>• Increased employment opportunities</li> <li>• Increased revenue circulation</li> </ul> |
|  |  |  | Establish a Town management board for sustainable growth of Witu Town  |   |   |
|  |  |  | Identify land to build the Town Hall for the Management Board  |   |   |
|  |  | Promote infrastructure development of the Town   | Integrated waste management Plan for Witu Town   |   |   |
|  |  |  | Tarmacking of Witu- Moa road to open up to the unexplored potential of Lake Moa area as a tourist attraction area  |   |   |
|  |  |  | Graveling of the Witu-Kipini road: connects to Kipini Conservancy and Tana Delta Region  |   |   |
|  |  | Enhance better management of the Urban Centre  | Graveling of Witu-Pandaguo road to enhance access to the wildlife conservancies  |   |   |
|  |  |  | Establish Town management board to ensure effective delivery of services   |   |   |
|  |  |  | Establish a cultural artifact market in Witu Town  |   |   |
|  |  |  | Establish Witu as a historical Town: Rehabilitate and Conserve Old Historical buildings of the Witu Sultanate in the Town  |   |   |
|  | Promoting youth; and women empowerment through training institutions | Identify land to put a fully-fledged County Polytechnic Institution (Consideration for GTZ land) |  |   |   |
|  |  | Establish a Talent and Creative Arts Incubation Centre   |  |   |   |
|  | Promote Fishing as the Main Economic Activity of Kiunga Town         | Provide an enabling land use environment for a sustainable growth of the town                    | To prepare ISUDP for Kiunga Town that promotes Kiunga Town as a fishing Town   | <ul style="list-style-type: none"> <li>• CGL</li> <li>• Private Investors</li> <li>• KENHA</li> <li>• KWS</li> <li>• Kenya Police</li> </ul>  | <ul style="list-style-type: none"> <li>• Planned Kiunga Town</li> <li>• Controlled growth of Kiunga Town</li> <li>• Increased fish production</li> <li>• Enhanced security in the area due to improved road; and development</li> </ul>   |
|  |  |  | Establish a Town management board for sustainable growth of Kiunga Town  |   |   |
| Establish a Town Hall for the Management Board   |  |  |  |   |   |
| Establishing Kiunga Town as a prominent fishing Town   |  | Develop a fish processing Plant  |  |   |   |
|  | Establish about 3 cold storage facilities                            |  |  |   |   |



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|  |  | Enhance Infrastructural linkage  | Tarmacking of the Majengo-Kiunga corridor<br>Upgrade the existing airstrip to enhance fish export  |  | <ul style="list-style-type: none"> <li>Improved accessibility due to road improvement</li> <li>Improved public transport</li> <li>Wide access to product market</li> <li>Improved standards of living</li> <li>Improved tourism</li> <li>Increased employment opportunities</li> <li>Increased revenue circulation</li> </ul>  |
|  |  | Enhance Tourism in the area  | Upgrade the existing airstrip to promote tourism<br>Encourage Public Private Partnership in the provision of hotel facilities in the area<br>Link the town to the Dodori National Reserve through the proposed Tourism Circuit   |  |  |
|  | Promote Fishing as the Main Economic Activity of Kizingitini Village | Provide an enabling land use environment for a sustainable growth of the Village | To prepare a Local Plan for Kizingitini Village that promotes the village as a fishing destination   | <ul style="list-style-type: none"> <li>CGL</li> <li>Private Investors</li> </ul>   | <ul style="list-style-type: none"> <li>Planned Kizingitini village</li> <li>Controlled growth of Kizingitini village</li> <li>Increased fish production</li> <li>Improved water and road accessibility due to road and jetty improvement</li> <li>Wide access to product market</li> <li>Improved standards of living</li> <li>Improved tourism</li> <li>Increased employment opportunities</li> <li>Increased revenue circulation</li> </ul>  |
|  |  | Establishing Kizingitini Village as a prominent fishing village                  | Develop a fish processing Plant in Kizingitini<br>Establish about 3 cold storage facilities in the village<br>Identify a site where a fish market can be developed   |  |  |
|  |  | Enhance Infrastructural linkage  | Improve the condition of the Kizingitini jetty<br>Improve the Faza-Pate-Kizingitini road to bitumen standard   |  |  |
|  | Promote Bodhei as a Livestock Development; and Security Centre       | Provide an enabling land use environment for a sustainable growth of the town    | To prepare ISUDP for Bodhei Town that promotes the Town as a Livestock Development Town<br>Establish a Town management board for sustainable growth of Bodhei Town   | <ul style="list-style-type: none"> <li>CGL</li> <li>Private Investors</li> <li>KENHA</li> <li>LAPSET Authority</li> <li>KWS</li> <li>Kenya Police</li> </ul> | <ul style="list-style-type: none"> <li>Planned Bodhei Town</li> <li>Controlled growth of Bodhei Town</li> <li>Increased revenue collection for the County</li> <li>Increased livestock production</li> <li>Improved accessibility due to road improvement</li> <li>Improved public transport</li> <li>Wide access to product market</li> <li>Improved standards of living</li> <li>Empowered youthful generation</li> <li>Improved tourism</li> <li>Increased employment opportunities</li> <li>Increased revenue circulation</li> </ul> |
|  |  | Enhance Infrastructural linkage  | Tarmacking of the Hindi-Bodhei road<br>Tarmacking of the Majengo-Kiunga road<br>Establish a weigh bridge along Hindi-Bodhei at the intersection with the LAPSET corridor<br>Identify a site for parking facilities near the dairy; and meat industry                         |  |  |
|  |  | Establishing Bodhei Town as a prominent Livestock Development Town               | Establish and Develop meat; and dairy processing industries<br>Establish and demarcate the extent of the existing livestock holding grounds<br>Establish strategic water points for the livestock<br>Establish strategically placed cattle dips along the livestock corridor |  |  |
|  |  | Enhance competitiveness and growth of the town                                   | Identify a site for a Livestock Auction Market near the meat; and dairy processing industry<br>Identify sites that can be used by various security institutions as Camps; or Posts eg. KPR; Anti-Stock   |  |  |

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|  |   | Enhancing the security of the Centre and adjoining areas  | Theft Police Unit; Kenya Police; KWS; and the Administration Police<br>Establish a border security check point in Bodhei  |  |   |
| <p><b>THE BLUE PEARL</b></p> <p><b>(Exclusive Economic Zone)</b></p> <p><i>(Indian Ocean from Ras Comboni to Kipini of Kenya's territorial waters measuring a length 480 Km of and a width of 370 Km</i></p> <p><i>Creeks, Wange Creek and Dodori creeks</i></p> <p><i>Headlands, Beaches)</i></p> | Promote sustainable utilization of EEZ within Lamu County | Determination of the extent of the EEZ within Lamu County | Undertake Hydro-survey to delineate the oceanic EEZ Boundary; and put up buoys as the sea beacons<br>Undertake Bathymetric mapping of the oceanic resources (Marine Spatial Planning)   | <ul style="list-style-type: none"> <li>• SOK</li> <li>• KMA</li> <li>• CGL</li> <li>• Kenya Navy</li> <li>• KWS</li> <li>• KEMFRI</li> </ul> | <ul style="list-style-type: none"> <li>• Increased fish production</li> <li>• Improved security in the ocean</li> <li>• Improved Tourism</li> <li>• Increased employment opportunities</li> <li>• Improved standards of living</li> <li>• Increased revenue generation and collection for the County</li> </ul> |
|  |   | Training of marine resource experts                       | Establish a KWS Marine Research Institute in Kiunga National Marine Reserve<br>Establish complementary Marine institutions in Manda and Faza Islands  |  |   |
|  |   | Sustainable waste management in the EEZ                   | Prepare Integrated solid; and liquid waste management Plan for the EEZ<br>Undertake routine cleaning programmes for the ocean   |  |   |
|  |   | Sustainable Exploration of oceanic resources              | Enhancing sustainable deep-sea fishing  |  |   |
|  |   | Regulate Petroleum exploration                            | Forge partnership pacts with the National Government; the County Government of Lamu; and the Exploring Companies on benefit sharing agreements on successful exploration and production.<br>Awarded explorers should undertake an inclusive Environmental and Social Impact Assessment and a report submitted to the relevant authorities |  |   |
|  | Promote coastal and marine Tourism                        | Promote development and management Marine Parks           | Diversify tourist activities within Kiunga national Marine reserve to include Snorkeling<br>Designate sites for scenic Deep-sea diving in Kiunga, Kiwayuu, kipungani  |  |   |
|  |   | Diversify touristic services and activities               | Encouraging deep sea recreational activities eg. Snorkeling; deep sea fishing; parasailing and deep-sea diving  |  |   |
|  |   | Enhance Transportation activities in the EEZ              | The County Government through Public Private Partnerships to facilitate purchase of deep sea vessels to enable deep sea water transport   |  |   |
|  |   | Develop inter-agency pacts in enhancing                   | Derive policy legislation; and agreement pacts between the KWS; KMA; Kenya Navy; and all other  |  |   |

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|  | Promote disaster preparedness and management in the Indian ocean | disaster preparedness in the EEZ | agencies involved with activities within the Kenyan Territorial Waters<br>Constitute an inter-agency unit to assist in the mitigation of disaster preparedness in the ocean<br>Ensure all deep-sea vessels are covered by an insurance policy; and equipped with necessary safety gears and equipment including first aid kits; life save jackets, navigation compass etc<br>Increase the number of boat ambulances to make regular patrols in the ocean |  |  |
|--|--|----------------------------------|--|--|--|

## CHAPTER 6: THE CAPITAL INVESTMENT PLAN (CIP)

### OVERVIEW

The County Government of Lamu is constitutionally required to plan, fund, design, construct, and maintain infrastructural assets that enable the county and its people as well as the economy to flourish. However, the desired infrastructural investment for Lamu County requires capital that far exceeds available resources to the county Government making a case for the County to build capacity to appraise and prioritize its investment decisions. Hence there is an increasing need to establish and maintain a process of planning and funding capital investment as a regular activity integrated within the county together with its other activities and based on principles of good public management. For this to happen, the County Government of Lamu must identify and prioritize the most beneficial investments, those that will most help to meet long term goals, *inter alia*, for conservation, mobility, sustainability, healthcare, revenue generation and broad-based prosperity.

In developing this CIP, all possible Lamu county capital investments were considered together, and funding programs were developed and sized taking all capital needs into account. This CIP is the first capital plan produced for the County of Lamu and all programs and projects were selected to shape the single Lamu County vision of **“A planned, well governed, secure and healthy County that is economically vibrant and affords a high quality of life for its citizens through Sustainable use of its Natural resources, promotion of local culture and livelihoods and conservation of its unique heritage and biodiversity”**.

### THE NEED FOR A CAPITAL INVESTMENTS PLAN

The marginalised state and poor living conditions in Lamu County necessitate the need for the County Government of Lamu to invest in infrastructure and other social improvement assets that should enhance the economic and social development of Lamu communities. Furthermore, there is an unprecedented attraction of development to Lamu County, lured by the prospects of the proposed LAPSSET project in the County.

This coupled by Lamu’s ecological and social-cultural fragility creates a need for an investments framework that ensures sustainable development in the county that would enhance the welfare of the people in Lamu. From the above perspective, investment is understood as investment in the acquisition or building of new assets; or major repair and replacement of existing assets that have an economic life longer than one year and a value above a specified threshold. Capital investment planning (CIP) by the County would include (or should include) capital investment by the County Government of Lamu, the National Government, National agencies and institutions established for the provision of public services, enterprises set and owned by the county Government for the provision of public utility services. CIP also may include investment by the private sector through public-private partnerships (PPP) as well as by NGOs whose missions intend to improve the welfare of the communities in Lamu.

### APPROACH FOR DEVELOPING THE LAMU CSP CAPITAL INVESTMENTS PLAN

This CIP is based upon strategic priorities that enhance conservation and improvement of the biodiversity and heritage in Lamu as well as bolster economic development in Lamu, with an emphasis on sustainability. The set priorities shall guide investments on maintenance and modernisation of existing infrastructural assets that may have deteriorated or setting up new infrastructure to meet current stakeholder needs and requirements.

A Lamu County Spatial Plan Implementation Matrix, was generated after comparison of impacts of different development scenarios of investments across various sectors and county wards in order to provide a better understanding of the most efficient and strategic allocation of resources to achieve goals for the Lamu County Spatial Plan. Projects were selected from the Plan Implementation Matrix which, incorporated public input and detailed all known project

ideas including strategy, relevant actors and expected outcome of implementing a project.

This Plan has established approximately 80 different funding programs which incorporate the capital responsibilities of the County Government of Lamu. The programs are sector based highlighting funding allocations for each program based on stakeholder input, and technical staff recommendations. Program sizes were initially established to ensure that they were sufficient to cover projects already underway. A two-phase process was then used to sequence the allocation of remaining funds. The first phase allocates restricted-use funds to projects within the first three years (2017-2020) and those that are legally or in some other way mandated. Allocations were then continued in the following 5 years (2020-2025) based on the strategic priorities.

Particular investments were considered for funding after the programs were defined, phased and assigned a funding level based on the priority of the program, the types of funding available for it, and the ability of the program to achieve the Lamu CSP strategic goals. In addition, this CIP is informed by and will inform other planning efforts within Lamu County, including the Integrated Strategic Urban Development Plans (ISUDPs), the County Integrated Development Plan (CIDP), Resource Area Management Plans, and LAPSSET Corridor Development proposals.

Finally, there will be a public review process of the Lamu CSP after one year, during which this CIP will incorporate input from elected leaders, county technical officials, business groups and other key stakeholders about other priority projects that best facilitate the sustainable development of Lamu County and require funding for planning, construction or both. This plan is a living document that will be regularly reviewed, with adjustments made as required. Annual updates will reflect the most current funding levels and the status of projects.

## CHALLENGES OF THE CIP

There are at least three substantial challenges in dealing with CIP in Lamu County.

### TIMING CHALLENGE

There is an intrinsic timing challenge. On the one hand, allocating funding for capital projects should be done annually within the County’s budgeting cycle. On the other hand, complex infrastructure projects may require several years’ preparation and “packaging” before external financing (grants or loans) can be sought.

This CIP encourages Lamu County to pursue study, design, permitting, and/or engineering for the next generation of major investments, even if construction financing has not yet been fully identified or committed for those projects. Such investments are large, expensive, complex, and important to the development of the County, and therefore CGL should continue to move them through the important phases of planning, community outreach, concept and preliminary design, and permitting. This plan facilitates the CGL to work with public and private sector partners and stakeholders to determine how best to advance such crucial investments in a manner that is fiscally prudent and sustainable, while continuing to aggressively pursue necessary steps to ready the projects for construction.

### DESIRED DEMANDS AND AVAILABILITY OF FUNDS

After expenditures for remunerations, there are hardly any funds left for capital expenditures. Secondly, desires for capital investment are always higher than available funding, therefore, the County must make rational choices.

### CAPACITY TO CAPITAL PLAN

Often new and contemporary approaches to evaluate options for complex infrastructure projects usually exceed the county’s technical capacities, even in more developed counties of Kenya. For example, capital investment should be considered within the frameworks of life cycle costing and assessment of alternatives (for example, reducing demand for the service/facility, engaging the private sector). Such a consideration is not often easy to quantify and evaluate objectively by the County. In addition, CIP is an

evolving area of public management. Local Governments across the world are continuously trying new approaches.

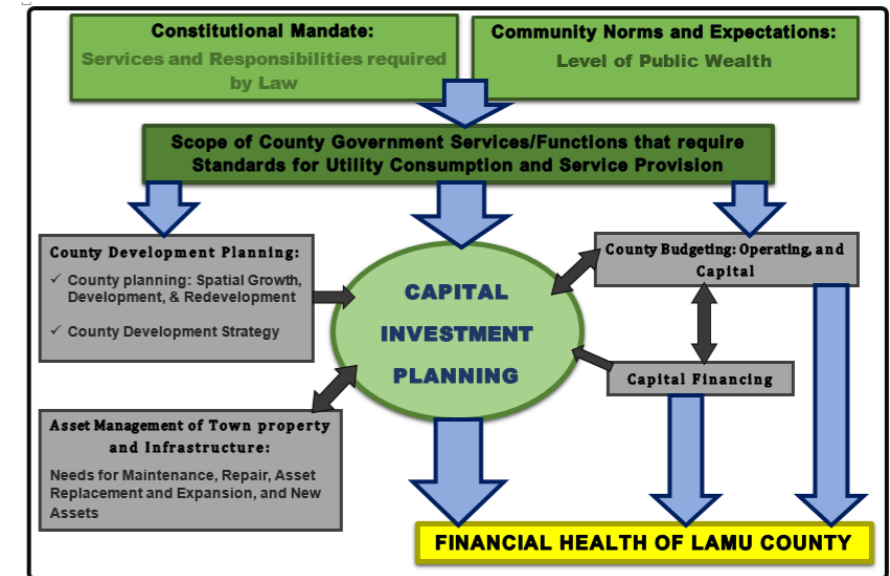
## RELATING CIP TO OTHER COUNTY ACTIVITIES

Capital investment planning is appreciated in the context of the County functions and activities with which it is connected. Understanding these connections is critical for developing the CIP process as an integral part of a County that can evolve and mature (World Bank, 2011). Thus, Capital investment Planning is not a standalone, one-time effort for the County but sits at the intersection of two interrelated areas: asset management and financial management. Asset management is the process of acquiring, holding, managing, operating, and disposing of capital assets (such as land, buildings, infrastructure facilities and networks, movable property) and other assets needed for attaining Government goals (World Bank, 2011).

Figure 20.1 below depicts how CIP should ideally relate to other activity areas within Lamu County. The Green boxes illustrate conceptual, legal, social, and economical factors that establish a fundamental context for the CIP. It highlights the first key principle of contemporary good public management as properties and infrastructure in which the county invests should be only those needed for the services and utilities that the county is required to provide for its communities.

The services to be provided are either mandatory services required by law or discretionary services recommended in national or county policies. For example, the Constitution requires County Governments to provide healthcare services thus the county should invest in establishing adequate healthcare facilities. However, a county may decide to acquire/build and operate a Rehabilitation Centre for drug addicts. Providing this rehabilitation centre would be a discretionary service.

**Figure 1: The Capital Investment Plan in relation to other Counties**



**Source:** Adapted from World Bank, 2011.

The challenge here is that laws very often are silent about the specific content, quantities, and qualities of the services that counties must provide. In such cases, societal norms and expectations come into play since all services come from public financial resources that belong to the people. In any event, service provision mandates, along with societal expectations and the wealth in the public sector, form the scope of the standards for public utilities and provision of services that the county must address in its CIP process.

The Grey Boxes show three interrelated factors that provide input to the CIP progress: sources of projects, funding, and finance. Finally, the Yellow Box depicts a very important aspect of CIP: decisions related to capital investment, city budgeting, and financing all directly impact the county’s financial health and its future ability to fund services for its communities.

## FUNDING STRATEGY FOR THE CIP

The list of projects prioritized in this CIP is nothing more than an expression of the County needs and preferences. In order to achieve the objectives of the Lamu County Spatial Plan as well as the national objective of accelerating economic growth and poverty reduction, a proper funding strategy of this CIP is critical. Since financial resources available for capital investment define what can be implemented, the approval of this CSP containing the CIP has an impact on the county budgeting process. In addition, the Government needs to plan for and incorporate the after-

acquisition life cycle costs of new or renovated assets in budget forecasts during the plan implementation period. Lamu County has an established budgeting process that requires approval of the Lamu County Spatial Plan incorporating this CIP to be eligible for county development funding from the exchequer and to allow for capital investment spending as part of the county's budgetary cycle.

Funds mobilization is key to the implementation of the identified County priorities. To ensure that the funding of the projects have been effectively been done, the first fiscal year of the Capital Investment Plan, 2017/18 has been set aside to carry out a massive funds mobilization for the projects. This will ensure that projects will only commence once funds have been guaranteed.

Some capital investment needs in this CIP will be addressed through the use of nonfinancial or nontraditional solutions. On the demand side, the CIP considers reduced cost for new infrastructure through urban planning that promotes compact human settlement areas. On the financing, building, and operating side, engagement of the private sector in the process through various forms of public-private partnerships is encouraged. Land-based financing which entails the mobilization of the economic value of the Government-owned land and Government's power to impose fees and charges, in particular on developers, or to sell "development rights" to generate additional revenues to fund infrastructure is also promoted in this CIP to enhance Lamu county's financial capacity.

**PROPOSED CAPITAL COSTS FOR THE FIRST 3 YEARS (2017 – 2020)**

The various sectoral capital costs for the first 3 years have been identified based on the review of the proposed sectoral strategies as follows:

**i. Housing and Social Infrastructure**

Informal housing and inadequate housing tenure is a major problem in Lamu County that is addressed in the Lamu CSP and constitute capital costs including housing typologies and conditions, spatial location of Housing, and improving housing delivery systems. Adequate healthcare provision generally within Lamu County and especially in Lamu East sub-county and island

settlements is also a key issue reflected in the plan. Other aspects of social infrastructural services e.g. improving educational infrastructure, improving community facilities, also require capital funding and are considered in the same funding pool.

**ii. Environment and Biodiversity Conservation**

Lamu County has a unique and rich Biodiversity and heritage that affects the national economy and requires effective conservation. Furthermore, the biodiversity and heritage inherent in Lamu County has international and national interests as well as local interests who can all fund and implement programmes in this sector.

**iii. Commercial & Industrial Development**

Capital expenses proposed in this sector relate to the future development of Lamu County as a county creating employment and wealth for the Kenya and the larger East Africa region. The development of the Lamu Port and the LAPPSET Corridor will make Lamu county a new regional focal point for industrial logistics. Similarly, by funding the capital infrastructure and facilities to encourage development of value addition industries in different parts of the County, will catalyse the establishment of Lamu as a regional industrial, tourism and commercial hub. This sector shall rely upon National and County Government funding as well as significant input from the private sector.

**iv. County Financial Structures**

Modest capital expenses have been proposed in relation to Computerization of county revenue operations, establishment of a Geographical Information System (GIS) and development of a modern Valuation roll.

**v. County Planning and Management**

Expenditures have been proposed for the establishment of a modern Planning Department in the County cascaded to include ward level planning units as well as a development of Integrated Urban Development Plans for selected urban areas within Lamu County.

**vi. Infrastructure & Services Strategy**

Most of the capital expenses in this category can jointly be funded by the County Government and the National Government agencies responsible. Some of the projects included in this category include the establishment of an integrated solid and liquid waste management system in the County. Other capital expenditures in this category will include the improvement of roads infrastructure in the County, Establishing Marine ambulances, Development of Mkunumbi Airport, development of Jettys and fish landing sites in different areas of the County among other projects. A summary for capital costs related to projects in the first 3 years is presented below:

**Table 1: Summary of Short Term 3-year Capital Costs.**

| SECTORAL ACTIVITY                               | 2017/18 ('000) | 2018/19 ('000) | 2019/20 ('000) | TOTAL ('000) |
|---|----------------|----------------|----------------|--------------|
| 1. Housing and Social Infrastructure            |                |                |                |              |
| 2. Environment and Biodiversity Conservation    |                |                |                |              |
| 3. Commercial & Industrial Development          |                |                |                |              |
| 4. County Financial Structures                  |                |                |                |              |
| 5. County Planning and Management               |                |                |                |              |
| 6. Infrastructure & Services Strategy           |                |                |                |              |
| <b>Total for 3 Year Capital Investment Plan</b> |                |                |                |              |

Source: CURP, 2017

## LAMU COUNTY'S FINANCIAL CAPACITY

Knowledge of the Lamu County's financial capacity to fund capital investments is another key input in the capital investment planning. This capacity is analysed to determine how the proposed expenditures summarized above, compare and relate to the total County budget. It is however notable that Lamu County is one of the most least funded Counties in the Country with an annual budget of about 2 Billion shillings. A look at the County's annual budgetary allocations to various departments would make it a bit hard to believe that the County alone can be able to fund all the projects proposed under this CSP. The following departmental budgetary allocations for the past 2-years in the County has been used as an example:

| Sector  | Year 2 (2014/15)   | Year 3 (2015/16)   |
|---|--------------------|--------------------|
| Agriculture, livestock, fisheries and Cooperative Development       | 104,776,195        | 108,200,000        |
| Finance, Economic & Strategic Planning                              | 5,790,226          | 4,000,000          |
| Trade, Culture and Tourism & Investment Development                 | 32,469,286         | 36,500,000         |
| Lands, Physical Planning, Infrastructure, Water & Natural Resources | 186,166,634        | 225,965,747        |
| Health and Sanitation   | 78,765,099         | 174,200,000        |
| Education, Gender, Youth and Social Services                        | 55,345,722         | 159,200,000        |
| County Government and County Assembly                               | 107,574,045        | 138,000,000        |
| Communication, EGovernment & Public Participation                   | 5,094,250          | 6,500,000          |
| <b>GRAND TOTAL</b>  | <b>575,981,457</b> | <b>852,565,747</b> |

Source: Lamu County Government, 2017

From the above allocations, it is not easy to directly compare the County Budget with the CIP budget since the County budget is not detailed enough to apportion actual programmes or fund them. However, it is clear that elements of the County Budget allude to certain expenditures that would fall under sectoral items discussed in this plan. For example, Agriculture, livestock and fisheries, Trade and Commerce sector, Urbanisation sectors, Lands, forestry, water and natural resources, Transport infrastructure Industrialization, Health, Education, Institutional Capacity Building, Gender, Youth and Social Services, Safety and Security are all County budgeted expenditures that would relate to the detailed proposed expenditures presented in the CIP. If this was the consideration, the County budgetary allocation for capital expenditure would therefore imply a budget of about KES 10 Billion annually to fully fund anticipated annual projects advanced by this CIP.

## FUNDING THE INVESTMENTS

The 2017/18 Capital Budget will represent the funding for the first year of the CIP. Projects in the first year of the Plan generally represent the County's most immediate investment priorities and at about KES 5 billion, that is already a very high figure. Projects that are included in the Plan are stated as priorities but are not guaranteed for funding as the Plan is a reflection of the stated needs within the County. In this regard, the CIP is intended to be a fluid document that will be subject to change each year as priorities are re-assessed and as additional information on funding streams becomes more defined. Losses of County allocations, emergencies, unforeseen and extraordinary expenditures in the operating budget, are all factors that can force a change in the assumptions of the CIP. The mobilization of these funds is critical if the County Government of Lamu will have to contribute to the overall goals of accelerating economic growth and poverty reduction in Lamu.

The following are some of the sources of funds for the CIP.

- i. National Government County transfers;
- ii. County taxes and revenues from assets, valuation roll, among other forms of revenue generation;

- iii. Development Partners (DP) funding e.g. WWf, ICRAF, DANIDA, WORLD BANK; and the African Development Bank (ADB) among others;
- iv. Private and related collaborative sources (Public Private Partnerships - PPPs, etc).
- v. The local community through CBOs, CSOs, SACCOs etc

## GOVERNMENT OF KENYA (GOK) NATIONAL FUNDING

Lamu County receives funds from the national Government through the equitable share of the national Government revenue. Lamu County has received **KES 1.79 Billion** in 2014/15; KES 000 billion in 2015/16 from the equitable share of the national Government revenue. The National Government had through the Commission on Revenue Allocation recommended the allocation of **KES 377.5 Billion** to the 47 county Governments in the 2016 – 2017 Financial Year (FY) where Lamu County got the least allocation of **KES 2.5 Billion**.

Lamu also receives allocation from the national Equalisation Fund, with the funds meant solely for development of basic but critical services, such as water, roads, health facilities and electricity in marginalised areas to the extent necessary to bring the quality of these services to the level generally enjoyed by other areas. In the 2016-17 financial year, Lamu County was set to receive an additional **KES 722 Million** above what it receives in normal allocations from the equitable share of the national Government revenue. National Agencies also offer Targeted transfers (grants) which are allocated for specific sectors (for example, water, roads) or specific projects. In some agencies, such transfers may give some discretion to County Governments to decide how to use the funds, in the support of the devolved system of county Governments.

As alluded above, these amounts are still not enough to sustain the various capital projects advanced in this Plan considering the recurrent expenditure also takes quite a huge chunk of the monetary allocation from the National Government.

## COUNTY GOVERNMENT OF LAMU (CGL)

Lamu County Government collected local revenue of **KES 35.57 Million** in 2013/14; **KES 61.67 Million** in 2014/15; **KES 50 Million** in 2015/16 from local sources including land rates and rent, single

business permits, agricultural fees, public advertisements, local quarries, public health fees, produce cess and fish cess among other miscellaneous sources. The County expects to get about KES 300 Million in 2016/17 as part of its revenue generation. Such funds if increased in their collection capacity through avenues proposed in this Plan will steer some of the projects proposed in this Plan.

The County Government has not been able to invest sufficiently in equipment and other capital assets. However, the County can budget to finance critical infrastructural investments in several ways which may contribute to capital sources. The county can dedicate local taxes and licence fees for capital projects. Such taxes and fees (for example, land development fees) usually charged to developers and should be used to fund necessary extensions of public infrastructure or may be considered as impact fee attributed to the need for additional infrastructure caused by the new development. This may however need policy and legislation to support effective enforcement.

Surplus from the annual operating budget either from own-source revenues or savings or from general transfers from national Government can also be a source for capital expenditures. Service utility users' contribution mostly a one-time input can be a substantial funding source, e.g. water connection charges. Furthermore, for infrastructure systems that provide user-paid services like water and sewerage, some part of the user fee should constitute a dedicated source for capital investment, paying for capital components of maintenance costs and for restoration and recapitalization. Contributing to the infrastructure implementation cost also builds citizens' sense of ownership and contributes to citizens' selecting priority projects and controlling implementation.

County revenue and funds dedicated to implementing this plan should be well managed in a Special Reserve Fund established through a formal County resolution. This fund would accumulate specific earmarked resources identified in its establishing documents for the development and maintenance of essential capital assets and cannot be used for other purposes. The special fund can either be dedicated to a particular infrastructure system or group of properties like roads and streets or water, sewerage, and rainwater harvesting. This reserve should be protected by local regulations from use for other purposes and supervised

independently by a special board that incorporates key stakeholders and managed by a professional authority. Moreover, these special funds should be readily available only for capital investment projects as identified by this Plan.

The Lamu CSP has considered and planned for all land in the County and recommended public use land to be reserved for future development. The County can avail public land to pragmatic investors to ensure they effectively develop required capital investment recommended for the respective zoning boundaries. The plan also makes recommendations that discourage unnecessary expropriation of land from sitting tenants when availing public land for development.

#### **DEVELOPMENT PARTNERS (DPS)**

The County Government of Lamu can obtain grant funds from specialized donor-funded entities as an important source of capital expenditure funding. Such programmes as the World Bank funded -Kenya Urban Programme Funds that are designed to support specific types of projects in the counties. Lamu County hosts world respected biodiversity and heritage sites and consequently attracted world organisations willing to finance efforts that ensure biodiversity conservation, heritage, cultural livelihoods promotion as well as environmental protection. WWF, Nature Kenya, UNESCO among others alluded to above are such organisations that may be sources of grant funds to finance capital investments effect that their respective causes and mandates.

#### **PRIVATE PUBLIC PARTNERSHIPS (PPPS)**

Public-Private Partnerships are based on a contractual relationship between the Government and the private partner (which can be a consortium of private entities). Private-sector developers can take certain risks that the County Government might not withstand when undertaking a project and yet the county might benefit from the innovations and efficiency of the private sector in implementing capital projects. Private partners in PPPs can play several roles in implementing capital investment projects, which include providing financing, expertise, and efficiency; and, if a PPP is well structured, then a sure implementation procedure is imminent.

Well-structured PPP contracts protect public budgets from the risks of budget overruns and funding drying up before project

completion. This is so because project costs and funding for the entire project are stipulated in the PPP contract, before project implementation commences. Some PPP projects can be completely financially self-sufficient and do not require public funding like a fishermen's wharf designed, financed, built, and operated by a private partner, with the docking prices controlled by the county Government. In such cases, investors recapture their costs and obtain profit from the revenues generated by the property/facility they build, while the Government obtains the public-use facility built without significant public capital outlay.

Developer exactions is another form of PPP engagement which implies that developers build on-site infrastructure on their own, when developing their property with no public funding or finance. For example, a developer is required to build an access road to its development site, or complete off-site infrastructure that was supposed to have been built by the county Government but was not developed. This form can be a negotiated contribution of off-site infrastructure in addition to on-site infrastructure required of the private development. A relevant case would be to allow and have the proposed wildlife conservancies designed, financed, built, and operated by a private partner on a Government-owned land site and required to develop social infrastructure within the area. The County Government become shareholders in the conservancy and local community benefit from social infrastructural developments and also receiving a profit share.

There can also be PPP form of voluntary and negotiated contributions in which property owners in a specific area agree to pay a predefined amount for specific improvements of infrastructure and services in the area, before capital investment in these improvements is made. This can best apply in business and commercial development zones of the designated urban areas.



## THE HUMAN SETTLEMENT STRATEGY

### HUMAN SETTLEMENT PLANS

| PROJECT ID | PROJECT  | QUANTITY   | UNIT | PHASE   |         | PHASE 1 |       |       |       |       | PHASE 2 |       |       |       |       | APPROXIMATE COST (IN KES.) |
|------------|--|------------|------|---------|---------|---------|-------|-------|-------|-------|---------|-------|-------|-------|-------|----------------------------|
|            |  |            |      | PHASE 1 | PHASE 2 | 2016/   | 2017/ | 2018/ | 2019/ | 2020/ | 2021/   | 2022/ | 2023/ | 2024/ | 2025/ |                            |
|            |  |            |      | (%)     | (%)     | 2017    | 2018  | 2019  | 2020  | 2021  | 2022    | 2023  | 2024  | 2025  | 2026  |                            |
| ISUDP01    | Prepare ISUDP for Mokowe   | 1269.08    | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 45,000,000                 |
| ISUDP02    | Prepare ISUDP for Mpeketoni  | 589.25     | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 35,000,000                 |
| ISUDP03    | Prepare ISUDP for Hindi  | 825.81     | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 40,000,000                 |
| ISUDP04    | Prepare ISUDP for Witu   | 207.26     | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 30,000,000                 |
| ISUDP05    | Prepare ISUDP for Amu Old Town   | 108.1      | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 30,000,000                 |
| ISUDP06    | Prepare ISUDP for Kizingitini  | 57.49      | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 30,000,000                 |
| ISUDP07    | Prepare ISUDP for Bodhei   | 200.94     | HA   | 50%     | 50%     |         |       |       |       |       |         |       |       |       |       | 30,000,000                 |
| ISUDP08    | Prepare ISUDP for Faza   | 25.78      | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 15,000,000                 |
| ISUDP09    | Prepare ISUDP for Kiunga   | 506.25     | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 30,000,000                 |
| ISUDP10    | Prepare ISUDP for Mtangawanda  | 25.61      | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 15,000,000                 |
| ISUDP11    | Prepare ISUDP for Bargoni  | 117.34     | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 25,000,000                 |
| TOPSV01    | Digital Topo-Survey and Contour overlay of the 11 Urban Centres at 1-2m interval | 11 Centres | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 12,000,000                 |
| HS01       | Construction of County Staff Housing Scheme in Mokowe                            | -          | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       | -                          |



Procurement and Consultant Selection; Funds



Project Implementation



Project Monitoring & Evaluation

## INFRASTRUCTURE & SERVICES STRATEGY

### TRANSPORTATION INFRASTRUCTURE







| PROJECT ID | PROJECT  | QUANTITY | UNIT | PHASE   |         | PHASE 1 |       |       |       |       | PHASE 2 |       |       |       |       | APPROXIMATE COST (IN KES.) |
|------------|--|----------|------|---------|---------|---------|-------|-------|-------|-------|---------|-------|-------|-------|-------|----------------------------|
|            |  |          |      | PHASE 1 | PHASE 2 | 2016/   | 2017/ | 2018/ | 2019/ | 2020/ | 2021/   | 2022/ | 2023/ | 2024/ | 2025/ |                            |
|            |  |          |      | (%)     | (%)     | 2017    | 2018  | 2019  | 2020  | 2021  | 2022    | 2023  | 2024  | 2025  | 2026  |                            |
| R01        | Upgrade Witu – Pandaguo road to gravel standard  | 20       | Kms  | 100%    |         |         |       |       |       |       |         |       |       |       |       | 50,000,000                 |
| R02        | Upgrade proposed Pandaguo road through Amu Ranch to C112 junction to gravel standard   | 38       | Kms  | 100%    |         |         |       |       |       |       |         |       |       |       |       | 95,000,000                 |
| R03        | Upgrade Witu – Chalaluma road to gravel standard   | 12       | Kms  | 100%    |         |         |       |       |       |       |         |       |       |       |       | 30,000,000                 |
| R04        | Upgrade Witu – Moa road to bitumen standard  | 4        | Kms  | -       | 100%    |         |       |       |       |       |         |       |       |       |       | 120,000,000                |
| R05        | Upgrade Witu – Kipini road (upto Tana River County Boundary) to bitumen standard   | 2.5      | Kms  | -       | 100%    |         |       |       |       |       |         |       |       |       |       | 75,000,000                 |
| R06        | Upgrading the Garsen-Witu-Mokowe road to Bitumen standard  | 91       | Kms  | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 2,730,000,000              |
| R07        | Upgrading the Kibaoni-Mpeketoni-Mkunumbi loop road to Bitumen standard   | 19       | Kms  | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 570,000,000                |
| R08        | Upgrading the Hindi-Bodhei road to Bitumen standard  | 25       | Kms  | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 750,000,000                |
| R09        | Upgrading all Class E roads in Mkunumbi; Hongwe; Bahari; Hindi Wards; and the archipelago to gravel standard<br><br>(No. of roads) | -        | Kms  | 75%     | 15%     |         |       |       |       |       |         |       |       |       |       | -                          |

| <span style="display: inline-block; width: 100px; height: 15px; background-color: #4F81BD; border: 1px solid black;"></span> Procurement and Consultant Selection; Funds <span style="display: inline-block; width: 100px; height: 15px; background-color: #A52A2A; border: 1px solid black; margin-left: 20px;"></span> Project Implementation <span style="display: inline-block; width: 100px; height: 15px; background-color: #90EE90; border: 1px solid black; margin-left: 20px;"></span> Project Monitoring & Evaluation |  |          |      |             |             |           |           |           |           |           |           |           |           |           |           |                            |
|---|--|----------|------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------------------|
| PROJECT ID  | PROJECT  | QUANTITY | UNIT | PHASE       |             | PHASE 1   |           |           |           |           | PHASE 2   |           |           |           |           | APPROXIMATE COST (IN KES.) |
|   |  |          |      | PHASE 1 (%) | PHASE 2 (%) | 2016/2017 | 2017/2018 | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 | 2024/2025 | 2025/2026 |                            |
| R10   | Proposed road to open up the area linking the livestock corridor with Witu; and Pandaguo areas | -        | Kms  | -           | 100%        |           |           |           |           |           |           |           |           |           |           | -                          |
| R11   | Upgrade Mkokoni-Kiunga Road to gravel standard   | 33       | Kms  | 100%        | 100%        |           |           |           |           |           |           |           |           |           |           | 82,500,000                 |
| R12   | Upgrade Majengo – Kiunga road to bitumen standard  | 106      | Kms  | 100%        | 100%        |           |           |           |           |           |           |           |           |           |           | 3,180,000,000              |
| R13   | Upgrading of Proposed Kiangwi(e) – Milimani – Kiunga road junction to gravel standard          | 25       | Kms  | 75%         | 25%         |           |           |           |           |           |           |           |           |           |           | 62,500,000                 |
| R14   | Upgrading of Ishakani – Kiunga road to gravel standard   | 8        | Kms  | 100%        | -           |           |           |           |           |           |           |           |           |           |           | 20,000,000                 |
| R15   | Upgrading Faza-Pate-Tchundwa-Mtangawanda road to bitumen standard                              | 34       | Kms  | 75%         | 25%         |           |           |           |           |           |           |           |           |           |           | 1,020,000,000              |
| R16   | Acquire a 12-meter reserve cycling/walking cabral path proposed in the Amu Island Action Plan  | 32       | Kms  | 100%        | -           |           |           |           |           |           |           |           |           |           |           | 640,000,000                |
| R17   | Reconstruction of the Siyu footbridge connecting to Siyu fort                                  | 80       | M(s) | 100%        | -           |           |           |           |           |           |           |           |           |           |           | 2,400,000                  |
| WB01  | Setting up of a weighbridge terminal at intersection of Hindi-Bodhei road and LAPSSET corridor | 1        | -    | -           | 100%        |           |           |           |           |           |           |           |           |           |           | -                          |
| TF01  | Establishment of a boat marina fronting Lamu Old Town  | -        | -    | 100%        | -           |           |           |           |           |           |           |           |           |           |           | 100,000,000                |
| AS01  | Upgrading of Faza Airstrip   | -        | -    | -           | 100%        |           |           |           |           |           |           |           |           |           |           | 40,000,000                 |

| <span style="color: blue;">■</span> Procurement and Consultant Selection; Funds <span style="color: brown;">■</span> Project Implementation <span style="color: green;">■</span> Project Monitoring & Evaluation |  |          |      |             |             |           |           |           |           |           |           |           |           |           |           |                            |
|--|--|----------|------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------------------|
| PROJECT ID   | PROJECT  | QUANTITY | UNIT | PHASE       |             | PHASE 1   |           |           |           |           | PHASE 2   |           |           |           |           | APPROXIMATE COST (IN KES.) |
|  |  |          |      | PHASE 1 (%) | PHASE 2 (%) | 2016/2017 | 2017/2018 | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 | 2024/2025 | 2025/2026 |                            |
| AS02   | Upgrading of Kiunga Airstrip                               | -        | -    | 50%         | 50%         |           |           |           |           |           |           |           |           |           |           | 50,000,000                 |
| AS03   | Upgrading of Bodhei Airstrip                               | -        | -    | -           | 100%        |           |           |           |           |           |           |           |           |           |           | 30,000,000                 |
| SW01   | Construction of sea walls at Siyu, Kiangwi and Mbwajumwali | 2,000    | M(s) | 100%        | -           |           |           |           |           |           |           |           |           |           |           | 100,000,000                |

**SOCIAL INFRASTRUCTURE (HEALTH & EDUCATION)**

| <span style="color: blue;">■</span> Procurement and Consultant Selection; Funds <span style="color: brown;">■</span> Project Implementation <span style="color: green;">■</span> Project Monitoring & Evaluation |   |          |      |             |             |           |           |           |           |           |           |           |           |           |           |                            |
|--|---|----------|------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------------------|
| PROJECT ID   | PROJECT   | QUANTITY | UNIT | PHASE       |             | PHASE 1   |           |           |           |           | PHASE 2   |           |           |           |           | APPROXIMATE COST (IN KES.) |
|  |   |          |      | PHASE 1 (%) | PHASE 2 (%) | 2016/2017 | 2017/2018 | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 | 2024/2025 | 2025/2026 |                            |
| ED01   | Putting up Egerton Uni. Campus in Majembeni and Nairobi University Campus in Mkunumbi                 | 2        | -    | 100%        | -           |           |           |           |           |           |           |           |           |           |           | 748,000,000                |
| ED02   | Construction of primary schools in Mpeketoni, Bargoni, Chalaluma, Moa, Maleli, Hindi, and Kiunga Ward | 8        | -    | 100%        | -           |           |           |           |           |           |           |           |           |           |           | 300,000,000                |
| ED03   | Construction of Mangai Boarding school  | 1        | -    | 100%        |             |           |           |           |           |           |           |           |           |           |           | 35,000,000                 |
| ED04   | Construction of fully equipped science & ICT laboratories in Secondary schools across the County      | 23       | -    | 100%        |             |           |           |           |           |           |           |           |           |           |           | 460,000,000                |

| ED05       | Establishment of Marine institutions in Kiunga and Manda Island  | 2        | -    | 50%         | 50%         |   |  |           |           |           |           |   |           |           |           |                            | -           |  |
|------------|--|----------|------|-------------|-------------|---|--|-----------|-----------|-----------|-----------|---|-----------|-----------|-----------|----------------------------|-------------|--|
|            |  |          |      |             |             |  Procurement and Consultant Selection; Funds   |  Project Implementation   |           |           |           |           |  Project Monitoring & Evaluation   |           |           |           |                            |             |  |
| PROJECT ID | PROJECT  | QUANTITY | UNIT | PHASE       |             | PHASE 1   |  |           |           |           | PHASE 2   |   |           |           |           | APPROXIMATE COST (IN KES.) |             |  |
|            |  |          |      | PHASE 1 (%) | PHASE 2 (%) | 2016/2017   | 2017/2018  | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023   | 2023/2024 | 2024/2025 | 2025/2026 |                            |             |  |
| HT01       | Construction of health centres in Mpeketoni, Bargoni, Chalaluma, Moa, Maleli, Hindi, Mararani, Majengo | 7        | -    | 100%        | -           |   |  |           |           |           |           |   |           |           |           |                            | 700,000,000 |  |
| HT02       | Upgrading of Faza Health Centre to Level 4 Hospital with equipments and staff                          | 1        | -    | 100%        | -           |   |  |           |           |           |           |   |           |           |           |                            | 150,000,000 |  |
| HT03       | Construction of a Dispensary in Ndau, and Mangai   | 2        | -    | 100%        | -           |   |  |           |           |           |           |   |           |           |           |                            | 50,000,000  |  |
| HT04       | Installation of an electronic medical records system for level three and above hospitals in the County | 6        | -    | 100%        | -           |   |  |           |           |           |           |   |           |           |           |                            | 12,000,000  |  |
|            |  |          |      |             |             |  Procurement and Consultant Selection; Funds |  Project Implementation |           |           |           |           |  Project Monitoring & Evaluation |           |           |           |                            |             |  |




### ENERGY & ICT INFRASTRUCTURE

| PROJECT ID | PROJECT   | QUANTITY | UNIT | PHASE       |             | PHASE 1   |           |           |           |           | PHASE 2   |           |           |           |           | APPROXIMATE COST (IN KES.) |   |
|------------|---|----------|------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------------------|---|
|            |   |          |      | PHASE 1 (%) | PHASE 2 (%) | 2016/2017 | 2017/2018 | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 | 2024/2025 | 2025/2026 |                            |   |
| E01        | Extend the National grid power line to reach the established investments within the wildlife corridor | -        | -    | -           | 100%        |           |           |           |           |           |           |           |           |           |           |                            | - |
| E02        | Extend the National grid power line to Urban Centres in   | -        | -    | 100%        | -           |           |           |           |           |           |           |           |           |           |           |                            | - |

| PROJECT ID | PROJECT  | QUANTITY | UNIT | PHASE   |         | PHASE 1 |       |       |       |       | PHASE 2 |       |       |       |       | APPROXIMATE COST (IN KES.) |                 |
|------------|--|----------|------|---------|---------|---------|-------|-------|-------|-------|---------|-------|-------|-------|-------|----------------------------|-----------------|
|            |  |          |      | PHASE 1 | PHASE 2 | 2016/   | 2017/ | 2018/ | 2019/ | 2020/ | 2021/   | 2022/ | 2023/ | 2024/ | 2025/ |                            |                 |
|            |  |          |      | (%)     | (%)     | 2017    | 2018  | 2019  | 2020  | 2021  | 2022    | 2023  | 2024  | 2025  | 2026  |                            |                 |
|            | Bahari; Mkunumbi; and Hongwe Wards ( <i>Those not reached yet</i> ) - <i>Extended to all primary schools &amp; health facilities in the Wards</i>            |          |      |         |         |         |       |       |       |       |         |       |       |       |       |                            |                 |
| E03        | Solar lighting programmes for the villages of Faza and Ndaupate islands<br><br><i>Extended to all primary schools &amp; health facilities in the Islands</i> | -        | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       |                            | -               |
| E04        | Establishment of the solar power farm in the proposed site in Basuba Ward  | 1557     | HA   | -       | 100%    |         |       |       |       |       |         |       |       |       |       |                            | 234,465,880,000 |
| ICT01      | A joint website for all the pristine ecosystems and adverts on local media to promote them as tourist destinations   | 1        | -    | -       | -       |         |       |       |       |       |         |       |       |       |       |                            | 50,000          |
|            |  |          |      |         |         |         |       |       |       |       |         |       |       |       |       |                            |                 |




**WATER, SEWER & SOLID WASTE MANAGEMENT INFRASTRUCTURE**

| PROJECT ID | PROJECT   | QUANTITY | UNIT | PHASE   |         | PHASE 1 |       |       |       |       | PHASE 2 |       |       |       |       | APPROXIMATE COST (IN KES.) |            |
|------------|---|----------|------|---------|---------|---------|-------|-------|-------|-------|---------|-------|-------|-------|-------|----------------------------|------------|
|            |   |          |      | PHASE 1 | PHASE 2 | 2016/   | 2017/ | 2018/ | 2019/ | 2020/ | 2021/   | 2022/ | 2023/ | 2024/ | 2025/ |                            |            |
|            |   |          |      | (%)     | (%)     | 2017    | 2018  | 2019  | 2020  | 2021  | 2022    | 2023  | 2024  | 2025  | 2026  |                            |            |
| SW01       | Prepare a solid and liquid waste management Plan for the County | -        | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       |                            | 55,000,000 |

| SW02       | Prepare an integrated solid and liquid waste management Plan for the EEZ  |          |      | -           | 25%         | 75%       |   |   |           |           |           |           |   |                        |           |                            | 65,000,000                     |  |   |                                 |  |  |  |  |
|------------|---|----------|------|-------------|-------------|-----------|---|---|-----------|-----------|-----------|-----------|---|------------------------|-----------|----------------------------|--------------------------------|--|---|---------------------------------|--|--|--|--|
| SWR01      | Construct a sewer line in Mpeketoni; Hongwe; Mkunumbi; and Hindi  |          |      | -           | 100%        | -         |   |   |           |           |           |           |   |                        |           |                            | -                              |  |   |                                 |  |  |  |  |
| PROJECT ID | PROJECT   | QUANTITY | UNIT | PHASE       |             | PHASE 1   |   |   |           |           | PHASE 2   |           |   |                        |           | APPROXIMATE COST (IN KES.) |                                |  |   |                                 |  |  |  |  |
|            |   |          |      | PHASE 1 (%) | PHASE 2 (%) | 2016/2017 | 2017/2018   | 2018/2019                                   | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024   | 2024/2025              | 2025/2026 |                            |                                |  |   |                                 |  |  |  |  |
| WT01       | Undertake ground water survey in the Bawayas (Kiongwe), Manda-Shella, and Kiwayuu sand dunes to establish the quality and quantity of water held                          | 3        |      | -           | 100%        | -         |   |   |           |           |           |           |   |                        |           |                            | 30,000,000                     |  |   |                                 |  |  |  |  |
| WT02       | Put up 'djabias' for rainwater collection in Kiangwi, Basuba, Mangai, Milimani, Matondoni, Kipungani, Faza, Pate, Tchundwa, Siyu, and Mbwajumwali (2 for each settlement) | 22       |      | -           | 100%        | -         |   |   |           |           |           |           |   |                        |           |                            | 33,000,000<br>(1,500,000 each) |  |   |                                 |  |  |  |  |
|            |   |          |      |             |             |           |  | Procurement and Consultant Selection; Funds |           |           |           |           |  | Project Implementation |           |                            |                                |  |  | Project Monitoring & Evaluation |  |  |  |  |

#### RECREATIONAL INFRASTRUCTURE




| PROJECT ID | PROJECT   | QUANTITY | UNIT | PHASE       |             | PHASE 1   |           |           |           |           | PHASE 2   |           |           |           |           | APPROXIMATE COST (IN KES.) |             |
|------------|---|----------|------|-------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------------------|-------------|
|            |   |          |      | PHASE 1 (%) | PHASE 2 (%) | 2016/2017 | 2017/2018 | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 | 2024/2025 | 2025/2026 |                            |             |
| RC01       | A fully-fledged stadium in Mokowe                       | 1.214    | HA   | -           | 100%        |           |           |           |           |           |           |           |           |           |           |                            | 582,748,800 |
| RC02       | Establishment of a resource Centre and theatre in Hindi | 0.405    | HA   | -           | 100%        |           |           |           |           |           |           |           |           |           |           |                            | 157,827,540 |

|      |   |                       |    |   |      |   |   |  |  |  |  |   |                        |  |  |   |                                 |  |
|------|---|-----------------------|----|---|------|---|---|--|--|--|--|---|------------------------|--|--|---|---------------------------------|--|
| RC03 | Establishment of talent and creative arts incubation centres in Bodhei, Kiunga, Witu, and Kizingitini | 0.808<br>(4 villages) | HA | - | 100% |   |   |  |  |  |  |   |                        |  |  |   | 150,000,000                     |  |
|      |   |                       |    |   |      |  | Procurement and Consultant Selection; Funds |  |  |  |  |  | Project Implementation |  |  |  | Project Monitoring & Evaluation |  |

**INDUSTRIAL & COMMERCIAL DEVELOPMENT**

| PROJECT ID | PROJECT  | QUANTITY | UNIT | PHASE   |         | PHASE 1 |       |       |       |       | PHASE 2 |       |       |       |       | APPROXIMATE COST (IN KES.) |  |
|------------|--|----------|------|---------|---------|---------|-------|-------|-------|-------|---------|-------|-------|-------|-------|----------------------------|--|
|            |  |          |      | PHASE 1 | PHASE 2 | 2016/   | 2017/ | 2018/ | 2019/ | 2020/ | 2021/   | 2022/ | 2023/ | 2024/ | 2025/ |                            |  |
|            |  |          |      | (%)     | (%)     | 2017    | 2018  | 2019  | 2020  | 2021  | 2022    | 2023  | 2024  | 2025  | 2026  |                            |  |
| IN01       | Establishment of a fish packaging Plant in the County – Manda Island proposed industrial site                                  | 0.202    | HA   | 75%     | 25%     |         |       |       |       |       |         |       |       |       |       |                            | 54,621,000                             |
| IN02       | Establishment of a fruit extraction and packaging factory in Hongwe  | 0.202    | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       |                            | 58,667,000<br>(Exception on equipment) |
| IN03       | Establishment of a cereals warehouses and storage facilities in Mkunumbi   | 0.101    | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       |                            | 27,297,000                             |
| IN04       | Establishment of a meat and leather processing Plant in Witu   | 0.202    | HA   | -       | 100%    |         |       |       |       |       |         |       |       |       |       |                            | 58,667,000<br>(Exception on equipment) |
| IN05       | Establishment of an animal feed Warehouse in Mkunumbi  | 1        | HA   | 50%     | 50%     |         |       |       |       |       |         |       |       |       |       |                            | 27,297,000                             |
| IN06       | Establishment of storage warehouses for agricultural products in Mpeketoni, Hongwe, Kibaoni, Hindi, Bahari, Majembeni and Witu | 0.101    | HA   | 75%     | 25%     |         |       |       |       |       |         |       |       |       |       |                            | 191,079,000                            |



| IN07       | Establishment of a dairy and meat processing Plant in Bodhei                            | 0.202                | HA    | -           | 100%        |   |  |           |           |           |   |           |           |           |           |                            | 58,667,000<br>(Exception on equipment) |
|------------|---|----------------------|-------|-------------|-------------|---|--|-----------|-----------|-----------|---|-----------|-----------|-----------|-----------|----------------------------|--|
| IN08       | Establishment of fish cold storage facilities in the County                             | 0.6875<br>(11 units) | Acres | 100%        | -           |   |  |           |           |           |   |           |           |           |           |                            | 75,000,000<br>(Exception on equipment) |
| IN09       | Establishment of fish processing Plant in Kizingitini and Kibokoni                      | 0.202                | HA    | 100%        | -           |   |  |           |           |           |   |           |           |           |           |                            | 58,667,000<br>(Exception on equipment) |
|            |   |                      |       |             |             |  Procurement and Consultant Selection; Funds |  Project Implementation |           |           |           |  Project Monitoring & Evaluation |           |           |           |           |                            |  |
| PROJECT ID | PROJECT   | QUANTITY             | UNIT  | PHASE       |             | PHASE 1   |  |           |           |           | PHASE 2   |           |           |           |           | APPROXIMATE COST (IN KES.) |  |
|            |   |                      |       | PHASE 1 (%) | PHASE 2 (%) | 2016/2017   | 2017/2018  | 2018/2019 | 2019/2020 | 2020/2021 | 2021/2022   | 2022/2023 | 2023/2024 | 2024/2025 | 2025/2026 |                            |  |
| IN10       | Development of fish landing sites   | 20                   | No.   | 100%        | -           |   |  |           |           |           |   |           |           |           |           |                            | 40,000,000<br>(2 Million for Each)     |
| IN11       | Development of fishing depots in Kizingitini, Kiunga, and Moa                           | 3                    | No.   | 25%         | 75%         |   |  |           |           |           |   |           |           |           |           |                            | 15,000,000                             |
| IN12       | Establishment of fingerlings hatchery in Witu and Mpeketoni                             | 2                    | No.   | -%          | 100%        |   |  |           |           |           |   |           |           |           |           |                            | 5,000,000                              |
| IN13       | Establishment of fish feeds formulation machines in Hindi, Mpeketoni, and Witu          | 3                    | No.   | -%          | 100%        |   |  |           |           |           |   |           |           |           |           |                            | 9,000,000                              |
| IN14       | Establishment of fish pond liners County wide   | -                    | -     | -%          | 100%        |   |  |           |           |           |   |           |           |           |           |                            | -                                      |
| MKT01      | Establishment of a farmers' market in Mpeketoni, Witu, Hongwe, Bargoni, and Kizingitini | 2.02<br>(5 Units)    | HA    | 100%        | -           |   |  |           |           |           |   |           |           |           |           |                            | 450,000,000                            |
| BS01       | Set up a one stop business hub to offer relevant business information in Mokowe         | 0.05                 | HA    | 100%        | -           |   |  |           |           |           |   |           |           |           |           |                            | 120,000,000                            |
| BS02       | Preparation of the County Valuation Roll  | -                    | -     | 100%        | -           |   |  |           |           |           |   |           |           |           |           |                            | 10,000,000                             |



## CONSERVATION STRATEGY

| PROJECT ID | PROJECT   | QUANTITY | UNIT | PHASE   |         | PHASE 1 |       |       |       |       | PHASE 2 |       |       |       |       | APPROXIMATE COST (IN KES.) |
|------------|---|----------|------|---------|---------|---------|-------|-------|-------|-------|---------|-------|-------|-------|-------|----------------------------|
|            |   |          |      | PHASE 1 | PHASE 2 | 2016/   | 2017/ | 2018/ | 2019/ | 2020/ | 2021/   | 2022/ | 2023/ | 2024/ | 2025/ |                            |
|            |   |          |      | (%)     | (%)     | 2017    | 2018  | 2019  | 2020  | 2021  | 2022    | 2023  | 2024  | 2025  | 2026  |                            |
| CN01       | Preparation of a wildlife management Plan for the proposed wildlife conservancies zones                         | 1        | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 25,000,000                 |
| CN02       | Undertaking an inventory to determine rare tree species and animals in the proposed wildlife conservancies area | 1        | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 5,000,000                  |
| CN03       | Survey of Pandaguo and Kipini forest  | 2        | HA   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | -                          |
| CN04       | Survey of wetlands and swamps within the proposed wildlife conservancies  | -        | Ha   | 100%    | -       |         |       |       |       |       |         |       |       |       |       | -                          |
| CN05       | Survey and Demarcation of the L. Kenyatta, L. Amu, and the Kiongwe Bawaya sand dunes water catchment ecosystem  | -        | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       | -                          |
| CN06       | Preparation of Resettlement Action Plans (RAPs) for various settlements in environmentally sensitive ecosystems | -        | No.  | 100%    | -       |         |       |       |       |       |         |       |       |       |       | 30,000,000                 |
| CN07       | Visible pillars strategically erected to indicate extent of Doodori National Reserve                            | -        | No.  | 30%     | 70%     |         |       |       |       |       |         |       |       |       |       | -                          |
| CN08       | Fencing of Boni-Lungi forest ecosystem  | 1        | Kms  | 40%     | 60%     |         |       |       |       |       |         |       |       |       |       | 3,500,000 per kilometer    |
| CN09       | Community awareness programmes for the conservation of the Boni-Lungi and Witu Forest ecosystems                | -        | -    | 100%    | -       |         |       |       |       |       |         |       |       |       |       | -                          |



## CHAPTER 7: THE MONITORING AND EVALUATION FRAMEWORK

### OVERVIEW

Monitoring and evaluation is an integral part of any development project; the same applies to the implementation of this County Spatial Plan as the development framework for the County. Monitoring and evaluation of the overall progress of the implementation of the Plan and the continual feedback run is necessary as it provides the base for the measurement of its success. It provides a basis for adaptive management and continued improvement of the environmental conditions of the County. Various aspects of the project will be observed and reviewed annually in order to assess whether the implementation of the project is viable and continuous as projected in the planning proposals. In the subsequent sections of this chapter, the monitoring and evaluation stages, indicators of progress, and the implementation guidelines set up for the project will be assessed.

### MONITORING AND EVALUATION STAGES

A key and most definitive check on to monitor the progress of the project is output evaluation as this will be important for the purposes of accountability and reporting of the Plan progress. Among other things, this will involve checking whether the implementation of the Plan is following the laid-out work plan and implementation schedule/projects, and whether the particular stages in the process are addressing the intended problem or rather achieving the expected outputs of the project.

For this to be achieved, there will be established a monitoring and evaluation committee with the sole intention of assessing the success of the project. It will comprise of representatives from all stakeholders including the County Government, the Consultant Team, WWF, the NLC, LAPSET Authority, interested investors and property owners as well as the local community.

### INDICATORS OF PROGRESS

The overall objective of this Plan is to 'Sustainably utilize the County's Natural, Human, and Cultural capital assets towards achieving an economically prosperous & competitive County'. This is expected to have an overall impact Socially; Economically;

Politically; Environmentally; and Spatially which can only be proved through systematic tracking of the performance of the Plan implementation in relation to the expected outcomes of the project(s) implementation. This can be summarized as follow;

**Table 2: Monitoring and Evaluation progress matrix**

| Impact   | Expected outcome  | Indicator   |
|--|---|---|
| <b>Economic impacts</b>                            | Increased investment opportunities in the County  | Increased number of investors in the County                                       |
|  |   | Increased employment opportunities in the County                                  |
|  |   | Diversified economic activities   |
|  |   | Enhanced trading capacity of the County   |
|  | Improved County revenue base  | Increased County revenue collection   |
|  |   | Improved basic service delivery for the County residents by the County Government |
|  | Increased production capacity of the County   | Increased food security   |
| Increased intra/inter-County trading opportunities |   |   |
| Enhanced infrastructural capacity of the County    | Improved, efficient transport options & reduced travel time                               |   |
| More vibrant and formal economic spaces            | Increased entrepreneurship & revenue circulation in the County                            |   |
| <b>Environmental impacts</b>                       | Conserved and protected mangrove forests, terrestrial forest areas, and National Reserves | Gazettement of deliniated natural forests   |
|  |   | No loss of natural forest   |
|  |   | No loss of mangrove forests   |
|  |   | Increased forest cover in the County  |
|  |   | Increased carbon trading revenue  |
|  | All identified Water catchment and wetland  |   |

|   |  |   |  |
|---|--|---|--|
|   | Conserved and protected water catchment areas, wetlands and swamps | ecosystems gazetted and secured   |  |
|   |  | Increased and sustained water supply  |  |
|   |  | Increased civil awareness on environmental issues   |  |
|   | Conserved and protected sand dune ecosystems                       | Increased opportunities for recreation spaces, human interaction spaces & water catchment |  |
|   |  | Improved wildlife conservation  | Increased number of tourists visiting Lamu County              |
|   |  |   | Reduced encroachment on Natural capital assets in the County   |
| <b>Social impacts (Improved standards of living for County residents)</b> | Improved access and enrollment to education facilities             | Increased literacy levels in the County   |  |
|   |  | Improved access to health care facilities   | Reduced orltality, maternal death and disease prevalence rates |
|   | Preservation of heritage value and culture                         | Reduced dilution of cultural heritage & Increased heritage tourism                        |  |
|   | Improved access to affordable energy options                       | Increased number of household connections to the national grid/other energy source        |  |
|   | Improved access to water and sewer services                        | Increased number of household connections to potable water and sewer services             |  |
|   | <b>Spatial impacts</b>   | Highly controlled land use structure for the County                                       | Reduced degradation and depletion of Natural resources         |
| Controlled Urban Development  |  | Urban Development within deliniated urban edges and not beyond                            |  |
| High land values across the County  |  | Areas of highly controlled development  |  |

Source: CURP 2017

### GUIDELINES FOR THE IMPLEMENTATION PROCESS

The successful implementation of this Plan will greatly depend on the level of detail and attention given to ensuring that the implementation schedule provided for this Plan is followed. For this reason, therefore, the following guidelines are proposed for adoption:

- A sustainable implementation of the CSP will have to involve an active participation of and partnerships between all stakeholders from the private sector (property owners and potential investors), public sector (County & National Government through relevant sectors/authorities), Center for Urban and Regional Planning (Consultant), and the local community affected by a proposed project under this Plan. The approach will ensure that all stakeholders feel ownership of the projects as their own and are confident about the implementation process.
- A Monitoring & Evaluation Advisory committee composed of the County Government representatives, the Consultant, WWF, and the NLC shall be established to oversee effective implementation of the Plan projects and subsequently ensure proper management of allocated funds
- The appointment of the Committee Chairman is critical to ensure all activities and resources necessary for the implementation of the Plan projects are well co-ordinated and organized to add value to the development process. It is proposed that the Chairman be a member of the Committee with full understanding of the Plan execution.
- All property owners/local residents shall be given priority when it comes to benefit sharing within a project area after a project is delivered successfully
- A professional consultation team comprising of Physical Planners, Water Engineers, Foresters, Agriculturalists, Environmentalists & Conservationists or any other relevant profession will be from time to time consulted on the development of certain projects through the Plan implementation
- All involved stakeholders shall assume collective responsibility of the Plan implementation to ensure proper

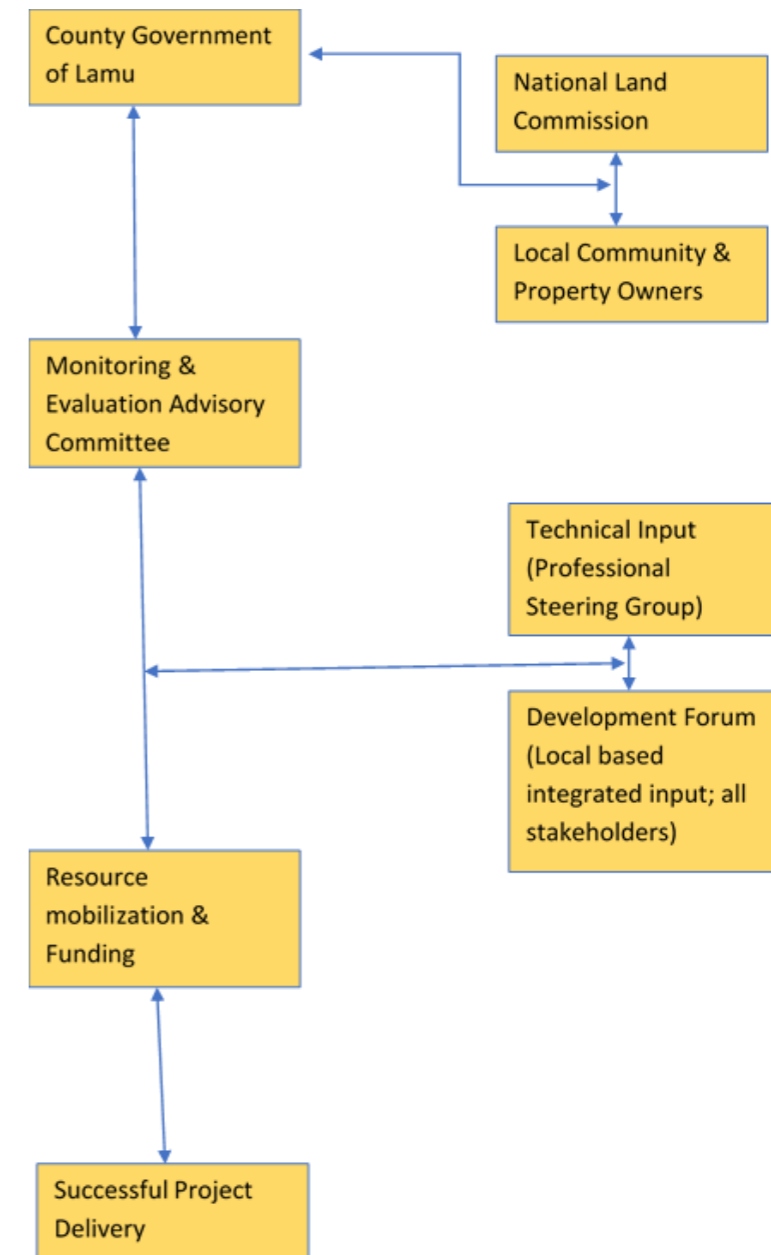
use, management and conservation of the desired Spatial structure of the County.

- The County Government will have to formulate new by-laws or policy that govern the desired management of land use and in so doing, ensure that the established by-laws and development controls are strictly followed to enhance maximum yield of the land as desired

### MANAGEMENT STRATEGY

The management of the Plan implementation will have to be sound and effective to completely achieve the targets and objectives it intends to. The preparation of lower level Plans proposed as part of the implementation projects under this Plan will have to be aligned to the overall objectives envisioned through this Plan. In spite of the County Government of Lamu being very pivotal in the coordination of this Plan implementation, other departments and stakeholders will have to play a key role and integrated within the management structure to enhance the performance and facilitation of the Plan implementation. A proposed management structure for the implementation of the plan is as follows;

**Figure 2: The Proposed Management Strategy**



Source: CURP 2017

### HINDRANCES TO A SUCCESSFUL EVALUATION PROCESS

There are several hindrances to a successful evaluation process which need to be avoided during the monitoring and evaluation of this Plan. These include:

- Poor coordination among involved agencies and stakeholders thereby preventing data aggregation and information flow across the involved sectors.

- Data assessment not shared among all involved agencies and stakeholders, causing inconsistencies and loss of time in data cleaning.
- Lack of commitment by involved stakeholders and agencies to source for funds to implement certain projects leading to delays in their execution.
- Limited knowledge/poor understanding of the Plan during its implementation in the event that the Monitoring & Advisory committee constituting the proposed members is not established.
- Prioritising on projects that have less bearing on the development trajectory as envisioned in this CSP.

The study envisions that the Plan will be implemented successfully in order to achieve more sustainable livelihoods and land use practices. Consequently, the furtherance and implementation of this CSP will provide a sustainable solution to the various land use challenges experienced in the County. A successful implementation of the Plan to achieve the expected outcomes will open up an opportunity to the planning profession where Land Use Planning will effectively be adopted as a key to development.

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