

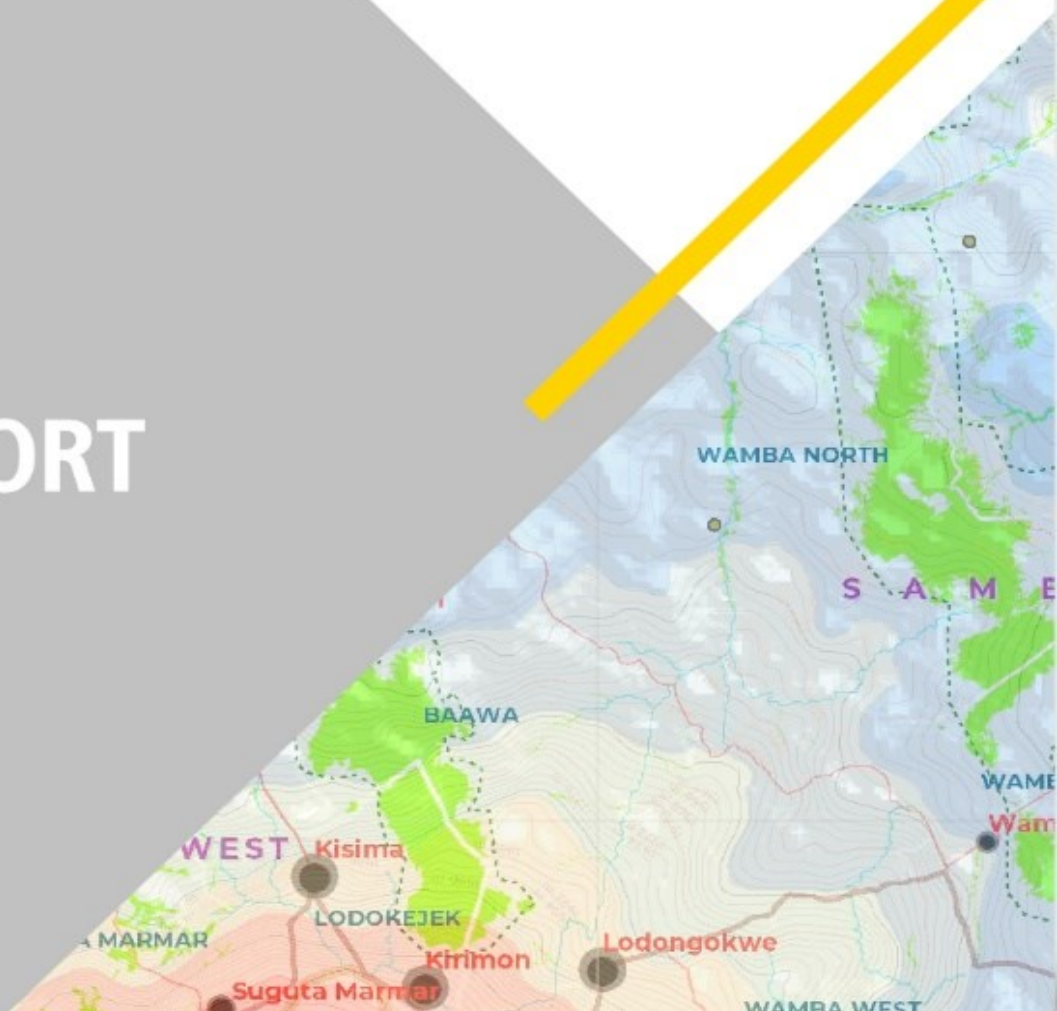
SAMBURU COUNTY GOVERNMENT

COUNTY SPATIAL PLAN

2021-2031

FINAL REPORT

JUNE 2022





SAMBURU COUNTY GOVERNMENT

SAMBURU COUNTY SPATIAL PLAN (2021-2031)

"A well governed, secure and developed county with a diversified and vibrant economy that affords high quality life and services through sustainable use of its natural resources"

FIRST PLAN REPORT



PLAN PREPARATION, CERTIFICATIONS AND APPROVAL

This plan has been prepared, publicized and circulated as per the requirements of the County Government Act, 2012. The plan has fulfilled all the statutory requirements and is hereby approved.

CERTIFIED:

I certify that the Samburu County Spatial Plan (2021-2031) has been prepared as per the requirements of the County Government Act, 2012.

Date.....Sign:

Plan. Steven Ngari
Lead Consultant and Registered Physical Planner,

RECOMMENDED:

I certify that this plan has been prepared in accordance with procedural and substantive provisions of the relevant planning statutes and in observance of all requisite procedures and standards.

Date.....Sign:

Plan. Moses Omondi.
County Director of Physical Planner,

ADOPTED:

This plan is adopted by the County Executive Committee pursuant to Section 110(3) of the County Governments Act and is adopted and recommended for approval by the County Assembly of Samburu.

.....Minute NuberDate:.....

Hon. Peinan Loronyokwe

County Executive Committee
Lands, Housing, Physical Planning and Urban Development

APPROVED BY:

Pursuant to Article 185(4) of the Constitution of Kenya and function designated in Section 8(1) e of the County Governments Act, 2012 Samburu County Assembly hereby approves of this plan.

..... Hansard Number.....Date

Clerk to the County Assembly of Samburu

ENDORSED BY:

Samburu County endorses this plan, as approved and commits its effort and resources towards the implementation and realization of envisaged outcomes.

..... Date

H.E. Moses K. Lenolkulal
(Governor, Samburu County)

APPROVED DEVELOPMENT PLAN NO.

FOREWORD



The Constitution of Kenya 2010 bestows the mandate of County Planning to County Governments. The Constitution further provides for 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 as contained in section 102 and 103 of the same Act. In furtherance to this responsibility, the law obligates each County Government to prepare a ten-year GIS-based County Spatial Plan in respect of their area of jurisdiction. The Samburu County Spatial Plan is a broad framework for organizing and distributing population and activities in the county so as 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.

The preparation of the Samburu County Spatial Plan is part of a concerted undertaking by my government to evaluate the county's physical, infrastructural and human resources. The aim is to establish their asset values, gaps, demand analysis and potentials and consider inherent weaknesses that may limit possibilities for their exploitation in aid of ongoing development pursuits. The plan also examines the county's geographical positioning and connectivity and considers how these serve to enhance the county's regional competitiveness.

Samburu County is one of the northern frontier counties and is designated for a number of large-scale infrastructure investments. This includes Lamu Port, South Sudan and Ethiopia Transport (LAPSSET) corridor 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 is well-endowed with natural resources. The county's unique territorial space, with its varied landforms, the associated geological profile and climate regime, make it possible for the people to engage in a multiplicity of activities. The mineral-rich sub-stratum though not exploited are the foundation of thriving and lucrative mining and agricultural sectors.

The county experiences a myriad of challenges related to years of marginalization, land based resource challenges, community conflicts, human-wildlife conflicts, encroachment on fragile ecosystem, unplanned settlements and perennial drought and famine. These challenges will be addressed comprehensively through this plan.

Whilst the expected developments as outlined in the spatial plan 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, rangelands, communal land, and cultural heritage among others. Samburu's natural environment also holds important cultural values for communities. However some of these assets are already declining owing to human activities, and the losses would have profound implications for the county's future.

The County Spatial Plan (2021-2031) addresses the aforesaid challenges in order to improve the standards of living of the people through employment creation, reduction of poverty, environmental protection, creation of wealth and guide sustainable development. The plan



provides comprehensive strategies and policy guidelines to solve the problems of rural and urban development, human wildlife conflicts, industry, local economic development, infrastructure and human settlement, ecotourism and sustainable environmental management. The implementation of this plan will be a major breakthrough towards securing community livelihoods, biodiversity protection, sustainable management of natural resources and improvement of the quality of life and wellbeing of the county residents.

Special thanks to our consultants for their invaluable technical support in preparation of this plan. Samburu County is also grateful to the County Assembly members for their active role in plan preparation. Lastly special mention goes to the county team representatives from the national and county departments, local community and other stakeholders for the timely preparation and completion of the plan. We look forward to the support of every stakeholder in the implementation of the plan.

H.E. Hon. Moses Kasaine Lenolkulal,

The Governor,

County Government of Samburu

ACKNOWLEDGEMENTS



The County Government of Samburu in fulfilment of its county planning mandate granted under the Fourth Schedule of the Constitution of Kenya and county Government Act, 2012. Section 110 (1) commenced the preparation of a County Spatial Plan (CSP). This plan is a culmination of that process. The ultimate aim of preparing the Plan has been to strategically guide sustainable and balanced development in county by providing an overall spatial framework and agreed land use plan for various designated land uses.

The fruitful completion of this plan would however not have been possible without the efforts of several individuals and groups, to whom the county wishes to express gratitude. The planning process was initiated by the County Government of Samburu and subsequently taken up by the County Executive Committee Member (CECM) responsible for Lands, Housing, Physical Planning and Urban Development. This plan was developed through robust and all-inclusive stakeholder process including meetings held in all wards.

This plan presents a spatial framework for development of projects in Samburu County and proposes policies and measures for socio-economic development therein. It also supports and provides a basis for the implementation of the SDGs, Kenya Vision (2030) and the National Spatial Plan (2015-2045) objectives at the county level. It also provides a coordinating framework for sectoral planning thereby bringing a connection between physical and economic planning. It aims at achieving coordinated and sustainable development by providing linkages between various activity spaces within the county and beyond.

The plan has depicted the spatial dimension of the social-economic, political and environmental development programmes of the county. It has also presented a clear statement of how it is linked to the national, regional and other county plans and policies. It has clarified the anticipated development outcomes through controlling the order and nature of activities on land. The plan identifies the natural assets within the county and outlines strategies to protect and where appropriate improve renewable natural assets. The plan also provides a basis for efficient and cost-effective delivery of infrastructure services through a long-term programme of investment. It gives a framework for revitalizing livestock, tourism, trade and commerce for sustainable economic development. This plan will ensure equity in resource allocation. It provides a platform for unifying planning, budgeting, financing, programme implementation and performance review.

It is envisaged that the implementation of this plan will give rise to significant improvement in land use, urban development, infrastructure supply, socio-cultural development, natural resource management and the general performance of the county's economy. It will also promote coordinated spatial development in the entire county. Successful and effective implementation of this plan will definitely transform the lives of the residents of the county as well as make Samburu County the destination of choice for investments.

Peinan Loronyokie

County Executive Committee Member,
Lands, Housing, Physical Planning and Urban Development,
County Government of Samburu.



PREFACE

The Samburu County Spatial Plan 2021-2031 (CSP) is as a result of a comprehensive participatory process that lasted months under the guidance of the Consultant –AIDAL Ltd. The approach was multi-disciplinary and multi-sectoral with the involvement of all the stakeholders. This document could not also have been prepared without the invaluable input and guidance of the County Planning Team led by, Moses Omondi (Director of Lands & Physical Planning), Plan. Jamlick Kinyua Miriti (County Physical Planner), Simon Lentabul (County Director of Surveying and Mapping) and John Lolkitekui (County Coordinator, National Lands Commission (NLC) among others.

The Plan represents an attempt to structure the territorial space of the county, in such a way as to enhance its instrumentality relative to the people's collective vision and the associated sectoral programmes of actions. The process was consultative in nature and, involved participants from diverse backgrounds including; the community, sectoral departments of the County government, national government agencies, professionals, non-state actors and civil society.

The completion of the situation analysis ushered in a plan formulation process where acquired understandings regarding existing assets, opportunities, strengths of the existing territorial structure, as well as the good in the people's spatial practices, served as a lens to inform the formulation of the spatial plan to guide initiatives to realize Samburu's development vision. The plan serves as a blueprint that will facilitate efficient, productive and sustainable utilization of land and landed resources within which the county can deliver on existing opportunities while confidently addressing identified challenges. The plan is by design a flexible and dynamic framework capable of responding to changing circumstances and evolving aspirations of Samburu's peoples.

The spatial plan has been prepared in recognition to the strengths, opportunities and challenges identified in the county. In addition the strategies are geared towards responding to principles of overarching frameworks such as the *Constitution of Kenya*, the *Kenya Vision 2030*, the *National Land use Policy*, and the *National Spatial Development Perspective*. In addition, the Plan supports the County's development agenda as communicated in the *Samburu county governors' Big 3 Agenda*. Lastly, it provides a spatial template to anchor priority programmes as summarized in the County Integrated Development Plan. Although defined as a ten-year GIS-based plan, the CSP has a long-term perspective, with a short- and medium-term implementation purview.

We look forward to successful and effective implementation of Samburu County Spatial Plan as this will positively transform the lives of the residents of the county.

Moses Omondi

Chief Officer,

Lands, Housing, Physical Planning and Urban Development,

County Government of Samburu.



TABLE OF CONTENTS

PLAN PREPARATION, CERTIFICATIONS AND APPROVAL	iii
FOREWORD	iv
ACKNOWLEDGEMENTS	vi
PREFACE	vii
TABLE OF CONTENTS	viii
LIST OF MAPS	xi
LIST OF FIGURES	xii
LIST OF TABLES	xiii
LIST OF PLATES	xiv
ACRONYMS AND ABBREVIATIONS	xv
ABSTRACT	xvii
EXECUTIVE SUMMARY	xviii
PART I: INTRODUCTION AND PLANNING CONTEXT	- 1 -
1. INTRODUCTION	- 2 -
1.1 International Context	- 2 -
1.2 Background	- 2 -
1.3 Statement of Need	- 3 -
1.4 Goal of the Plan.....	- 4 -
1.5 Specific Objectives	- 4 -
1.6 Scope of the County Spatial Plan	- 4 -
1.7 Expected Outputs of Planning Assignment	- 5 -
1.8 Samburu County Spatial Vision	- 5 -
1.9 Principles Guiding the Plan	- 6 -
2. PLANNING CONTEXT	- 7 -
2.1 Introduction.....	- 7 -
2.2 Approach	- 7 -
2.3 Methodology of the Plan	- 7 -
2.4 Constitutional, Legal and Policy Context	- 10 -
2.5 Linkages to Other Plans & Strategies	- 18 -
2.6 Institutional Arrangement	- 18 -
CHAPTER 2: PLANNING CONTEXT	- 20 -
3. Geographical setting	- 20 -
3.1 Position and Location.....	- 20 -
3.2 National Context.....	- 21 -
3.3 Regional Context	- 22 -
3.4 Local Context.....	- 23 -
3.5 Administrative and Political Units	- 24 -
4. PHYSICAL ENVIRONMENT AND NATURAL RESOURCES	- 27 -
4.1 Introduction	- 27 -
4.2 Topography	- 27 -
4.3 Hydrology and Drainage Patterns	- 30 -
4.4 Geology, Soils and Mineral Resources	- 34 -
4.5 Climatic Conditions	- 39 -
4.6 Agro-Ecological Zones	- 42 -
4.7 Vegetation Characteristics.....	- 43 -
4.8 Forest Ecosystems	- 49 -
4.9 Wildlife Resources	- 52 -
4.10 Biodiversity Resource	- 55 -
4.11 Climate Change	- 56 -
4.12 Drought Management.....	- 56 -
4.13 Environmental Degradation	- 57 -
4.14 Natural Disasters	- 57 -
4.15 Energy Resources	- 57 -
4.16 Emerging Planning Issues.....	- 58 -
5. POPULATIN DEMOGRAPHIC TRENDS	- 60 -
5.1 Overview	- 60 -
5.2 Population Size and Composition	- 60 -
5.3 Population Density and Distribution	- 60 -
5.4 Urban and Rural Population	- 62 -



5.5	Population Structure	- 64 -
5.6	Population Projections	- 64 -
5.7	Demographic Characteristics	- 68 -
5.8	Poverty Rates and Distribution	- 69 -
5.9	Heritage and Culture of the People	- 70 -
5.10	Conflicts.....	- 73 -
5.12	Conclusions.....	- 75 -
6.	LAND AND HUMAN SETTLEMENTS	- 76 -
6.1	Introduction.....	- 76 -
6.2	Land	- 76 -
6.3	Land Tenure Systems	- 76 -
6.4	Land Potential/ Land Resource Characteristics	- 78 -
6.5	Land Use	- 78 -
6.6	Land Cover	- 79 -
6.7	Land-Use Suitability Analysis	- 82 -
6.8	Human Settlements	- 83 -
6.9	Settlement Structuring Elements	- 84 -
6.10	Rural Settlements in Samburu County	- 90 -
6.11	Land Use/ Town Planning in Samburu County	- 90 -
6.12	Urbanization Trends and Future Projections	- 92 -
6.13	Rural Land Use Planning.....	- 92 -
6.14	Adjudication Sections and Settlement Schemes	- 93 -
6.15	Institutional Framework for Land Management	- 94 -
6.16	Housing	- 95 -
6.15	Emerging Planning Issues	- 96 -
7.	THE ECONOMIC BASE	- 97 -
7.1	Introduction	- 97 -
7.2	County Livelihood Zones	- 97 -
7.3	Pastoralism	- 98 -
7.4	Livestock Production	- 99 -
7.2	Crop Farming Agriculture.....	- 109 -
7.3	Apiculture	- 113 -
7.4	Trade and Commerce	- 113 -
7.5	Financial Institutions and Cooperative Societies.....	- 115 -
7.7	Tourism	- 115 -
7.8	Industry and Value Addition.....	- 120 -
7.9	Mining.....	- 120 -
8	TANSPORT AND PHYSICAL INFRASTRUCTURE	- 124 -
8.1	Overview	- 124 -
8.2	Transport	- 124 -
8.3	Energy.....	- 129 -
8.4	Water Infrastructure.....	- 131 -
8.5	Sanitationand solid Waste Management	- 134 -
8.6	Information Communication and Technology (ICT).....	- 134 -
9.	SOCIAL INFRASTRUCTURE AND SERVICES.....	- 136 -
9.1	Overview	- 136 -
9.2	Education	- 136 -
9.3	Health.....	- 142 -
9.4	Security Services	- 146 -
9.5	Recreation and Community Activities	- 147 -
10.	INSTITUTIONS AND GOVERNANCE	- 149 -
10.1	Introduction.....	- 149 -
10.2	Institutional Framework	- 149 -
10.3	Non-State Actors	- 139 -
10.4	Local Community’s Governance Structure	- 141 -
11.	SCENARIO BUILDING	- 142 -
11.1	Overview	- 142 -
11.2	Synthesis of Emerging Issues.....	- 142 -
11.3	SWOT Analysis.....	- 144 -
11.4	Spatial Planning Design Considerations	- 145 -
11.5	Structuring Elements	- 145 -



11.6	Vision for Samburu County	- 147 -
11.7	Guiding Principles	- 147 -
11.8	Strategic Development Direction	- 147 -
11.9	Proposed Development Models/Scenarios	- 148 -
12.	INTEGRATED COUNTY SPATIAL PLAN	- 160 -
12.1	Introduction	- 160 -
12.2	Proposed Spatial Structure and Growth Directions	- 160 -
12.3	Proposed Levels of Human Settlements	- 161 -
12.4	Primary Urban Corridor/Growth Corridors	- 162 -
12.5	Proposed County Land Use/Spatial Structure	- 163 -
13.	SECTORAL DEVELOPMENT PLANS, STRATEGIES AND FLAGSHIPS	- 180 -
13.1	Introduction	- 180 -
13.2	Economic Development Plan	- 180 -
13.3	Infrastructure Development Plan	- 193 -
13.4	Transport Development Plan	- 196 -
13.5	Land Management and Human Settlements	- 201 -
13.6	Social Infrastructure and Services Provision Plan	- 207 -
13.7	Environmental Conservation Management Plan	- 227 -
13.8	Strategy for Conservation of Environmentally Sensitive Areas	- 232 -
13.9	Strategy Climate Change, Disaster Management and Emergence Response	- 232 -
13.10	Governance	- 232 -
14.	PLAN IMPLEMENTATION	- 234 -
14.1	Introduction	- 234 -
14.2	Institutional Framework for Participatory Implementation	- 234 -
14.3	Mechanisms for Plan Implementation	- 237 -
15.	CAPITAL INVESTMENT PLAN (CIP)	- 238 -
15.1	Overview	- 238 -
15.3	Project Prioritization and Sequencing	- 239 -
16.	MONITORING AND EVALUATION	- 247 -
16.1	Introduction	- 247 -
16.2	Monitoring and Evaluation Guidelines	- 247 -
16.3	Monitoring and Evaluation Model	- 247 -
16.4	Implementation and Monitoring Indicators	- 247 -
16.5	Guidelines for Plan Implementation	- 249 -
16.6	Possible Hindrances to a Successful Evaluation Process	- 249 -
16.7	Plan Review	- 249 -
15.3.4	CONCLUSIONS AND RECOMMENDATIONS	- 250 -
ANNEXES	- 251 -

**LIST OF MAPS**

Map 3-1: Samburu County at the National Level	- 21 -
Map 3-2: Regional Context of Samburu County	- 23 -
Map 3-3: Samburu County Local Context	- 24 -
Map 3-4: Samburu County Sub County/Constituency	- 26 -
Map 4-1: Topographic Analysis	- 28 -
Map 4-2: County Terrain and Cross Sections	- 28 -
Map 4-3: Samburu County Landforms	- 29 -
Map 4-4: Drainage and Hydrology System	- 31 -
Map 4-5: County Underground Water Potential	- 33 -
Map 4-6: County Geological Characteristics	- 34 -
Map 4-7: County Soil Characteristics	- 36 -
Map 4-8: Mineral Distribution in the County	- 37 -
Map 4-9: Oil Potential in Samburu County and Surrounding Regions	- 38 -
Map 4-10: Rainfall Distribution in mm	- 40 -
Map 4-11: County Temperature Variation	- 41 -
Map 4-12: Samburu County Agro-Ecological Zones	- 43 -
Map 4-13: Samburu County Vegetation Cover	- 44 -
Map 4-14: Rangelands in Samburu County	- 46 -
Map 4-15: Grasslands in Samburu County	- 47 -
Map 4-16: Invasive Species in Samburu County	- 49 -
Map 4-17: Samburu County Forest Distribution	- 50 -
Map 4-18: Samburu County Tree Coverage	- 51 -
Map 4-19: Leroghi Wildlife Corridor	- 53 -
Map 4-20: Potential For Human Wildlife Conflicts	- 54 -
Map 4-21: Annual Sun Radiation and Wind Power Density at 50m above the Ground	- 58 -
Map 5-1: Sub County Population Density	- 61 -
Map 5-2: Population Distribution at Wards	- 62 -
Map 5-3: Samburu County Population and Settlement Distribution	- 63 -
Map 5-4: Samburu County Wards Projected Population	- 67 -
Map 5-5: Samburu County Poverty Rates	- 69 -
Map 5-6: County Ethnic Groups	- 72 -
Map 5-7: Conflict Prone Areas in Samburu County	- 74 -
Map 6-1: Land Tenure in Samburu County	- 77 -
Map 6-2: Samburu County Land Use	- 79 -
Map 6-3: Samburu County Land Cover Change Analysis	- 80 -
Map 6-4: Samburu County Land Cover	- 82 -
Map 6-5: Land Suitability Analysis	- 83 -
Map 6-6: County Settlement Structuring Elements	- 85 -
Map 6-7: Hierarchy of Human Settlements as per 1978 settlement strategy	- 88 -
Map 6-8: Existing Hierarchy and Spatial Distribution of Human Settlements	- 89 -
Map 6-9: Planned and Ongoing Town Planning in Samburu County	- 91 -
Map 6-10: Samburu county Adjudication sections	- 93 -
Map 7-1: County Livelihood Zones	- 98 -
Map 7-2: Samburu County Livestock Distribution	- 100 -
Map 7-3: Samburu County Livestock Market Routes	- 102 -
Map 7-4: Samburu County Livestock Routes and Movements	- 104 -
Map 7-5: Livestock Access To Water	- 105 -
Map 7-6: County Tsetse Fly Infestation Incidences	- 107 -
Map 7-7: Samburu County Agricultural Areas	- 110 -
Map 7-8: Samburu County Game Reserves and Hotel Sites	- 118 -
Map 7-9: Samburu County Potential Minerals	- 122 -
Map 8-1: Samburu County Regional Road Connectivity	- 125 -
Map 8-2: Transport Network in Samburu County	- 126 -
Map 8-3: Samburu County Roads Missing Links	- 127 -
Map 8-4: Samburu County Water Resources and Accessibility	- 133 -
Map 8-5: Postal Services in Samburu County	- 135 -



Map 9-1: Sub county ECDE distribution and Accessibility	137 -
Map 9-2: Primary School Accessibility	138 -
Map 9-3: Secondary School Accessibility Analysis	140 -
Map 9-4: Existing Tertiary Education Facilities	141 -
Map 9-5: Health Facility Distribution and Accessibility	144 -
Map 9-6: County Security Facilities Installation	147 -
Map 11-1: County Human Settlement Structuring Elements	146 -
Map 11-2: Livestock, Rangeland and Agriculture Development Model	151 -
Map 11-3: Urbanization, Industrialization and Infrastructure Model	154 -
Map 11-4: Tourism and Conservation Development Model	157 -
Map 12-1: Proposed Human Settlements Hierarchy and Development Corridors	163 -
Map 12-4: County Agricultural and Agro-Pastoral Areas	166 -
Map 12-5: County Pastoral/Livestock Production Zones	167 -
Map 12-6: Proposed Livestock-Wildlife Zones	168 -
Map 12-7: The Integrated Land Use Plan (CSP)	170 -
Map 12-8: County Land Use Zoning Plan	171 -
Map 13-1: Livestock Production and Management Plan	182 -
Map 13-2: Proposed Industrial and Value Addition Master Plan	185 -
Map 13-3: Tourism and Heritage model	188 -
Map 13-4: Proposed Irrigation Schemes Proposed and Agricultural Development Plan	191 -
Map 13-5: Proposed Water Provision Plan	195 -
Map 13-6: Proposed Samburu County Transportation Plan	200 -
Map 13-7: Land Adjudication and Management Proposals	202 -
Map 13-8: Proposed Hierarchy of Growth Centers and Service Provision	205 -
Map 13-9: Primary School Proposals	209 -
Map 13-10: County Secondary School Plan Proposals	212 -
Map 13-11: Proposed Tertiary Education Facilities	215 -
Map 13-12: Proposed Health Service Improvement Strategy	218 -
Map 13-13: County Social Infrastructure and Services Provision Plan	224 -
Map 13-14: Proposed Security Facilities	226 -
Map 13-15: County Forest Conservation Plan	228 -
Map 13-16: Natural Resources, Biodiversity and Environmental Conservation Plan	231 -

LIST OF FIGURES

Figure 2-1: Methodological Framework	8 -
Figure 2-2: Planning Process	9 -
Figure 4-1: Rainfall in mm	39 -
Figure 5-1: Population Composition and Structure	60 -
Figure 5-2: Population Distribution by Sub-County	60 -
Figure 5-3: Urban and Rural Population Distribution	64 -
Figure 5-4: Projected Population by Pyramid 2028	65 -
Figure 5-5: Source of conflicts in the county and its neighbors	73 -
Figure 6-1: Housing Materials	95 -
Figure 7-1: County Crop Production Trends	110 -
Figure 7-2: Types of Farming	111 -
Figure 7-3: Ease of Doing Business	114 -
Figure 8-1: Household By Main Source of Cooking Fuel	129 -
Figure 8-2: Household by Water Sources	132 -
Figure 9-1: Reasons for Poor Enrolment Rate	136 -
Figure 9-2: Distance to the Nearest Secondary School	139 -
Figure 9-3: Duration to the Nearest Health Facility	145 -
Figure 13-1: Artist's Impression of the Proposed County Industrial Parks	183 -
Figure 13-2: Artist Impression of Proposed Terminal Facility	199 -
Figure 13-3: Proposed Ultra-modern stadium in Maralal and other centres	220 -
Figure 13-4: Artist Impression of the Proposed County Social Hall Facilities	221 -
Figure 13-5: Proposed Public open space at urban centres	221 -



Figure 13-6: Proposed Fire Station at Maralal	221 -
Figure 13-7: Proposed Riparian Buffer Best Practices	229 -
Figure 15-1: Model for Monitoring and Evaluation.....	247 -

LIST OF TABLES

Table 3-1: Administrative and Political Units.....	24 -
Table 4-1: Samburu County Agro Ecological Zones	42 -
Table 5-1: County Population Forecasts	65 -
Table 5-2: Samburu County Projected Population	65 -
Table 5-3: Samburu County Wards Projected Population	66 -
Table 5-4: Household's Numbers/Size Projection By 2030	68 -
Table 6-1: Samburu County Land Cover Change Analysis.....	81 -
Table 6-2: Categories of Centers in Samburu County (1978)	87 -
Table 6-3: Towns with Local Physical Development Plans.....	90 -
Table 6-4: Poor Rural-urban Roads.....	92 -
Table 6-5: Land Adjudication Sections.....	93 -
Table 7-1. Annual Livestock Population and Value	99 -
Table 7-2: County Livestock Population Estimates Trends (2013-2016)	99 -
Table 7-3: Sub County Milk Production.....	99 -
Table 7-4. Number of cattle dips in the county	101 -
Table 7-5. Number of Sale Yards and abattoirs in the County.....	101 -
Table 7-6: Samburu County livestock infrastructure.....	101 -
Table 7-7: County Livestock Markets	102 -
Table 7-8. A List of Livestock Marketing Stakeholders in the County	108 -
Table 7-9: County Farming Systems	111 -
Table 7-10: Samburu County Crop Production Trends.....	111 -
Table 7-11: Horticulture Produces Production Trends.....	112 -
Table 7-12: County Micro, Small and Medium Enterprise (MSME).....	114 -
Table 7-13: Hospitality Facilities	116 -
Table 7-14: County Quarrying and Sand Harvesting	123 -
Table 8-1: County Electrification Status.....	130 -
Table 9-1: Pre- School Education Enrolment, Teacher and Transition Rates.....	137 -
Table 9-2: Trends in Primary School Enrolment in Samburu County	139 -
Table 9-3: Secondary Schools Enrollment Trends.....	139 -
Table 9-4: Adult education report: centers and enrolment. December 2017	141 -
Table 9-5: Projected Education Facilities Demand Analysis.....	142 -
Table 9-6: Samburu County Health Indicators	143 -
Table 9-7: Projected Health Facilities Demand Analysis.....	145 -
Table 10-1: Non-Sate Actors in Samburu County	140 -
Table 11-1: Development Opportunities and Constraints	143 -
Table 12-1: Proposed Human Settlements Hierarchy	162 -
Table 12-2: Proposed Land Use Proposals	169 -
Table 13-1: Liquid Waste Management Proposals	196 -
Table 13-2: Regional Roads Proposed for Tarmacking	197 -
Table 13-3: Proposed Hierarchy of Human Settlements and Service Provision.....	204 -
Table 13-4: County Level Health Facility Development Proposals	217 -
Table 13-5: Sub-County Level Health Facility Development Proposals.....	217 -
Table 13-6: Dispensary Upgrading to Health Centre Proposals	217 -
Table 13-7: Stadium Facilities Proposals	220 -
Table 13-8: Proposed Firefighting Facilities	222 -
Table 13-9: Proposed Libraries	223 -
Table 15-1: Indicative Performance Monitoring and Evaluation Matrix	248 -



LIST OF PLATES

Plate 1-1: Visioning Workshop Session	- 5 -
Plate 4-1: Undulating Nature of Samburu	- 27 -
Plate 4-2: Ewaso Ngiro River	- 32 -
Plate 4-3: Part of Vegetation in Baragoi and its environs	- 44 -
Plate 4-4: Part of Leroghi Forest.....	- 51 -
Plate 4-5: Lioness at Samburu National Reserve.....	- 52 -
Plate 4-6: Environmental Degradation in parts of Samburu East Sub County	- 57 -
Plate 5-1 : Samburu People and Their Culture	- 70 -
Plate 5-2: Suguta Valley Prone to Cattle Rustling Activities.....	- 75 -
Plate 6-1: Some of the Rural Settlements in Samburu County	- 90 -
Plate 6-2: Housing Typologies in Rural Samburu County.....	- 95 -
Plate 7-1: Agricultural Farms in Poro area	- 109 -
Plate 7-2: Beautiful Landscapes in the County	- 116 -
Plate 7-3: Samburu County Nature and Wildlife.....	- 117 -
Plate 7-4: Samburu County Beadwork	- 117 -
Plate 7-5: Beautiful Scenery in Nakuru	- 118 -
Plate 8-1: Regional Roads in Samburu County	- 124 -
Plate 8-2: Road Status in the County	- 126 -
Plate 8-3: Baragoi and Wamba Electricity stations	- 130 -
Plate 8-4: Samburu County Water Sources and Challenges	- 132 -
Plate 13-1: Proposed Urban Roads.....	- 198 -

**ACRONYMS AND ABBREVIATIONS**

ACF	Action Against Hunger
AI	Artificial Insemination
AIDS	Acquired Immune Deficiency Syndrome
APHIA Plus	AIDs, Population and Health Integrated Assistance
ASAL	Arid and Semi-Arid Areas
C.E.C.M	County Executive Committee Member
CIDP	County Integrated Development Plan
CSP	County Spatial Plan
CBOs	Community Based Organization
CDF	Constituency Development Fund
CCTV	Closed-Circuit Television
CDF	Constituency Development Fund
CSOs	Civil Society Organisations
ECDE	Early Childhood Development Education
ECD	Early Childhood Development
EMCA	Environment Management and Coordination Act
EIA	Environmental Impact Assessment
EPZ	Export Processing Zone
ESP	Economic Stimulus Programme
FAO	Food and agriculture organization
FBOs	Faith Based Organizations
FGDs	Focus Group Discussion
FGM	Female genital mutilation
FPE	Free Primary Education
HH	Household
HIV	Human Immunodeficiency Virus
ICT	Information Communication Technology
ISUDP	Integrated Strategic Urban Development Plan
IDPs	Internally Displaced Persons
KCB	Kenya Commercial Bank
KERRA	Kenya Rural Roads Authority
KETRACO	Kenya Electricity Transmitting Company
KI	Key Informants
KIHBS	Kenya Integrated Household Budget Survey
KM	Kilometres
KNBS	Kenya National Bureau of Statistics
KPHC	Kenya Population and Housing Council
Kshs	Kenya Shillings
KWFT	Kenya Women Finance Trust
MOA	Ministry of Agriculture
MSEs	Medium and Small-Scale Businesses
MTP	Medium Term Plan
NACC	National AIDS Control Council
NEMA	National Environment Management Authority
NGOs	Non-Governmental Organisation
NHIF	National Hospital Insurance Fund
NLC	National Land Commission
NMT	Non-Motorised Transport
NSP	National Spatial Plan
OVCs	Orphan and Vulnerable Children
PMTCT	Prevention of Mother to Child Transmission
PWD	People With Disabilities
REA	Rural Electrification Authority
SALW	Small and Lethal Weapons
SAIDIA	Samburu Aid in Africa
SEA	Strategic Environmental Assessment
SDGS	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
STDS	Sexually Transmitted Diseases
SWOT	Strengths Weaknesses, Opportunities and Threats



ToR	Terms of References
TTC	Teachers Training College
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WEF	Women Enterprise Fund
WRMA	Water Resource Management Authority
WRUA	Water Resource Users Association
VCT	Voluntary Counselling and Testing
UACA	Urban Areas and Cities Act
YEF	Youth Enterprise Fund



ABSTRACT

The County Government Act of 2012 obligates Samburu County Government to prepare a ten-year GIS-based County Spatial Plan. This report presents Samburu County Spatial Plan (2021-2031). **Chapter one** of this document gives an introduction and the background of this plan. **Chapter two** explains the planning context of the preparation of Samburu County Spatial Plan. **Chapter three** provides the locational context while **chapter four** covers the physical environment and natural resources of Samburu County. **Chapter five** of the report gives a description population and demographic trends of the county. **Chapter six** describes characteristics of Land and Human Settlements and their impact on social and economic activities. **Chapter seven scrutinizes** the economic base of Samburu County. **Transport, infrastructure services and utilities** are discussed in **Chapter eight** of the report. **Chapter nine** of the plan examines the social infrastructure and services with emphasis in gap and demand analysis. **Chapter ten discusses** governance and institutional analysis that are necessary in plan formulation and implementation.

Chapter eleven highlights the integrated development analysis, synthesis and alternative development scenarios for the integrated county spatial plan highlighting emerging issues from the situational analysis. Samburu County Integrated Development Plan is highlighted in Chapter **twelve** of this report. This chapter presents the Integrated County spatial Plan as the preferred model to guide development of the planning area for the next 10 years. The Plan Proposals are made along the development zones identified. **Chapter thirteen** discusses the county development plans and strategies for the implementation of Samburu County Spatial Plan. The financing framework for the spatial plan is discussed under the Capital Investment Strategy (CIP) in chapter fourteen of the report. Monitoring and evaluation modalities are highlighted in **Chapter fifteen**. Lastly **chapter sixteen** highlights plan recommendations and conclusions.



EXECUTIVE SUMMARY

The Fourth Schedule of the Constitution of Kenya confers the role of county planning to the County Governments. Additionally, the County Government Act of 2012 requires each County Government to prepare a ten-year GIS-based County Spatial Plan (CSP) in respect of the entire area of jurisdiction of the county. The Samburu County Spatial Plan (CSP) is a blueprint to guide development activities in Samburu. The Plan gives a detailed spatial depiction of the county's territorial space, and highlights strengths and deficiencies in its existing spatial structure. Consequently, the plan suggests a strategy of intervention by which the various components of the existing spatial structure are integrated into a wholesome and overarching framework to achieve long-term sustainable development within the county.

The purpose for the Samburu County Spatial Plan is to provide a clear strategic direction for the development of the County over the next 10 years but with the flexibility to respond to change. This county spatial plan identifies programs and projects on land development, designation of urban areas, delineation of sensitive areas that require conservation while integrating sectors such as natural resource and environmental characteristics, economy, human settlements, transport and infrastructure. The plan is a framework for organizing and distributing local populations and activities in a manner that achieves both national and county development objectives. The plan also aims to coordinate the implementation of sectoral projects and programs, especially to reduce the wastage of scarce resources and avoid the duplication of efforts.

Samburu County economy is mainly tourism and livestock driven. This sector faces numerous challenges including little modernization, infrastructural bottlenecks, inadequate markets for agricultural produce and inadequate value chain additions. It requires modern educational systems-skills that are innovation-oriented, strengthening trade, commerce, business activities, and environmental sustainability. The various challenges and opportunities that face the county inform the spatial development vision, goal, objectives and implementation strategies. Some key problems in the county include; deforestation, degradation, soil erosion, population pressure, decreasing land productivity, human wildlife conflict, resource based communal conflicts, inadequate value addition, inadequate marketing facilities, land fragmentation into uneconomical units especially at the highlands, unplanned urban areas, inadequate and inefficient social and physical infrastructural facilities. Opportunities are presented through the county's strategic location, minerals, rich cultural heritage, and abundance of wildlife and nature resources, rangeland, and potential for green energy production.

The study identified some of the key industries that would spur immediate growth of the county ranging from farming related industries, fishing, livestock and tourism. These were independently identified and advanced by the Plan as program and project proposals that would be adopted by the County Government to boost the economic growth of the county and enhance its revenue generation and collection. Additionally, the report has discussed in detail a governance and institutional framework of the concerned and responsible authorities that will implement the proposals advanced by this plan. Based on community aspirations and detailed planning analysis, the Plan provides a county wide context within which resource specific and Ward based Planning policies can be set. It helps to improve understanding of and response to issues and implications that have geographical or physical and spatial dimensions.



The Samburu County Spatial Plan is specifically intended to provide a strategic direction for the development of the county over the next 10 years until 2031. A land use plan is a framework that sets out strategic planning policies in terms of space. A structure plan comprises of three elements – namely a physical zoning, land management policies and land use standards. These zones include; urban development zones, agriculture zone, wildlife and ranching zone, public purpose, agro-pastoral zones and conservation zones. The county structure plan was prepared based on a transportation, infrastructure gap analysis, human settlements analysis, environmental sensitivity analysis, land capability, availability and suitability analysis. Detailed standards for the use of county land resource has been outlined in this report.

To operationalize this County Spatial Plan, thematic plans and strategies have been prepared and include: economic development strategy, environmental strategy, human settlement strategy, transportation strategy, service provision strategy, physical infrastructure strategy and a capital investment framework.

The Economic Development Strategy has proposals for revitalization of tourism, livestock subsector high end tourism, Livestock production and rangeland management, industrialization, value chain and value addition, agriculture development, mining, trade, commerce and investments. Proposals for tourism promotion include the establishment of high niche tourism products, expansion of existing conservancies, promotion of investment in tourism facilities, establishment of sanctuaries, cataloging of heritage sites and construction of cultural centers. The establishment of specialized trade centers, grain markets, and markets for jua-kali products is proposed to rejuvenate trade and commerce. Maralal Town has been selected as a flagship agro-processing zone with processing plants for meat, milk and leather products.

The Transportation Development Strategy proposes the improvement of intermodal connectivity between the road corridors, the airstrip and the regional connector highways. For improved transportation efficiency, the development of a termini, establishment of disaster management centers and the upgrading of major interchanges have been proposed. All Maralal-Posta (Naibor) (A4), Lerata-Wamba (C78), Wamba- Kisima (C78), Maralal-Baragoi (A4), Baragoi-South Horr- Loyiangelani (A4) have been proposed for improvement to bitumen standards while county feeder roads have been proposed for gravelling to all-weather status. Kisima airstrip is earmarked for upgrade to county airport as a mode of awakening air transport in the county.

The Infrastructure and Services Development Strategy includes provisions for the expansion of services. The plan proposes sewer reticulation and modern sewer treatment plants and stadia in Maralal, Kisima, Baragoi, Wamba, Archers Post and Suguta Marmar. All the major urban areas will have an expanded water reticulation network. specific water points for wildlife and livestock in the delineated livestock movement corridors are proposed, others include Reduction of average distance to water points to 5 Km, upgrade water pans, establish strategic dams, establish more boreholes, establish primary schools at Opiroi, Ntepes, Lodgushaani, Lomwata, Raraiti, Lmarmaroc, Losesia, Nkeju muny, Loibachai, Larora, Natiir, Nachola, Lomirok, Naturkan, Logorate and establishment of a fully fledged public university. This plan seeks to Establish one youth polytechnic in each ward, Develop a Hospitality and Tourism College in Archers Post, Set up a Medical Training College, Technical Training Institute (TTI) in Sirata, Wamba and Baragoi, public libraries in Maralal, Baragoi, Suguta Marmar,



Wamba and Archers Post, ICT, youth and talent growth centre of excellence in Maralal, Archers Post, Baragoi and Wamba. Establish dispensaries, modern mortuary facilities at Wamba and Baragoi hospitals. In term of security the plan proposes Upgrade of AP Posts at Nachola and Lerata to Police station, Addition of police camps at Amaiya, Kawap, Loosuk, Nkabai, Parkati area, Upgrade Morijo Outpost, Loosuk Outpost, Marti AP Post, Sereolipi Outpost, Amaiya Outpost, Suiyan AP to police stations inaddiotn to Establishing Police posts near borders e.g, Amaiya, Kawap, Loosuk, Establish an AP camp at Chanda centre, Kawop, Loonjorin and Losesia.

The Spatial Development Strategy seeks to have sustainable human settlements and ensure security of tenure, efficient, sustainable and equitable use of land for prosperity. The plan seeks to Establish a lands registry at Maralal, Develop a Land Management Information (LIM) system and a GIS lab, Land adjudication, demarcation and issuance of titles at Nachola, Nyiro, Kalamodang, Nairimirimo, and all urban centres, promote planning of All urban settlements. The urbanization strategy proposes the improvement of existing urban areas through preparation of local physical development plans for all major towns. The rural development strategy proposes the servicing of rural areas through the provision of basic social services to cater to dispersed settlements. The human Settlement Development Strategy proposes the classification of urban areas in the county into a hierarchy of fiver tiers: municipality, and urban center, rural, market and local cntre as envisioned in the Urban Areas and Cities Act. The urban areas have been assigned unique functions based on their potential specialization. It is proposed that physical development plans be prepared for all tiers of the proposed human settlements within the plan period. Proposals include development control, upgrade services and land banking.

The Environment conservation Strategy proposes afforestation, terracing, gabions, protection of rivers and laggas, wetlands, and sustainable crop cultivation practices in the highlands, controlled water abstraction, sand harvesting, rainwater harvesting, pasture development. Conservancies are to play a crucial role in rangeland management and land degradation practices. Riparian buffer, afforestation, and water abstraction control is proposed along the county streams and small rivers. Along the large rivers, proposals include riparian buffering, afforestation, damming, strategic dams, sustainable sand harvesting. Its is proposed that the wildlife corridorsand livestock migration corridors will be proected. It is proposed that the barren lands be designated as wildlife conservancies. Climate change adaptation and resilience solutions have been mainstreamed across the sectors such as by proposals for increasing carbon sinks, promotion of the use and generation of renewable energy, community training and widespread mobile-based dissemination of relevant climate information.

The Capital Investment Programme outlines the county government funded projects, national government funded projects, public-private partnerships and donor funded initiatives. Plan Implementation, Monitoring, and Evaluation relies on a sound institutional set-up. Given the multi-disciplinary nature of the CSP, a coordination committee or unit should be constituted to facilitate implementation, incorporating key executive officers from all the thematic areas. The implementation of the CSP will transform Samburu County sustainably through effective and equitable resource management and utilization, which is in line with both county and national visions and plans. The Plan Implementation, Monitoring and Evaluation will rely on a sound institutional set-up. Given the multi-disciplinary nature of the CSP, a coordination committee or unit should be constituted to facilitate implementation, incorporating key executive officers from all the thematic areas. The proposals within this Plan have been



estimated to cost Ksh. **15, 708** billion which is spread as Ksh **1,841, 000 in phase 1, Ksh 4, 079,000 in phase 2 and Ksh. 9, 788,000 in phase 3**. Each strategic project lead should be assigned resources and manpower to achieve the projects, with the responsibility for management and reporting assigned to the coordinating unit. There must be effective communication of the plan's implementation process to all stakeholders through use of effective communication channels.

Effective community participation can be achieved through robust forums held in a commonly-understood language, countering inherent biases to foster community support. Capacity building is critical for the county staff responsible for direct plan implementation. Reduced marginalization of vulnerable persons has been mainstreamed through proposals for establishment of special facilities (such as mental health units, elderly care centers, homes for orphans and a school for the visually, hearing or speech impaired children in the County, and the mandatory participation of such persons in County decision-making. Automation of County services and the strengthening of urban governance are proposals for people-centered governance. A framework for periodic monitoring and evaluation of plan implementation is detailed and proposed, highlighting the various thematic indicators and sources of verification. The implementation of the CSP will transform Samburu County into a regionally competitive hub through sustainable resource management and exploitation, which is in line with Kenya's Vision 2030.



PART I: INTRODUCTION AND PLANNING CONTEXT



1. INTRODUCTION

1.1 International Context

The African Union has developed important policy frameworks towards secure land and resource tenure rights. The framework and guidelines give direction on land policy to take steps to protect grasslands/rangelands and pastoralist ecosystems. The policy framework for pastoralism is a policy initiative seeking to secure, protect and improve the lives, livelihoods and rights of African pastoralists. Also relevant is the Voluntary Guidelines on the Responsible Governance of Tenure of Lands, Fisheries and Forests in the Context of National Food Security produced by the Food and Agriculture Organization. It calls on states to implement spatial planning. It also calls for the needs of pastoralists to be taken into account. The Voluntary Guidelines are accompanied by a Technical Guide on Improving Governance of Pastoral Lands, which also emphasizes the role that land use planning can play in effective governance of rangelands:

- a) Planning and management of pastoralist rangelands take on different forms in different places. Allow for diverse approaches and incorporating formal and traditional institutions and systems.
- b) Pastoralist and agro-pastoralist communities often have management systems that are a form of traditional land use planning.
- c) Pastoralist production systems have unique characteristics and planning must adapt to those characteristics.

1.2 Background

The County Government Act, 2012 requires that all county governments prepare and implement County Spatial Plans (CSP). The County Spatial Plans are ten-year plans that are implemented through annual budgetary allocations by the county governments. The County Governments are responsible for coordinating the preparation of the County Spatial Plans (CSP) and have to involve other stakeholders who impact on and /or benefit from development in the county. Once the CSP is prepared and adopted, all county planning programmes and projects should be guided by the CSP. All other government departments working in the respective sectors of the county should derive their strategies and projects from the CSP when making the sectoral plans. The County Government of Samburu desires to prepare a CSP for the area of jurisdiction in order to fulfil the legal requirement but also to guide development of the County for the next 10 years. The Preparation of the Samburu County Spatial Plan was guided by the following principles:

- i) Integrate national values in all processes and concepts;
- ii) Protect the right to self-fulfilment within the county communities and with responsibility to future generations;
- iii) Protect and integrate rights and interest of minorities and marginalized groups and communities;
- iv) Protect and develop natural resources in a manner that aligns national and county government policies;
- v) Align county financial and institutional resources to agreed policy objectives and programmes;
- vi) Engender effective resource mobilization for sustainable development;
- vii) Promote the pursuit of equity in resource allocation within the county;
- viii) Provide a platform for unifying planning, budgeting, financing, programme implementation and performance review; and
- ix) Serve as a basis for engagement between county government and the citizenry, other stakeholders and interest groups.



The Samburu County Spatial Development Plan will fulfill the following general objectives:

- i. ensure harmony between national, county and sub-county spatial planning requirements;
- ii. facilitate the development of a well-balanced system of settlements and ensure productive use of scarce land, water and other resources for economic, social, ecological and other functions across the county;
- iii. maintain a viable system of green and open spaces for functioning eco-systems;
- iv. harmonize the development of county communication system, infrastructure and related services;
- v. develop urban and rural areas as integrated areas of economic and social activities;
- vi. provide the preconditions for integrating under-developed and marginalized areas to bring them to a level generally enjoyed by the rest of the county;
- vii. protect the historical and cultural heritage, artifacts and sites within the county;
- viii. make reservations for public security and other critical national infrastructure utilities and services;
- ix. work towards the achievement and maintenance of a tree cover of at least ten per cent of the land area of Kenya as provided in Article 69 of the Constitution; and
- x. develop the human resource capacity of the county

1.3 Statement of Need

Despite the diversity of natural resources (minerals, water, wildlife, climate, land and culture) Samburu County faces a number of development challenges including: high poverty levels; inadequate energy and support infrastructure for industrial development; low productivity and value addition in agriculture and rural development; inadequate health, education and recreational services; lack of land information management systems; undeveloped road network; low levels of access to portable water and urban development. This calls for a County Spatial Plan to:

- i. Assess the available resources, their level of utilization and potential;
- ii. Indicate infrastructure and services levels and distribution and enable the County Government prioritize investments in infrastructure development;
- iii. Provide strategic guidance in respect of the location and nature of development within the county;
- iv. 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;
- v. Set out a capital investment framework for the county's development programs;
- vi. Undertake a strategic assessment of the environmental impact of the spatial development framework;
- vii. Identify programmes and projects for the development of land within the county;
- viii. Provide a framework for coordinating County development programmers and strategies so as to avoid duplication of projects which often results in a wastage of both financial and human resources
- ix. Form the basis for preparing sectoral programmes and projects
- x. Identify areas where strategic intervention is required
- xi. Indicate areas where priority spending is required
- xii. Form the basis for seeking donor funding and public/private partnership in development of the county.

The process of preparing this County Spatial Plan was participatory, strategic and evidence based.



1.4 Goal of the Plan

The goal of the plan is to prepare a County Spatial Plan to cover the area of the entire Samburu County to guide development process for a period of ten years and facilitate the transformation of the lives of the citizens of the county through: interpreting national and regional policies, guiding use of land, integrating sectoral policies and providing policies on which to anchor lower level plans.

1.5 Specific Objectives

The specific objectives of the plan include:

- i. Providing an overall spatial framework for the county to guide development
- ii. Interpreting and localizing strategic national and regional policies and strategies.
- iii. Developing a GIS-based land information system to guide land administration and management
- iv. Guiding rural development and settlements.
- v. Providing a basis for efficient and effective delivery of infrastructure and services.
- vi. Identifying the vital natural resources within the county, analyzing their level of utilization and proposing innovative strategies to enhance their utilization and sustainable management.
- vii. Identifying opportunities for job creation and employment
- viii. Providing a framework for revitalizing industries, trade and commerce to spur economic development.
- ix. Formulating strategies for improving transport and communication networks and linkages.
- x. Developing strategies to realize a system of urban centres for sustainable urban development.
- xi. Identifying the region's environmental concerns and proposing protection and conservation measures.

1.6 Scope of the County Spatial Plan

1.6.1 Geographical Extent of Planning Area

Samburu is situated in the northern part of the Rift Valley bordering Marsabit, Turkana, Isiolo, Baringo and Laikipia Counties. It is administratively divided into three sub-counties: - Central, East and North. Samburu County land covers an area of 20,826 Km² with a total population of 224,000 out of whom 90% are nomadic pastoralists.

1.6.2 Mapping Scope

To support the spatial plan preparation and implementation processes, there is urgent need for the preparation of up to date interactive digital maps for Samburu County.

1.6.3 Planning Scope

The Plan offers the Spatial Development Strategy for Samburu County that depicts all existing physical features, spatially illustrates all national and regional development projects in the county and guides physical development activities in Samburu County. It aims to address pertinent issues such as human settlement patterns, urban and rural development, utilisation of natural resources, transport and infrastructural development and attracting suitable investment in Samburu County. The planning assignment was participatory and entailed the elements including:

- i. A situational analysis of the current socio-economic, infrastructure, institutional and social infrastructure, physical, environmental and cultural characteristics of the county.

- ii. Preparation of land use framework indicating detailed land uses and zoning regulations (code), based on the newly updated digital topographical maps.
- iii. Sectoral strategies and plans including transportation, environmental management, disaster management and cultural heritage preservation plan.

1.6.4 Time scope

The plan is a medium-term spatial planning framework and regional development strategy with a planning horizon of ten (10) years from 2021-2031 and shall be subject to five (5) year reviews.

1.7 Expected Outputs of Planning Assignment

The expected deliverables of the plan include:

1.7.1 Mapping Outputs

Digital map mapped on separated layers. The data should be in both shapefile and CAD format.

1.7.2 Planning Outputs

The main deliverable of the plan is a county spatial plan /Land Use Plan. This will be indicating broad land uses, transportation connectivity, existing and proposed infrastructure facilities and areas of economic activities and to form a basis to present strategies, actions and measures. Assigning land uses and describing policies and standards to regulate and guide the use of land in each category of land use. This will be done by applying various land use standards and principles to ensure harmony and equity. In addition the plan will include Transportation Strategy, Human settlement and Urbanization Strategy, Infrastructure and Services Development Strategy, Environment protection and conservation Strategy, Local Economic Development Strategy and Plan Implementation Strategy.

1.8 Samburu County Spatial Vision

Public participation in planning has been provided in various legal provisions among them the Constitution of Kenya, County Government Act, 2012, Urban Area and Cities Act, 2015 and Physical and Land Use Planning Act No.13 of 2019 . Visioning was conducted at sub county level with key stakeholders from various backgrounds in each of the three sub counties sensitized and guided on the need for a Vision for Samburu County.

Plate 1-1: Visioning Workshop Session



© Field Survey, 2018

The following were the consolidated visions in each sub county;



Samburu Central: *"A highly developed peaceful county that promotes sustainable use of its resources"*

Samburu East: *"To be a well-planned and managed county"*

Samburu North: *"Best County in natural resource exploitation and protection."*

11.1.1 Vision for Samburu County

The following is the vision for Samburu County derived from stakeholders meeting and consolidates the aspirations of each sub county.

A well governed, secure and developed county with a diversified and vibrant economy that affords high quality life and services for her residents through sustainable use of her diverse natural and other resources.

The vision was streamlined to:

- Kenya's Vision 2030: to transform Kenya into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment.
- Samburu County Vision: To be a globally competitive county for sustainable development.

1.9 Principles Guiding the Plan

The preparation of the county spatial plan was guided by the following key principles:

- Integration of national values in all the processes and concepts
- Protecting and integrating the rights and interests of the minorities and marginalized groups in the society.
- Protecting and developing natural resources in a manner that aligns with national and county policies.
- Equity in resource allocation within the county.
- Engagement and participation of the citizens, other stakeholders and interest groups.
- Sustainable development catering for the current and future generations.
- Promotion of green and sustainable energy.



2. PLANNING CONTEXT

2.1 Introduction

The formulation of these county spatial took into account the Constitutional aspirations and principles. Kenya Vision 2030 provides aspirations and development concepts, the objectives, strategies and policy provisions of the National Spatial Plan; the country's planning system, distribution of mandates and hierarchy of spatial plans. This chapter outlines the approach, methodology and legal context guiding the preparation of Samburu County Spatial Plan.

2.2 Approach

The approach for preparing the CSP for Samburu was guided by the following principles:

- i. **Participatory Process:** Based on the principle of inclusive and representative consultations. The plan integrated a broad-based public engagement during the planning process.
- ii. **Strategic Process:** systematic approach for the most appropriate and effective solution, keeping in mind resources available and the overall policy guidelines and principles.
- iii. **Integrated approach:** acting holistically across the conventional sectoral boundaries.
- iv. **Sustainability:** concrete and specific in respect to quantitative targets, quality, timing, location, costs, environment and responsible implementing agencies.
- v. **Implementation Oriented:** to coordinate development, improve infrastructure, participation and sustainability in all aspects within the county and a plan that is within the budget constraints.
- vi. **Collaborative Approach:** This approach involves gathering stakeholders and engaging them in the process of making decisions together in a manner that respects the positions of all involved. It is an important approach especially during plan implementation when different agencies are brought into to the fore to support the execution of the projects and programmes identified in the plan.

2.3 Methodology of the Plan

The plan preparation has taken the following stages:

2.3.1 Pre- Planning

This is the first stage and it involved definition of scope of work, formulation of ToRs and preparation of resource mobilization strategies.

2.3.2 Scoping and Profiling

This stage involved the capturing of the key features in terms of the physical, administrative, social-economic, environmental factors, stakeholders that define Samburu County. It also involved drafting of work plan and framework for stakeholder's participation.

2.3.3 Reconnaissance Survey

This stage involved a reconnaissance of Samburu County in order to develop a general appreciation of the planning issues. After this survey an inception report was handed over to the county government at the launch of the project.

2.3.4 Visioning and Objectives Setting

A vision is a statement of where county/region/study area aspires to go, within a given timeframe. The vision was developed by considering the physical characteristics of the study area, its strengths, potential, issues, future focus areas and preferences of the residents.

2.3.5 Data Collection and Research

This involved identifying primary and secondary spatial and socio-economic data, identifying sources of data, preparing data checklist, choosing appropriate data collection methods.

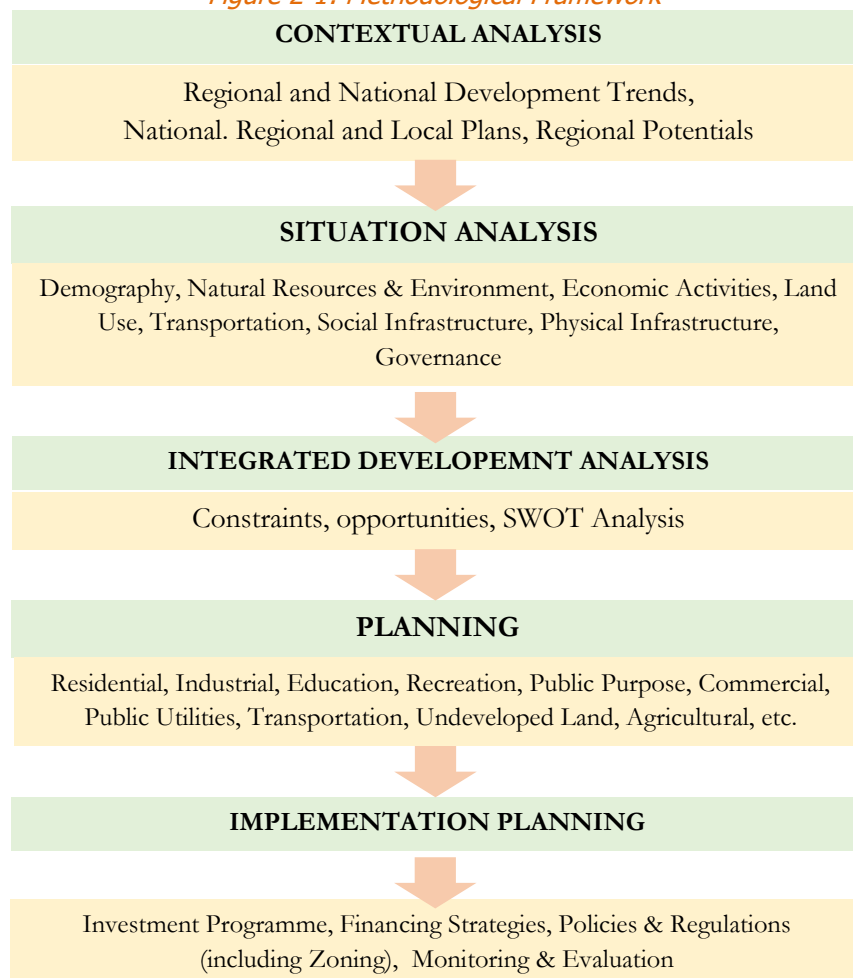
2.3.6 Data Analysis and Interpretation

Once the field work was completed, the data collected was subjected to analysis and interpretation addressing the key objectives of the study. The techniques were either qualitative or quantitative and include: Land classification, carrying capacity, time series and forecasting, matrix analysis among others. Data collected was grouped and analysed. At this stage, the findings from the analysis emerged as presented in this report. The output provides useful information related to the opportunities and challenges that are inherent in the area.

2.3.7 Situation Analysis

This is essentially the stage where the enumerators interacted with the communities and the physical environment in order to capture the relevant data in the planning area to assist in the preparation of the county spatial plan. Therefore, data collection and analysis involved review of collected information and identification of gaps and existing development trends. The methodological framework is presented in the figure below:

Figure 2-1: Methodological Framework



Source: AIDAL Consultants, 2018

2.3.8 Developing of Development Scenarios

On the basis of the analysis, the challenges and opportunities associated with each thematic group was collated to form the basis of a conceptual framework of the CSP which helps in generating the development of alternative development scenarios and strategies as pathways for development of the planning area. The alternative development scenarios indicate the strategies that are to steer Samburu County to high and sustained levels of economic growth. Development models and strategies adopted need to be integrated in order to have a spatial framework for sustainable development within the county.

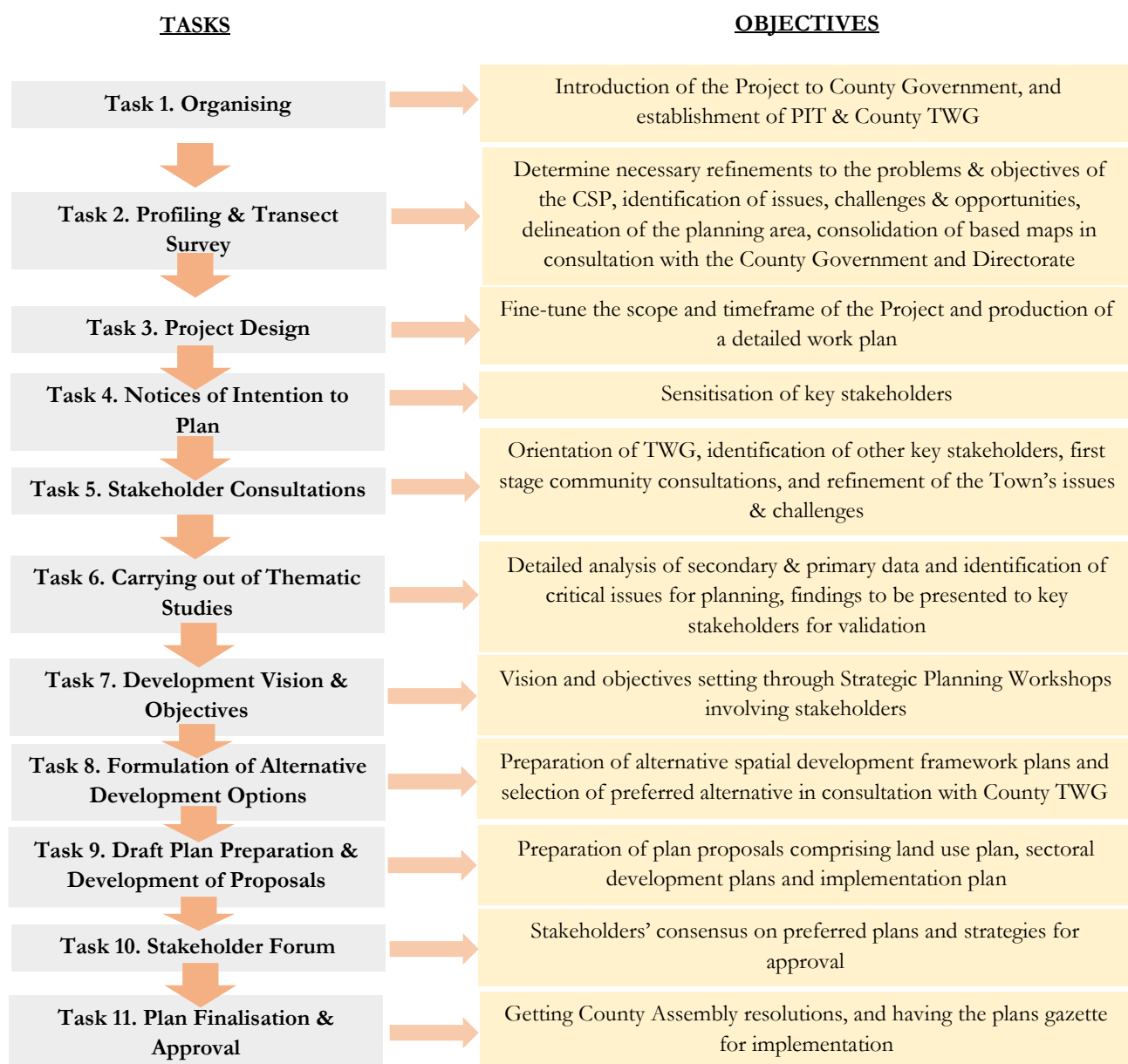
2.3.9 Formulation of Plan Proposals

The Consultant formulated sectoral strategies and plan to realize the aims and aspiration of Samburu county residents. An elaborate methodological framework provided a guide to the planning process by way of providing the various aspects of analysis and planning.

2.3.10 Planning Process

The planning process being observed involves a sequence of 11 tasks based on the TOR. The Planning Process, with tasks and corresponding objectives, is presented in Figure 2-1 below.

Figure 2-2: Planning Process





This report presents an outcome of several activities undertaken by the Consultant Team which include the following, amongst others:

- Reconnaissance survey of proposed planning boundaries
- Secondary data collection and analysis from relevant national and county government agencies, parastatals as well as relevant referred sources.
- Person-to-person interviews with key informants from agencies such as:
 - Kenya Forest Service
 - Kenya National Highways Authority
 - Kenya Wildlife Service
 - Ministry of Environment, Water & Natural Resources
 - Department of Land, Housing & Physical Planning, Samburu County
 - Department of Road & Public Works, Samburu County
 - Department of Water, Environment & Natural Resources, Samburu County
 - NEMA – Samburu County,
 - Water Resources Management Authority
 - Other relevant offices
- Focus Group Discussions (FGDs) with key stakeholder representatives from the following sectors:
 - Public health & environment
 - Business community
 - Transport & utility service providers
 - Educational institutions
- Structured transect surveys which include:
 - Initial transect (appreciation) survey
 - Environment transect survey
 - Infrastructure & Facilities inventories and conditions survey
 - Land use pattern & urban design characterisation survey

2.4 Constitutional, Legal and Policy Context

2.4.1 Constitutional Context

The Constitution of Kenya (CoK) 2010 provides the overarching legislation that guide the preparation of this spatial plan. Article 66 provides that the government may regulate the use of any land as long as it is in public interest in matters such as public safety, order, health and land use Planning. In Article 42 on the environment, it is stated that every person has the right to a clean and healthy environment. The constitution in Chapter 5, Part 2 on Natural Resources and the Environment explicitly continues to say that the State shall: -

- a) ensure sustainable exploitation, utilisation, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits;
- b) work to achieve and maintain a tree cover of at least ten percent of the land area of Kenya;
- c) protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities;
- d) encourage public participation in the management, protection and conservation of the environment;

This Plan will endeavoured as much as possible to enhance and corroborate these aspirations of the Constitution in the management, protection, and conservation of Natural resources and the environment in general. Further the constitution provides a package of economic and



social rights which need to be delivered through the contribution of all sectors of the national economy. Article 43(1) outlines these rights as: (a) attainment of the highest standard of health which include the right to health care services, including reproductive health care; (b) access to adequate housing and to reasonable standards of sanitation; (c) freedom from hunger and access to adequate food of acceptable quality; (d) access to clean and to safe water in adequate quantities; (e) access to social security; and (f) access to education.

Citizen rights as outlined in the Constitution are mandatory rather than optional. State organs are compelled to Plan and deliver on them. The undertaking of this Plan therefore set to achieve the aspirations of the constitution on citizen rights through the proposals made. *Citizen participation* in social and economic development decision making is a theme that runs through the whole Constitution. Consequently, the consultant tried as much as possible to consult with all relevant stakeholders through the making of this plan.

Amongst its other provisions, CoK 2010 provides that every person has the right to health care services, accessible and adequate housing, reasonable standards of sanitation, clean and safe water in adequate quantities, social security, and education (CoK 2010, Chapter 4 Bill of Rights, Part 2 Rights and Fundamental Freedoms). Development planning is inextricably linked to the ownership, use and management of land. Article 60(1) of CoK 2010 provides that land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable. For these purposes, the use of land and property shall be regulated by the State "in the interest of defence, public safety, public order, public morality, public health, or land use planning" (Article 66(1)). CoK 2010 also provides for the devolution of government. With regards to development planning, CoK 2010 laid down the objects of devolution as, amongst others, "to promote social and economic development and the provision of proximate, easily accessible services throughout Kenya" (Article 174(f)).

Article 176 states that there shall be a County Government for each County, consisting of a County assembly and a County executive and every County Government shall decentralise its functions and the provision of its services to the extent that it is efficient and practicable to do so. Moreover, article 184 provides for the governance and management of urban areas and cities as well as criteria for identification and classification. This is quite crucial in as far as hierarchy of centres is concerned. Integrated Planning has been identified as one of the bulwarks of decision making at both national and county level with citizen participation being part of the process. This gives preparation of the CSP a constitutional grounding.

2.4.2 Policy Framework

i. Vision 2030

This is the blue print for Kenya's long-term national development. It aims at guiding Counties to make Kenya become a newly industrialized middle-income country with high quality life for all citizens by the year 2030. It is anchored on three main pillars: Political, Economic and Social. The Political pillar seeks to build a democratic, issue-based, people centered, result-oriented and accountable political system. The Economic pillar aims at providing prosperity for all Kenyans through attaining a sustainable economic growth rate of 10% per annum over the next 25 years. The Social pillar aspires to build a just and cohesive society enjoying equitable social development in a clean and secure environment based on the transformation of eight selected social sectors namely; water and sanitation, housing and urbanization, environment, education and training, gender, youth, sports and culture. This national policy advocates for enhanced sustainable development to be integrated in every development activity to ensure socio-economic development.



ii. Sustainable Development Goals (SDGs)

The Sustainability Development Goals (SDGs) were formulated to build upon and replace the Millennium Development Goals (MDGs) whose time elapsed in 2015. They provide a framework for, inter alia, ending poverty, eradicating hunger, curbing inequality of all forms be it gender based or within and among countries. The goals also aim at achieving healthy lives, promoting inclusive and quality education, sustaining economic growth and finally protecting, restoring and promoting sustainable use of terrestrial ecosystems by managing forests, combating desertification and reversing land degradation.

iii. National Spatial Plan

The plan was prepared in relation to the Constitution, 2010, country's policy framework, Kenya Vision 2030 and the National Land Policy. It reviewed numerous national social, economic and environmental challenges face the country and positive outcomes to be achieved from the implementation of the plan. Its aims is to establishing a long-term, sustainable framework for social, environmental and economic development in the country. The role of the national spatial plan is to enhance sectoral integration in areas such as housing, transport, energy, industry, and agriculture. It is also intended to improve local urban-rural development systems. The Plan forms the foundation for implementation of national projects by providing a spatial illustration of the projects and identifying a strategy for land development. The Vision is very clear that the Plan will form the basis on which development activities in support of its proposals will take place. Closely related to NSP and also prioritized in the MTP, 2013 are the CSPs which are guidelines to ensure that all counties follow the same standards in implementing development projects in the country.

iv. National Land Policy

The NLP served largely as the precursor to Chapter Five of the Constitution on land matters. Besides coming up with land policy principles and guiding values, the policy sets out the goals and direction for the administration and management of land and sets out measures and guidelines to be adopted to achieve optimal utilization and management of land. The policy provides that Government sets up three key land management institutions: the National Land Commission (NLC), the County Land Boards (DLBs) (county level) and Community Land Boards (CLBs) (county level).

v. National Water Policy

The policy provided for a new institutional set-up for water resources management and water services provision at national and basin level; for participation of users/consumers and their empowerment, the Water Resource User Associations (WRUAs) and Water Consumer Groups (WCGs) were established.

vi. Forest Policy, 2005

The policy provides that sustainable forest management would be better carried out by a semi-autonomous entity, the Kenya Forest Service (KFS). KFS is charged with forest administration, policy development, forest regulation, training, extension and protection of natural forests. The Service works closely with; agriculture, water, land, energy and tourism sectors for efficient management of the forest sector; and generate revenue from improved management of plantation forests. The forest resources in the county are under control of KFS. Consequently, the private sectors are encouraged to participate actively in forestry research to promote research and education in forestry for sustainable development. For the surrounding community, the Government is to encourage sustainable use of forest resources by communities; the traditional interests of local communities customarily resident.



vii. National Urban Development Policy, 2018

According to the draft National Urban Development Policy "The statutes that provide the legal framework for urban planning and development, the County Government Act 2012 and the Physical Planning Act Cap 286, have not adequately addressed the current urban development realities. As a result, urban areas face numerous challenges which are a threat to sustainable urbanization and urban planning: unbalanced urbanization and haphazard designation of urban centres, uneven and skewed distribution of infrastructure, urban sprawl and decay, high costs of provision of infrastructure and services, degradation of the environment and heritage sites, non-compliance with approved plans and mushrooming of informal settlements, and insecurity"

viii. National Land Use Policy, 2017

The overall goal of the national land use policy is to provide legal, administrative, institutional and technological framework for optimal utilization and productivity of land related resources in a sustainable and desirable manner at national, county and community levels. The Policy is premised on the philosophy of economic productivity, social responsibility, environmental sustainability and cultural conservation. Key principles informing it include efficiency, access to land use information, equity, elimination of discrimination and public benefit sharing. Other key measures address issues of land cover, land use data and land use planning. Land use plans shall be developed at both national and county levels with full participation of all stakeholders and strict adherence to them shall be enforced. Mapping and documentation of all land uses in the country shall be undertaken, as well as developing a framework for incentives to encourage maintenance of forest cover, land banking for industrial, commercial, agricultural, residential and infrastructure development. In order to fully realize the objectives of this Policy and reduce contradiction between various government sectors and agencies, all sectoral laws and policy frameworks will be revised and harmonized to bring them into accord with the recommendations of this Policy, these include various land and land related acts and sectoral policy frameworks.

ix. National Water Master Plan

The National Water Master Plan (NWMP) is the policy framework for planning, development as well as management and protection of water resource while maximizing on accessibility and utilization. KVDA and ENNDA is implementing small-scale community water supply projects and is involved in the construction of medium size earth dams that will be rented out to counties and private firms to manage and operate.

x. Policy for Sustainable Development of Northern Kenya and other Arid Lands – Sessional Paper No. 8 of 2012

The policy was prepared to align the development of these areas with the aspirations of Kenya Vision 2030. Its formulation was premised on the fact that in order to achieve the Vision and other international commitments such as the sustainable Development Goals (SDGs), there is need to deal with regional inequalities.

xi. National Forest Master Plan

The National Forest Master Plan (NFMP) like NWMP is a policy framework for the development and the management as well as ownership of forest areas and utilization of forest resources in Kenya. The policy framework of the plan provides county with national, regional and local contexts for coordinating, planning and management of forest resources. Specifically, the National Forest Master Plan has strengthened role of counties in the coordination in development, utilization and protection of forest resource in the region.

xii. The Wildlife Policy, 2007



Samburu County is endowed with a variety of wild animals but due to rapid population growth, climate change and land use changes, the wildlife habitats are rapidly diminishing leading to loss of biodiversity. The Wildlife Policy provides guidelines that will help in the management and conservation of wildlife in the County. The Policy provides a framework for conserving, in perpetuity, Kenya's rich diversity of species, habitats and ecosystems for the well national heritage of common concern being and benefit of its people and the global community. The policy guideline provides for use and conservation of wildlife resources as an important public asset at local, regional, and global levels.

xiii. National Tourism Strategy 2013-2018

The Strategy seeks to make Kenya the preferred destination of choice by developing, managing and marketing sustainable tourism in Kenya. This is due to the important role played by the sector in economic development. The Government therefore, earmarked tourism as one of the six key growth sectors of the economic pillar of Vision 2030, and charged the sector with the task of making Kenya one of the top ten long-haul tourist destinations globally.

xiv. ICT Policy, 2016

The National Information & Communications Technology (ICT) policy seeks to improve the livelihoods of Kenyans by ensuring the availability of accessible, efficient, reliable and affordable ICT services. It envisions a prosperous ICT-driven Kenyan society. The policy seeks to facilitate sustained economic growth and poverty reduction; promote social justice and equity; mainstream gender in national development; empower the youth and disadvantaged groups; stimulate investment and innovation in ICT; and achieve universal access.

xv. Industrial Master Plan

The Industrial Master Plan is aimed at providing a mechanism by which the government will leverage and catalyze the implementation of strategic actions to accelerate industrial development, and enhance industrial growth and competitiveness. Its overall goal is to promote the industrial development of Kenya with emphasis on the target sub sectors namely agro-processing, agro-machinery and electric, electronics/ICT.

xvi. National Climate Change Response Strategy, 2010

In response to the climate change, Kenya has developed the National Climate Change Response Strategy. The vision of the strategy is for a prosperous and climate change resilient Kenya. The mission is to strengthen and focus nationwide actions towards climate change adaptation and GHG emission mitigation.

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xviii. Big 4 Agenda

The spatial plan seeks to harmonize its objectives with the 'Big 4 Agenda' as proposed by the national government. The Big 4 Agenda is anchored on the promotion of four areas, namely manufacturing, universal healthcare, affordable housing and food security. This plan seeks to contribute to the manufacturing pillar of the agenda by proposing strategies on how to improve the industrial sector in the County. The food security pillar also features predominantly in the plan through the proposal of initiatives targeted at increasing the productivity of the agricultural and livestock sectors. In particular, the spatial plan provides strategies related to irrigation and value addition. The universal healthcare and housing pillars were addressed through the



planning for health infrastructure and proposing land for residential development, respectively.

xix. Samburu County Integrated Development Plan (CIDP)

The Samburu County Integrated Development Plan is a blue print that guides the National, County Government and development partners' engagement in Samburu County in the realization of social economic transformation of the residents. The plan gives details of the plans and projects as suggested by the residents of the County. These projects seek at promoting economic, social and physical development of the County. Currently, the county government is in process of developing a new CIDP for the 2018-2022 period.

2.4.3 Legal Framework

i. County Government Act, 2012

According to the Act, Samburu County Government has a mandate to plan for the County and no public funds shall be appropriated without a Planning framework developed by the County executive committee and approved by the County assembly. The Act stipulates that the County Planning framework shall integrate Economic, Physical, Social, Environmental and Spatial Planning. In addition to an integrated County development Plan, each County is expected to have the following: County Sectoral Plan, County Spatial Plan and Cities and Urban Areas Plans. According to Section 110 of the Act, it states that the County Spatial Plan shall be a ten year GIS based database system providing:

- a. A spatial depiction of the social and economic development programme of the County as articulated in the integrated county development plan
- b. Clear statements of how the spatial plan is linked to the regional, national and other county plans
- c. Clear clarifications on the anticipated sustainable development outcomes of the spatial plan

ii. Physical Planning and Land Use Act, 2019

The Physical and Land Use Planning Act (PLUPA) which came to effect in August 2019 repealing the Physical Planning Act (Cap 286) is the framework law guiding the preparation of plans and development control in the country. Section 36 of the Act provides for the preparation of County Physical and Land Use Plans which are 10-year plans to be prepared in every County. Section 37 provides the objectives of the plan as;

- a) To provide an overall physical and land use development framework for the county
- b) To guide rural development and settlement
- c) To provide a basis for infrastructure and service delivery
- d) To guide the use and management of natural resources
- e) To enhance environmental protection and conservation
- f) To identify the proper zones for industrial, commercial, residential and social developments
- g) To improve transport and communication networks and linkages
- h) To promote the safeguarding of national security

The Act provides for the preparation of land development plans and implementation of all local and regional physical development plans by counties in liaison with the Director of Physical Planning. It ensures that planning is carried in such a way to ensure orderly development through land use planning and development control procedures. The county spatial plan should therefore be developed under this mandate.



iii. Urban Areas and Cities Act, 2011(Ammednded 2019)

This Act has been formulated in pursuit of Article 184 of the Constitution, which calls for a National legislation to provide for classification, governance and management of urban areas and cities. This is effected through establishment of town management boards with functions to control land use developments as well as provision of services. The Act provides guidance in the formation and provision of services to urban centres and towns. There are also important provisions within the schedules including: Classification of cities and towns by services; rights and participation of residents in affairs of their city or urban area; and preparation of a spatial plan.

iv. Environmental Management and Coordination Act, 2015

Samburu County is well endowed with highly fragile ecosystems and their protection and conservation is extremely paramount. The EMCA mainly facilitates the protection and conservion of the environment, establishment of institutions for the purpose of environmental conservation and coming up with action plans for environmental planning, management and conservation. The Act and its related regulations provides for the protection of rivers, wetlands, hilltops, hill slopes and forests. It also ensures re-afforestation and afforestation of hilltops, hill slopes and mountainous areas; conservation of energy, and planting of trees, biological diversity and protection of environmental significant areas. The Samburu CSP has been formulated in a way that achieves the foregoing set objectives where the conservation of the Natural Environment has been a key priority.

v. Water Act, 2002 (Revised Edition, 2012)

The Act states that every water resource within the state's boundaries is owned by the state and controlled by the Ministry of Water and Irrigation. The Act has key provisions on the management, conservation and sustainable use of water resources mandated under the Water Resources Management Authority. Samburu County being one of the water scarce counties in Kenya, the Act does provide a legal basis for the management and protection of its key water resources against any adverse impacts to the environment. The proposed Samburu CSP has, therefore, made sure that all key water resource areas are protected by buffer zones or legislation to enhance and ease their management and conservation.

vi. Forestry Act, 2005

In Article 13 of the Act, it provides that the Board shall establish forest conservancy areas for the proper and efficient management of forests and may divide such conservancy areas into forest divisions and stations. In addition, there shall be established a forest conservation committee in respect of each conservancy area. All forests in Kenya, other than those on private and local authority land, are vested in the State, as indicated in Article 21. Any unalienated Government land and any land purchased or otherwise acquired by the Government can be declared a state forest by the Minister on recommendation of the Forest Board. Article 30 states that every local authority shall establish and maintain arboreta, mini forests or recreational parks for the non-consumptive use of persons residing within its area of jurisdiction. Every market centre is required to have a recreational park. Article 35 indicates that every state forest, local authority forest and provisional forest shall be managed in accordance with a management plan that complies with the requirements prescribed by rules made under the Act.

vii. National Land Commission Act, 2012

The Act gives effect to Article 67 of the Constitution, 2010. It provides for the establishment of the National Land Commission. It states the functions, powers, composition and administration of the members of the commission. The general function of the commission is



the management and administration of public, private and community land. Under the Act, the Commission has the mandate to:

- a. Alienate public land on behalf of and with the consent of the national and county governments
- b. Monitor the registration of all rights and interests in land
- c. Ensure that public land and land under the management of designated state agencies are sustainably managed for their intended purpose and for future generations
- d. Develop and maintain an effective land information management system at national and county levels
- e. Manage and administer all unregistered trust land and unregistered community land on behalf of the county government
- f. Develop and encourage alternative dispute resolution mechanisms in land dispute handling and management.

viii. Survey Act, Cap 299 Revised Edition [2012] 2010

The Survey Act makes provision in relation to surveys, geographical names and the licensing of land surveyors, and for connected purposes. The Department of Surveys, under the Director, provides and maintains plans for property boundaries in support of the Land Registration throughout the country. In preparation of this plan, existing survey data was used to prepare the plans. The surveying and mapping work done under this project do not override the role of the Director of Surveys. The maps produced during the preparation of the plan are not an authority on boundaries.

ix. Land Registration Act (No. 3 of 2012)

This Act gives the process of land registration for the different land categories. It gives the process for establishment of land registration units and for the establishment of land registries. Though the survey output of this project will not be regarded as an authority on boundaries, it will yield important data.

x. Agriculture, Fisheries and Food Authority Act, (2013).

This Act provides the confines within which to make proposals on agriculture promotion and conservation of soils and fertility for sustainable agriculture and optimization of land use.

xi. Public Health Act, Cap 242

This Act of Parliament makes provision for securing and maintaining the health of the public. It provides standards and guidelines to clean and livable environment, effective ventilations and sustainable developments, which are all achieved through proper planning of an area. Occupational licenses of buildings are also provided for in this Act.

xii. The Community Land Act, No. 27 of 2016

The Community Land Act, no. 27 of 2016 vests primary responsibility for spatial planning at community level with communities. The Act recognizes that communities may develop land use plans for community land administered by them and that these plans may be submitted to the county government for approval (para. 19). It also recognizes that communities may develop rotational grazing systems or other kinds of grazing plans and have the right to designate portions of community land as grazing areas for which certain activities such as erection of structures, ploughing and cultivation, or restricting access to water sources. Many communities, whether or not they have yet been registered under the Community Land Act, already engage in land use planning and spatial grazing planning at their level. As implementation of the Community Land Act, including demarcation and registration of communities, will take some time, community level land use or grazing plans developed by



other community mechanisms such as WRUAs, local grazing committees, or community conservancies should also be recognized by the county spatial planning process.

2.5 Linkages to Other Plans & Strategies

2.5.1 Vision 2030

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

2.5.2 The National Spatial Plan

The National Spatial Plan (NSP) defines the general trend and direction of spatial development for the country by providing a framework for better national organization and linkages between different activities within the national space hence informing the future use and distribution of activities. The national spatial plan seeks to provide a framework for functional human settlements, enhanced agricultural productivity, planning and managing natural resources and the environment, providing a framework for infrastructure provision, promoting industrial and commercial development and the enhancement of good governance.

2.6 Institutional Arrangement

Samburu County has several institutions that will play key roles in the successful implementation of the CSP. Various departments/ ministries at the County government will have to work closely with other respective agents of the National Government, private and non-governmental organizations within the County.

2.6.1 National Government

The National Government has several ministries that are involved in regional development across the country. The key ministries will have roles to play in successful implementation of the spatial plan. These ministries will include:

2.6.2 Ministry of Devolution and ASAL

This ministry is mandated to support the County Governments and the ASAL regions. The ministry will be instrumental in developments within Samburu in a way to support devolved governments and also support Samburu as one of the ASAL regions.

2.6.3 Ministry of Environment and Forestry

The ministry's mission commits it to facilitate good governance in the protection, restoration, conservation, development and management of environment, water and natural resources for equitable and sustainable development. Other ministries include:

- Ministry of Water and Sanitation
- Ministry of Lands and physical planning



2.6.4 County Government

The County government has the responsibility to plan for the County and no public funds can be appropriated outside a planning framework developed by the County Executive Committee and approved by the County Assembly. The County government designates County departments, cities and urban areas, sub-counties and Wards as planning authorities of the County. County planning unit is responsible for

Coordinating integrated development planning within the County;

- i. Ensuring integrated planning within the County;
- ii. Ensuring linkages between County plans and the national planning framework; and
- iii. Ensuring meaningful engagement of citizens in the planning process;

Amongst the objectives of County planning are to facilitate the development of a well-balanced system of settlements and ensure productive use of carce land, water and other resources for economic, social, ecological and other functions across a County; develop urban and rural areas as integrated areas of economic and social activity; and provide the preconditions for integrating underdeveloped and marginalized areas to bring them to the level generally enjoyed by the rest of the County.

The coordinating department for the implementation of the CSP is currently the department of Lands, Physical Planning and Urban Development through the office of the CECM in charge. For the full execution and proper implementation of this plan it is imperative that the capacity building of this department be strengthened. This will entail establishment of operational line sections at Sub-County levels. This would facilitate coordination of implementation of CSP at lower levels.



CHAPTER 2: PLANNING CONTEXT

3. Geographical setting

3.1 Position and Location

This section articulates the location of Samburu County. The locational context of Samburu presents both opportunities and developmental constraints. On one hand its central location

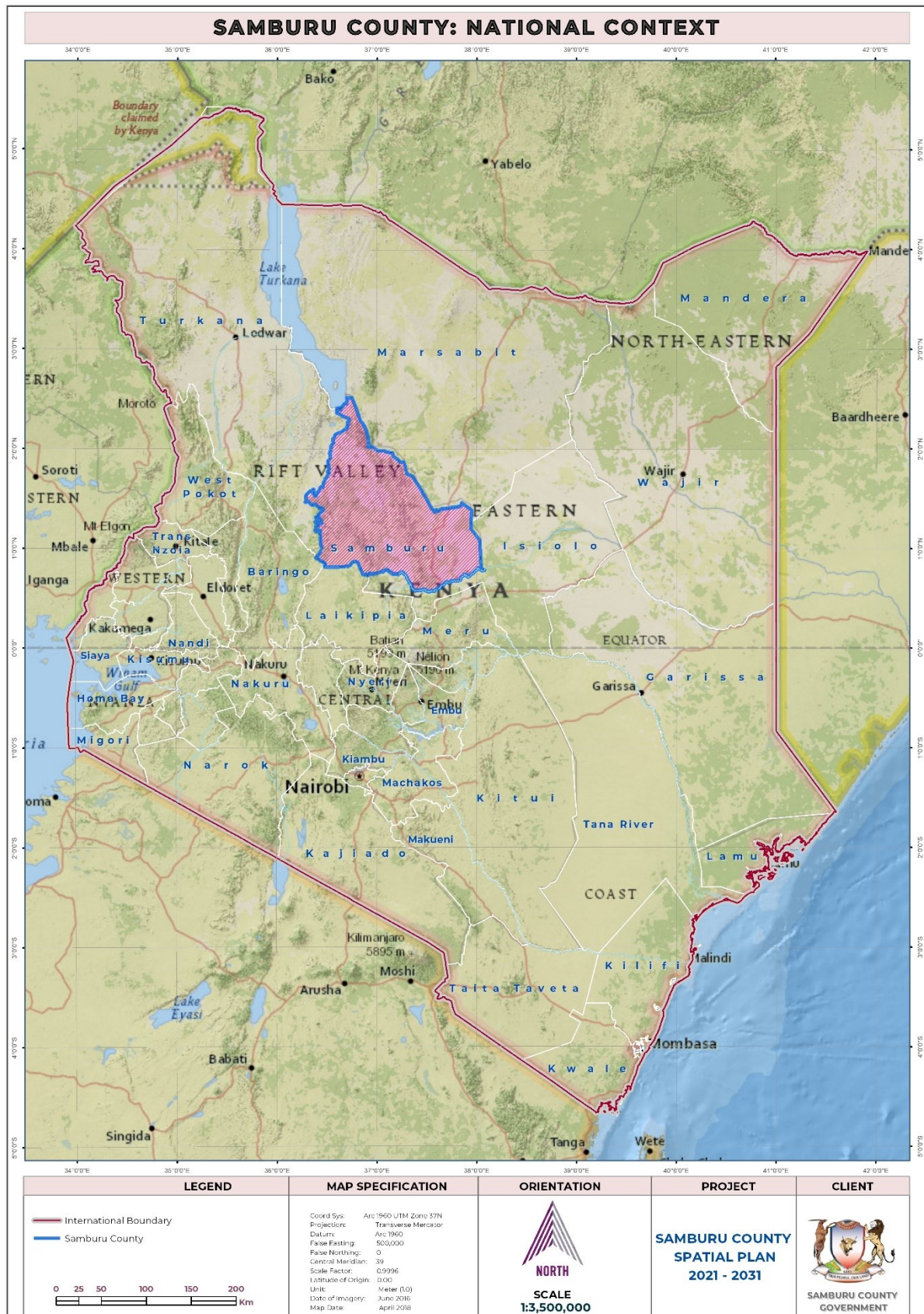


forms a basis of linking the county to the rest of the country hence facilitating flow of goods and services. On the other hand, its locational context can hinder development as the region has been historically disadvantaged as former Northern Frontier District (NFD).

3.2 National Context

It is located within the arid and semi-arid parts of Kenya in the northern part of the Great Rift Valley; the county is bordered by counties of Turkana to the North West, Baringo to the south west, Marsabit to the north east, Isiolo to the east and Laikipia to the south. Maralal town is the county headquarters. Samburu County covers an area of 21,022.1Km².

Map 3-1: Samburu County at the National Level

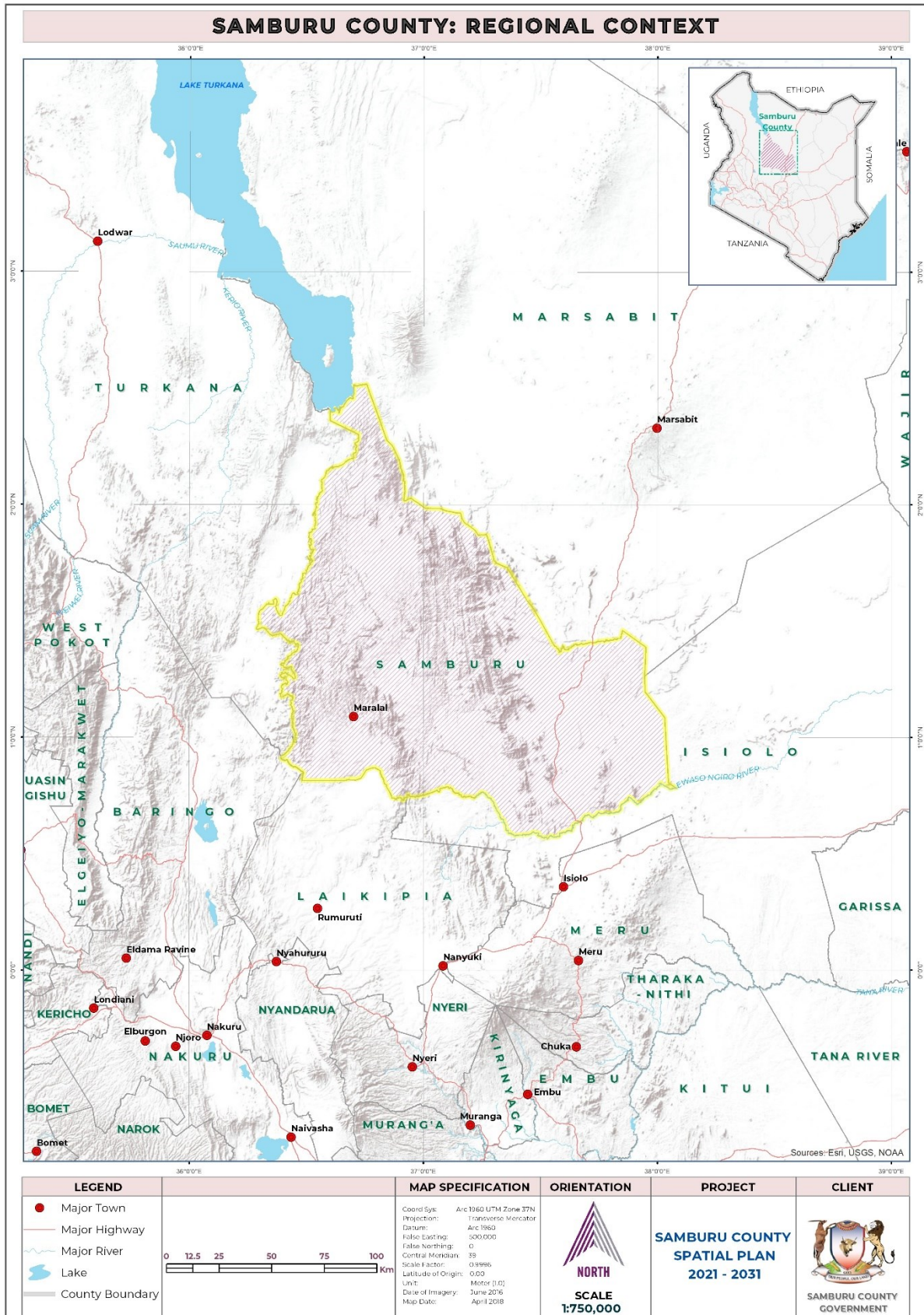


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3.3 Regional Context

Samburu County is located in a predominantly ASAL Region. The county is administratively divided into three sub-counties: Central, East and North. Samburu County land covers an area of 20,826 Km² with a total population of 224,000 out of whom 90% are nomadic pastoralists. The region has immense potential for livestock value addition and development of high niche tourism facilities.

Map 3-2: Regional Context of Samburu County



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3.4 Local Context

The county consists of several highlands, plateaus and lowlands including the famous Suguta Valley. Fault escarpments bound its sides while red clays, boulders and gravel fans cover the floor. The valley is characterized by beach terraces which give evidence that it was once part



of Lake Turkana. High-level plateaus built by repeated floods of lava from the Rift Valley dominate the eastern part of the valley. Kirisia rising to 2,500m above sea level is the highest point of the plateau. The County is administratively divided into three sub-county, 7 divisions, 14 locations and 106 sub locations. The county has three constituencies namely: Samburu West, Samburu North and Samburu East.

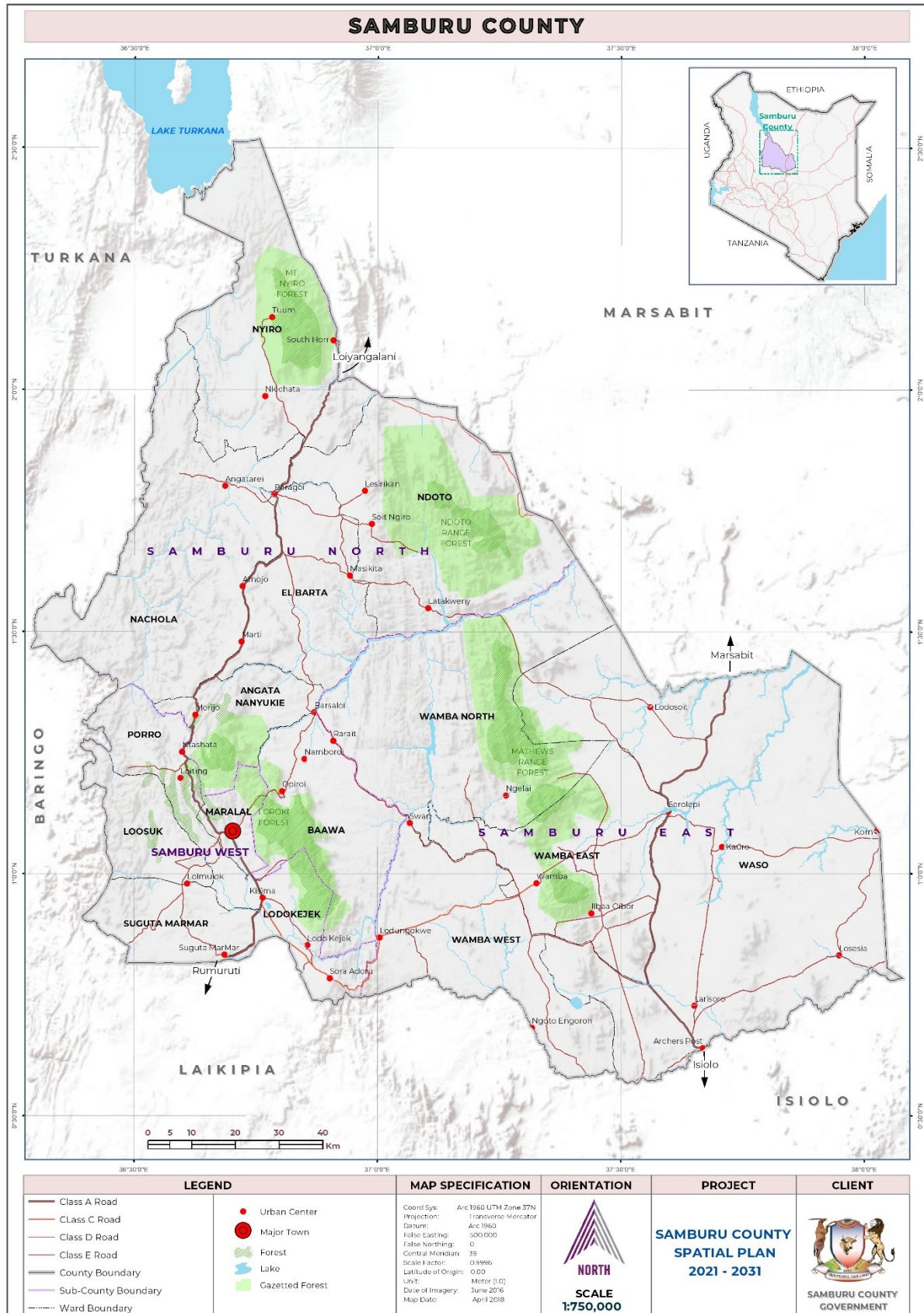
3.5 Administrative and Political Units

The County has three administrative units: Samburu Central, Samburu North and Samburu East. Politically, the County comprises of three constituencies namely: Samburu West, Samburu North and Samburu East constituencies and 15 wards as indicated in the table.

Table 3-1: Administrative and Political Units

Sub-county	No. of County Wards	Ward Name	Area (km ²)
Samburu Central	5	Lodokejek	864.6
		Suguta-Marmar	859
		Maralal	524.9
		Loosuk	690.8
		Porro	998
Samburu North	6	El-barta	722.4
		Nachola	1,979
		Ndoto	1,476.9
		Nyiro	1,489.1
		Angata-nanyokie	529.6
		Baawa	838.1
Samburu East	4	Waso	5,088.9
		Wamba-west	999.4
		Wamba-east	1,567.5
		Wamba- north	2,393.9

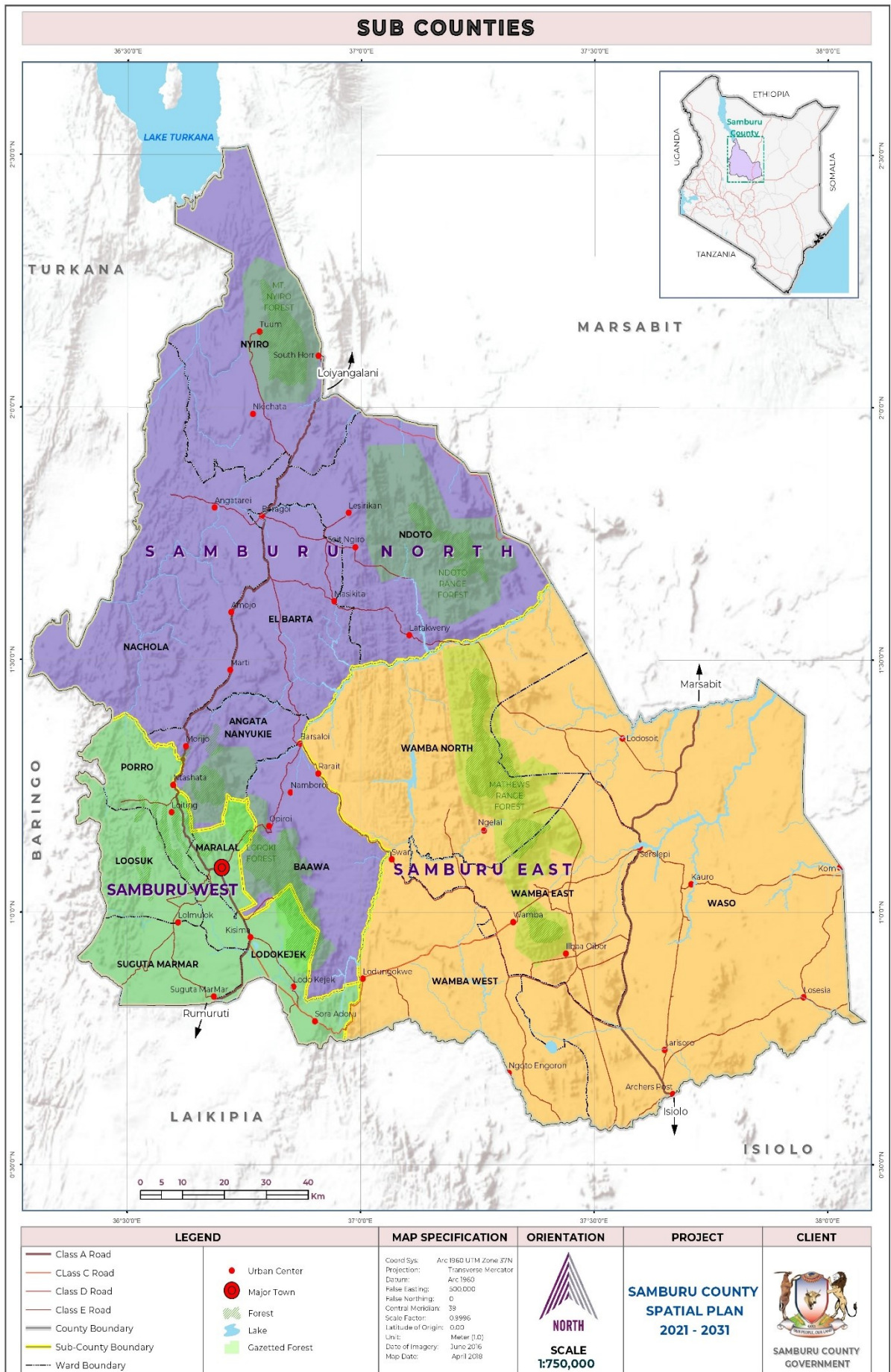
Map 3-3: Samburu County Local Context



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Map 3-4: Samburu County Sub County/Constituency



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4. PHYSICAL ENVIRONMENT AND NATURAL RESOURCES

4.1 Introduction

Samburu County has unique physiographic features that influence the County's natural resources. The natural conditions experienced within the County favour a wide array of activities ranging from livestock keeping, to tourism and biodiversity conservation. The county's environmental profile depicts rich and diverse ecologically sensitive natural resources that are being impacted by climate change and development.

4.2 Topography

Samburu County lies on the northern interface between highlands and lowlands. To extreme west is Suguta Valley which is bounded on both sides by fault escarpments and floored by red clays, boulders and gravel fans. The valley was originally part of Lake Turkana as evidenced by beach terraces. East of Suguta Valley, the County is characterized by repeated extensive high-level plateaus which have been built by repeated floods of lava from the Rift valley. The highest parts of these plateaus are the Kirisia hill, rising to 2000m above sea level. North of Baragoi and between Tuum and South –Horr, the area rises to Mt Nyiro tapers northwards and falls steeply southwards. South and west of Mt Nyiro are peneplains which have been eroded to plains of lower levels ranging from 1000-1,350 m above sea level. These are noticeable at Kawap and the area between Lodungokwe and Wamba continuing eastwards and southwards. These plains are covered by red soils and sands derived from the adjacent slopes by sheet erosion.

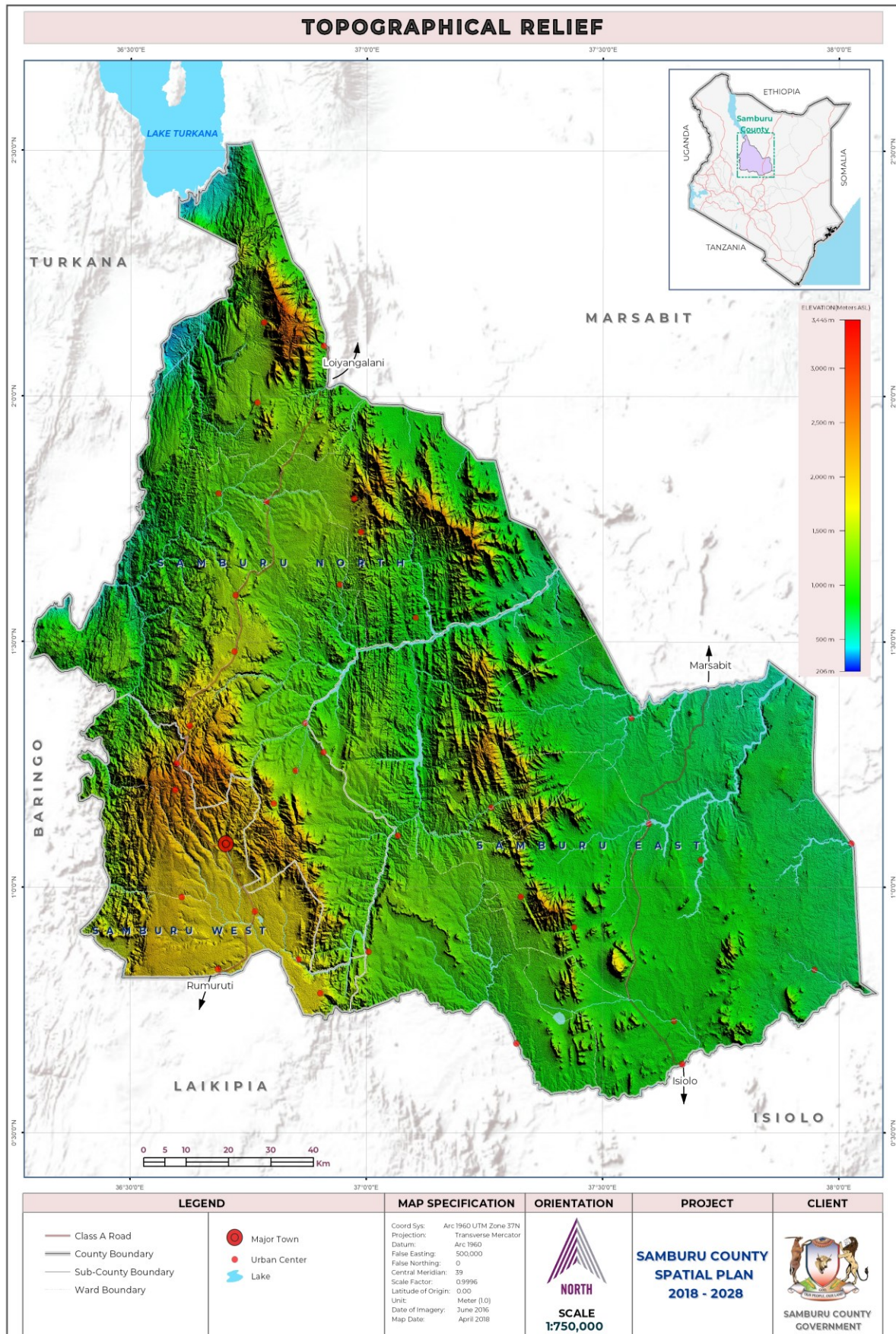
Plate 4-1: Undulating Nature of Samburu



Source: Fieldwork, 2018

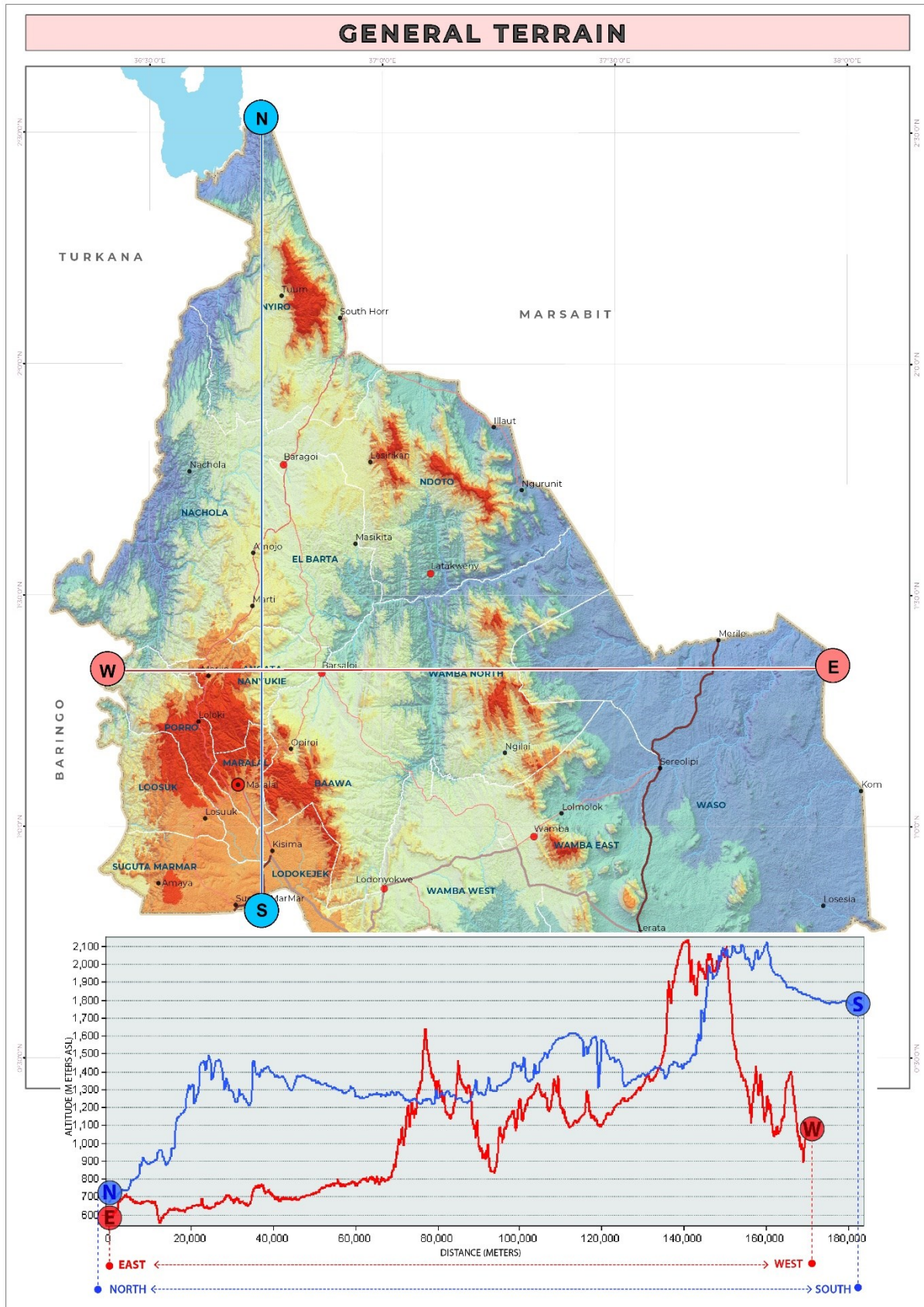
The lava fields make a very thin layer of soil which hardly supports any vegetation. Samburu County lies on the northern interface between the highlands (2000-2500 MSL) and lowlands (150-750 MSL). Most of Samburu is a continuous basin sloping gently northwards to Lake Turkana. The Lorokki Plateau in the southwest, and the mountain ranges of Nyiro, Ndoto and Mathews in the east border the central plains. East of the central plains are the Mathew Ranges and the Ndoto mountains forming discontinuous ranges tending nearly north-south on the eastern side of the county. Apart from the Lorroki plateau and the mountain ranges of Nyiro and Mathews, the rest of the district is a continuous basin which slopes northwards to L. Turkana and east of Mathew Ranges. The high altitude of the plateau and the mountain ranges has resulted in indigenous forests which are all gazetted and preserved for rain catchments.

Map 4-1: Topographic Analysis



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Map 4-2: County Terrain and Cross Sections

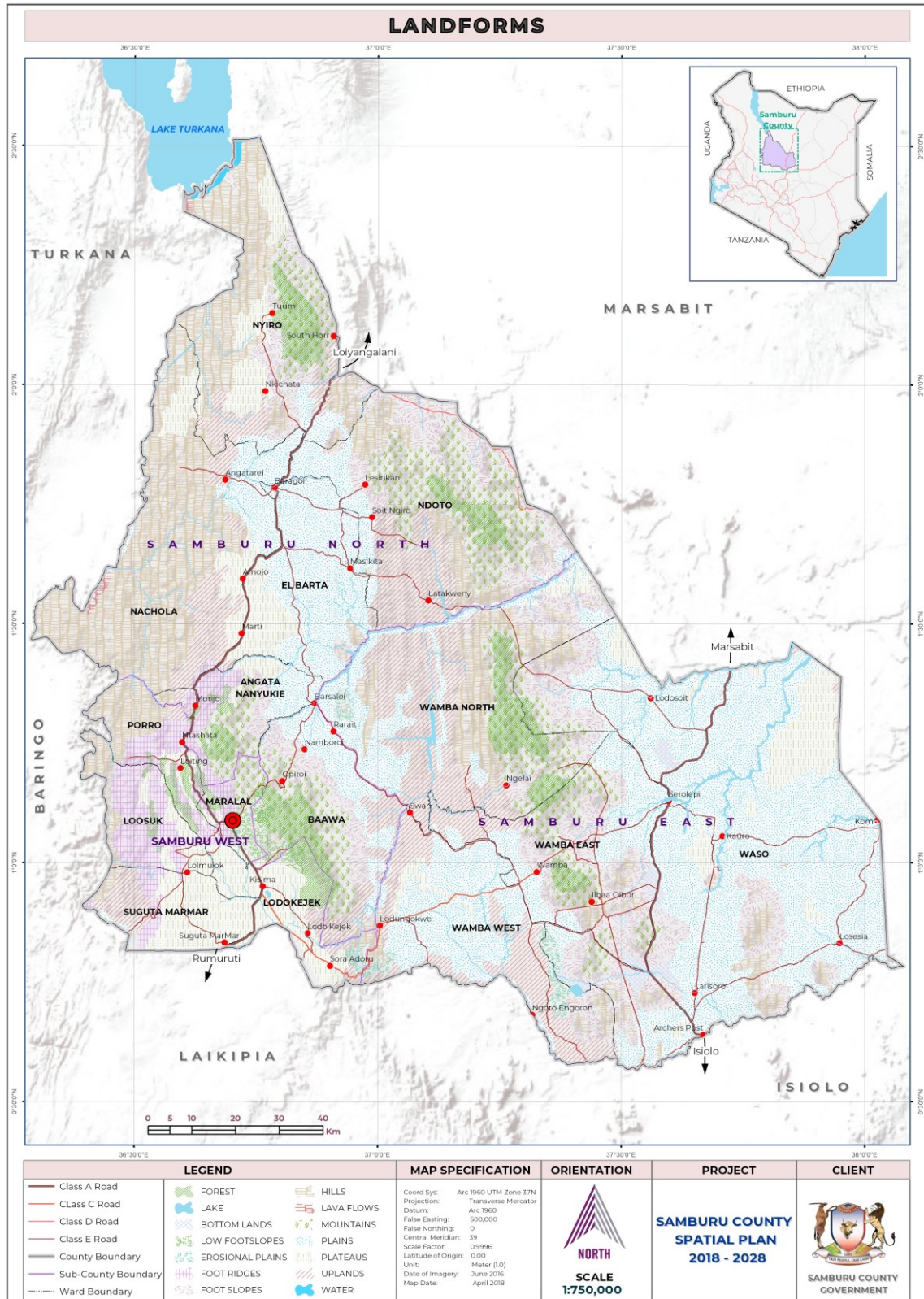


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4.2.1 Landforms

Landforms are features on the earth's surface that is part of the terrain. Mountains, hills, plateaus, and plains are the four major types of landforms in Samburu County. Other Minor landforms valleys, depression and basins.

Map 4-3: Samburu County Landforms



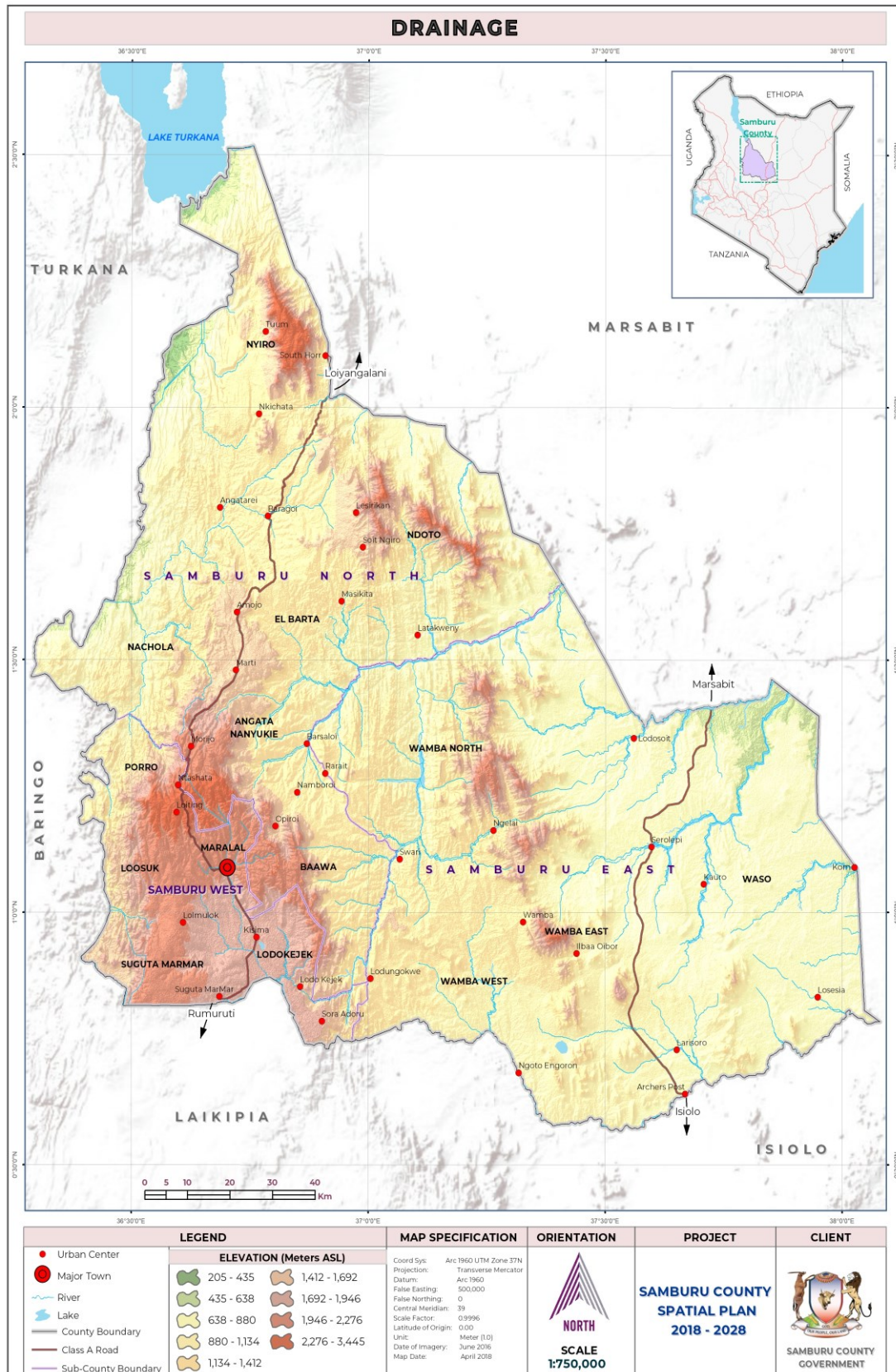
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4.3 Hydrology and Drainage Patterns

Samburu County falls in drainage areas No 2 (Kerio Valley) and No 5 (Ewaso Nyiro). Main water sources in the county constitute surface and ground water. It shares one permanent river-Ewaso Nyiro, with other counties and other rivers/streams are seasonal. The Ewaso Ng'iro River flows northwards about 30 km, then changes the direction to flow eastwards. The flow of rivers in the area has been declining over time from a high in 1970s to almost scarce status in 2000s. It is a severely eroded area with many dry rivers and sparse vegetation. The

annual minimum discharge at Archers Post has decreased since 1967 in proportion to the increase of water abstraction in the upper catchment of the basin. In 1984, 1986, 1991, 1994, 2000 and 2009 the river dried up in a stretch of about 50 km upstream of Archers Post, clearly showing the limitations for further development potential of surface water.

Map 4-4: Drainage and Hydrology System



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However, there are several major *laggas* in the county. During the rains, the "*laggas*", or seasonal riverbeds, are filled with runoff water, making roads impassable and often leaving the area cut-off from the rest of the country. These *laggas* are generally characterized by relatively wide, often undefined, braided channel and banks consisting of cohesion less, easily erodible sediment.

Plate 4-2: Ewaso Ngiro River



© Field Survey, 2018

Under these circumstances, sand dams, which affect the flow conditions around them, are not feasible, since the flow would certainly erode around the ends of a sand dam and render it useless. Sub-surface dams, however, are quite feasible provided the crests of the structures are buried by at least 0.3 m below the existing riverbed level. In this way there will be little danger of these scouring, assuming that the existing riverbed level is stable.

4.3.1 Water Resources

The basement areas of Samburu County are recharged from rainfall. The recharge areas lie along the highlands in the eastern side of the county; Doinyo Nyiru, Ndoto and Doinyo Lenkiyio (Mathews Range) and from Kirisia Hills east of Maralal. The groundwater level rises with the seasonal rainfall. The water level rise after the rains implies that recharge also occurs locally from the local precipitation. It has also been observed that spring discharge increases after the beginning of the rainy season but with a 4-day delay or reaction time. However, the recharge occurs for only a short period of time after the rainfall event. If the recharge rate is assessed using long intervals of time, then evapo-transpiration values exceed the rainfall, giving the impression that no recharge takes place.

i. High Groundwater Potential Areas

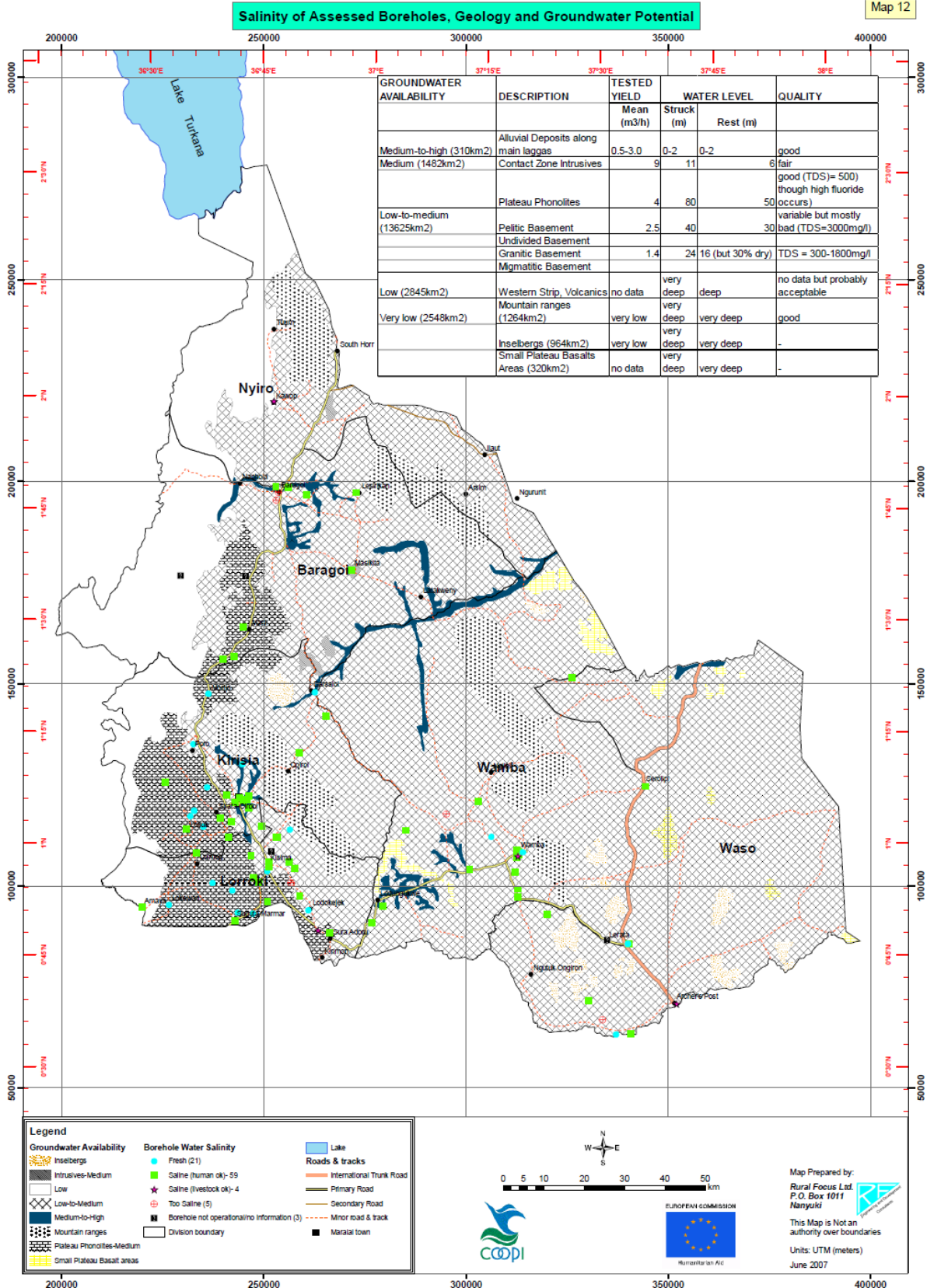
The areas identified as having high groundwater potential area around south-western Samburu.

ii. Low Groundwater Potential Areas

Samburu County receives a relatively high runoff from the Ndoto Mountains of Samburu North Sub County. The main water sources include ground water reservoirs-Low potential thus borehole average yield is 4-8m³/hr plus spring sources-Available only in the mountains/hills of Ngiro, Ndoto/Mathew. Also in wetlands of Suguta Marmar and Kirimon in Lorroki areas which include shallow wells-are spread in laggas/dry river beds mainly in low lands. Communities dig shallow wells that are not installed with hand pumps. Rainwater-roof water harvesting –not common in the county since most human settlements are traditional manyattas. However, it is common in schools and churches. The major rivers are Ewaso Nyiro

and Sessia River. They include water for domestic use for human and livestock while wildlife and micro-irrigation in South-Horr and Tuum using spring water with accessibility of 35% of the population has access to safe drinking potable water.

Map 4-5: County Underground Water Potential



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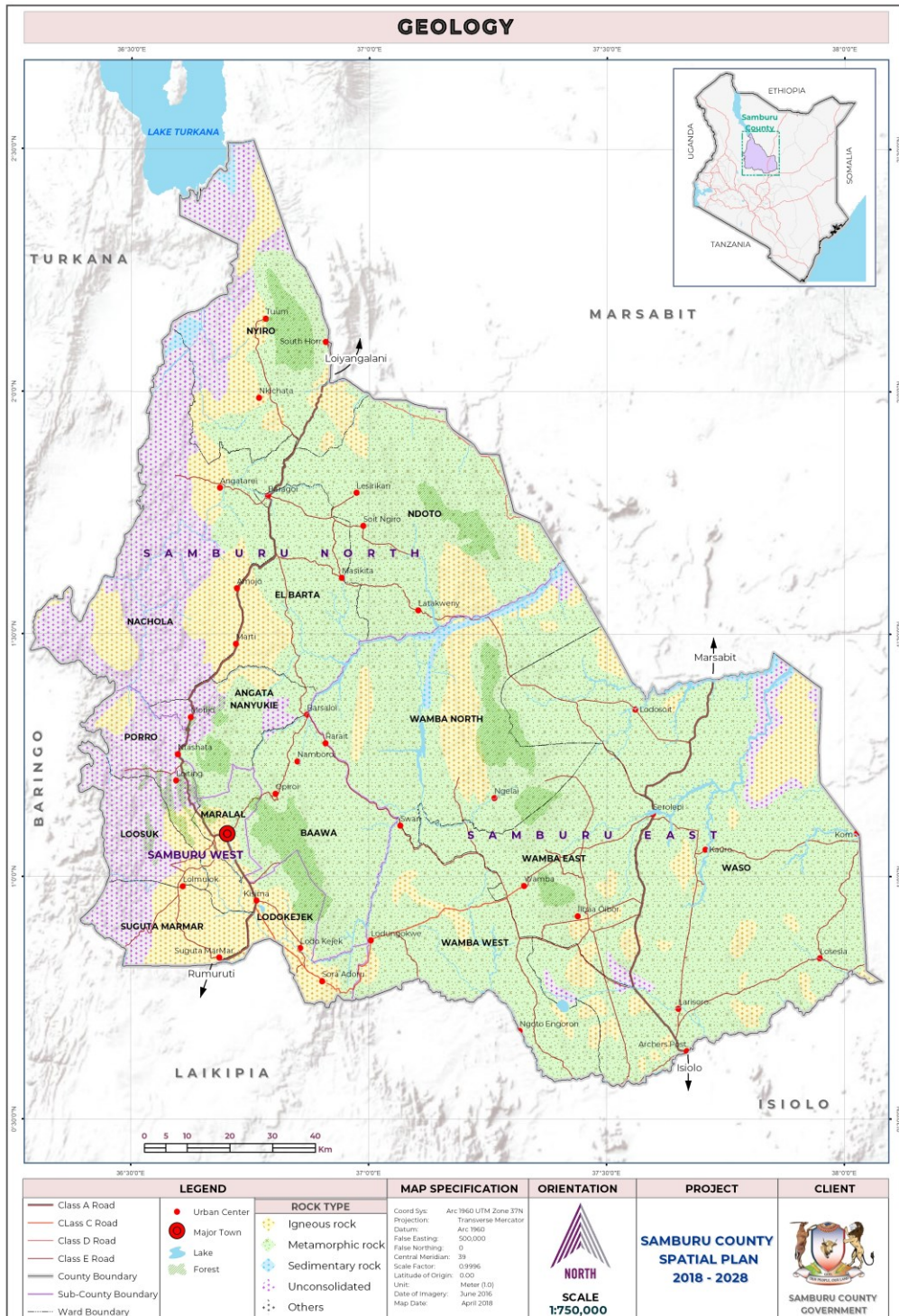
4.4 Geology, Soils and Mineral Resources

The values of geological knowledge are many and varied; geological knowledge helps in the discovery of raw materials that underpin and sustain modern life, such as oil and gas, base and precious metal ores, discovery of construction materials, management and prediction of geological hazards and avoidance of environmental problems in the future.

4.4.1 Geological Characteristics

Samburu county is characterized by superficial deposits are weathering products of the existing rocks. They form on all rock systems but the most important for hydro-geological interest are those found on metamorphic rocks.

Map 4-6: County Geological Characteristics



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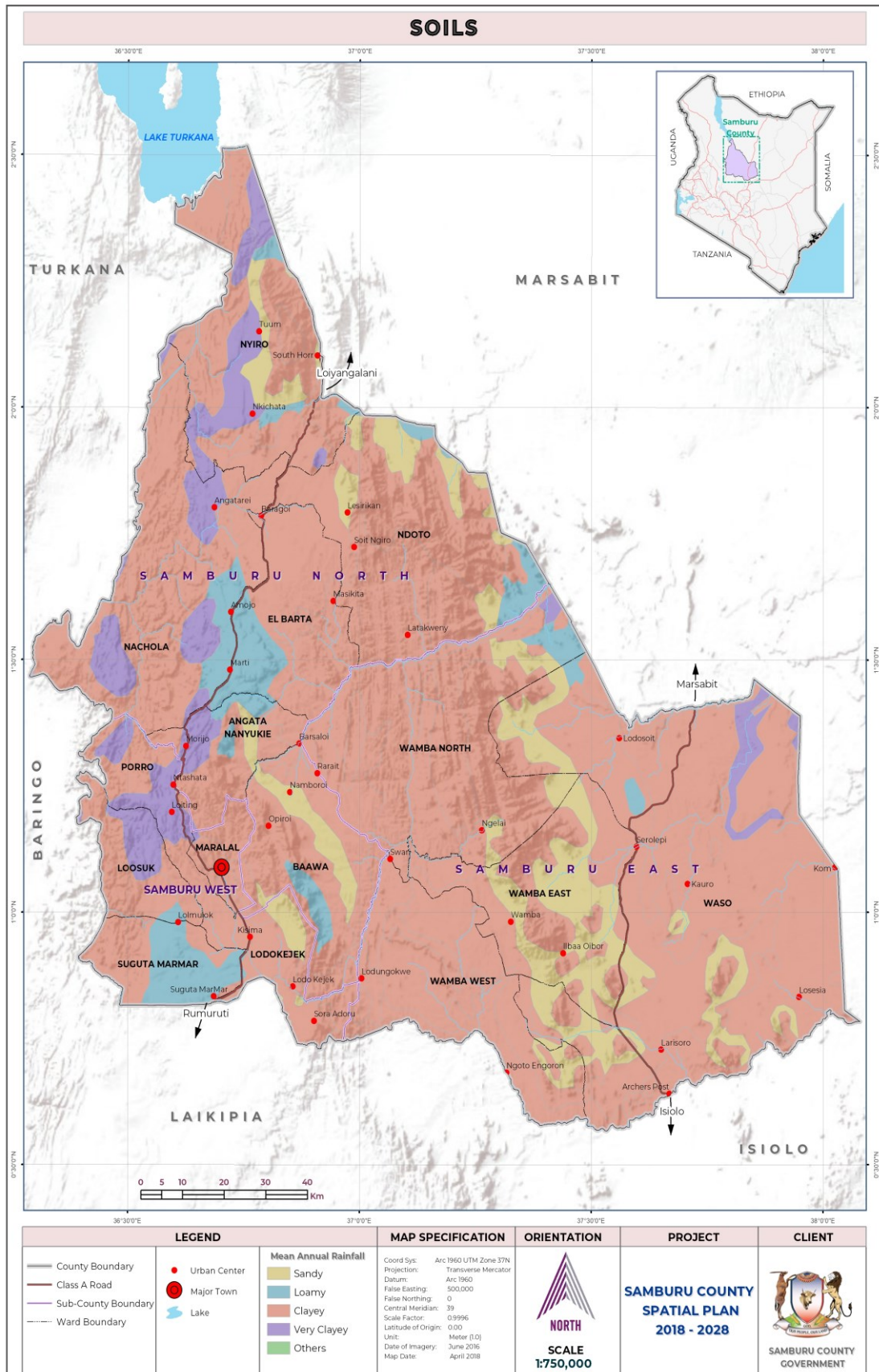


These are found as alluvial sands and silt in stream channels, lake basins and at the bases of inselbergs where they form alluvial fans. They also form as colluvium in the piedmont plains and pene-plains. The colluvium consists of a matrix of silt, sand, gravel and pebbles, with the grain size tending to be away from the inselberg. Colluvial deposits are found in Larisoro-Chapulo areas of Samburu County east of the Mathews Range especially in the Sereolipi escarpment. Tertiary volcanic rocks also occur extensively as plateau flood basalts locally called Martis. These occur in outlier patches or fields of low altitude plateaus generally no more than 5 – 10 metres above the surroundings. Their tabular surface usually comprises of angular boulders with no soil component and no runoff channels such that when it rains, the rainwater either infiltrates into the rocks or is lost to evaporation. In Samburu County, the major ones are Marti Nkangos and Marti Serteta both in the eastern side of the county. Intrusive rocks are rock materials which have been intruded under They appear in different forms and shapes. In Samburu area, they have been found in the central part of the district especially in a northeast southwest line joining Barsaloi and Masikita. They appear as granitic intrusions. Metamorphic rocks are widely distributed in the county but their distribution is less than that of the volcanic rocks. They outcrop mainly in the western and northern parts of the basin. They cover most of Samburu and are a southward extension of the occurrences in Samburu County. Most of the area west of Maralal is underlain by volcanic rocks.

4.4.2 Soils Characteristics

Samburu County is predominantly covered by sandy loam soils. The distribution and development is influenced by topography, rock types and vegetation cover among other factors. In the south west and high altitude areas the soils are comparatively deep. Kirisia area is predominantly covered by sandy loam and sandy clay soils, mostly lithosol (shallow stony soils) and cambisols. In the areas covered by lithosols water run-off is common and erosion quite prevalent. Lorroki area is predominantly covered by sandy loam soils. The soils are mostly well-drained phaezems. However some parts of the county is covered by shallow lithosols, including the surrounding of Suguta Marmar where the risk of flooding is classified as medium. The lithic phase of the soils encourages run-off during periods of high precipitation. Baragoi and Nyiro in Samburu North are predominantly covered by bouldery cambisols and lithosol. The soils are particularly more stoney and rocky on the southern slopes of Mt Nyiro and Ndotto mountains. These soils are shallow and have a lithic (stoney) phase, a characteristics that makes the soils prone to run off. The eastern parts of the county which covers Wamba areas and Waso wards in Samburu east sub county is predominantly covered by weakly developed soils, mostly sandy and low in organic matter and in some places in Waso Division the soils are saline and sodic (mostly cambisols and solonetz). The soils on the Lorokki, Plateau and those near and on the mountain ranges are the best in the county. The central and eastern plains have moderately fertile soils that are however easily eroded in large areas the soils are already heavily eroded.

Map 4-7: County Soil Characteristics



Source: AIDAL Consultants, 2018

4.4.3 Mineral Resources

Samburu county and the greater northern Kenya region is endowed with a variety of minerals. However, most of these minerals are not mapped and quantified for commercial exploitation.

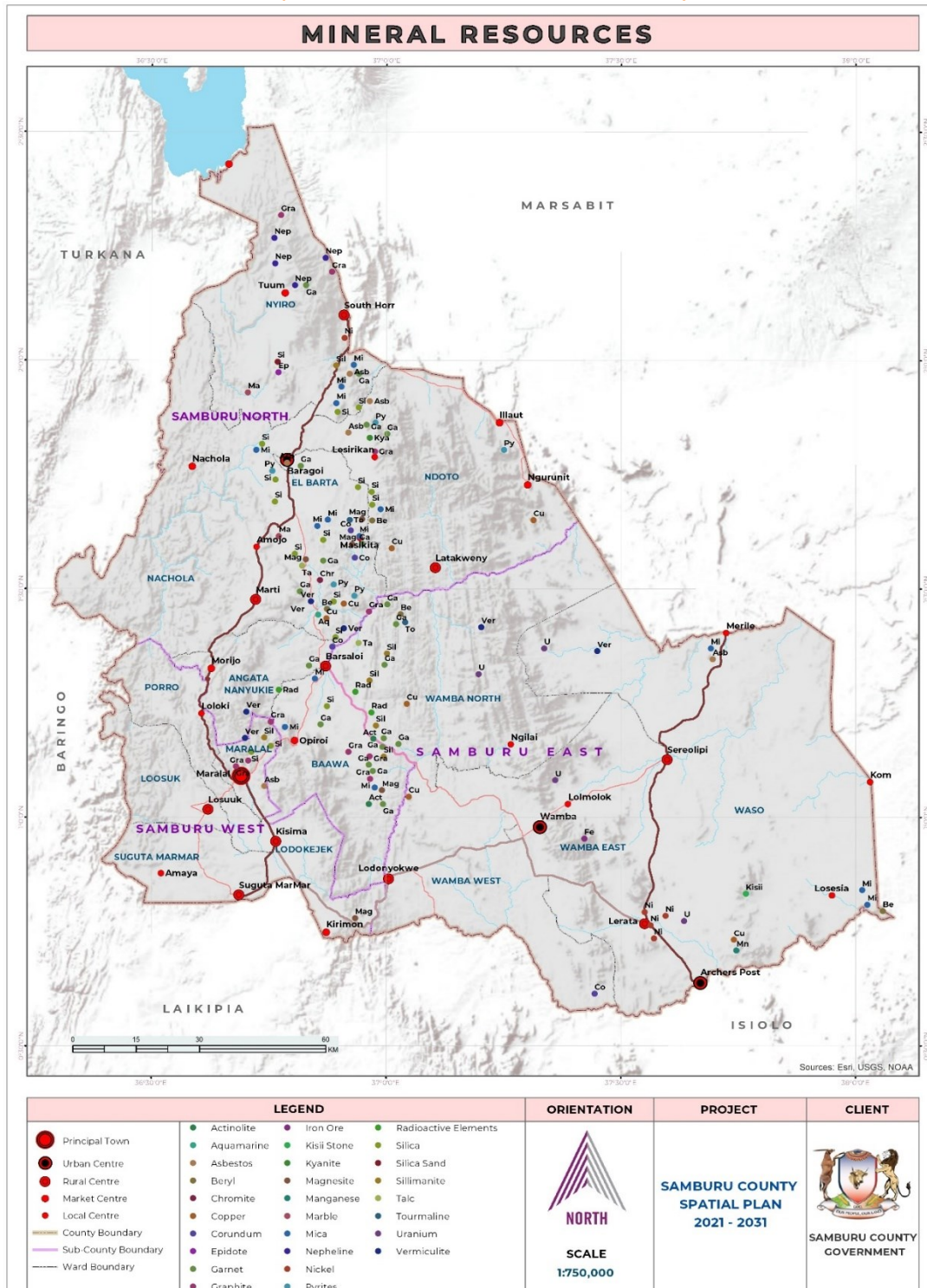
i. Vermiculite

They are found on Isiolo-Marsabit road at about north of Serolepi. Occurrences of vermiculite have also been recorded from a north-south line between Ngilai and the headwaters of the Enkare Narok River. Vermiculite deposits are also found in the Ndare Forest and Matoni Hill.

ii. Kyanite

Found east of Archers Post and west of Natorbe, the kyanite is present as white, rarely blue, blades disseminated in the gneiss with quartz and white mica. It constitutes about 30 per cent of the rock, although locally it may form enriched pods with 80 per cent kyanite. The main ore body averages only 30 per cent of kyanite, although small rich segregations reach 80 per cent kyanite content, with 20 per cent of finely divided quartz.

Map 4-8: Mineral Distribution in the County



Source: AIDAL Consultants, 2021

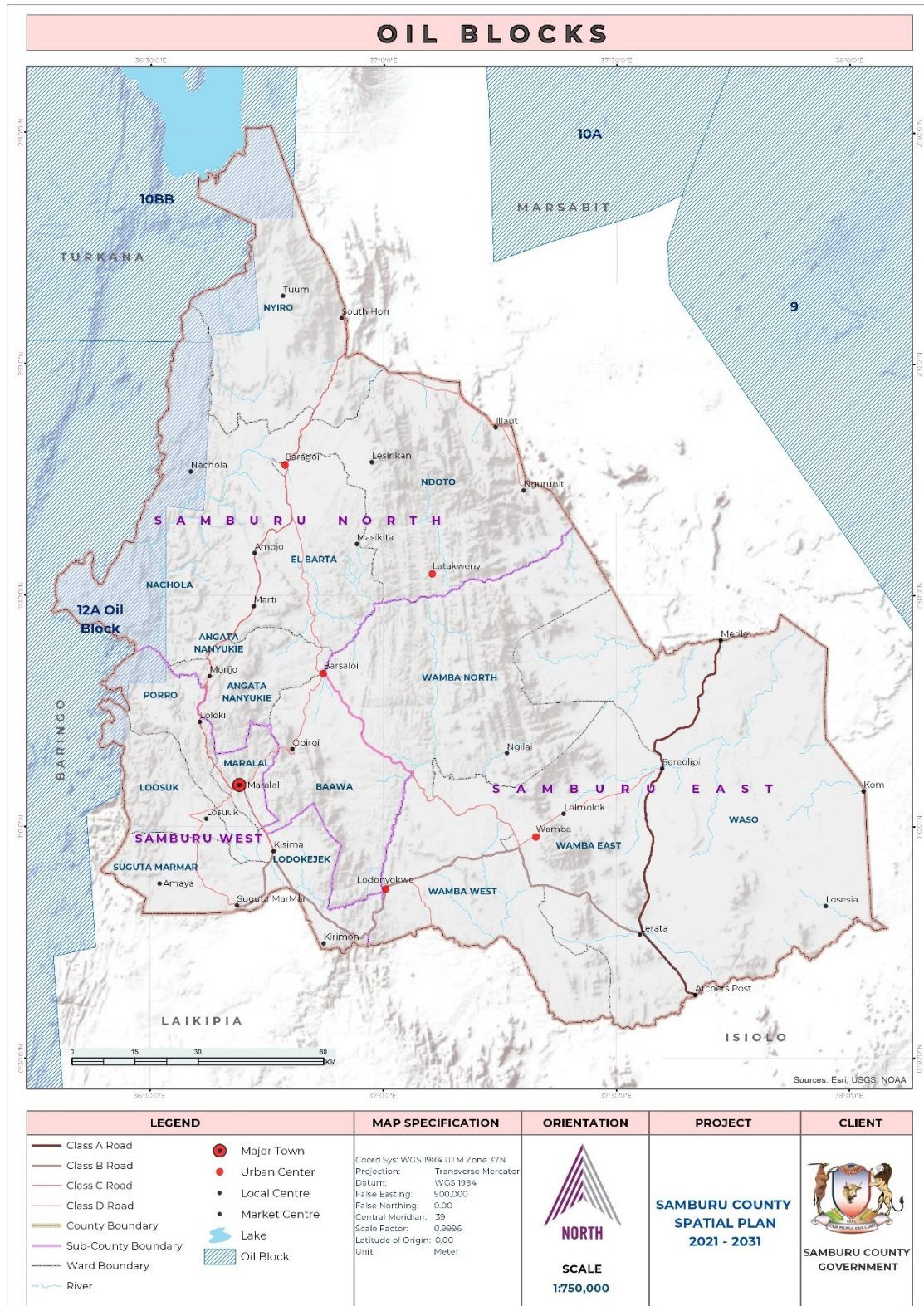
i. Quarrying and Sand Harvesting

Sand harvesting is carried out along rivers and laggas. Haulage of sand by heavy trucks causes environmental degradation by accelerating soil erosion and affecting soil stability.

4.4.4 Oil Potential in Samburu County

Samburu County has prospect of oil reserve in parts of Samburu North Sub County especially areas bordering Turkana County and a presence of titanium with oil and gas in Block 10BB.

Map 4-9: Oil Potential in Samburu County and Surrounding Regions



Source: AIDAL Consultants, 2021

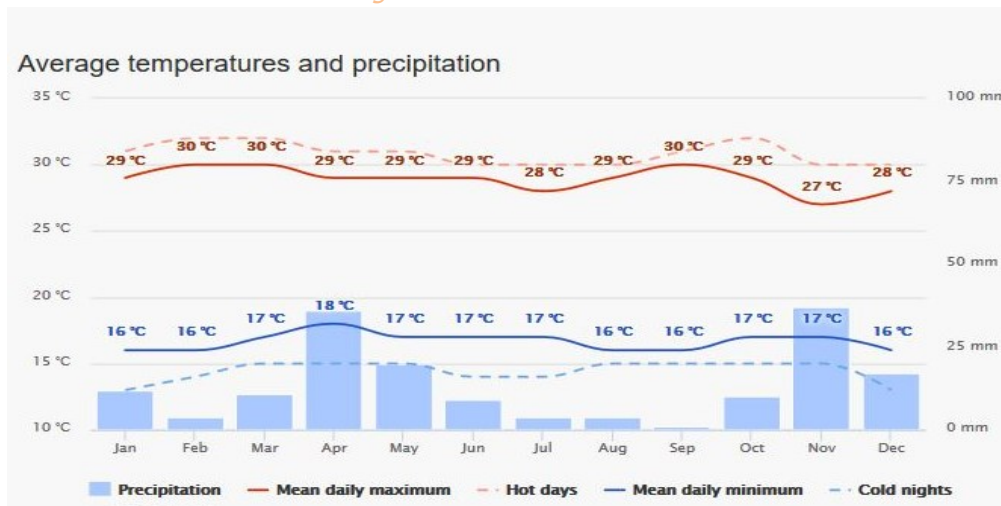
4.5 Climatic Conditions

Climatic observations are a necessary foundation, where the knowledge on which the provision of information on climate dynamics, weather and climate forecasting and the knowledge about agricultural timing for crops is built upon. Climatic analysis also helps in climate risk management and an enhanced ability to adapt to climate change.

4.5.1 Rainfall

Samburu County falls in the Arid and Semi Arid Lands (ASAL) of Kenya. Rainfall in the county follows a fairly erratic pattern varying significantly both in temporal and spatial scale. The county mostly experiences bimodal and tri-modal rainfall distributions, with rainfall peaks generally occurring in April/May (long rains) and October/November (short rains) for bimodal rainfall regimes, and in July/ August for tri-modal rainfall regimes. The elevation and orientation of the major topographic features such as Mathews Ranges and Ndotto hills influences rainfall distribution. Rain distribution varies across the county. The southwest plains and the Lorroki Plateau receive between 500 mm and 700 mm of rain annually. The Nyiro and Ndotto Mountains and Matthews range, receive the highest amount of rainfall between 750 mm and 1250 mm per annum. The central basin and the plains east of the Matthews Range are the driest parts of the county with annual rainfall of between 250 mm and 500mm.

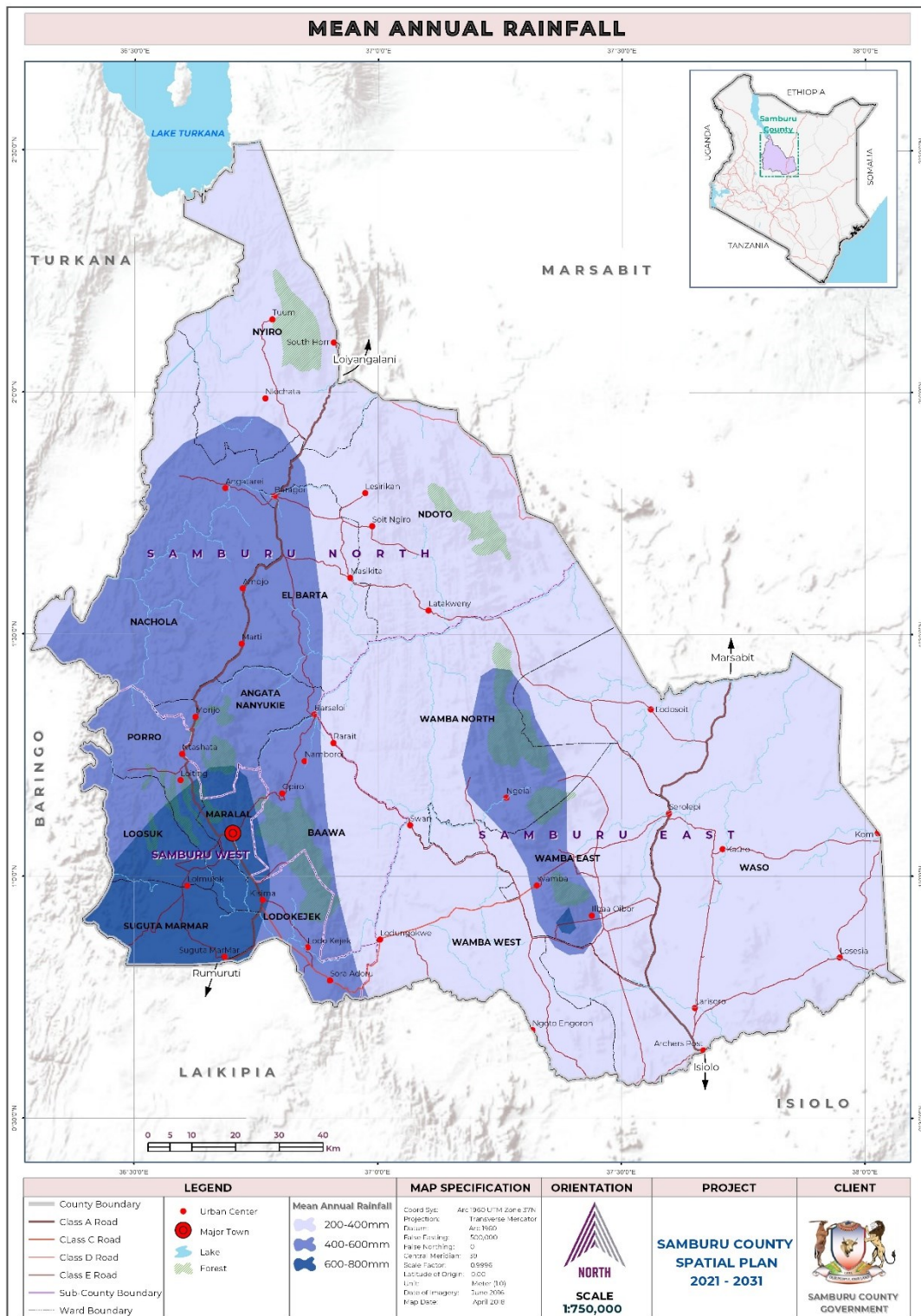
Figure 4-1: Rainfall in mm



4.5.2 Frequency of Extreme Events

The effects of climate change are equally felt in Samburu. Flash floods are a normal occurrence in rangelands' lagha (dry river beds). River Ewaso Ngiro breaks its banks almost yearly and the worst incident recorded in October 2010. This drowned and destroyed all the lodges and tented camps along Ewaso Ngiro river flood plain a day that had no rains nearby. Due to the expansive nature of the county in the arid land, droughts occur every year. Only a small portion of the County, approximately 20%, is exceptionally wetter and cooler. This is around Leloghi, Mathew's ranges, Ndottos and Nyiro highlands and receive the highest rainfall amounts of 1250mm.

Map 4-10: Rainfall Distribution in mm



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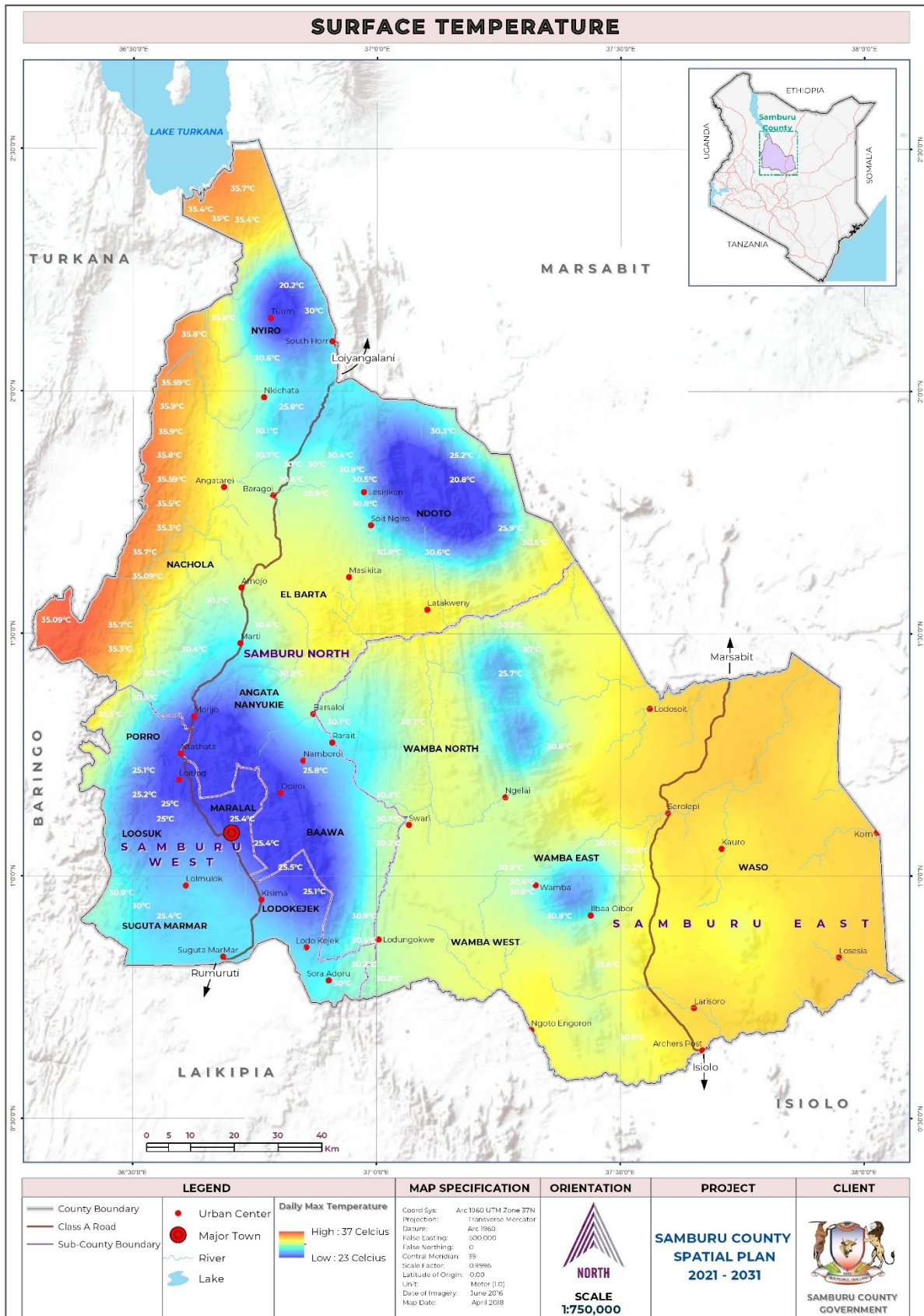
4.5.3 Temperature

Temperatures in Samburu County vary with altitude. Mean temperatures generally range between 24 °C and 33 °C. The central plains and the region east of the Matthews Ranges have the highest temperatures while the highland belts in the North Eastern side of Lorroki Plateau are cooler. The county has a mean temperature of 29°C. The fast blowing winds, especially in the lowlands areas of the county like the Nyiro division, is a great resource especially if tapped for renewable power generation. The month of January experienced the highest temperature of 33 °C and the month of July is the coldest month with 24 °C.

4.5.4 Sunshine

The area receives an average of 11 hours of sunshine a day. The Northern plains receive sunshine early and have longer sunshine hours as compared to the montane areas. The intensity is also high in the plains resulting to high evapo-transpiration rates. This gives it unique opportunity for a vibrant solar energy market.

Map 4-11: County Temperature Variation



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4.5.5 Evapo-Transpiration

Evapo-transpiration is in the range of 2,500 mm/year or even higher: at Archers Post, it has been recorded as high as 3,126 mm/year. In the highlands, evapo-transpiration is as low as 1,500-1,700 mm/ year.

4.5.6 Wind Run

The wind run increases from May and reaches its peak in August. The wind run (km/ day) ranges from 200-300 km/ day). Northern part of the county have potential for wind energy.

4.6 Agro-Ecological Zones

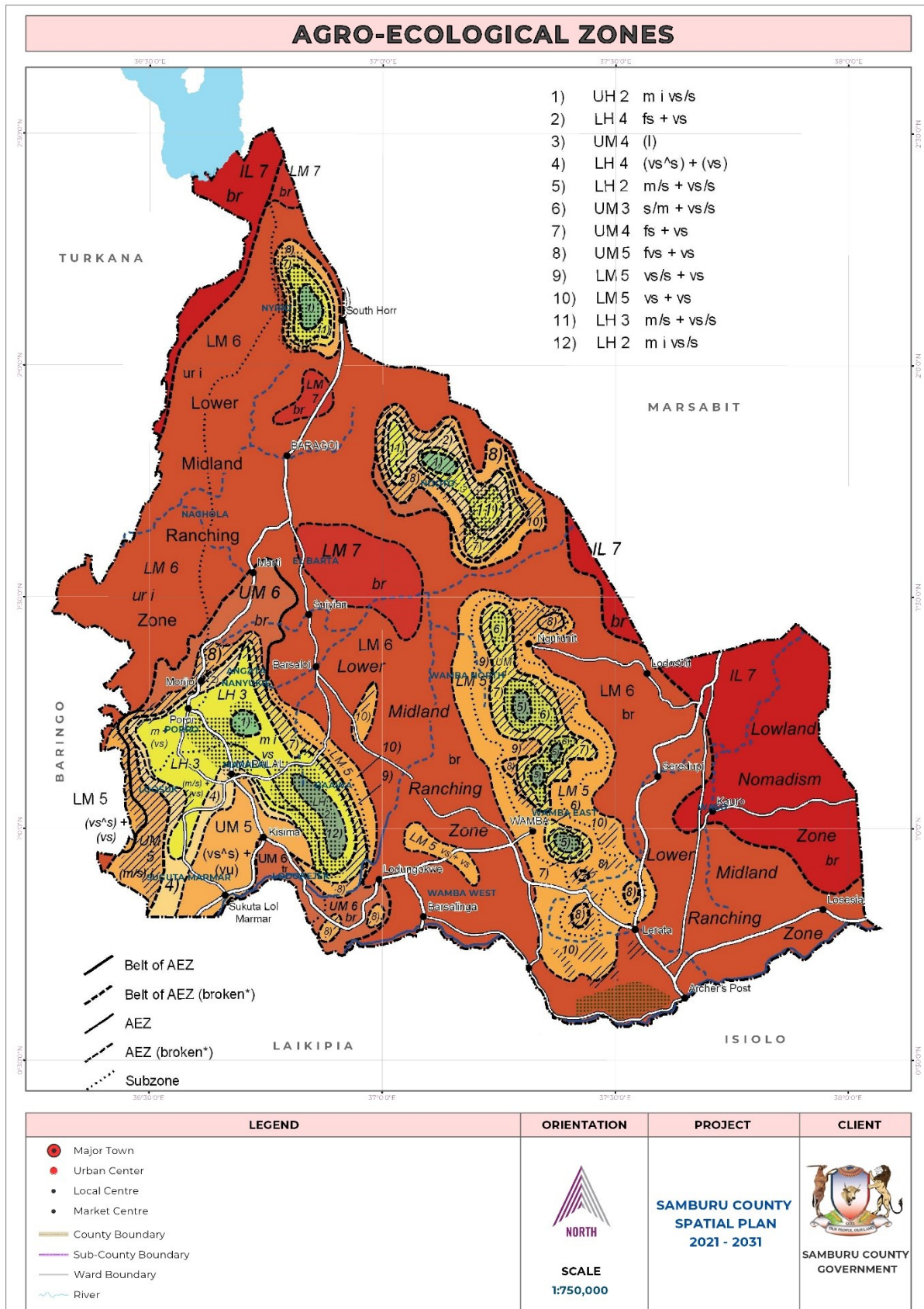
Within the county, the type of dryland differs significantly with more than 75% of the land in Samburu County classified as 'low-potential' rangeland, receiving between (250 – 600 mm) of rain annually. Only 140,900 ha (7 % of the land area) is medium-to-high-potential land that is suitable for agricultural production receiving (600-900)m. Moreover, only 6,000 hectares of this land is currently cultivated, growing wheat, barley, maize, beans, and green vegetables.

Table 4-1: Samburu County Agro Ecological Zones

ZONE	SIZE (HA)	POTENTIAL REMARKS
Lower Highlands (LH 2-3)	1352.9 km ²	Wheat, Maize, beans, dairy cattle and sheep Pyrethrum can be grown
Lower Highlands (LH 4-5)	1862.2km ²	Barley, maize, beans, Cattle sheep Coffee can be grown
Upper midlands (UM 3-6)	2218.5km ²	Maize, beans, cowpeas, green grams, cattle, sheep, goats and sunflower
Lower midlands (LM 6-7)	13736.0km ²	Sorghum, millet, cowpeas, beans, green grams, beans, cattle, sheep, goats and camels, ranches
Intermediate Lowlands (IL)	1956.9km ²	Nomadic zones

Tropical Aphine Zone: This zone covers an altitude of 1,980 to 2,040 m above sea level with an annual average rainfall of between 600 mm and 800 mm. Temperatures range from 21.0°C to 25°C making it too cold for growing crops. It is used for sheep and cattle grazing. Upper Highland zone: This zone covers an altitude of between 2,150 m to 2,600 m above sea level and receives an annual average rainfall of 900 mm to 1,000 mm. Temperatures range from 15.5 °C to 19 °C. The zone is suitable for sheep, dairy cattle rearing as well as wheat and barley and forestry farming.

Map 4-12: Samburu County Agro-Ecological Zones



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4.7 Vegetation Characteristics

Vegetation distribution the county is majorly influenced by the climate and the altitude of the county. The high altitude areas in the county are highly vegetated compared to the low altitude areas in the county which are not heavily vegetated and face threats by human activities. The

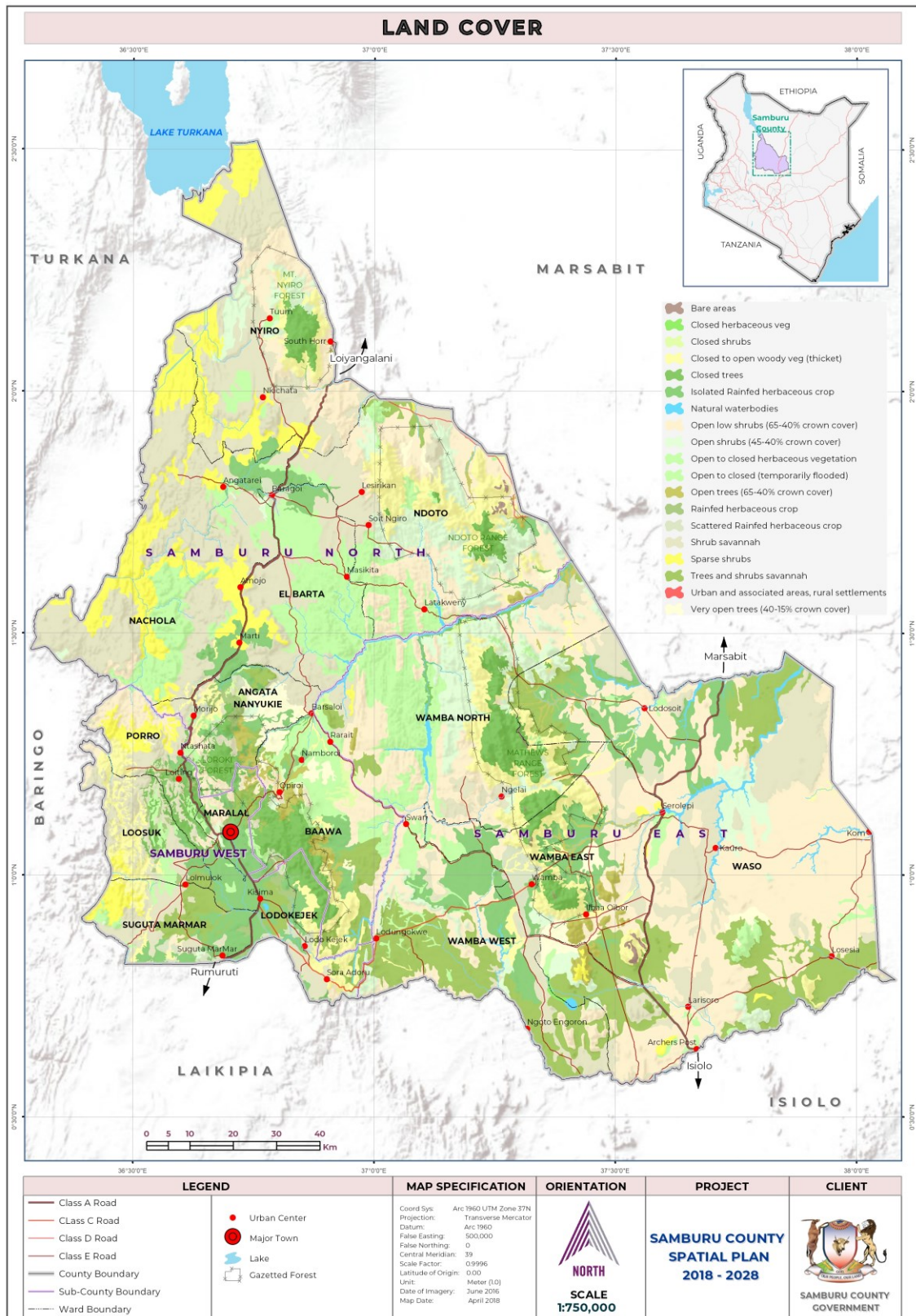
vegetation cover of the county is mainly covered by forests, woody bushes and grasslands, and has a belt pattern modified by the orientation. Evergreen forests, evergreen bush land, evergreen to semi-deciduous bush land/thicket, evergreen shrub land, semi-deciduous grassland, deciduous bush land, deciduous bush grassland, deciduous shrub land, deciduous shrub grassland, deciduous shrub annual grasslands, clusters of acacia trees, forest, thorn trees, dwarf shrub grassland and grassland.

Plate 4-3: Part of Vegetation in Baragoi and its environs



©Field Survey, 2018

Map 4-13: Samburu County Vegetation Cover



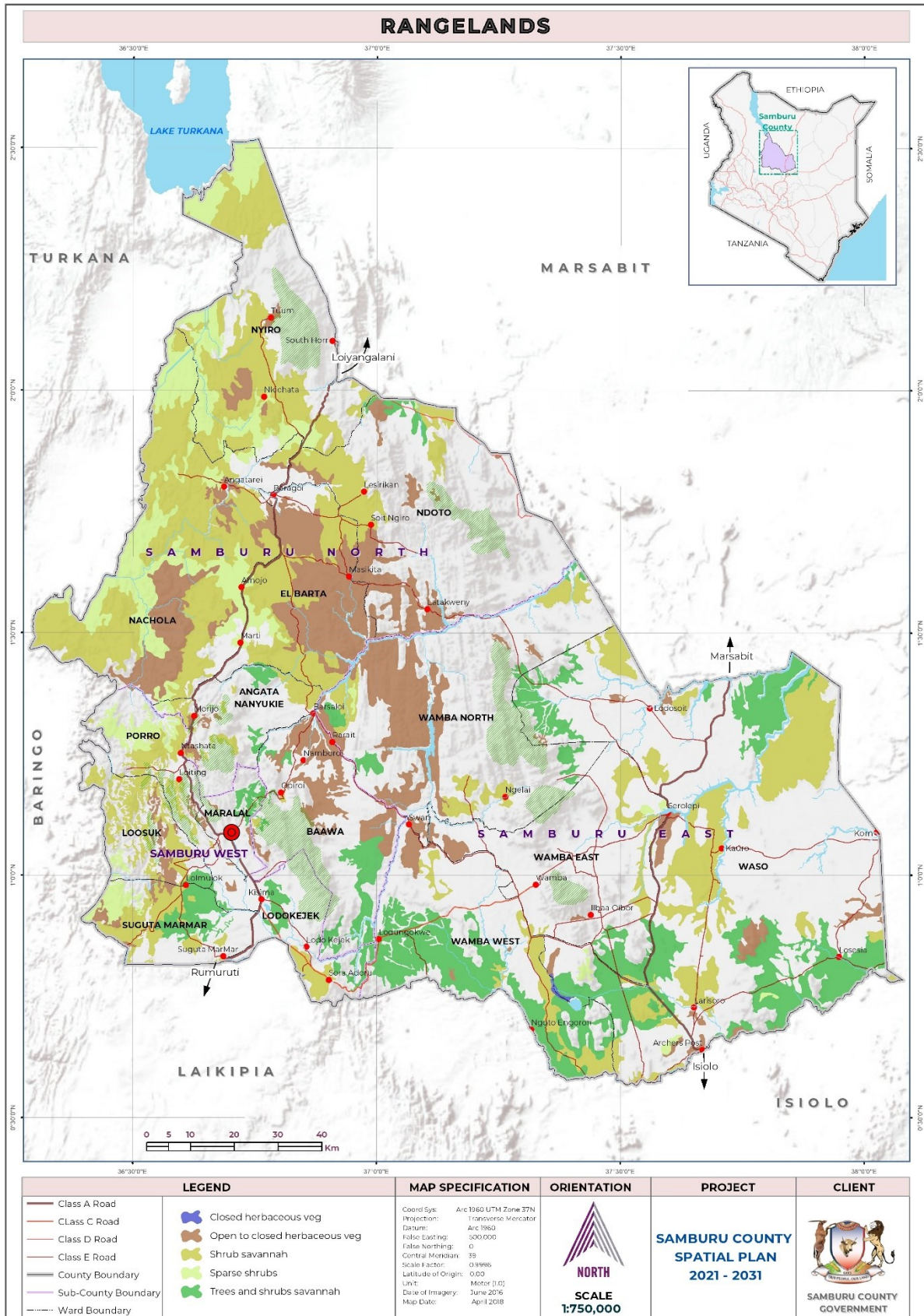
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4.7.1 Rangelands

Rangelands are lands that the native vegetation is predominantly grasses, grass-like plants, fortes, or shrubs. Includes lands revegetated naturally or artificially when routine management of that vegetation is accomplished mainly through manipulation of grazing. Samburu county and to a greater extent north parts of Kenya is made up of rangelands. Rangelands are common in Samburu North and Samburu East Sub counties. Rangelands have a harsh and variable physical environment typical of arid to semi-arid areas that receive low and erratic

rainfall of less than 450mm per year. The challenge of the rangeland potential today is to balance livestock productivity for a growing human population with conservation of vegetation for both wildlife and livestock.

Map 4-14: Rangelands in Samburu County



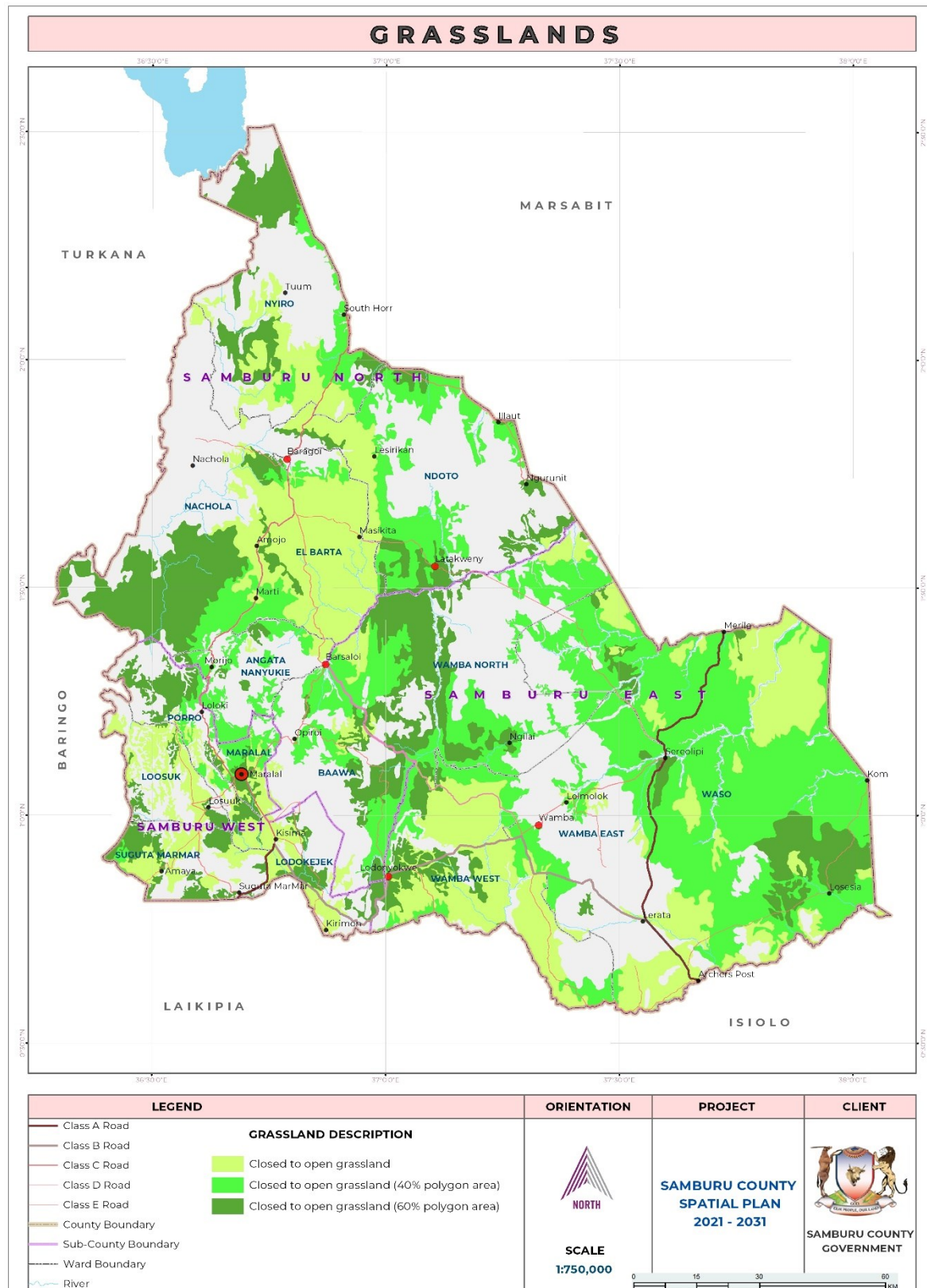
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4.7.2 Grasslands in Samburu County

Grasslands are characterized as lands dominated by grasses rather than large shrubs or trees. With population increase and the livestock number on the increase the grasslands in the county have been decreasing. The climate is highly variable, and the productivity of the rangelands has been in decline, due mainly to poor management practices. Shifts in settlement and grazing patterns, rising human populations, and increasing climate variability have had a devastating impact on the rangelands. As more vegetation was cleared, the rangelands that the cattle depended on have become increasingly degraded.

Map 4-15: Grasslands in Samburu County



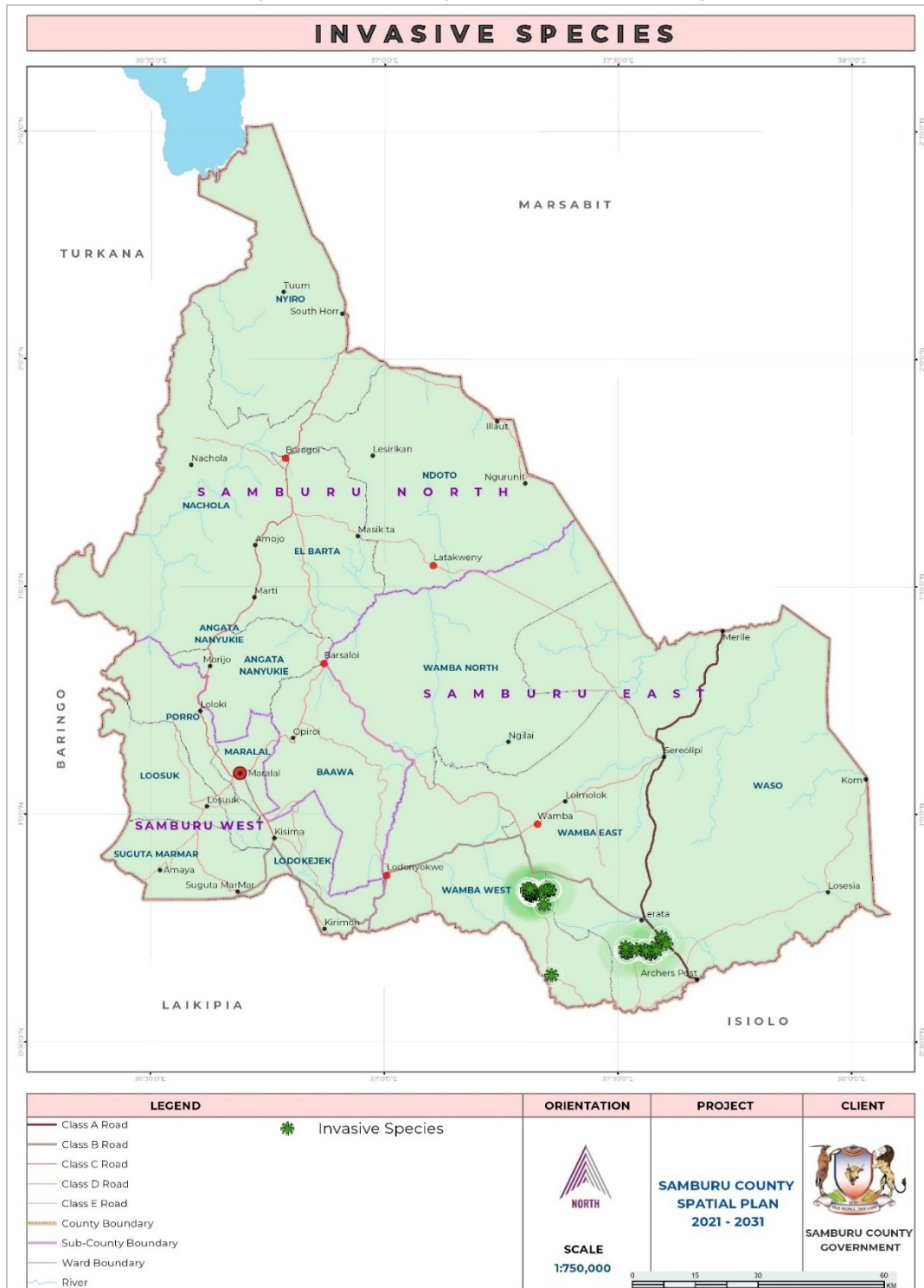
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4.7.3 Invasive vegetation

The most invasive species in the county are *Acacia reficiens* and cactus (*Opuntia stricta*) that also spreads aggressively, preventing growth of other plants and threatening wildlife and livestock. During heavy rains, massive erosion opens up deep gullies in the landscape, often eroding the top soil and rendering the land prone to the spread of invasive shrubs such as *Acacia reficiens*. What's more, the invasive cactus (*Opuntia stricta*) also spreads aggressively, preventing growth of other plants and threatening wildlife and livestock. Research shows that

invasive alien plant species are spreading rapidly throughout ecosystems, posing a major threat to plant and animal species.

Map 4-16: Invasive Species in Samburu County



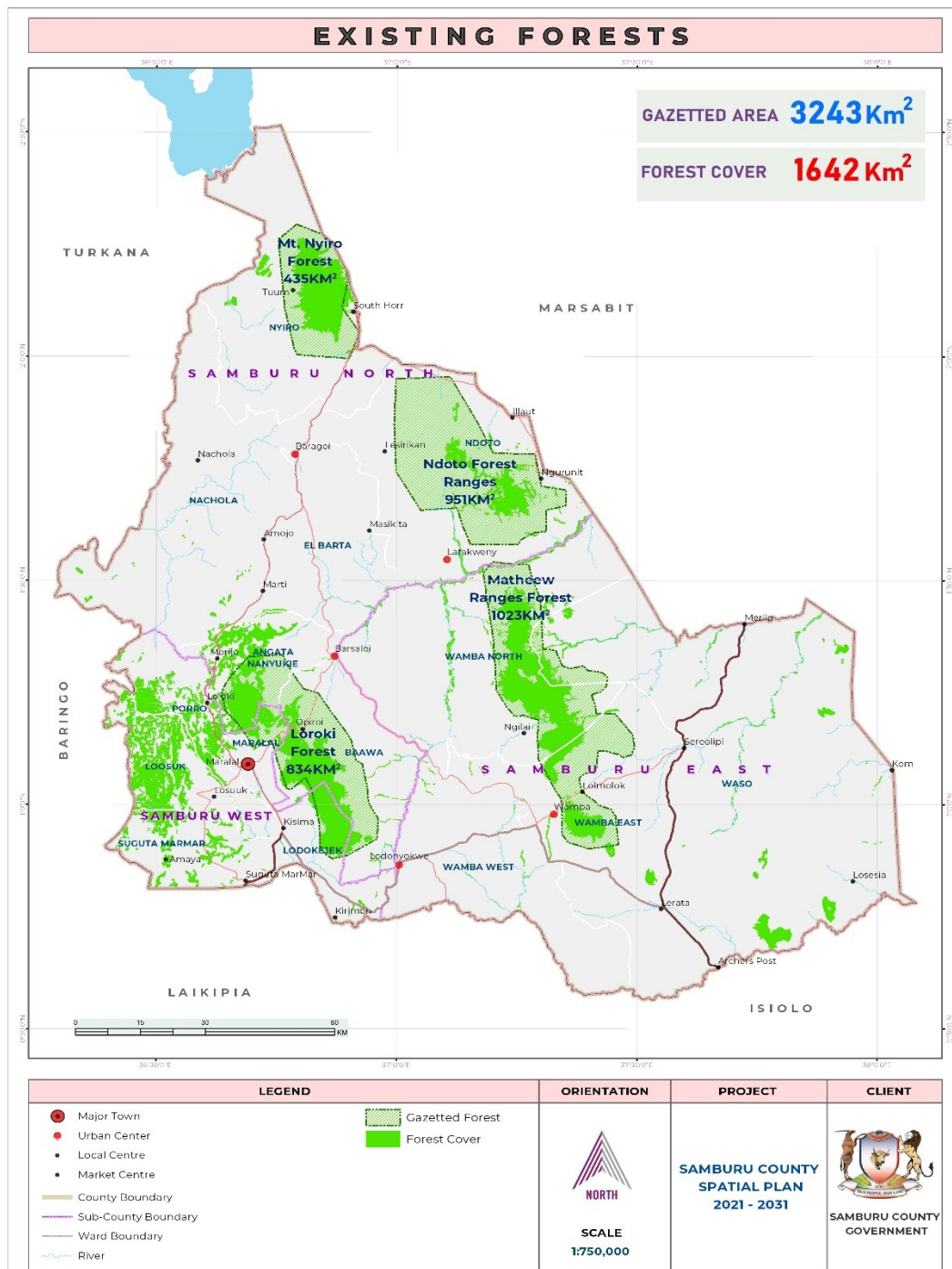
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4.8 Forest Ecosystems

Kenyan forests are biologically rich and harbour high concentrations of endemic species. The total area of Samburu County is approximately 21,126.5km² of which approximately 3,288km² representing 15.7% of the County land area is under gazetted forests. The government aims at increasing land under forest cover from 1.7 % to 10% nationally. The gazetted forest in Samburu County cover Consist of Kirisia/ Leroghi at approximately 92,000 Ha, Mathews Range at 93000 Ha, Ndots Ranges at 97,000 Ha and Mt. Nyiro at 45,000 Ha

These are considered as the water towers of Northern Kenya. Community and private forests include Seketet, Lpartuk and Loosuk forests. These compose major tree species like Cedar, Podo, Olea, Teclea, Croton, Euclea and some bamboo. These forests are faced with problems of encroachment and degradation due to increased demand for forests products.

Map 4-17: Samburu County Forest Distribution

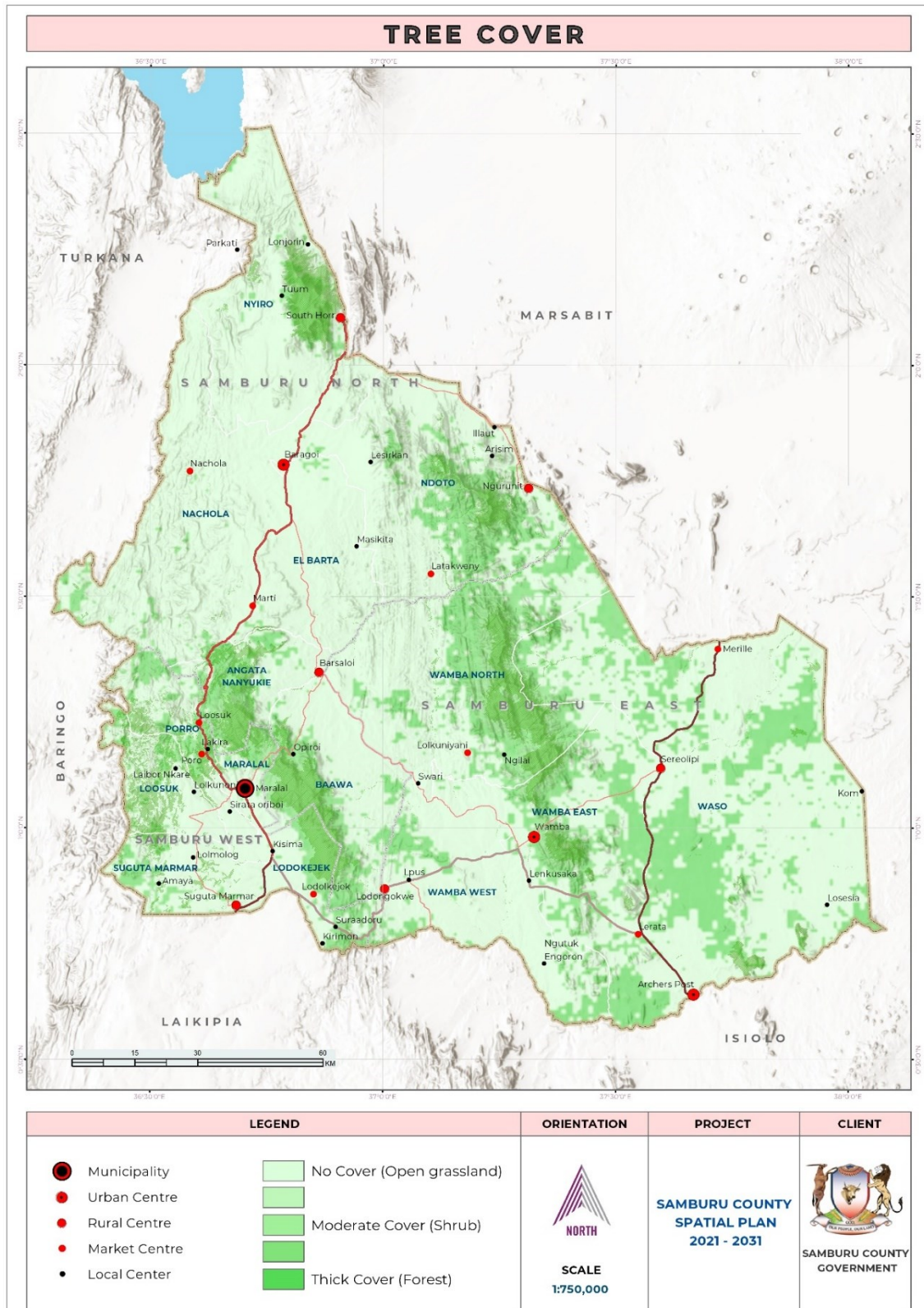


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The main tree species are the acaccia, commisera, brocella which are dominant in the lowlands of Samburu North and Samburu East as well as sections of Samburu Central. The highland species include: cedar, podo, chepnuts and olea, Africana amongst others these are mainly found in Kirisia and Poro areas. The most endangered species are the Cedar and Podo because of their value in construction of houses. Kirisia forest is the third largest amongst these forest reserves and it is situated within the Leroghi plateau along the northern end of the Laikipia plateau. Officially gazetted in 1936, Leroghi/ Kirisia Forest Reserve consists mainly of dry

cedar/olive forest on the Kirisia hills and semi-arid and arid bush land Kirisia forest is an important habitat for several wildlife species such as elephants, buffaloes, bushbucks, bush pigs, giant forest hogs, warthogs, suni, lions, hyenas, leopards and bird species.

Map 4-18: Samburu County Tree Coverage



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Plate 4-4: Part of Leroghi Forest



© Field Survey, 2018

4.8.1 Challenges in Forestry and Forestry Sector

Forests in Samburu County are facing numerous challenges among them:

- Droughts due to climate change.
- Overgrazing- The number of livestock exceeds carrying capacity as there are no livestock grazing controls. It has led lack of tree succession (no longer a normal forest in many areas- commonly seen are mature trees with very little or no undergrowth/saplings).
- Illegal forest settlement- the settlers have even started to cultivate crops
- Charcoal burning and fuelwood collection – Wood is major source of energy and they mainly target *Olea Africana*.
- Illegal timber harvest- include illegal logging of cedar poles and conversion into sawn timber (not common but has been in some parts of the forest) (not common but has been reported at Poro and Mugur)
- Forest fire- charcoal burners use traditional kilns and is illegal causing forest fires during dry spells.
- Other major causes include deliberate burning to encourage new grass growth before onset of rains and honey harvesters
- High demand for forest products -Existence of urban and peri-urban areas near the forest- which provide t ready for firewood, poles and charcoal. This has attracted non forest adjacent actors into the forests.
- Controversy on forest boundary in some sections of the forest
- Insecurity- Led to displacement of people who sought refuge in the forest.
- Insufficient manpower- the number of forest Rangers very low as compared to area to be covered.

4.9 Wildlife Resources

Kenya is endowed with an enormous diversity of ecosystems and wildlife species which live in the terrestrial, aquatic and aerial environment. These biological resources are fundamental to national prosperity as a source of employment and foreign exchange. Kenya's tourism is mainly wildlife based, where wildlife remains the single most important tourist attraction. Wildlife resources offer a range of benefits and opportunities to Samburu County and national economic development. It contributes directly and indirectly through revenue generation and wealth creation, improved livelihood and provision of environmental goods and services e.g watershed protection, carbon sequestration, development of infrastructure and promote local culture.

Plate 4-5: Lioness at Samburu National Reserve



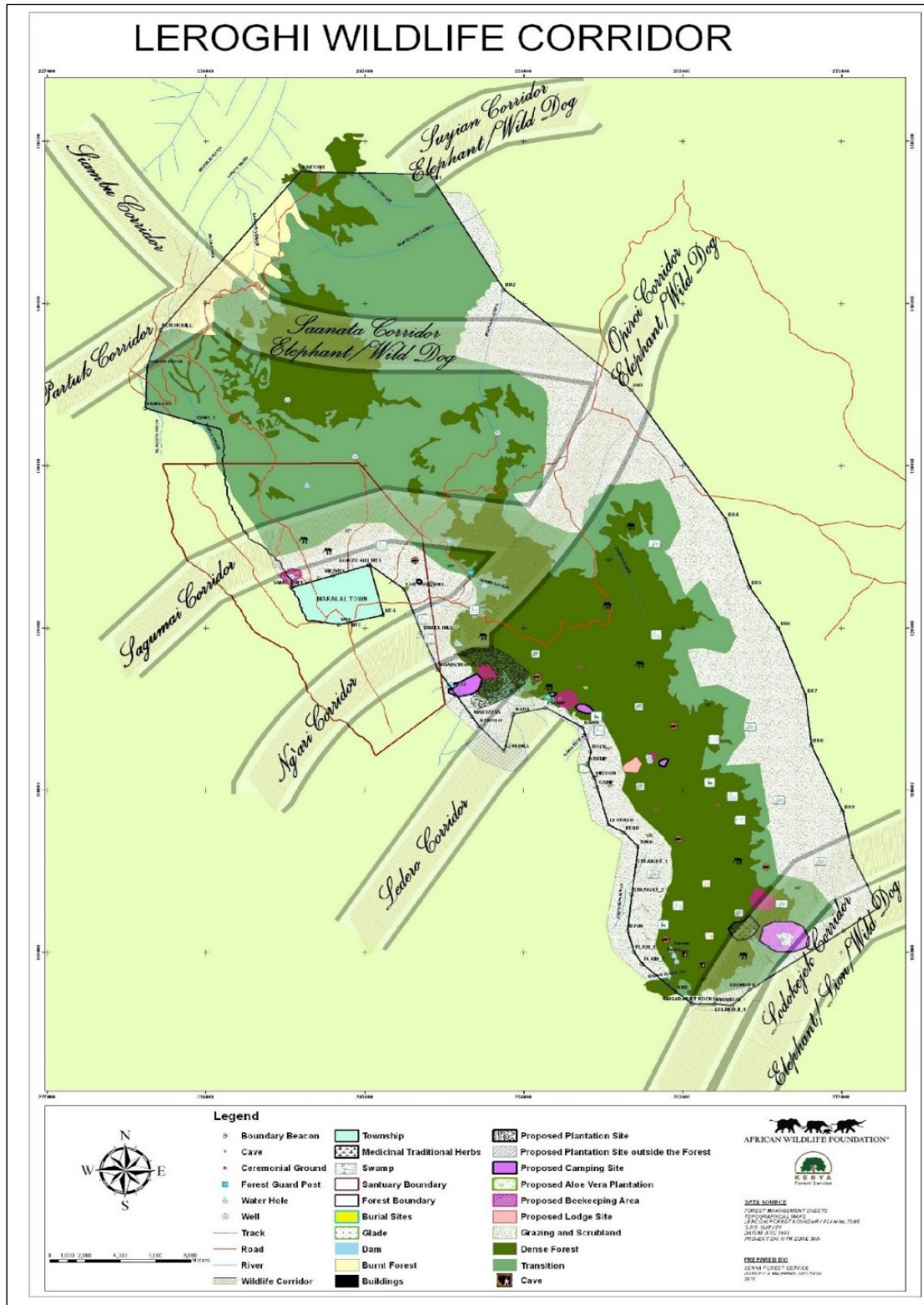
There is a wide variety of animal and bird life seen in Samburu County. Several large game species common to Kenya's northern plains can be found in abundance here, including the following dry-country fauna: gerenuk, grevy's zebra, oryx and giraffe. All three big cats known as the Masai lion, Tanzanian cheetah and leopard can also be found here, as well as the elephant, Cape buffalo and hippopotamus. Other mammals in the county include olive baboon, warthogs, Grant's gazelle, Kirk's dik-dik, impala, and waterbuck. The rhinoceros population is no longer present in the park due to heavy poaching. In addition, there are over 350 species of bird. These include grey-headed kingfisher, sunbirds, bee-eaters, Marabou stork, tawny eagle, Verreaux's eagle, bateleur, vulturine guineafowl, yellow-necked spurfowl, lilac-breasted roller, secretary bird, superb starling, hornbills, and various vultures including the palm-nut vulture.

4.9.1 Human Wildlife Conflict

Some of the worst affected areas include Lonjorin and Ngare Narok. Kirisia Forest and the surrounding group ranches are important habitats for wildlife such as elephant, buffalo, bushbuck, bush pig, giant forest hog, warthog, suni, lion, leopard, and wild dog. There are also many birds and insects found in the forest. Many of the wildlife in Kirisia and surrounding areas are threatened by illegal poaching. The rise in elephant poaching for their tusks in the country is also being experienced in Samburu area. The wildlife management programme is designed to address these issues and other challenges faced in wildlife conservation. It is expected that areas designated for wildlife conservation have been decimated by climate change and this will increase intensity of conflicts. Human wildlife conflict have in the recent past become more frequent resulting in human injuries and loss of life and/or property. Managing the conflict should be given priority if the county is to make progress in a sustainable manner. Increased human wildlife conflict is a major problem in wildlife areas.

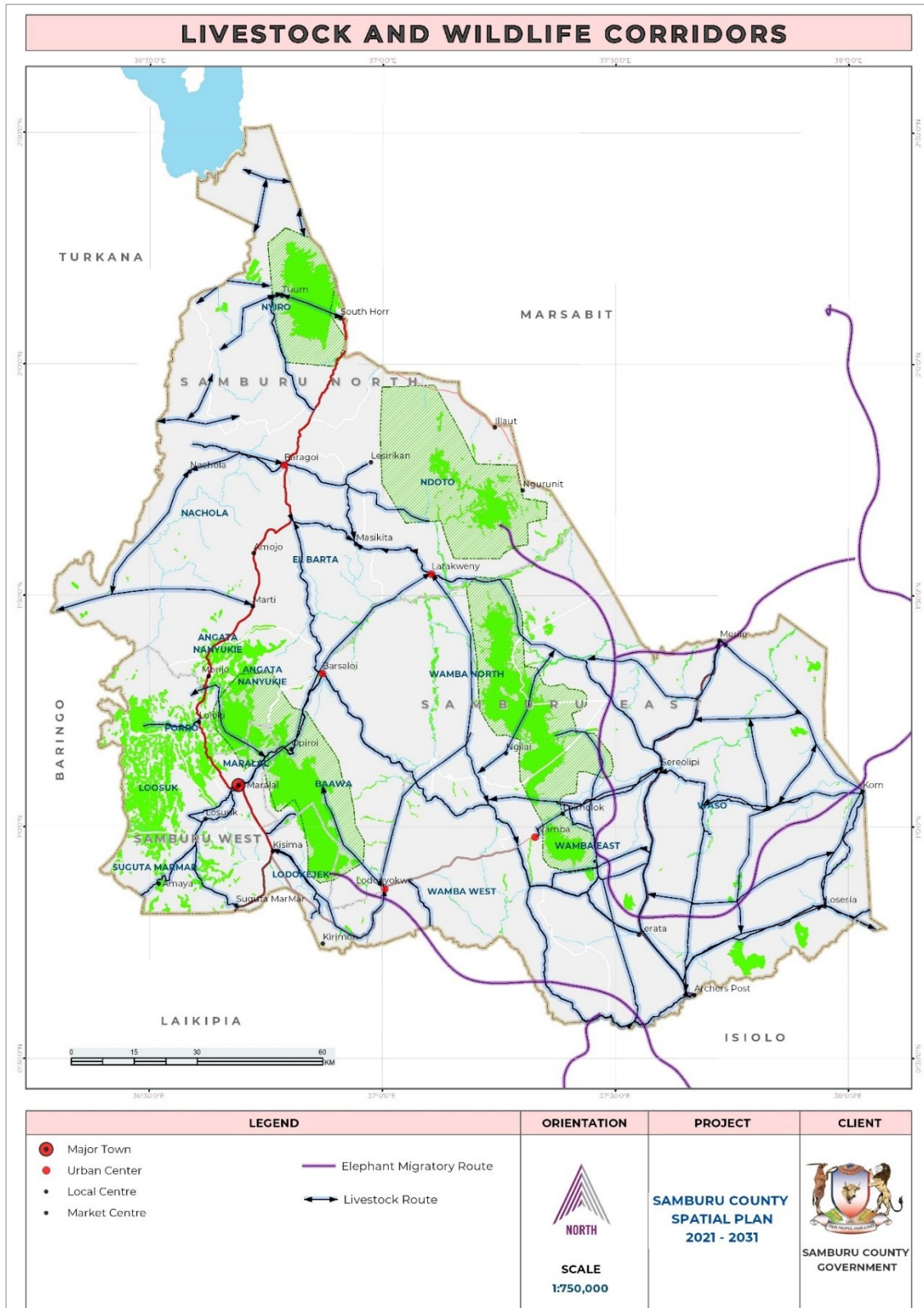
- i. Acute water shortage and inadequate pasture in dry season has severely affected wildlife leading to competition,
- ii. livestock and human, increase has been attributed to extending human activities in areas originally preserved for wildlife
- iii. A number of mitigations are being implemented for example live animal translocations and compensation.
- iv. Change of economic activity to wildlife conservation more friendly.

Map 4-19: Leroghi Wildlife Corridor



Pastoralist communities have lived near wildlife for centuries, but population growth and new settlements in once-wild lands are disturbing the peace. When predators like lions, wild dogs, hyenas, and leopards come across cattle, they make a meal of it. For people who depend on livestock for food and income, the carnivores are destroying more than just an animal; they are literally eating into a family's savings. People fight back by killing carnivores. Grazing cattle in wild areas puts communities at risk for losing their most valuable investments and threatens endangered species that have a taste for domesticated meat.

Map 4-20: Potential For Human Wildlife Conflicts



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The major challenges facing wildlife conservation include poaching, loss of habitats due to changes in land use, human encroachment into protected areas and wildlife migration corridors causing human wildlife conflict. The map below shows the Kenya wildlife conservation areas.

4.10 Biodiversity Resource

Samburu County is rich in wildlife, particularly the large mammals such as elephant, buffalo, hippopotamus, lion, leopard as well as zebra, giraffe and wild beast. The potential for wildlife



conservation and development of ecotourism is due to optimal climate, agro-ecological zones and topography.

4.11 Climate Change

Climate change is one of the major environmental problems that Samburu County is currently facing. According to the participants, this has led to more soil erosion and a reduction of the water resources. In terms of the change of the pasture, they see the over-population and the over-grazing that goes along with it, as the reason for fewer grazing grounds. In recent years farming has caused part of the destruction of the forest because land had to be cleared.

4.11.1 Evidence of Climate Change

The evidence of climate change includes erratic rainfall pattern, prolonged droughts, Flooding is common in tourist facilities located along Ewaso Nyiro River. Damage to property 2010 and increase occurrences' of climate change relate diseases. Some of the climate change adaptation mechanisms include educating the public on using drought/pest resistant crop varieties and seeds, improved livestock breeds, sensitizing communities to practice rain-water harvesting, reducing overreliance on wood fuel and biomass, and stopping harmful practices such as burning biomass to clear land space for agriculture.

4.11.2 Opportunities of Climate Change

i.Clean and Green Energy

Clean/ green and renewable energy sources, such as wind and solar, can be used to be alternative source of energy in the county to meet the high demand for energy. Use of these sources of energy will also reduce the overdependence of hydroelectric power whose supply in the county contributes to only 5% of the total energy resource in the county.

ii.Rainwater Harvesting

The heavy rains experienced in the county if fully tapped through rainfall harvesting can curb the shortage of water in the county. The runoff water experienced in some areas can be stored in dams and used during the dry seasons for both domestic use and commercial use. The water in the dams can also be used in the generation of hydro power.

iii.Irrigation and Conservation Agriculture.

Irrigation is another way through which farmers can adopt as a climate change adaptation measure to ensure food security in the county. This adaptation measure will also ensure the improvement of family livelihoods in the county. Conservation agriculture which involves minimizing soil disturbance and ensuring permanent soil cover, through the use of mulch and using a blend of crop rotation or inter-cropping, would ensure the soil fertility is kept.

4.12 Drought Management

Droughts have been part of the lives of the Samburu and they have developed their own mechanisms to cope with these droughts. There is less rain nowadays and the rainy seasons have shifted to some degree. Today the rain is unpredictable and can occur almost anytime. It was also reported that it is hotter now than it used to be, making dry seasons even more severe. Big droughts have only started to occur since the 70s or 80s and in the past there were no major droughts. Frequency has increased over the last years and the last big drought was in 2009. Some of water resources ran dry during drought. Some of these springs would only occur during the rainy season. This put a lot of pressure on the still existing water resources and boreholes because a lot of people had to move to better water resources and these places were now very crowded. Due to the ensuing decline in water and grass around these boreholes, animals died, herds reduced and animal products got rare. But not only

animals died, also people died and many were suffering from hunger and diseases. In Lorroki and Kirisia, the forest has reduced because of droughts and that these droughts also caused natural fires that destroyed even more of the forest and livelihood of the Samburu. In recent years since farming has started, the droughts have had an additional effect of lowering the productivity and outcome of their farming activities.

4.13 Environmental Degradation

The county has suffered the effects of the environmental degradation which include massive soil erosion, unpredictable weather patterns, resource-based conflicts water pollution, air pollution, reduced agricultural outputs/yields, increased drought incidence/desertification, reduced and diminishing forest products and flooding. Areas which are prone to soil erosion include Naimaral, South Horr, Lodungokwe, Kisima, Nachola, Arsim, Lporos, Wamba, Loikas, Opiroi and Ngilai. The impact of poor waste disposal is evident in all centres.

Plate 4-6: Environmental Degradation in parts of Samburu East Sub County



© Fieldwork, 2018

4.14 Natural Disasters

4.14.1 Drought and Floods

The occurrence of drought situations caused by the natural causes in the County has been made worse by the change in climate conditions in the region.

4.14.2 Soil Erosion

Soil erosion is dependent on topography, rainfall and soil types. Water erosion is common in the degraded forest areas, mountains and limited vegetation cover. Highly vulnerable areas include Lesirikan, Maralal, Suguta Marmar and Wamba.

4.15 Energy Resources

4.15.1 Energy

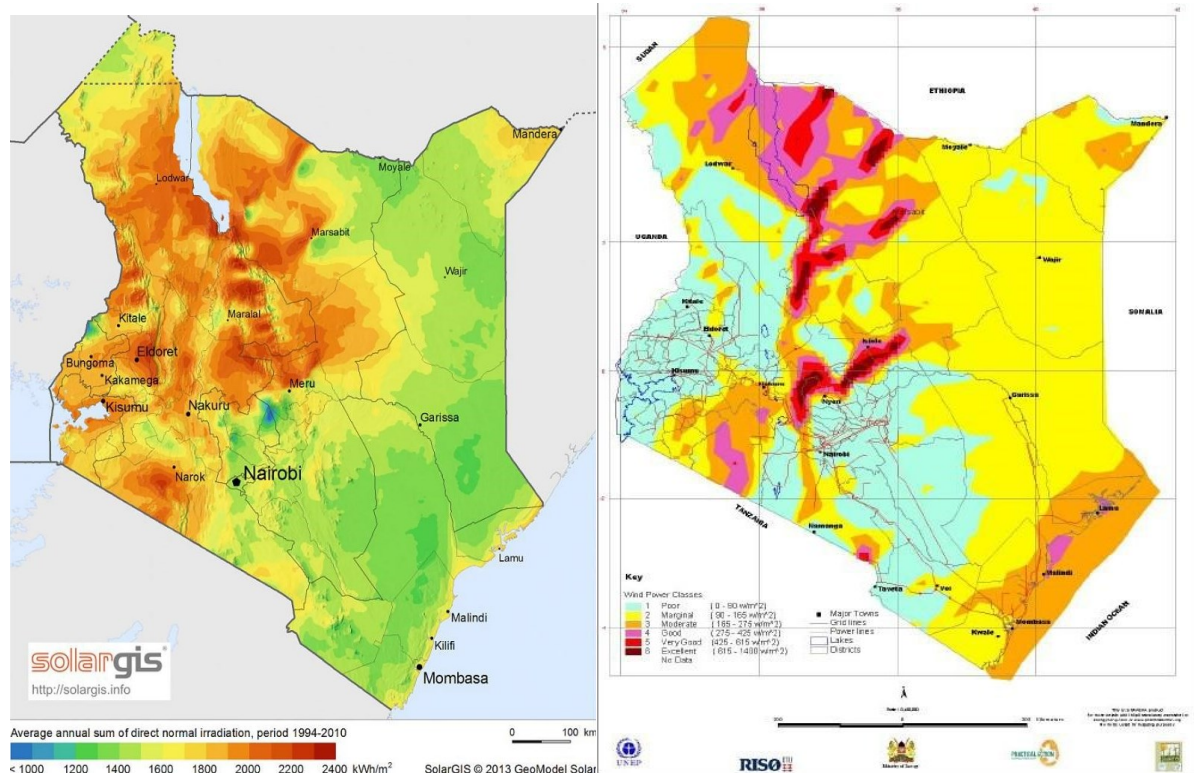
Energy is one of three macro-economic sectors on which the three pillars of Vision 2030 is anchored. The country has an abundant potential for energy production. The main types of energy are hydroelectric power, wind, geothermal, and solar energy. Distribution of energy potential by sources is identified by rivers, hot springs, wind fields, coal fields, crude oil, biomass, solar, and biogas which have varying potentials. Energy plays a critical role in the development of a county. The major sources of energy in Samburu County are Firewood (90%) and electricity (5%). The alternative sources of energy used in the county are solar power and biogas which are yet to be fully exploited. The level of green energy utilization in the county is at 10%.

4.15.2 Renewable Energy Potential

i. Solar Energy

Samburu County lies astride above the equator and receives a considerable amount of solar radiation and thus possesses an increased solar power potential. With this potential, several projects should be initiated to harness this potential. The daily average solar insolation is estimated to be about 4-6 kw/hrs/m², which is considered one of the best for solar electric energy production in sub-Saharan Africa.

Map 4-21: Annual Sun Radiation and Wind Power Density at 50m above the Ground



ii. Wind Energy

There is significant potential to use wind energy for wind farms connected to the grid, as well as for isolated grids and off-grid community electricity and water pumping. Researchers estimate that Kenya has a total physical potential of approximately 9 terawatts (TW) of wind energy. Others have estimated Kenya’s wind potential to be as 1604GW in wind speed of Class III, 642GW in Class II and 4.6GW in Class I 87.

iii. Biogas Power Generation

The county’s livestock and agricultural activity produces large amounts of waste. These can be used to produce electricity by implementing biogas and biomass technologies. The 2014 National Energy Policy Draft also sets out biogas expansion targets of 10,000 small and medium-sized digesters by 2030. Biogas is considered a viable energy solution by a number of agricultural producers.

4.16 Emerging Planning Issues

Opportunities and constraints:

- Soil erosion and land degradation specially along lagas
- Soil fertility expected to continue falling
- Higher salinity due to concentration
- Reducing forest cover



- Higher water pollution expected
- Endangered species will tend towards extinction
- Environmental pollution
- Depletion of forest cover and extinction of rare plant species
- Soil erosion along the steep slopes.
- Wetland encroachment due to human settlement activities.
- Environmental hazards such as floods.

5. POPULATIN DEMOGRAPHIC TRENDS

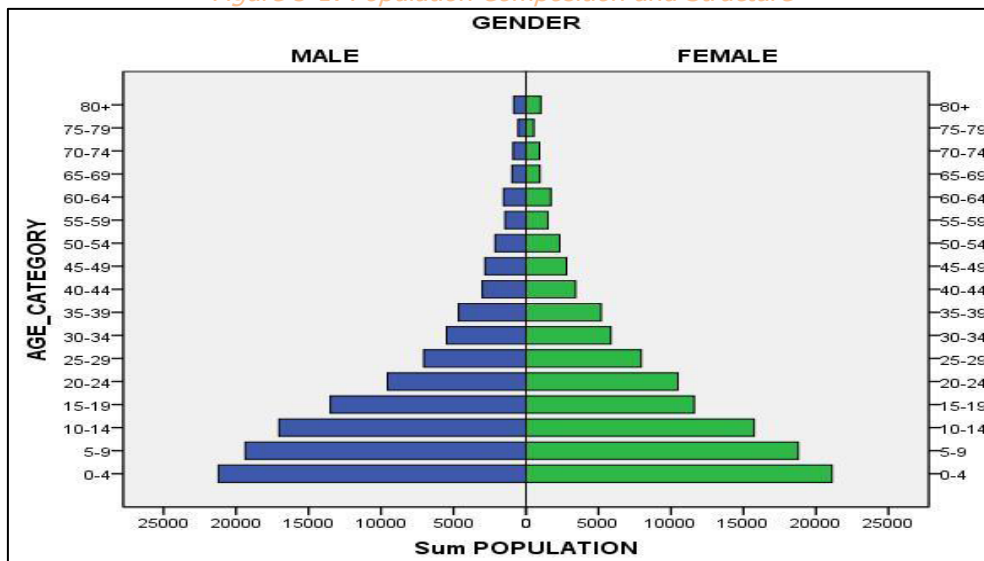
5.1 Overview

Population and demographic factors play a major role in development of any region. Samburu county is quite with a population of approximately 310,327 (2019). This population is sparsely distributed hence presenting challenges in provision of essential services.

5.2 Population Size and Composition

According to the 2019 Population and Housing Census, the population of Samburu County was 310,327 while in 2009 the population was 223,947. In 2019 the population comprised of 153,546 females and 156,774 males. It is projected that the county’s population is approximately 537,993 by 2030.

Figure 5-1: Population Composition and Structure



© Field Survey, 2018

5.3 Population Density and Distribution

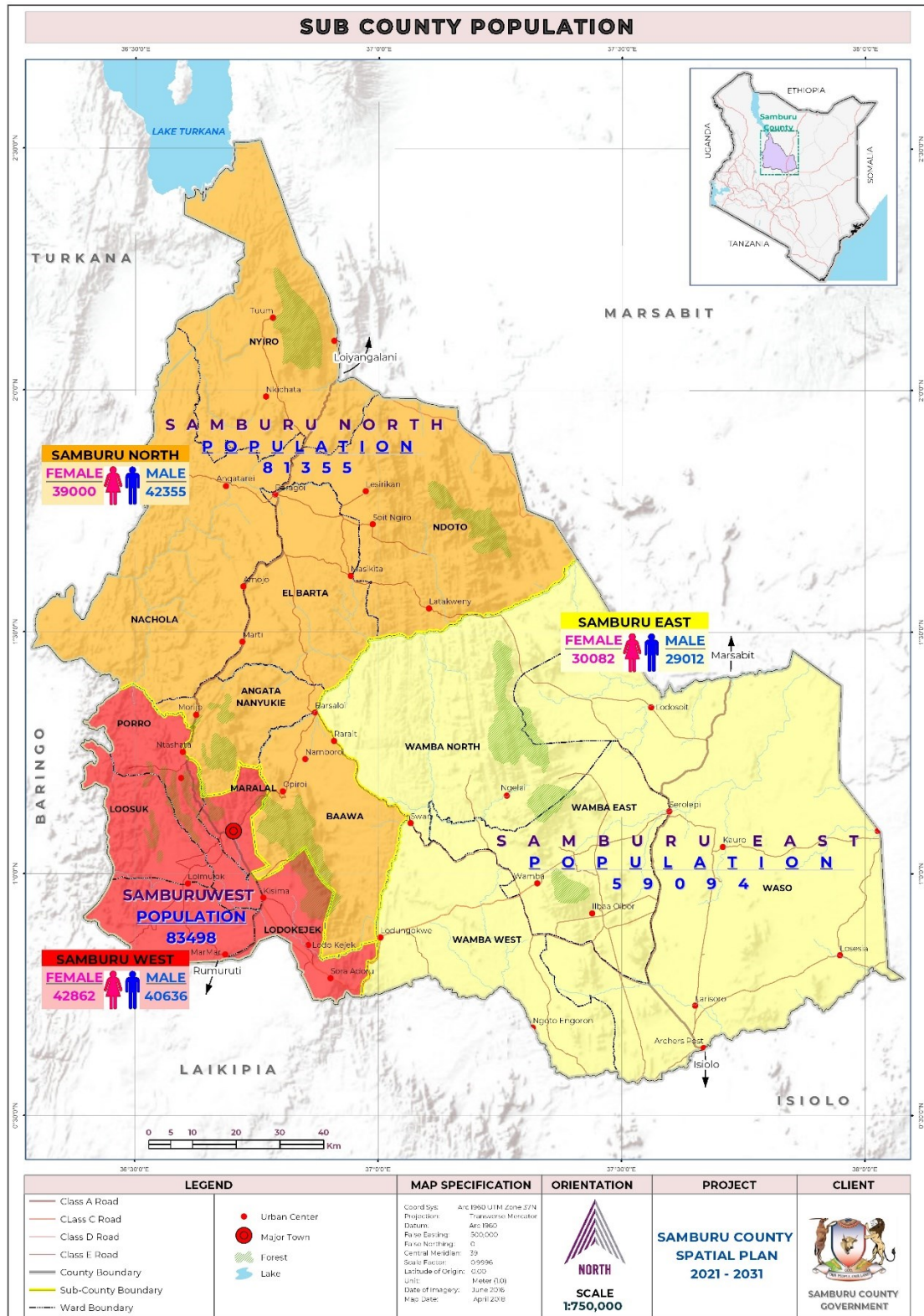
Population distribution in the county is influenced by climatic conditions and socio-economic development. Urban areas and high potential agricultural areas have high population distribution and density. The population density for the county is 15. Samburu West constituency had the highest population density of 45 persons per Km². Samburu North and Samburu East had 8 and 9 person per Km² respectively.

Figure 5-2: Population Distribution by Sub-County

Sub County	Male	Female	Total
Samburu North	34,930	32,457	67,391
Samburu Central	83,633	81,307	164,942
Samburu East	38,211	39,782	77,994
Total	156,774	153,546	310,327

© KNBS (2019 Census)

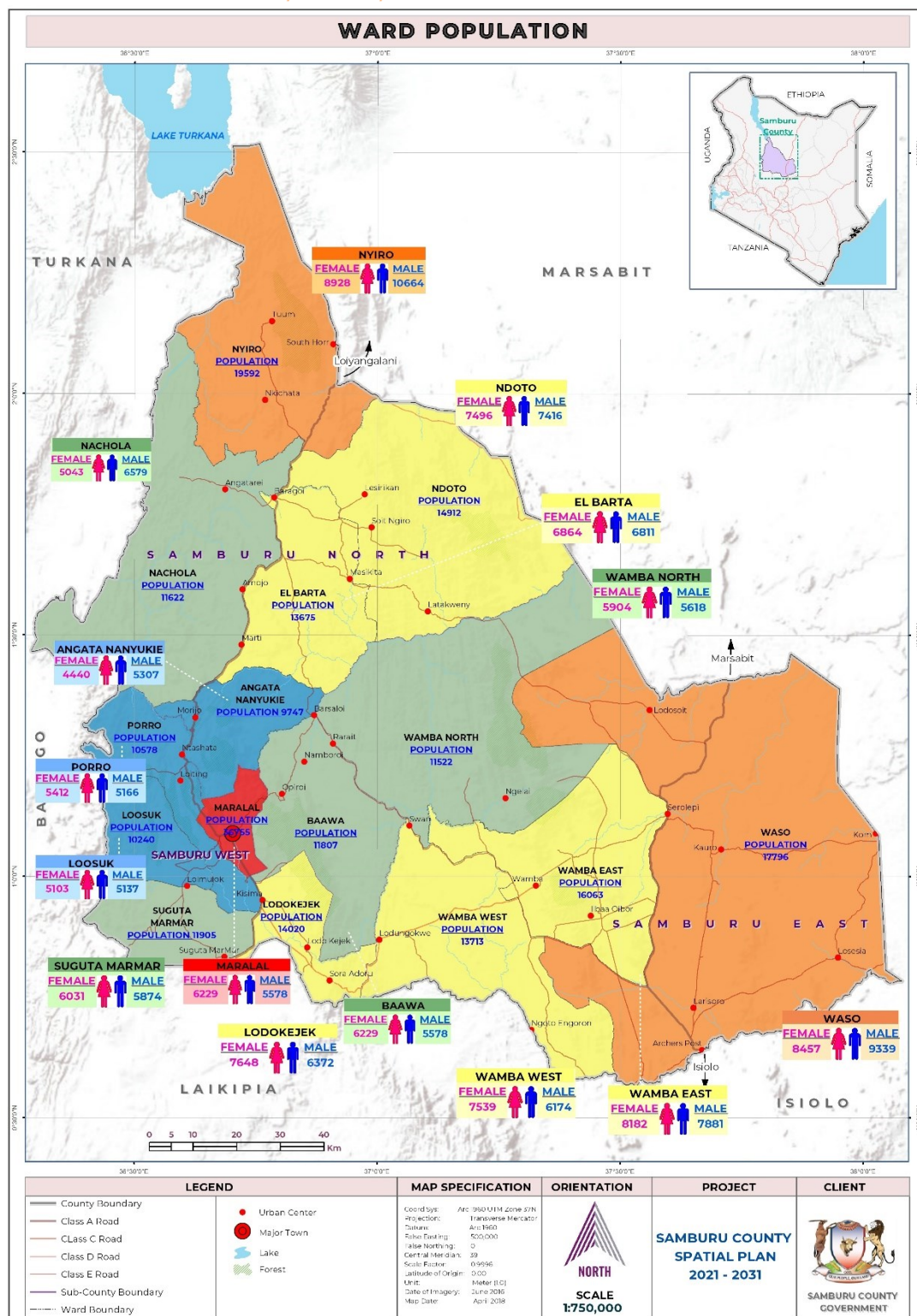
Map 5-1: Sub County Population Density



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At the ward level Maralal is the most densely populated.

Map 5-2: Population Distribution at Wards

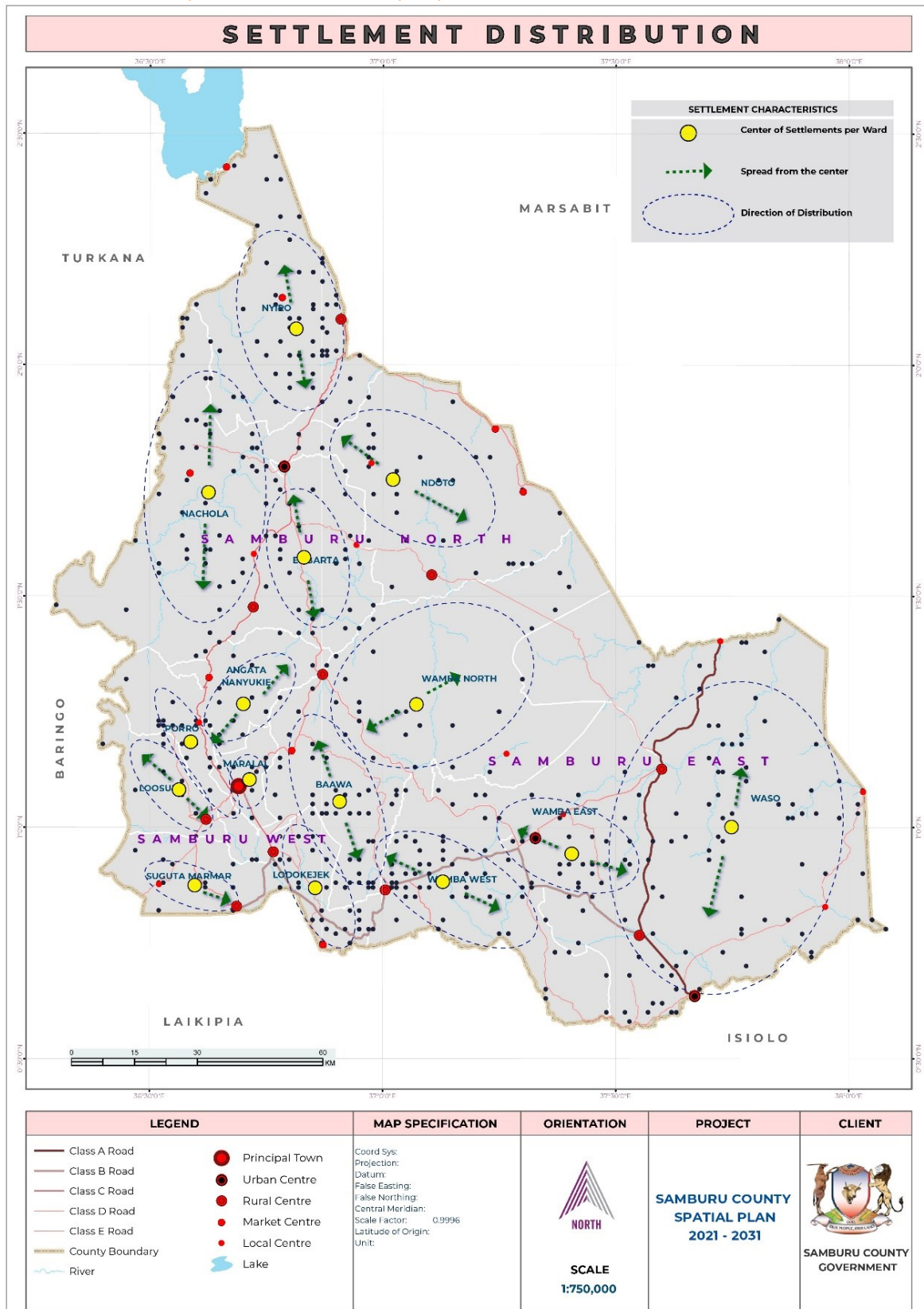


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5.4 Urban and Rural Population

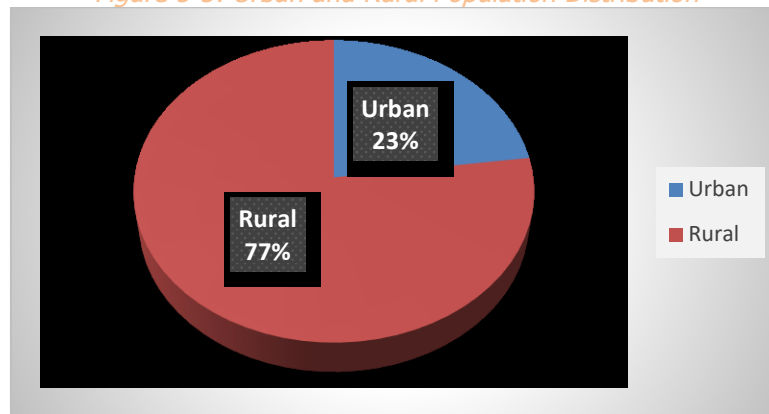
Samburu county population largely dwell in the rural areas. This is driven by nomadic pastoralism which is the main livelihood activity. The urban community comprise of small scale businessmen. The bulk of the population in Samburu County is predominantly rural. The rural population stood at 38,446 people representing approximately 80 % of the county 's total population) which is higher than the national average of 65 per cent. This makes the Samburu area population predominantly rural.

Map 5-3: Samburu County Population and Settlement Distribution



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Figure 5-3: Urban and Rural Population Distribution



© KNBS (2019 Census)

5.5 Population Structure

- i. **Under five years (0-5yrs):** In 2013, the under five year age group in the county is estimated at 120,070 children. This is nearly 20 percent of the total population. This age group forms the base for the future human resource for the county. Early Childhood Programmes (ECDE) provides a foundation for this group for meeting cognitive, psychological, moral and emotional needs.
- ii. **Primary school age group (6-13yrs):** The population of this age group is estimated to grow from 169,468 in 2013 to 188,042 in 2015 and 208,651 in 2017. This age group accounts for 26.8 percent of the total population. Some of the requisite interventions to improve access to education to this group include; construction of new schools, expansion of existing school infrastructure, deploying teachers to schools and establishing boarding facilities for nomadic families.
- iii. **Secondary School Age group (14-17 yrs):** The population of this age group is estimated to increase from 60,866 in 2013 to 67,537 in 2015 and 74,939 in 2017. The increasing enrolment rates due to free primary education and subsidized secondary school education have exerted pressure on the existing secondary school facilities.
- iv. **Youth (15-34 yrs):** This is the most productive age group and accounts for 31 percent of the total population in the county. It is expected to increase to 218,403 and 242,340 in 2015 and 2017 respectively. The county will require more training institutions and employment opportunities to make them productive citizens.
- v. **Labour force (15-64yrs):** This population is expected to grow from 284,429 to 315,602 and 350,192 in 2015 and 2017 respectively. This age cohort forms the pillar for economic development in the county as the county depends on it to provide both skilled and unskilled labours to enable the county achieve its vision. Promotion of small and medium enterprises is also very important for this group.
- vi. **Female reproductive age group (15-49 yrs):** The population of this age group as at 2013 was 132,189 and is projected to increase to 146,677 and 162,753 in 2015 and 2017 respectively. This age group faces a number of challenges in the county that include; shortage and inaccessible health facilities, understaffing of health facilities, high illiteracy levels and poor quality of health services.

5.6 Population Projections

Population projections are important in planning decisions, as it forms the basis from which the public and private sectors can develop informed programs and decisions. Population forecasts have been projected using three variants: national average (2.9%), county average (4.5%) and an average of the two (3.7%).

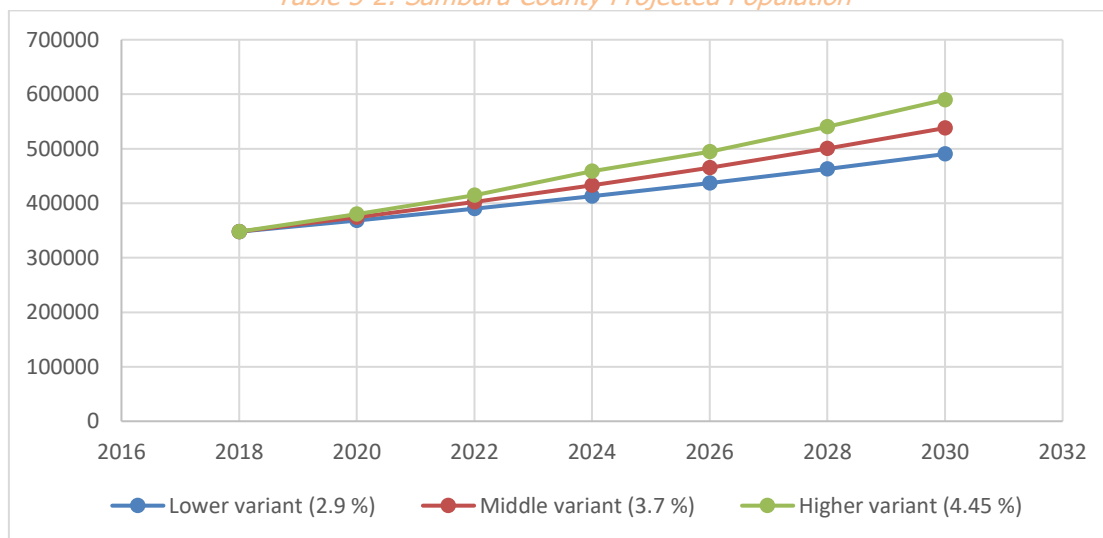
Table 5-1: County Population Forecasts

Year	Lower Variant (2.9 %)	Middle Variant (3.7 %)	Higher Variant (4.45 %)
2018	347882	347882	347882
2020	368351	374102	379895
2022	390025	402297	414855
2024	412975	432617	458449
2026	437275	465223	494723
2028	463005	500287	540250
2030	490248	537993	589966

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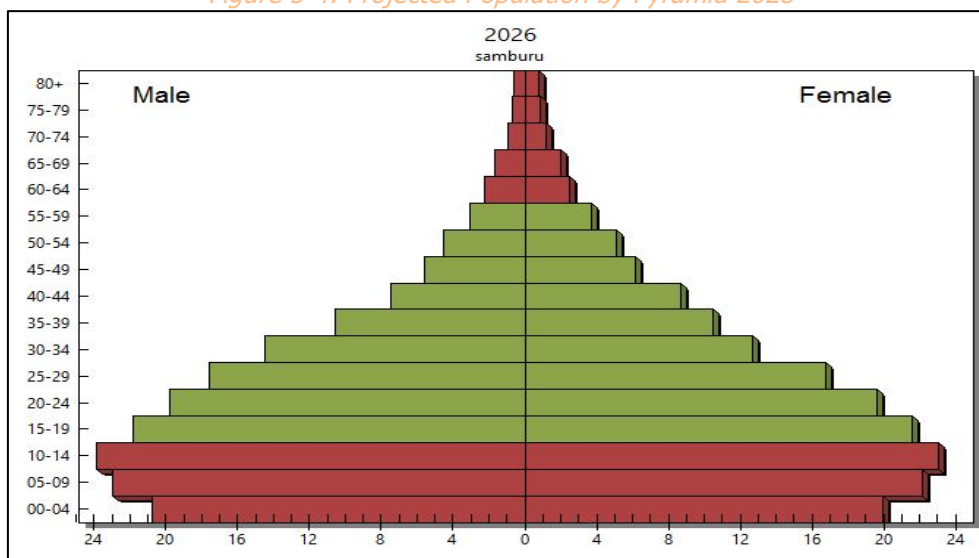
Rapid population growth in absolute figures is accounted for by the growth rates indicated in the table above. However, growth rate of Samburu looks peculiar, and shows influx of people into the County both from other areas and those Samburu residents who have been residing elsewhere.

Table 5-2: Samburu County Projected Population



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Figure 5-4: Projected Population by Pyramid 2028



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In addition to county population projected, the consultants projected the population at the ward level to enhance provision of services.

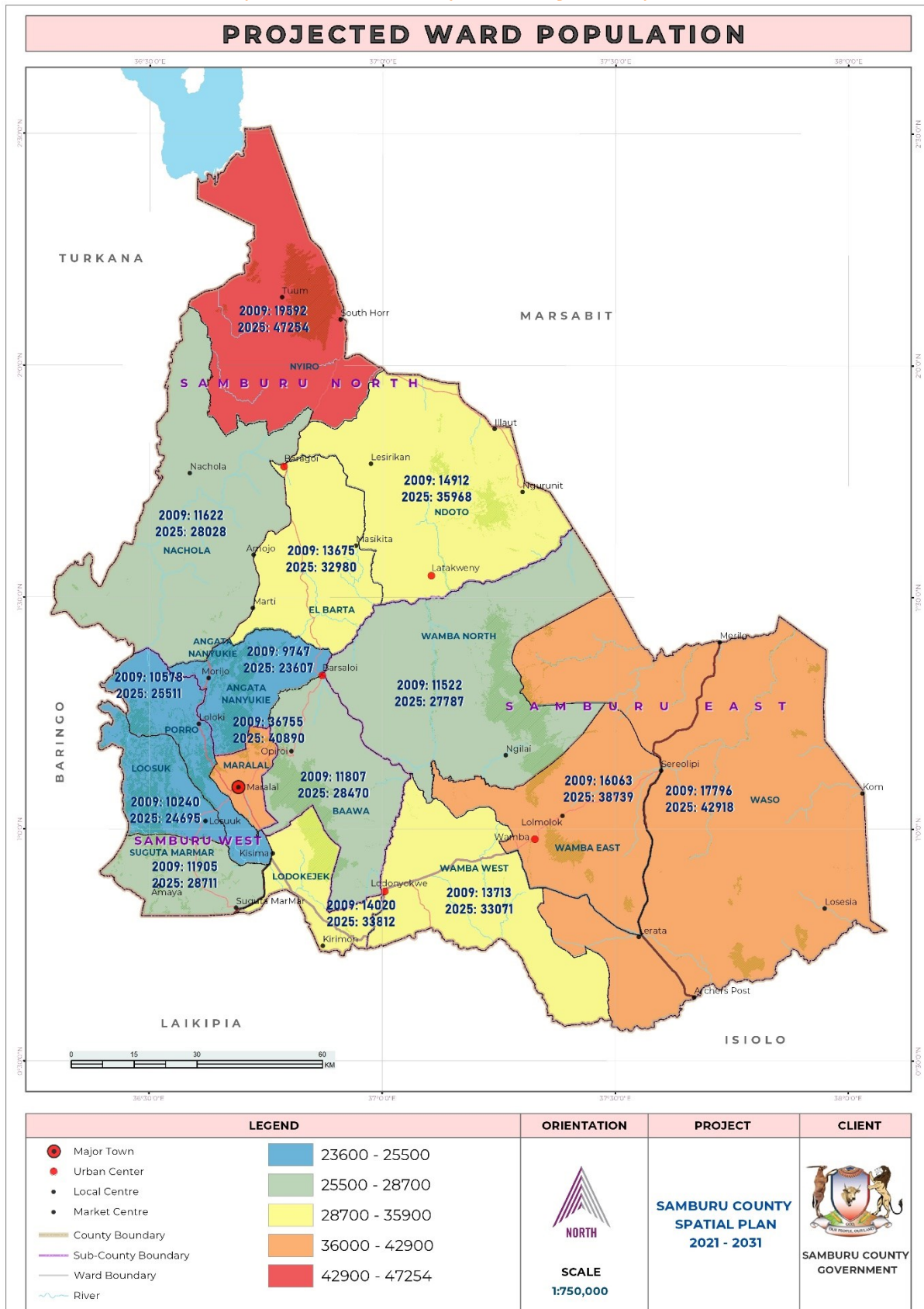


Table 5-3: Samburu County Wards Projected Population

Ward	2019	2030
Nyiro	15592	47201
Nachola	11622	28028
Ndoto	14912	35963
Angata Nanyukie	9747	23607
Poro	10578	25511
Loosuk	10240	24695
Wamba North	11522	27787
Baawa	11807	28476
Waso	17796	42918
Wamba East	16063	38739
Wamba West	13713	33812
Lokodjek	14020	33812
Suguta Marmar	11905	28711
Maralal	16955	40890
Elburta	13675	32980

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Map 5-4: Samburu County Wards Projected Population



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5.6.1 Household Size

Samburu County has a total number of 65,910 households and female headed households stands at approximately 38.3% while male headed households is at 61.7%. The Average household size for the county is 4.7. It is approximated that by the year 2030 Samburu county will have approximately 107,266 households.

Table 5-4: Household's Numbers/Size Projection By 2030

Year	Lower Variant (2.9 %)	Middle Variant (3.7 %)	Higher Variant (4.45 %)
2018	63251	63251	63251
2020	66972	68018	69071
2022	70912	73144	75428
2024	750913	78567	83354
2026	79504	84586	89949
2028	84182	90961	98277
2030	89136	97816	107266

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5.7 Demographic Characteristics

5.7.1 Household Sizes

According to the 2019 Kenya population and housing survey the total number of households in Samburu County were 65,910. This increase in the population will put more pressure on the existing services and infrastructure within the county. Thus, there should be plans to increase the services and infrastructure provisions to counteract the growth.

5.7.2 Sex Ratios

The population ratio is 100 men to 101 women respectively for Samburu County. In all the sub-counties, the female population is higher than that of the male which shows the population distribution of male to female per sub-county.

5.7.3 Morbidity, Mortality and Life Expectancy Rates

Morbidity rates in the county stand at 13.3% for males while for female it stands at 16.7%. The total morbidity rate in West County is 15.7%. The main causes of morbidity and mortality in Samburu County, include Malaria/fever, diarrhoea, upper respiratory tract infection, lower respiratory diseases, stomach related ailments and the inadequate access to appropriate health care.

5.7.4 Life Expectancy in the County

In Samburu, the average life expectancy is 57.9 years, with that of the females at 61.3 years and 54.4 years for males. (County profile, 2011). Samburu County has a higher working population which can heavily contribute to her higher economic growth.

5.7.5 Migration Patterns

Field Survey, 2016 reports indicates that the rate of in-migration to Samburu County is slightly lower, i.e. most of the residents are born within the county. Most of the people who settle in Samburu County are from the neighbouring counties. The in-migrants come for various reasons which include; marriages, security reasons, availability of land, seeking employment opportunities among other reasons.

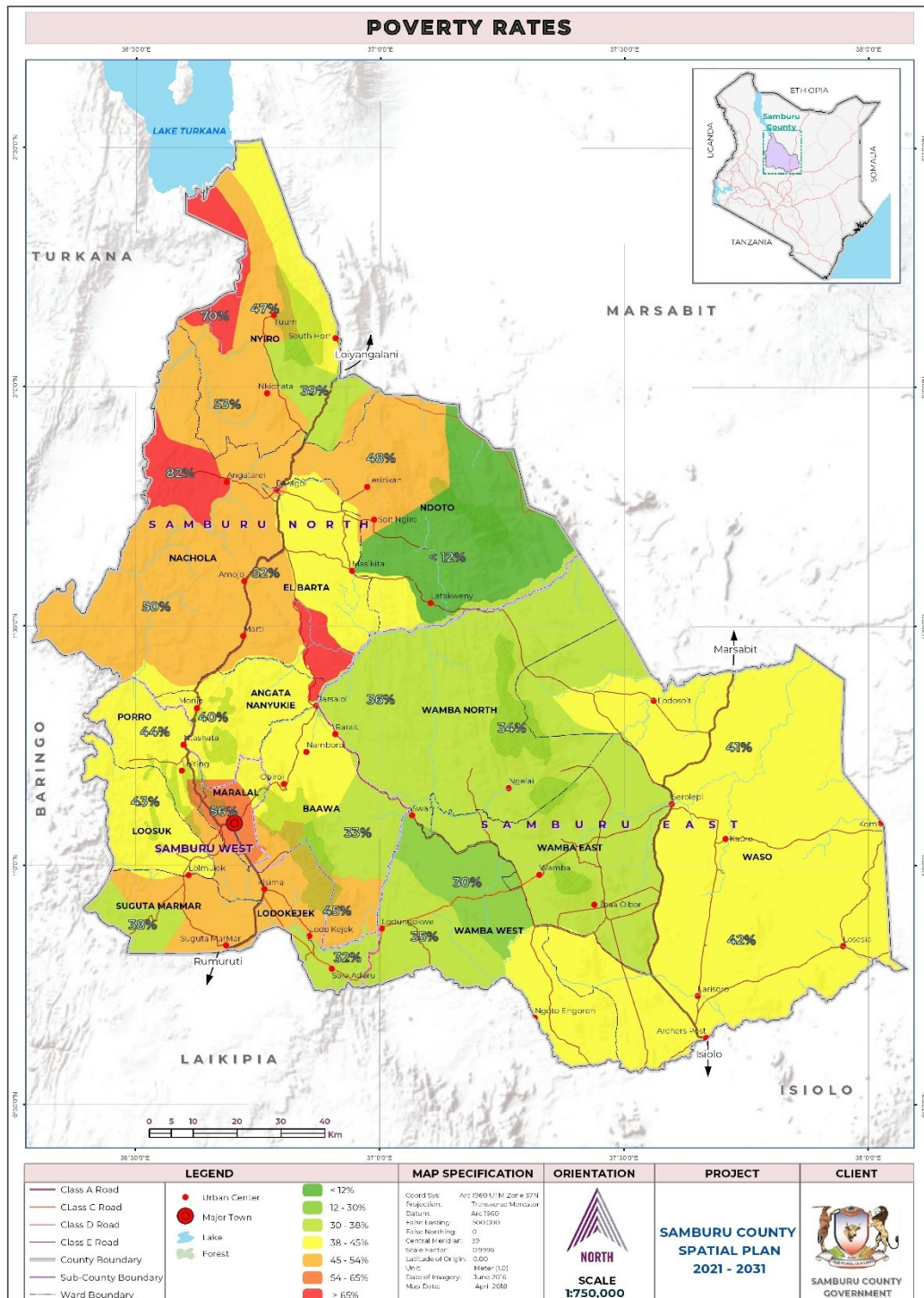
5.7.6 Literacy Levels and Skills Development

Education is seen as a means of improving people's welfare. The county literacy rate stands at 40% with female literacy rate being 22% and male literacy rate being 39%. Literacy rate for the population aged 15+ stands at 37% who can read while 57 cannot read. In addition, the ability to write literacy rate stands at 36% and with ones with no ability to write stands at 60%. This implies that the population cannot effectively participate in the County's social, economic, environmental and political affairs as well as make informed decisions.

5.8 Poverty Rates and Distribution

In Kenya 56% of the population live below poverty line while about 80 percent of Samburu County population live below the poverty line. Factors attributed to the vicious cycle of poverty in the county include: cross border insecurity; low enrolment in schools; unpredictable weather patterns; poor infrastructure and retrogressive cultural practices. Poverty creates a vicious cycle where the poor lack knowledge and awareness a situation that hinders one to benefit from new technologies. County contributes approximately 2.1% to national poverty. Higher poverty incidences occur in areas that are prone to community conflicts. Incidence of poverty is higher in rural areas than urban (49.1% and 33.7% respectively). Poverty density „hotspots“ are distributed unevenly across the county but tend to concentrate in the eastern and northern parts of the county.

Map 5-5: Samburu County Poverty Rates



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5.8.1 Causes of Poverty

- i. **Ignorance:** Lack of access to information is a major handicap to human development in Samburu.
- ii. **Cultural Practices:** Although, culture has many positive benefits to the community such as social ethics and cohesion, ignorance of modern knowledge and monetary economy greatly compromises the future of the youthful population. Such practices include circumcision which are disruptive to the education of boys and pose great pregnancy risks to adolescent girls.
- iii. **Rural–Urban Migration:** The education system is skewed to white collar employment and imparts no practical day-to-day living skills. Graduates of primary, secondary, and even university expect to be employed. This causes a large exodus to urban centres, especially Maralal town in search of the elusive white-collar job.
- iv. **Lack of Infrastructure:** Infrastructure is a major constraint to the development in Samburu e.g. the county has few good roads, few house have power and water connection.

5.9 Heritage and Culture of the People

The indigenous ethnic groups of Samburu County are the Samburu and Turkana people. The immigrant ethnic groups in the region are Kikuyu, Meru, Kambas and Luo etc. Samburu County is predominantly settled by the Samburu people.

5.9.1 Samburu Community

The Samburu are originally from the Maa speaking community which is found in the Samburu County, where it is the predominant community, but not the only community. The Samburu are a Nilotic people that are related to but distinct from the Maasai. The Samburu are semi-nomadic pastoralists who herd mainly cattle but also keep sheep, goats and camels. The Samburu are a gerontocracy. The power of elders is linked to the belief in their curse, underpinning their monopoly over arranging marriages and taking on further wives. This is at the expense of unmarried younger men, whose development up to the age of thirty is in a state of social suspension, prolonging their adolescent status. The paradox of Samburu gerontocracy is that popular attention focuses on the glamour and deviant activities of these footloose bachelors, which creates a form of gang feuding between clans, widespread suspicions of covert adultery with the wives of older men, and theft of their stock.

Plate 5-1 : Samburu People and Their Culture



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Men wear a cloth which is often pink or black and is wrapped around their waist in a manner similar to a Scottish Kilt. They adorn themselves with necklaces, bracelets and anklets, like the Maasai. Members of the moran age grade (i.e. "warriors") typically wear their hair in long braids, which they shave off when they become elders. It may be colored using red ochre. Their bodies are sometimes decorated with ochre, as well. Women wear two pieces of blue or purple cloth, one piece wrapped around the waist, the second wrapped over the chest. Women keep their hair shaved and wear numerous necklaces and bracelets. In the past decade, traditional clothing styles have changed. Some men may wear the 1980s-90s style of red tartan cloth or they may wear a dark green/blue plaid cloth around their waists called 'kikoi', often with shorts underneath. Marani (Lmuran). Warriors wear a cloth that may be floral or pastel. Some women still wear two pieces of blue or red cloth, but it has become fashionable to wear cloths with animal or floral patterns in deep colors. Women may also often wear small tank tops with their cloths, and plaid skirts have also become common.

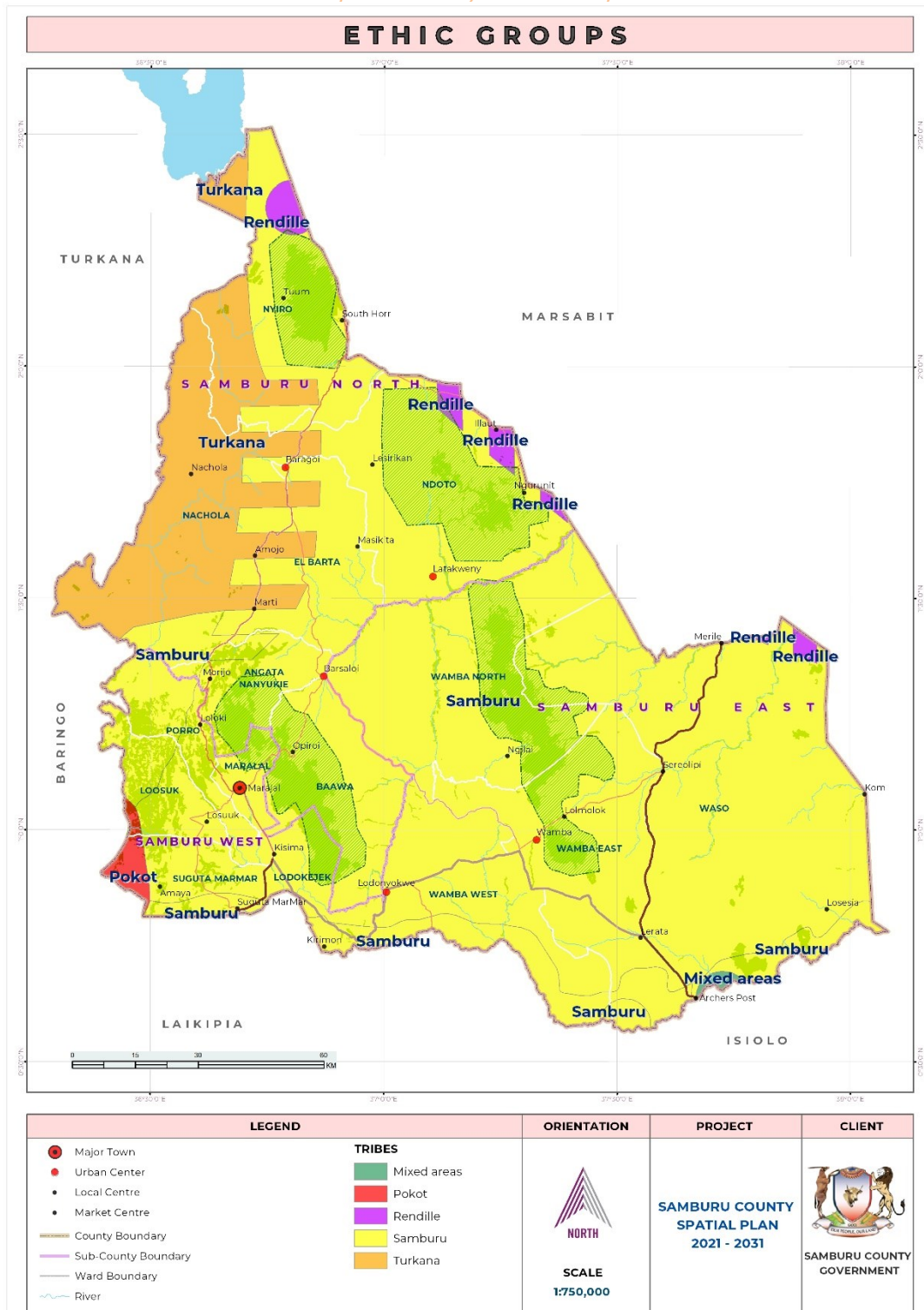
5.9.2 Turkana Community

The Turkana are a Nilotic people native to the Turkana District in northwest Kenya, a semi-arid climate region bordering Lake Turkana in the east, Pokot, Rendille and Samburu to the south, Uganda to the west, and South Sudan and Ethiopia to the north. They are mainly semi-nomadic pastoralists. The Turkana are noted for raising camels and weaving baskets. In their oral traditions they designate themselves *the people of the grey bull*, after the Zebu, the domestication of which played an important role in their history. Traditionally, men and women both wear wraps made of rectangular woven materials and animal skins. Today these cloths are normally purchased, having been manufactured in Nairobi or elsewhere in Kenya. Often men wear their wraps similar to tunics, with one end connected with the other end over the right shoulder, and carry wrist knives made of steel and goat hide. Men also carry stools (known as *ekicholong*) and will use these for simple chairs rather than sitting on the hot midday sand. These stools also double as headrests, keeping one's head elevated from the sand, and protecting any ceremonial head decorations from being damaged. It is also not uncommon for men to carry several staves; one is used for walking and balance when carrying loads; the other, usually slimmer and longer, is used to prod livestock during herding activities. Women will customarily wear necklaces, and will shave their hair completely which often has beads attached to the loose ends of hair. Men wear their hair shaved. Women wear two pieces of cloth, one being wrapped around the waist while the other covers the top. Clothing is used to distinguish between age groups, development stages, occasions and status of individuals or groups in the Turkana community. Today, many Turkana have adopted western-style clothing. This is especially prominent among both men and women who live in town centers throughout Kenya.

5.9.3 Others

Members of other ethnic groups are more receptive to socio-economic changes that are beneficial to their lot. Inter-marriages with the local people are evident but religion does inhibit inter-marriages. Christians, Islam and traditional religions co-exist in harmony in the region.

Map 5-6: County Ethnic Groups



©AIDAL Consultants, 2021

5.9.4 Culture, Traditions and Customs and Development

For any society to prosper, the cultural values, norms and traditions should be flexible enough to accommodate and be receptive to positive socio-economic changes while retaining those good traits that allow coherence of a stable society. The following is perception to resource use.

i. Land

The people view Land as communal asset where every member of the community has the right to use it. This is where land is communally owned. The indigenous people of the region attach high sentimental value on land without deriving much gain from it. Generally the resource land is considered a basic resource for livelihood without monetary value but it is evidently underutilized.

ii. Forest

Forest is viewed as a source of traditional medicines. The forest grooves normally are sacred areas or shrines. It is seen as a source of food and meat. Forests are the places the local people get building material from and are also catchments for water sources. It has now emerged that the Kaya forests are a source of income generation as these attract tourists due to their biodiversity. They are also a source of herbal medicine a practice that is fast catching up in Kenya.

iii. Wildlife

The community view wildlife as source of food. They also view wild animals destructive to their crops.

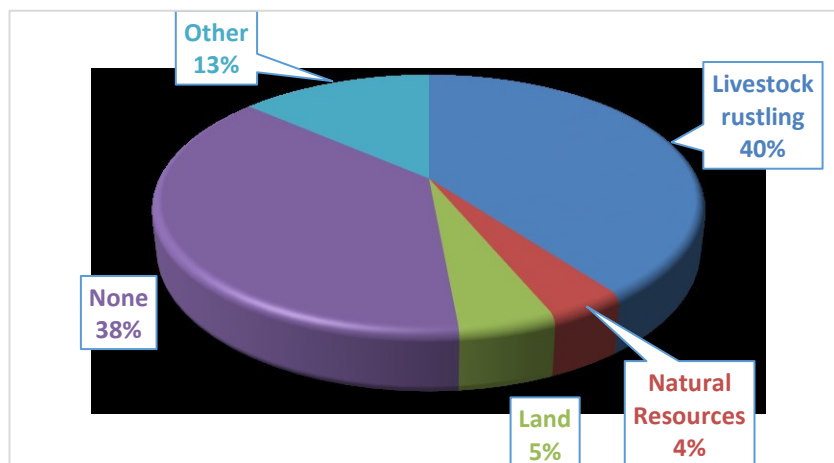
5.9.5 Gender and Development

There exist great imbalances in gender participation in development processes in the county. High illiteracy level among women and retrogressive cultural practises precludes their participation in decision making processes. As a result they are not fully involved in identifying programmes which affect their lives. Although, they bear the greatest burden of taking care of their families (cooking, collecting water, firewood and looking after livestock) they are not allowed to contribute to development of water projects and other programmes. Gains made were enhanced in the Constitution which require at least one third of each gender in key processes. Gender inequalities will still pose major challenges to the county's development. Gender disparities exist with 60 percent of boys enrolled in primary school compared to 40 percent of girls.

5.10 Conflicts

Conflicts between communities have been an aspect of culture since time immemorial used as a means to test initiates, train morans, and a means of distributing wealth. The study sought information on the types of conflicts that the area experienced. The figure below, displays the findings.

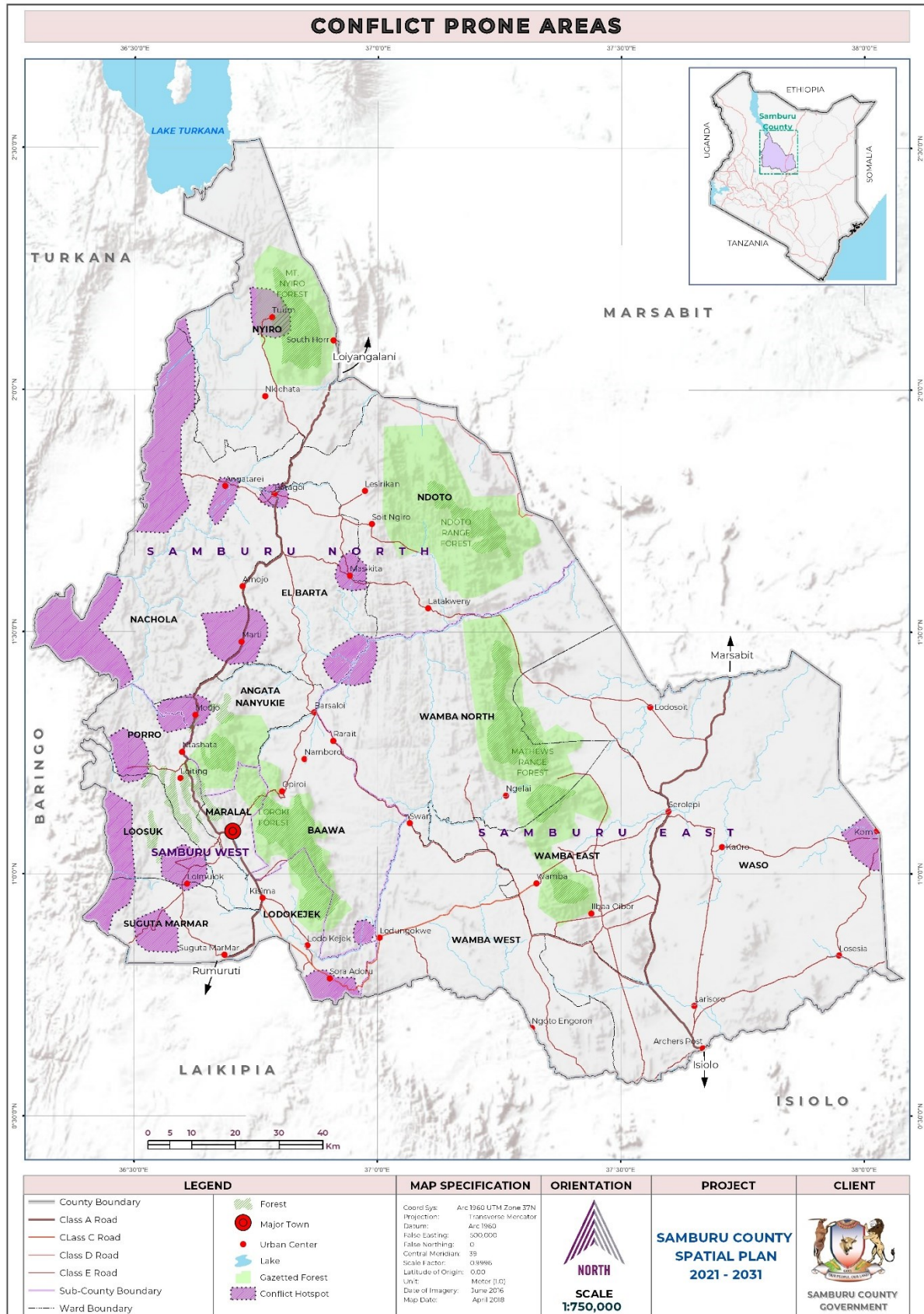
Figure 5-5: Source of conflicts in the county and its neighbors



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The major conflict involved livestock rustling at (40%), which posed a series of effects. Responses on the effects of the conflicts included; hatred, community tensions, poverty and to some extremes deaths.

Map 5-7: Conflict Prone Areas in Samburu County



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Plate 5-2: Suguta Valley Prone to Cattle Rustling Activities



© Fieldwork, 2018

The pastoralist experience is mainly made up of cattle rearing, migration and self-defence. Self-defence comes in as a result of a number of factors that lead to conflicts, border related, cattle rustling and resource based conflicts, among others. This volatile reality is what dictates the need for an analysis of the predominantly pastoralist region that is home to a conflicts born of this nature. Isolated cases occur here and there within the counties and in order to find a way to eradicate their occurrence, it is important to look into this phenomenon of conflicts between communities. Cattle rustling mainly occur in areas such as Baragoi, TuUm, Suguta Amaiya, Longewan, Malaso, Angata Nanyukie, Loosuk, Lolmorog Kawop, Waso, Marti, Baragoi Town, Nachola, Ngilai, Maskita, Suyan, Loyangaten, Kom, Kirimon, Opiroi among others.

5.11 Traditional Institutional Systems

Some pastoralist communities are organized in group ranches. In recent years, the community conservancies approach has emerged, driven by objectives around wildlife conservation and the development of livelihoods and economic incentives, especially through tourism. In some cases, the community conservancies are made up of one or more group ranches. In other places, community-based natural resource management committees have been established, often with strong involvement of traditional leaders, sometimes resulting in the creation of a hybrid traditional-modern system. Some Water Resource Users Associations (WRUAs) in the drylands engage in grazing and pasture management as a key element of their strategy for watershed management. Another, very different approach, which is common in the north-western part of Kenya, pays less attention to establishing and strengthening community rangeland management organizations, and focuses instead on establishing inter-community grazing agreements.

5.12 Conclusions

Population growth rate has to keep pace with the provision of facilities and services. Therefore, there is need of facilitating sustainable development in the area through: provision of facilities like education centres, housing facilities, health centres, recreational facilities and job creation opportunities for the growing population. In addition the communities need to pursue alternative dispute resolutions as means of fostering peaceful coexistence. Lastly there is need to leverage on the strong cultural backgrounds of the communities to foster tourism in the county.



6. LAND AND HUMAN SETTLEMENTS

6.1 Introduction

The land resources inventory brings together two layers of information on physical environmental resources (climate and soil) and allows the creation of unique ecological land units (agro-ecological cells) within which soil, landform and climatic conditions are quantified.

6.2 Land

Inadequate land use planning, rapid growth of population as well as inadequate provision of both physical and social infrastructure have inhibited development of land in Samburu County as an ASAL area. Hence, there is an urgent need for proper planning which will in essence provide for well-coordinated development of this delicate region in terms of resource mapping and tapping, equitable distribution of county resources for balanced regional development in all sectors of the economy including housing, commercial, industrial and infrastructural development to accommodate changes in lifestyle and economic activities in the long term.

6.3 Land Tenure Systems

Land tenure is an important part of social, political and economic structures. It is multi-dimensional, bringing into play social, technical, economic, institutional, legal and political aspects that are often ignored but must be taken into account.

6.3.1 Public Land

Public land includes alienated government land, and land in respect of which no individual or community ownership can be established by any legal process. It also includes all minerals and mineral oil deposits, Government forests, Government game reserve, water catchments, national parks, government animal sanctuaries and special protected areas, all roads, rivers lakes and other water bodies. The constitution clearly specifies that public land shall vest in and be held by the County Government in trust for the people resident in the county and shall be administered on their behalf by the National Land Commission. The approximate total size of registered public land excluding road reserve and un-alienated urban land is 26, 788. 18 Ha. Gazetted forest areas include 15.5% (3,103.41km²). In addition, 1.8 km² of tip of Lake Turkana is public land. The approximate total of public land is 337, 309.18 Ha (3, 373.09km²) which represents 16.05% of the total land mass.

6.3.2 Private Land

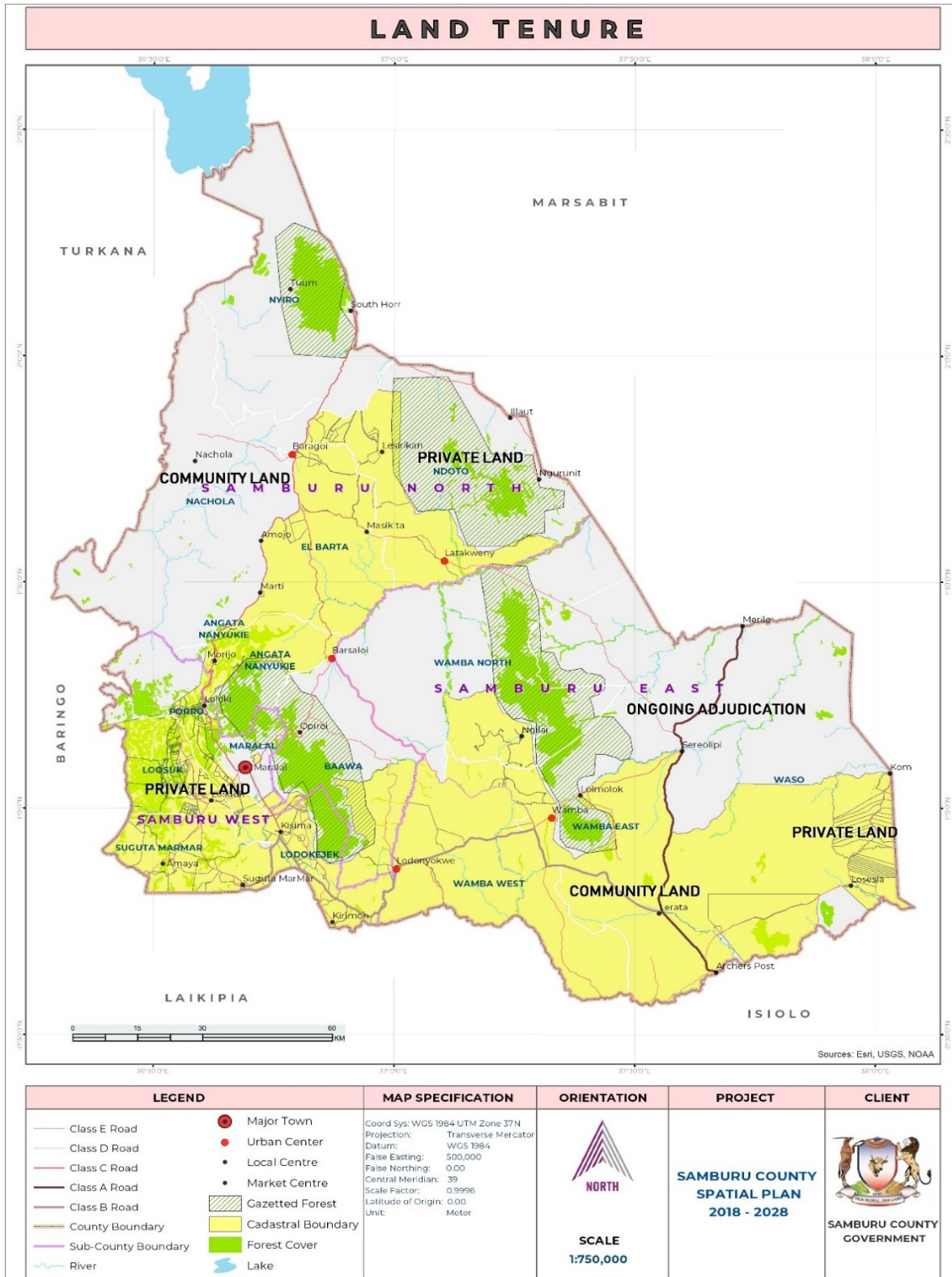
Private land is any land registered and held by a person under freehold or leasehold tenure. Most of the land owned as freehold is to be found in Samburu West Sub-county especially in the high potential agro-ecological zones of Poro 'A' & 'B', Losuuk, Suguta Marmar, Lpartuk, Loiting and Longewan sections. Those owned as leasehold, are mostly within the urban areas where public land has been allocated to private entities or individuals. The percentage of free hold ownership is likely to increase with three group ranches: Longewan, Tinga "A" and Upper Lpartuk have been dissolved and sub division is ongoing. Two more group ranches (Lossuk "A" and Lolmok) have applied for dissolution and sub division.

6.3.3 Community Land

The constitution defines community land as that land which is lawfully held, managed or used by a specific community. Such land will include community forest, grazing areas or shrines. In Samburu County, land has been demarcated and subdivided into group ranches and to a lesser degree to private ownership. With more land falling into group ranches and private ownership, the more flexible communal uses. The bulk of the land is not registered a situation

that affects its full potential exploitation. The primary land use practices are pastoralism and wildlife conservation. For the past few decades the management of communal lands has come under threat due to socio- economic and political changes that influence land use and land tenure policies in Kenya. Currently, the land tenure change process, land use planning and development control systems, do not take cognizance of the communal conceptual viewpoint of land as a commons where ownership and access is based on kinship network.

Map 6-1: Land Tenure in Samburu County



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It has been established that many pastoralists are exiting from traditional mobile nomadism and entering into sedentarisation while individualization of tenure has opened room for other sedentary communities to enter into hitherto communal lands and settle. Without proper land use planning, this new phenomenon is likely to result into instability, degradation, deprivation and dispossession of the pastoral communities. Over time however, the systematic land tenure changes have necessitated a change in land use systems which resulted to two human settlement pathways.

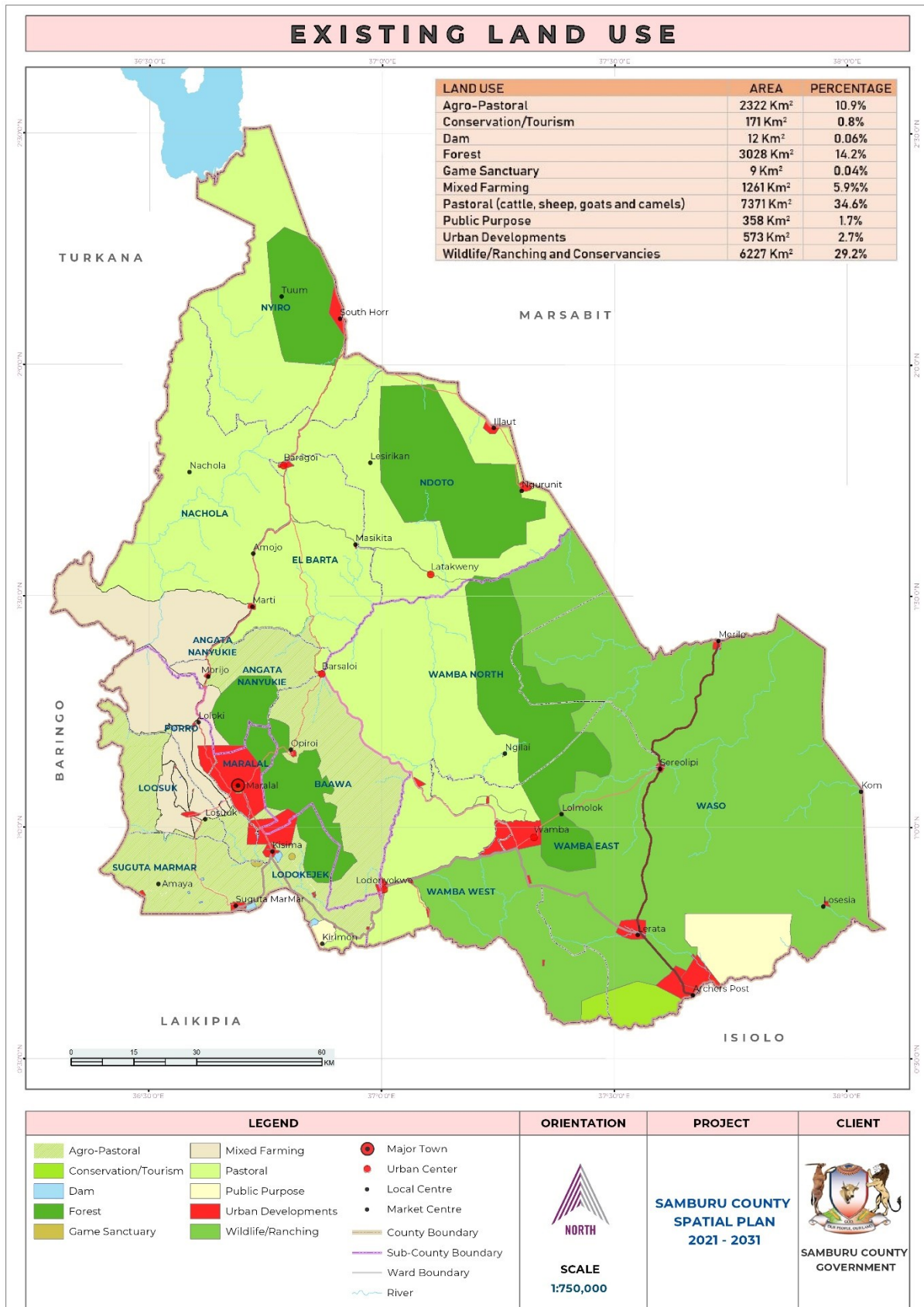
6.4 Land Potential/ Land Resource Characteristics

Land suitability is the fitness of a given type of land for a defined use. The land may be considered in its present condition or after improvements. Land use and land potential are closely related in income-producing, use and that use is usually dictated by the ecological qualities of an area. The carrying capacity varies from one ecological zone to another. This includes high, medium and low potential zones although they do not adhere to administrative boundaries. The land carrying capacity is used to determine the 'overspill' and 'underspill' situation in an area. The area determined by establishing the arable land in a zone, usually obtained by excluding lakes, riparian reserves, roads, forests, steep slopes and urban areas. The area's carrying capacity is then determined and subjected to the existing population residing in the area. The standard measuring unit for the carrying capacity is defined by one livestock unit of a cow. The carrying capacity is therefore defined as the number of livestock unit a unit of land (hectare) can hold/ support. In the high potential areas, 1 hectare can support 2.9 livestock unit, while the medium and low potential could support 0.5 and 0.2 livestock units respectively. However, with better crop and animal husbandry can be increased.

6.5 Land Use

Land in Samburu county is being used to meet a multiplicity and variety of human needs and to serve numerous, diverse purposes. Samburu County is largely a rangelands in nature. Their specialization across the County's territorial space is influenced by a variety of factors including, the geophysical structure, drainage pattern, and climatic conditions. The most predominant land use in Samburu County is rangelands used for livestock grazing, tourism activities and conservation. The other land use zones include urbanized and public purpose areas. Other broad land uses within Samburu County include forest, transportation agricultural. There are however no homogeneous land use zones but rather overlapping ones, depending on the suitability of conditions for each activity.

Map 6-2: Samburu County Land Use



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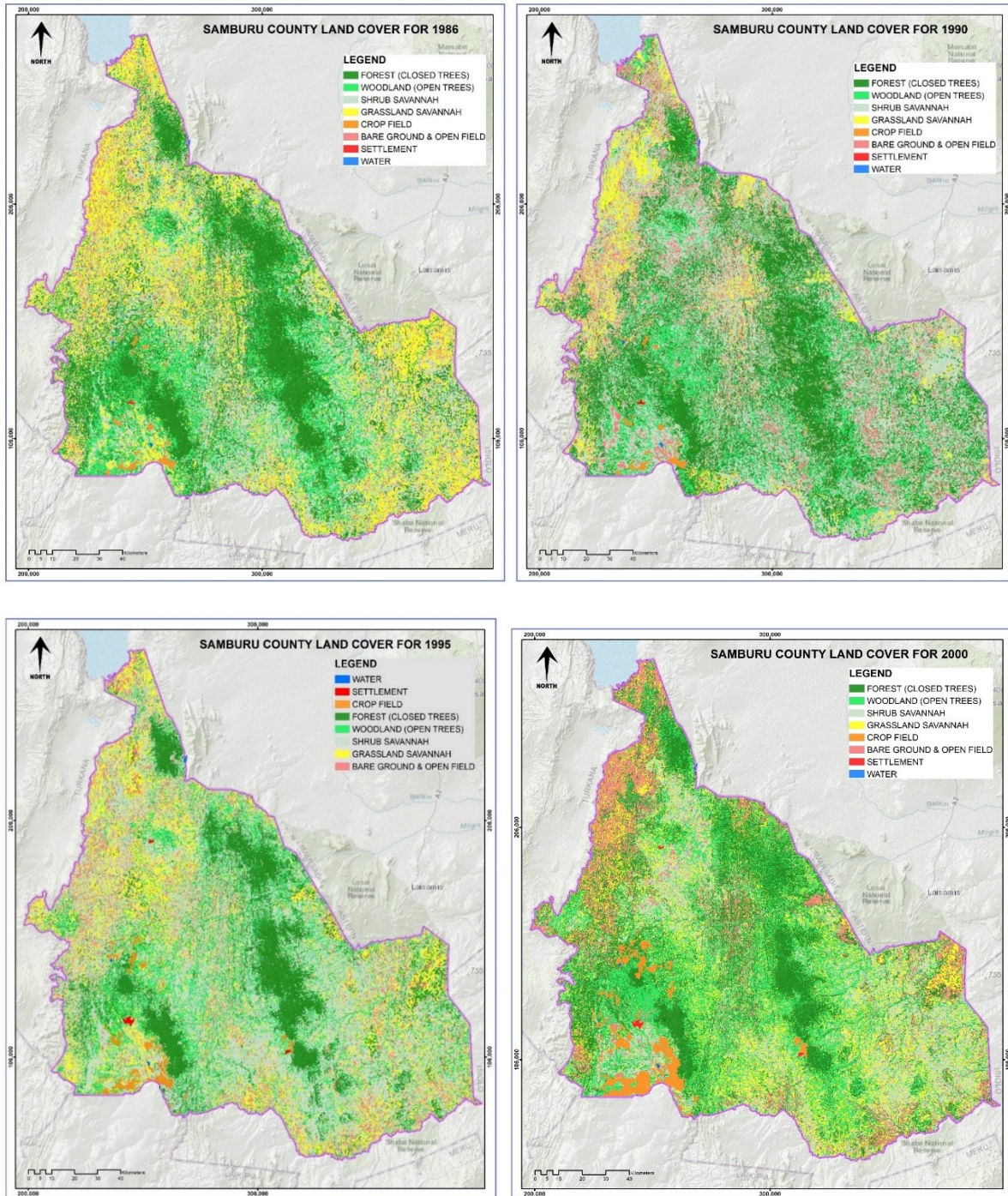
6.6 Land Cover

Land cover is the observed (bio) physical cover on the earth's surface. Land cover indicates the physical land type such as forest or open water whereas land use documents how people are using the land. Land covers include grass, asphalt, trees, bare ground, water, etc. Samburu County is largely a rangeland with grassland, bare ground and shrubs forming



the bulk of the land cover. Land cover analysis for five epochs has been carried to determine land cover change. From the analysis the forest cover in the county has been reducing as indicated in table below. Also the area under human settlements has increased tremendously from 1985 to date. This has also seen urban areas in the county increase. Grasslands and bare land have negatively changed minimally. There is need to put in place concerted effort to manage the forest and conserve rangelands in the county.

Map 6-3: Samburu County Land Cover Change Analysis



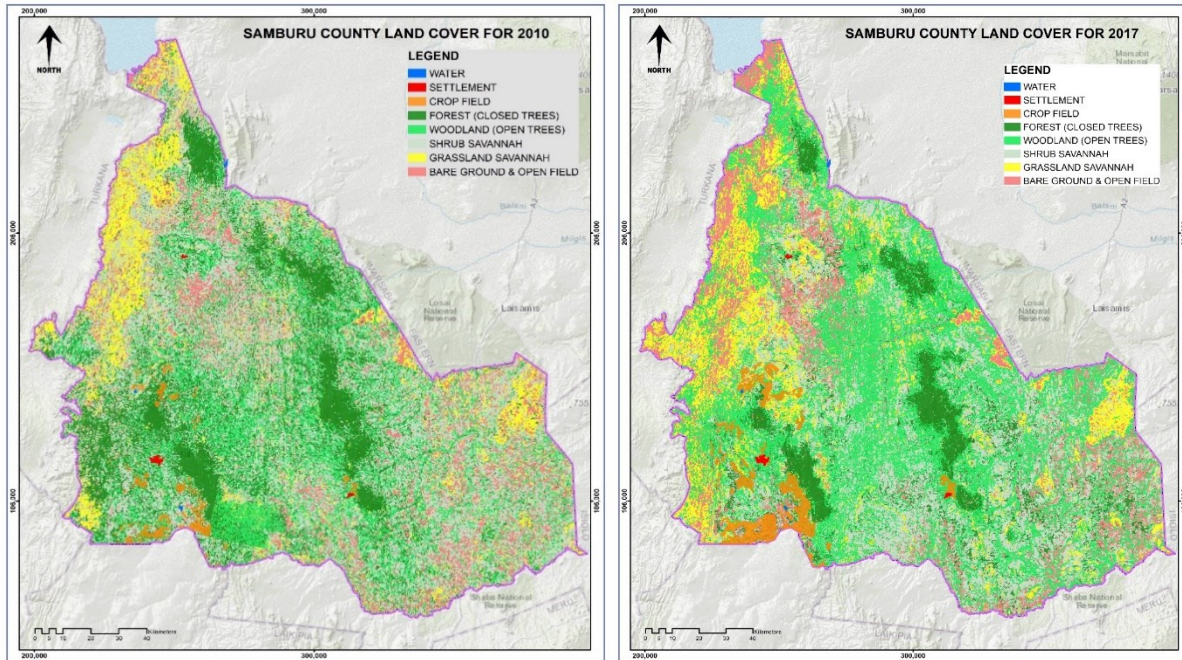


Table 6-1: Samburu County Land Cover Change Analysis

COVER TYPE	1986	1990	1995	2000	2010	2017
Forest (Closed Trees)	5638.2	5033.3	4035.4	4085.98	3008.0	2096.46
Woodland (Open Trees)	3516.94	3573.8	4050.86	5347.57	4379.05	6379.26
Shrub Savannah	5788.52	6180.97	5040.97	3518.79	6313.30	5022.34
Grassland Savannah	4809.41	4079.18	5602.2	5081.64	4091.9	3950.6
Crop Field	91.78	106.78	231.78	495.19	609.23	756.19
Bare ground and Open Field	1225.09	2036.33	2056.33	2500.92	2623.31	2813.71
Settlement	4.06	4.63	8.26	12.97	13.0	15.97
Water	4.910	4.51	4.91	4.210	4.010	3.81

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6.6.1 Land Use Trends Analysis

a) Subdivision of land

Currently there is ongoing adjudication and land sub division in Samburu County. Areas that were not initially adjudicated are currently undergoing adjudication. In addition group ranches have sought permission to dissolve and ultimately subdivide their land. This is happening at the high agricultural potential areas. This will lead to declining land productivity due to excessive subdivision and land degradation due to pressure from growing population.

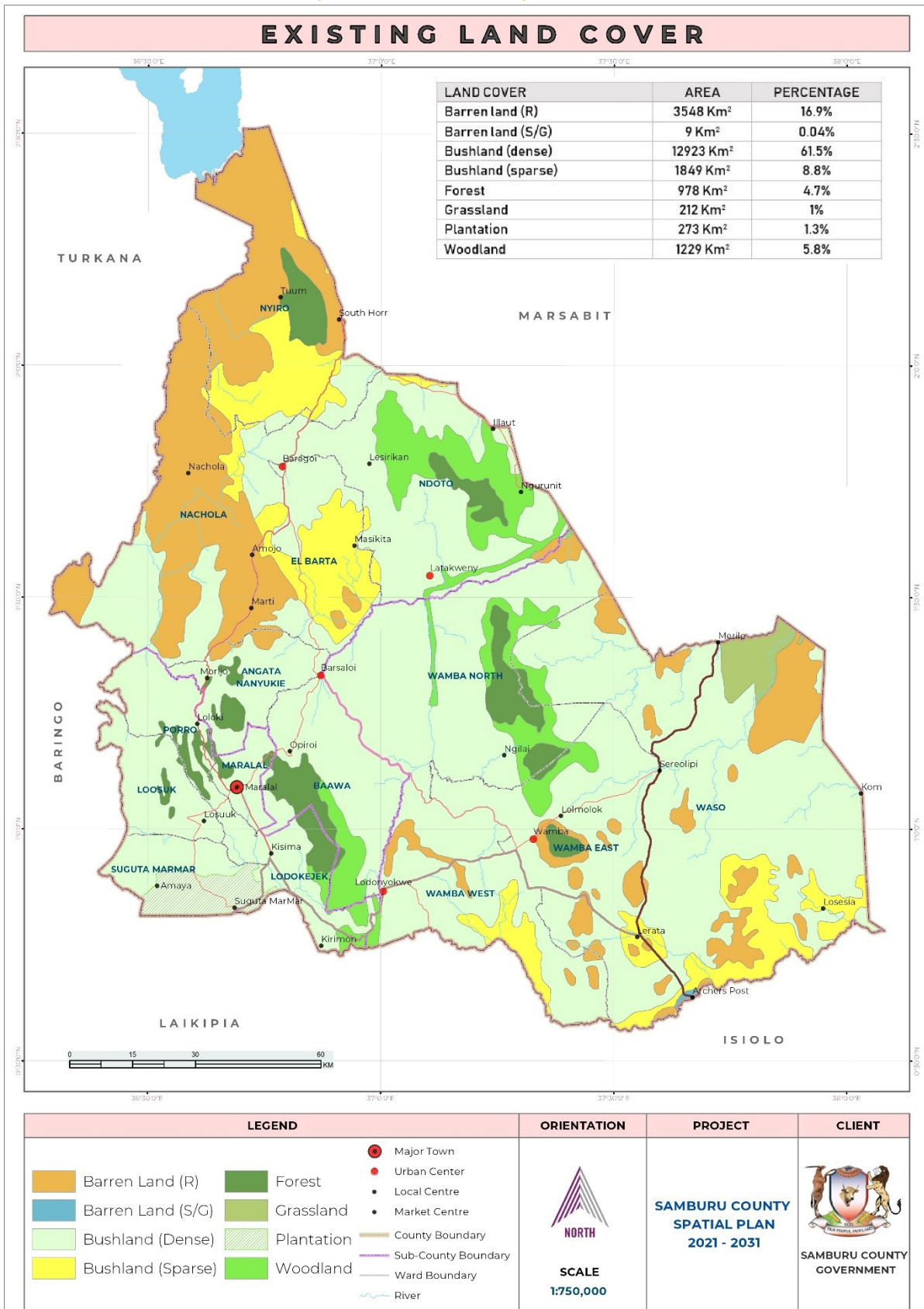
b) Forest Land-use Changes

Encroachment of forest in the county is prevalent. This is evidenced by the human settlement a Tuum, Waso Rongai in Nyiro Forest. In addition, the central section of Leroghi forest especially to the east of Mararal town was the most degraded probably because of its close proximity to Mararal town.

c) Urbanization Trend

Urbanization and rural-urban migration has brought human settlement challenges in towns. This has necessitated planning of towns and market centre. Informal settlements have sprouted up in Maralal, Archers urban areas due to high population, poor physical planning.

Map 6-4: Samburu County Land Cover

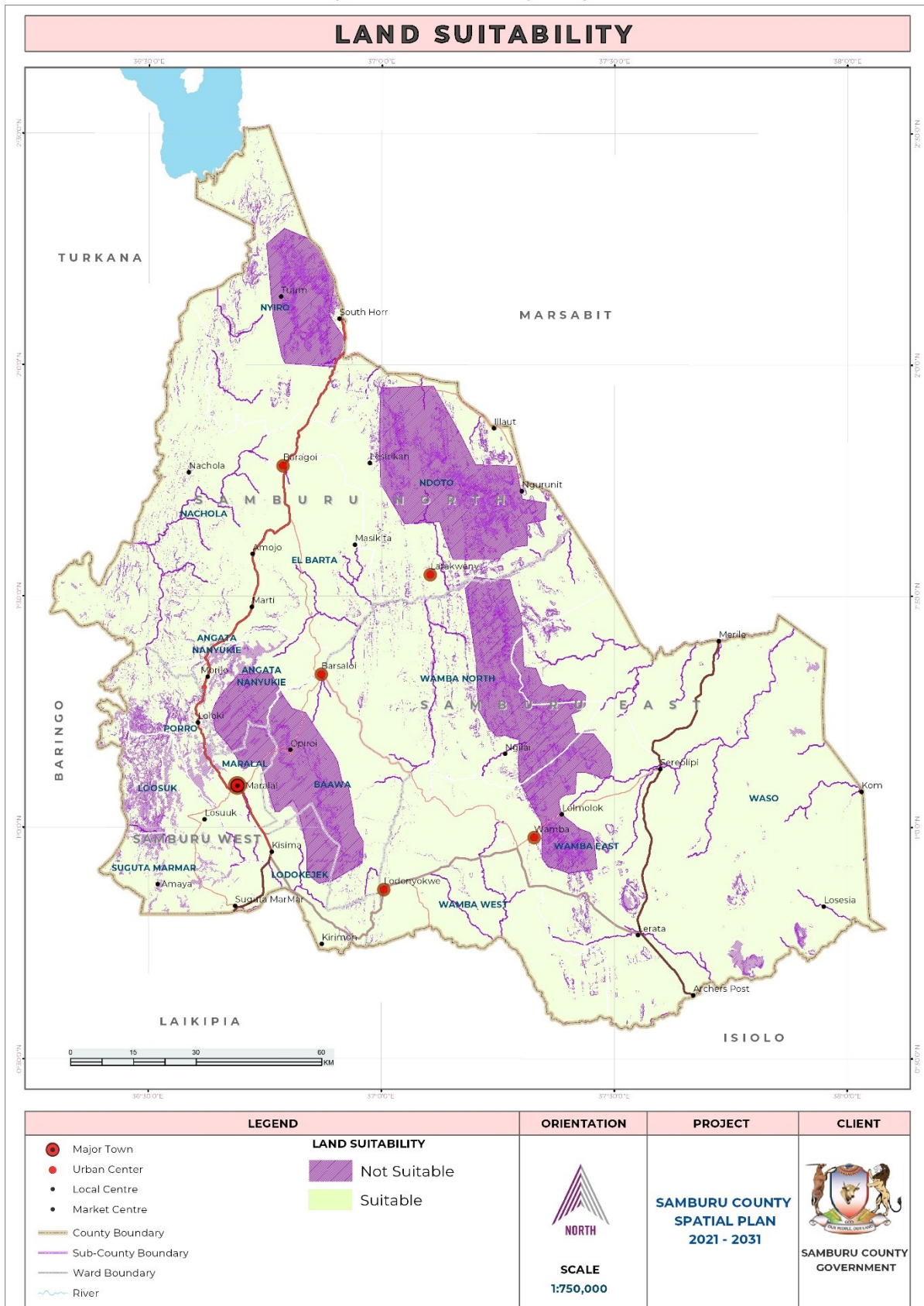


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6.7 Land-Use Suitability Analysis

The land suitable for agriculture is that not currently occupied by urban settlements, transportation networks and environmentally fragile sites (steep slopes, riparian reserves and wetlands).

Map 6-5: Land Suitability Analysis



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6.8 Human Settlements

Human settlements are concentration of activities and people on space. Human settlements play an important role as being agents of economic growth by providing favorable locations for productive investment.



6.9 Settlement Structuring Elements

The settlement patterns include linear settlements, clustered settlements, urban settlement, dispersed settlements and semi-clustered settlements. The following are the structuring elements of the county:

i. Topography

This county security concerns has pushed people to settle in hilltops because they are located at a good vantage point to spot enemy attacks.

ii. Nomadic Nature of Community

Dispersed /scattered settlements. The communities are in constant movement and thus tend to spread themselves thinly over the landscape as they settle on any available land. This is further enhanced by the communal ownership of land.

iii. Improved Infrastructure

There is a positive correlation between improved urban infrastructure and rising agricultural producing. Small and secondary urban centers in the county should therefore be supported by investment in physical and social infrastructure on the basis of their own growth potential, which has not been the case in the past.

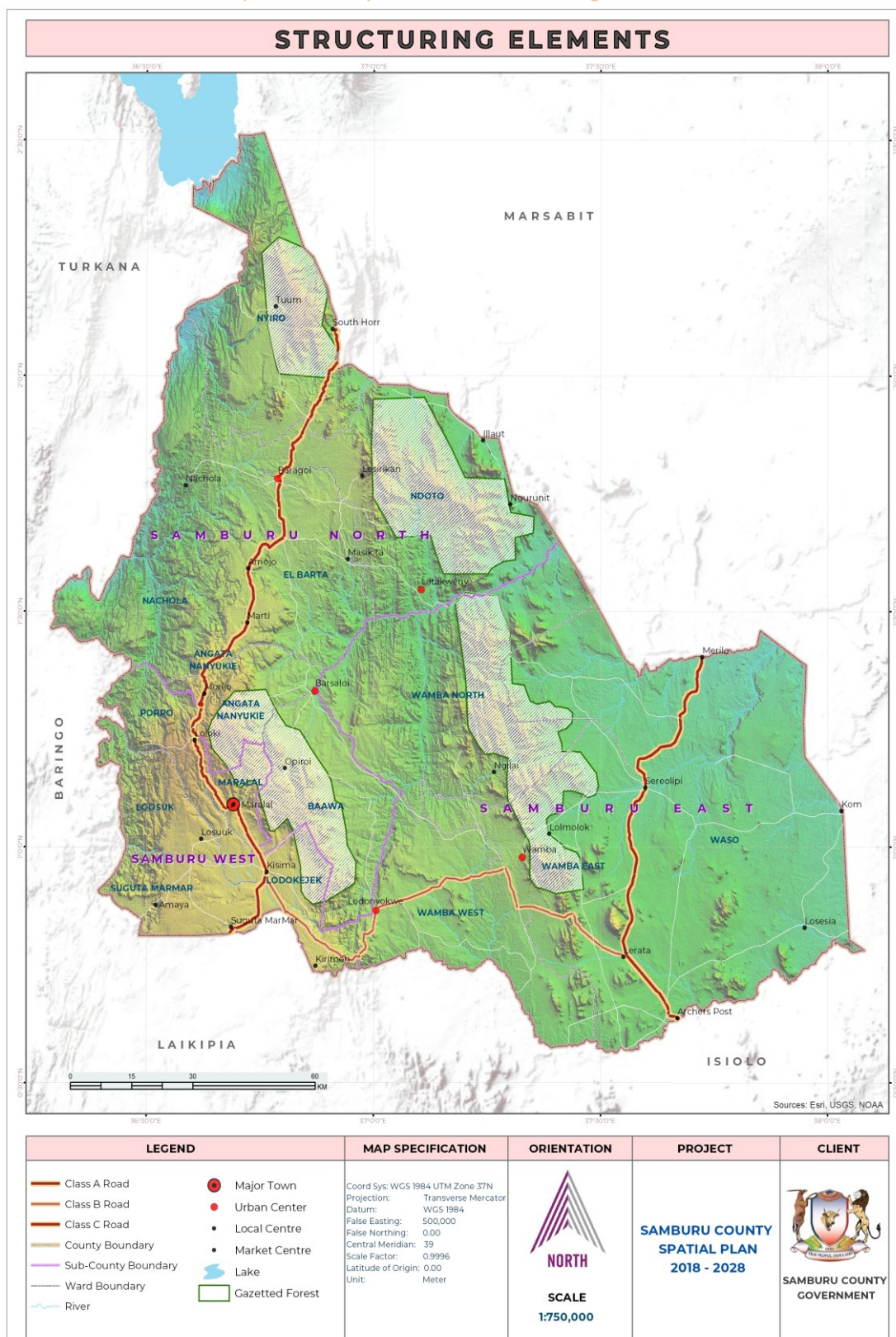
iv. Resource Based Settlements

During the dry season many people concentrate around the permanent water sources, otherwise most of the people who are pastoralists who move with their livestock in search of water and pasture. Forest resource-Some community members depend and concentrate their settlements around forests like Mt. Nyiro, Matthew Range, Kirisia Forest among others.

v. Transport Corridor

The main transport corridor A4 and C78 structures major urban settlements and forms linear patterns of development with centers like Suguta Mar-Mar, Kisima, Maralal, Baragoi and South Horr, Lerata, Lodongokwe dotted along the route.

Map 6-6: County Settlement Structuring Elements



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6.9.1 History of Human Settlements in Samburu County

The historical phases of human settlements in the county region includes pre-colonial (pre-1920), colonial (1920-1963) and independence period (1963 to-date). These three phases give a background for prospecting on the future of human settlements in Samburu county; and areas for policy and planning interventions. Traditional human settlements emerged at places where communities met to exchange commodities and at places where they converged



to access water supply for the livestock and domestic consumption. A settlement was composed of a collection of few built shelters for houses without clearly marked livestock fenced enclosures. From that time to the present, pastoral households were organised in clans (groups of a few households). This called for identifying sites that a particular group of households built their home. During seasons when pasture was plenty, several hundreds of households spread across expansive areas but settled at convenient sites where they had access to water. This, therefore, formed a "territory" that was composed of a system of loosely inter-related and interconnected nucleated settlements. Water points were important focal points for settlement organisation. Areas of pasture during bounty and security were clearly defined between different clans. Clans residing in nucleated settlements spread within 10 – 20 km apart had rural tracks and migration routes used as forms of connectivity. For the far away nucleated settlements, and grazing grounds, connectivity and movements depended on indigenous knowledge. The pre-colonial human settlements were therefore predominantly impermanent and influenced mainly by the availability of water and pasture for livestock. During seasons when pasture was plenty, the territorial covering of a clan expanded within known and marked boundaries. When pasture was scarce the territorial areas of the clan shifted to the areas with longevity of pasture. This was also well defined when the pasture was scarce.

Colonial period, 1920-1963

The British colonial administration's interests in Kenya at the time revolved around acquiring land and establishing a colonial economy, built around fertile agricultural land in. The colonial government, therefore, lacked economic and political interest to interfere and disrupt pre-colonial human settlement system in Northern Kenya, which was at the time called Northern Frontier District (NFD). The administration did not, therefore, forcefully or otherwise acquire large tracks of land for colonial settlers and communities in NFD were not subjected to large scale population dislocation to give "room" for new order in agricultural production, commercial and trade development. The government also did not invest in natural resource development and environmental management; and neither was colonial administration manifestly disruptive of existing human settlements although they were used for sport hunting and recreation activities. The on-set of colonial administration therefore, introduced in its wake no major disruption of indigenous social economic order in the NFD, in natural resource practices, existing socio-cultural institutions and spatial organisation of settlements. The few sites that were established as centres for government administration in NFD were located far and wide across the region. Maralal is one of the more established towns.

No major investments in social and infrastructure sector, agriculture or commercial and trade sectors were made in NFD and in fact, the area was a controlled region without any form of economic, social and political interaction with the rest of Kenya. Communities in the region, therefore, carried on with their pre-colonial lifestyles undisturbed.

Independence period and thereafter

At independence in 1963, the NFD was divided into three areas which administratively were incorporated into three different provinces - North Eastern, Eastern, and Rift Valley provinces. Development policies and national development plans addressed development issues in Kenya from a macro-economic perspective. With regard to human settlements and urban development, the emphasis in policy and planning was the establishment of growth centres and service centres in all areas of the country.

6.9.2 Classification of urban Settlements

The Ministry of Lands, Physical Planning Department in 1978 selected the following centers in the region to undertake various functions as described above, though no update has been done. Human settlements are defined as man-made systems within which people live, from the most primitive to the most developed ones.

1) Designated Local Centre

A local Centre represents the lowest level of service and as the name implies, is designed to serve the local needs of people within walking distance of the center. A local center should contain a full primary school, several shops, a dispensary, an open market and eventually a public water supply. In general it is designed to serve a catchments area of approximately 5,000 people. The centers themselves will have scarcely any residential population and will be served by a minor road as a minimum. Local centres in Samburu county Opiroi, Losuk, Barsaloi, Kisima, Kirimon, Marti, Illaut, Nguronit, Tum, LodongoKwe and Serolipi.

2) Designated Market Centre

A market center has been designed to serve approximately 15,000 rural people in the surrounding hinterland, which will enable it to support both primary and secondary school and also a health center with family planning services. Market centers are/or will be served by a minor road as a minimum and will have a residential population of less than 2,000. These include Suguta Marmar and South Horr.

3) Designated Rural Centers:

They serve an area populated by approximately 40,000 people and may be expected to have a residential population of 2,000 – 10,000 inhabitants when fully developed. The rural center will be particularly important in improving the standards of amenity in rural areas, and being within convenient access of some 40,000 – 50,000 people should be used for important local barazas; should have a secondary school and a health center with maternity facilities; development of better commercial facilities and bigger markets and development of secondary roads as a minimum. This include Baragoi, Wamba

6.9.3 Hierarchy of urban Settlements

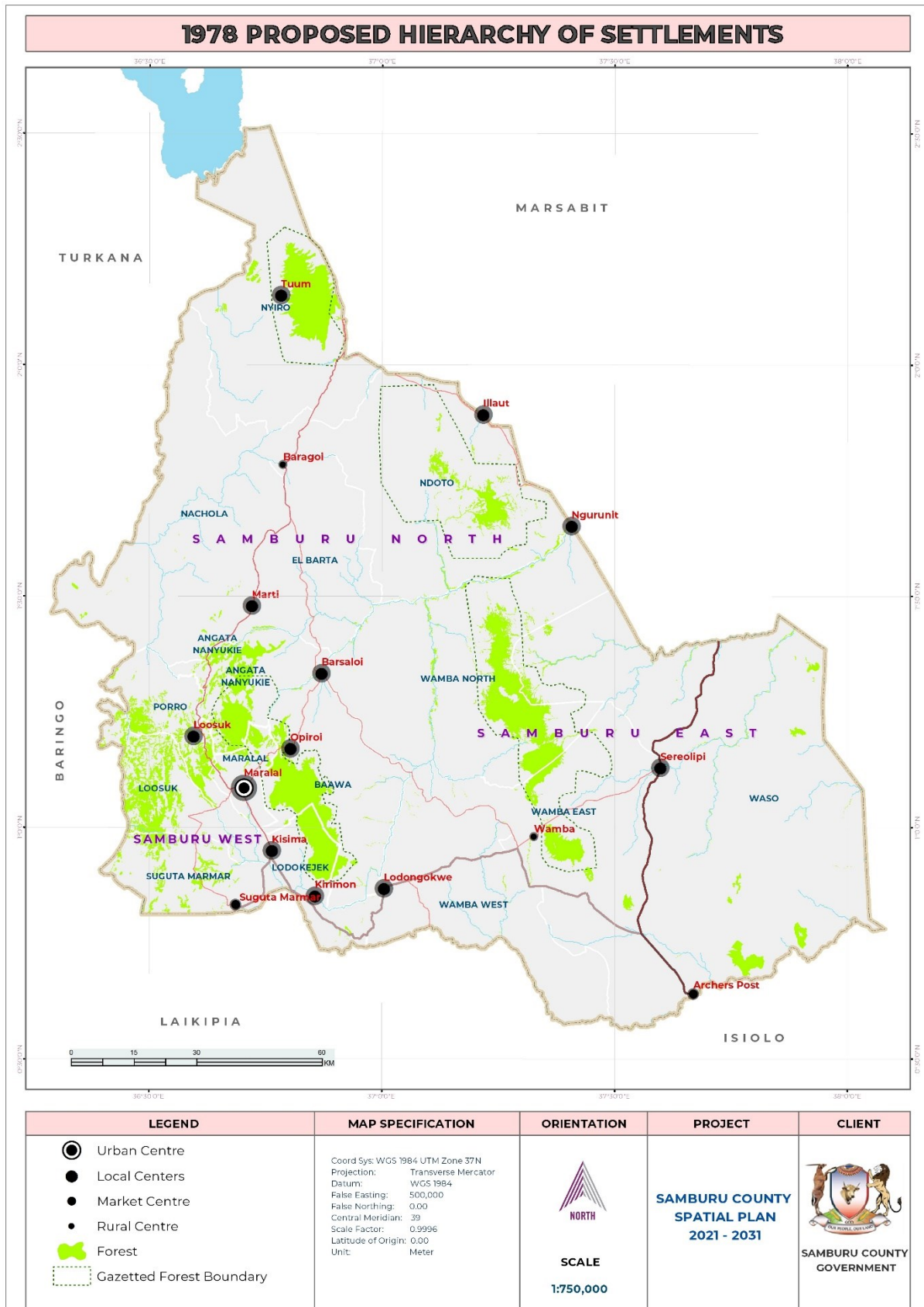
The main urban centre as well as a trading centre in the county is Maralal town which is the county headquarters. Samburu County has one major town, Maralal, and five other upcoming towns namely; Archer’s Post, Wamba, Baragoi, Suguta Marmar and Kisima. However, the trend is that more and more people are leaving the rural areas to settle in urban areas in search of employment, security or to engage in trade. Below shows the hierarchy of designated urban centres in Samburu County.

Table 6-2: Categories of Centers in Samburu County (1978)

Principle Towns	Urban Centers	Rural Centers	Market Centres	Local Centers
-	Maralal	Baragoi Wamba	Suguta Marmar Archers Post	Opiroi, Losuk Barsaloi, Kisima Kirimon, Marti, Illaut, Nguronit, Tum, Lodongo Kwe Serolipi

© Kenya Human Settlement Strategy, 1978

Map 6-7: Hierarchy of Human Settlements as per 1978 settlement strategy



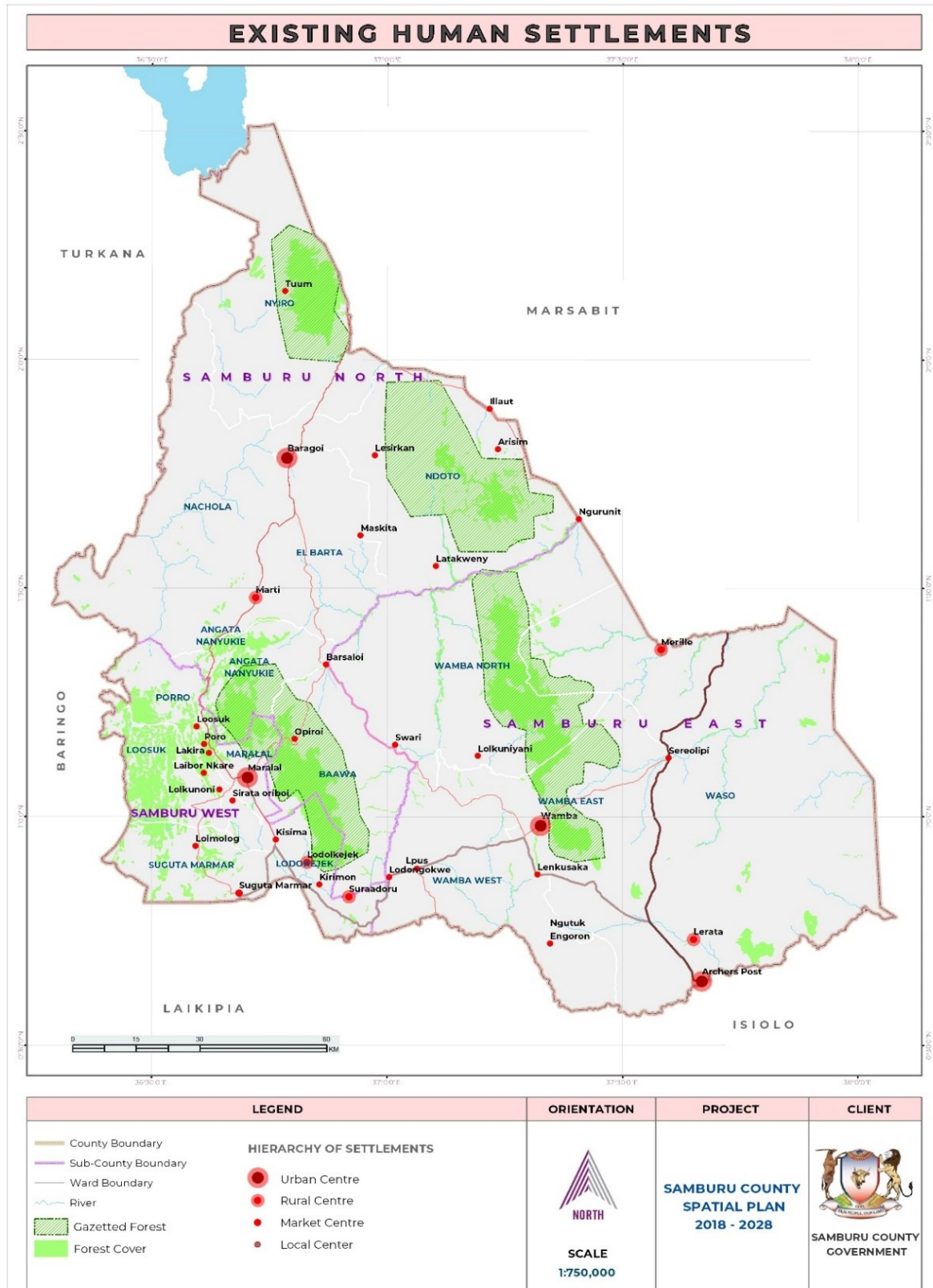
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6.9.4 Existing Hierarchy and Spatial Distribution of Settlements

From the proposed human settlement strategy for Samburu County in 1978, some centres have regressed in term of growth whereas others have grown beyond their level of designation. Archer post has immensely grown to become one of the leading urban centres.

This is due to the opening up of the A2 road. Wamba and Baragoi centres have stagnated in growth. Stunted Growth of Baragoi town is partly due to the insecurity in the surrounding areas. This two centres are sub county headquarters. In addition Maralal town is now a designated municipality and the county headquarters. Its growth is greatly attributed to devolution. With the tarmacking of the A4 road to Maralal, Sugtua Marmar and Kisima centre are likely to see exponential growth in the future.

Map 6-8: Existing Hierarchy and Spatial Distribution of Human Settlements



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6.10 Rural Settlements in Samburu County

Samburu County is largely rural. Most of the settlements are temporary manyattas. The rural settlements that host majority of the population of the county manifests itself as a cluster, strip or dispersed pattern.

Plate 6-1: Some of the Rural Settlements in Samburu County



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6.11 Land Use/ Town Planning in Samburu County

Compared with other counties in the country, Urbanization is still very low in Samburu County and this is partly attributed to the poor transportation condition and network in the county. The main road of access into the County connecting Samburu county and major urban centres in the region like A4 which is not tarmacked making travel to the county a night mare for road users. According to the reviewed documents, and information with the consultant, there has been past attempts in land use planning in the county which include the preparation of the County Integrated Development Plan (CIDP). The completion of the County Spatial Plan will provide the necessary framework for the development of the county through consideration and incorporation of all previously prepared plans. Of the 223, 947 individuals as at 2009, only 38, 373 were residing in the 6 major urban areas that the county has. Equally, along transport corridors and along flowing surface water there is exhibition of strip settlements especially along A4, A2 and C78 corridors. The county has over 70 urban areas with majority (30) having been adjudicated and having titles reserved under the defunct Samburu County Council. The total area of registered urban areas in the County is 7365.71 Ha. Physical development plans guide urban development and are one of the key instruments of urban management. Where there are no physical development plans, towns grow, haphazardly without control and finally become economically, socially and environmentally unproductive.

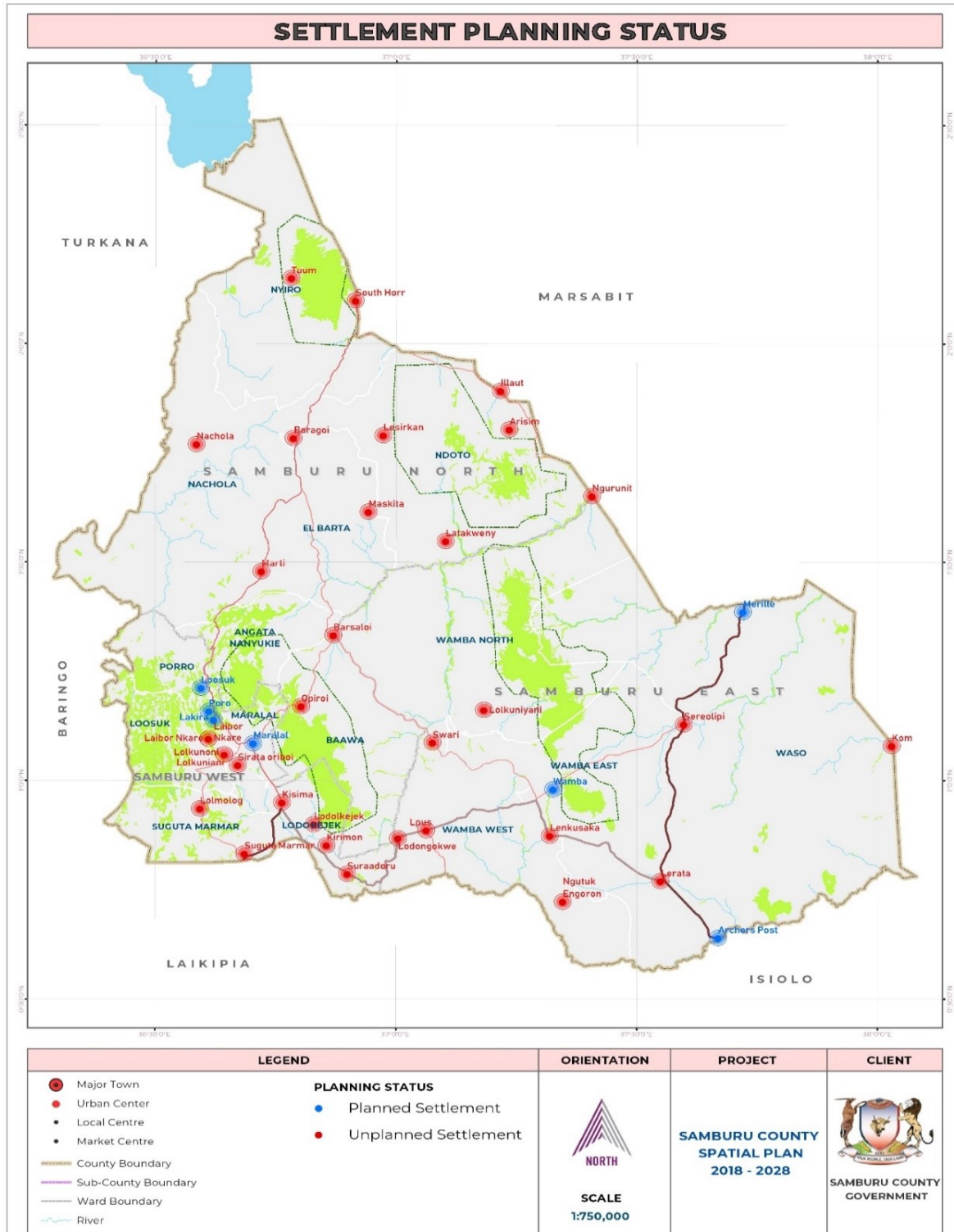
Table 6-3: Towns with Local Physical Development Plans

Local Physical Development Plans	Sub county	Status	Status
Maralal	West	Completed	
Suguta Marmar	West	Ongoing	
Kisima		Ongoing	
Lerata	East	Completed	
Archers Post	East	Completed	
Wamba	East	completed	
Lesirikan	North	Completed	
Loosuk	West	Completed	
Baragoi	North	Ongoing	

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There is therefore need to revise the development plans and plan all centres that have not been planned. This will give the Samburu County Government an instrument to control development and provide infrastructure and services. Though this designation of centers was done no serious emphasis was laid down on directing development and developing linkages between the centres themselves and the centers with the rural area. Programmes in the rural areas were initiated in disregard to the designated canters. The reason of decline of the centers in the hinterland is due to poor condition of roads connecting the centers with higher order centers. These roads have been in a terrible state for long and have made the centers along them inaccessible.

Map 6-9: Planned and Ongoing Town Planning in Samburu County



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6.11.1 Development Control

Development control is the power of the state or county to regulate property rights in Urban and Rural land and this power is derived from the state constitutional responsibility to ensure that the use of land promotes the public interest. With devolution, it is the responsibility of the County Government to set up the necessary institutional structures to facilitate development control. As a Planning authority, Samburu County Government should work very closely with the Central Government to establish standards, process and procedures that are efficient, transparent and accountable taking into consideration the National policies.

6.12 Urbanization Trends and Future Projections

The future of urban growth in Samburu County will be structured by an interplay between the growth, service and transport functions. The County transport corridors are central in structuring settlements and provide important connections between economic nodes or hubs centred on urban landscapes in which large amount of economic resources and actors are concentrated, thus, providing a linkage to supply demand sides of the market.

6.13 Rural Land Use Planning

Of the 223, 947 individuals as at 2009, only 38, 373 were residing in the 6 major urban areas that the county has. This shows that most residents are rural dwellers. With projections of 599378 by 2030, the estimated urban population for the same is 284782. There is need for the County Government to work closely in the preparation of rural land use plans to ensure that rural settlement Planning integrate implementation of cluster settlements. By concentrating residential buildings for the beneficiaries of the respective settlement scheme, the entire agricultural plot can be exploited for agricultural production as opposed to the existing situation where farmers build their houses within the plot. The making of the County Spatial Plan advocates for such practices to be adopted in the establishment of rural settlement schemes in Samburu County. This will enhance control over land use in a bid to conserve grazing lands of Samburu County and ease provision of services by the county government.

6.13.1 Urban-Rural Linkages

Urbanisation has significant impacts on rural areas, and demand for food is perhaps the most important, together for demand for other natural resources. There exists a severe weakness in intra and inter-urban rural linkages. The condition of roads between urban centers and their surrounding rural areas is very bad in the region. This has led to higher transportation costs, affecting human settlements in the hinterland areas.

Table 6-4: Poor Rural-urban Roads



© Field survey 2018



The demand by the population for non-food goods, input and services by the agricultural sector and demand for food and goods by the urban dwellers can only be met if there is a coordinated urban –rural linkage.

6.14 Adjudication Sections and Settlement Schemes

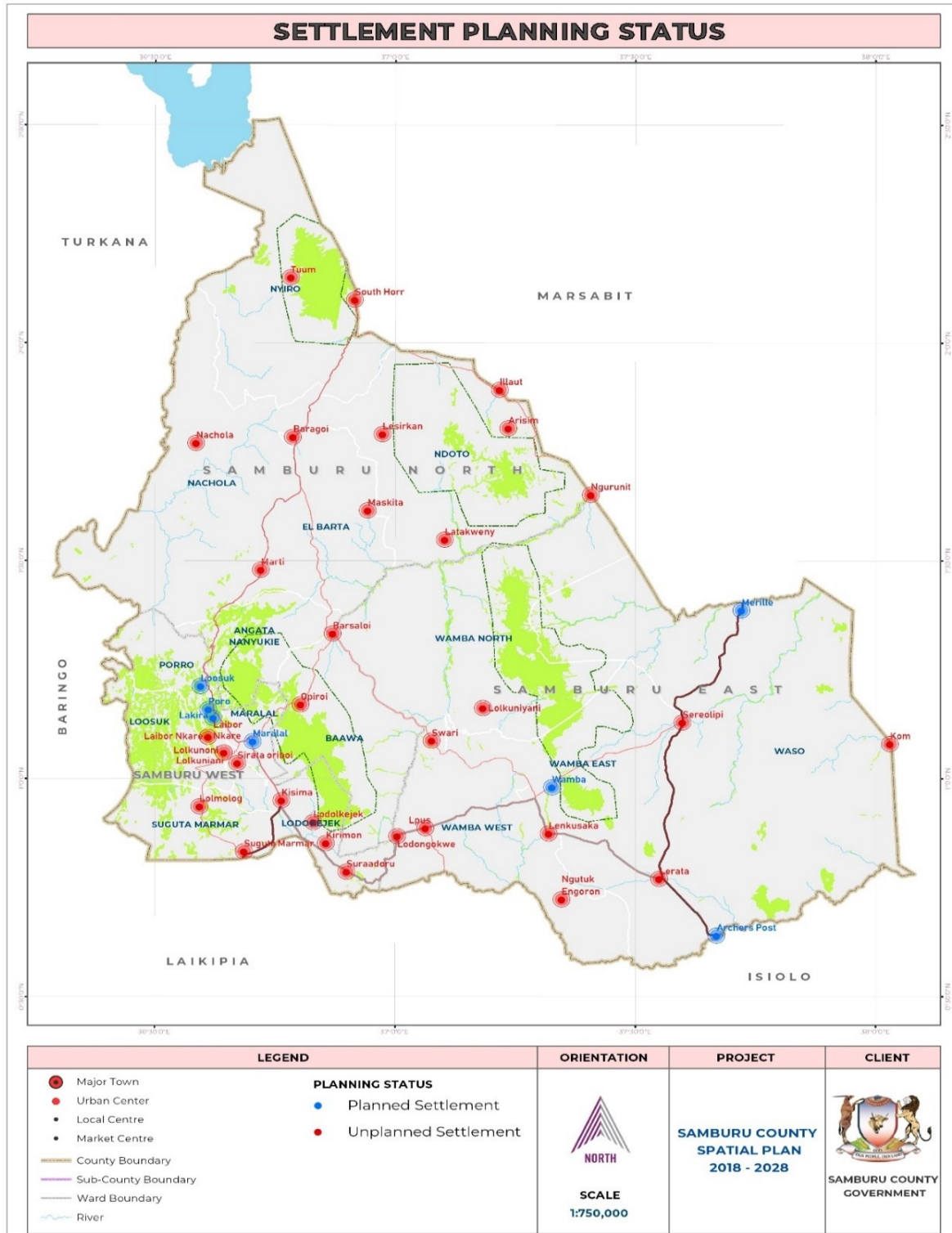
Samburu county has 13 registration sections that are complete measuring approximately 941, 135.471 Ha (9, 411.35 Km²). If combined with gazetted forest 15.5% (3,103.41km²) then the total registered land is 12,514.76 Km² which is approximately 59.53% of the total land mass of the county. Earlier, it had been established that registered community land occupies 49.52% (8, 293.72 Km²) of registrable land (16,746.8 Km²). As such, the remaining area of the county to be registered would be approximately 8,453.08 Km². The areas with no titles are unregistered community lands and land within urban areas that have been allocated to private entities. However, there is an effort to deliver lease documents to plot owners within urban areas. Survey of maor town in Samburu is ongoing.

Table 6-5: Land Adjudication Sections

Project Name	Sub County	status
Demarcation of group ranches	East	Completed
Ngilai Central		
Ngilai west		
Kukwar		
Ndonyo Wasin		
Beaconing and cadastral survey of urban centers	Countywide	Maralal ongoing with promises of 2500 titles. Wamba, Archers, Suguta and Kisima titling process to begin soon
Group ranches subdivision	West	
Longewan, Tinga		
Losuuk "A"		
Lolmolog, Malaso		
Processing and issuance of title deed/lease certificates in group ranches and towns	Countywide	
Group ranches ,Opiroi, Sesia, Nonkeek , Lpus, Ltrim, Lowoitng		
Towns Maralal		
Resettlement and regularization of ownership	Countywide	Continuous
Milimani settlement scheme	West	Ongoing (planning complete and fixed survey to start)
Shabaa		Complete
New adjudication sections		
Nyiro	North	Ongoing
Nachola/ Kalamodang		Complete
Nairimirimo		
Fixed cadastral survey		
Maralal	West	2500 lease certificate (500 availed)
Wamba	East	To start
Archers		

Adjudication of is yet to happen in Samburu North where bulk of the land is not registered.

Map 6-10: Samburu county Adjudication sections



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6.15 Institutional Framework for Land Management

There is need for capacity building within the Samburu County. Employment of more skilled and experienced staff such as physical planners, building inspectors, land registrars, land valuers, cartographer and a land surveyor will be of utmost importance. There is need to also set up an inspectorate department which will work closely with the planning department in enforcing development control issues within the towns and the entire county. There should be regular training of the above officers to manage GIS software in handling land data management and updating.

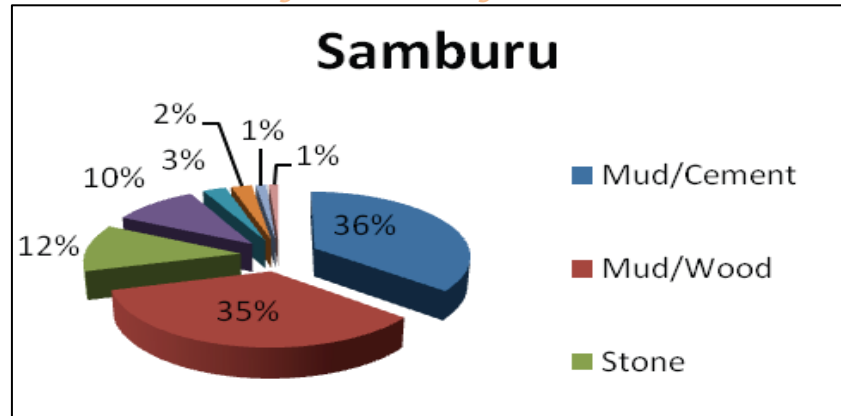
6.16 Housing

Nomadic pastoralism as a way of life is predominant in the planning region and hence is evident in the largely temporary nature of houses constructed. Housing typologies are also largely influenced by the indigenous culture of the people.

6.16.1 Housing Conditions of Samburu County

Most of permanent and semi-permanent houses are found in the urban areas of the county.

Figure 6-1: Housing Materials



© Field Survey, 2018

6.16.2 Housing Typologies

Housing typologies are largely influenced by the indigenous culture of the people. As noted in the introductory part of this section the duality of both rural and urban housing stands out in Samburu County. Many of the housing structures in the entire Samburu, particularly within the hinterland, are traditional semi-permanent and which account for about 92% of the housing especially outside the trading centres.

Plate 6-2: Housing Typologies in Rural Samburu County



© Field Survey, 2018

The survey revealed that within the urban centre in the middle and high income areas, permanent housing typology dominates at 72%. It was also established that in the slum and peri-urban areas 31% of structures were thatched while 15% were mud structured houses.

6.14.2 Housing Typology by Roofing and Walling Materials

The housing typologies by materials used are briefly discussed below; -

a) Roofing materials



The type of roofing materials used is mainly grass particularly within the peri-urban areas while corrugated iron roofs mainly feature in the formal urban areas

b) Housing by Type of wall materials

About 86% of the households in the area have their dwellings with walls made from mud and grass wood and iron sheets and thus can be considered as temporary. Only few households (14%) use stone and brick/block. More effort should focus on utilization of acceptable and more permanent building materials such as bricks which are readily available in the area.

6.14.3 Housing Tenure

Regarding house ownership, 89% of the respondents during the survey reported that they owned the houses they currently live in. The housing situation is dictated by the fact that the county is largely rural in orientation and owning a house is a common practice as people live in the rural areas and only go to work or trade in town. In a more urban setting, renting houses is prevalent. Those who rent houses are non-locals such as civil servants posted to the town and those on business.

6.15 Emerging Planning Issues

Challenges

The following are issues that pose challenges:

- Rapid increase in population in highland areas;
- Land is not demarcated in the region;
- Sparse population in middle and low area;
- Unplanned human settlements;
- Temporal nature of rural settlements;
- Poor infrastructure and high cost of infrastructure development;
- Poor connectivity and accessibility of the settlements;
- Concentration of settlements and population around borehole and watering points;
- Limited institutional capacity for planning and development management; and
- Migration pattern of population and their settlement.
- Degradation of the environment
- Manipulation of the planning and adjudication of human settlement process by the political class

Opportunities

Development opportunities in human settlements include:

- Nucleated culture of settlement will bring about effective and efficient planning and provision of services:
- Availability of vast land in middle and lower catchment:
- In the upper catchment, it is easier to introduce environmental conservation measures: due to individual ownership;
- Current government interest in the development of Northern Kenya and especially through Lamu port, Southern Sudan, Ethiopia transport corridor, etc.
- Devolution.



7. THE ECONOMIC BASE

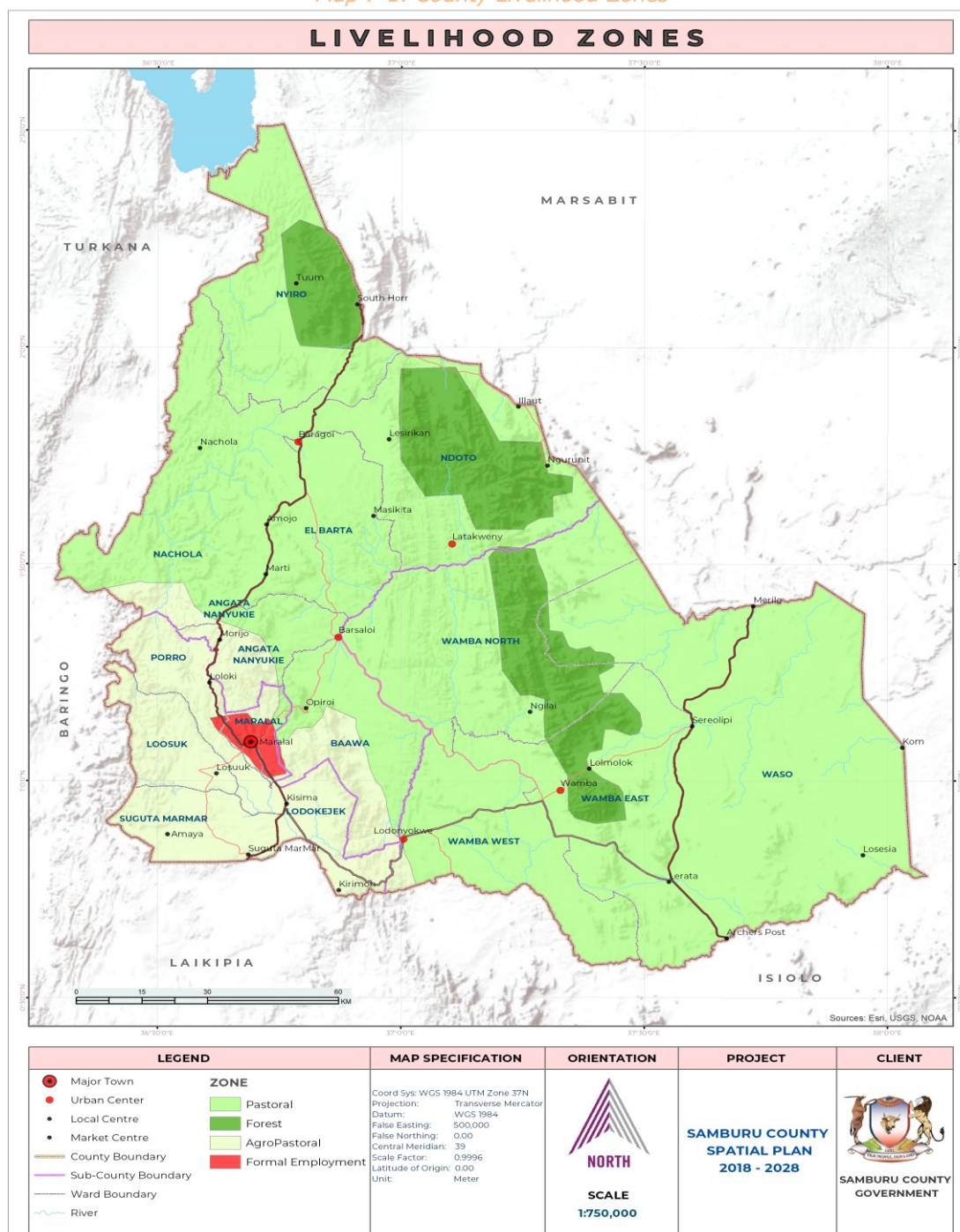
7.1 Introduction

Under Vision 2030, Kenya aims to increase annual GDP growth rates to an average of 10% over the vision horizon. Achieving the 10% growth will require a dedicated campaign to alleviate existing constraints to future growth, and in particular to use our resources more efficiently. To achieve that ambition a policy framework to guide and coordinate socioeconomic and environmental development is fundamental. The County Spatial Plan will enable all sectors of the economy to plan future investment in a better-informed way. This more articulate planning will ensure more balanced regional development, a high quality urban environment, as well as vibrant rural areas. Economic activities occur on space. Samburu county economy is largely livestock and livestock production oriented. The successful implementation of the CSP necessitates effective financial planning to determine the current sources of revenues, current expenditures and potential sources of funds to finance the proposed projects. This section seeks to assess the current state of the economy to propose areas of future development for continuous growth.

7.2 County Livelihood Zones

The main socio-economic livelihood of Samburu County is livestock grazing as driven by the vast rangeland. There are several livestock markets spread in all sub counties.

Map 7-1: County Livelihood Zones



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7.3 Pastoralism

Livestock define the pastoralists' life. In a pastoral system, there is a strong relationship between people, livestock and land. The social and cultural system of pastoralists revolves around livestock. The levels to which the livelihood is dependent on livestock vary with location, socioeconomic and environmental factors, forming the basis for classification of the pastoral systems. Samburu county 75% of its livestock. Soils are characteristically low in fertility, shallow and highly erodable, often coupled with areas of high salinity. Livestock is the main preoccupation of the local community with 98% of the households in the county engaged in livestock production as an economic activity. However, livestock production is heavily dependent on rainfall and varies greatly between areas and seasons. The inherent local

production systems adopt strategies aimed at mutual coexistence between humans and the livestock they depend on, often as their sole means of livelihood.

7.4 Livestock Production

The Livestock sub-sector is the backbone of ASAL community's economy and the means of livelihood for most of our pastoralist population Samburu County. Livestock production is one of the major economic and social activity undertaken by communities living within Samburu County. This sub sector plays an important economic and socio – cultural role among the community. Livestock production is the key to the economy of Samburu County and contributes over 73% of household income with cattle, camel, goats and sheep being the main livestock marketing commodities in the county. The value of livestock resources in the county is estimated to be 7.4 billion annually as shown in table below. The growth can be spurred by increased productivity, improve processing capacity and enhance efficiency in marketing system while ensuring sustainability of the environment and land resources.

Table 7-1. Annual Livestock Population and Value

Livestock Species	Population	Mean Unit Price	Value KSh
Cattle	173,243	30,000	5,197,290,000
Goats	742,818	4,500	3,342,681,000
Sheep	403,955	3,500	1,413,842,500
Camel	42,124	25,000	1,053,100,000
Donkeys	27,654	15,000	414,810,000
Indigenous chicken	52,736	250	13,184,000
Commercial chicken	5,330	300	1,599,000
Total	1,447,860		11,436,506,500

© County Department of Livestock Production (2016)

7.4.1 County Livestock Population Estimates Trends

Table 7-2: County Livestock Population Estimates Trends (2013-2016)

Livestock Type	Annual Estimates			
	2013	2014	2015	2016
Cattle	201,461	205,893	210,423	216,240
Sheep	636,143	648,866	661,843	676,008
Goat	624,703	644,693	665,323	686,948
Camels	35,114	35,711	36,318	37,067
Donkeys	18,330	18,728	19,135	19,550

© County Department of Livestock Production (2016)

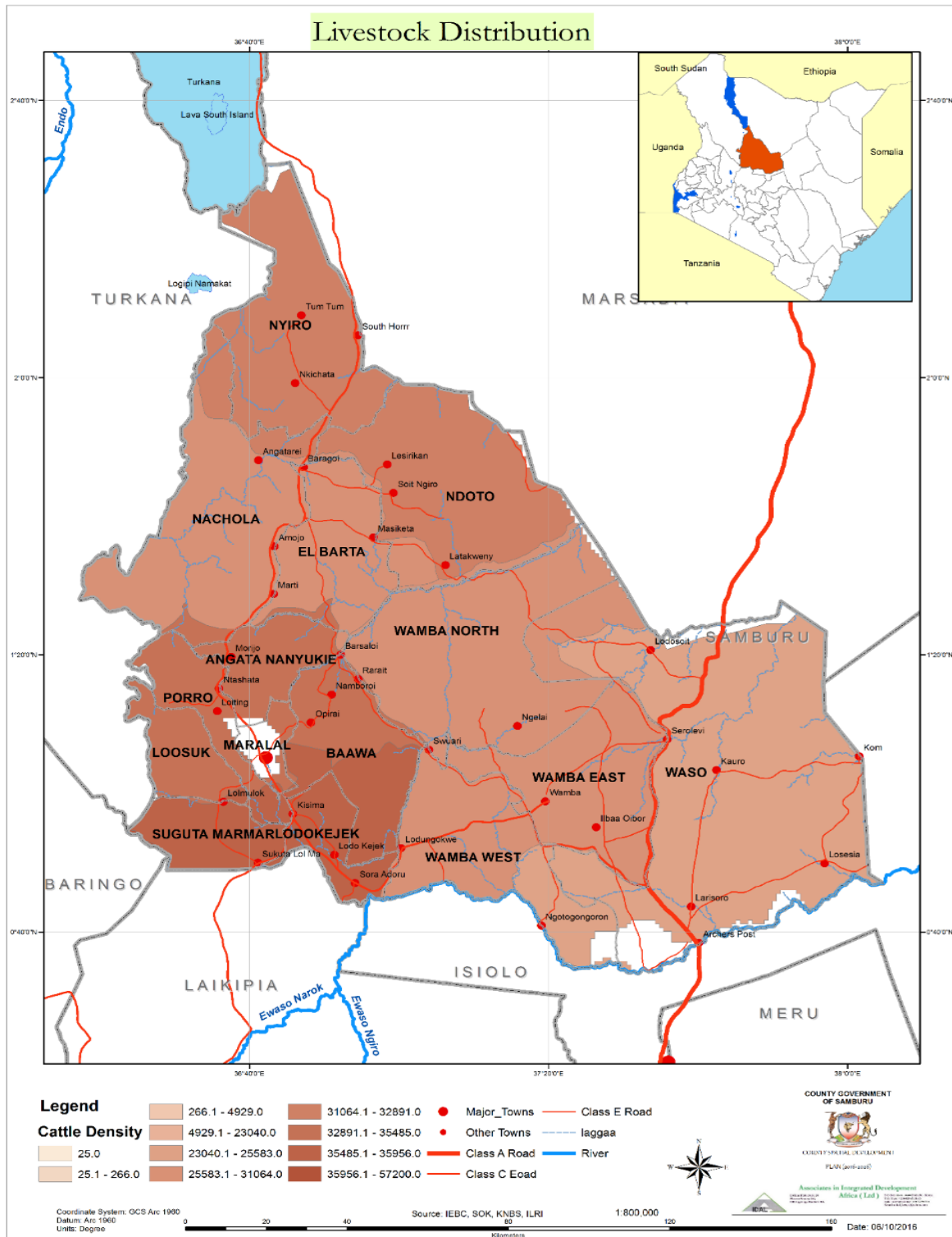
7.4.2 Milk production

Table 7-3: Sub County Milk Production

Sub-County	Cattle	Sheep	Goats	Camels	Donkey
Samburu Central	78123	225,415	148368	3544	1281
Samburu East	37350	169,422	131840	7212	7363
Samburu North	69193	192,861	270542	22068	8178
Total	184666	587,698	550750	32824	16822

© County Department of Livestock Production (2016)

Map 7-2: Samburu County Livestock Distribution



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7.4.3 Types of Livestock

Main livestock in the county are the indigenous cows, goats, sheep, camels, and donkeys. The main breeds of cattle kept are the Zebu and the Boran while those of goats include: the Small E.A, the crosses of Torggenburg, Gerryman-alphine and Gala exotic breeds. Sheep breeds include the Boppers and the Red Maasai while those of camels include the Somali, the Rendile and Turkana.

7.4.4 Livestock Farming Practices

In the lowlands where land ownership is still communal, pastoralists practice communal grazing where there is a lot of overgrazing as a result of overstocking leading to land

degradation. In the highlands areas of Poro there is some bit of controlled grazing through padlocking.

7.4.5 Livestock Infrastructures

There are existing livestock infrastructures and facilities in the county that support livestock production and marketing. However they are not adequate the available ones are outline below;

i. Cattle dips & Spraying Race

Table 7-4. Number of cattle dips in the county

Type	Number	Functional	Non Functional
Communal	22	0	22
Private Dips	6	1	5
Spray Race	2	2	0
Communal Crush Pens	29	12	17
Institutional Dips	3	2	1

i. Sale yards and Slaughter houses/Abattoirs

Table 7-5. Number of Sale Yards and abattoirs in the County

Sub-county	Location/ Site	Number
Samburu North	Baragoi	1
Samburu central	Suguta, Lekuru & Maralal	3
Samburu East	Lolkuniani, Sereolipi & Lpus	3

Source: County Department of Livestock Production (2016)

Table 7-6: Samburu County livestock infrastructure

Sale yards	6
Water pan	106
Weighing bridge	1
Dips	60
spray races	2
Bore holes 104	104
Dams	61
Shallow wells	68
springs	20

© County Department of Livestock Production (2016)

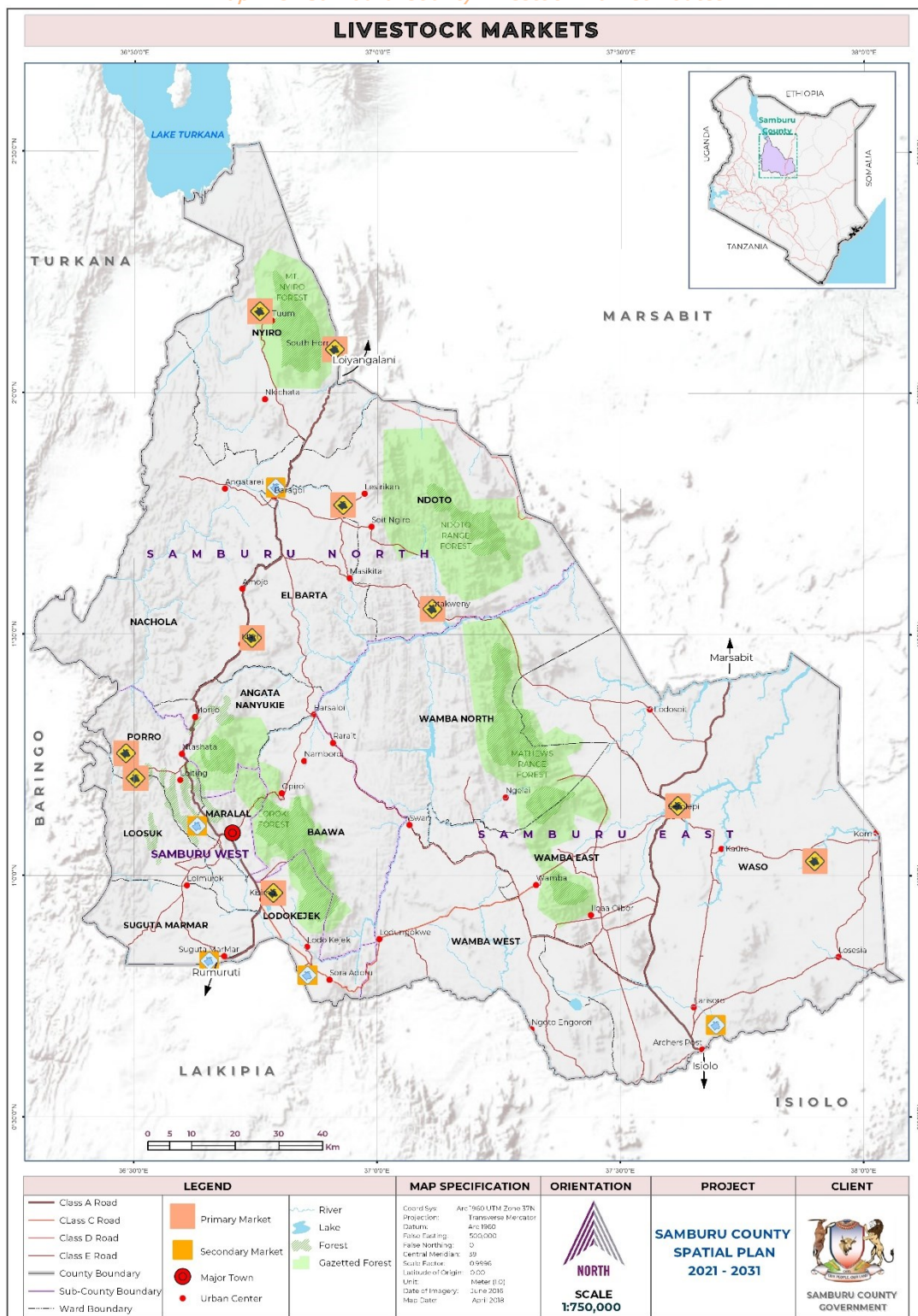
7.4.6 Livestock Markets

Livestock marketing outlets in the county falls under four main outlets namely the primary markets, secondary markets, regional and terminal markets. The livestock markets are managed by county government. The County government is in charge of the sales yard infrastructure, the management of the market days and cess collection.

i. Primary Markets

These are the local market centres in the interior or rural parts of the county. The main actors are the farmers and rural traders and local butchers who may specialize in either small or large animals. In these markets, livestock is bought or sold for the purposes of stock replacement, slaughter or collection for resale at secondary or regional markets.

Map 7-3: Samburu County Livestock Market Routes



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The following are the primary markets in the county;

Table 7-7: County Livestock Markets

Lpus	Kisima	South Horr	Sereolipi	Loibor Nkare	Lolkuniani
Targar	South Horr	Marti	Malasso	Porro	
Latakweny	Tuum	Ndonyio Nasipa	Ndonyio Uasin	Masikita	



i. Secondary Markets

These are the markets in which the main sellers are the farmers and small traders and the main buyers are big traders and butchers. Livestock is bought or sold at these points for slaughter or resale at terminal or national markets. The following are the main secondary markets in the county; Baragoi, Lekuru, Maralal, Lolkuniani, Suguta marmar and Achers post.

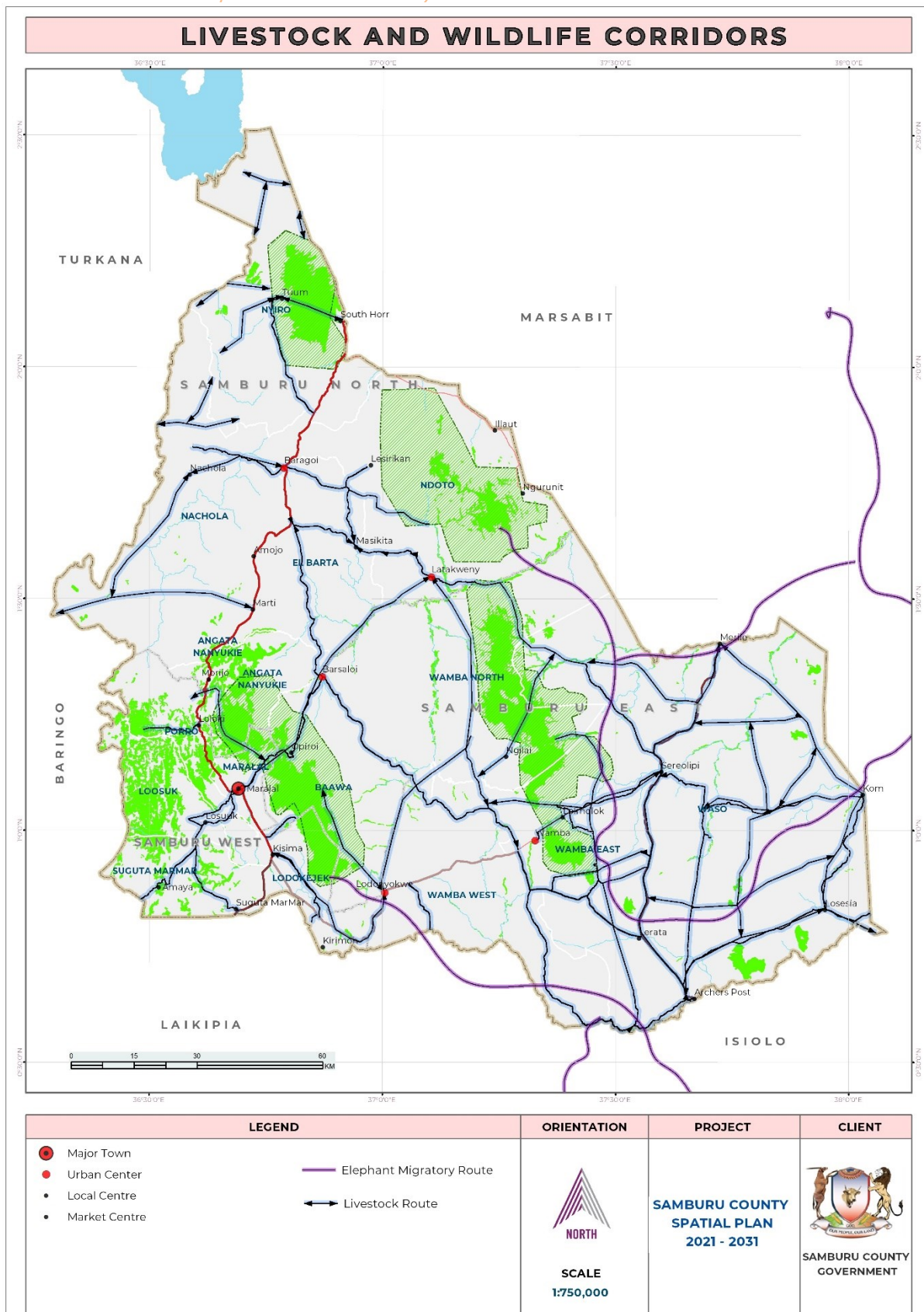
ii. Regional and Terminal Markets

Are markets in which the main sellers are the big traders and the main buyers are big butchers. In these markets, animals are bought for the purposes of slaughter or export. The following are the main secondary markets for export by the county; KMC Athi River, Rumuruti, Isiolo, Nyeri, Kariobangi, Dagoreti and Gilgil.

7.4.7 Livestock Migration Routes

Livestock routes are a critical component of livestock production systems, and specifically in facilitating movement of livestock and people. Livestock routes are increasingly being blocked, and are poorly serviced and protected. The spatial plan can do more than simply protect rangeland resources; it should also be forward looking. Different plan scenarios should include options such as prioritizing sites for the development of pasture areas for finishing of livestock, and auxiliary services such as cattle dips, holding areas, quarantine facilities, and veterinary stations. Many of these are best located along livestock routes or close to livestock markets. There are several livestock routes in the county. Some of the livestock routes are seasonal while there are functional and non-functional.

Map 7-4: Samburu County Livestock Routes and Movements



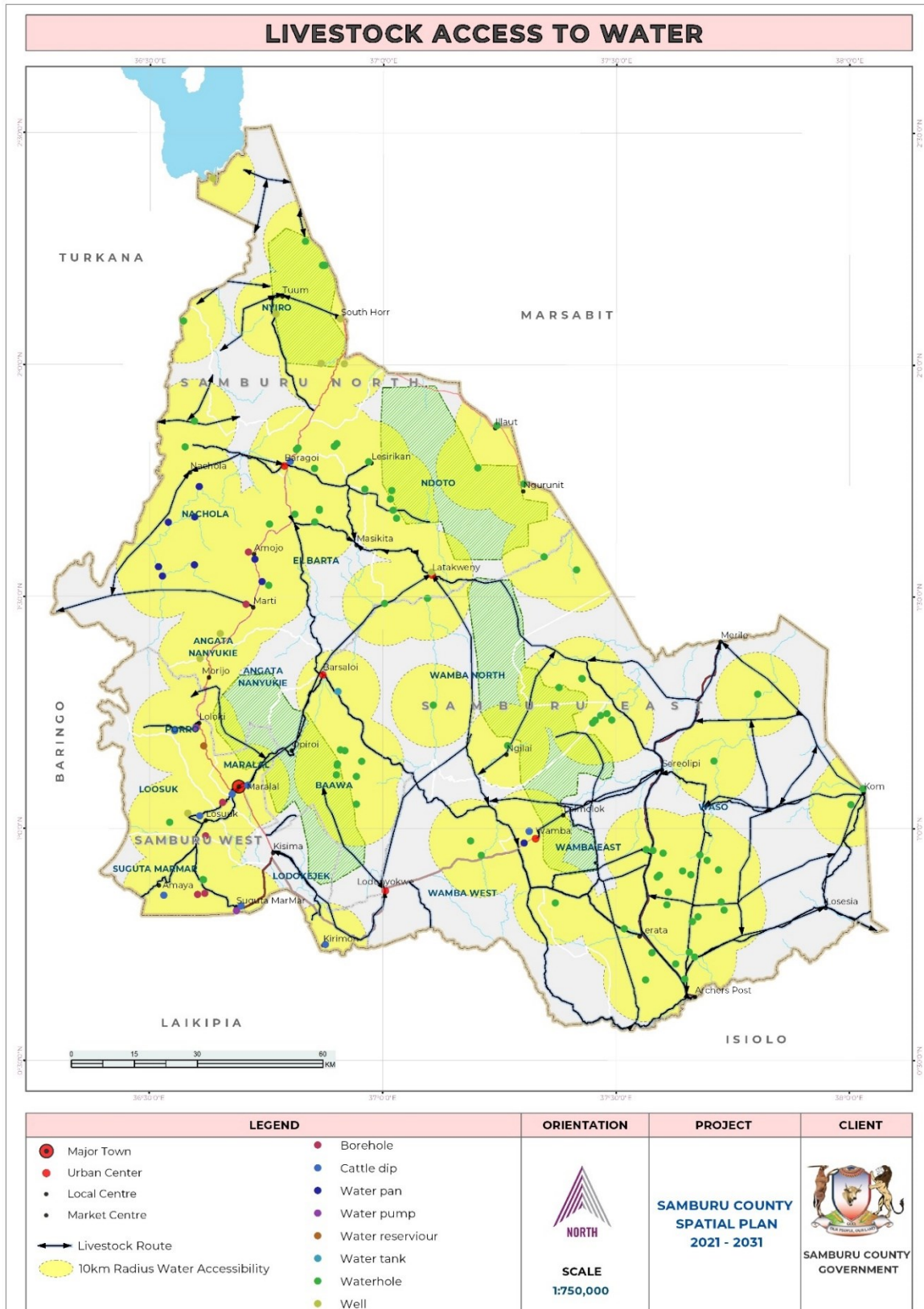
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7.4.8 Livestock Access to Water

Modern strategies of livestock production require exogenous inputs of skills, equipment and money. A fundamental element of these strategies is the new ability to place water points where one wants them to be, rather than where they occur by accidents of nature. Access to

water by livestock is crucial in sustaining pastoral activities and economies. From the spatial analysis some areas in the county are not adequately served by water resource therefore making livestock access to water a challenge. Adequate watering points should be put in place along livestock routes.

Map 7-5: Livestock Access To Water



©AIDAL Consultants, 2021



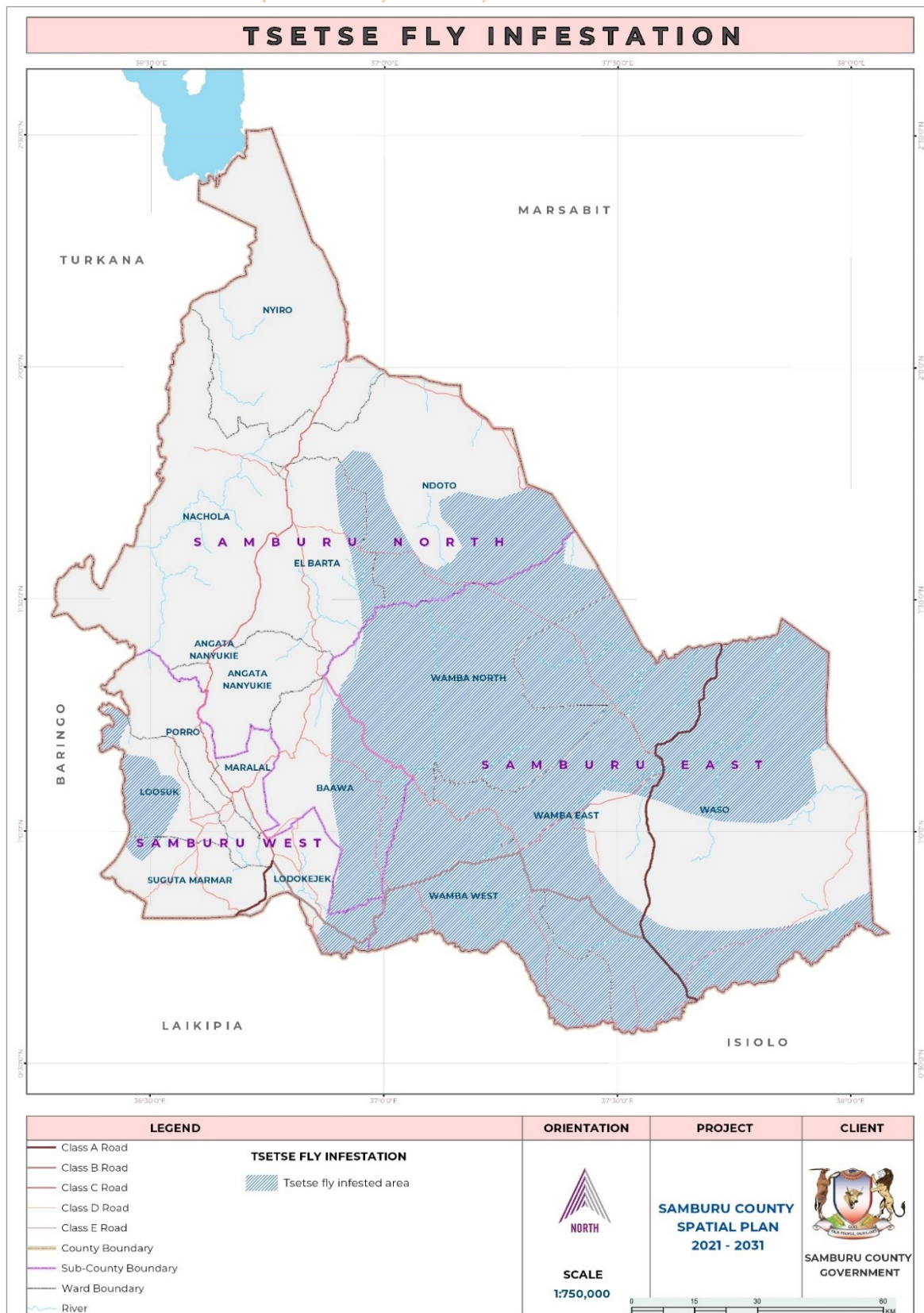
7.4.9 Livestock Marketing, Processing and Value Addition

The livestock sub-sector is handicapped due to inadequate marketing and processing infrastructure as a result of which the primary producers do not get remunerative prices most of the times. Although various stakeholders have supported initiatives such as the construction of sale yards and establishment of Livestock Marketing Associations (LMAs) to manage the facilities, their numbers and status remains inadequate. Factors such as insecurity and poor road network make some of the facilities inaccessible. Dairy industry is at its initial stage of development in the county and has a lot of challenges such as low yield and quality dairy animals, marketing of the dairy products, low technical capacity of members, lack of essential equipments, and high cost of dairy feeds and other inputs. There is only one dairy cooperative society in the county which is not vibrant and has not recruited large number of dairy farmers. The Samburu Dairy Cooperative handles insignificant percentage of total milk production in the county. The rest of the milk does not reach markets, resulting in reduced prices realization by farmers and post production losses and wastage. Value addition of animal products is non-existent in the county.

7.4.10 Livestock Diseases and Disease Free Zones

Management of livestock diseases is important in ensuring food safety to consumers in both domestic and export markets. A number of diseases plague livestock in this county; this is influenced by vegetation, ecology, changes in climate among others. Livestock diseases include: FMD, ECF and fowl typhoid.

Map 7-6: County Tsetse Fly Infestation Incidences



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Kenya vision 2030 aspires to Development of Disease Free Zones. This will involve improvements in vaccination and disease control through a strengthened veterinary department, movement controls, and investments in livestock breeding, range improvements, and marketing infrastructure to raise the quality, quantity and value of processed meat animals that Kenya can export. Kenya’s milk exports will also benefit from enhanced disease



control measures in the highlands. The plan proposes creation of the same within the county so as to harness full potential of the sub subsector.

7.1.1 Livestock Stakeholders

The following are some of the livestock stakeholders in the county and the activities they are engaged in:

Table 7-8. A List of Livestock Marketing Stakeholders in the County

Name	Activities
SAIDIA	Support promote livestock production & marketing
Catholic Mission	Promotes dairy goat keeping and pasture conservation
County Government	Issues licenses and collection of cess
ACTED	Drought interventions (WASH, food security, animal health)
	Livelihood strengthening
	Peace initiatives
Kerio Valley Development Authority	Water for livestock (Construction of water pans, rehabilitation of boreholes)
World Vision	Improvement of livestock breeds, capacity building Provision of pasture seeds
PGDP	Drought emergency interventions such as livestock off take and restocking, peace initiatives, livestock de-worming and vaccinations
SIDEP	Improvement of livestock breeds, capacity building provision of pasture seeds Training of CBAHWs, Provision of Vet drug kits and manuals. Value addition livestock products (hides and skins) Beekeeping training and provision of 450 modern hives.
SNV	Capacity building, provision of pasture seeds Training of market monitors, market linkages Market establishments, Construction of livestock markets

7.1.2 Emerging Livestock Issues

Challenges Facing Livestock Marketing in the County

- Inadequate and poor marketing infrastructure, especially road network, holding grounds, sale yards, processing facilities and limited value addition in livestock products.
- Prevalence of trade-sensitive animal diseases and pests that affect the quality of the livestock and its products and leading to restriction of movement of livestock and products outside the county
- Low capacity and weak regulatory bodies to ensure quality standards that can attract external markets
- Inadequate market information on available markets, pricing, value addition, processing and market conditions.
- Inadequate capital resource to invest in the marketing system.
- Insecurity

Opportunities for Livestock Marketing in the County

- Presence of different and emerging livestock species and types and their products
- Existence of livestock marketing structures (although few in numbers) such as road systems, slaughter houses, sale yards, loading ramps, holding grounds, etc.
- Existence of Livestock marketing institutions such as the department of livestock production, livestock marketing council, livestock marketing associations and county government.
- Presence of middlemen
- Proximity to major regional and terminal markets

- Tourist market especially in Samburu east sub-county where there is a lot of tourism activities going on.
- Development partners and agencies implementing disease and pest control measures and programmes in the county e.g. ACTED
- Suguta Marmar and Lokunian markets are connected/linked to the National Livestock marketing information system
- Presence of financial institutions and donors offering credit and grants to livestock traders.
- Potential for value addition in the county.
- There are livestock emergency intervention programmes and activities such as off take and, disease control

7.2 Crop Farming Agriculture

The county's vegetation is quite variable mainly due to the moisture availability and soils and may range from moist forests of the upper zones through moist woodlands of the medium zones to the arid and semi-arid scrubland towards the hot and dry Turkana plains. Samburu county has about 140, 900 Ha medium to high potential land suitable for agriculture. These areas receive 600mm – 900mm of rainfall per annum. Currently about 6, 000 ha is under cultivation of wheat, barley, maize, beans and a few horticultural crops. 77.5% of land surface in the county is under nomadic pastoralism and is mostly rangelands owned by group ranches or communally.

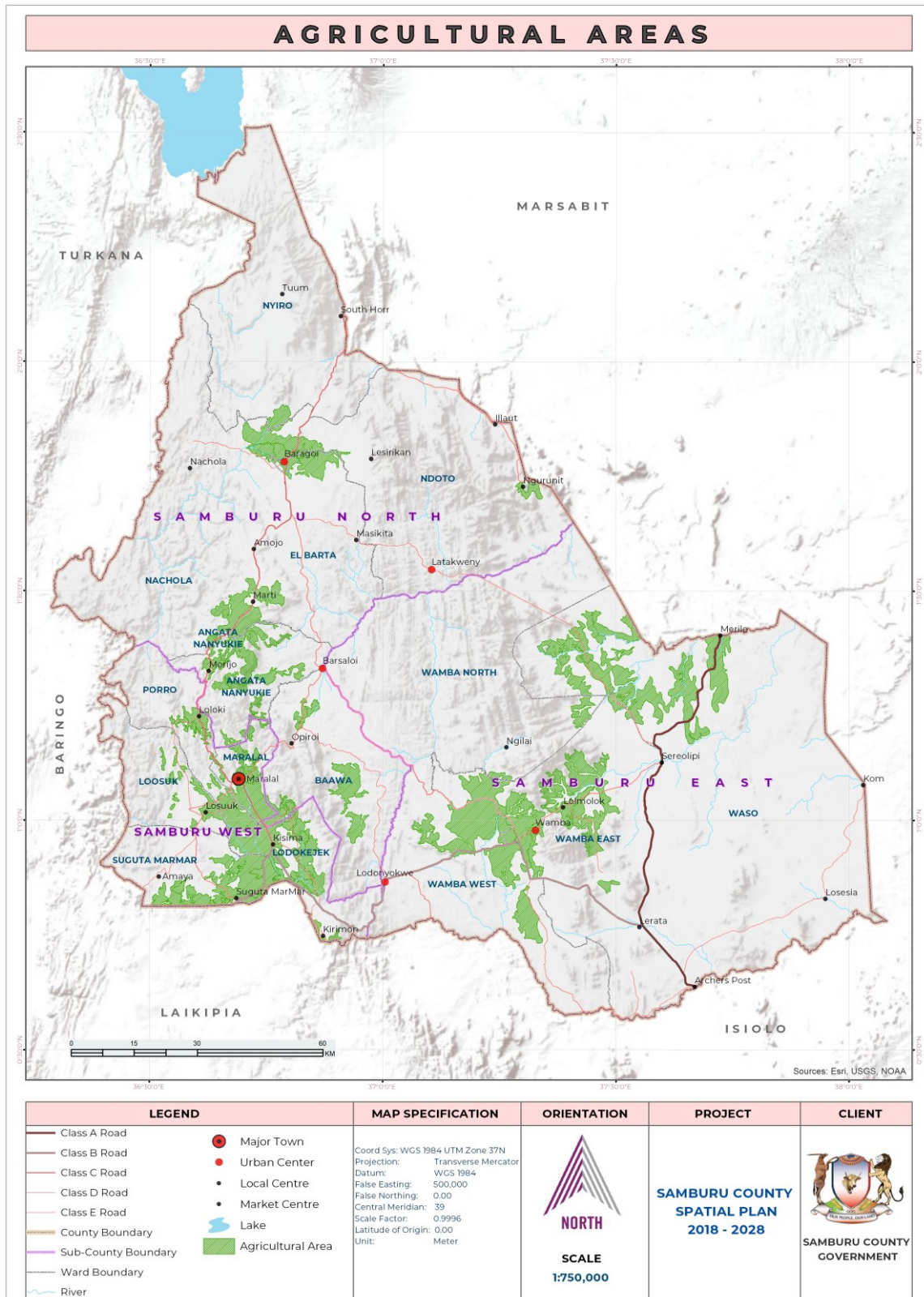
Plate 7-1: Agricultural Farms in Poro area



© Field Survey, 2018

Before devolution, the area under crop production was fairly low and averaged 5,000 acres of all crops. Most of this (up to 60%) was under commercial barley and wheat crops, while the rest was put under maize, beans, Irish potatoes, cowpeas and vegetable crops such as kales, tomatoes, and cabbages.

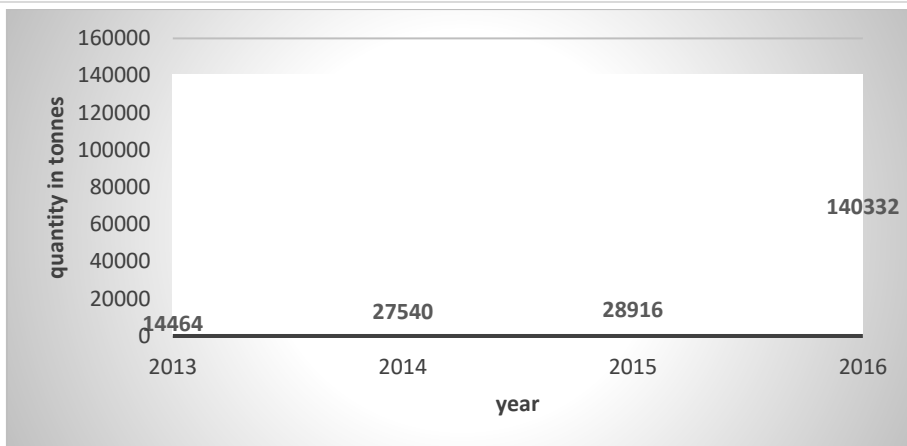
Map 7-7: Samburu County Agricultural Areas



©AIDAL Consultants, 2021

The area under crop production has greatly improved after devolution, a situation that has resulted from introduction of subsidized land preparation by the County that purchased 27 tractors. Provision of free certified maize and bean seeds has also led to increased area under cultivation. The area has increased to 12,000 acres under maize and beans and the target for the county to achieve its food security status is 25,500 acres.

Figure 7-1: County Crop Production Trends



© Department of Agriculture, 2016.

In future, the trend in agricultural development is likely to be on the rise. The County government is determined to achieve self-sufficiency in food production. Indeed, irrigated crop production, which stands at about 160 acres, is intended to reach 500 acres in the year 2018.

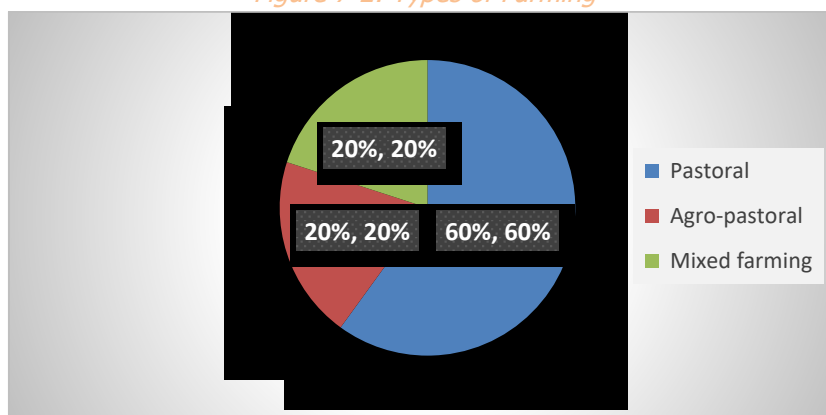
Table 7-9: County Farming Systems

Types of farming systems	Extent (Ha)	Distribution % of total	Location division	Agriculture production	Kg/ha status	Challenge	Proposed intervention
1: large scale farming	272,431	15	Kirisia Lorroki Parts of Nyiro	Wheat Barley Maize	3600 3600 1620	Erratic rains	Drought tolerant crops Water harvesting
2: Small scale mixed farming	69,076	10.5	Kirisia Lorroki	Maize Beans Horticultural crops	1620 360 8mt/ha	Over grazing Conflicts Crops - animals Erratic rains	Proper stocking Water conservation
3: Nomadic pastoralism	Above 983,000	62	Baragoi Nyiro Wamba	Beef animals		Over grazing Human wildlife conflict	Wildlife conservancy

© Ministry of Agriculture, 2016

The distribution of agro-economic activities is 60% pastoral; 20% agro-pastoral; 20% mixed farming, mainly in the south of the county.

Figure 7-2: Types of Farming



© Field Survey, 2017

Table 7-10: Samburu County Crop Production Trends



Crop	2013		2014		2015		2016	
	area (Ha)	Quantity (tonnes)	area (Ha)	Quantity (tonnes)	area (Ha)	Quantity (tonnes)	area (Ha)	Quantity (tonnes)
Irish potatoes	19	0.684	25	0.9	39	1.404	60	2.16
Maize	4000	14400	7200	27,404	8000	28,800	9600	135,000
Wheat	1500	24	1800	28.8	2000	32	2100	33.6
Barley	800	12.8	820	13.12	900	14.4	1000	16
Beans	2200	26.4	3600	57.6	4200	67.2	4800	76.8
Sorghum	50	0.6	30	36	40	0.52	42	5204
total	8569	14464.484	13475	27540.42	15179	28915.524	17602	140332.56

© Department of Agriculture, 2016

7.2.1 Agricultural Potential

The physical relief of the county offers a good catchment area for water harvesting for irrigation purposes among other uses. Seventeen potential sites have been identified as areas with adequate water for irrigation: *Kurungu, South Horr, Arsim, Tuum, Anderi, Waso Rongai, Lulu* in Samburu North. *Amaya and Seiya* in Samburu Central, and *Kibartare, Ngilaj, Lkerej, Westgate, Gogoltim, Loijuk, Nkutuk e Ngiron and Sasaab* in Samburu East. Besides the named 17 potential sites there exist numerous mountain springs in the northern parts of the county covering parts of Nyiro division such as south Horr and Tuum which could be exploited for small scale irrigation schemes. There is a need to conduct feasibility studies that will open up 3000 ha of land to be used for irrigation. Challenges expected include land tenure systems, inadequate modern dry land farming techniques and mindset. Prolonged drought periods may deplete available water reservoirs through evapo-transpiration process.

7.2.2 Horticulture Farming

Potential for horticultural crops exists especially for water melon, avocado, mangoes, temperate fruits, soya beans, tissue culture bananas among others. However, there is need to carry out a survey on potential for these crops.

Table 7-11: Horticulture Produces Production Trends

Crop	2013		2014		2015		2016	
	Area Ha	Quantity (Tonnes)	Area (Ha)	Quantity (Tonnes)	Area (Ha)	Quantity (Tonnes)	Area (Ha)	Quantity (Tonnes)
Cabbage	11	46.5	21	31.5	36	65	41	64.8
Garden Peas	2	3	3	3.5	4	6.1	8	10.2
Carrots	2	2.1	6	6.4	10	10.1	13	16.82
Kales	50	1200	60	1280	62	1302	74	1416
Spinach	40	1160	45	1170	44	1168	61	1204
Tomatoes	20	800	25	1000	29	1220	41	1620
Bulb Onions	2	100	4.1	204	5	250	6.2	316
Tree Tomatoes	2.5	80	2.6	118	3	130	3.5	141
total	129.5	3391.6	166.7	3813.4	193	4151.2	247.7	4788.82

© Ministry of Agriculture, 2016

7.2.3 Storage Facilities

The main storage facility is provided by National Cereals and Produce Board at Maralal with a capacity of storing 150,000 bags of cereals. The County Government is in the process of constructing two Cereals stores in Poro and Loibor Nkare areas. In addition, the government



has two cereals driers each with a capacity of 80 bags. There is a need to construct more cereal stores next to irrigation schemes.

7.2.4 Crop Farming Challenges

The following are some of the challenges facing livestock in Samburu county:

- High cost of operations and inputs leading to low productivity
- Lack of organized markets for the all crop produce
- Poor attitude in adopting new production technologies and innovations.
- Poor attitude towards indigenous food crops that would enhance food security during adverse weather.
- Inadequate and poor storage of produce both at household and market level.
- Prevalence of pests and diseases
- Lack or inadequate markets and marketing channels

7.3 Apiculture

Beekeeping is one of the upcoming animal production systems that is being practiced in the county as an alternative production livelihood to livestock production. The farmers keep bees mainly for crude honey production for use as food and source of household income. Other Bee-hive products that are equally important and can enter the food market include propolis, royal jelly and bee-collected pollen. Honey is also used in the cosmetic industry. Bees-wax is a main hive product that is used in the manufacture of candles. Farmers have organized themselves into beekeeping groups across the three sub-counties and they sell their crude honey to Samburu Bee Keeping Cooperative for processing. The main bee keeping methods used include the traditional and modern with the promotion of Langstroths and KTBH bee hives. The County Government in partnership with the SIDA and EU is promoting honey value chain in the county and all necessary institutions are in place. The County and various partners have supported the enterprise through provision of modern bee hives.

7.4 Trade and Commerce

A significant number of people rely on business income to support their livelihoods. Most of the businesses in the county fall under the micro, small, or medium level. The subsector employs approximately many people with 287,110 being juakali traders, wholesale and retail trade. This constitutes about 17% of the population of the County. This however is indicative of an industry that is predominantly agricultural with little value addition occurring. There indeed lies great potential herein. There are small scale traders, medium scale trades and large-scale traders (retail shops, wholesale, supermarkets, kiosks/canteens, mobile transporters, hawkers etc) operating in the county where the revenues are collected. There are a total of 1724 number of registered businesses in the county. For the last five years the county government has supported these SMEs by establishing Samburu county youth and women enterprise development fund and disburse a total Kshs 67 million to 404 youth and women groups. Other partners which assist SMEs in the county are BOMA-kenya, Kenya Women Enterprise Fund, Affirmative Action and Uwezo Fund from CDF office.

7.4.1 Micro, Small and Medium Enterprise (MSME)

There exist MSMEs such as Retail shops, cooperatives societies, agri-business, wholesalers, agro -vets, medical clinics, private academies, restaurants, butcheries, guest houses with restaurants and supermarkets. Tabulated below is the List of MSME county wide.

Table 7-12: County Micro, Small and Medium Enterprise (MSME)

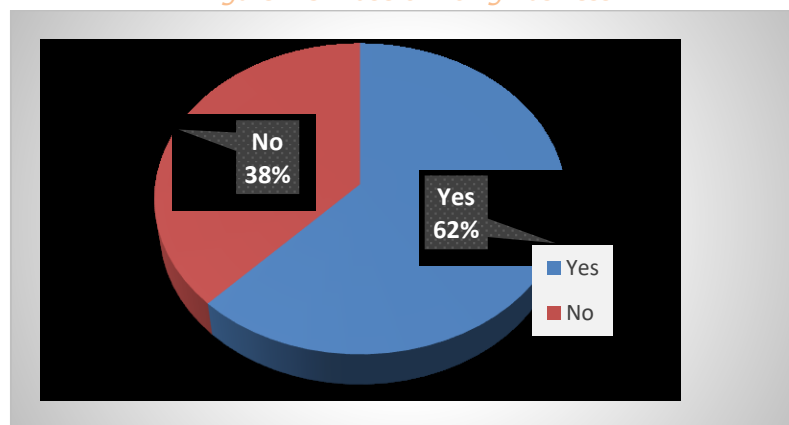
	Name	Number
1.	Retail shops	2,000
2.	Agri-business	250
3.	Wholesalers	5
4.	Agro-vets	10
5.	Medical clinics	18
6.	Private academies	41
7.	Restaurants	12
8.	Butcheries	124
9.	Guest houses with restaurants	8
10.	Supermarkets	2

County Trade Department, 2016

7.4.2 Business Environment

The study sought information on the type of business environment found in Samburu County. On being asked whether it was easy to do business in the county, most of the respondents (62%) and 38% indicated no, as shown in the figure below.

Figure 7-3: Ease of Doing Business



© Field Survey, 2016

7.4.3 Business Service and Skills

The study sought information on business services and skills of the respondents in Samburu County. The figure below, illustrates that most of the respondents 64% didn't have formal business training while, 36% of the respondents had formal business training. Although the majority 64% had no formal training, they had ventured into business, because of the demand to meet their daily basic needs, availability of the markets and low business startup capital. The respondents were asked to indicate the types of trainings/skills they would like to be taught. Majority of the respondents 47% wanted Business administration and management training, while a minority of 5% wanted training and skills on ICT.

7.4.4 Foundations of the Private Sector

The study was interested in what can be done in order for the private sector to invest in this county. The respondents were therefore asked to suggest ways can ensure growth of business in the county. Most of the respondents (95%) had indicated the need to improve the road system in the County. Further, the respondents expressed the need to beef up security within the county. A question on the unexploited business opportunity in the County was asked. The responses indicated that housing, irrigation/aquatic farming, cultural tourism and mining were among the unexploited business opportunities in the County. In conclusion on the section of foundations of the private sector, the study concluded that there was need to improve road



network within the County and beef up security in order to tap into unexploited business opportunities such as cultural tourism and mining.

7.5 Financial Institutions and Cooperative Societies

Financial institutions play a very important role in the economic life of a region. Financial institutions through lending and related activities facilitate the process of production, distribution, exchange and consumption of wealth. There are three Banks that offer financial Services: Kenya Commercial bank (KCB), Equity bank and Post Bank. Micro Finance Institutions are: Faulu Kenya, Kenya Women Finance Trust, Mobile Money agents and Savings and Credit Cooperative Societies (SACCOS with FOSAs). Saccos with FOSAs Include: Dumisha Sacco and Supa Sacco have branches in Maralal, Baragoi, Wamba and Archers Post. Tower sacco has a branch in Maralal and Transnational sacco from has a branch in Wamba. The total account holders in these FOSAS are 13,224 with total deposits of 618 million. Loans disbursed monthly average of 60 million and an outstanding loan portfolio of 965 million. Agency banking is expected to play a key role in enhancing financial services penetration into rural areas and in mobilising savings for investment. Accessibility to finance has been difficult due to high interest rates and lack of security.

7.6 Cooperative Societies

Cooperative societies play a critical role in the development by providing a better interaction between savings and investment. The county has a total of 52 registered Cooperative Societies out of which 26 are active, while 26 are dormant. Total membership for the 52 societies currently stands at 15,324 members with an annual turnover of 69 million and contributes close to 713 million to the economy of the county. The sector plays a key role in the mobilization of savings and provision of credit, marketing of agricultural and livestock products and handicrafts (beadwork) Industry. Samburu Beadwork Cooperative Society assists members to purchase beadwork raw materials in bulk and at subsidized prices, train members on new trending designs and skills, provision of credit to members and access to local and international markets for their products. The department is currently working with Ushanga Kenya Initiative and Export Promotion Council to support the Cooperative. The Cooperative which was formed in 2015 has so far raised Kshs 1.2 million through its operations. The cooperative is also running a public toilet to serve her members and the community which also act as a source of revenue for the group, etc. SACCOs have enormous potential to mobilize additional savings and to provide credit, especially to sections of the population that do not use banking services and the low income groups.

7.7 Tourism

Tourism is the second income earner for Samburu County even though tourism sites in the county have largely remained unexploited to their full potential. There are seven designated major tourist circuits as well as seven other minor circuits. The tourist circuit related to Samburu County is that of Mid-Northern Tourist Circuit. This circuit embraces Maralal, Samburu, Buffalo Springs and Shaba. This circuit is figuratively the 'Jewel in the Crown' as it abounds with wildlife and embraces some of the most captivating sceneries and landscapes in the country. The Maralal sanctuary has numerous permanent springs and a wealth of wildlife.

Plate 7-2: Beautiful Landscapes in the County



© Field Survey, 2017

7.7.1 Tourist Attractions

Tourism sites include, hotels, historic sites, forests, hills, game parks and game reserves.

i. Eco-Tourism

Samburu is the destination in Kenya, where visitors are guests of traditional people, having a deep insight into traditional culture and at the same time can enjoy wildlife experiences. Attractions sites include community conservancies, i.e. Westgate, Kalama, Namunyak, Sera, Baragoi, Ndoto and Ngiro. Apart from classical wildlife safaris, there are options for walking and camel supported safaris and participating in the daily lives of the host community.

ii. Hospitality Tourism/Conferencing

Samburu County offers good service quality, and are easily reached from Nairobi, Nanyuki, Meru and Isiolo which makes it the natural location for conferences and business meetings in the fields of conservation, peace building, development, health, aid, emergency response. There are twenty tourist class hotels in the county with a total bed capacity of seven hundred. Most of these hotels are located within reserves and other conservation areas.

Table 7-13: Hospitality Facilities

No.	Name of Hotel	Location	Bed capacity
1.	Samburu Game Lodge	SNR	120
2.	Samburu Sopa Lodge	SNR	140
3.	Samburu Intrepids	SNR	60
4.	Larsens Camp	SNR	34
5.	Elephant Bedroom Camp	SNR	20
6.	Elephant Watch Camp	SNR	20
7.	Lion King Camp	SNR	10
8.	Game Trackers	SNR	10
9.	Private Campsites	SNR	60
10.	Public Campsites	SNR	60
11.	Special Campsites	SNR	40
12.	Samburu Sentrim	SNR	20
13.	Maralal Safari Lodge	Maralal	48
14.	Kitich Camp	Mathews Ranges	10
15.	Desert Rose	Mt.Nyiro	15
16.	Saruni Eco-Logdge	Kalama Conservancy	14
17.	Sasaab Eco-Lodge	Westgate Conservancy	12
18.	Sarara Eco-Lodge	Namunyak Conservancy	12
19.	Nkoteiya Community Tented Camp	Nkoteiya conservancy	14
20.	Ngari Hill Tented Camp	Maralal	7
21.	Other Hotels	15No. across the county	423

iii. Wilderness

Samburu is a place of quietness, exclusivity, relaxation, pleasures and treats in the wild. Attractions sites include very exclusive luxurious boutique accommodation which offer privacy, style, comfort, proximity to nature and the local population. Desert Rose Lodge at Ngiro Conservancy, Sarara Camp and Kitich Camp at Namunyak Conservancy, Saruni Lodge at Kalama Conservancy, Saasaab Lodge at West Gate Conservancy and Elephant Watch Camp in Samburu National Reserve.

Plate 7-3: Samburu County Nature and Wildlife



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iv. Nature and Wildlife

Samburu is the land of a remarkably untouched nature of diverse landscapes, plants and animals – qualities that are getting more and more scarce and precious in a fast-developing Kenya. Attractions sites include Game Safaris at West Gate, Kalama, Namunyak & Sera Conservancies; Forest & Mountain Experiences: Kirisia, Matthew's/Kitich, Ndoto & Ngiro Forests; Bird watching: Lake Kisima, Vulture Rock in Kirisia near Maralal, all forest reserves, sand grouses in Sera Conservancy; Botanical safaris: Baragoi Conservancy for dry vegetation, Ndotos, Lenkiyu, Ngiro and Sabuk for cycads, all forest reserves.

v. Culture and Heritage

Undisturbed traditional African culture, strikingly colourful and alive with skills and wisdom from the past characterizes the pastoralist way of living of Samburu's people and its neighbours – something hardly encountered to the same extent anywhere else. Traditional pastoralist lifestyle of dresses, hairstyles, jewellery, songs, craftsmanship and knowledge.

Plate 7-4: Samburu County Beadwork



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vi. Sports and Adventure

Samburu's true magic is revealed to those who are in for any kind of outdoor activities. Its mountains, forests, drylands and bush which offer an endless number of options to play in the wild. Attractions sites include Rock climbing at Ndoto Mountains, Ol Doinyo Sabuk; Hiking at Ol Doinyo Sabuk, Lenkiyu, Ndoto, Ngiro Mountains, Kirisia Hills, Malaso escarpment; Discoveries & adventures.

vii. Maralal International Camel Derby

The town becomes the liveliest on the second weekend of August, when the International Camel Derby comes to town, an annual three day event of excitement, colours and festivities at Yare Camel Camp.

viii. The Malaso / World's End Viewpoint

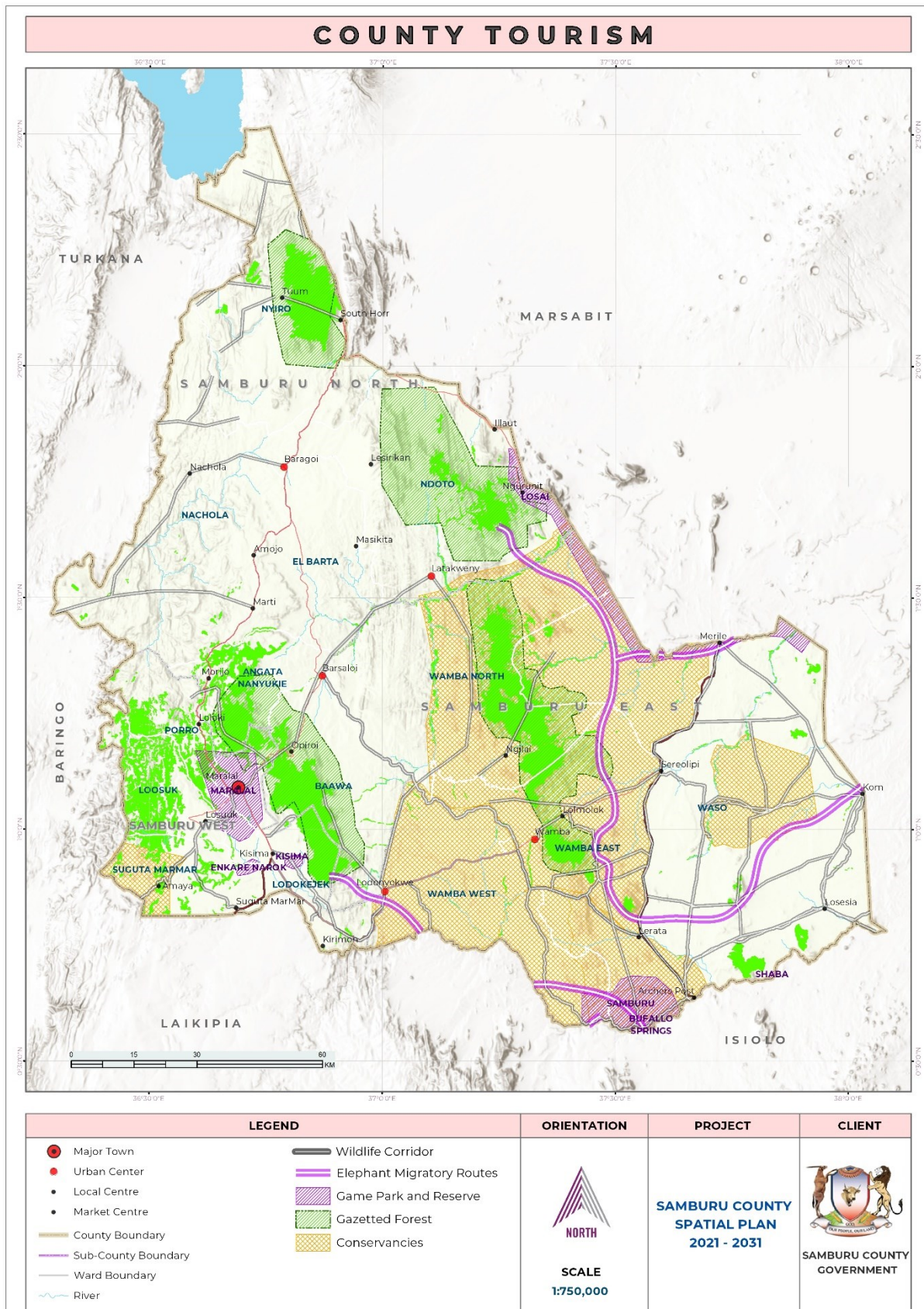
A one-and-a-half hour drive from Maralal, through beautiful forest stretches and extensive wheat farms, one of Samburu Land's top attractions is to be reached. Just some 15 kilometres off the Maralal-Baragoi road, the Kirisia Hills are plunging into the Suguta Valley, creating the Malaso or World's End Viewpoint. From the viewpoint, visitors enjoy a spectacular panoramic view over the steep drop-off into and across the Northern Rift Valley, up to the Cherangani Hills on the far western side of the depression.

Plate 7-5: Beautiful Scenery in Nakuru



©AIDAL Consultants, 2018

Map 7-8: Samburu County Game Reserves and Hotel Sites



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7.7.2 Conservancies and Conservation Area

In Samburu, large scale ranches and private individuals benefit more from tourism while the local communities benefit from the sale of agricultural produce to the tourist facilities, sale of jewels, handcrafts and outfits in curio shops, tourist hotels and *bandas*. Some of the key tourist attractions in these districts include:



1. Unique landscapes;
2. Historical sites such as Kenyatta House;
3. Traditional lifestyles among the Samburu
4. Gazetted forests;
5. Scenic sites such as hills;
6. Presence of the big five and other endangered species of wildlife;

Samburu County government has been providing infrastructure development grants of Ksh 2 million to each of the five community conservancies. They have also developed a revenue sharing agreement with Westgate and Kalama conservancies on income earned from Samburu National Reserve. These monies provided to the two conservancies are to be divided in a 60-40% arrangement with 60% to be applied to community programs and 40% for operations. A mechanism has been established for each conservancy to draw a grant proposal to the county for any other project e.g. rangeland rehabilitation, vehicle purchases and other forms of support. Additionally, Samburu County has established the following conservancies under their banner

- Kirisia Conservation Area
- Malaso Conservation Area
- Baragoi Conservation Area
- Nyiro Conservation Area
- Ndoto Conservation Area

Sera Conservancy in Samburu County started a rhino sanctuary, a re-introduction of the species for the first time on community lands. It currently has a breeding population of 10.

7.7.3 Challenges

Challenges facing tourism sector

- Sporadic Insecurity cases.
- Poor road infrastructure
- Inadequate investments in tourism
- inadequate skilled labour
- Inadequate travel information and marketing, bad image

7.8 Industry and Value Addition

Kenya Vision 2030 aims to transform Kenya into a newly industrializing "middle-income country providing a high quality life to all its citizens by the year 2030". Despite the abundance of a wide range of raw materials to support livestock industrial processes in Samburu County, the government, local investors, and foreign investors haven't set up various industries in the county. There is no established manufacturing industry but existence of potential opportunities is available. There is a honey refinery in Maralal run by Samburu beekeeper's cooperative society. There are plans to establish a tannery at Nomotio farm and a modern abattoir. There are potentials for establishing mineral extraction industries. There are a total of 286 artisans operating in different urban centres. Around Kisima town a parcel of land has been set aside for industrial parks. Samburu County is reflective of Kenya's agriculture-based value addition, it is poorly developed and where it exists, the production is in small scale. The County government should promote value addition especially in livestock production, bee keeping.

7.9 Mining

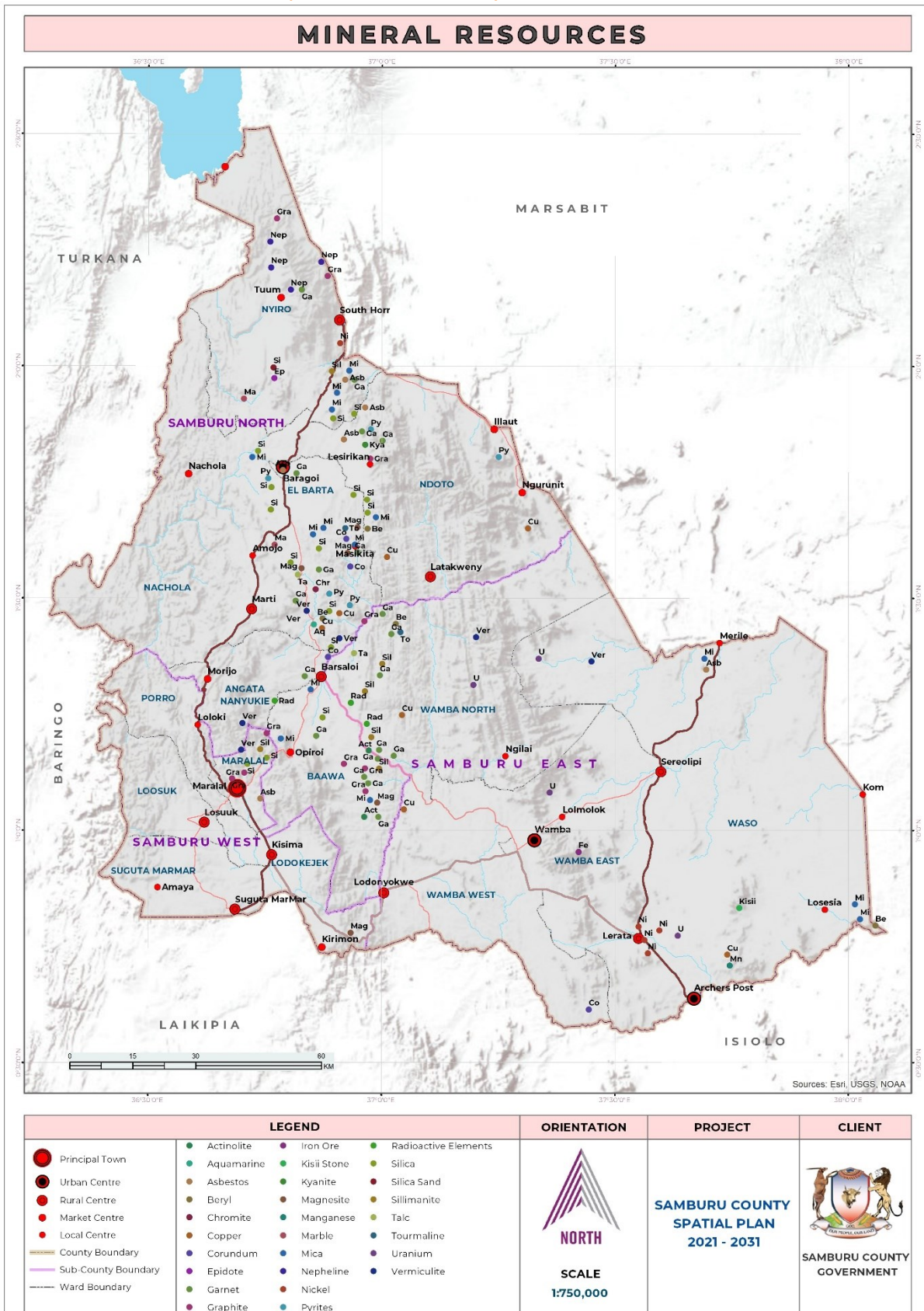
There is informal mining of precious stones in various parts of the county. There is commercial mining of chromite in Suyan Conservancy in Samburu north sub-county. There are two sites that have licenses issued for mining sector. A potential for Manganese mining exists in Waso



East of Samburu East Sub-County. The county mineral potentials remain untapped. In addition to these potentials, the County has prospect of oil reserve in parts of Samburu North Sub County. All these minerals in the county have the potential of generating additional revenue to the county government. There is need for the county government to enter into partnership (PPP) with investors to be able to explore and tap these natural resources.

Activity	Number of Sites	Name of Sites
Gemstone Mining	2	Kiltamine - Samburu East
		Lorenyok Hills/ Loruko -Samburu North

Map 7-9: Samburu County Potential Minerals



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7.9.1 Quarrying and Sand Harvesting

Sand acts as a safe aquifer for water flowing below and through it. Removal of sand results in destruction of underground aquifers and loss of safe water.



Table 7-14: County Quarrying and Sand Harvesting

		Name Of Sites
Stone Quarrying	3	Lolmorok- Samburu central
		Soito Lkogoyo – Samburu North
		Soito Ng’iron– Samburu North
Sand Harvesting	12	Ewaso Ng’iro river – Archer’s Post- Samburu East
		Gilgil/Losesia Group ranch– Archer’s Post- Samburu East
		Wamba Division Laggas’- Samburu East
		Yamo river- Samburu Central
		Kirisia Forest- Samburu Central
		Loikas River- Samburu Central
		Yare Area- Samburu Central
		Maralal Wildlife sanctuary- Samburu Central
		Naling’ang’ol river- Samburu North
		El-Barta river- Samburu North
		Moran River-South Horr- Samburu North
		Mt Nyiro/Tum - Samburu North

8 TRANSPORT AND PHYSICAL INFRASTRUCTURE

8.1 Overview

Infrastructure is the network of physical and social facilities that support social and economic processes in a region. This chapter looks at the available transport options and infrastructure services available in Samburu County. It takes cognizance of the fact that the capacity of the levels of infrastructure and transport development are key pillars to the development and economic well-being of any county.

8.2 Transport

Samburu County has a Road distance Compared to Population of 2.33 while the national ratio of 4.68. There is high inaccessibility for Samburu County with only 2.7 kms of roads per a thousand populations.

8.2.1 Road Transport

i. Regional Transportation Corridors

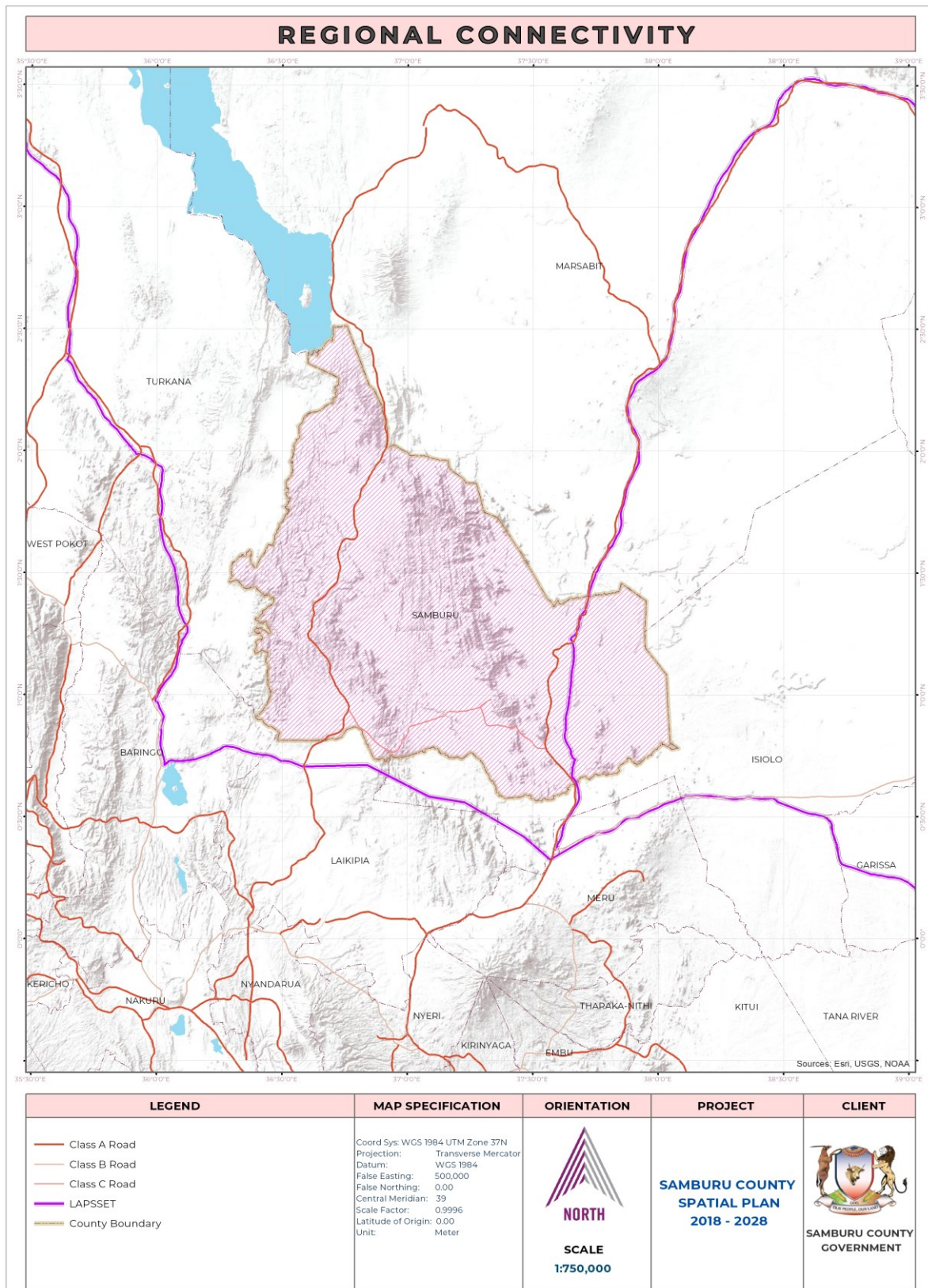
In the context of road transport, external transportation corridors are some of the most important trunk road networks as they connect Countries; Counties; Towns to Towns. The Rumuruti-Maralal-Baragoi-South Horr (A4) and A2-C78 considered the gateway to the county. Laying tarmac on Rumuruti-Maralal- town is currently underway and will not only improve accessibility to the county but will also play a role in improving the elusive security situation while at the same time open up the region to potential investors. Also survey works on Maralal-Baragoi road is currently in progress hence will open up the county even further. In addition, the International Road A2 which is part of LAPSSET opens up Samburu County from Meru and Isiolo counties. In addition, Samburu County is expecting a total of 60 km of road network under tarmac planned as part of Lamu Port–Southern Sudan–Ethiopia Transport (LAPSSET) Corridor project. LAPSSET is a flagship project under Vision 2030. The link to Juba under this project is also expected to cut across the county covering a significant section thereby enhancing connectivity within the county and also between the county and the neighbouring counties. Most of this roads have not been surveyed. Rumuruti-Maralal road is proposed to be a 40 M road. However, it is proposed that all international roads should have a 60M road reserve.

Plate 8-1: Regional Roads in Samburu County



© Filed Work, 2018

Map 8-1: Samburu County Regional Road Connectivity



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ii. County Road Connectivity

Road transport is the major mode of transport in Samburu County although Road network is poorly well developed. The road network in the County is predominantly earth and gravel surface. The general status of the road network in the county is poor. The county's total road network length is 1,606.6 kilometers, Most of these are rural access roads and those linking to major urban centres within the county.

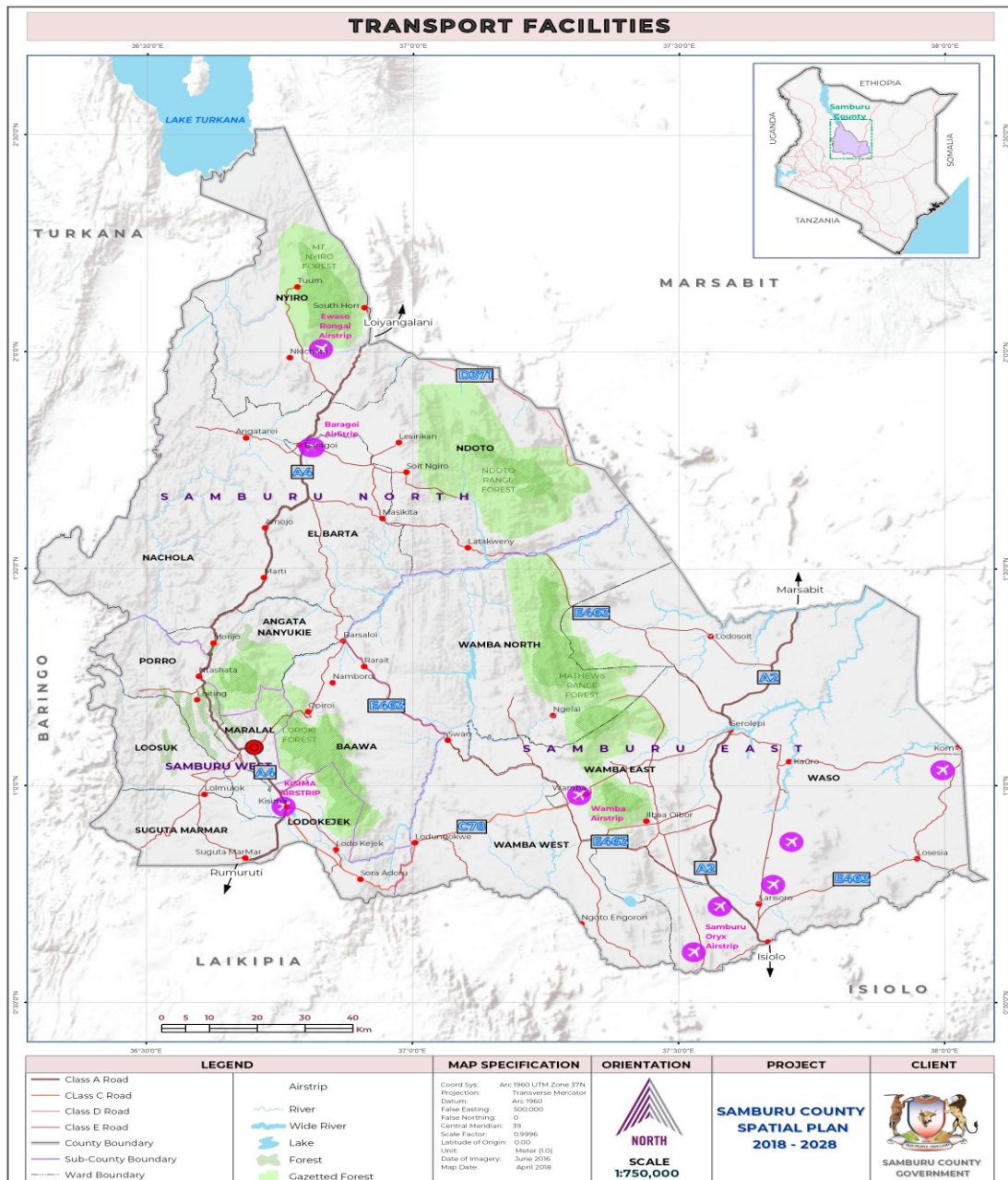
Plate 8-2: Road Status in the County



© Field Survey, 2018

A rugged and hilly terrain within the county poses another challenge in road connectivity.

Map 8-2: Transport Network in Samburu County

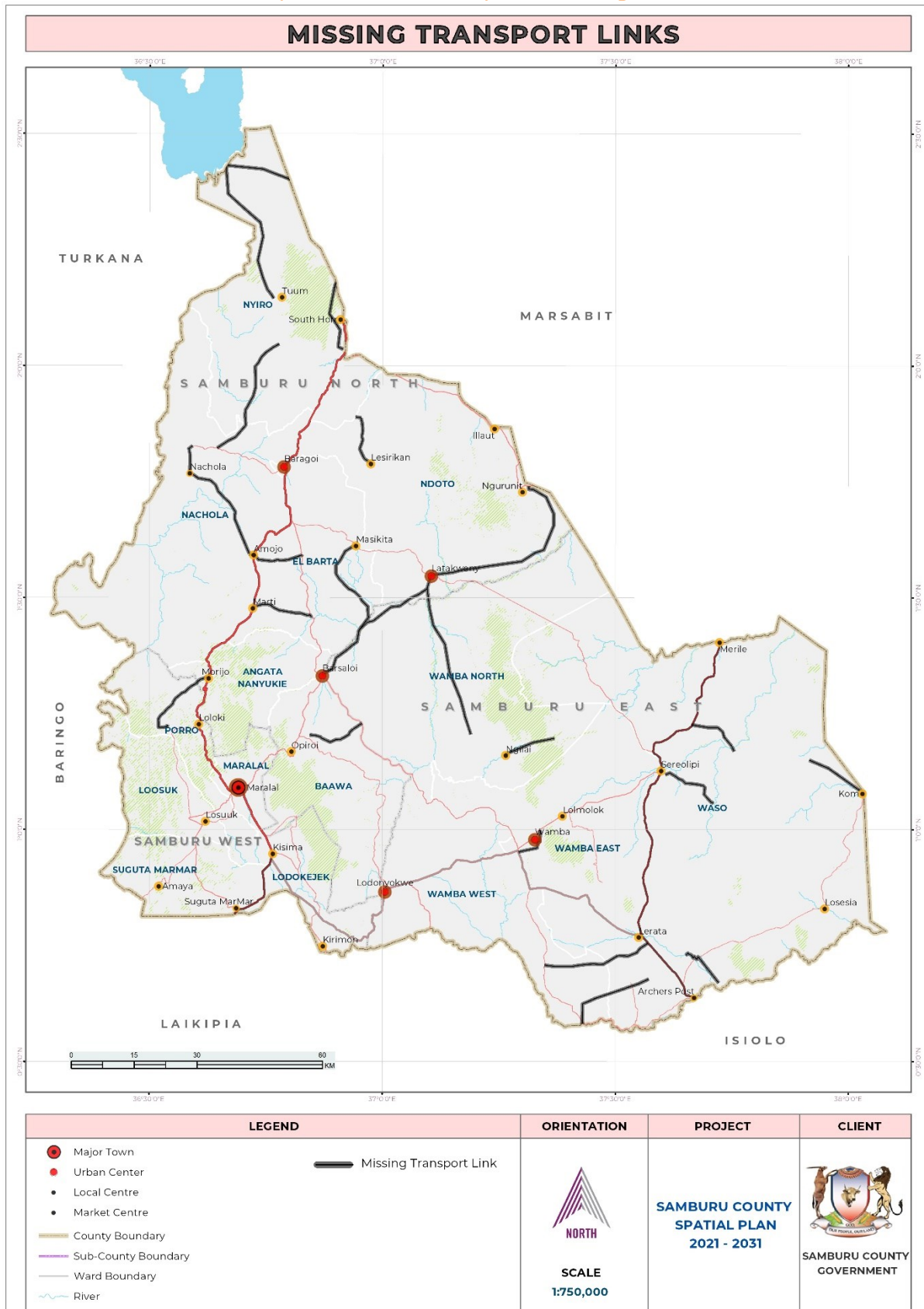


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iii. Missing Links

From the field survey and stakeholders engagement several roads missing links were identified. Roads missing make movement of goods and services cumbersome. Some of the missing links identified include:

Map 8-3: Samburu County Roads Missing Links



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iv. Road Challenges

The following are issues challenges and constraints facing county road

- Inadequate funds to improve on the status of the roads
- Adverse weather conditions
- Soil and terrain characteristics
- Vast area limits easy connectivity
- Sparse population

8.2.2 Public Transport

The main modes of road transport are buses, matatu (probox; other small vehicles) and lorries. The buses ferry people mainly on Maralal-Nyahururu Rd and Maralal-Baragoi Rd. Public transport operators are organised in groups and Sacco's. Public transport is also found along Maralal- Wamba road. Other parts of the County have no permanent means of transport and therefore make use of the only available means of transport at their convenience. These include the smaller vehicles that offer public transport alternative within the County. The centres within the county have no constant public transport means and are accessed through the use of 'Bodaboda' means. Other areas are not served by any reliable means of public transport by road and the only means include lorries which are otherwise meant to ferry agricultural products to markets in the respective urban centres.

8.2.3 Terminal and Parking Facilities

Ideally terminal facilities are mainly provided in the urban areas. Samburu County has no designated terminal facilities. Urban areas rely on roadside parking significantly.

Air Transport

Kenya has a thriving and viable aviation industry which is vital for the country's development through the provision of air transport services and hence facilitation of tourism, and promotion of trade and earning of foreign exchange. There are 11 airstrips in Samburu County. Wamba, Kisima and Baragoi air strips are owned by the Kenya Civil Aviation Authority (KCAA). Those owned by the county government are: Oryx, Kalama, Ngilai, Wamba, Latakweny and Kurungu. Sarara and Desert rose are privately owned airstrips. Maralal Nkuroto airstrip is not functional. The connection of these airstrips to the air traffic control central system is poor and they can only land light aircrafts. Isiolo international airport hence will improve access to Samburu County and the northern Kenya region. It is recommended that systems be put in place to identify and address long term Air transport needs in the entire county.

8.2.4 Transportation Challenges

The main challenge facing road transport in Samburu is the poor condition of the road surface. The bad state of roads surfaces impact negatively on the efficiency of movement and seamless integration with other modes of transport. Other challenges include:

- i. Poor transport infrastructure;
- ii. Missing links (poor connectivity);
- iii. Poor quality of transport services;
- iv. Inappropriate modal split;
- v. Unexploited regional role of the transport system;
- vi. Transport system not fully integrated;
- vii. Urban environmental pollution;
- x. Uncontrolled *bodaboda* outburst in both rural and urban;

xii. Encroachment and/or grabbing of road reserves;

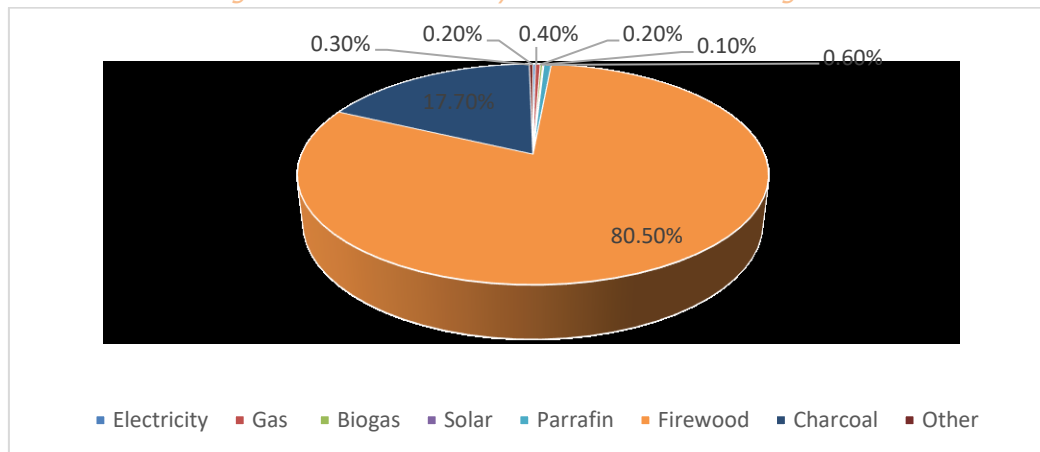
8.3 Energy

Samburu County has the potential to generate energy from renewable sources, viz; solar, wind and biogas from the very large herds of cattle. But little of this has been tapped for commercial use.

8.3.1 Cooking Fuel

Less than 1% of residents in Samburu County use liquefied petroleum gas (LPG), and 1% use paraffin. 81% use firewood and 17% use charcoal. Samburu North constituency has the highest level of firewood use in Samburu County at 92%. This is 24 percentage points above Samburu West constituency, which has the lowest share. Samburu North is 11 percentage points above the county average. Wamba North ward has the highest level of firewood use in Samburu County at 99%. This is 53 percentage points above Maralal ward at 46%. Wamba North ward is 18 percentage points above the county average. Samburu West constituency has the highest level of charcoal use in Samburu County at 30%. This is 22 percentage points above Samburu North constituency, which has the lowest share. Samburu West constituency is 13 percentage points above the county average. Maralal ward has the highest level of charcoal use in Samburu County at 51%. This is 50 percentage points more than Wamba North ward, which has the lowest share. Maralal ward is 34 percentage points above the county average. The main source of energy in the county is fuel wood which accounts 90 percent of the energy needs of the county population.

Figure 8-1: Household By Main Source of Cooking Fuel



© Field work, 2016

8.3.2 Lighting

Only 6% of residents in Samburu County use electricity as their main source of lighting. A further 11% use lanterns, and 19% use tin lamps. 61% use fuel wood. Electricity use is mostly common in male headed households at 8% as compared with female headed households at 4%. Samburu West constituency has the highest level of electricity use at 14%. That is 14 percentage points above Samburu North constituency, which has the lowest level of electricity use. Samburu West constituency is 8 percentage points above the county average. Maralal ward has the highest level of electricity use at 27%. That is 27 percentage points above Ndoto, Wamba West, and Wamba North wards, which have no level of electricity use.

8.3.3 Energy Access

The main source of domestic energy in the county is firewood which is used by about 70 percent of the population. There are 11 trading centres connected with electricity while 20

others have no connection. This is a major constraint in the growth of these centres. Continued use of firewood is a health and environmental due to forest degradation.

Plate 8-3: Baragoi and Wamba Electricity stations



©: Field Survey, 2018

Other sources of energy in the county include charcoal and solar. The county has high potential solar energy which remains untapped. Samburu East and Samburu West sub counties are connected to the national electricity grid. A few urban centres including Baragoi rely on diesel generators mainly to supply electric to the institutions and very limited domestic use. Diesel generators are not sustainable source of energy because they are costly to run and maintain.

8.3.4 Rural Electrification

The Rural Electrification Authority of Kenya has been ensuring electricity is available in all public institutions in Kenya. Samburu County has a customer base of slightly over 5,000 customers. They are supplied by the 33kV, 11kV, 415V & low voltage distribution network. There is 1x33/11kV primary substation at Maralal, 1x11kV generating station at Baragoi and 105 distribution transformers to supply the customers. The county has 5 schemes currently under implementation by KPLC where 2,000 customers out of the total 5,000 have been connected since April 2015.

Table 8-1: County Electrification Status

Scheme Name	Sub County	Funding (Kshs)	Type	Source	Construction Status
Settlement Schemes Sirata, Loosuk And Lolkunono People	Samburu West	2,189,816	GPOBA	WB/KPLC	On Going
People Settlement Poror Loibor Nkare	Samburu West	1,380,859	GPOBA	WB/KPLC	On Going
Kisima Schemes Settlement	Samburu West	2,182,666	GPOBA	WB/KPLC	On Going
Wamba, Archers Settlement Lengusaka	Samburu East	3,999,918	GPOBA	WB/KPLC	On Going
Baragoi People Settlement Schemes	Samburu North	1,488,953	GPOBA	WB/KPLC	On Going

© Kenya Power Samburu Region, 2016

The main electricity line Main line: Nakuru - Lanet (33kV). Electricity way leave connecting the Lake Turkana Windrower to the national grid is under construction and passes through Samburu County. This is a 132 kV line from Loiyangalani to Suswa for connection to the national grid. There are two power stations one at Maralal- opposite Moi Girls which serves as the main station and the one located at Baragoi which is diesel driven. Rural Electrification



Authority in collaboration with Kenya Power has installed solar panels to all the schools that are far from the power lines. According to REA all the schools are connected with electricity.

8.3.5 Street Lighting

To boost 24-hour economies in counties and reduce insecurity security lighting is recommended in urban areas. It is available only in Maralal town.

8.3.6 Electricity Provision Challenges

The following are issues that pose challenges in energy provision:

- Poor road network hence limiting easier distribution of construction materials.
- Poor planning and demarcation of the towns thus making the distribution of the lines to be difficult.

8.4 Water Infrastructure

Kenya is a water-scarce country with renewable fresh water per capita at 647 m³ against the United Nations recommended minimum of 1,000 m³. The water storage per capita in Kenya currently stands at 8m³ which is far below the global standard of 16m³water storage per capita. Individuals in urban areas have one and half times more access to improved water sources than their rural counterparts. The Vision for the water and sanitation sector is "to ensure water and improved sanitation availability and access to all by 2030". Kenya is divided into five drainage basins which include; Lake Victoria, Rift Valley basin, Athi basin, Tana basin and Ewaso Ngiro North basin. Water is at the core of sustainable development and is critical for socio-economic development, healthy ecosystems and for human survival itself.

8.4.1 Water Resources

Samburu County is largely ASAL up to 95%. It receives annual rainfall ranging between 300 to 1200mm/year. Evaporation is high; it ranges from 58mm to 338mm/month. These cause water shortages in most parts of the county. The groundwater potential is generally poor especially in the lower areas of the county however this is the major sources of water for various uses in these areas. The main sources of water for domestic and livestock use are from water pans, dams and shallow wells. Others water sources are protected and unprotected springs, boreholes and roof catchments. Water quality in the county is generally poor. The county has two permanent rivers. There are 35 protected springs and 104 boreholes. Households with piped water are 17,133 while 5,500 households have access to potable water. There are 112 water pans and 213 surface dams. The county has 141 shallow wells, 37 unprotected springs and 9800 houses with roof catchment. In the entire county, only 13.5% of the population has piped water. Other water sources of water for domestic and Livestock uses are; boreholes (137), water conservation structures (83 water pans, 29 dams, rock catchments, roof catchments), shallow wells, and 21 springs of which 5 have been improved and protected.

Plate 8-4: Samburu County Water Sources and Challenges



©AIDAL Consultants, 2018

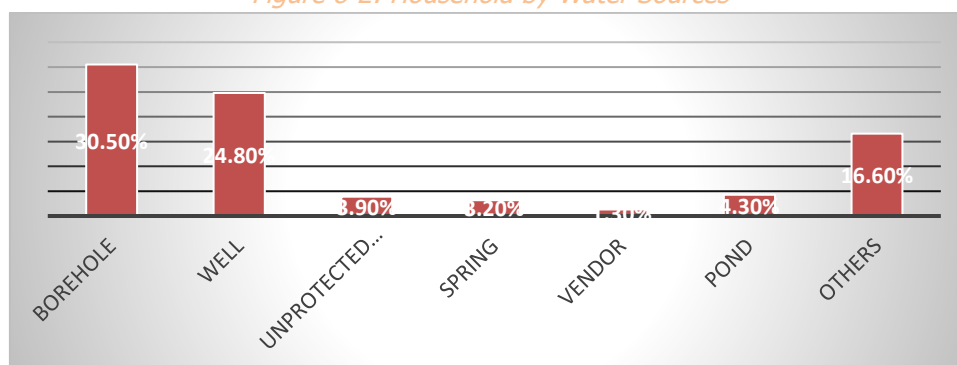
8.4.2 Water Supply Schemes

Water in major urban centres in the county is supplied and managed by the Samburu Water and Sanitation Company (SAWASCO) in collaboration with the county water directorate. The major urban Water Supply Schemes are; Maralal, Suguta Marmar, Kisima, Baragoi, Wamba and Archers Post. The number of households connected with piped water has increased from 2,451 to 3,069 since the year 2013. In order to supply water to its target population in urban centres, SAWASCO relies on the following water sources: One Earth Dam, Three Springs, and 6 Boreholes, which serves and estimated population of 75,214 people.

8.4.3 Household Water Sources

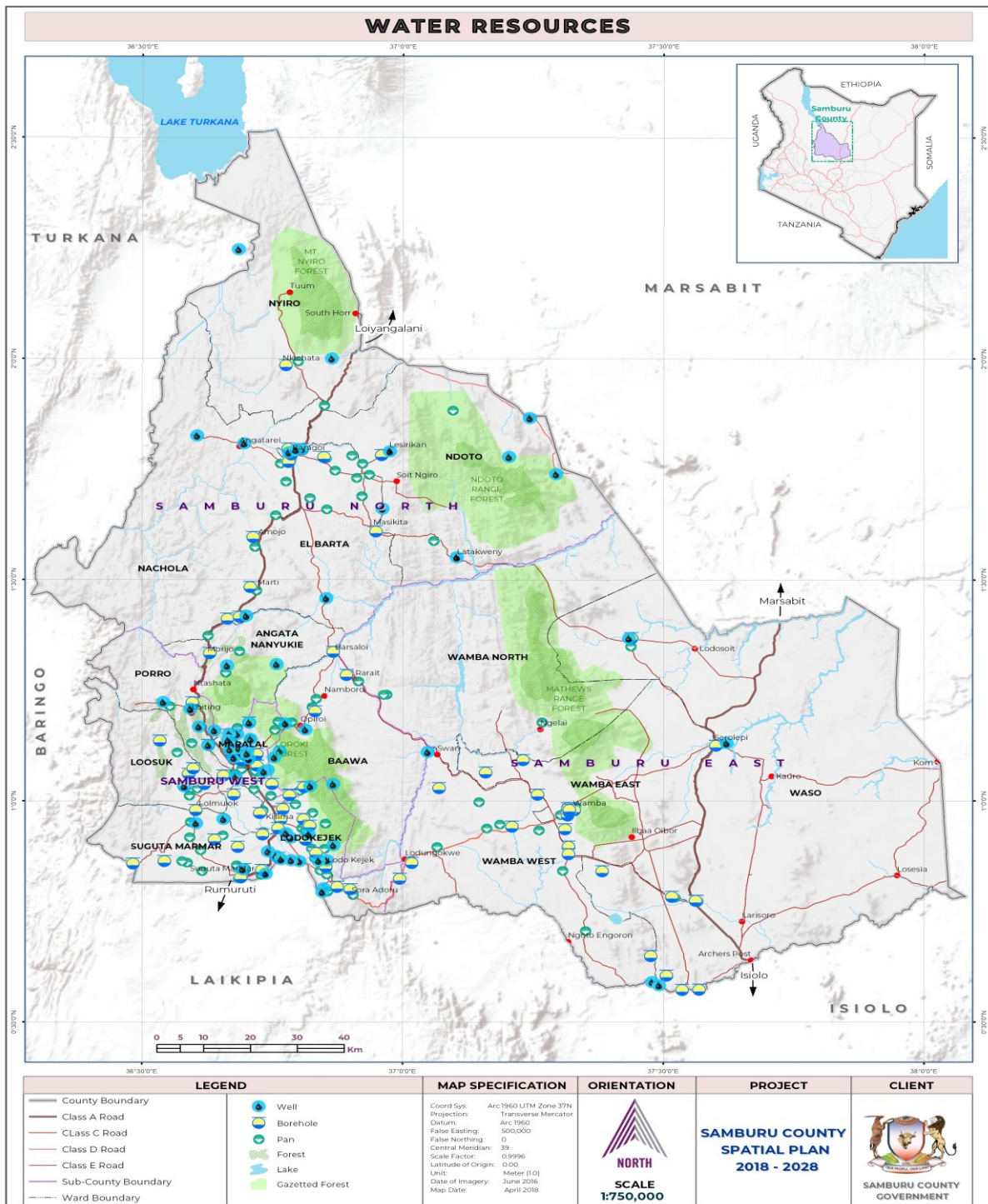
Water sources in the county include streams, wells, boreholes, dams, roof catchment and piped water. The households with access to borehole/spring/well water stands at 26,259 which translate to 28 percent of the population. There are also 8,563 households with access to piped water while 1,210 households have access to piped water into their dwellings. However, majority of the households, 54,977 which is 59 percent of the population still use rivers/streams as their source of water. The average distance to nearest water point is 5 km. In summary, water resources in the county are unevenly distributed in both time and space.

Figure 8-2: Household by Water Sources



© Fieldwork, 2016

Map 8-4: Samburu County Water Resources and Accessibility



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8.4.4 Water Accessibility Challenges

- Catchment degradation through de-forestation leading to erosion and high sediment loads in rivers
- Encroachment of riparian land and wetlands
- Inappropriate agricultural practices
- Water scarcity in semi-arid and arid areas
- Lack of awareness by the public, regarding
- Increased competing water demands
- Endangered ecosystems



8.5 Sanitation and solid Waste Management

8.5.1 Sanitation

Access to safe human waste disposal methods is crucial for the health and wellbeing of a community. Lack of access to safe human waste disposal facilities leads to higher costs to the community through pollution of rivers, ground water and higher incidence of air and water borne disease⁴. Majority of the households in the rural areas use pit latrines while urban sanitation comprises of septic tanks and pour and flush type of sanitation. Samburu among other counties in Kenya, Samburu had latrine coverage of 18%. The number of households with latrines stands at 30,449 representing 33 percent of the population. There are 156 households using septic tanks for disposal of sewage and wastewater, 1,922 households with VIP latrines, 28,527 households using pit latrines and a massive 62,901 households representing 67 percent of the population using bushes especially in the rural areas. Furthermore, the entire county has no sewerage system. People thus rely on septic tanks. About 90 percent of the households use a pit latrine, while 6.2 percent use VIP latrines. The proportion with Flush toilets is 3.3 percent, Bucket 0.2 percent while 0.4 percent of the population has no form of sanitation. This situation is undesirable, hence the need for a sewerage network and a proper management system.

8.5.2 Solid Waste Management

Effective, efficient and cost economical waste management facilities are crucial if industrial and enterprise activity is to flourish and develop in a balanced way across various regions of Kenya. Solid wastes in the major urban areas are a by-product of a broad spectrum of domestic, industrial, service and manufacturing processes. Most of the urban areas lack proper disposal sites and where they exist they are poorly sited or the capacity is exceeded.

8.6 Information Communication and Technology (ICT)

In order to overcome stagnant and decreasing economic growth, countries have to consider the possibilities offered by ICTs as they now play a catalytic role in several aspects of economic growth and social life. In fact, technological progress has been driving economic growth since 1990. The ICT sector infrastructure and networks, IT-related services and media is regarded as an engine of growth and a source of innovation, with some of the highest growth in productivity. The region is also poorly provided with telephone services and telecommunication facilities Mobile phone coverage is concentrated in and around major urban centres. Television access is limited to some areas in the county. In addition, the county has one local FM radio station. External FMs radio stations also play a big role in the dissemination of information. They also offer platforms for people to air their views and for authorities to disseminate policies and issues affecting the people.

8.6.1 Current ICT Initiatives and projects

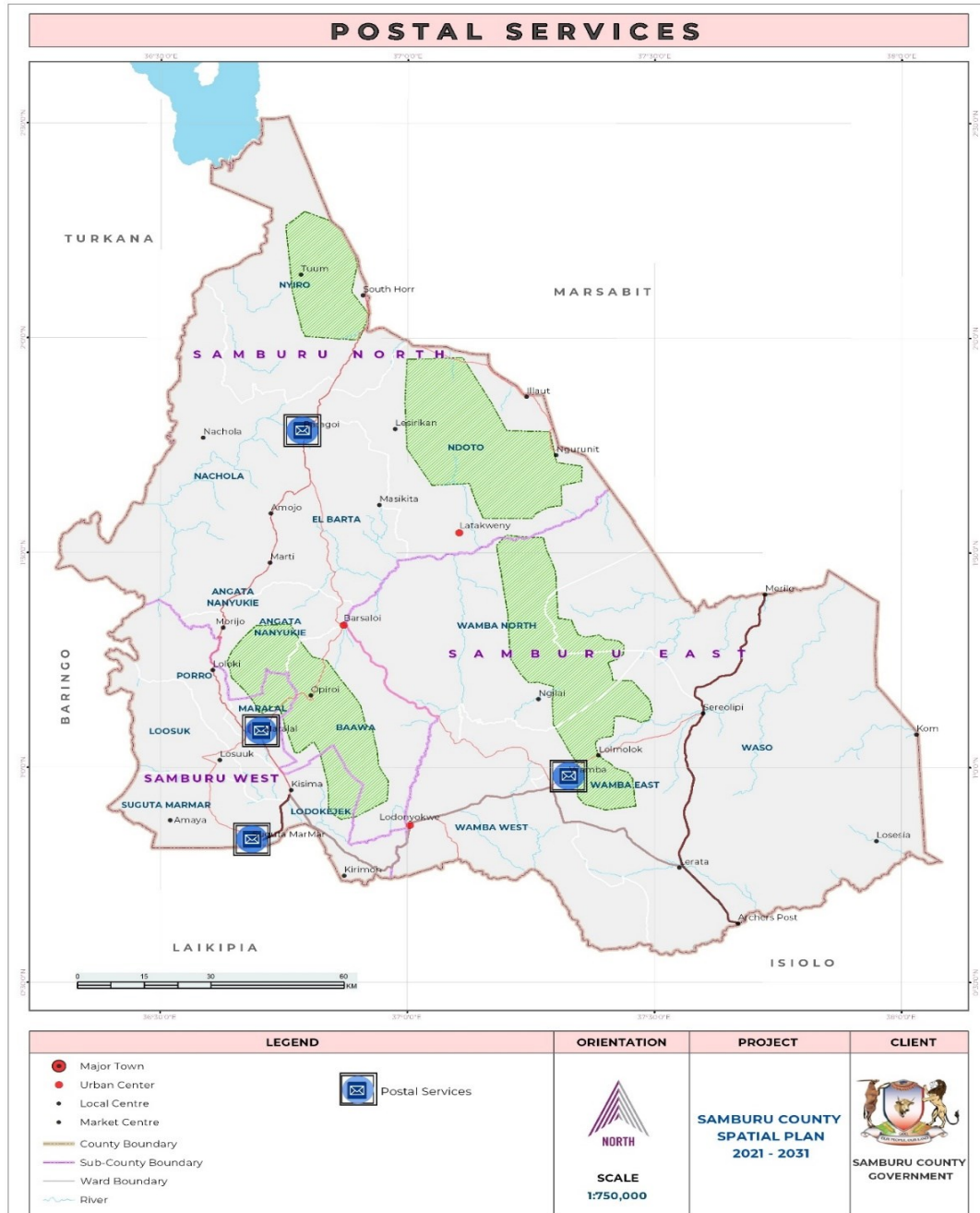
There are a number of ICT Initiatives and projects ongoing in Kenya including the Laptop Programme for primary schools, Digital Inclusion Projects (Pasha Centers/Digital Villages, Wezesha Initiative), Business Process Outsourcing (BPO), Local Content Programme (Tandaa .Digital Content Grants, Open Data Portal), Information Security and Other Initiatives (Konza Technology Park, zero-rated taxes on imported ICT hardware, E-Government and Skills Programmes) as part of digital inclusion initiative.

8.6.2 Postal Services

The county has four Post Offices situated in Maralal, Baragoi, Wamba and Suguta. The services provided at the offices include:

- Sending letters
- Agency services (Mpesa, KCB Mtaani, Airtel money, Post Bank)
- Government tax collection at the Maralal Huduma Centres

Map 8-5: Postal Services in Samburu County



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8.6.3 Courier Services

The County is served by different modes of courier services. Most courier services within the County are offered by road.

8.6.4 Communication Challenges

- Network reception due to inadequate telecommunication masts
- Power interruptions

9. SOCIAL INFRASTRUCTURE AND SERVICES

9.1 Overview

Social Infrastructure is the network of social facilities that support social and economic processes in a region. This chapter analyses existing social infrastructure and other service networks in the Samburu County, focusing on coverage, and distribution, impact and future requirements for county development.

9.2 Education

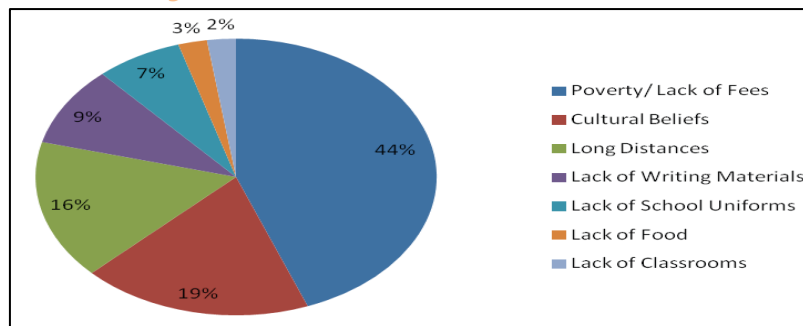
9.2.1 Literacy

Approximately 34% of the population has the ability to read and write. Through adult education classes offered by the department of adult education has seen this rate increase from 12% in 2013 to 34% by 2017 with a total of 3565 adult enrolments. The level of literacy is expected to continue increase across all education sectors of the County because of the introduction of free primary education, free day secondary and subsidized boarding secondary schools. Low literacy rates are due to various factors such as nomadic lifestyles, negative cultural practices, inaccessibility and inadequate education facilities. Concerted efforts to address the root causes of low literacy are therefore needed. Areas of focus include: provision of adequate education facilities, addressing negative cultural practices namely; FGM, early marriages and cattle rustling and changing nomadic lifestyle of the community.

9.2.2 Enrolment Rates

Generally the enrolment levels into in the Samburu County are low with majority of the students in the area mainly enrolling in primary schools.

Figure 9-1: Reasons for Poor Enrolment Rate



© Field Survey, 2016

9.2.3 Early Childhood Development Education

These are preparatory schools where children between 3-6 years are taught prior to joining primary schools. They may be attached to existing primary schools. These nurseries therefore will follow the pattern of distribution of primary school at 4000 catchment population. The recommended distance is 300-500meters and land requirement of 0.15-0.25hectares. Since this is the foundation of education there is need to channel more resources especially in rural areas to ensure that all the children under- five are enrolled and employ more teachers to reduce the teacher pupil ratio. The enrolment of pre-primary school has increased tremendously from 20,420 in the year 2013 to 42,938 in 2017. This can be attributed to investment by the county government in education which has helped to increase access and quality. This represents 49 percent enrolment rate. The priority areas under early childhood development include construction of classrooms and recruitment of ECD teachers.

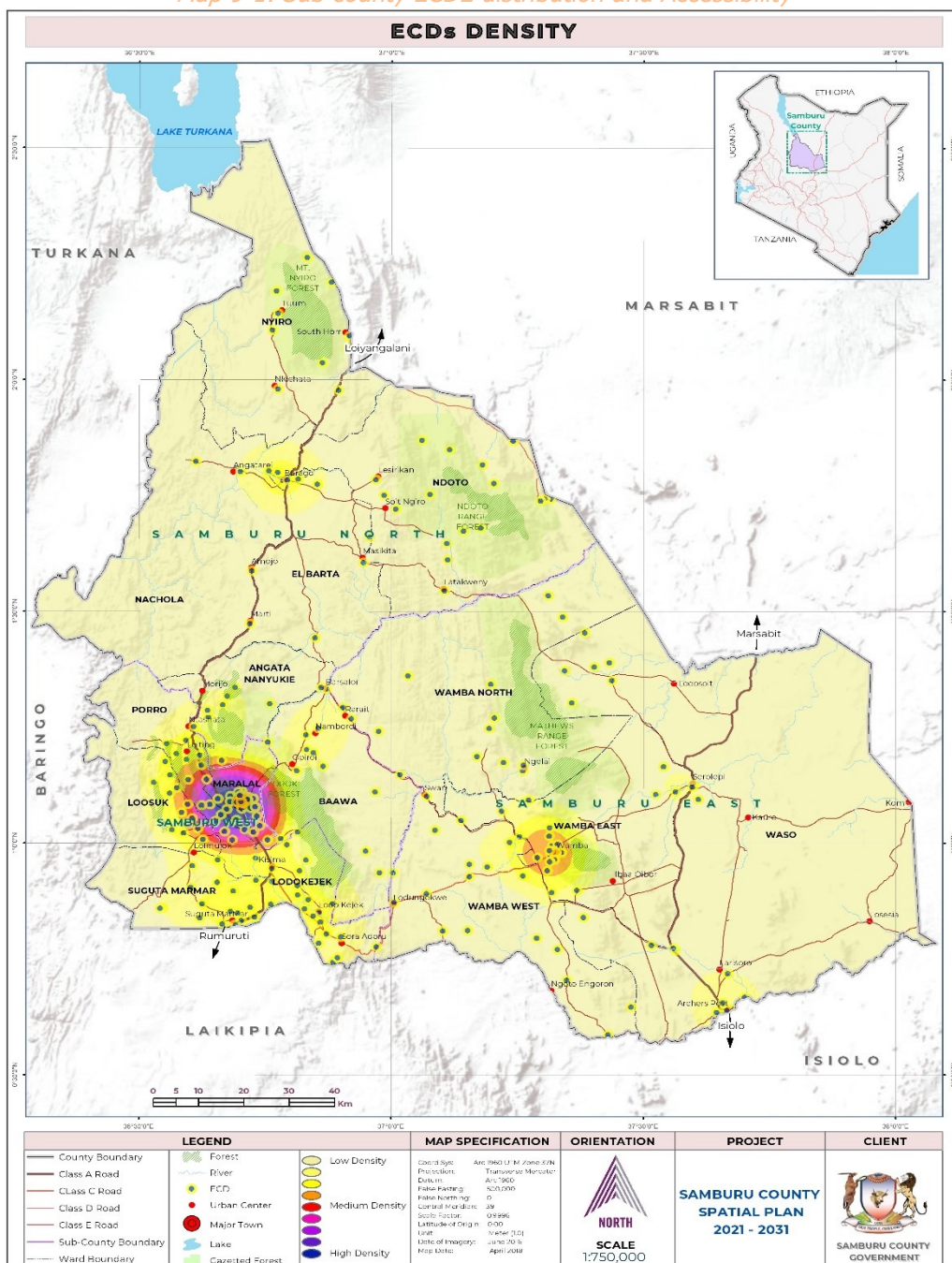
Table 9-1: Pre- School Education Enrolment, Teacher and Transition Rates

Sub-County	Boys	Girls	Total	Nº. of Centers	Nº. of Teachers	Ratio	Transition rates %
Samburu West	7017	6916	13,933	207	221	1:63	96
Samburu North	12427	7712	20,148	189	136	1:148	95
Samburu East	4736	4121	8,857	150	113	1:78	84
TOTAL	24180	18758	42,938	546	470	1:91	91.67

© ECDE Database 2017

The number of centres has increased from 470 to 546 this can be attributed to a series of programmes and partnerships with ECDE providers. The number of ECDE teachers has also increased from 41 to 470. The teacher pupil ratio is not in line with the ECDE policy and this can be attributed to inadequate number of teachers. Not all pupils transit from pre-primary in some of our areas due to insecurity, drought, illiteracy and ignorance.

Map 9-1: Sub county ECDE distribution and Accessibility

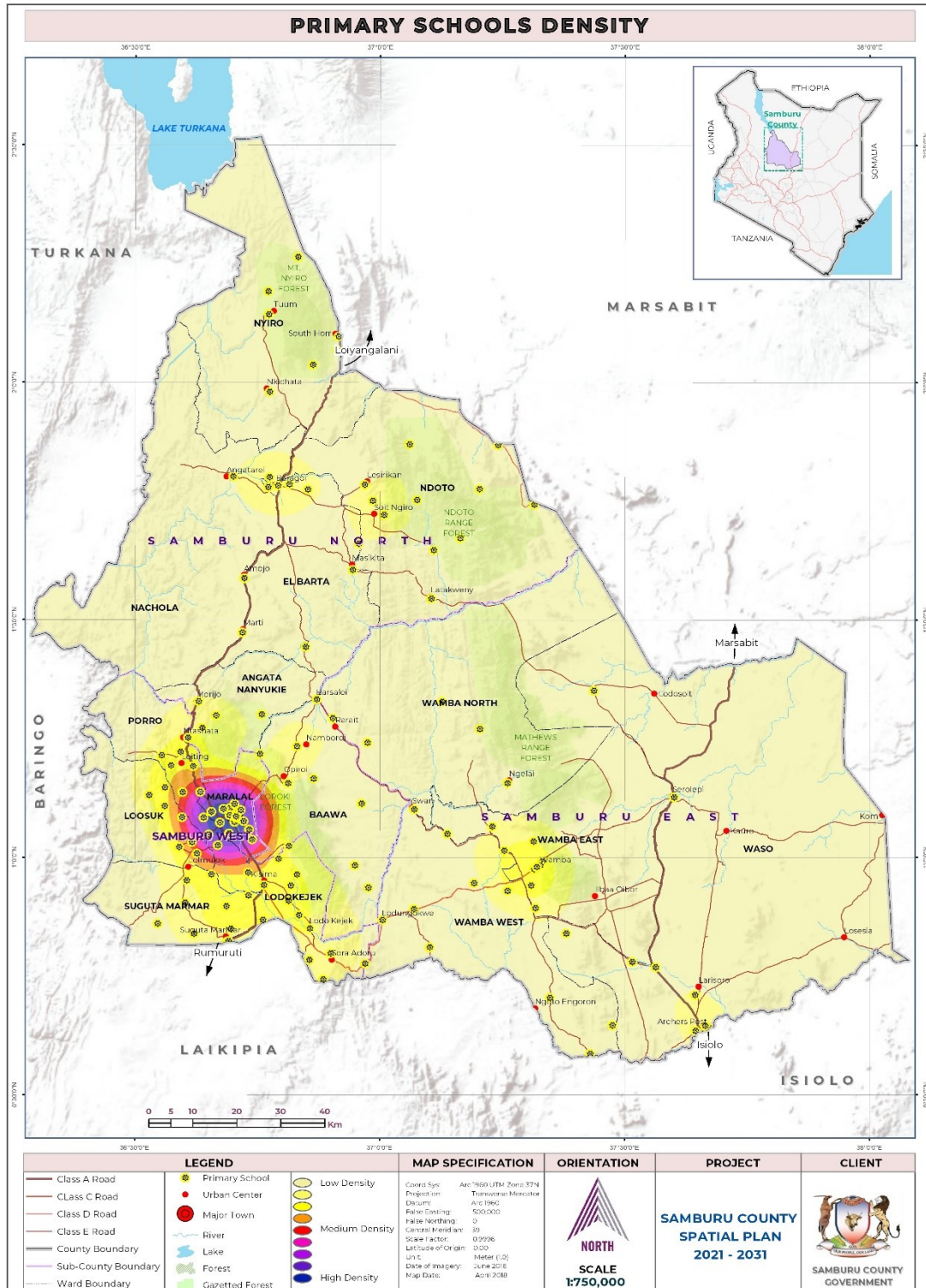


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9.2.4 Primary Education

A primary school is an establishment providing basic education covering a period of eight years for children age between 6-13 years inclusive. One school would be required for a population of 3,500. An area of 3.9 ha may be provided as a minimum. Allowing therefore for 12.5% pupil population from the surrounding areas, it is recommended that primary schools be provided on the basis of school/population ration of 1:3500. There are 164 Primary schools in the county with 1220 teachers and a total of 49,897 pupils enrolled translating to teacher/pupil ration of 1:41. Since the introduction of free primary education and the school feeding programme, enrolment has risen.

Map 9-2: Primary School Accessibility



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However, cultural values such as female genital mutilation(FGM), earlier marriages and moranism have been a challenge to the primary school enrolment hence interventions such as alternative rites of passage should be established to reduce their impacts on enrolment rates.

Table 9-2: Trends in Primary School Enrolment in Samburu County

Year	Boys	Girls	Total
2012	17,355	13,224	30,579
2013	17,837	13,344	31,181
2014	25,546	21,540	47,086
2015	25,794	21,640	47,434
2016	25,732	22,136	47,868
2017	26,281	23,210	49,491

Source: Samburu Cpounty Education Office, 2016

9.2.5 Secondary Education

Secondary schools provide education for four years to pupils who have completed standard eight. Secondary school age of statistical purposes is taken to be from 14-17 years inclusive and this age group accounts for approximately 10% of the total population. For rural areas, a 5,000-catchment population is required to have a secondary school provided. The minimum area required for triple stream mixed secondary school is 4.5 hectares.

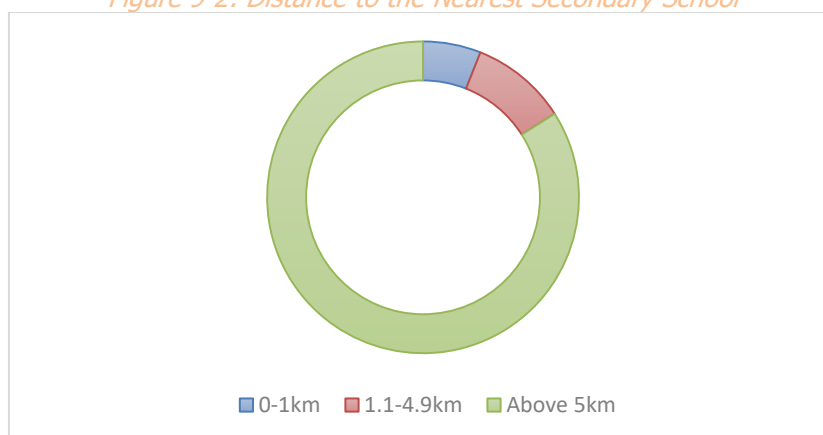
Table 9-3: Secondary Schools Enrollment Trends

Year	Boys	Girls	Total	% Of Boys	% Of Girls
2012	1,462	670	2,132	68.574	31.426
2013	1,650	903	2,553	64.443	35.557
2014	2,250	1,896	4,146	54.269	45.731
2015	3,813	2,237	6,050	63.025	36.975
2016	4,412	2,697	7,109	62.062	37.938
2017	4,740	3,274	8,014	59.146	40.854

Source: Samburu Cpounty Education Office, 2016

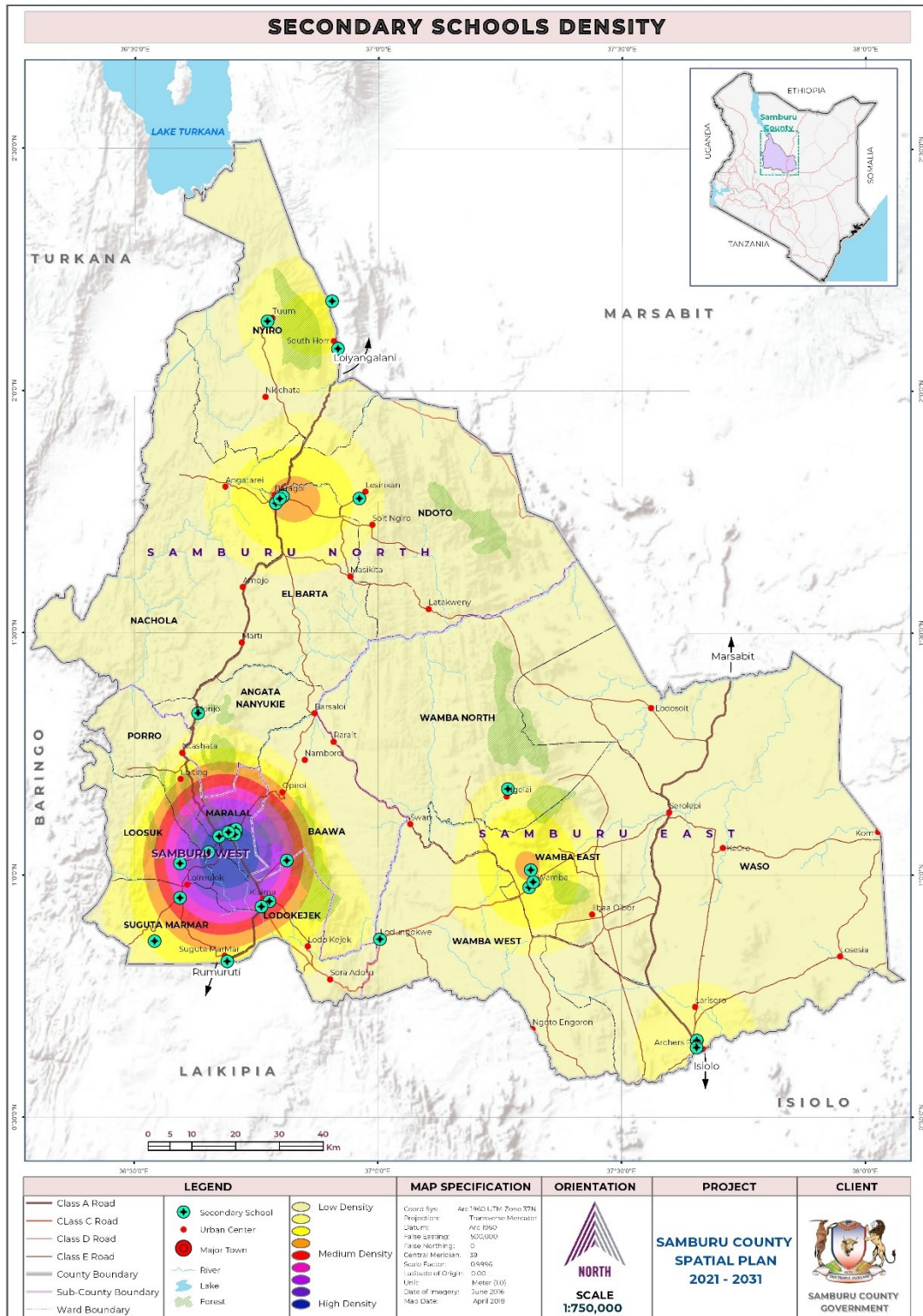
There are a total of 38 secondary schools with a total enrolment of 8,014 students and 319 teachers translating to teacher/ pupil ratio of 1:23. The low enrolment rate in secondary schools can be attributed to low transition rates from primary to secondary schools across most parts of the county.

Figure 9-2: Distance to the Nearest Secondary School



© Filed Work, 2018

Map 9-3: Secondary School Accessibility Analysis



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9.2.6 Adult and continuing Education

The total number of adult educational literacy centres in the county are 67 where by 16 are fulltime, 43 partime, 8 self-help and 6 are NGOs with the total enrolment of 3,565. These necessitate the need for establishments of more centres that will increase the adult literacy level in the county.

Table 9-4: Adult education report: centers and enrolment. December 2017

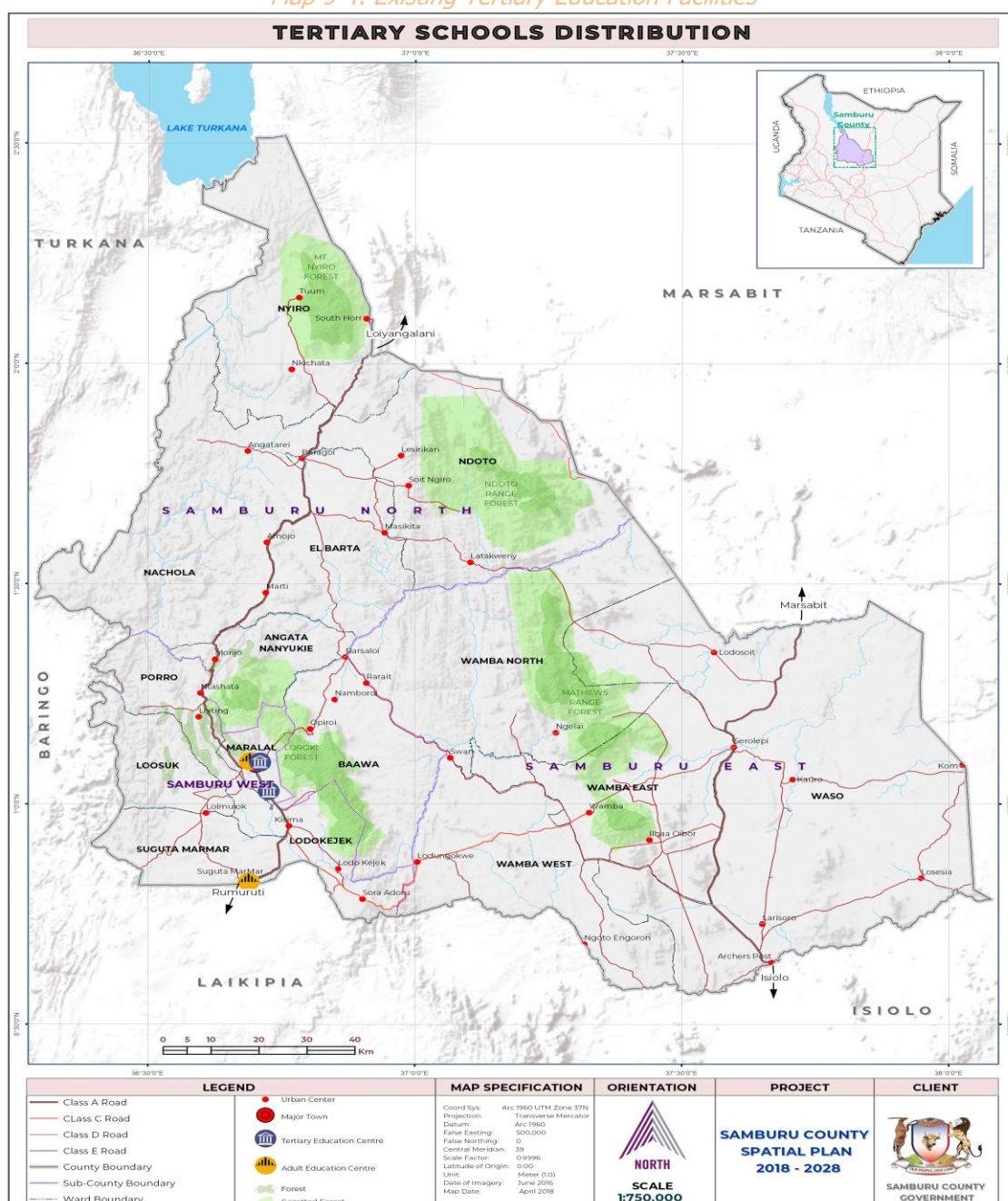
Sub county	No. of Basic Literacy Centres				
	Full- Time	Part- Time	Self- Help	NGOs	Total
Samburu Central	11	17		6	28
Samburu East	4	11			15
Samburu North	1	15	8		24
	16	43	8	6	67

Source: Samburu County Education Office, 2016

9.2.7 Tertiary Education

University/Tertiary education provides not only the high-level skills necessary for every labor market but also the training essential for teachers, doctors, nurses and other personnel. There are three institutions of higher learning in the county. These are Laikipia University Campus and the two privately owned colleges Samburu Teachers Training College, St. Irene Institute and Wamba Nurse training college located in Maralal and Wamba towns respectively.

Map 9-4: Existing Tertiary Education Facilities



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In addition the national government is in the process of establishing technical raining instates at every constituency. In Samburu Central Sub County the government has established one at Sirata. In Samburu North one has been established at Baragoi and one at Sereolipi for Samburu East Constituency. In addition the county government in conjunction with the commission of higher education has earmarked land for establishing a fully-fledged campus for Laikipia University in Maralal. There is need for more investment in tertiary institutions in the County. It was noted that the population of the young population continues to grow as shown in the projection graph below.

9.2.8 Projected Educational Facilities Gap and Demand Analysis By 2030

For a population threshold/catchment of 2500 one ECDE is to be provided. At recommended densities for low-income housing, the nearest school would be within easy walking distance the 300-500 meters. Ideally nursery schools should not front roads. One school would be required for a catchment population of 3,500. The idea here is to provide the neighbourhoods with adequate land for primary schools with the future requirements being taken into account. It is suggested that an area of at least 3.25 ha. should be set aside. To economize on land and reduce on distance that pupils have to walk form one place to the other within the schools compound, it is suggested that tuition blocks, libraries and offices should be accommodated in well-designed storeyed buildings wherever possible. The distribution of secondary schools should therefore be on the basis of school/population ration of 1:8000.

Table 9-5: Projected Education Facilities Demand Analysis

Ward	2019	Projected Population 2030	ECDEs	Primary Schools	Secondary Schools
Nyiro	15592	47201		16	6
Nachola	11622	28028		12	4
Ndoto	14912	35963		14	5
Angata Nanyukie	9747	23607		12	4
Poro	10578	25511		15	6
Loosuk	10240	24695		12	6
Wamba North	11522	27787		13	5
Baawa	11807	28476		14	4
Waso	17796	42918		18	5
Wamba East	16063	38739		15	5
Wamba West	13713	33812		15	5
Lokodjek	14020	33812		14	6
Suguta Marmar	11905	28711		12	6
Maralal	16955	40890		18	4
Elburta	13675	32980		14	6

©AIDAL Consultants, 2018

9.3 Health

With devolution, the health sector was devolved as a county government function. On this premise, it is expected that every county should at least have a level 5 County Referral Hospital; level 4 sub-County hospitals; level 3, 2, and 1 health facilities. The **Community Health Services (Level 1)** comprises all community-based health activities, organized around the Comprehensive Community Strategy (CCS). This is a no facility-based level. The **Primary Care Facilities (Levels 2 and 3)** comprises all dispensaries, clinics, health centres, and maternity homes. The **County Referral Health Facilities (Levels 4 and 5)** comprise all level 4 and 5 facilities operating in and managed by the County. All of the County-managed facilities form a County referral system, which shares specific services to form a virtual network. The County referral systems receive referrals from primary care facilities in its area of responsibility, from other county facilities in the County, and from facilities outside the



County (horizontal referral) and community units. The **National Referral Health Facilities (Level 6)** include the facilities that provide specialized health care services, such as hospitals, laboratories, blood banks and research institutions.

9.3.1 County Health Indicators

Many factors influence health status and a country's ability to provide quality health services for its people.

Table 9-6: Samburu County Health Indicators

Impact level Indicators	National estimates	County estimates
Life Expectancy at birth (years)	64yrs	52
Annual deaths (per 1,000 persons) – Crude mortality		8/1000 2*/1000
Neonatal Mortality Rate (per 1,000 births)	9/1000	11*/1000
Infant Mortality Rate (per 1,000 births)	40.71/1000	34*/1000
Under 5 Mortality Rate (per 1,000 births)	71/1000	50*/1000
Maternal Mortality Rate (per 100,000 births)	400/100,000	472*/100,000
adult Mortality Rate Male (per 100,000 births)	293/100,000	293/100,000
Adult Mortality Rate Female (per 100,000 births)	244/100,000	244/100,000

9.3.2 Diseases Prevalence and Morbidity

The five most prevalent diseases in the county are respiratory diseases (35.7 percent), malaria (28.9 percent), pneumonia (12.4), skin diseases (6.2 percent), and typhoid (2.2 percent). There is also need for closer monitoring of HIV and AIDS infection due to its socioeconomic impact on households and communities. Females are more vulnerable to sickness than males in the county. High prevalence can be attributed to socio-cultural practises revolving around marriage where multiple sexual partners are promoted by the society through a practise called beading (*Nkeri*). In addition, knife-sharing during circumcision contributes as well.

9.3.3 Location and Land Requirements

The preferred location for health services should be easily accessible by an ambulance and be provided with basic infrastructural services. Dependent on the level of health service, it is necessary to reserve adequate land for future expansion and for public cemeteries. The latter should be conveniently located relative to the health facility, major open spaces and other compatible public utilities. However, a minimum of the land requirements derived from empirical observations are made as follows:

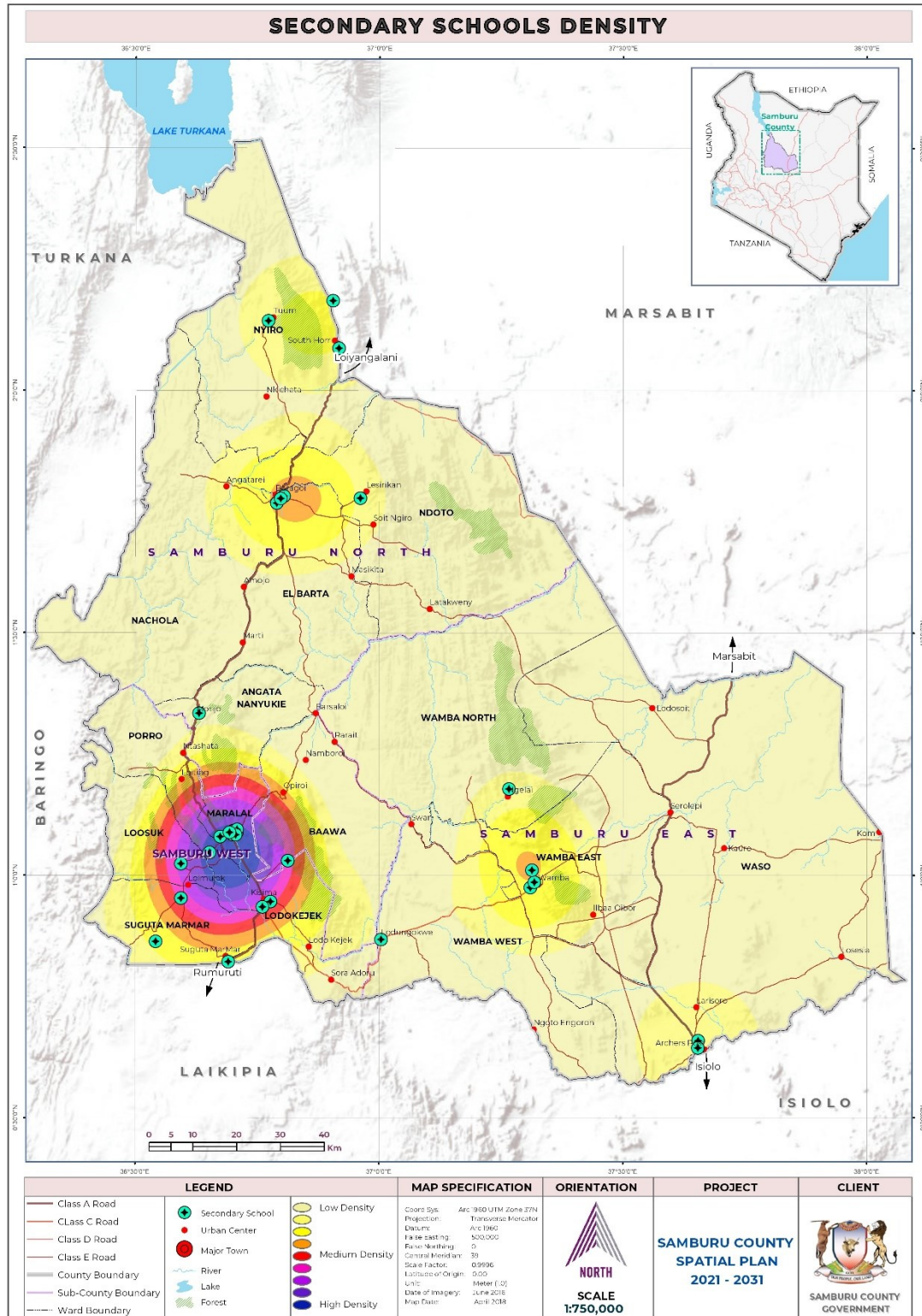
- Count referral hospital 8 hectares
- Sub county hospital 6 hectares
- Health center 3 hectares
- Sub-health centres 2 hectares
- Nursing Homes 0.4 hectares
- Veterinary clinics 0.1 hectares

9.3.4 Access to Health facilities and Distribution

Health services are primarily provided by Samburu County Government, church missions, private institutions and individuals. However, these facilities have tended to concentrate in a few urban centres with appropriate infrastructural base. The county has one county level four hospital at Maralal town which is a level 4 hospital, one faith-based hospital in Wamba and one sub-county hospital in Baragoi town in Samburu North. In addition the county is putting up a level 4 hospital at archer post. The county also has 15 level three health facilities, 54 dispensaries (47 public, 6 faith based and one owned by NGO,) and 15 private clinics in the county. Currently the county has a 30 functional Community Health Units accounting for 48% of the total expected units in the county. These units need to be increased to meet the county

target of 63 Community Health Units so that every ward can be reached by this level one services. A total of 1113 Community Health Volunteers are engaged on the provision of level one health care service on volunteerism basis. The bed capacity in the County referral stands at 180 beds.

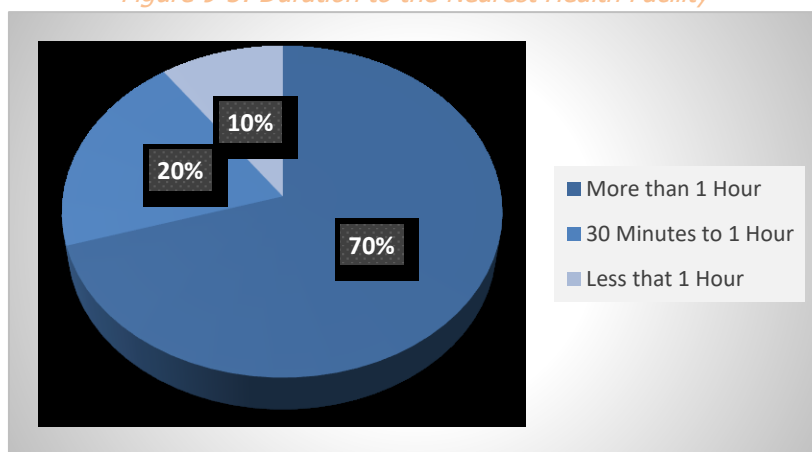
Map 9-5: Health Facility Distribution and Accessibility



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Doctor patient ratio stands at 1: 10,000 and nurses' patient ratio stands at 91: 100,000 which is below the accepted national standards of 1:1000 for doctors and 55: 100,000 for nurses. The average household distance to health facility is twenty Kilometers which is way above the national recommended distance of four Kilometers.

Figure 9-3: Duration to the Nearest Health Facility



© Field Survey, 2016

9.3.5 Projected Health Facilities Demand Analysis

For a population threshold/catchment of 10000 one dispensary is to be provided. In addition at a population threshold/catchment of 20000 one health centre is to be provided.

Table 9-7: Projected Health Facilities Demand Analysis

Ward	2009	Projected Population 2030	Dispensary	Health centre	Hospital
Nyiro	15592	47201	8	3	1
Nachola	11622	28028	6	2	
Ndoto	14912	35963	6	2	
Angata Nanyukie	9747	23607	5	2	
Poro	10578	25511	5	2	
Loosuk	10240	24695	5	1	
Wamba North	11522	27787	6	3	
Baawa	11807	28476	6	2	
Waso	17796	42918	10	3	1
Wamba East	16063	38739	8	2	1
Wamba West	13713	33812	7	2	
Lokodjek	14020	33812	7	3	
Suguta Marmar	11905	28711	6	2	
Maralal	16955	40890	9	3	1
Elburta	13675	32980	8	2	1

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9.3.6 Nutritional Status

The percentage of children at risk of malnutrition stands at 6.6 percent. Poor nutrition is attributed to food poverty that stands at 69.7% at the county. Currently, there are efforts by development partners to improve on child nutrition. World Food programme and ACF have programmes that address on nutrition in conjunction with Ministry of Health.

9.3.7 Immunization

Immunization coverage is still low in the county. With other parts of the country gearing to the achievement of 100 percent immunization coverage, the immunization coverage in the county stands at 65 percent. This is attributed to low staffing of health facilities, few and inaccessible health facilities and nomadic life style.



9.3.8 Family Planning Services

The contraceptive acceptance in the county is low, estimated at 9.2 percent. This is attributed to the culture of valuing many children as source of wealth and protection in the community, ignorance and high illiteracy. Due to awareness creation and family planning campaign, this acceptance is expected to rise.

9.3.9 Access to Family Planning Services

The contraceptive acceptance in the county is low, estimated at 9.2 percent. This is attributed to the culture of valuing many children as source of wealth and protection in the community, ignorance and high illiteracy. In order to increase the contraceptive acceptance levels, there is need for awareness creation and family planning campaign and reduction in the cost of family planning commodities.

9.3.10 Health Challenges

Challenges faced in provision of health services in the county include;

- Limited funding
- Inadequate medical personnel
- Poor infrastructure which hinders easy access to the health services
- Inadequate and uneven distribution of health facilities

9.4 Security Services

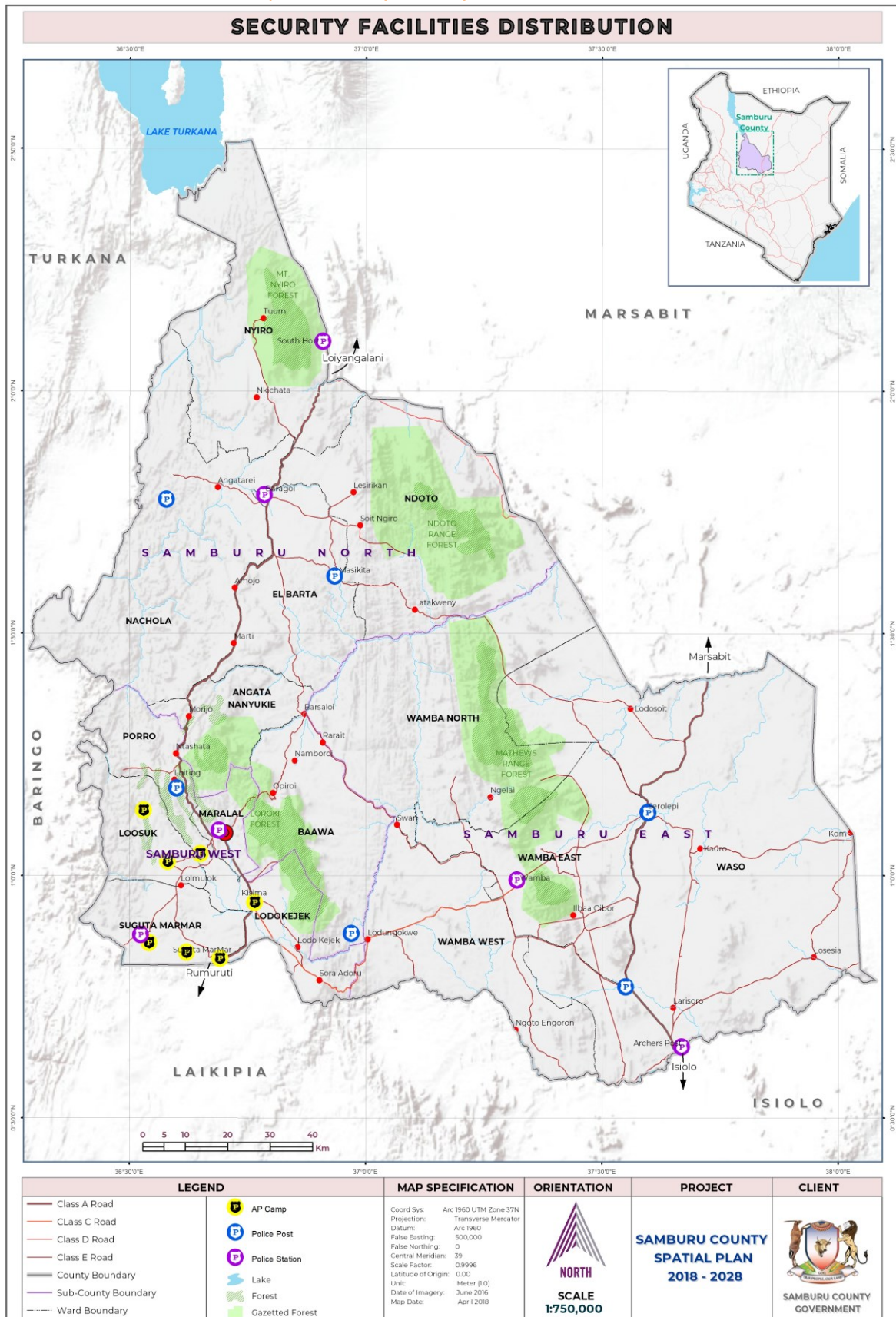
Insecurity is another major impediment to development. The county is prone to frequent cattle rustling between communities within the county and also with those from neighbouring counties of Baringo, Marsabit, Turkana and Isiolo. This is caused by cultural and economic factors. Community conflicts over pasture and watering points are also common during dry periods. Insecurity has completely paralysed farming activities around Loosuk, Amaiya and Poro areas. Other Conflict zones in the county include: Leparamari Ranges, Lbukoi White Hill, Marti Ranges, Lorian Ranges, Lomiroki Valley, Bendera, Nkoreche, Ngilai, Nachola, Naitiir Area, Marti, Mbukoi, Suyan, Moriyo, Logetei, Nachola, Ngilai, Loget Lusengap, Bendera, Mugur and Barslinga Nachola Ward. In addition, most of upcoming market centres and schools located around the areas prone to attacks do not develop due to desertion. Highway banditry especially along Rumuruti- Maralal – Baragoi and Isiolo Wamba- Maralal roads is yet another security threat.

9.4.1 Security Challenges

The following are issues that pose challenges in county:

- Inadequate housing facilities for the officers
- Transport. The vehicles for the officers are not enough
- Poor network in the area is a big problem in terms of communication
- Low motivation for the officers
- Most AP and police camps lack basic services such as water and electricity power
- Shortage of water in the camps is a major problem

Map 9-6: County Security Facilities Installation



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9.5 Recreation and Community Activities

Community activities comprise of meeting points such as social hall, library, and parks, among others. Libraries are instrumental in transforming the livelihoods of people through



provision of information resources. Recreation and sports are also part of community activities. Recreation is the refreshment of one's mind or body through activities that stimulate or amuses. The recreation areas here include:-

9.5.1 Playgrounds

Most Playgrounds are mostly found in education institutions.

9.5.2 Libraries

There is no library in the entire Samburu County. Library enhance literacy and reduces ignorance. There are no community libraries. Most institutions of learning comprising of colleges and secondary schools have library within for academic purposes.

9.5.3 Fire Stations

Fire stations is an essential component I disaster management. However in the entire Samburu county there is no fire station. In a rapidly urbanizing region such as Samburu with highly urbanized areas such as Maralal and Archers Post, there is need for a fire station with the necessary facilities. A fire station would require 1 fire engine and at least 10-30 staff members to cover a population of 50,000 – 100,000 such as Archers Post and Maralal town. The Physical Planning Handbook outlines minimum land required for a fire station as 0.4 hectares which will include station, staff accommodation and drilling area.

9.5.4 Stadiums

Most of the major urban centres have stadiums. However most of the stadiums are nor fully developed. Some have fenced hence reducing changes of encroachment and grabbing. In addition these have developed daises. There is need to develop the stadiums of the main urban centres such as Maralal, Wamba, Baragoi, Arches Post, Kisima , Baragoi and South Horr so as to enhance talent development.



10. INSTITUTIONS AND GOVERNANCE

10.1 Introduction

Institutions play an important role in the governing and implementation of development programs within a County. In addition governance is an essential tool in determining the level of success or failure of any intervention in the county. The county has several institutions which play a major role towards development in the region.

10.2 Institutional Framework

10.2.1 National Level Institutions

The national level institutions and discharge important roles that are important to the implementation of County Spatial Plans in the Country and particularly Samburu County. The institutions and some of the roles or relevance to County Spatial Plans are indicated below



Ministry	Constitutional Commissions & Other Agencies	State Corporations/Directorates	Relevance to CSP
Interior & Coordination of & Coordination of National Government	<ul style="list-style-type: none"> Defence, Intelligence, & Police Service) National Police Service Commission National Cohesion and Integration Commission 	<ul style="list-style-type: none"> Independent Policing Oversight Authority National Cohesion & Integration Commission National Authority for the Campaign Against Drug Abuse (NACADA) Immigration and Registration of Persons Kenya Police Kenya Prison Services 	<ul style="list-style-type: none"> Law, order and ensuring internal security Authentic citizen documents (Birth Certificates National Identity Cards and Passports, and Work Permits) Harmonious cohesive coexistence and ensure equal access to opportunities Fight against drugs and abuse of drugs National security intelligence to counter terror and crime Distribution of security infrastructure and capacity
Defence	<ul style="list-style-type: none"> Defence Forces & Defence Council National Security Council 	<ul style="list-style-type: none"> Kenya Defence Forces 	<ul style="list-style-type: none"> Forces security intelligence to guard against infiltration into the national communication system Distribution of security infrastructure
Ministry of Information, Communication and Technology		<ul style="list-style-type: none"> Kenya Broadcasting Cooperation Kenya Institute of Mass Communication Postal Corporation of Kenya National Communications Secretariat Communications Commission of Kenya Kenya Information Communication Technology Board 	<ul style="list-style-type: none"> Policy and standards on information and communication Dissemination of information to the Citizens through various media Regulations of actors in the communication sector to avoid parallel set up that can be a source of insecurity Issuance of license and frequencies to investors in the information and communication sector Freedom of dissemination of information and public awareness
Ministry of Environment and Forestry		<ul style="list-style-type: none"> National Environmental Management Authority Regional Development Authorities (KVDA and ENDDA) Kenya Wildlife Services Kenya Forestry Services 	<ul style="list-style-type: none"> Regulation the use of natural resources by people and their effects on others through (EIA & SEA) and Planning Policy, standards and regulations of utilisation of the natural resources Inventory and status assessment of the natural resources in relation to expanding human demands Coordinate the protection of natural resources of the Country
Ministry of Water & Irrigation		<ul style="list-style-type: none"> National Water Conservation & Pipeline Corporation Kenya Water Institute Water Resources Management Authority Water Service Regulatory Board Water Services Trust Fund Kenya Meteorological Department 	<ul style="list-style-type: none"> Policy, standards and regulations guiding utilisation of water and waste water Protection of the water towers and water sources through community initiatives by the water authorities Regulation of service agencies in charge of provision of water to the communities Lacks a land use Planning framework to guide protection of water towers and provision of water services
Petroleum and Mining			<ul style="list-style-type: none"> Policy, standards, and regulations guiding the mining sector Regulation of the mining sector



Devolution & National Planning	Transition Authority Public service Commission	<ul style="list-style-type: none"> • Vision 2030 Board • Kenya Bureau of Statistics • Constituency Development Fund Board • National Drought Management Authority • Kenya National Disaster Operation Centre (NDOC) • NGO Board 	<ul style="list-style-type: none"> • National development policy direction • Coordination of national development efforts • Research, storage and publication of vital social economic information on Kenya • Policy research, publication and dissemination • Inventory of all Government development initiatives • Lack of a sector wide approach to coordination of development efforts
Ministry of Youth and Gender		<ul style="list-style-type: none"> • Kenya National Youth Council • National youth service • Youth Enterprise Fund • Women Enterprise Fund 	
Finance & National Treasury	<ul style="list-style-type: none"> • Controller of Budget • Commission on Revenue Allocation • Salaries and Remuneration Commission 	<ul style="list-style-type: none"> • Kenya Competition Authority • Kenya Revenue Authority • Privatisation Commission • Public Procurement Oversight Authority • Retirement Benefits Authority • ICDC 	<ul style="list-style-type: none"> • Policy, laws regulations and standards on generation and utilisation of financial resources in Kenya • Free and competitive business environment for investment • Fair and independent allocation of revenue to counties and national Government • Regulation and monitoring the utilisation of the resources • Fairness and equality in remuneration within the public sector
Agriculture, Livestock & Fisheries		<ul style="list-style-type: none"> • National Irrigation Board • Kenya Agricultural Research Institute • National Cereals and Produce Board • Kenya Seed Company • Horticultural Crops Development Authority • Kenya Dairy Board • Kenya Meat Commission • Kenya Veterinary Vaccine Production Centres • Agricultural Development Corporation 	<ul style="list-style-type: none"> • Policy, standards, and regulations guiding crop, livestock • Research institutes that support the agricultural subsectors • Agricultural support financial institutions that provide loans to farmers • Responsible for land where agriculture is practiced both on private and public land • In charge of guiding on proper agricultural inputs to be applied by farmers
Industrialisation, Trade & Enterprises Development		<ul style="list-style-type: none"> • Kenya Leather Development Council • Industrial Commercial and Development Cooperation • Savings and Credit Societies Regulatory Authority • Kenya Investment Authority • Kenya Industrial Research and Development Institute • Kenya Industrial Training Institute 	<ul style="list-style-type: none"> • Policy, laws, regulations and standards on industry, trade, and enterprises • Incentives for industrialisation and commerce • Creation of industrialisation zones small scale and agro industrial parks • Cortication of products and services • Enable the innovators to patent their inventions • Training of local labour on industrial skills • Market access for products and services • Competitiveness of Kenya as an investment destination is a challenge



		<ul style="list-style-type: none"> Kenya Bureau of Standards 	
Tourism		<ul style="list-style-type: none"> Kenya Tourism Board Kenya Tourism Development Cooperation Tourism Trust Fund 	
Labour & Social Welfare		<ul style="list-style-type: none"> National Industrial Training Authority National Social Security Fund National Council of persons with Disabilities National Council for Children services 	<ul style="list-style-type: none"> Policy, laws, regulations and standards of faire labour practices Resolution of labour disputes Welfare and rights of children under difficult circumstances Training of labour to acquire technical skills
Sports, Heritage and Culture		<ul style="list-style-type: none"> National Museums of Kenya 	<ul style="list-style-type: none">
Lands and Physical Planning	National Land Commission	Settlement	<ul style="list-style-type: none"> Policy on land use, land policy, laws, regulations and standards Coordination of inter County Planning Oversight over land use Planning Land administration Coordinate resource based Planning and resolution of conflicts Determination of location of development and land use in the entire country at both national and county Provision of an integrative Planning framework that coordinates all sectoral development efforts
Transport Infrastructure, Housing & Urban Development		<ul style="list-style-type: none"> National Transport and Safety Authority Kenya Civil Aviation Authority Kenya Roads Board Kenya National Highways Authority Kenya Urban Roads Authority Kenya Rural Roads Authority LAPSETT Corridor Development Authority 	<ul style="list-style-type: none"> Policy, laws, regulations on transport, housing and urban development Responsible for design, and implementation of roads, ports, and airports as well as railway Responsible for urban development and housing There is lack of coordination between land use Planning and transport Planning
Energy & Petroleum		<ul style="list-style-type: none"> Kenya Power and Lighting Kenya Energy Generating Company Kenya Electricity Transmission Company National Oil Corporation of Kenya Kenya Pipeline Company Energy Regulatory Commission Rural Electrification Authority 	<ul style="list-style-type: none"> Policy, standards, and regulations of the sector Ensure the distribution of power to the citizens of the County Responsible for energy infrastructure in the Country as a network and nodal points Determination and regulations of energy producers Setting up of energy tariffs for petroleum and electricity Equal access to power is still a challenge in the energy sector Inadequately coordinated with land use and relevant stakeholders
Education, Science & Technology	Teachers Service Commission	<ul style="list-style-type: none"> Kenya Education Management Institute Kenya National Examination Council Kenya Institute of Special Education 	<ul style="list-style-type: none"> Policy, standards, and regulations of the education sector Management of the examinations in the Country Regulation of higher education



		<ul style="list-style-type: none"> Commission for University Education 	<ul style="list-style-type: none"> Employment and facilitation of teaching personnel Distribution of quality schools is a challenge to the ministry as well teaching personnel Inadequately coordinated with land use and relevant stakeholders
Health		<ul style="list-style-type: none"> Kenya Medical Supplies Agency Kenya Medical Research Institute Kenya Medical Training College National Aids Control Council National Hospital Insurance Board 	<ul style="list-style-type: none"> Policy, standards and regulations in the sector National health insurance services Training and regulation of health professionals Provision of immunisation programmes Challenge of distribution of health facilities
Attorney General and Department of Justice	<ul style="list-style-type: none"> Kenya National Human Rights and Equality Commission Judicial Service Commission 	<ul style="list-style-type: none"> Kenya Law Reform Commission National Crime Research Centre Commission on Administrative Justice Kenya Copy Right Board Advocates Complaints Commissions 	<ul style="list-style-type: none"> Drafting of laws and regulations Interpretation of various legal status requiring clarification Inadequate linkage between law and policy. Ensure equal access to justice and protection of the rights of all Provide cheques and balances on the excesses of both the executive and the legislature



10.2.2 County Government of Samburu

Samburu County Government is an entity exercising constitutional authority. The functions that the County Governments have been assigned are mainly; county legislation, exercising executive functions and establishment and staffing of its public service.

1. The County Assembly

Article 175 (a) of the Constitution is explicit on the need for separation of powers. Separation of powers is implied to mean County Executive and County Assembly. It also states in article 185 that the County Government shall consist of a County Assembly and a County Executive. In line with the Constitution, the following are the functions for the County Assembly;

- Make laws that necessitate effective performance of the County Government;
- Provide oversight over the county executive committee and
- Approve plans and policies

Therefore, this organ shall be crucial in ensuring that there the executive is effective and resources are used efficiently. This organ is also responsible for approving the county Plans and ensuring that the projects and programs are implemented accordingly.

2. The County Executive Committee

The County Executive Committee has been established vide Article 176 (1) of the Constitution. The County Executive Committee consists of the Governor, the Deputy Governor and 9 County Executive Committee members. The County Executive Committee is tasked with implementation and coordination of all development projects in the County. It's also the arm that is charged with the overall enforcement of all the laws passed by the County Assembly. The County Executives Committee generates all development plans and budget, having considered public input before taking it to the County Assembly for approval.

3. Decentralized Units

The function of the county will be decentralized to cover key units such as: urban area Maralal, Sub-counties; Wards and Village. Each of the decentralized unit shall be headed by an administrator who shall be appointed by the County public service board. The sub county administrator shall be responsible for the coordination, management and supervision of the general administrative functions of the sub county. The ward administrators and village administrators shall carry out the same functions corresponding to their levels. The sub county administrators shall be responsible to the relevant county chief officer while the Ward administrator shall be responsible to the sub county administrator. The village administrator shall report to the Ward administrator. The village will be the lowest level of decentralizing the county activities. Each village will establish will establish a coordinating the participation of the respective village in governance of the county, monitor implementation of policies at village level and advising the ward as well as sub county administrator in matters relating to that village.

10.3 Non-State Actors

There are some of the Non-State actors that play a vital role in regulation and provision of services vital for the people of Samburu.

10.3.1 Private Sector

The private sector within the County comprises of; financial institutions, SMEs, Educational institutions and Credit and Savings societies. The financial institutions in the County are numerous with most of them distributed within the major urban centers. These institutions



provide financial services to its members i.e. they provide credit facilities and enable flow of money through the economy. Private educational institutions comprise mostly of ECD schools followed by primary schools, secondary and technical institutes. These institutions have helped reduce illiteracy levels within the county.

10.3.2 NGOs

Non-governmental organizations (NGOs) are non-profit organization that operates independently of any government, typically one whose purpose is to address a social or political issue. NGOs are now recognized as key third sector actors on the landscapes of development, human rights, humanitarian action, environment, and many other areas of public action. The county has a number of NGOs working in their various capacities to complement the development initiatives: ACTED, World Vision, Compassion, SAIDIA, Child fund, AMREF, FADV, Catholic Relief Services, SNV, IMPACT, BOMA, NRT Plus, Feed the Children, UNICEF, Norwegian church aid, action aid and Practical Aid.

10.3.3 Civil Societies

The county has a number of civil societies working in their various capacities to complement the development initiatives of the Government. Civil societies in the county comprise of Non-Governmental Organizations, Community Based Organizations and Religious Organizations. These organizations complement development Initiatives by the two levels of government. The actors are engaged in several sectors such as Food Security and Livelihoods, Health and Nutrition, Disaster Management, Water, Sanitation and Hygiene, Gender and Human rights, Peace building and conflict resolution, social protection, Advocacy and governance.

- Local Non-Governmental Organisations: SAIDIA, , BOMA, NRT Plus,
- Faith Based Organisations: Caritas Maralal, ACK, PAG, KAG
- Public Benefits Organisations:
- Special Interest groups: FIDA, COVAW

Table 10-1: Non-Sate Actors in Samburu County

Development Partner	Sector	Areas they Work
USAID	Health Child Protection	
World Food Programme	Food Security and Livelihoods Disaster Management Transformative leadership Gender	
UNICEF	Nutrition	
World Vision	Child Protection Food Security Child Protection Education Water, Sanitation and Hygiene	Samburu Central
FADV	Child Protection Food Security Education Gender and Human Rights	
Caritas Maralal	Disaster Management Food Security Peace Building and Conflict Resolution Advocacy and Governance Gender and Human Rights Water, Sanitation and Hygiene Education	Samburu Central Samburu East Samburu North



10.3.4 Cooperative Societies

Cooperative societies will play a critical role in the development of the county by providing a better interaction between savings and investment. The County has 48 registered cooperative societies. However, only 30 are active while the rest are either dormant or have collapsed. The active cooperatives deal with a variety of activities which include marketing, savings, consumers and housing, mining, multipurpose and unions. SACCOs have enormous potential to mobilize additional savings and to provide credit, especially to sections of the population that do not use banking services and the low-income groups.

10.3.5 Self Help, Women and Youth Groups

The establishment of Government devolved funds as well as grants have led to registration of a number of Self Help Groups, Women, Men, Youth and Community Based Organizations (CBOs). These groups and CBOs undertake economic activities such as mixed farming, table banking, capacity building, environmental conservation and other small and medium enterprises. Through these groups the county hopes to increase its human and social capital.

10.4 Local Community's Governance Structure

In each pastoral group the interpretation and application of governance is slightly different, though across all there are guiding principles, including the protection of group (e.g. clan) assets and rights (which often occurs at the expense of individual rights), reciprocity, inclusivity rather than exclusivity, and the redistribution of wealth and assistance to poorer groups in the community. Rules and regulations tend to be unwritten, and may include the prohibition of certain activities in order to ensure that resources are used and maintained appropriately. In pastoral societies there are clear, usually hierarchical governance structures that lead community decision-making processes and, for example, control access to land and rangeland resources. These have developed in different ways in different areas, influenced by the demands of the communities they serve, the natural environment, and political forces, amongst other factors. In some cases there may be specific governance structures for a particular resource (such as water), but in other cases decisions about all resources are made by a central group of community decision-makers. These decision-makers are usually elders, considered to be knowledgeable, and male, though opportunities will exist for others (women, youth, etc.) to influence the decisions made. The social organisation and traditional resource management systems of pastoral communities have greatly contributed to the continuity of social and ecological systems for centuries.

It is very important for the county spatial planning process that existing community organizations and traditional management systems, territorial demarcations, and dispute resolution mechanisms are well understood. This diversity of local institutions, approaches, and traditions of planning and management must be taken into account in county spatial planning, and the process adapted to local conditions. The CSP will play an important role in recognizing and giving legal weight to planning that communities have already done. It is also important to note that most rangeland areas in Kenya are on Community Land, which means land that belongs to communities and is managed by them. The pastoralist communities are organized in group ranches. In recent years, the community conservancies approach has emerged, driven by objectives around wildlife conservation and the development of livelihoods and economic incentives, especially through tourism. In some cases, the community conservancies are made up of one or more group ranches.



11. SCENARIO BUILDING

11.1 Overview

This chapter brings out the various development scenarios that could be adopted as a basis for spatial development in Samburu County. These scenarios/ models are developed through the overlay of various spatial depictions such as population, infrastructure, human settlement, environmentally sensitive areas, natural features, climate, etc. so as to identify the clustering of issues to be addressed and optimal layout for development of the county. The scenarios are based on various aspects such as the identified development challenges and opportunities in the county as well as the regional setting of the county. These scenarios are then evaluated and the one or hybrid of scenarios that covers the best development approach chose. It is then on the basis of the identified preferred model/scenario that the spatial plan is developed.

11.2 Synthesis of Emerging Issues

This section presents a synthesis of emerging planning issues.

11.2.1 Development Challenges

The following are the main challenges to development in the county:

- a) Low level of infrastructure facilities and other capital developments, which is manifested by extensive lack of all-weather access roads throughout the county
- b) Inadequate health, education and other social service facilities that fall far below the national average;
- c) Undeveloped water resource, severe lack of readily available water supply for domestic consumption and sanitation, irrigation agriculture and livestock production;
- d) High levels of poverty, low penetration of devolved funds, very poor access to development resources and opportunities for wealth creation at the grassroots;
- e) Risk of disasters from flooding, recurrent famine and droughts that lead to recurring loss of human life and household assets (including livestock);
- f) Environmental degradation;
- g) Weak organizational capacity in grassroots institutions for effective resource mobilization and implementation of community based programmes and projects;
- h) Erosion of indigenous/ traditional institutions, values and norms; and
- i) Endemic insecurity occasioned by cattle rustling and banditry

11.2.2 Development Opportunities

- a) Vast land resources, human settlements and agriculture development;
- b) Vast potential for untapped mineral resources for industrial development;
- c) Potential for green energy in form of wind and solar energy
- d) Existing game reserves, conservancies and tourist sites and vast potential for opening new ones to expand the tourism industry;
- e) Abundant livestock resources;
- f) Availability of entrepreneurial human resource;
- g) Rich and diverse culture with potential for cultural-tourism; and
- h) Abundant, readily available and vast material resources that are cheaply available for infrastructure (roads) and building industries.
- i) Vast number of non-state actors carrying out various development projects in the county.



Table 11-1: Development Opportunities and Constraints

Sector	Opportunities/Potentials	Constraints/Challenges
Location Context	<ul style="list-style-type: none"> • Located in central Kenya • Located in in livestock, wildlife region in Kenya • Greater focus by the central government in northern Kenya(LAPPSSET) 	<ul style="list-style-type: none"> • Located in an ASAL region
Natural Environment	<ul style="list-style-type: none"> • Abundance of wildlife resource • Potential for mineral • Solar and wind resources for green energy • Beautiful scenery(malaso) for tourist attraction 	<ul style="list-style-type: none"> • Soil erosion along laggas • Encroachment of forests by settlements eg Leroghi and Nyiro • Rangelands degradation due to poor planning and management practice • Low underground water potential • Depletion of forest resources such as cedar and podo trees • Unregulated sand harvesting along laggas • Erratic climate and climate change • Human-wildlife conflicts especially at Kirimon area
Population and Demography	<ul style="list-style-type: none"> • Cosmopolitan nature of the county • Youthful population to spur economic development • Traditional system in conflict resolution and community and administration 	<ul style="list-style-type: none"> • Growing and youthful population • Lack of employment opportunities • Skewed population distribution • sparse population distribution • high illiteracy levels • intercommunity conflict • vicious/cyclic poverty • Regressive cultural practices such as cattle rustling and FGM early marriages • Gender and development
Land and Human Settlements	<ul style="list-style-type: none"> • Vast land for development • Vast rangeland for livestock production • Urban settlements that have great potential for growth • An array of centres for urban development • Ongoing town planning in some of the town 	<ul style="list-style-type: none"> • In the absence of a land use policy, Lack of security of tenure • Political interference in land adjudication • Most urban centres in the county are not planned • Some urban centres have stagnated in growth due to insecurity(Baragoi and Marti) • Poor urban-rural linkages • Lack of land use planning in rural areas • Emerging informal settlements in Maralal, archers post • Inadequate housing infrastructure • Inadequate infrastructure in most settlements • Land degradation especially in the rangelands
The Economic Base	<ul style="list-style-type: none"> • Vibrant livestock sub sector that can spur economic development • Abundance of minerals resource • Potential for agro-tourism, apiculture • Potential for irrigation farming at Arism, Ngutuku Engoron, Kurungu among others • Proposed LAPPSET to spur growth in the corridors • High potential for eco-tourism 	<ul style="list-style-type: none"> • Low industrial growth within the county due to lack of a policy document to guide industrialization. • Under exploitation and exploration of mineral resources within the county • Inadequate livestock infrastructure • Inadequate financial institutions especially in most urban centre • Poor regional road, and poor rural linkages • Tourism potential has not been fully exploited and tapped • Cattle rustling and banditry poses challenges
Transport and Infrastructure	<ul style="list-style-type: none"> • Proposed LAPPSET corridors opening up the county nationally and regionally • Proposed upgrading of C77 to A4 and subsequent 	<ul style="list-style-type: none"> • Access road to the county are poor • County missing links • Poor rural-urban linkages • Unclassified roads and poor roads hierarchy • Poor county roads • Undeveloped public transport



	<ul style="list-style-type: none"> upgrading to tamarck standards Adequate road reserves for road provision Various airstrip to enhance air transport Huge potential for green energy 	<ul style="list-style-type: none"> Inadequate parking bay, terminal facilities Over reliance on wood energy Some centers are not connected to the national grid (poor electricity supply) Water scarcity Lack of sewerage system in urban areas Poor mobile network coverage in the county Climate change experienced in the county has resulted to erratic rainfall/frequent Despite the green energy potential, the high costs of installation of green energy plants incapacitates its exploration. Lack of connection to electricity supply within rural areas is majorly attributed to the high poverty rates for most rural residents and low power voltage lines that cannot meet the demand
Social Infrastructure and Facilities	<ul style="list-style-type: none"> Many stakeholders providing service in the county Devolution and firth decentralization of service Opportunities for public participation in issues pertaining to the people 	<ul style="list-style-type: none"> High illiteracy level Poor infrastructure of education facilities and understaffing Inadequate higher learning institutions Retrogressive culture Lack of equipment in most health facilities Understaffing in health facilities Insecurity in the county caused by cattle rustling and banditry Inadequate recreational facilities and other social amenities Unequal spatial distribution of facilities
Institution and Governance	<ul style="list-style-type: none"> A wide array of institutions engaged in various development activities Enhanced civic/community participation in development planning 	<ul style="list-style-type: none"> Lack of coordination in development planning hence duplication effort Inadequate funding framework

11.3 SWOT Analysis

Strengths

The devolution setup presents a great opportunity for the county to exploit its resources to the full and improve its competitiveness in the country. There are several strengths that the county can leverage on:

- Strategic location the central-north parts of Kenya
- Scenic physical features with huge touristic potential
- Multi-ethnic diversity and diversity

Weaknesses

The County is also faced by a number of weaknesses:

- Inadequate human resources at the county level to implement various programme
- Inadequate funding to implement the programmes
- Pressure on infrastructure facilities

Opportunities

Devolution has presented a broad range of advantages in terms of how counties can govern their resources and improve on their competitiveness in the country and the region. There are a number of opportunities that can be exploited to enhance the level of development in the county and aid in achievement of the vision. These include:

- Markets in the region for the county products and services



- Regional cooperation with surrounding counties to have joint plans for trans-boundary areas
- oil exploitation: This is a good opportunity for growth in the county and enhancing the competitive edge in the country

Threats

The impending threats concerns the global climate change whose effects are already being felt in the county through unreliable weather patterns and shrinking of lakes in the county. The other aspect is instability related to politics.

11.4 Spatial Planning Design Considerations

In preparing the county spatial plan, the design was influenced by Key design considerations including structuring elements, population growth, human settlement, existing land use and planning vision.

11.5 Structuring Elements

11.5.1 Forests

Samburu County is home to some of Kenya's unique and indigenous forest woodlands. The understanding of these environmental natural resources as key pillars to the economy of Samburu County are very important in the making of this Spatial Plan.

11.5.2 Wildlife Habitats

Samburu County is inhabited by an innumerable variety of wildlife. Understanding this phenomenon and interrogating the factors leading to the resulting wildlife movement really shaped the direction of the most desired County Spatial Plan.

11.5.3 Human Settlements Structure

County 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

i. 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. 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.

ii. Rural Dispersed Settlement

The concept of rural dispersal is used to delineate settlements of a purely rural nature and of a relatively low density. Rural settlements are characterized by scattered manyattas. Provision of services to this type of settlement is expensive.

11.5.4 Major Transport Corridors

Samburu County is strategically located in central-rift valley of Kenya. The county is traversed transport corridors that are of national and regional importance. Major roads that are likely to influence the form and structure of the plan include the international A2 and A4 road that opens Kenya to Ethiopia. Samburu County settlement are dominant along the main highway

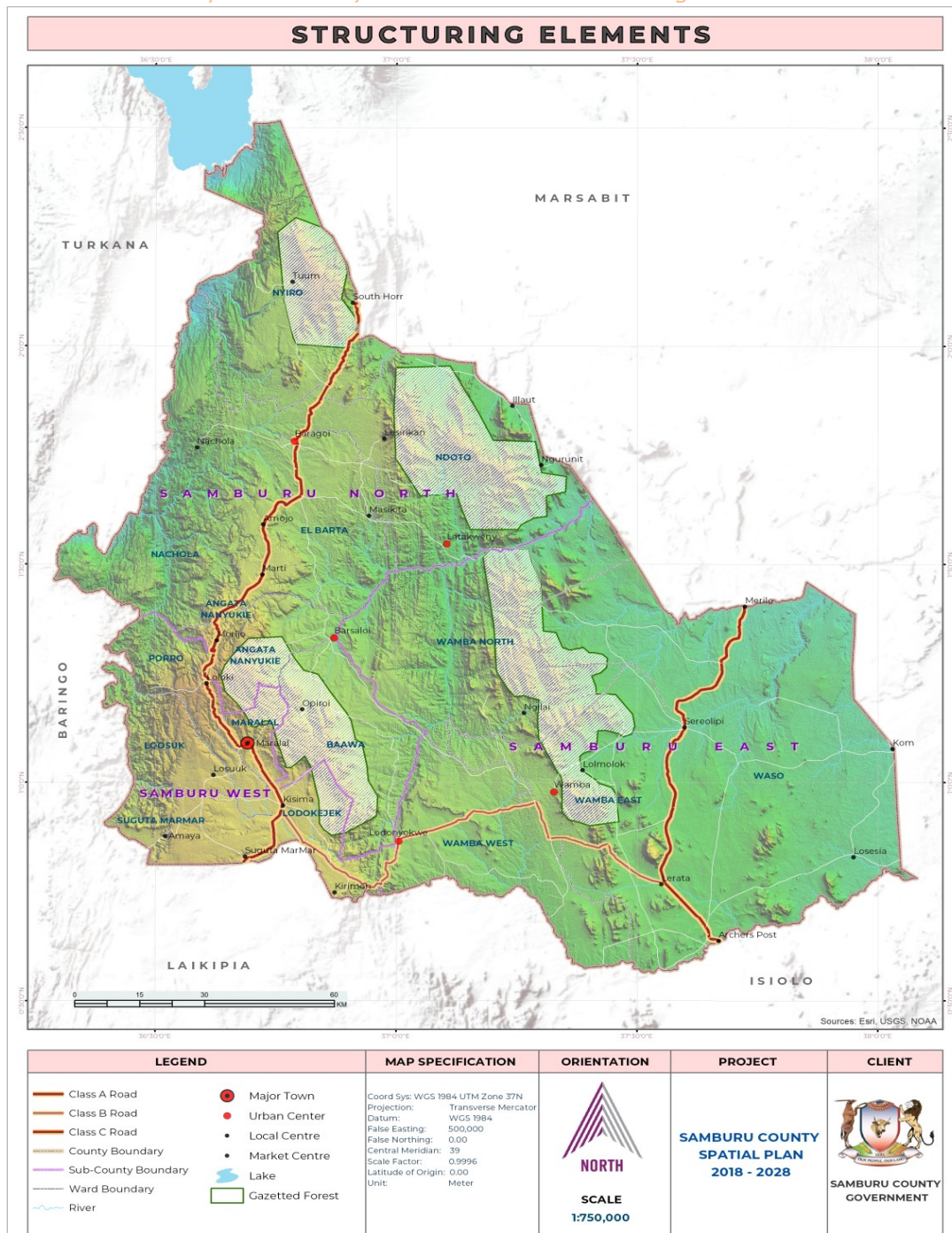


A4 traversing the county from Suguta Mar Mar, Kisima, Maralal, Poro, Morijo, Marti, Baragoi and terminating at Kurungu. Other urban settlements are found located along the main road from Archers Post, Lerata, Londongokwe, Sereolipi, Merille and Kisima.

11.5.5 Agro Ecological Zones

More than 75% of the land in Samburu County classified as 'low-potential' rangeland, receiving between (250 – 600 mm) of rain annually. Only 140,900 hectares (7 % of the land area) is medium-to-high-potential land that is suitable for agricultural production receiving (600-900 mm) of rain per year. Samburu County has diverse agro-ecological zones that include Upper Highland Zones (UH), Lower Highland Zones (LH), Upper Midlands Zones (UM), Lower Midland Zones (LM) and Inner Low Land Zones (IL).

Map 11-1: County Human Settlement Structuring Elements



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11.6 Vision for Samburu County

To be *a well governed, secure and developed county with a diversified and vibrant economy that affords high quality life and services through sustainable use of its natural resources.*

11.7 Guiding Principles

The proposed land use is guided by the following principles aimed at achieving balanced growth for the entire Samburu County.

- Provision of sufficient physical and social infrastructure
- Environment Sustainability
- Economic Sustainability
- Protection of livestock and agricultural zones
- Balancing between urban development and agriculture and livestock activities.
- Inclusivity and collaboration of all stakeholders

11.8 Strategic Development Direction

From the sectoral analysis of the potentials for Samburu county, the following areas have been identified as key strategic sectors on which the CSP is based. Further, the strategic direction is **informed by the vision to have Samburu as a hub for livestock and tourism.**

11.8.1 Tourism and Conservation

Samburu County has been identified as one with a wide range of tourist attractions including historical sites, parks and cultural heritage. Tapping into these tourism potentials is one of the strategies that the plan aims at adopting so as to bring out tourism as a key driver of the County development. Further, the identification and conservation of tourism areas will be a key element that the plan will emphasize on. Development strategies will then be given to promote cultural heritage and tourism within the county

11.8.2 Livestock Development

The basis for development will be largely dependent on the promotion of sustainable livestock development. The livestock sector in the County has continued to face various challenges such as persistent drought from the effects of climate change, poor husbandry, increased diseases and poor marketing of the livestock products. Further, the livestock sector has been under threat from the increasing land fragmentation which has continued to diminish the land available for livestock keeping. In order to enhance livestock as the basis for development in the County, the plan provides several guiding measures which include;

- Controlling land subdivisions in livestock production areas
- Prudent management of group ranches
- Development of agro-based industries to support livestock products value addition
- Water and fodder provision for dry seasons
- Commercialization of livestock production
- Improved animal husbandry

These strategies will result into the establishment of zones for livestock production, enhanced marketing and value addition.



11.8.3 Infrastructure Development

Infrastructure development is a **key driver for progress** and a critical enabler for productivity and sustainable economic growth Samburu County is largely undeveloped after many years of neglect and marginalization. While as most of the rural link roads have been identified as being in poor conditions, their improvement and opening up of missing links will be emphasized in the plan. The provision of other infrastructure such as water will also be the basis upon which the plan will be based to promote sustainable development and spur economic growth.

11.9 Proposed Development Models/Scenarios

Analysis, scenario building and projections revealed a number of opportunities and challenges that will form the basis of policy intervention and direction in the development of Samburu County. Categorization of the assets/potentials led to 3 main growth themes/models namely: Agriculture and Rural Development, Tourism and Environment, Urbanization Industrialization and infrastructure. This chapter presents the 3 growth models as possible development paths that could lead to the sustainable development of Samburu County.

- Livestock, rangeland and Agricultural Development Model
- Tourism and Environmental Conservation Model
- Urbanization, Industrialization and Infrastructure Model

Each model identifies the strategic objectives and suggests strategies to attain these objectives and key actions designed to give effect to the strategies. Each of these three models has strengths and weaknesses. None of the models can resolve the development challenges in Samburu County. Combining the opportunities and strengths of each of the models would lead to effective, integrated county development, with each model contributing its strengths. The models and the strategies they advance, as well as critical evaluation of each, are presented in the following sections. Basing on the county economic base, potentials and opportunities, the planning team developed three different scenarios that are envisaged to provide a path towards county development.

11.9.1 Livestock, Rangeland and Agriculture Development Model

The agriculture, livestock and rural development model is centred on the importance of livestock and crop production as well as water resources development. Provision of water supply is central to crop and livestock production in development. Agriculture is the pillar of economic development with respect to achieving food security, employment creation and income generation, as well as promotion of indigenous cultures. At the moment, crop and livestock economy employs over 80 per cent of the rural population the county. It is assumed the two sub-sectors will continue playing a defining role in county development. The Agricultural and Rural Development Strategy proposed by the County Spatial this model encourages farmers to intensify higher productive farm practises in a bid to shift from subsistence agriculture to agri-business.

Strategy 1: Promote Livestock production and Marketing

Proposed Actions

- Prepare community grazing plans.
- Ensure proper rangeland management and planning
- Establish disease free zone within the county.
- Research and empower the local community on pasture improvement management.



- Protect the existing livestock routes and provide necessary infrastructure along the routes
- Promote animal health by reactivating and expanding dipping, breeding and clinical services including monitoring and control of animal diseases through group approach.
- Promote dairy goats as an emerging source of milk and other small stock activities such as poultry and bee-keeping
- Support the development of milk as collection and cooling centers
- Encourage the private sector and local authorities to establish small abattoirs and meat processing facilities
- Rehabilitation by periodical distilling, compaction and construction of water dams
- Promoting game ranches which can serve as tourist attraction centres
- Promote value addition through processing
- Disseminate relevant research information to empower the local community in better pasture improvement management systems;
- Expand cattle dips, breeding and clinical services to improve animal health;
- Construct facilities for milk collection, storage and processing;
- Drill boreholes and water pans for water supply for livestock;
- Build the capacity of livestock farmers in livestock production skills;
- Support separation of livestock and wildlife through cost-effective paddocking;
- Identify, map and maintain stock routes and wildlife corridors;
- Develop and maintain water points along stock routes;
- Create 60m wide road reserves to accommodate the stock routes along main transport routes;
- Identify, mark and secure the existing out-spans for livestock rest grounds;
- Construct water supply and facilities at livestock out-spans;
- Secure existing holding grounds and make them disease free sites;
- Promote and encourage sedentary lifestyles by nomadic pastoralists;
- Promote capacity building, Sensitize and design skills dissemination programme to empower communities in modern methods of bee-keeping; and

Strategy 2: Improve Extension Delivery Systems

Proposed Actions

- Provide extension services to small livestock and crop holders.
- Establish produce and marketing societies for farmers and create strong linkages between these farmers' institutions and centres of excellence such universities or research institutions;
- Develop guidelines for private sector involvement in delivery of crop and livestock production extension services;

Strategy 3: Enhancing Food Security

Proposed Actions

- Promotion of agriculture activities within agricultural zones
- Discourage conversion of agricultural areas to urban use especially at Poro
- Expansion of storage facilities
- Diversification of agricultural produce



- Formulate guidelines for partnership with private firms to establish abattoirs and meat processing plants;
- Promote camel meat, milk and beef exports;
- Rehabilitate and maintain multipurpose dams and construct
- Establish marketing cooperative societies and other relevant livestock farmers' organizations to empower local communities in livestock marketing;
- Sensitize community on environmental conservation;
- Rehabilitate, construct and maintain strategic rural access roads to major livestock areas an upgrade to all weather standard;
- Open community groups-owned industrial plants for processing honey and related products.

Strategy 4: Establish Social and Physical Infrastructure to Promote Rural Development

Proposed Actions

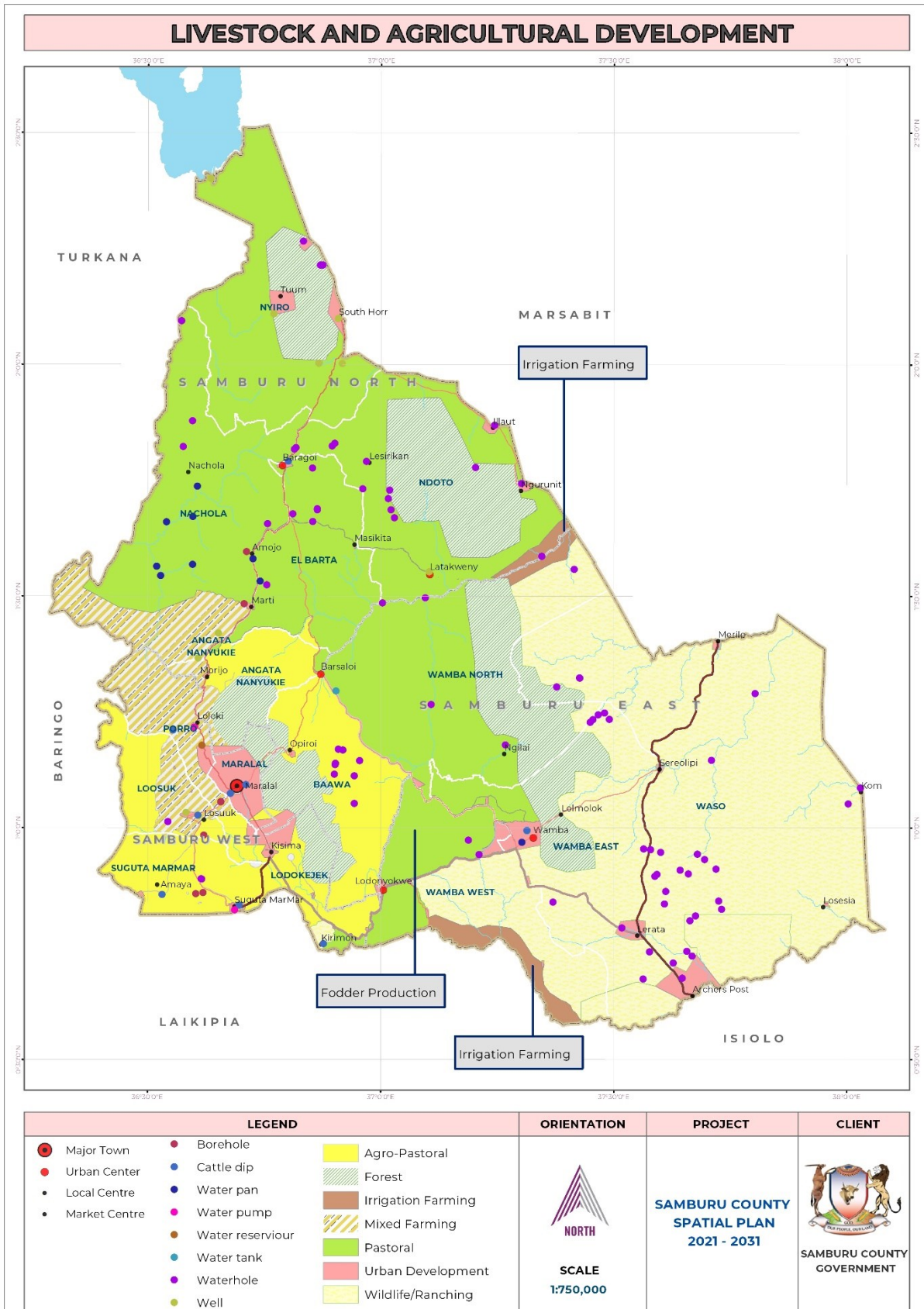
- Support and strengthen indigenous mechanisms for conflict resolution over resource use;
- Sensitize communities on benefits of peaceful co-existence;
- Promote planning for human settlements that promote livestock and crop production, value addition, and marketing;
- Build education, extension services and skills development of the pastoral communities to facilitate effective participation in production, value addition and marketing of their agricultural products;
- Construct community social centres and sporting facilities.

Strategy 5: Promote and Facilitate Value Addition and Marketing

Proposed Actions

- Promote value addition of crop products at farm level;
- Provide tax incentives for agro-industries located in rural areas;
- Develop beef, mutton and camel meat processing infrastructure e.g. abattoirs;
- Establish research and development centres to promote value addition focusing on processing storage and packaging;
- Develop guidelines on partnerships-building between smallholder farmers and agribusiness firms;
- Support extension services and information dissemination to build the capacity for value addition.
- Establishment of agro-based industries e.g. fruit and food, milk, poultry, and hide (tanning)
- Promotion of access to credit facilities and financing
- Promotion of value addition e.g. establishment of food processing factories in Maralal, Baragoi and Wamba

Map 11-2: Livestock, Rangeland and Agriculture Development Model



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11.1.1 Urbanization, Industrialization and Infrastructure Model

This model is built on the fact that the county has vast resources with potential for development, but remains underdeveloped due to extreme isolation, inaccessibility, extremely



weak intra- and inter-regional connection due to inadequate transport infrastructure. Small populations in a vast county and a nomadic, pre-dominantly livestock economy are also constraints to development. There also exists great industrial potential in terms of mineral exploitation, agro-based industry and labor pool.

Strategy 1: Promote Development of Strategic Growth Centers

The plan proposes a number of strategic growth centers that need to be supported to form the hubs for county development. These will be the priority intervention or infrastructure investment and settlement areas by the county government and the central government.

Proposed Actions

- Prepare Integrated Strategic Urban Development Plans for unplanned urban centres; Bargoj, Lerata, Lodongokwe, South Horr, Kirimo, Tuum, Barsaloi, Nachola, Marti, Sereolipi,
- Design and implement a programme of investments in infrastructure, social and services in the identified growth centres.
- Implement a business investment support programme for investors in the county in setting up slaughter houses, tanneries, and agro-based industries as well as in mining;
- Develop incentive packages to traders, investors tourism establishments in partnerships with county governments;
- Develop a system of all-weather roads that link municipality, urban centres, local centre and market centre with commercial and industrial installations and the rural hinterland.
- Identify strategic economic activities to be located in these centers using the competitive advantage principle
- Development of urban hierarchy ranking criteria (population and service). Maralal town is the capital county and a municipality. Wamba, Archers Post, Baraogi as urban centres. Suguta Marmar, Kisima, South Horr and Serolipi are other strategic centres identified to spur economic growth.
- Locate government administrative and social service facilities and social facilities in selected and selected strategic market and service centres.

Strategy 2: Establishment Urban Limits

Outward spread of urban growth needs to be managed appropriately for efficient use of land and economy in infrastructure provision.

Proposed Actions

- Prepare structure and zoning plans for the identified urban areas to guide development control
- Support development that is in accordance with an adopted staging strategy, which is developed through partnership arrangements.
- Limit urban development to areas zoned for urban.
- Intensify and densify the use of existing urban land through better use of existing infrastructure
- Use minimum density zoning to encourage efficient use of land and requiring development densities to achieve a certain level.
- Provide a time frame for development of allocated plots for the various users.
- Develop a focused public investment plan for the provision and timing of infrastructure.
- Promote compact mixed-use development.



Strategy 3: Promote Industries

The county has industrial potential in livestock, honey, wheat and barley. This potential needs to be exploited to foster industrial development in the county.

Proposed Actions

- Establish milk collection and cooling plants as part of agricultural product value addition and marketing strategy.
- Diversify crop production to include high value crops such as sunflower, horticulture and floriculture; and
- Establish economic processing zone/industrial parks within urban areas
- Encouragement of rural industrialization at small scale preferably at the ward level.
- Developing and improve facilities such as, crushes slaughter houses and tanneries in livestock producing areas.
- Attract investors to invest in the designated Economic Processing Zones (EPZ).

Strategy 4: Enhance Trade and Commerce

Most business activities have a spatial skew favouring Maralal town and along major transport corridors.

Proposed Actions

- Expand small business development support through existing and identified programs.
- Improve key infrastructure in the selected service centers.
- Strengthen tertiary institutions to provide entrepreneurial training.
- Support expansion of small trade and business firms in strategic urban centres outside county headquarters;
- Establish tourism information collection/ dissemination points in the strategic trade and business centres; and
- Establish middle-level training centres for technical and crafts skills development.

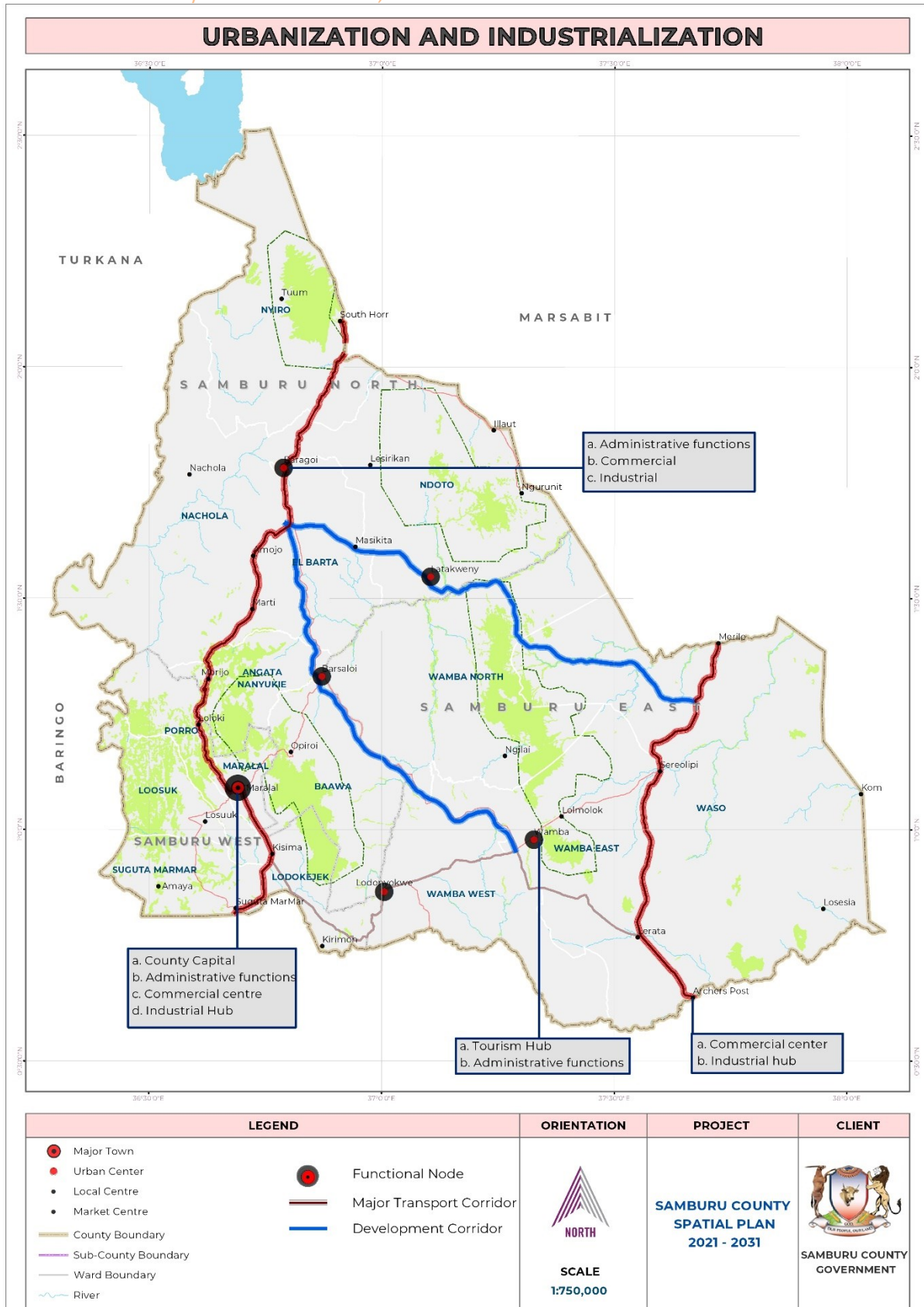
Strategy 6: Foster Land Use and Transport Integration to Form an Urban Network

The strategy of Urban Network is intended to optimize land use and transport linkages between centers as well as the land use along the corridors linking the centers.

Proposed Actions

- Developing an integrated land use and transport network with activity and transport corridors as major elements in the movement of goods and people;
- Developing (non-industrial) activity centers at selected locations (Growth Centers) along activity corridors to support the development of the public transport network with strong centers at the ends of each corridor; and
- Encouraging mixed-use development in the proposed centres.

Map 11-3: Urbanization, Industrialization and Infrastructure Model



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11.1.2 Eco-Tourism and Conservation Model

This model is organized and premised on the strength of the immense tourism potential in the county and the surrounding region. However, existing tourism potential is not fully developed enough to generate economic growth and development in the county. It is envisaged that the



tourism component of this model will contribute to employment creation, and generate incomes for the local and tax base in the medium and long-term. Achieving tourism development under this model rests on effective environmental conservation practices, to hedge potential threats to wildlife and degradation due to human habitat in highly fragile ecological resources of the county.

Strategy 1: Conservation and Sustainable Utilization of Natural Resources

Proposed Actions

- Carry out afforestation and reforestation programs at Ndoto, Mathews Ranges, Nyiro and Leroghi forests.
- Protection of natural resources e.g. forests
- Discourage planting of blue-gam trees along rivers.
- Construction of strategic dams for water storage.
- Promote use of renewable energy in the county such as solar usage
- Land reclamation on degraded areas especially along laggas
- Enforce a riparian reserve of 12-60M along all the rivers and laggas
- Encourage green competitiveness among the three sub-counties.
- Sensitization of the public on going green.

Strategy 2: Establishment of Tourism Zones

Proposed Actions

- Identification and mapping of tourist zones
- Create a single tourist circuit for Samburu county
- Upgrading of existing tourism facilities and creating additional facilities
- Upgrade Samburu National Game Reserve to a National Park.
- Establish Samburu International Golf and County Resort
- Diversification of tourism products to include conference tourism, mountain climbing, mountain hiking, motor racing and golfing.
- Establishment of annual tourism expos.
- Enabling environment for tourism investments

Strategy 4: Exploring New Tourist Attraction Sites and Areas

Proposed Actions

- Encourage cultural villages well distributed in the county.
- Promote eco-tourism as a tool for achieving rational utilization of environmental and cultural resources.
- Promote souvenirs and locally made products.
- Promote no-trace camping, retirement tourism, conference tourism.
- Introduction of cultural performance centres in different parts of the county to represent the local culture
- Introducing theme parks to complement the cultural homes as a way boost tourist activities in the County.
- Develop a regional and local tourist circuits and link it with Mount Kenya and Central Rift tourist circuits;
- Promote eco-tourism as a tool to rationalize a combined use of environmental and cultural resources;



- Promote production of souvenirs and locally-made tourist artifacts;
- Promote no-trace camping, retirement tourism and conference tourism;

Strategy 5: Involve Local Communities in Tourism Development

The local communities are the custodians of the natural assets supporting tourism industry at the grassroots thus involving them in the protection of these assets as well as sharing with them the benefits should be the norm.

Proposed Actions

- Implement a training programme to sensitize local communities on benefits of tourism industry;
- Convene forums for dialogue between local communities and hoteliers;
- Support local forming and capacity building of local dance troupes, tourist artefacts and handcrafts self-help enterprise groups.
- Undertake deliberate special programmes to train local people in tourism development projects in collaboration with the investors in the tourism industry.
- KTB to facilitate local communities' tourism projects and small and micro-enterprises in tourism to forge partnership and linkages with the dominant tour operators
- Provide training on effective board membership to local community
- Support local groups and local initiatives such as dance troupes, drama and curving groups
- Ensure local community benefit from tourist Trust Fund.

Strategy 6: Coordinated Infrastructure Planning and Development

Proposed Actions

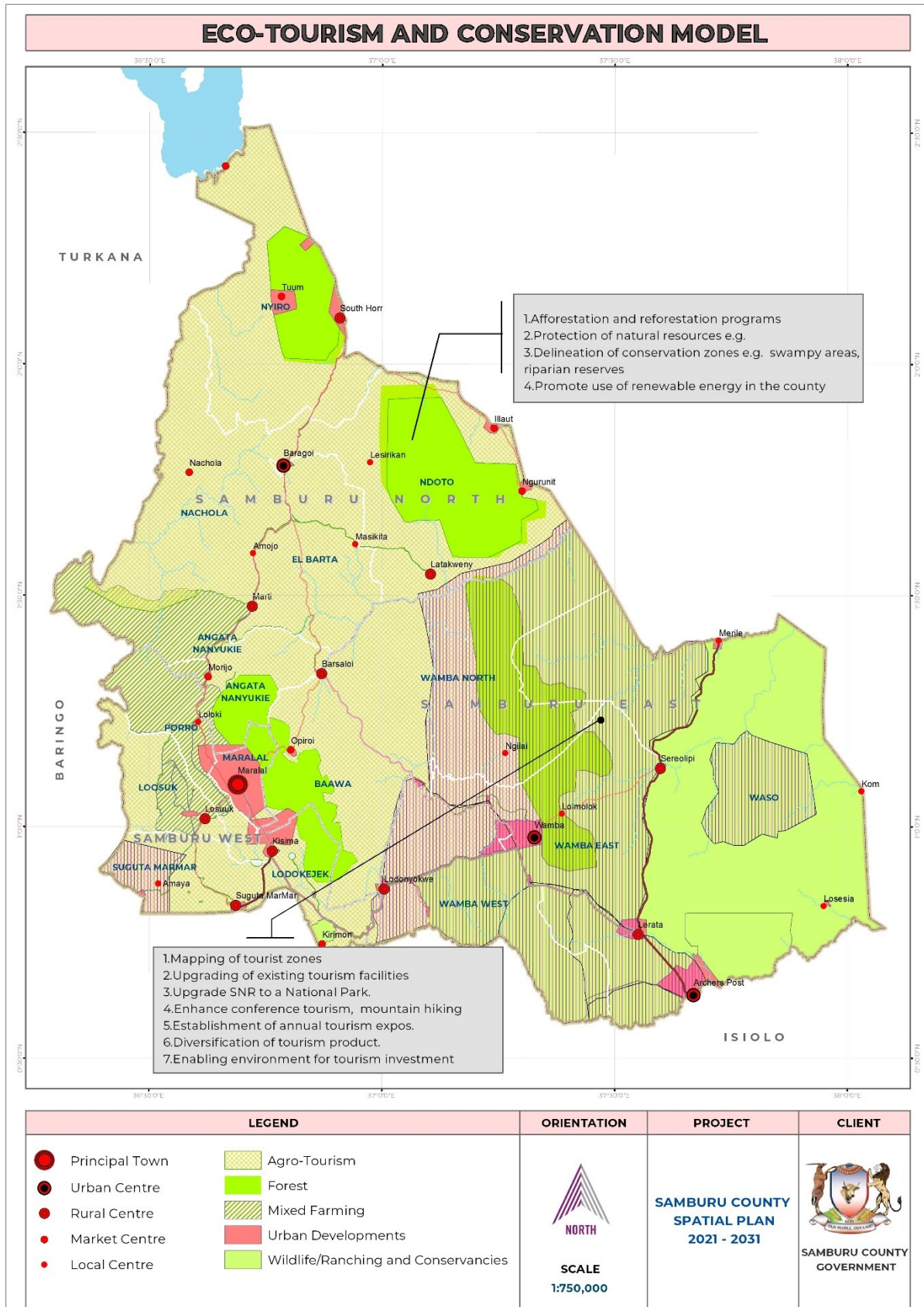
- Expand Kisima airstrip to airport to and up-grade existing airstrips
- Improve and maintain tourist circuits roads;
- Provide reliable water supply, electricity and sanitation facilities in the tourist attraction sites and facilities;
- Develop information and communication centres in strategic locations in the county;
- Implement transport master plan of the county; and
- Increase bed capacity of tourist hotels.

Strategy 7: Promote Natural Resource-Oriented Cultural Tourism

Proposed Actions

- Include courses/ topics on indigenous language, culture and traditional practices
- Document and lobby for the gazettelement of new historical sites, game reserves and cultural heritage sites;
- Develop community wildlife sanctuaries, cultural villages and centres and museum houses in strategic towns such as Suguta Marmar Sourh Horr, Baragoi, Wamba
- Design appropriate vocational training courses and business development programs to market local artefacts and tourist products such as the beadwork, indigenous medicines and herbs, cultural dances and troupes and calabashes and gourds.

Map 11-4: Tourism and Conservation Development Model



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11.1.1 Selection of Plan Models

Strengths of Agricultural and Rural Development Model



- The geographical location of Samburu County provides a great opportunity to diversify tourism and enhance livestock production.
- Agriculture promotes the growth of other sectors
- Agricultural related Industries provides large employment opportunities
- The challenges faced in the county by poor existing infrastructure to connect production grounds to market and consumption centres
- Samburu County has adequate and suitable land (resource) for livestock development.
- Samburu County has favourable climatic condition which supports rangeland activities and livestock production.
- Samburu County has high level knowledge of extension officers that can support the development of vibrant agricultural sector.
- Existence of local and regional market for agricultural and livestock produce.

Strengths of Urbanization and Industrial Development Model

- Samburu County has numerous urban centres that can be incubators of growth and development
- Emphasises the creation of an enabling environment by provision of Infrastructure, services and good governance
- Urban areas to support trade, commerce, hospitality, service industry trade and industrialization thus generating revenues and incomes.
- Promoting Urbanisation escalates the growth of other economic sectors.
- Urban areas provide large employment opportunities for locals.
- The County has adequate land for urban development and expansion as well.

Strengths of Tourism and Conservation Model

- The county has potential to be a major tourist destination (globally and nationally) that it is not fully utilised.
- Tourism sector could be a major source of revenue for local communities and the County government.
- The tourism sector would form a big market for consumption of local produce and products.
- Tourism promotes environmental conservation, wildlife conservation and preservation of cultural practices, heritage and other historical sites.
- Tourism will provide employment opportunities for the local communities hence improving their living standards.
- Samburu County is strategically located in proximity to major tourist attractions.

The Preferred Development Model

This spatial plan adopts a hybrid development model that takes the strengths of each of the three distinct development models, creating a sustainable development path over the next ten years for the Samburu County.



PART 3: PLAN PROPOSALS



12. INTEGRATED COUNTY SPATIAL PLAN

12.1 Introduction

The alternative development models presented in the above chapter that could steer the county to high and sustained levels of economic growth. However, each model separately cannot lead to sustainable development of the county as there is need to integrate the strategies of these models in order to have a spatial framework for sustainable human settlements. The structure plan is prepared based on a comprehensive analysis of the county using various tools such as land capability analysis, land availability/ suitability analysis, transportation analysis, infrastructure gap analysis, human settlements analysis, and environmental sensitivity analysis. In particular, is also informed by inputs collected from stakeholder engagements.

This chapter presents the Integrated County Spatial Plan to guide development Samburu County for the next 10 years. The aim is to preserve the ecological conditions, ensure balanced development, economic growth and equitable society.

12.2 Proposed Spatial Structure and Growth Directions

Integration with respect to this plan is sought by collapsing the three sector models. In this regard, people in rural areas will be able to move to live in urban and nucleated rural settlements. The improved tourism industry, resulting from better utilization of natural resources and conservation and protection of the environment, will serve to improve incomes through employment creation. Integration of the development process in the county focuses on promoting effective balance between centralized (concentrated) and dispersed (deconcentrated) development. Centralization/concentration alone will mean that investments in human settlement and resource development are centralized around few areas and sectors. Given that the county is vast, this approach assumes that benefits of development will spiral and spread from the few areas and sectors of investment centralization and concentration. This is cost-effective because scarce resources are invested sparsely. However, centralization in a vast region such as the Samburu county means that investment in a few nodes and development of one or two resource area will not have immediate benefit to communities across the vast county. Dispersion/deconcentration of investments for county development alone, on the other hand, would pursue a dispersed development strategy, a situation close to that which currently prevails in county. Due to its vastness, Samburu County cannot afford not to focus or target strategic investments in specific sectors and areas, based on settlement organizations that secure and stimulate development benefits for the majority in its communities.

From the analysis conducted on the development conditions, constraints and opportunities for Samburu County, the importance of land and control of uses on it has been demonstrated. The critical role of space as a bedrock for economic development and sound environmental management has been identified and the need to guide the use of that space. the plan seeks to use a double-pronged strategy to enhance development and achieve the plan vision by:

- Equitable distribution of development in all the Sub-Counties and wards
- Securing the competitiveness of Samburu County within northern Kenya.
- To achieve these aspirations and make the County a competitive livestock, agriculture, and tourism hub, the following spatial concept is developed.



The structure plan is informed by the synthesis of the thematic analysis. The broad objectives that the spatial structure seeks to achieve are:

- Promotion of livestock development and value addition
- Promoting tourism and cultural heritage
- Improving the people's livelihood
- Promoting conservation and sustainable utilisation of natural resources
- Improving service provision and infrastructure throughout the County
- Promoting sustainable urban developments

12.3 Proposed Levels of Human Settlements

The proposed restructured settlement system is designed to stimulate development of a hierarchy of urban centres in the region. The hierarchy of urban centres will evolve around proposed restructured human settlement organized around hierarchy of I centres. Five levels (tiers) of restructured settlement systems are identified and proposed to align integration of county development. The five levels are:

12.3.1 Tier 1: Municipality

Maralal town is the designated municipality that will constitute a development hub, which will generate impetus for commercial and industrial development in the county. Currently, road connection between these Maralal town and others centres in the region, between the centres and their rural hinterlands is poor. The plan recommends Maralal town will lead in promotion of advanced high urban functions to sustain socio-economic development of the county.

12.3.2 Tier 2: Urban Centres

Sub county Headquarters will be the second-tier urban centres. The common factor between these centres is that they dominate economies and administrative services in their respective sub counties. Sub county urban centres will be connected with tarmac roads, to promote them as sub county economic hubs. Sub county urban centres towns include Archer's Post, Wamba, Baragoi towns. This will be growth centres for the sub counties.

12.3.3 Tier 3: Rural Centres

Third tier centres will include Suguta Marmar, Barsaloi, South Horr, Lodongokwe, Ngurunit and Sereolipi. Vertical intensification of building development be encouraged in shopping centres across the county especially the ones where development has been decentralized.

12.3.4 Tier 4: Market Centres

This will be are small rural towns which are major service outlets that provide essential goods and services which households need in areas with excessive transport costs and other accessibility constraints. Market centres will play a facilitating and enabling role as commercial, service and consumer goods outlets. Third tier centres will include Marti, Merile, Lerata, Barsaloi, Kisima, Poro, Loosuk, Latakweny, Nachola and Lolknoni. All this centres will be highly linked to enhance accessibility and flow of goods and services.

12.3.5 Tier 5: Local Centres

These will also function as places where households will purchase consumer goods, access inputs for agricultural production (crops and livestock production) and places of business and social interaction. The majority of local centres will be planned to play a strong residential function, which will dominate over local production and trade/markets functions. Settlement



planning and development management in local centres will focus on increasing the scope of choice in the lifestyles of nomadic pastoralists, by making semi-nomadism and sedentary and related social-economic consequences manageable by households.

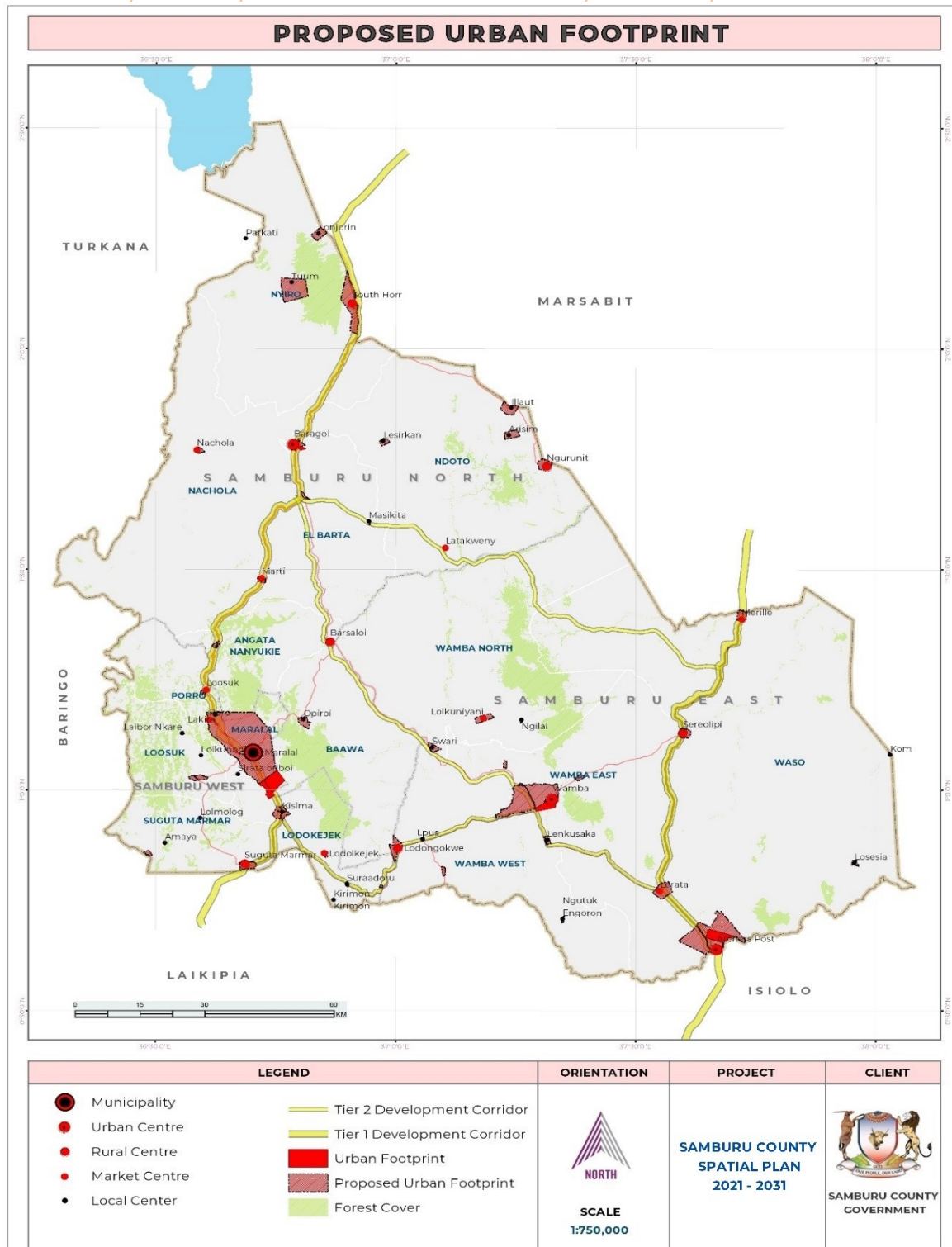
Table 12-1: Proposed Human Settlements Hierarchy

Tier	Urban Area	Centre	Strategies
1	Municipality	Maralal	Promote high level urban functions as the capital urban centre of the county
2	Urban Centres	Archers Post, Wamba, Baragoi	Decentralized urban functions Develop these centres to be centres of employment, service provision to serve rural hinterlands.
3	Rural Centers	Suguta Marmar, Barsaloi, South Horr, Lodongokwe, Ngurunit, Sereolipi, Poro, Lesirkan, Ngilai, Morijo, Opiroi	Promote development of the rural centres Promote proper linkages within the individual urban centres and among the urban centres
4	Market Centres	Marti, Merile, Lerata, Barsaloi, Kisima, , Loosuk, Latakweny, Nachola, Ngilai, Lolknoni	Promote development of the rural centres
5	Local Centres	Kirimon, Ngurunit, Illaut, Tuum, Lpus, Lolmolog, Sirata Oriboi, Laibor Nkare, Lakira, Swari, Lenkunsaka, Ngutuku Engoron, Lesirkan, Lonjorin, Parkati, Kom, Losesia, Masikita, Lotar, Tangar, Naturkan, Lochoitm, Lomaro, Arisim, Lokumkum, Lkayo, Laesoru, Lolkuniyani, Arsim	Promote the provision of basic services within the rural areas Promote proper linkages within the individual urban centres and among the urban centres

12.4 Primary Urban Corridor/Growth Corridors

The growth of the key towns appears to be along the main Lerata -Wamba- Kisima (C78) Road, International (A2) Road and Rumuruti- Marlal-Baragoi-South Horr (A4) Highway. Some of the towns even though not served directly by the primary urban corridor are within its proximity. The spatial plan envisions another lower tier development corridors from Wamba-Barsaloi and Baragoi-Latakweny-Merile Road. This will be the primary development corridors in the county and will ensure accessibility and linkages. The spatial plan proposes upgrading this roads to tamarack standards.

Map 12-1: Proposed Human Settlements Hierarchy and Development Corridors



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12.5 Proposed County Land Use/Spatial Structure

In view of the fore going, there is the need for remedial measures to improve and enhance balanced development, economic growth and to achieve environmental sustainability of the County. The plan categorizes Samburu County into broad development zones based on critical analysis of the county economic activities, untapped potentials and opportunities. These zones include; urban development zones, agriculture zone, wildlife and ranching zone, public purpose, agro-pastoral zones and conservation zones.



12.5.1 Urban Development/Settlements

The proposed restructured settlement system is designed to stimulate development of a hierarchy of urban centres in the county. The hierarchy of urban centres will evolve around proposed restructured human settlement organized around county capital, urban centres, market centres, rural market and local market centres. The plan seeks to promote industrial development of Samburu County by developing Industrial/parks Special economic zones. Development of Special Economic Zones and Industrial Parks is proposed at Maralal, Archers Post, Wamba, Kisima and Baragoi. This zone will create Zoning and planning of industrial parks, Promotion of innovative PPPs for industrial development, Sourcing of industrial markets both locally and regionally, development of urban and rural infrastructure (roads, water, and electricity) to promote production for the industries.

12.5.2 Conservation

- **Forests**

To increase the forest cover the plan promotes of the current gazetted forests and discourages human settlements with these forest. In addition, the plan proposes eco-tourism activities within the forests for socio-economic development, environmental protection and conservation. A buffer zone of 50 meters is recommended around the forests. No forms of built developments or other encroachments are permitted in this zone. These include Mathews Ranges, Ndoto Ranges, Mt. Nyiro and Leroghi Forest. Allowable activities within his zones high king adventure tourism among others.

- **Game Reserves**

Game reserves include Samburu National Reserve. This zone will be designated for promotion of activities related to wildlife preservation and tourism activities in order to facilitate the attraction of tourists. Human settlements are discouraged in this zone. A resort city is proposed within this zone. The proposed resort city will include cultural manyattas.

- **Riparian Reserves**

These are areas identified for surveying and gazettelement as environmental fragile areas. The plan proposes that a riparian reserve ranging from 18-120m is established ad maintained. Riparian reserves will be developed to nature trials and areas that have been degraded will be rehabilitated. Interventions include Riparian buffering, afforestation, and water abstraction control.

- **Sanctuaries**

Animal sanctuaries and wildlife breeding grounds should have a buffer of 50 meters Forest reserve should be buffered by 60-meter reserve. These include indigenous forest and plantation forest. The reserve can be used for compatible land uses. A wildlife corridor of 3 km is recommended.



12.5.3 Agricultural

- **Irrigation Farming**

The objective is to encourage optimal utilization of agricultural areas including proposed optimal minimum land sizes as suggested for the various zones and/or consolidation of small land sizes (carrying capacity). Irrigation scheme and surrounding areas. The zone lies between Rivers Ewaso Ngiro, Arism, Ngutuku Engoron, Kurungu .The zone has major potential for irrigated agriculture area with agricultural activities. Crop grown here are for cash crop. The area is characterised by large tracts of land.

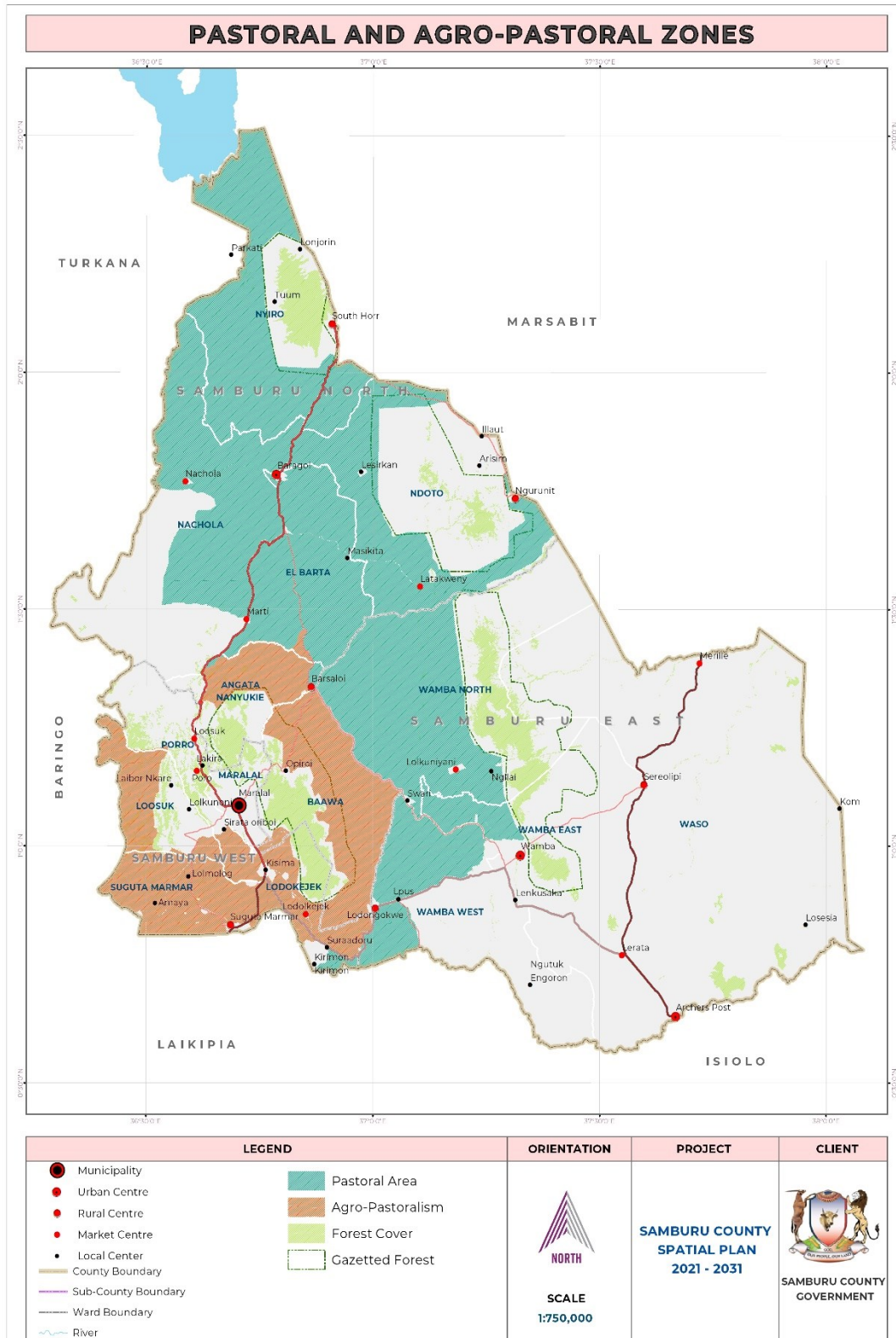
- **Mixed Agriculture**

The zone will continue playing a defining role in county development. This zone will include areas of Poro, Loosuk, Longewan, and parts of Sugtua Marmar. Enhanced productivity of the zone will therefore remain as a prerequisite for effective sustainable county development. This zone will include rain fed agriculture crop farming and dairy farming practices. The area has large tracts of land and the minimum recommended plot sizes are 2Ha in this zone. This zone will be dominantly used for keeping of crop farming, and livestock for milk production. Urban growth will be limited in these areas to cover prime land for agriculture. Exceptions to be considered on a case-by-case basis include residential uses if they are permitted under the zoning code, outdoor recreational uses where compatible and appropriate, environmental and educational activities that are resource compatible, institutional uses and environmental compatible earth stations and communications facilities which should prove and be developed and operated to maintain compatibility with agricultural uses. Appropriate incentives for maintaining the long-term availability of important agricultural lands and industry development should be explored, designed and implemented as high priority action items by relevant lead agencies. Agricultural land should be zoned based on land suitability to promote sustainable production systems and to preserve it for food security. It is also envisaged that these guidelines will aid in preservation of rangelands so as to ensure proper utilization during both wet and dry seasons.

12.5.4 Agro-Pastoral

Agro-pastoralism is the integration of crop production and livestock production, and is practiced amongst settled, nomadic, and transhumant communities. This agro-pastoral area has also potential for agriculture. Ways of supporting this form of agriculture will be explored and supported to diversify production and empower communities with new incomes and food security. Emphasis will be on high value crops and drought resistant crops including fruits, sunflower, and vegetables. This area will include Loosuk, Baawa, Angata Nanyukie, Lodojejek, and Suguta Marmar. Agro-Pastoralism is a climate change mitigation option. Depending on land suitability, stocking density, and other factors, it has the potential to improve productivity, reduce soil erosion, and improve nutrient and water use efficiency. Agro-pastoralism could also indirectly enhance resilience and land-based climate change mitigation by reducing grazing pressures elsewhere.

Map 12-2: County Agricultural and Agro-Pastoral Areas



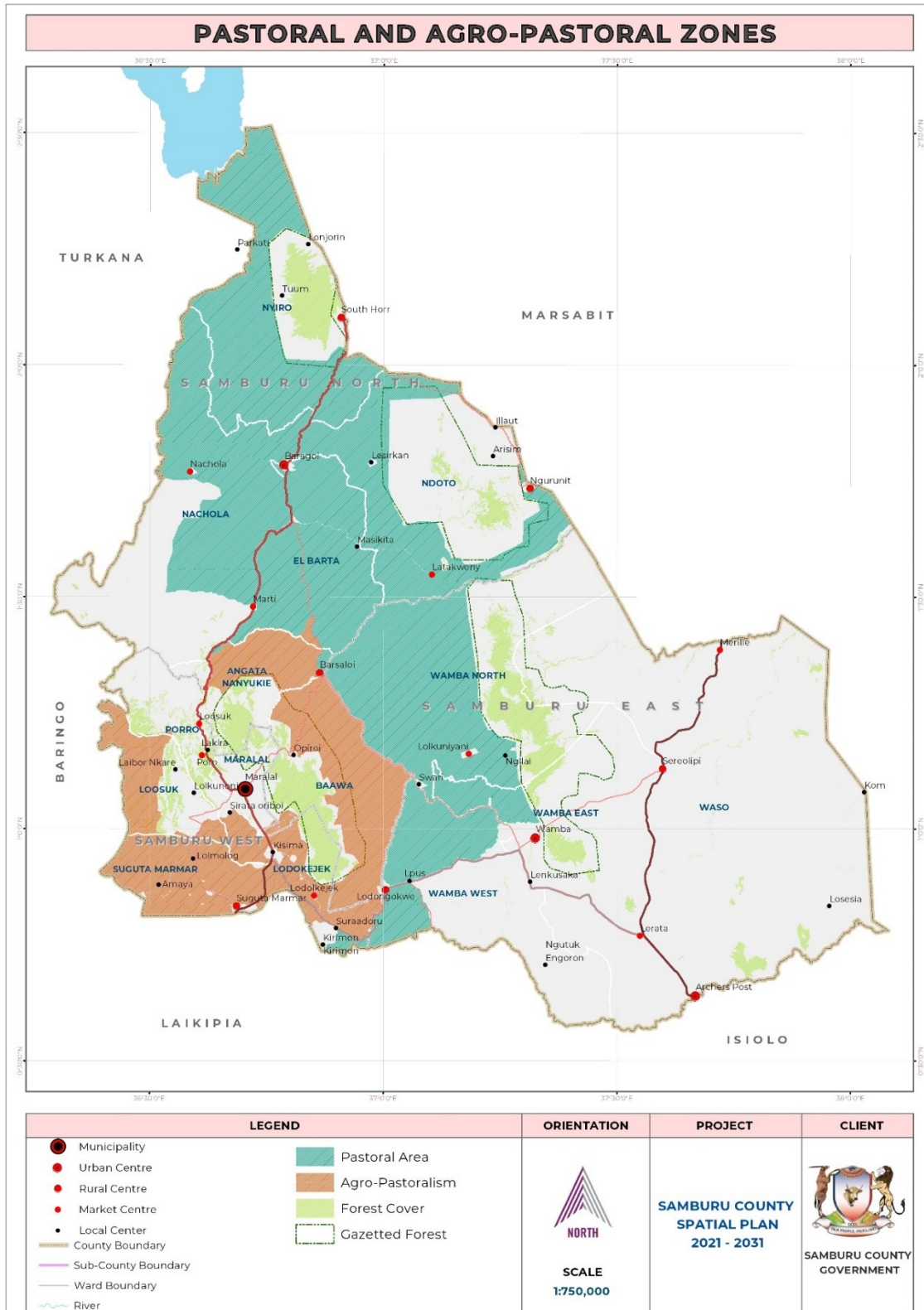
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12.5.5 Pastoral (Cattle, Sheep, Goats and Camels)

Pastoralism, the use of extensive grazing on rangelands for livestock production, is one of the key production systems in county. The zone has inadequate grass cover which makes the zone more suitable for sheep, goats and camel livestock production. Shrubs and short stunted trees vegetation dominate this zone. Rearing of cattle, sheep, camels and goats will be intensified in this zone. The zone has inadequate grass cover which makes the zone more

suitable for sheep, goats and camel livestock production. Rearing of cattle, sheep, camels and goats will be intensified in this zone.

Map 12-3: County Pastoral/Livestock Production Zones



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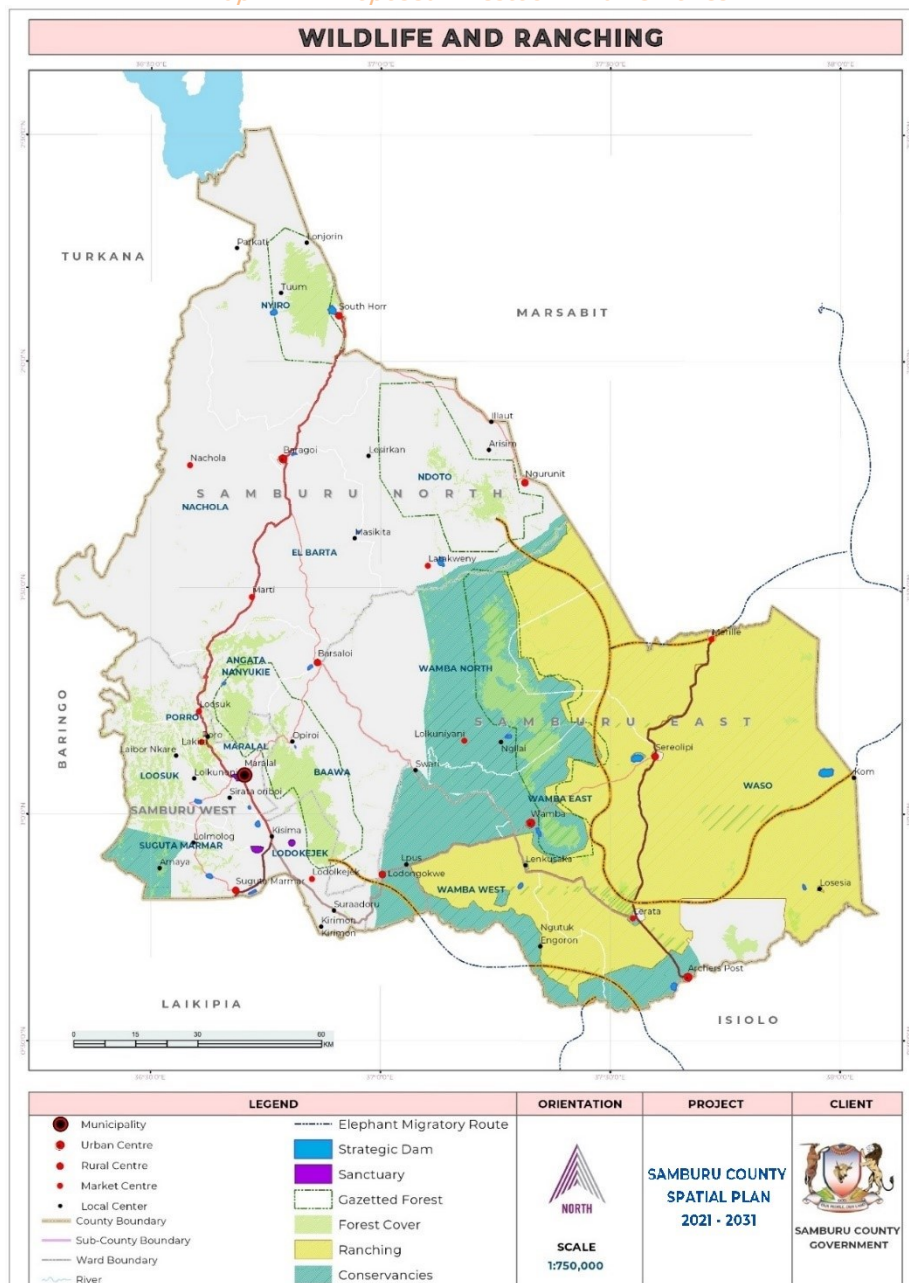
In order to mitigate community conflicts that are associated with grazing lands and water resources, the plan advocates for establishing community planned grazing area. This is land that is recognized as Community Land and designated by the community as a grazing area.

Communities may, themselves, sub-categorize their grazing areas into dry season pastures, rainy season pastures, community enclosures, pastures identified for particular livestock species, etc. this will include at Suguta Valley, Marti, Baragoi, Nachola, Ndoto, Nyiro, Elburta, parts of Wamba North. To mitigate effects of draught and global warming, the plan proposes establishment of fodder production areas at Kirimon within the pastoral zones disease free zones/livestock growth zones will be established. Areas prioritized for development of the livestock economy, including livestock markets, holding pastures near to markets or abattoirs, and livestock services such as dipping stations.

12.5.6 Wildlife-Livestock(Ranching)

This will include Areas designated for use both for wildlife conservation and for grazing by livestock. The main challenges facing rangeland areas are largely related to overstocking, overgrazing, and climate change leading to draught, floods, high temperatures, land degradation and desertification.

Map 12-4: Proposed Livestock-Wildlife Zones



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In addition, new emerging land uses such as modernized agriculture and urbanization have led to human-human conflicts as well as diminishing of the rangeland resource. Eco tourism will be encouraged in this area. In addition, livestock production through ranching and conservancies will be promoted. In addition, existing wildlife migratory corridors will be preserved to minimize human-wildlife conflicts. In addition, the spatial plan aims at reducing conflicts over natural resources through best rangeland management practices.

12.5.7 Public Purpose

By leveraging on the existing military facilities and the unique terrain of the county, it is proposed that military training established at Archers Post and Suguta Valley. This will include the military base at Archers Post and the Suguta Valley.

12.5.8 Livestock Routes

Livestock routes are a critical component of livestock production systems, and specifically in facilitating movement of livestock and people and are used to access water, feed and markets. Livestock routes are increasingly being blocked, and are poorly serviced and protected. Existing livestock routes will be maintained. In addition Areas designated as livestock migration corridors, will be protected from protected from use for cultivation or for other developments other than approved livestock-related services. To ensure that the pastoralist livestock production system is adequately accounted for, provision of livestock infrastructure will be prioritized.

12.5.9 Wildlife Migratory Corridors

Samburu County has significant populations of elephants, Burchell’s zebras, and grevy’s zebras. The Samburu National Reserve (SNR) is the major home for major wildlife. But there are also several conservancies, including the Kalama Community Wildlife Conservancy, the Meibae Community Wildlife Conservancy, the Namunyak Wildlife Conservation Trust, the Sera Conservancy Trust, and the West Gate Community Conservancy.

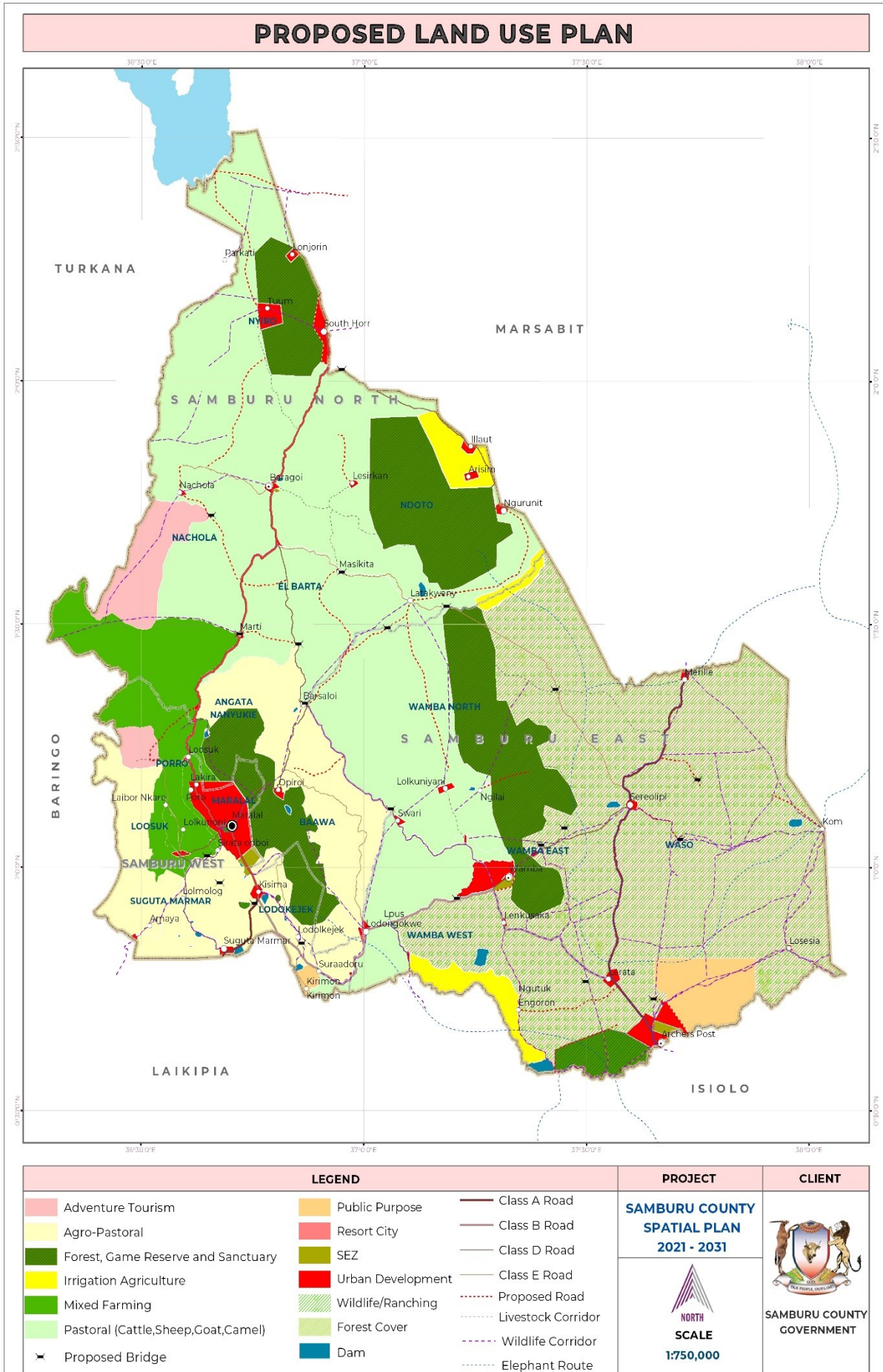
Table 12-2: Proposed Land Use Proposals

No.	Land Use	Areas covered	Area (Km ²)	Percentage (%)
1.	Urban development			
2.	Conservation	SNR Game sanctuaries Riparian reserves		
3.	Adventure Tourism			
4.	Agricultural	Mixed farming Irrigation agriculture		
5.	Agro-Pastoral			
6.	Pastoral/Livestock Zone	Community shared areas Fodder production areas		
7.	Wildlife-Livestock(Ranching)			
8.	Public Purpose			
9.	Total			

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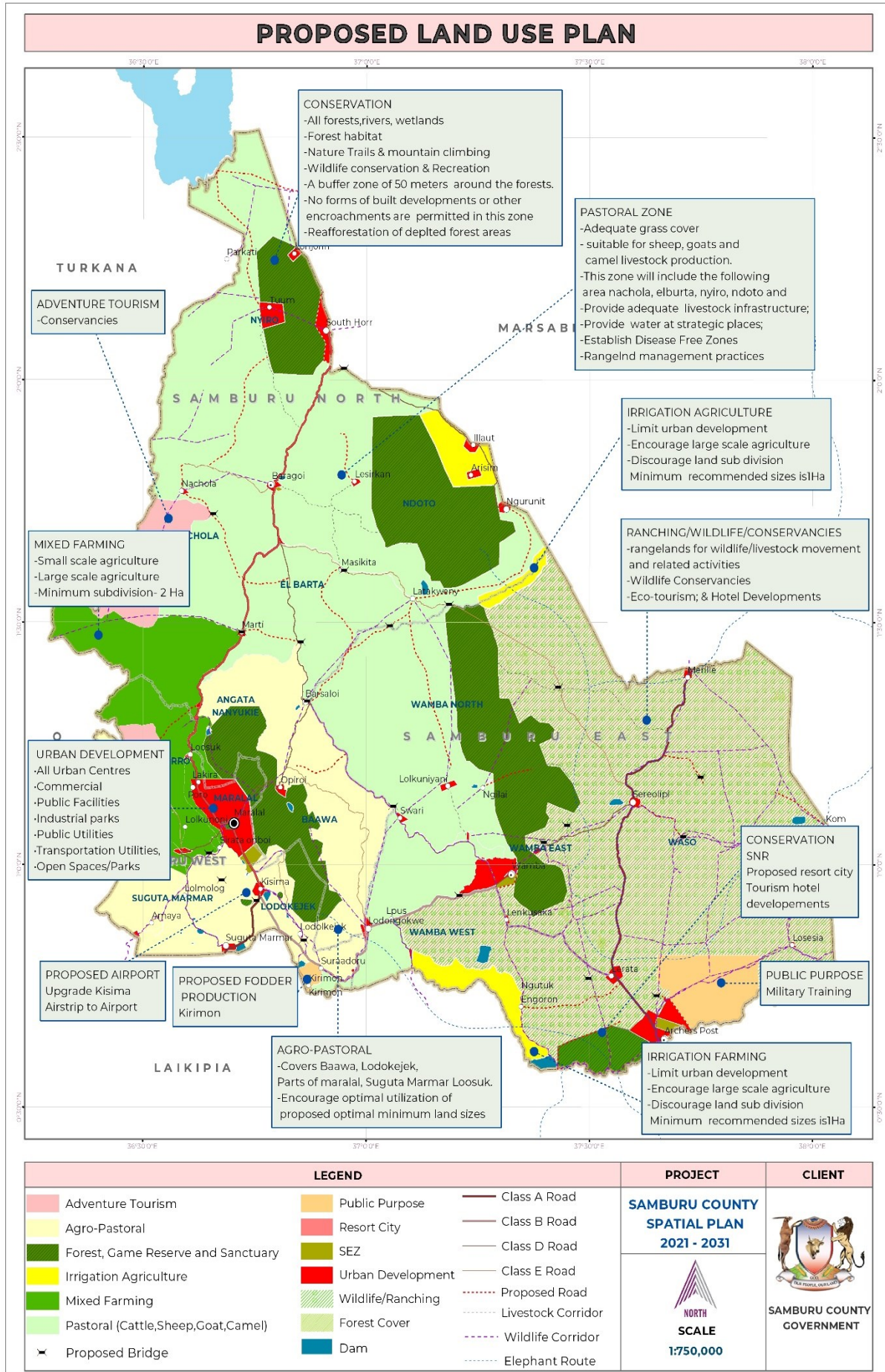
Map 12-5: The Integrated Land Use Plan (CSP)



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Map 12-6: County Land Use Zoning Plan



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ZONE	DEFINING ELEMENT	ZONE DESCRIPTIONS	PERMITTED USES	LAND USE REGULATIONS	
1.	Urban Developments		<ul style="list-style-type: none"> Commercial (Retail Outlets, Office, Hotels) Residential Public Facilities Industrial parks Open Spaces/Parks Administration/Civic functions Social Services / facilities 	<ul style="list-style-type: none"> All urban centres will be delimited and urban and urban peripheral boundaries proposed appropriately Other public utilities such as cemeteries will be located Proper planning Prevent linear sprawl Upgrading of services Min land size 0.045ha 	
2.	Industrial	Industrial developments	<ul style="list-style-type: none"> Maralal, Archers Post, Baragoi and Wamba 	<ul style="list-style-type: none"> Industrial Development Agro-processing Industries Complementary industrial activities 	<ul style="list-style-type: none"> Detailed planning of this areas Cary out environmental impact assessment Demarcation and land banking Pollution control and proper waste management Min land size 1ha Planning, demarcation and land banking
3	Conservation Zone	Forests	<ul style="list-style-type: none"> Covers the forests in the county. It is designated for conservational purposes 	<ul style="list-style-type: none"> Forest habitat Wildlife Conservation Nature Trails & mountain climbing Wildlife conservation & Recreation 	<ul style="list-style-type: none"> All gazetted boundaries of the Zone will remain un-altered and selfishly maintained as they are currently surveyed. Prohibit Urban developments and other human activities within zone.
		Game reserve	<ul style="list-style-type: none"> Samburu National Reserve 	<ul style="list-style-type: none"> Wildlife Conservation Resort city Cultural manyattas Eco tourism activities Hotel developments 	<ul style="list-style-type: none"> Wildlife Conservation Hotel developments Demarcation and gazettement Targeted afforestation Re-establishment of brush and grass cover
		Sanctuaries	<ul style="list-style-type: none"> Covers Maralal sanctuary and other sanctuaries in the county 	<ul style="list-style-type: none"> Wildlife Conservation Cultural manyattas Eco tourism activities Hotel developments Nature Trails & Forest 	<ul style="list-style-type: none"> Wildlife Conservation Hotel developments Demarcation and gazettement Targeted afforestation Re-establishment of brush and grass cover
		Riparian Reserves	<ul style="list-style-type: none"> All permanent rivers and laggas 	<ul style="list-style-type: none"> Nature trail Forest 	<ul style="list-style-type: none"> Proposed 10-60m riparian reserves Riparian buffer demarcation and gazettement



ZONE	DEFINING ELEMENT	ZONE DESCRIPTIONS	PERMITTED USES	LAND USE REGULATIONS	
				<ul style="list-style-type: none"> Water abstraction control Sand harvesting control 	
	AGRICULTURE	Mixed farming	<ul style="list-style-type: none"> Entire poro ward, loosuk lolmolog in Samburu Central Sub County Agriculture only & Related Storage warehouses Agriculture (Agro-production); Livestock Production; Livestock Research establishments 	<ul style="list-style-type: none"> Development of collection centres. Large scale agriculture minimum subdivision shall be 4 Ha Urban settlements to be confined within prescribed urban areas All prescribed land regulations above for the conservation subzones within the concept stand Limit urban development to prescribed areas sustainable cultivation practices intensification of production 	
		Irrigation farming	<ul style="list-style-type: none"> Arsim, Kurungu 	<ul style="list-style-type: none"> Irrigated agriculture Urban developments 	<ul style="list-style-type: none"> Encourage large scale agriculture Encourage low density residential Discourage land sub division in the rice farms Limit urban development low density residential Discourage land sub division Minimum recommended sizes are at 1ha.
		Horticulture farming	<ul style="list-style-type: none"> Along Ewaso Ngiro River 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Large scale agriculture: - minimum land size shall be 2 Ha. Prohibit urban development
3.	AGRO-PASTORALISM	<ul style="list-style-type: none"> Covers the following areas. 	<ul style="list-style-type: none"> Pastoralism and agriculture farming Modern slaughter houses Animal feed warehouses. Development of water points. Public purpose –Residential Veterinary offices, schools etc. 	<ul style="list-style-type: none"> Encourage optimal utilization of agricultural areas including proposed optimal minimum land sizes; Collate and document information on soils, crops and weather patterns in the region and disseminate information to farmers; Encourage research and dissemination of information; Improve on systems for food storage, processing and distribution 	
4.	PASTORALISM/PASTORAL ZONE	<ul style="list-style-type: none"> Wildlife conservation & Recreation Eco lodges Development Pastoralism and Eco-tourism 	<ul style="list-style-type: none"> Forest habitat Wildlife Conservation Nature Trails & mountain climbing for eco-tourism. Recreation rangelands conducive for wildlife/livestock movement 	<ul style="list-style-type: none"> All gazetted boundaries of the Zone will remain un-altered and selfishly maintained as they are currently surveyed. Prohibit Urban developments and other human activities within zone Provide adequate well distributed livestock production support infrastructure; Provide and manage adequate water at strategic places; Encourage optimum capacity utilization; 	



ZONE	DEFINING ELEMENT	ZONE DESCRIPTIONS	PERMITTED USES	LAND USE REGULATIONS
		<ul style="list-style-type: none"> This zone will include the following area Tourism Conservation 	and related water point development	<ul style="list-style-type: none"> Establish Disease Free Zones to facilitate access to export markets;
5.	RANCHING AND WILDLIFE ZONE	<ul style="list-style-type: none"> Wildlife Conservancies Most in Samburu East sub County 	<ul style="list-style-type: none"> rangelands for wildlife/livestock movement and related activities Wildlife Conservation; Eco-tourism; & Hotel Developments Wildlife conservation & Recreation Eco-tourism nature trails Eco lodges Development Tourist resort 	<ul style="list-style-type: none"> Eco tourism zone- activities that do not damage the environment such as research, forest recreation and observation without changing the natural character such as forest, water bodies Housing-Hotel zone: housing development that is allowed should enhance beauty of the area and social/public facility requirements. All gazetted boundaries will remain un-altered and selfishly maintained as they are currently surveyed The wildlife corridors from the protected areas will be linked with the corridors linking to the wildlife conservancies
6.	PUBLIC PURPOSE	<ul style="list-style-type: none"> Military Training 	<ul style="list-style-type: none"> Near Losesia Military training Conservation nomadism 	By leveraging on the existing military facilities and the unique terrain



13. SECTORAL DEVELOPMENT PLANS, STRATEGIES AND FLAGSHIPS

13.1 Introduction

This chapter presents sector strategies detailing specific planning action and the framework to attain/enable the desired objectives for that sector that will collectively lead to attainment of Samburu county vision. The strategies cover all sectors of development which include: environment, transportation, infrastructure, economic, agriculture, human settlement, social infrastructure as well as County Investment Plan (CIP).

13.2 Economic Development Plan

The hallmark of the economic development strategy is the promotion of value chain addition and industrialization by targeting the processing and conversion of raw materials and agricultural produce. This will form a backbone for an export-oriented trade and thriving urban-based commerce. Targeted interventions include establishing, , a special economic zone (SEZ) at Maralal, Wamba, Baragoi and Archers Post, cottage industries at all wards, enterprise zones in all major urban centres, while leveraging on the a vibrant tourism economy.

Objectives:

Ensure secure enabling environment for economic growth, sustainable industrialization and diversified economy.

Policies:

- Promote livestock sub sector.
- Leverage on the existing wildlife ecosystem to enhance tourism sector.
- Utilize 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
- Improve economic infrastructure to attract business and industry.
- Improve security and safety in the county.
- Develop human resource capacity of the county to tap into local resources and meet the demands of diversified competitive economy.

13.2.1 Livestock Production and Rangeland Management

Objective:

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

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 development needs and wildlife through appropriate land use policies.
- Improvement of the livestock infrastructure (research and extension, 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.
- Establish fodder conservation areas and strategic fodder reserves.

Strategy 1: Promote Livestock Sub Sector through Pasture Improvement and Rangeland Management.

Proposed Actions:

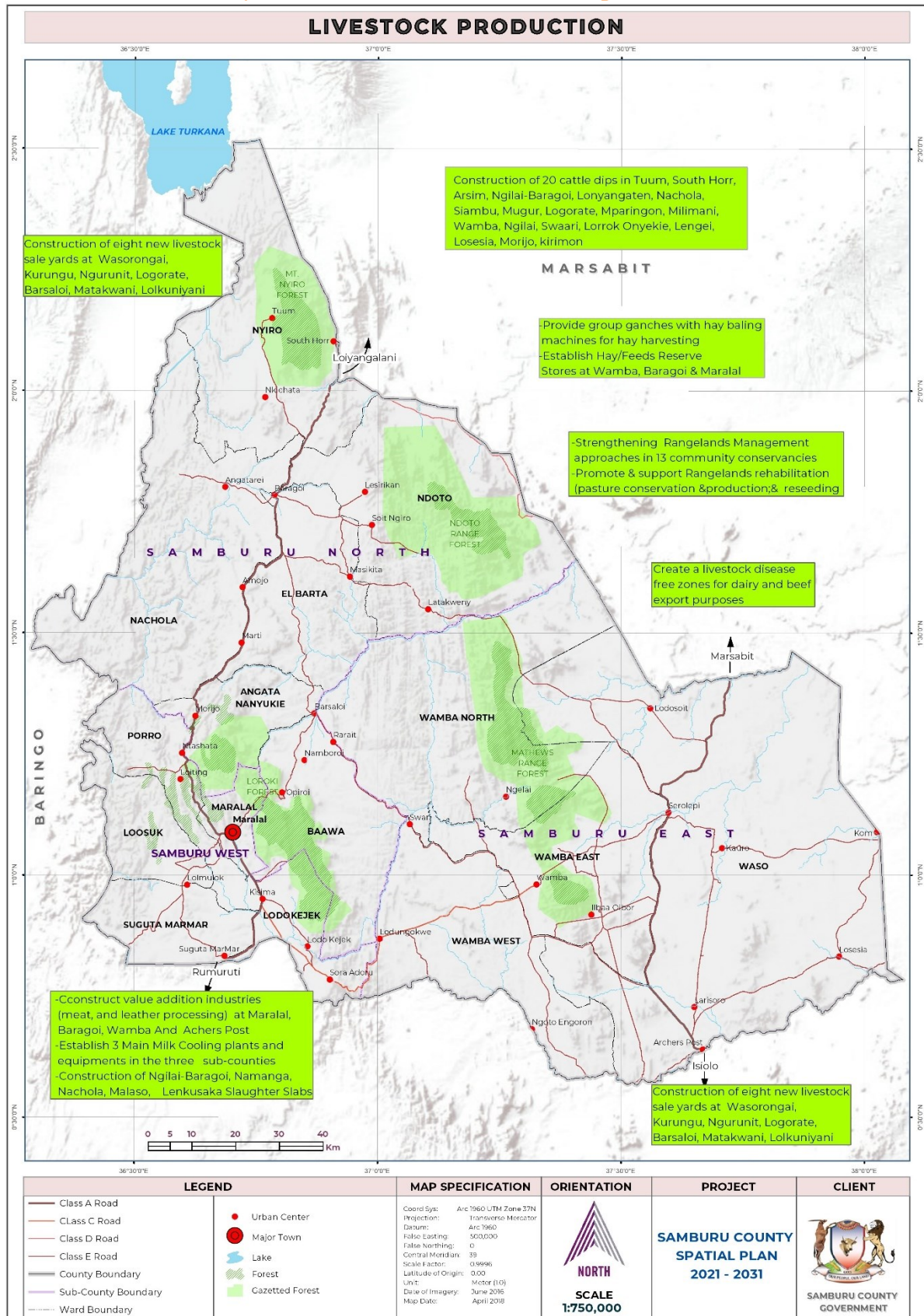
- Reseeding and rehabilitation of denuded lands and rangelands rehabilitation.
- Sustainable pasture and fodder harvesting and conservation practices.
- Capacity building and strengthening of local community on pasture management
- Provide for community shared grazing areas to foster community cohesiveness.



- Formulate rangelands management and grazing planning policy and other guidelines.
- Undertake proper land use-planning/zoning at community and group ranch level.
- Mapping of invasive species, controlling and managing them.
- Promoting and strengthening cross boarder Holistic Management Grazing approaches
- Construction of soil conservation structures (e.g. gabions, water retention structures, terraces, semi-circular bands) especially in Samburu East Sub County.
- Map out and demarcate livestock grazing areas and routes as public land and protect them from encroachment.
- Clear zoning of land uses for farming, livestock and wildlife with respective land use regulations.
- Identify sites for livestock infrastructure development (research and extension, markets, cattle dips, loading ramps and holding grounds).
- Improve current livestock markets and set up new livestock markets.
- Identify appropriate site for an abattoir and construct value addition industries (meat, and leather processing) at Maralal, Baragoi, Wamba and Achers Post.
- Create and promotion livestock disease free zones for dairy and beef export purposes.
- Identify a land for a pilot project fodder on production and management.
- Employ veterinary officers to serve at ward levels.
- Ensure balanced distribution of water source for livestock.
- Strengthen traditional grazing management structures and support grazing management committees.
- Establish 3 Main Milk Cooling plants and equipments in the three sub-counties.
- Construction of a Mini-Abattoir at Nomotio LIC and 2 satellite slaughter houses established in Baragoi and Wamba.
- Construction of eight new livestock sale yards at Wasorongai, Kurungu, Ngurunit, Logorate, Barsaloi, Matakwani, Lolkuniyani.
- Provide Group Ranches with hay baling machines for hay harvesting.
- Establish Hay/Feeds Reserve Stores at Wamba, Baragoi and Maralal.
- Facilitate for Livestock Insurance.
- Planed and controlled grazing to reduce land degradation, reduce community.
- Provide for livestock routes and their planning for water resources and other livestock infrastructure.
- Establishment of a livestock laboratory at Maralal, Wamba and Baragoi
- Construction of Ngilai-Baragoi, Namanga, Nachola, Malaso, Lenkusaka Slaughter Slabs and rehabilitation of 4(Baragoi, Archers, Suguta, Wamba) slaughter houses.
- Construction and rehabilitation of 20 cattle dips in Tuum, South Horr, Arsim, Ngilai-Baragoi, Lonyangaten, Nachola, Siambu, Mugur, Logorate, Mparingon, Milimani, Wamba, Ngilai, Swaari, Lorrok Onyekie, Lengei, Losesia, Morijo, Kirimon.
- Constitution and reconstitution at Lmisigiyo cattle crush, Ngambo, Lkiloriti, Lalangok, Lpepet Cattle crush, Cattle Dip in Morijo , Nkirenyi cattledip, Cattle crush and cattledip in Lpus, Cattle dips and crutches in all villages at Lulu, Meterai and Ltungai Cattle dip and crush at Lorrok- lolmonjo Livestock market, Lodgushaani and all villaages.
- Establish Modern livestock Market at Lorrok- lolmonjo Livestock market, Larseo village, Losesia, at Lokbuk market and Naturkan.
- Introduction of grade cows in Samburu West especially at Poro
- Establishment of a livestock disease surveillance system to curb disease outbreaks and provide quick management strategies.



Map 13-1: Livestock Production and Management Plan



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13.2.2 Industrialization, Value Chain and Value Addition

Samburu County as low industrial establishment. There exists potential for value addition especially in livestock sub sector.

Proposed Policies

- launch sector-specific flagship projects in agro-processing, meat, leather, mining services and IT related sectors that build on our comparative advantages
- Develop small and medium enterprises (SMEs) by supporting rising stars and building capabilities with model factories.
- Create an enabling environment to accelerate industrial development through industrial parks/zones along infrastructure corridors, technical skills, supporting infrastructure and ease of doing business.
- Create an industrial development fund.

Strategy 2: Create and develop appropriate institutions to promote industrialization.

Proposed Actions:

- Establish and designate industrial areas at Maralal, Wamba, Archer Post and Baragoi
- Establish Special economic zones at the proposed industrial site.
- Establish a strong SEZ policy providing attractive tax incentives.

Figure 13-1: Artist's Impression of the Proposed County Industrial Parks

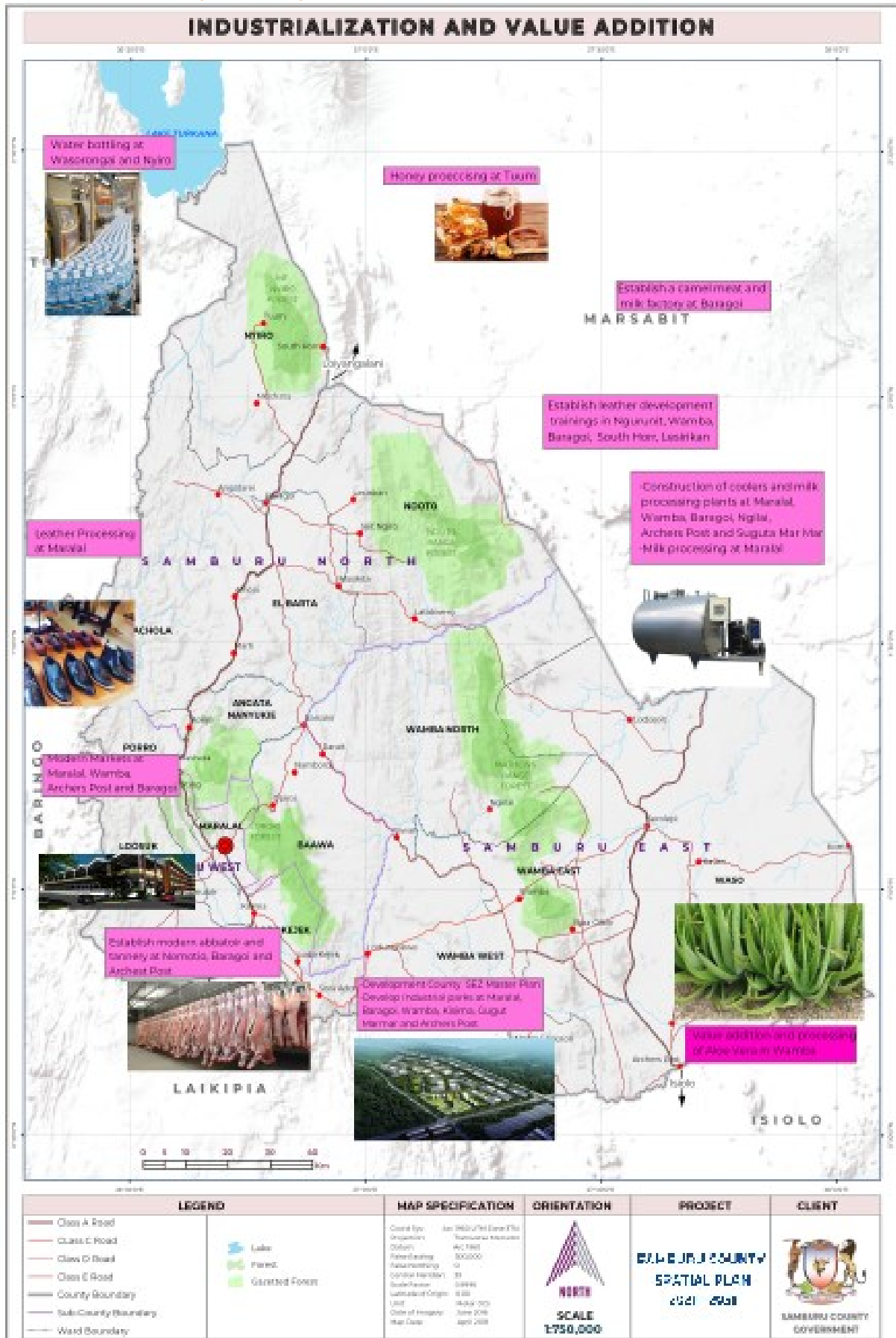


- In addition to the above major investors, the industrial park is proposed to have the following components:
 - One-stop government services shop
 - Agri-business incubation centers- Business incubation is a venture that seeks to grow upcoming business by providing mentorship, capital and technology where possible.
 - Establish demonstration farm- to teach farmers practices for improving value of their output for a wider market reach.
- Establish Cottage industries to be at the ward level.
- Establishment of agro-based industries e.g. fruit and food, milk, poultry, hide (tanning). The following are proposed as value addition chains:
 - Maize milling at Poro, Loosuk and Poro
 - Completion of Nomotio modern Abattoir and include Meat processing
 - Potato demonstration and bulking centre Poro, Lokodjek and Loosuk



- Cereal Storage facilities Poro, Lossuk and Kisima
- Construction of coolers and milk processing plants at Maralal, Wamba, Baragoi, Ngilai, Archers Post and Suguta Mar Mar.
- Establishment of Livestock Multiplication Centres at Baragoi and Wamba.
- Establish of Aloe Vera processing plants at Wamba.
- Milk processing, storage and marketing at Maralal.
- Abattoir and tannery at Baragoi and Archest Post, Wamba
- Establish a camel meat and milk factory at Baragoi.
- Establish a tannery at Losesia
- Establish water bottling at Wasorongai and Lpartuk.
- Upgrade honey processing at Maralal and establish others at Tuum, Ngilai and Achers Post.
- Support beekeeping groups with modern beehives, harvesting kits, honey collection centers and honey refinery equipment in honey producing areas
- Construction of a Mini-Abattoir at Baragoi, Wamba, Barasaloi and Swari
- Establish a leather city at Archers Post.
- Development of hospitality industry in Maralal and Archers Post.
- Leather development industry and tanneries at Maralal.
- Leather development trainings in Ngurunit, Wamba, Baragoi, South Horr, Lesirikan.
- Fruit industry to be established at South Horr
- Honey industry for honey processing and wax

Map 13-2: Proposed Industrial and Value Addition Master Plan



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13.2.3 *Tourism and Heritage Plan*

Tourism sector is earmarked as one of the six key growth sectors of the economic pillar of Vision 2030 due to the important role the sector plays in economic development. Samburu is hailed by travel enthusiasts as Kenya's bedrock of tourism an especially in the the northern circuit.

Objectives:

Increase number of tourists and tourist revenue through promotion of Samburu as a unique destination.

Policies:

- Protect and conserve available heritage sites through regulation and maintenance.
- Encourage and promote the establishment of more conservancies linked to culture, heritage and wildlife tourism.
- Package tourism attraction assets and market the county locally and internationally.
- The benefit sharing principle should be applied to enable the County and its local community residents to benefit from tourism
- Decentralize the resort city concept to conservancies.
- Improve tourism facilities and services by private sector

Strategy 3: Promote Samburu County as a Unique Tourism Destination and Ensure Community Involvement in Tourism Activities.

Wildlife Tourism

Proposed Actions:

- Create one major tourism circuit in the county to connect conservancies with other touristic sites
- Promote Samburu County as a unique destination with a triple package (culture, wildlife and natural features)
- Package tourism attraction assets and market the county using various channels
- Marketing of destination sites and attractions within the county.
- Establish a tourist information centre at the county.
- Engage private investors to develop the hospitality industry to increase bed capacity and develop high value cultural products as well as annual cultural festivals.
- Improve the road network connecting the tourist circuit.
- establish community lodges in community conservancies
- Establish curio shops and artefacts centre at Maralal, Wamba and Archers Post
- Create an enabling environment for hotel industry investment
- Encourage the formation of cultural groups and cultural promotion events
- Develop a visitor's map and a guide covering the entire county.
- Designate and establish new eco-tourism sites.
- Develop a tourism prospectus to raise awareness to potential investors
- Enhance eco- and conference tourism, mountain climbing, mountain hiking, motor racing, water sporting and golfing.
- Establishment of annual tourism expos.
- Establishment of rangers camps
- Partner with private sector to build a high tourist hotels at Samburu national Reserve and other conservancies.
- Support local investors to build hotels and resorts at the scenic areas.
- Improvement of roads conditions and development of new roads
- Create an enabling environment for hotel industry investment
- Establish animal orphanages
- Build a major cultural centre to show-case the unique county culture
- Establish a library in every sub county where artefacts on local culture will be accessed.
- Development of county cultural information centre at all sub county headquarters.



- Identification, documentation and preservation of historical sites and monuments
- Construction of new cultural manyattas and rehabilitation of existing cultural manyatta
- Register and license tourist porters and tour guides
- Generate revenue from passengers to support the local porters and boat operation
- Developing a website for online marketing of tourism products
- Organizing local events to promote tourism
- Promotion of the Samburu Tourist Circuit and Improve linkages to various attractions and the tourist circuit
- Repair of the road to “the end of the world” the Suguta valley view point and promotion of the Suguta valley as tourist attractions.
- Rehabilitation of existing tourist facilities.
- Marketing of the circuit on both local and international media.
- Malaso Conservancy, Naipoki Camp Site, Lesiolo/ Nailiapu Camp site, Leipele Camp Site (Ngano), Lesunyai Camp Site, Campsite on Naiborkeju hill, Randers campsite in Margwe, Lulu Campsite
- establish campsite and lodges at Parkati/Ikayo

Cultural Tourism

- Rehabilitate Maralal museum to provide high quality services
- Cultural Centre’s established in at Maralal, Wamba and Baragoi
- Enhance rich cultural activities and traditions Centre’s
- Hold Samburu cultural week annually at Maralal.
- Diversification of tourism product.
- Facilitate local communities tourism projects and small and micro - enterprises in tourism to forge partnership with the dominant tour operators
- Support local groups and local initiatives such as dance troupes, souvenir, drama and carving groups in organizational capacity building and funding.
- Undertake deliberate special programmes to train local people in tourism development projects in collaboration with the investors in tourism industry.
- Develop cultural centres and trails in identified heritage sites
- Documentation and research of culture and cultural folklores
- Participate in marking of cultural events of significance: camel derby, Samburu Night
- Development of culture policy
- establish a cultural village at Logetei

Adventure Tourism:

- Promotion of ecotourism.
- Identify adventure tourism roads and improve them.
- Promote domestic adventure tourism by providing incentives and subsidies.
- Invest in ICT infrastructure to publicize adventure tourism sites.
- Partner with private farms to offer more innovative products in existing tourism sites.

Diversification of tourisms:

- Medical tourism
- Religious tourism
- Industrial tourism
- Agri tourism
- Pastral tourism
- Conference tourism
- Sports tourism

Map 13-3: Tourism and Heritage model



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13.2.4 Agriculture Development Plan

Agriculture is a key component of the county's economic revival and growth. Kenya Vision 2030 identifies agriculture as a key driver in the County economy. The plan designates areas of differentiated agricultural activity based on their potential. The agricyute development is premised on the following five areas:



1. Apiculture - Cooperative processing, packaging, marketing of honey, establish a honey making factories, commercial bee farms, extension services
2. Fruits and Coffee - establish commercial orchards, promote variety in fruit production, establish fruit collection and market centers, improve road connectivity between farms and collection/ marketing/processing centers, expand capacity of existing processing plants, establish cold fruit storage, extension services, irrigation.
3. Wheat and barley – promote commercial production of wheat and barley establish collection and marketing centers, extension services, build processing plants
4. Grain Production - Promote commercial production, increase variety, promote climate smart agriculture, construct storage facilities, establish collection and marketing centers, extension services, enhance value-addition industrialization
5. Irrigated horticulture - promote irrigation agriculture

Objectives:

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

Policies:

- Establishment of crop value chains to enhance production, productivity, and value addition to diversify the economy.
- 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.
- Promotion of irrigation farming to grow high value crops.
- Improve production of agricultural produce by using better techniques of farming to provide the required raw material for agro-based industries.

Strategy 1: Increase Crop Production, Maintenance of Strategic Food Reserves and Enhance County Food Security

Proposed Actions:

Crop Agriculture

- Zoning of agricultural and agro-pastoral areas.
- Clear zoning of land for various activities to resolve conflicts
- Establish a soil testing lab at Maralal to undertake soil testing and advise farmers on proper land use.
- Sensitize and encourage local people adoption to modern farming techniques and management
- Establishment of Agricultural and Livestock Research center at Maralal
- Ensure value-addition for locally produced goods.
- Strengthen extension delivery
- Support the development of facilities for milk handling such as collection and cooling centers
- Encourage the cultivation of drought resistant crops and plants in the drier areas of the county (Millet, Aloe Vera)
- Mitigate on human wildlife conflicts.
- Ensure access to farm inputs through cooperatives and capacity building of farmers
- Promote establishment of soil and water conservation, community training on soil and water conservation issues
- Introduce drought resistant crop varieties like Katumani mpya, Finger millet, Kari Ndata Sorghum varieties, Cassava varieties and sweet potatoes
- Encourage soil conservation strategies such as construction of gabions and terracing



- Support and strengthen extension service and linkages with research institutions
- Support proper post-harvest technologies.
- Explore opportunities for small scale irrigation
- Promote agro forestry/ fruit trees/ horticulture
- Promote cultivation of drought tolerant crop varieties
- Establish an Agricultural Showground at Maralal
- Install 30 green houses for each ward.
- Establish 15 water conservation structures for agriculture at Nkare Narok, Mlango, South Horr Malaso, Morijo, Lkujita, Lolmolog, Kelele, Murua Nkai, Sangeyo, Lesirikan, Lesepe, Nkaroni, Lorukoti, Lowabene
- Construction of cereal stores at Suguta marmar, Loosuk, Poro, Lodokojek and Angata Nanyukie,
- Establish irrigation schemes at Loikumkukum, Seemo, Tuum, Kibartare, Nairimirimo, Nkare Narok, Ngilai-Wamba, Naisunyei, Kawaop, Legima and Nyiro, sererit
- Capacity bulding for farmenrs on crop production
- Reduction of fragmentation of agricultural land
- Intensively promote agriculture in the rural areas to increase production and employment creation.
- Development and implementation of an agricultural land use policy, plan and legislation based on the updated agro-ecological zones.
- A consultative county-wide process to determine minimum land holding sizes per agro-ecological zone.
- Increasing number of extension officers in the whole county
- Establishment of a veterinary laboratory to enhance disease control and food quality assurance
- Promotion of farmers' service clinics to support the supply of inputs and provision of expert services.

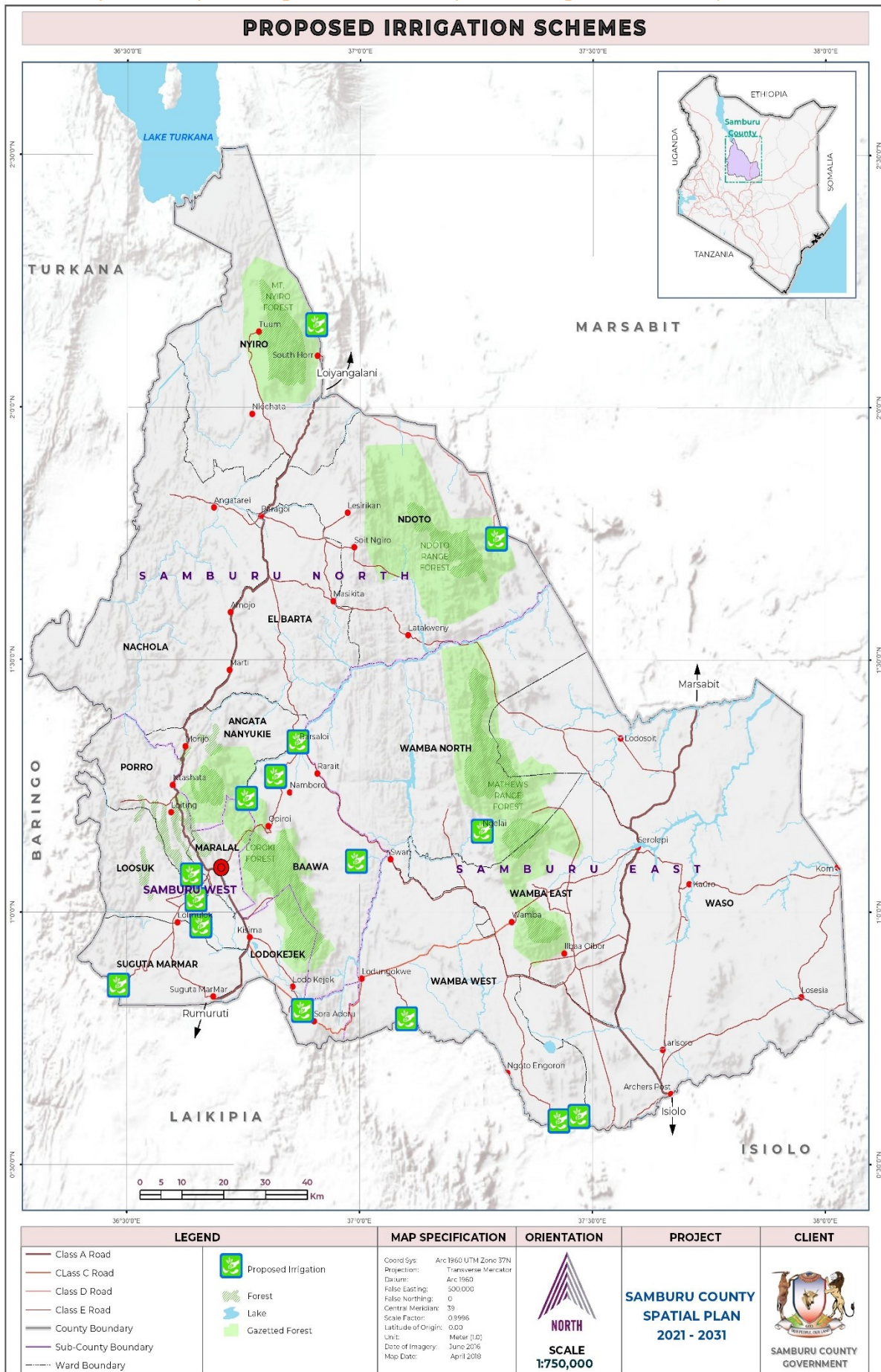
Apiculture

Proposed Actions:

- Establishment of commercial bee farms in the lowlands (Samburu North and Samburu East Sub counties).
- Establishing of one honey processing factory in Maralal, Wamba and Baragoi towns.
- Promotion of the collection, packaging and marketing of honey through cooperatives.
- Provision of regular and relevant extension services to bee farmers.
- Promote appropriate honey production technology and increase hive products.
- Strengthen the honey farmer cooperatives through training and incentives.
- Establish inspectorate unit to ensure quality of inputs, imports/exports.



Map 13-4: Proposed Irrigation Schemes Proposed and Agricultural Development Plan



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13.2.5 Trade, Commerce and Investments

Enhancing trade, commerce and investments in Samburu County

Objectives:

To upscale current trade and commercial activities through promotion of trade and investment for enhanced economy of Samburu County.

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
- 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

Strategy 1: Enhancing Trade and Investments in the County by Creating an Enabling Environment.

Proposed Actions:

- Establish Samburu county annual agricultural trade fair/show.
- Training support to various local economic groups.
- Lobby central Government investment in areas of roads, energy, ICT water and sanitation
- 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.
- Set up market stalls for small scale traders in strategic areas in urban centres across the county.
- Enhance collaboration with the Kenya National Chamber for Commerce and Industry (KNCCI) and the Kenya Investments Authority (KIA).
- Establish Co-operative development fund to be accessed by various groups (youths, livestock traders, business men, etc).
- Support youths to engage sand-harvesting as an economic activity.
- 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 services
- promotion of local and external investors by harnessing the available opportunities in the country
- Strengthening of partnerships between locals and foreigners to tap into investments opportunities of the county.
- Enforce weight and measures regulation.
- Establish funds for entrepreneur for empowerment.
- development of rural infrastructure (roads, water, electricity) to promote production for the industries.
- To allow for ease of access to the zones, collection centres closer to the farmers should be developed. These collection centres can either be industry operated or SACCO operated.
- Identification of commercial nodes in the County, their specialization and determine levels of services (Maralal, Baragoi, Archers Post, Wamba, Kisima, Suguta Marmar,
- 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
- 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 in the County.

13.2.6 Mining

Objective: Sustainable Mineral Exploration

Proposed Actions:

- Undertaking of detailed geological survey to determine the extent and commercial viability of mineral resources.
- Mapping the mineral potential areas
- Empower local communities to apply for mining licenses for mineral exploitation
- Area with potential for salt mining
- Formulation of mineral exploration policy
- Introduction of incentives and subsidies to encourage investment in the industry
- Capacity build the existing County Sand Authority to regulate sand harvesting in the County
- Identification of markets for existing mineral resources
- Partner with existing and new private mining companies for large scale commercial extraction and processing of minerals.
- Ensure all mineral exploration and extraction is regulated.
- Assess opportunities presented by geographical location of the County to neighbouring mineral producing counties and establish areas of partnership.
- Promote small scale miners in the County.

13.3 Infrastructure Development Plan

The **infrastructure** is **important** for faster economic growth and alleviation of poverty in the country. The focus of the plan is to be to provide adequate and well distributed infrastructure to spur economic development.

13.3.1 Water Supply

Objectives:

To have improved access to safe and portable water.

Policies:

- Ensure protection and conservation water catchment areas.
- Ensure water sustainability through diversified and better storage and harvesting.
- Diversifying water sources including rain water and the implementation of water recycling.

Strategy 1: Provide Adequate, Efficient and Reliable Water for Development

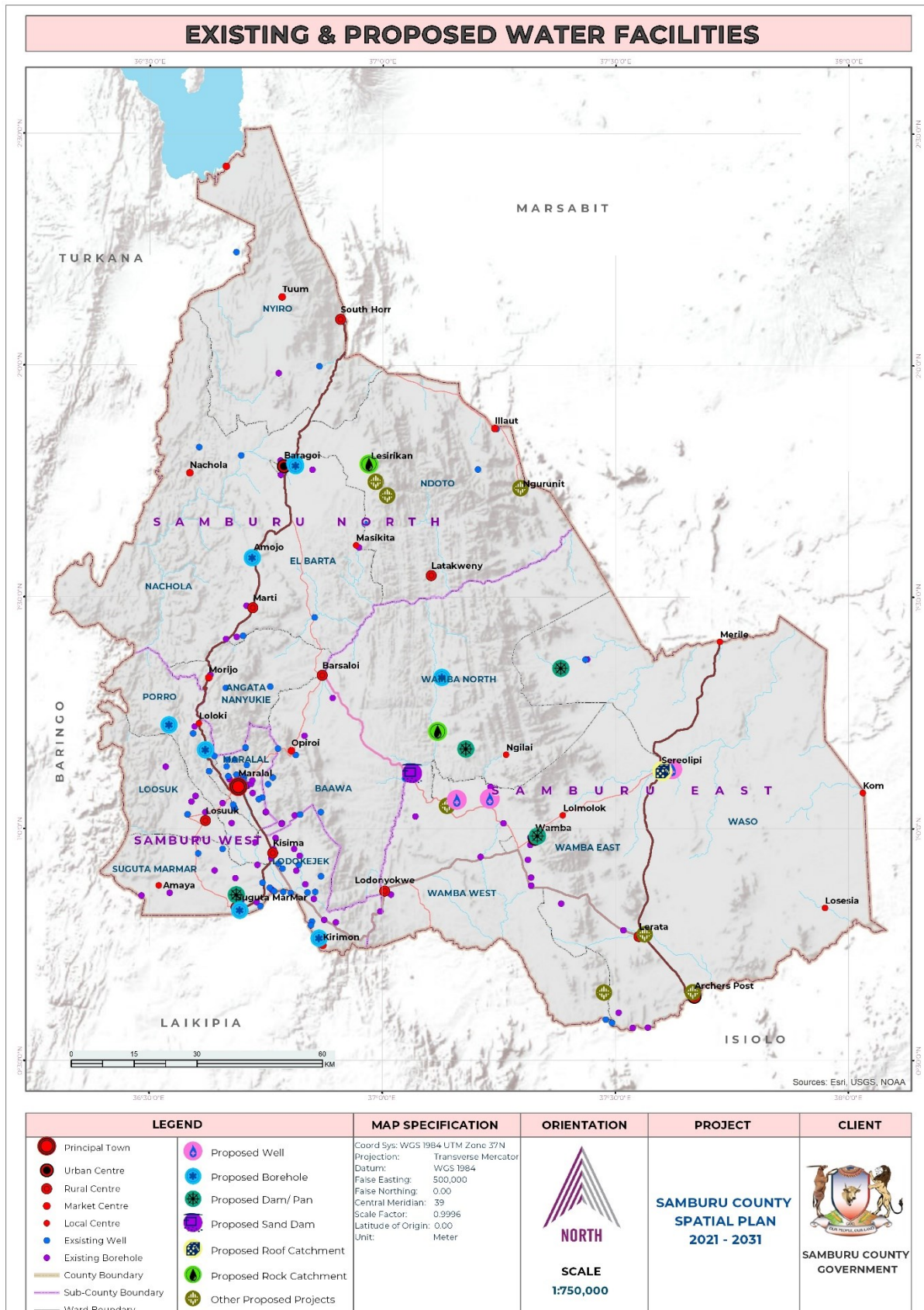
Proposed Actions:

- Preparation of a Water Master Plan for Samburu County.
- Delineate, survey and register all wetlands and swamps with the County
- Establish specific water points for wildlife and livestock in the delineated livestock movement corridors.



- Construct a water office and increase the number of officers in the sub counties
- Encourage rain water harvesting.
- Expand existing water projects.
- Reduce the average distance to water points (to 5 Km)
- Promotion of water re-use and recycling, particularly in the urban areas.
- Protect all water towers through developing water resource governance and management regulations and enforcement policy.
- Upgrade the following water pan, Ndoto Ward Lodongo Wayert Pan, Nkumeni Water Pan, Upgrade Lkujita Water Pan upgrade Sirangu Water Pan, Soitpus Water Pan, Lorian Water Pan, Chard Water Pan, Ngilai Water Pan, Lapariak Water Pan
- Establish strategic dams for surface water runoff at Lmisigiroi dam, Mpoori dam at Longewan, Wasorongai, Lesirikan River, Ndoto, tuum, losirokoi
- Control sand harvesting at rives and laggas
- Establish water bottling Industry at L.Partuk in Lowonyiwonyi area
- Construct a mega dam on river Ewaso Nyiro.
- Construction of Dams at Soit Naibor, and Sirata Koiting, Charda Am, Kokoyo Dam, Lokomolitok Damin Marti, Dams at- nayanaeatiir, Chanda dam, Ntiin Nariko Dam, Lentarakua Earth Dam, Mpoori Earth Dam, Lolkese Earth Dam, Lemisigiyo crush and dam, Mege Dam (Lolorai), Seiya mega Dam, Lkidiloto Mega dam, Lkioliloto Dam
- Desilting of Nomotio and Longewan dams, nkabai dam, malalwa dam
- Proposed boreholes at Nkabai Area, Soitpus Primary, Esuk, Lkujita Area Morijo mixed day, Naturkan, Lomaro, Boreholes at Loibor Ngati stream, Ndonyo ECD and, Sawan, Ndareoiborr, Lpetpet, Loolkonden, Lkurum, Nauneri, Loruko, Lesunyai, Ldaranja(Seki), Lekiji b, Nkarenarok, Lkojita, Ntarakwai, Loongutuke, Nchakara, Lpusi, Lowa, Ntepes, Loudukum, Naimaralal, Lchakwai, Noonkeus, Soit pus, Laankarn, Tuum, Lkayo,
- Establish water dams at Lesidai, Poro Lossuk,
- Proposed two boreholes at Marti to serve the two communities

Map 13-5: Proposed Water Provision Plan



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13.3.2 Liquid Waste Management

Samburu County has no sewerage system in the entire county. The growing population especially in urban areas necessitates the provision of sewer infrastructure to ensure appropriate disposal of liquid waste.



Objectives:

To have a sustainable and efficient integrated liquid waste management system.

Policies:

- Ensure protection and conservation water catchment/wetland areas to sustain underground water recharge.
- Ensuring a clean environment free of solid and liquid waste degradation.

Strategy 3: Provide Efficient Liquid Waste Disposal System

Proposed Actions:

- Development of modern sewer reticulation for major urban centres: Maralal, Kisima, Baragoi, Wamba, Archers Post and Suguta Marmar
- Key consideration in regard to location and development of a sewer treatment plant include;
 - Sufficient land; preferably outskirts of urban centers
 - Climate conditions – wind directions
 - Surface and underground water sources
 - Terrain and Slope gradient range from 0-5%
 - Geologic and hydrologic conditions – it is to be ensured that the movement of leachates and gasses from the site should not contaminate the surface and groundwater aquifers
- Establishment of local treatment stations in major urban centers in each sub-county to ensure proper wastewater reticulation.
- Allow for vetting of the current sewer operations from the secondary channels down to the primary treatment plant.

Table 13-1: Liquid Waste Management Proposals

Proposed Projects	Location	Time Frame	Priority
Establishment of a sewer management framework and undertaking a feasibility study for Maralal, Wamba, Archer Post, and Baragoi	Entire Samburu county	2020-2021	1 st
Provide Sewer network and treatment plant	Maralal	2021-2022	1
Provide Sewer network and treatment plant	Archers post	2023-2024	2
Provide Sewer network and treatment plant	Wamba	2025-2026	3
Provide Sewer network and treatment plant	Baragoi	2026--2027	3
Provide Sewer network and treatment plant	Kisima and Sugtua Marmar	2027--2028	4

13.3.3 Energy

Proposed Actions:

- Establish solar farms at Baragoi, Wamba, Archer Post, South Horr,

13.3.4 Communication and ICT

- Through partmesuhip with cellphone network providers establish BTS at areas with por network coverage
- ICT cntres at Maralal, Baragoi, Wamba, Archer Post, South Horr
- Investment in ICT infrastructure and capitalize on online marketing to publicize tourism sites

13.4 Transport Development Plan

The spatial plan builds on the existing transport structure to enhance Samburu County’s region connectivity and improve penetration and accessibilty within the county though road accesses and circulation channels.

Objectives:



To improve the road network to enhance accessibility of Samburu County.

Policies:

- Ensure linkage and opening up of areas that are less linked to the rest of the county and the surrounding region.
- liaise with the Ministry of Transport, Infrastructure, Housing and Urban Development to formally classify un-classified roads.
- Integrate LAPSET infrastructure with the internal road network to facilitate social economic development.
- Surveying and demarcate of major roads in collaboration with road authorities.
- Landscaping and tree planting to be done along major roads especially in urban areas.
- Widening of narrow roads and development of missing links.

Road Proposals

The following specific proposals are proposed in relation to each level in the transportation system.

Strategy 1: Upgrade Regional Roads to Enhance Connectivity

Proposed Actions:

1. Upgrading the following roads to bitumen standards.
 - Naibor Posta-Maralal-Baragoi-South Horr- Loyiangelani (A4) 254km
 - Lerata-Wamba (C78) 120km
 - Wamba- Kisima (C78) 100km
 - Baragoi-Latakweny-Sereolipi road
2. Promote the concept of green corridors in the design of these roads

Table 13-2: Regional Roads Proposed for Tarmacking

Road	Km	Proposed road reserve	Priority	Actors	Approximate Cost (Ksh)	Timeline
Maralal-Posta (Naibor) (A4)	84km	60	1	KeNHA	8.4billion	ongoing
Lerata-Wamba (C78)	66km	60	2	KeNHA	6.6 billion	2020-2021
Wamba- Kisima (C78)	86km	80	3	KeNHA	8.6 billion	2021-2022
Maralal-Baragoi(C78)	107km	60	3	KeNHA	10.7 billion	2020-2021
Baragoi-South Horr-Loyiangelani (A4)	41km	60	4	KeNHA	4.1 billion	2021-2022
		40				
Total						

Strategy 2: Upgrade County Road Network

Objective: Enhance rural road network by upgrading existing roads and opening new areas to murrum standard.

Proposed Actions:

Roads that need to be gravelled

Atiir- Soitolkokoyo Rd	Nkabai –Loibachai Road,	Ldaranja-Lmisigiyo Road
Atiir- Napak-Ikolobai-Keekoridony Rd	Angata-Morija Road	Ng’amata-Kisima Road
Tuum-Lonjorin Road	Lkiloriti- Sireta Road	Lorumoki Suguta Road,
Road connecting to Lkurroto	Lkiloriti -Ngamata Road	Suguta-Nkutoto Elepere – Logorate Road
Ledoro-Baawa Road	Leir -Loiku ECD Road,	Llchanger Borehole-Lorosoit Pre-School Road
Maralal- Opiroi Road	Leir – Lkiloriti Road,	Nachola-Naturkan Road
Suen (Meterai) –Lulu road	Lodokejek – Lolmoti Road	
Naturkan – Suguta Valley Rd		

Strategy 3: Construction of Bridges and Drifts

Proposed Actions:

Construct of bridges/ drift at Loikumkum At R. Loikumkum, drift at River Kosikosi, Ltungai Drift, proposed bridges at Seiya –mega bridge, Bridge connecting Baragoi town and Natiti, Nkarenarok footbridge, Seiya Lodokejek Bridge, Bridge between dams at Suen

Strategy 4: Tarmacking of roads in Urban Centres

Proposed Actions:

Paving of roads using probase technology of the following towns: Maralal, Baragoi, Wamba and Archers Post towns.

Plate 13-1: Proposed Urban Roads



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Strategy 6: Development of Modern Transport Terminal Facilities

Proposed modern bus terminals to be provided at Maralal, Wamba, Archers Post, Suguta MarMar and other major centres.

Figure 13-2: Artist Impression of Proposed Terminal Facility



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In designing the proposed terminal, the following recommendations shall be incorporated:

- Separate entry and exit points as well as orienting them so that people are protected from the wind.
- Provide seating spaces and overhead shelters to protect from bad weather.
- Locate the park near retail stores for easier access to passenger related products.
- Install information kiosks for people who are unfamiliar with the service such as tourists; some of the information include; route information and map.
- Provide for public toilets and baths accessible to all.
- Provide dust bins at strategic points within the facility.
- Provide for adequate lighting in the boarding and waiting areas.
- Allow at least 3m distance between the bus shelter and the curb for free movement in boarding and exiting the vehicles.

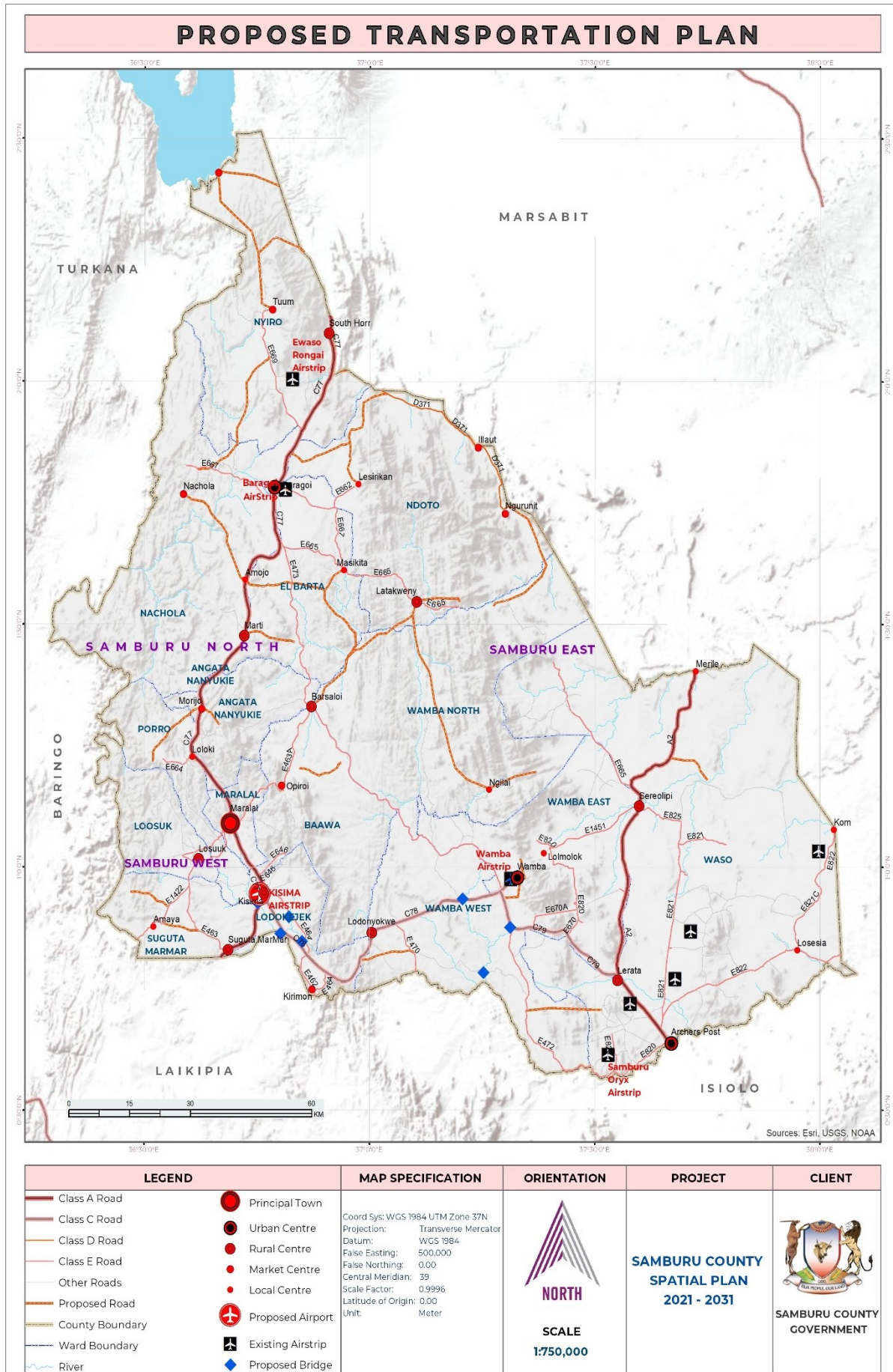
Strategy 4: Promote and Enhance Air Transport and Enhance Linkage.

Proposed Actions:

- Upgrading of the Kisima Airstrip to an Airport in the next 10 years by acquiring 100 Ha of land
- Ensure that the county is served by at least 1 Airport and at least 4 functional Airstrips
- Promote the use of air transport as the alternative means to export farm/livestock products



Map 13-6: Proposed Samburu County Transportation Plan



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13.5 Land Management and Human Settlements

The productivity and sustainability of a land-use system is determined by the interaction between land resources, climate and human activities.

Objectives

To have sustainable human settlements and ensure security of tenure, efficient, sustainable and equitable use of land for prosperity.

Policies

- Provide security of land tenure to the people of Samburu in areas they live and draw their livelihoods.
- Issue title deeds of unregistered and unadjudicated land in Samburu County.
- Revocation of titles illegally or irregularly issued.
- Raise awareness among local communities on their land rights and mechanisms of securing them.
- Provide direct support on a trial basis with formalization of land rights for selected communities.

13.5.1 Land

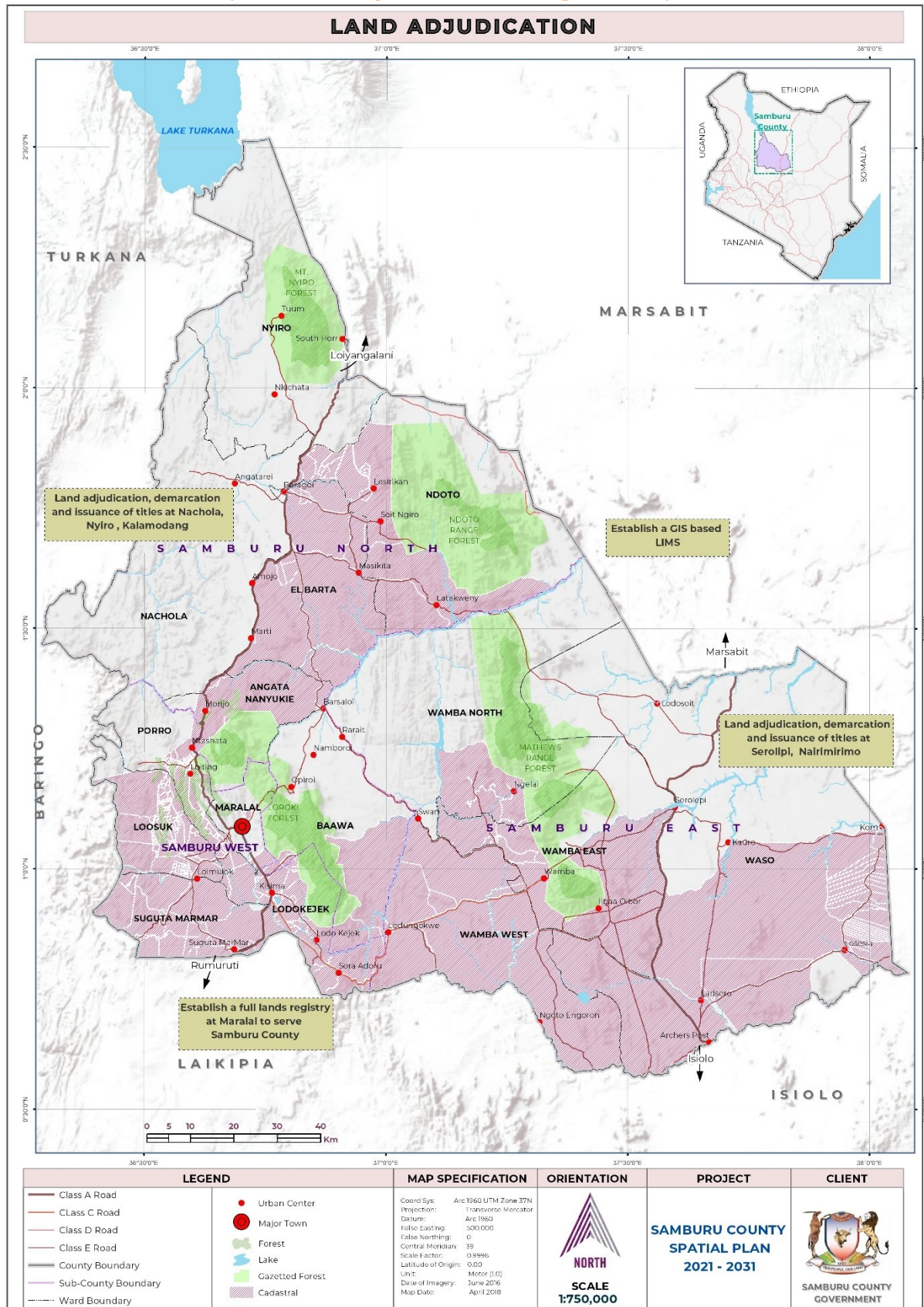
Strategy 1: Provide Sustainable Land Management and Administration

Proposed Actions:

- Establish a lands registry at Maralal to serve Samburu County.
- Develop a Land Management Information (LIM) system and a GIS lab for the county.
- 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.
- Revocation of titles illegally or irregularly issued.
- Raising awareness among local communities on their land rights and mechanisms of securing their land.
- Provide recognized community land access and utilization within formally protected areas to indigenous communities for sustainable traditional livelihoods.
- Land adjudication, demarcation and issuance of titles at Nachola, Serolipi, Nyiro, Kalamodang, Nairimirimo, and all urban centres.
- Planning of all centres in the county and issuance of title deed.
- Planning of all group ranches according to the Community Land Act, 2016
- Training the local community on the ongoing adjudication
- Clear land demarcation of all the existing group ranches and community land.
- capacity building on land management
- Resolve boundary disputes with Marsabit and Turkana county.
- Titling of the unsurveyed land in the rural areas.
- Digitization of land records to enhance efficient land management and support titling of land.
- Reduction of fragmentation of agricultural land



Map 13-7: Land Adjudication and Management Proposals



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13.5.2 Human Settlement Strategy

Urbanization is key to the human settlement strategy. The Plan seeks to encourage balanced and sustainable urban areas and clustered rural settlements as a means to forestall encroachment on fragile areas and, ecologies, safeguard the integrity and productivity of agricultural and rangeland areas, enhance access to services, improve convenience with regard



to access to consumer goods, position the county for industrialization and improve security. The dispersed-concentration strategy has been adopted for Samburu County. The strategy takes note of other emerging centres that require special attention of planning.

Objectives:

Developing integrated and sustainable human settlements with improved social, economic and environmental quality.

Policies:

- Hierarchical development of centers
- All the hierarchical urban settlements must be guided by Integrated Strategic Urban Development Plans
- Proper management systems to to guide the development of the proposed system of urban centres according to the Urban Areas and Cities Act,2016
- Adequate and efficient utilities and services.
- 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.
- Allocation of unique functions/ town brands based on urban center competitive advantages
- Urban prosperity and high quality of urban life
- Corridor Urbanization - Undertake Classification, promote functional differentiation and specialization, encourage necklace (interval) rather than linear urbanization, prepare plans and undertake development control, upgrade services, ready for future growth through land banking
- Interior Urbanization – Designate maralal as a municipality, and Baragoi, archers post, wamba as towns, improve service provision
- Rural Settlements - Encourage clustering of settlements, create compact villages and promote cottage industrialization.

Strategy 1: Ensure Provision of Habitable, Functional and Sustainable Human Settlements

Proposed Actions:

- Establishment of urban hierarchy and functions
- Development of urban hierarchy ranking criteria (population and service).
- Preparation of ISUDPs for the towns as per the proposed hierarchy
- Assignment of functions under Principle, Primary, Secondary and Service towns.
- Provide services proportionate to the level of the urban Centre
- Encourage settlement within service centre
- Loosuk trading Centre planning validation
- Planning and survey of the following centres Lolkunono, Loiboongale Losesia, Logorate proposed centre, Ndikiir Sunyai Centre, Siambu Trading Centre, Loiting Trading Centre, Sunoni Trading Centre, Lulu Trading Centre
- Maralal Town as an administrative cum commercial hub
- Wamba and Baragoi commercial and administrative towns
- All the urban settlements must be guided by integrated urban strategic Plans
- Integrate LAPSSSET proposal
- Corridor development planning
- Branding the following urban area with the following unique functions:
 - Administrative towns
 - Gateways
 - industrial towns
 - Commercial towns



- Tourism towns
- Land banking in all the identified centers.
- Upgrade services in the various urban areas based on the hierarchical category, as outlined in the Urban Areas and Cities Act (UACA).
- Protection of public land.
- Enhanced urban aesthetics, safety and security.
- Development of functional framework for enforcement, monitoring and implementation of urban plans (system development control).
- Development and enhancement of requisite housing and infrastructure to promote urbanization.

Table 13-3: Proposed Hierarchy of Human Settlements and Service Provision

Urban Centres	Resident Population	Catchment Population	Core Functions & Services	Urban Centres
Principal town/ municipality	40,000	150,000	Administration (County & Central Government), Level 5 Hospital, Centre of Telecommunication, Centre of Financial Institutions, Primary Commercial Centre, 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	Maralal
Urban Centre	20,000	80,000	Sub County Administration for both County & National Government, 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, Postal Service Centres	Baragoi, Archers Post, Wamba
Rural Centre	5,000-8000	40,000	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, , Livestock Value addition, Attractive Commercial & Service Facilities, Telecommunication services, , Carpentry & Metal Fabrication,	Suguta Marmar, Barsaloi, South Horr, Lodongokwe, Ngurunit, Sereolipi
Market Centre	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	Marti, Merile, Lerata, Barsaloi, Ngilai, Kisima, Poro, Loosuk, Latakweny, Nachola, Lolknoni,
Local Centre	<2000	10,000	Shopping area, markets, Level 1 Health Facilities, Central Meeting Point, Telecommunication Needs, Money Transfers,	Kirimon, Kisima, Opiroi, Ngurunit, Illaut, Tuum, Lpus, Lolmolog, Sirata Oriboi, Laibor, Swari, Nkare, Lakira, Lenkunsaka, Ngutuku Engoron, Lesirikan, Kom, ,



				Lonjorin, Parkati, Losesia, Masikita, Tangar, Lonyangate lotar
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Rural Development

One of the objectives of the plan is to enhance balanced development in the county considering that most of the population is rural. It is therefore imperative to provide strategies to promote sustainable socio-economic development of the rural areas with a view to minimise migration to the urban areas.

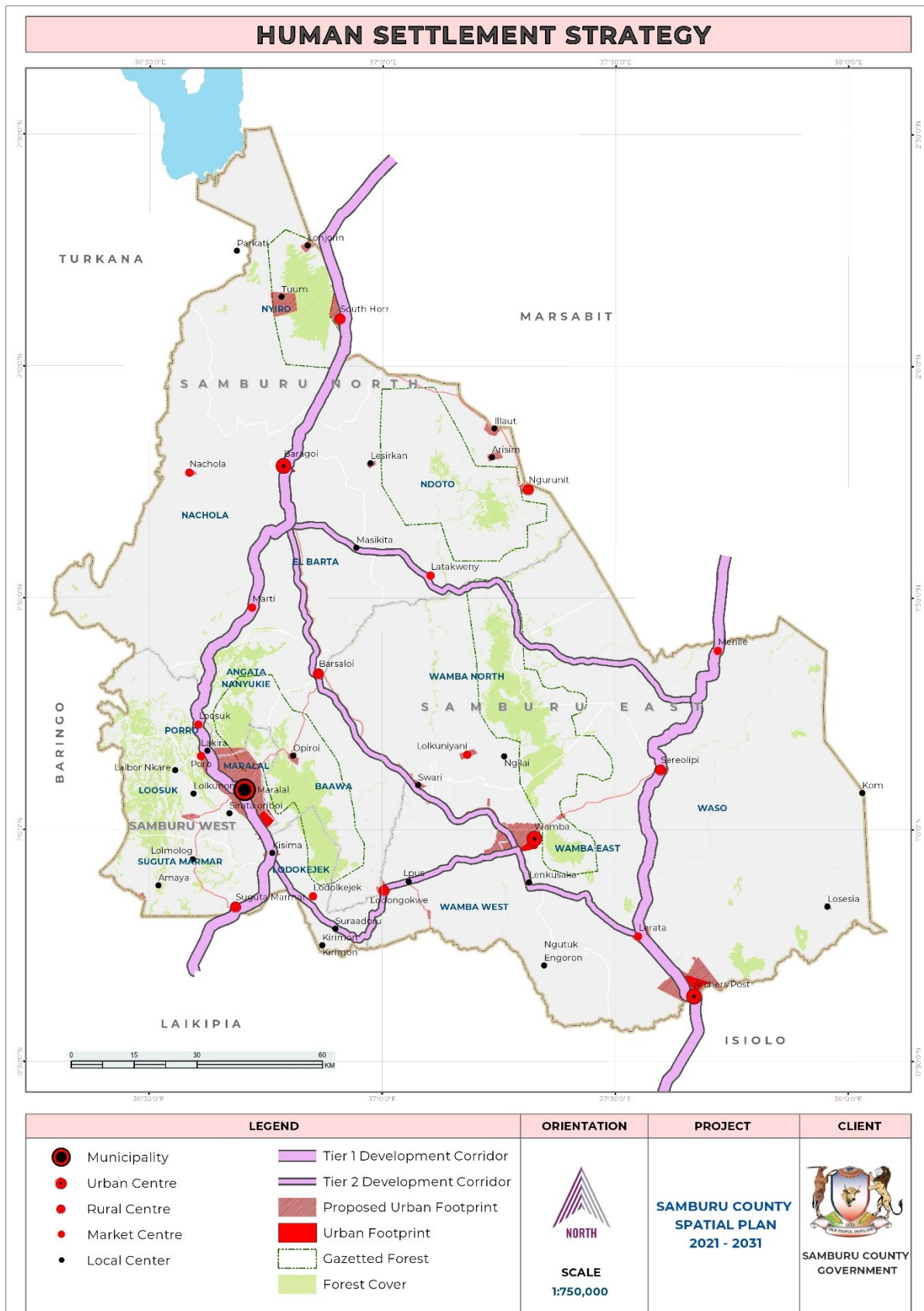
Policies:

- Rural revitalization and improved service delivery
- Protection of agricultural land and rangelands

Proposed Actions:

- Protection of prime agricultural land from uncontrolled urban development and uncontrolled subdivisions.
- Promotion and development of rural centres as service centres for the hinterlands for providing agricultural inputs and centres for agro-industries.
- Promote rural centres for stronger integration between rural areas and the urban areas for enhancement of rural-urban linkage.
- Promote proper connectivity between the rural towns and the sub-county headquarters.
- Promote investment in agro-processing industries to create employment and enhance the wellbeing.
- Enforce laws and regulations for promoting environmental protection.
- Promotion of the clustering of rural settlements to reduce sprawl.
- Development and implementation of an agricultural and rangeland land use policy, plan and legislation based on the updated agro-ecological zones.
- Developing a comprehensive Geographical Information System (GIS) based database on land information.
- Strengthening security of tenure in unadjudicated/ untitled areas.
- Control land sub-division in high potential areas

Map 13-8: Proposed Hierarchy of Growth Centers and Service Provision



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13.6

13.7 Social Infrastructure and Services Provision Plan

The objective of this strategy is to improve access to basic social facilities and ensure that the dilapidated social facilities are upgraded and provide them with requisite infrastructure so as to improve Samburu County's community well-being.

13.7.1 Education

Objectives:

Enhance accessibility to education institutions to provide inclusive and quality education.

Policies:

- Enhancing access to lower level education facilities (ECDE centres) across the county.
- Improving the capacity of the training institutions for both equipment and personnel.
- Enhance access to education facilities and school enrolment rates across the county.
- Institute measures to improve performance at all levels of school and ensure higher retention and transition rates.
- Enhancing access to tertiary and vocational training institutions for human skill development.
- Increase access and enrolment for persons with disability;
- Encourage public universities and colleges to set up campuses in the County;

ECDs

Strategy 1: Enhance Accessibility of ECDEs Education by Availing Inclusive and Quality Education.

Proposed Actions:

- Establish ECDEs within 500M walking distance and a population threshold of 2500.
- Equip all existing ECDE Centres with adequate learning and play facilities.
- Increase number of teachers.
- Provide learning material, Furniture (chairs and tables) for ECDE centers
- Sensitize the community on compulsory education.
- Introduce boarding facilities, Low Cost Boarding schools.
- Enforcement of government policy on education.
- Establish feeding programs in the schools.
- Establish Mobile schools in selected parts of the county
- Develop ECDs ensuring the schools are friendly to persons with disabilities;
- Provide school feeding programmes in all public ECDs
- Acquire and safeguard land of respective schools and secure it the school's perimeter though adequate fencing.
- Develop adequate and secure staff housing for teachers and staff within the County,
- Establish ECDEs at Lorien, Lpetepet, Sere, Lodala, Lpus, Ngoteiya, Loibachai
- Nkukuruti, Soit Nanyeisie, Lenchenche, Loomunyi, Lororo, Moru, Lomwata, Ltungai and Meterai



Primary School Education

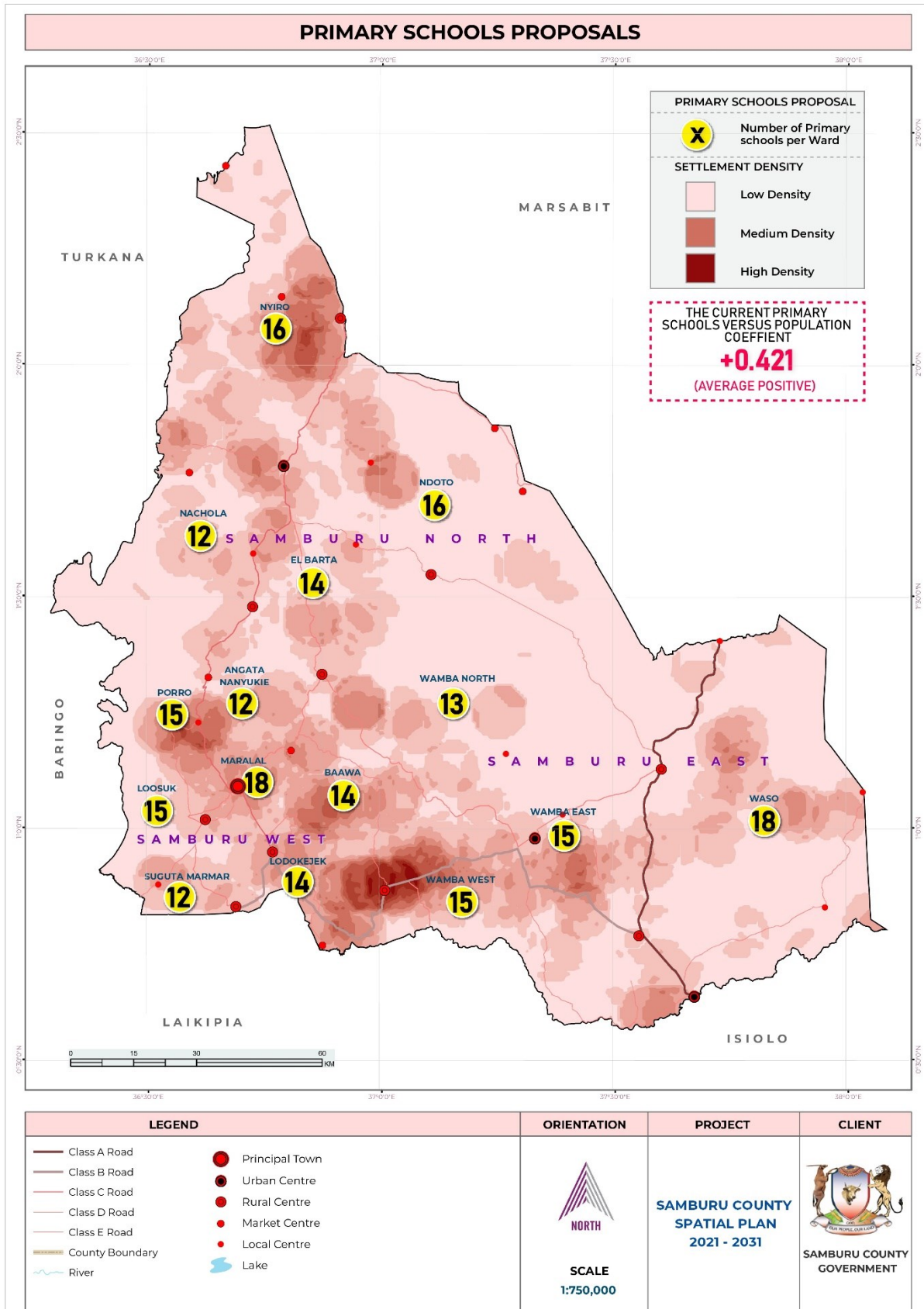
Strategy 2: Enhance and Improve Access to Primary Educational Facilities and Services.

Proposed Actions:

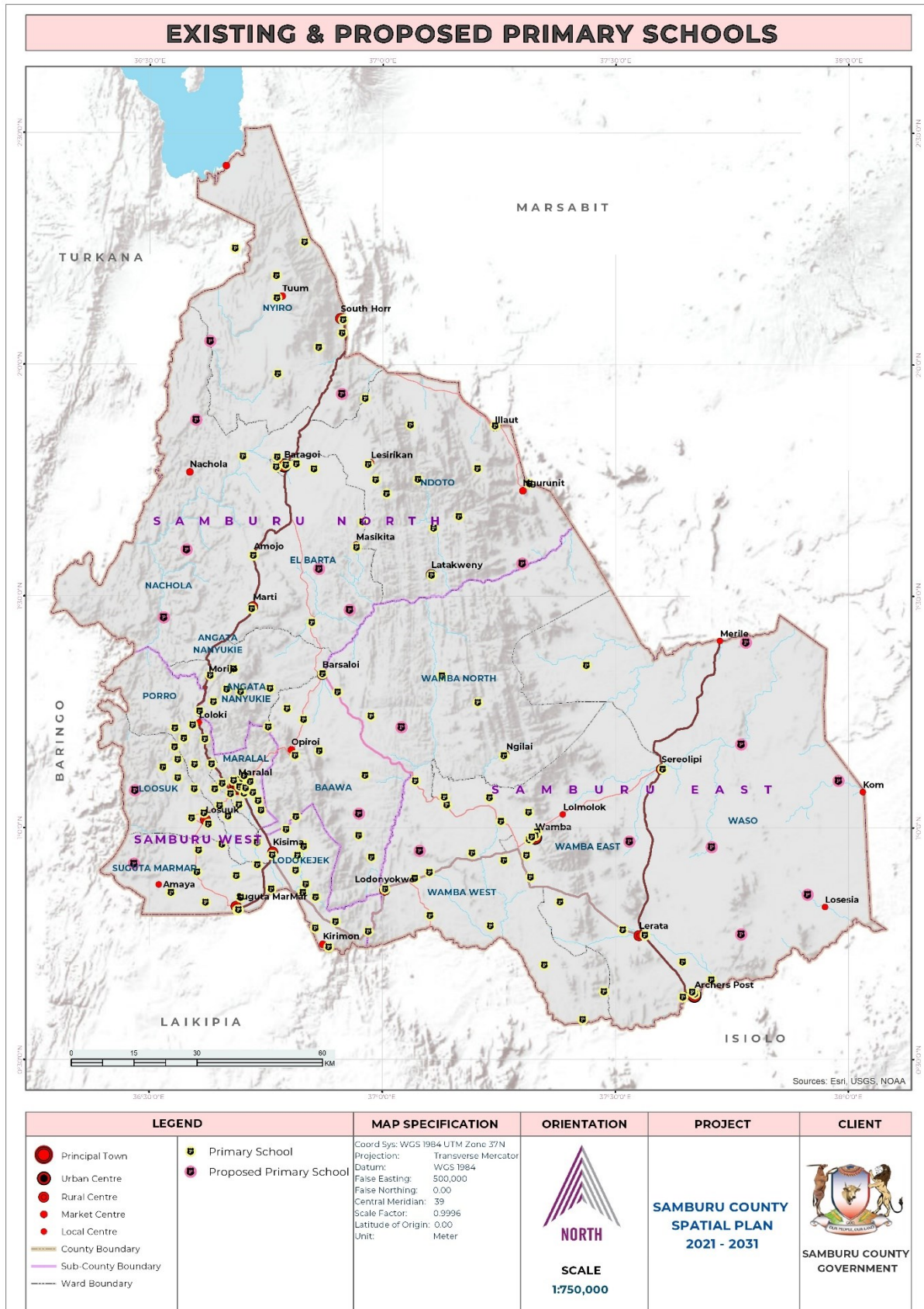
- Initiate lunch programs/school feeding programmes (on a minimum cost-sharing basis)
- Build full boarding schools along the Samburu county borders with Turkana, Baringo,
- Schools are encouraged to develop vertically to save on space.
- Special institutions to be provided within major primary schools.
- Enable primary schools to get land titles and safe guard them from encroachment.
- Deploy adequate staff in rural, peri-urban and interiors parts of the county.
- Community to employ teachers through PTA.
- Strict adherence to the guideline provided for in the education policy.
- Provide boarding facilities in selected schools.
- Introduce mobile schools for herdsmen in far-lung areas
- An approximate area of 3.9 ha. may be provided as a minimum for primary school development
- Enforcement of policies and laws to ensure call public schools register with the ministry so that the government can send more teachers.
- ICT integration into learning.
- Benchmarking of schools from different sub counties.
- Construct low cost boarding primary school
- Develop adequate and secure staff housing for teachers and staff within public Primary schools,
- Develop prizes, awards, and effective incentives rewarding exemplary performance by teachers, pupils and schools
- Establish additional primary schools at Poro, Establish primary schools at Opiroi, Ntepes, Lodgushaani, Lomwata , Raraiti, Lmarmaroc, Tepesi ECD- Upgrade to primary school, Losesia, Nkeju muny, Loibachai, Larora, Natiir, Nachola, Lomirok, Naturkan, Logorate.
- Construction of a boarding school at Nkorika Primary School.
- Connection to electricity of all the primary schools.
- Enhance security along conflict prone areas to ensure schools run. eg Charda Primary School at Nachola Ward
- Upgrade Ngorien ECD to primary school.



Map 13-9: Primary School Proposals



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Secondary School

Strategy 3: Improve Access To and Quality of Secondary Education

Proposed Actions:

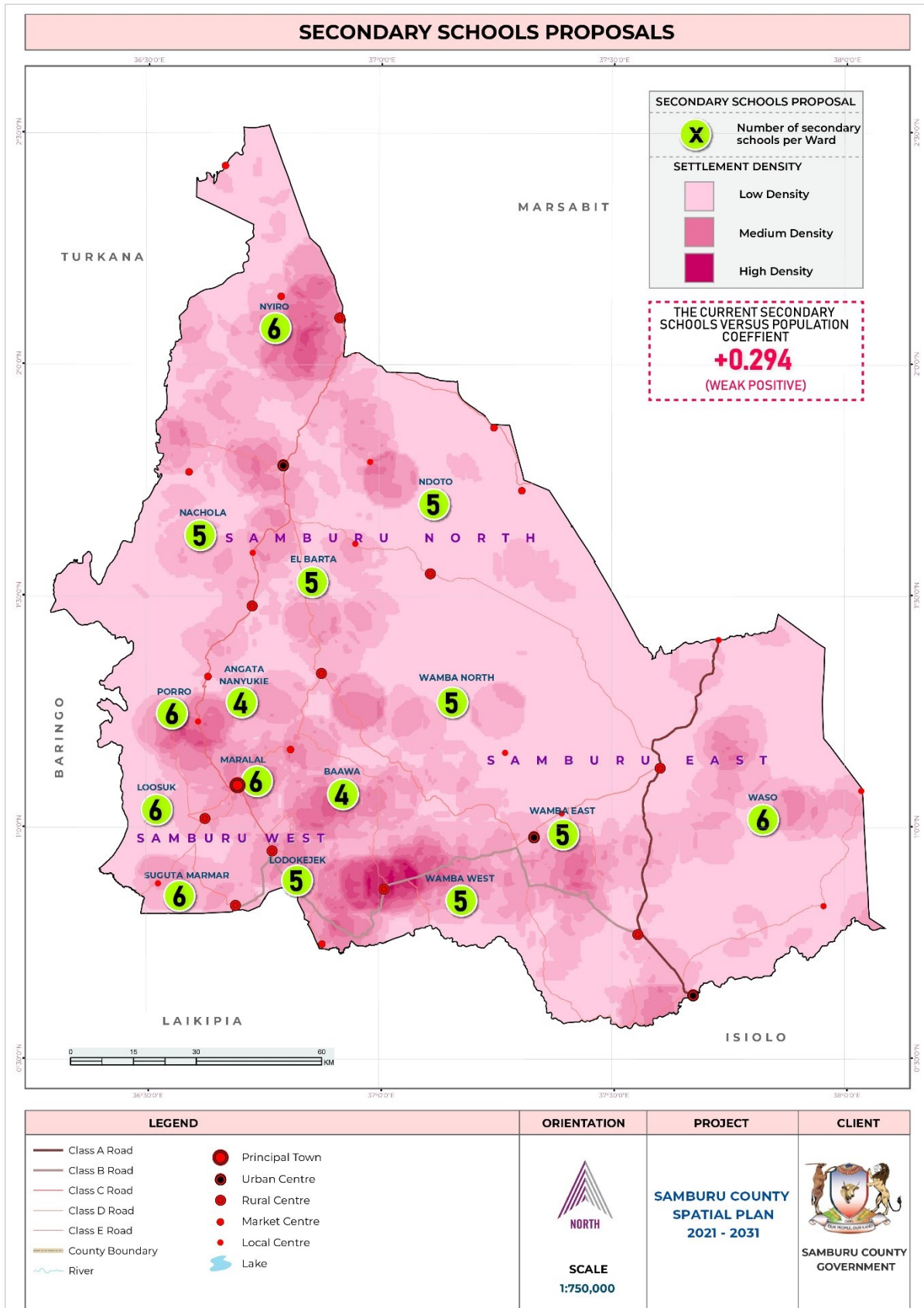
- Inspection of all schools and immediate registration of all unregistered schools.



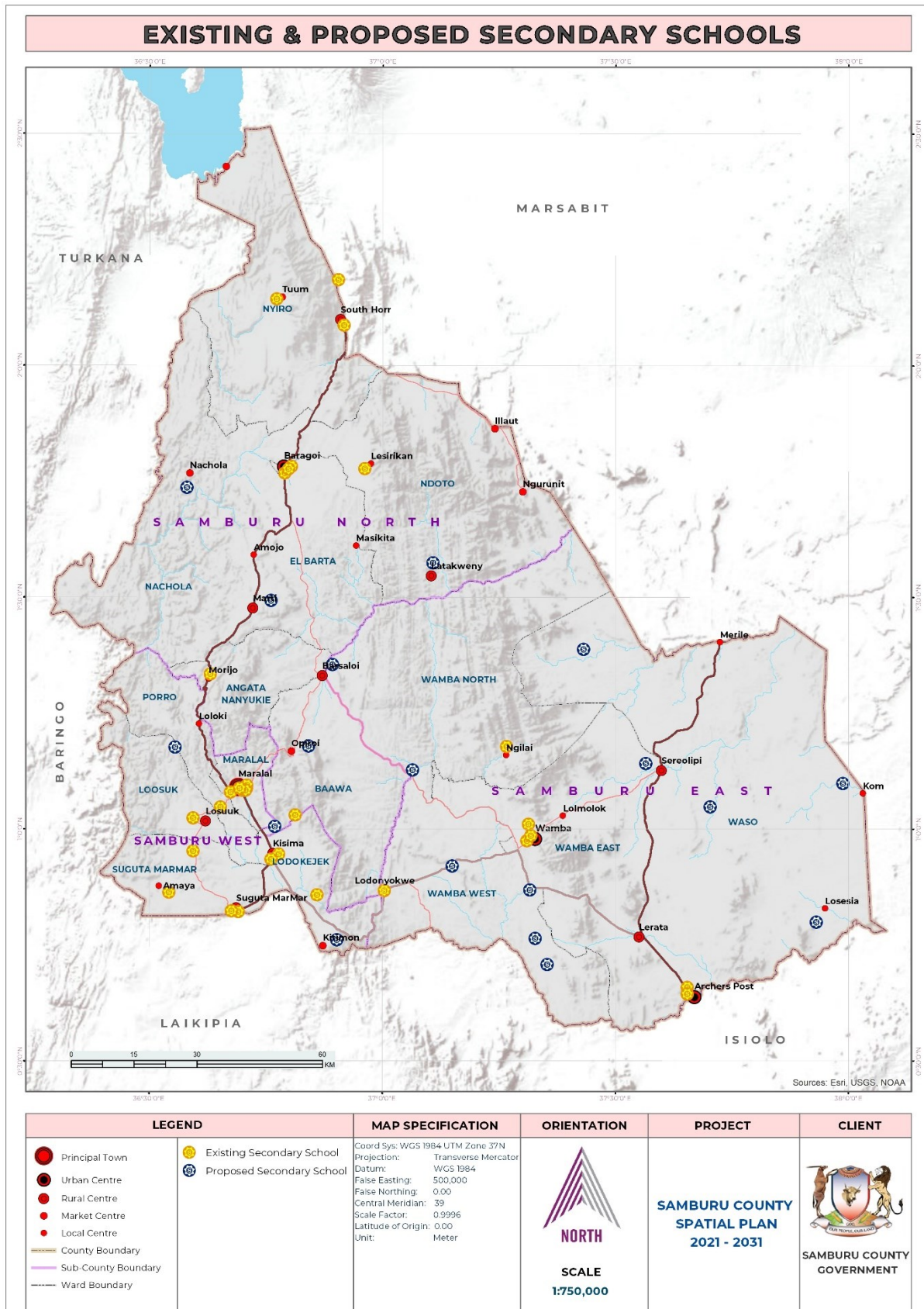
- Deploy adequate staff in rural and far-flung schools to recommended teacher pupil ratio of 1:40.
- Public secondary Schools' Boards of Management to ensure they acquire and safeguard titles to their respective school's land and secure the school's perimeter through adequate fencing
- Develop adequate and secure staff housing for teachers and staff within public secondary schools.
- Develop prizes, awards, and effective incentives rewarding exemplary performance by teachers, pupils and schools in Samburu County;
- Equip secondary schools with laboratories.
- Provide a borehole and Electricity connection for all secondary schools.
- Provide secondary school boarding facilities for far flung schools and conflict prone areas.
- Proposed new Secondary school at Marti, Losesia secondary, Kawop Secondary school, Nachola day school, Logorate, Lorien, Baawa Secondary School, Milimani Day Secondary School



Map 13-10: County Secondary School Plan Proposals



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Tertiary Education

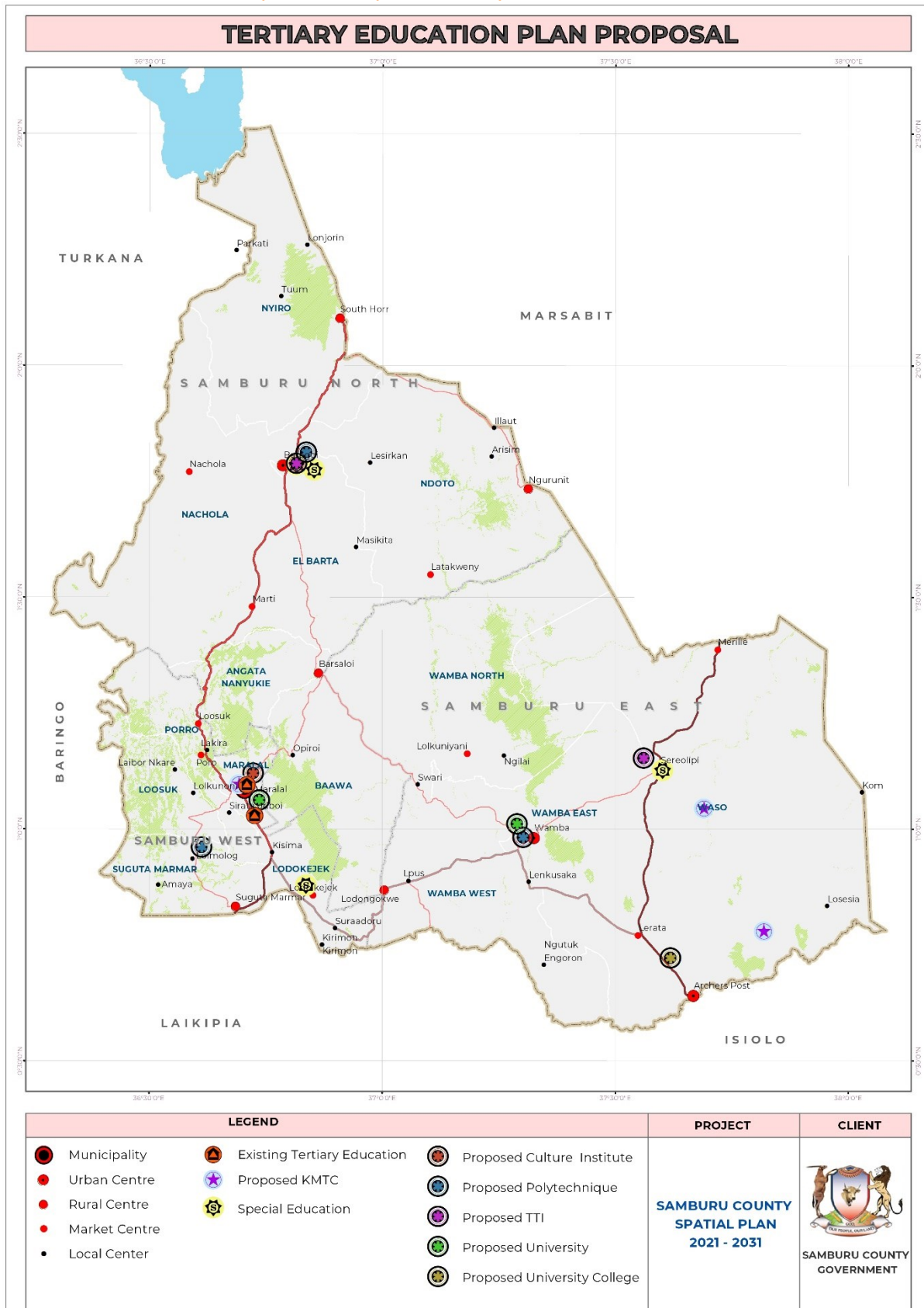
Strategy 4: Provision of Tertiary Education to Enhance Human Skill Development for Economic Development.



Proposed Actions:

- University Proposals.
 - Acquire 50 hectares of land for development a university (land banking) at Maralal and Wamba by 2024
 - Acquire 30 hectares of land for development a university colleges at Archers Post and Baragoi by 2027.
 - Engage, Egerton, Laikipia Univerisity, UoN and JKUAT universities to open campuses in Archers Post, Wamba, and Baragoi town.
- Establish polytechniques at all sub county headquarters.
- Establish 1 youth polytechnic in each ward and equip all the existing youth polytechnics and technical training institute with requisite equipment's.
- Acquire 10 hectares of land for Culture and Heritage institute in Maralal.
- Develop a Hospitality and Tourism College in Archers Post by aacquiring 10 hectares of land
- Set up a Medical Practioners Training College attached to the Maralal County Hospital
- Set up a Teachers Training Institute in Maralal.
- Upgrade existing Maralal Youth Polytechnique.
- Set up Technical Training Institute (TTI) in Sirata, Wamba and Baragoi.
- Set up of public libraries in Maralal, Baragoi, Suguta Marmar, Wamba and Archers Post.
- Develop an ICT, youth and Talent growth centre of excellence in Maralal, Archers Post, Baragoi and Wamba.
- Set up talent development centres at all ward headquarters.

Map 13-11: Proposed Tertiary Education Facilities



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Special Education

- Establish Special Education centres at Maralal, Wamba, Baragoi and Archers Post.
- Establish Centres for the physically challenged at at Maralal, Wamba, Baragoi and Archers Post.



- Special secondary schools for PWD at Maralal, Wamba, Baragoi and Archers Post
- Establish Special primary schools for PWD at Maralal, Wamba, Baragoi, Archers Post, Kisima, South Horr and Sereolipi.
- Tertiary training centres for people with disability at Maralal.

13.7.2 Health Facilities and Services

Objective:

To provide efficient and high-quality affordable health care by providing a robust health infrastructure.

Policies:

- Strengthen the existing facilities and health care providers to render enhanced services.
- Improving the quality of health service delivery to the highest standards.
- Promotion of partnerships with the private sector, NGOs and international partners in health care provision.
- Promote preventative healthcare provision.
- Promote training of medical personnel in the county.

Proposed Actions:

- Encourage and promote enrolment to NHIF.
- Support and reward community health volunteers.
- Increase the number of medical personnel in the County by 50% by 2028.
- Mobilizing more funds to expand VCT and maternity care outreach.
- Undertake programmes to ensure increased community participation and reduction of capacity building on HIV prevalence rate.
- Upgrading Maralal County Hospital into County Referral Hospital by with a 1000 bed capacity and a Medical Training College.
- Upgrade hospitals at Suguta Mar Mar, Baragoi, Wamba and Archers Post to modern hospitals with 400 bed capacity by 2028 through improved facilities and staffing.
- Construction of a Medical Training College in Maralal County Referral Hospital.
- Upgrade one dispensary per ward to fully fledged health centre.
- Establish dispensaries at Losesia, Sesei, Simale, Sumuruai, Loparaan Dispensary, Lkayo, Kawaop, Naturkan Lomaro, Nkeju E Muny, Lemisigiyo, Mugur, Garma, Lmisigiyo, Lorubae, Lpus, Lulu Village, Lowa, Lorrok-Lolmonjo, Naimaralal, Lodgushaani, Ledero, Esuk, Chanda Centre and Ngarenarok.
- Provide ambulance services for county and sub-county hospitals by 2020 and at least one ambulance per ward by 2028.
- Construction of modern mortuary facilities at Wamba and Baragoi hospitals.
- Connect all health facilities to electricity and borehole.
- Completion of Nkorika Dispensary at Angata Nanyuki and upgrading of Ndongonasipe dispensary to health centre status.



Table 13-4: County Level Health Facility Development Proposals

Proposal	Facility	Priority	Time frame
Upgrade to be the county referral hospital	Maralal County Referral Hospital	1	2019-2021
Provide one at Maralal County Referral Hospital to create give way for provision of more personnel	Kenya Medical Training College	2	2022-2023

Table 13-5: Sub-County Level Health Facility Development Proposals

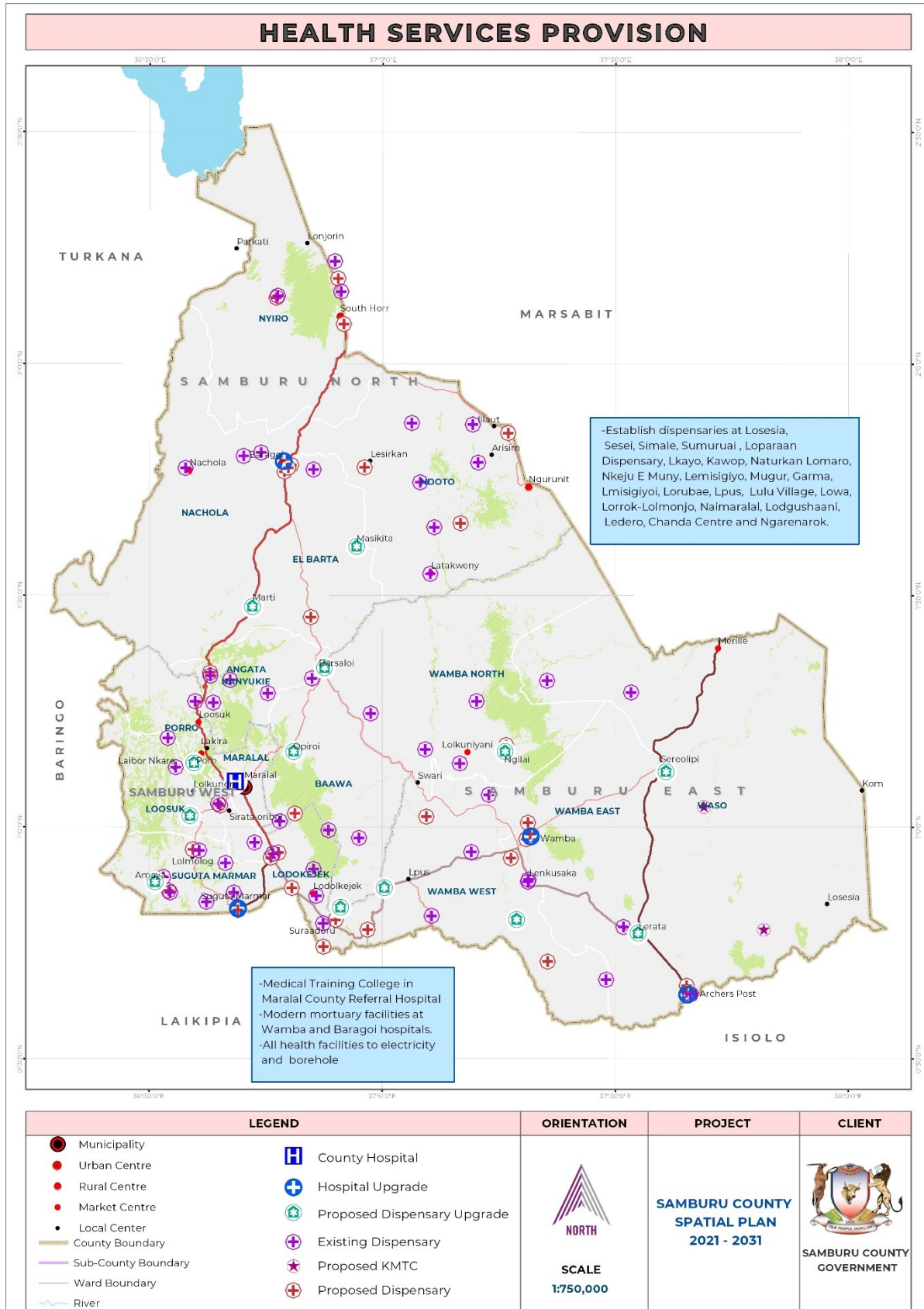
Proposal	Sub County	location	Priority	Time Frame
<ul style="list-style-type: none"> Upgrade to be a hospital Improve facilities, structures and services provision. Construction of modern mortuary at sub- counties Upgrade to hospital Improve facilities, structures and services provision. Construction of modern mortuary at sub- counties Upgrade to hospital Improve facilities, structures and services provision. Construction of modern mortuary at sub- counties Upgrade to hospital Improve facilities, structures and services provision. 	Samburu North	Baragoi	1	2019/2020
	Samburu Central	Suguta Mar Mar	2	2020/2021
	Samburu East	Wamba	1	2021/2022
	Samburu East	Archers Post	3	2021/2022

Table 13-6: Dispensary Upgrading to Health Centre Proposals

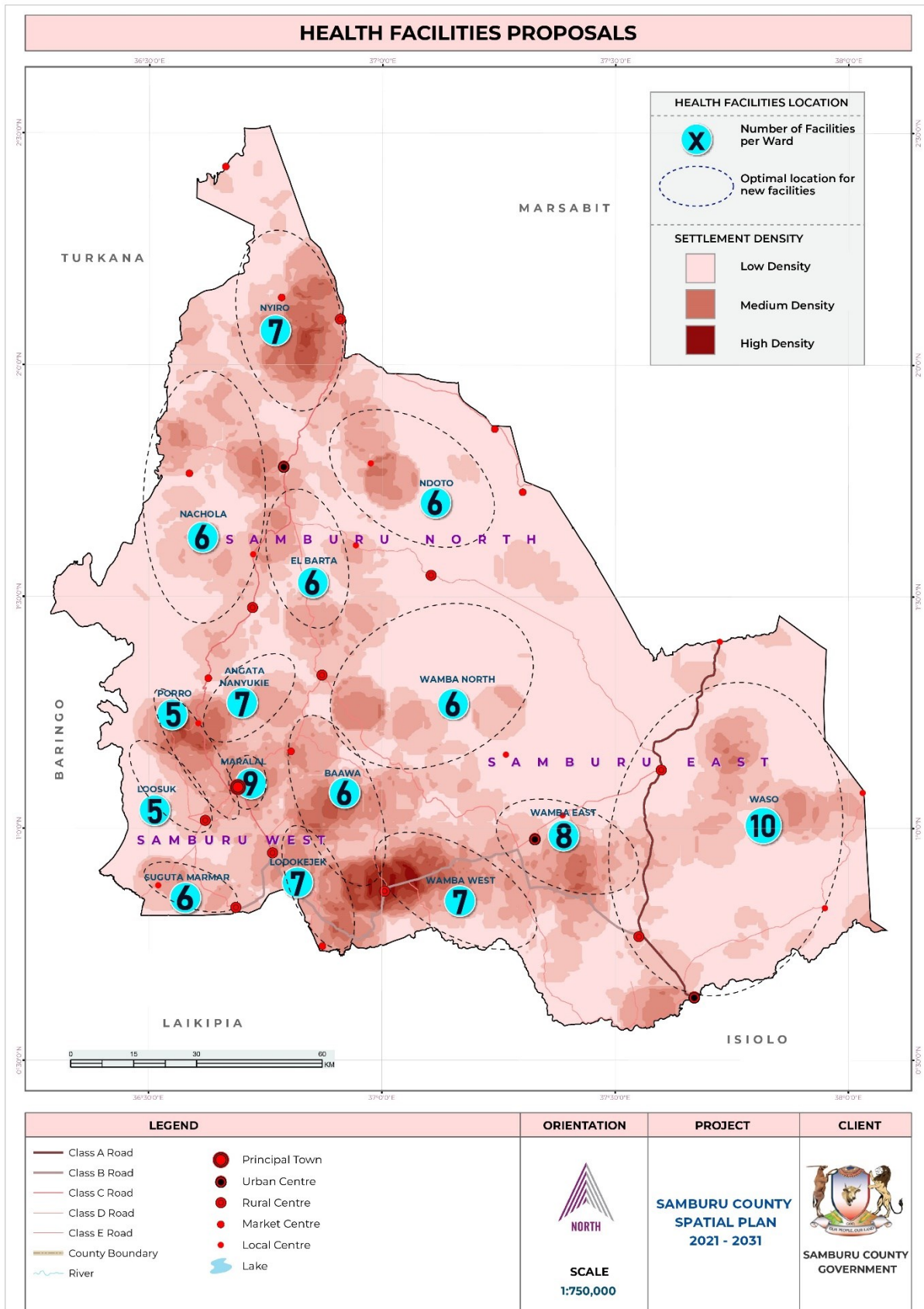
Dispensary	Sub-County	Priority	Ward
Ngilai dispensary		1	
Lodung'okwe		1	
West Gate		1	
Sere Olipi			
Learata		1	
Loosuk			
Porro		2	
Longewan		2	
Kirimon		2	
Opiroi		2	
Barsaloi		2	
Masikita		2	
Marti		3	
Latakweny		3	
Tuum		3	
Marti dispensary		3	

- Provide for adequate medical staff in every hospital and health centre to a recommended WHO doctor patient ratio of 1:600.
- Increase bed capacity in hospitals to ensure that bed occupancy is not more than 100%.
- Central and County Government to facilitate medicine supply at a subsidized rate.
- Ensure the standard provided by WHO of 3 nurses per 1000 population.

Map 13-12: Proposed Health Service Improvement Strategy



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13.7.3 Stadia and Sports Centres

Objectives:

Provision of modern stadia and sports centres.

Proposed Actions:

- Proposals for Stadia Improvement and provision
- The plan proposes rehabilitation of the existing facilities and establishment of new ones as summarised in the table below.

Table 13-7: Stadium Facilities Proposals

Sub-County	Location	Proposals	Time-frame	Priority
Central	Maralal	Upgrade Maralal stadium to a Ultra-modern multipurpose stadium Construct a sport academy	2019-2020	1
East	Wamba,	Upgrade stadium Construct a sport centre	2020-2022	2
	Archers Post	Upgrade the stadium Construct a sport centre	2023-2024	3
North	Baragoi	Upgrade the stadium Construct a sport centre	2025-2027	3

- Promote sports (mainly athletics) by building training centres in every constituency to encourage them use sports for personal development.
- Proposed stadia facilities upgrading at for Baragoi, Wamba and Archers Post
- Maralal stadium should provide for the following standard facilities: safety, security and access facilities, field of play facilities, player and referees facilities, lighting facilities, spectator facilities-canteen, seating, media facilities and medical facilities.

Figure 13-3: Proposed Ultra-modern stadium in Maralal and other centres



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- Creation and adoption of a comprehensive training curriculum.
- Availability of sport equipment.
- Introduction of new sports such as rugby, chess and high jump, which will lead to employment opportunities for the youth.
- Hiring of the grounds for private events to generate revenue for the County Government.
- Creation and adoption of a comprehensive training curriculum.
- Availability of sport equipment.
- Introduction of new sports such as rugby, chess and high jump, which will lead to employment opportunities for the youth.
- Hiring of the grounds for private events to generate revenue for the County Government.
- Construction and equipping of high altitude sports centre in Loiborngare Loosuk ward
- Establish sports centers/sports academies in all the 15 wards. Focusing on three disciplines namely soccer, athletics and volleyball
- Set up Sere-Olipi Stadium, Standard Stadium in Morijo, Standard Stadium at Angata Nanyokie, Barsoloi Stadium

13.7.4 Social Hall and Community Centers

Objective:

Use social halls and centres to enhance community integration and cohesion.

Proposed Actions:

- Establish modern community halls and community centre at Maralal, Archers Post, Baragoi, Suguta Marmar and Wamba.

Figure 13-4: Artist Impression of the Proposed County Social Hall Facilities



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- Set up Community social hall at Naturkan, Poro Centre, Lulu , Opiroi Youth Social hall, Baawa Social Hall, Nkeju e muny community Centre and at all ward head quarters
- Establish social hall facilities at the ward levels and at areas prone to conflicts to enhance local community integration.
- Involve the local community in maintaining the social halls i.e. women groups and youth groups.

13.7.5 Recreational Parks and Open Spaces

Proposed Actions:

- Establish modern recreational parks and open spaces at all major urban centres and town.

Figure 13-5: Proposed Public open space at urban centres



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13.7.6 Fire Stations

Proposed Actions:

- Establish a fully-fledged fire station at Maralal Town and Archers Post.
- Provide a minimum land size of 1 acre establishing a fire station to include station, staff accommodation and drilling area.
- Encourage installation of firefighting equipments (fire extinguishers) in public places such as offices, schools, churches.

Figure 13-6: Proposed Fire Station at Maralal



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Table 13-8: Proposed Firefighting Facilities

Sub County	Location	Requirement	Year	Priority
Central	Maralal	provide for a fire station to a county fire department	2020-2021	1
East	Archers Post	develop a local fire station	2022-2023	2
North	Baragoi	develop a local fire station	2024-2025	3
East	Wamba	develop a local fire station	2026-2028	4

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- Promotion of awareness and sensitization programmes of common masses on risks of fires, mitigation and preparedness measures.

13.7.7 Service Delivery

Proposed Actions:

- Establish Huduma Centres at Wamba, Archers Post and Baragoi
- Increase the functionality of Post Offices To Huduma Centers to include:
 - Public cyber cafes
 - Registration of welfare groups
 - Registration of businesses
 - Renewal of drivers licenses
- Establish a high court in Maralal
- Magistrate courts in Baragoi and Wamba
- Establish a civil registration office at Baragoi and Wamba
- Establish children office at Baragoi and Wamba
- Establish Khadhis office at Wamba and Maralal
- Establish prison and remand facilities at Wamba and Baragoi

13.7.8 Recreation and Open Spaces

Objective:

To provide intrinsic environmental, aesthetic and recreation benefits to urban areas

Policies:

- Ensure provision of recreation and open spaces to strengthen the social fabric.
- Ensure sustainable talent development programmes and facilities to promote the well-being of the residents.
- Developing a mechanism of facilitating the enjoyment of natural assets available in the county.
- Enhance tapping of youth talent in the county.

Proposed Actions:

- Identify and delineate site for regional open grounds at Maralal town. The plan proposes that 30Ha of land is set aside for this.



- Identify and delineate sites for recreation in the following town of the county Suguta Marmar, Kisima, Baragoi, Wamba, Archers Post. The plan propose that proximately 10acres of land is set aside for this.
- Identify and delineate sites for recreation in all wards.
- Undertake town beautification in Suguta Marmar, Kisiam, Baragoi, Wamba, Archers Post.
- Development of a ultra-modern stadium in Maralal town.
- Establish talent development centres in Maralal, Archers Post, Wamba and Baragoi.
- Set aside land for a playing field in in all ward headquarters
- Introduction of adventure tourism, sporting activities e.g. hiking in Malaso Escarpment,

13.7.9 Libraries and Resource Centres

Proposed Actins:

- Set up a libraries in all major urban centres

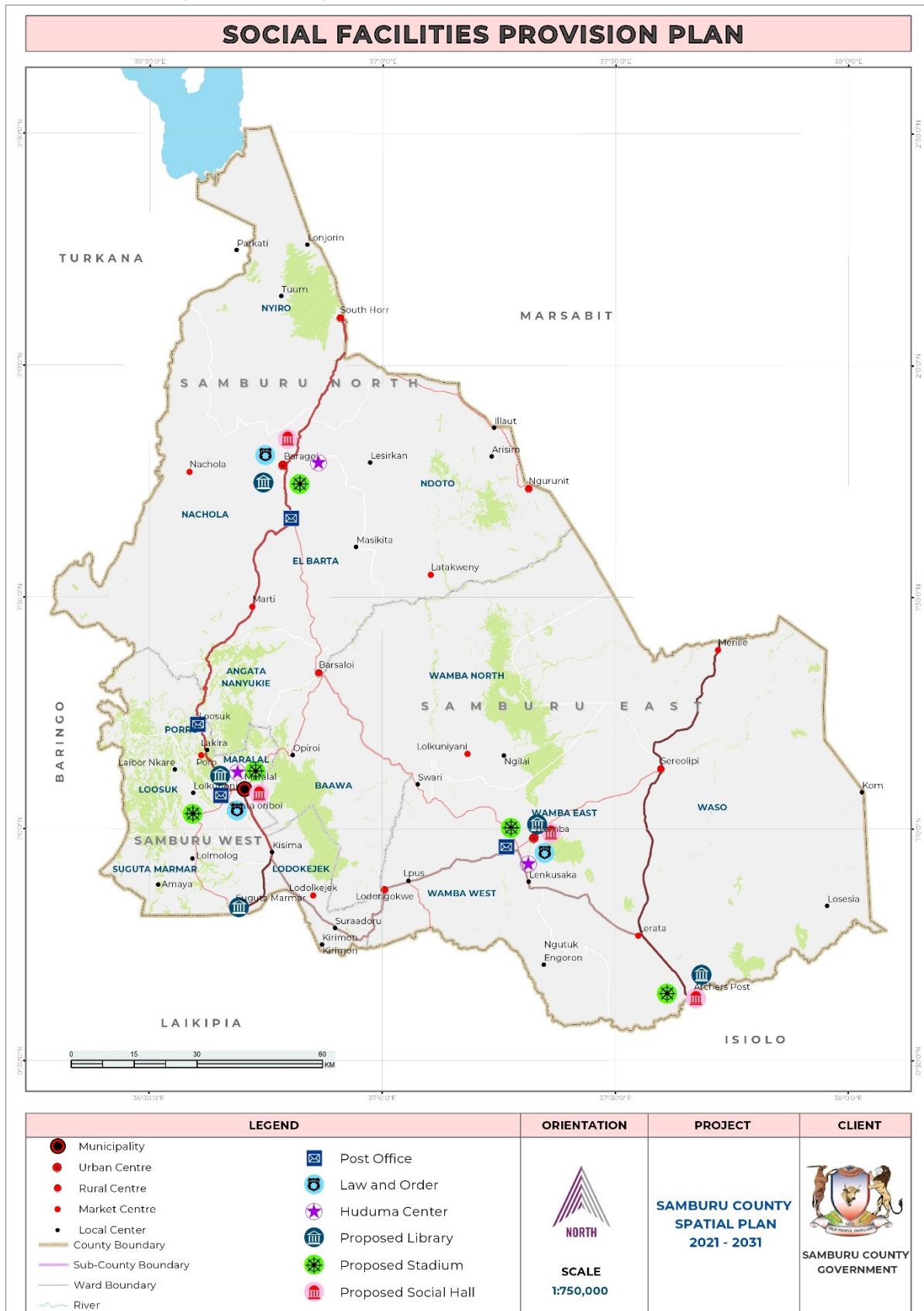
Table 13-9: Proposed Libraries

Sub County	Location	Proposals	Time-frame	Priority
Central	Maralal	Establish ultra-modern library	2020-2021	1
East	Wamba	Establish library	2022-2022	1
North	Baragoi	Establish library	2023 2024	2
East	Archers Post	Establish library	2025-2026	2
Cental	Suguta Mar Mar	Establish library	2026-2027	3

- Formulation of policies to enhance proper management of the library.
- Each education facility to establish a library with the compound.
- Subsidization of library fee.



Map 13-13: County Social Infrastructure and Services Provision Plan



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13.7.10 Safety and Security

Objectives:

To upscale security within the county for socio-economic development.

Policies:

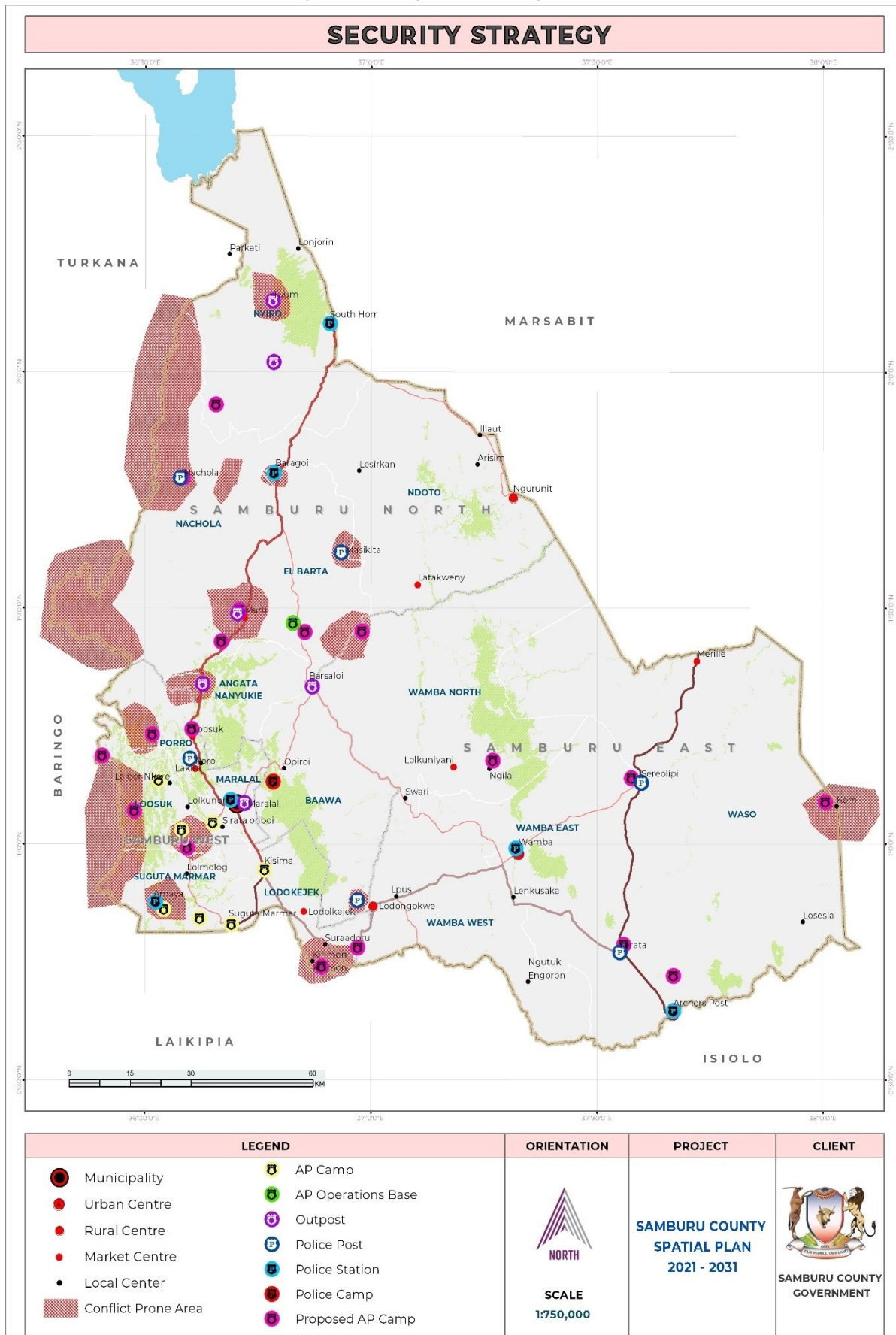
- Integrating different security docket to improve their efficiency in handling security matters.
- Institute collaborative measures between security agencies and the local communities.

Proposed Actions:

- Upgrade the AP Posts at Nachola and Lerata to Police station with adequate personnel and equipment.
- Addition of police camps at Amaiya, Kawap, Loosuk, Nkabai, Parkati area.
- Upgrade Morijo Outpost, Loosuk Outpost, Marti AP Post, Sereolipi Outpost, Amaiya Outpost, Suiyan AP to police stations with adequate personnel, offices, housing facilities and equipment.
- Addition of KPR officers in identified areas.
- Improvement of Nyumba Kumi Initiative.
- Establish local anti-conflict groups such as the local peace committees to facilitate better relations between communities.
- Addition ordinary police personnel (pre & post Intelligence gathering).
- Establish Police posts near borders e.g, Amaiya, Kawap, Loosuk, Establish an AP camp at Chanda centre, Kawop, Loonjorin and Losesia.
- Initiate community policing, community participation e.g. in volunteering information, use church to preach peace.
- Formation of peace forums within the community and the police.
- Improve access roads and communication networks to access remote areas.
- Build a conservancies along hot spot areas.
- Establish an ASTU Camp at Longewan and revive the Loosuk Anti-stock theft unit.
- Adoption of ICT technology in the police department to enhance efficiency in crime detection and response.
- Police post in every ward
- Administration Police (AP) post at Esuk Village
- Embrace Alternative Dispute Resolution (ADR) mechanisms



Map 13-14: Proposed Security Facilities



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13.8 Environmental Conservation Management Plan

The plan proposes mitigation measures to the various environmental challenges identified in the county and also the potential impacts of the county spatial plan proposed project on the environment.

Objectives

Protect ecologically sensitive areas and empower the people to utilise the natural capital sustainably to meet their needs.

13.8.1 strategy on forestry, Promotion of Agro-Forestry and Green Economy

Objective

To promote sustainable exploitation and conservation of forests and forest resources

Policies:

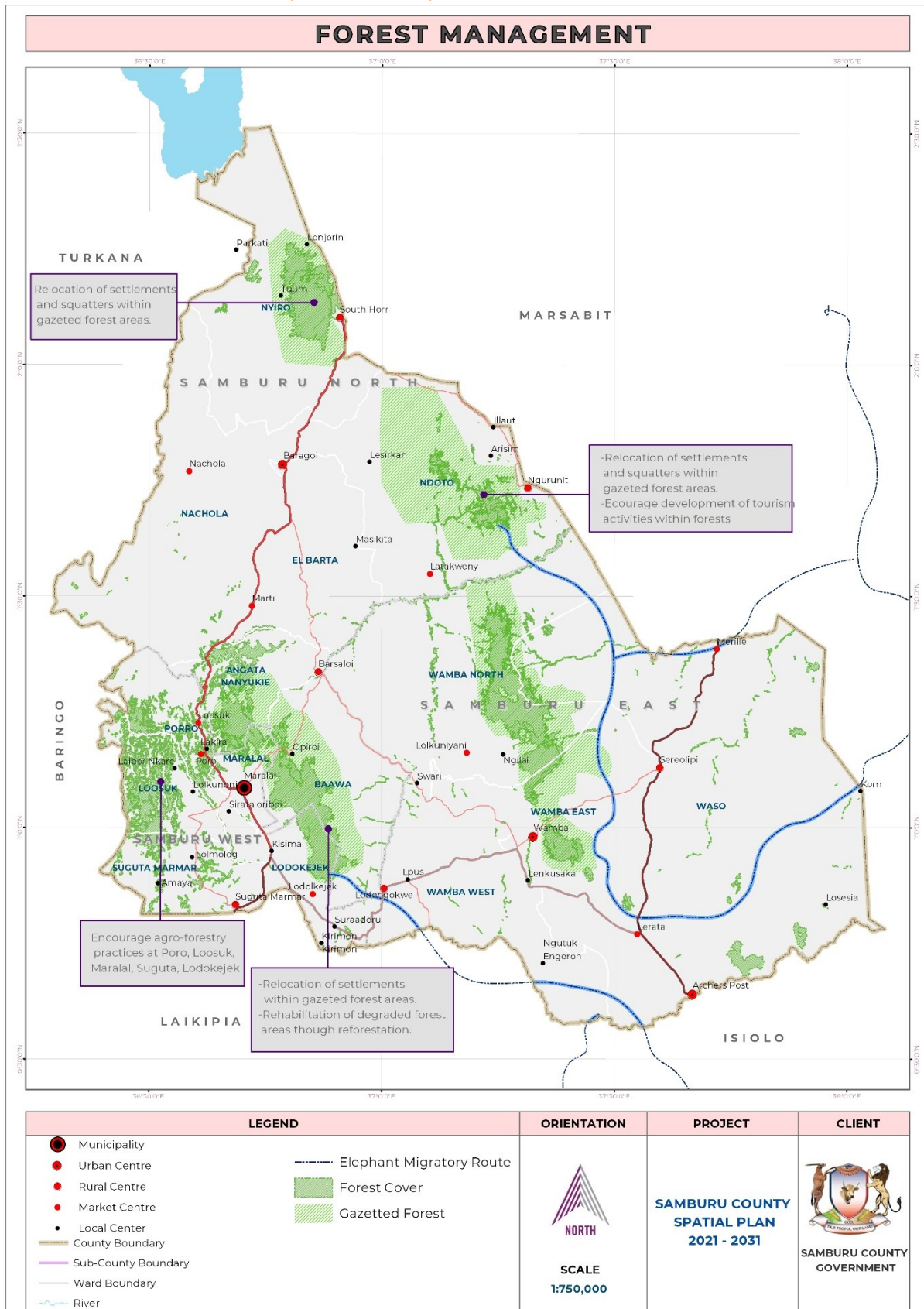
- Introduce awareness to general public to protect and enhance biodiversity.
- Introduce community benefits sharing mechanisms for conservation and utilization of the natural resources.
- control encroachment on natural resource areas by proposing buffer zones or other integrative mechanisms in their management.

Strategy 1: Sustainable Forest Management and Conservation

Proposed Actions:

- Relocation of settlements and squatters within gazetted forest areas.
- Formulation of county forest legislations.
- Promotion of tree growing in public institutions, recreational parks, and homesteads.
- Support establishment of tree nurseries as enterprises & other income generating activities for livelihood diversification e.g woodlots establishment.
- Promote Non-Wood Forest Products and other nature-based enterprises as alternative livelihood options.
- Rehabilitation of degraded forest areas through reforestation.
- Capacity development of Community Forest Associations (CFA's), for sustainable forest management.
- Encourage agro-forestry practices at Poro, Loosuk, Maralal, Suguta, Lodokejek wards to reduce pressure on forest as a source of firewood.
- Gazettement of all surveyed forests as protected areas.
- Promote commercial tree planting within group ranches.
- Develop management plan for forests.
- Promotion of *gum arabica*, *aloe vera* and medicinal trees farming
- Rangeland Reseeding Programme
- Encourage tree planting for carbon trading
- Relocation of people within forest at Poro
- Gazette forest within group ranches as public land

Map 13-15: County Forest Conservation Plan



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13.8.2 Strategy for Water Resources Management Water

Objective

Promote Water Resource Utilization and Conservation

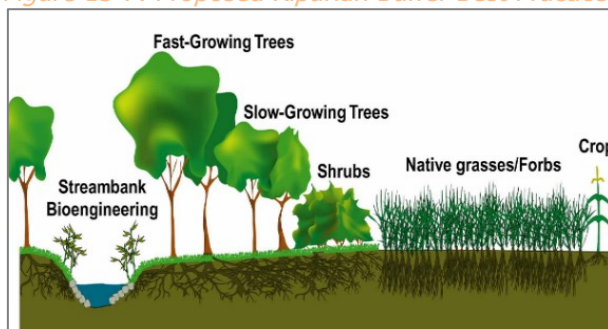
Policies:

- Promote legal protection and conservation of the wetland resources for environmental posterity
- To identify, map, and ensure that all the wetlands and swamp areas are protected and conserved

Proposed Actions

- Survey all riparian reserves as and protect them as public land.
- Areas identified for gazettelement as environmentally significant areas are all hills within the county and riparian corridors along the rivers areas including wetlands and forested areas.
- Establishing and reactivating dormant Water Resources Users Associations.
- All rivers and laggas in should have their riparian reserves protected as public land
- Create and enforce a distance of 30 meters on either side based on the highest recorded flood level as a riparian reserve.
- License any abstraction of water or effluent discharge into water sources.
- 50 meters buffer between irrigation schemes and their water discharge points.
- Encourage planting of trees along riverbanks.

Figure 13-7: Proposed Riparian Buffer Best Practices



- Promote a healthy and dynamic waterfront economy.
- Survey and mapping of natural pans, wetlands and other water catchment areas.
- Establish and strengthen the capacity of existing seven Water Resource User Associations (WRUAs).
- Protection of Riverine ecosystems along Ewaso Ng'iro River and within Ndoto, Nyiro and Kirisia catchment areas
- Regulate access and activities within wetlands by proposing land use buffer zones around the wetlands.

13.8.3 Solid Waste Management

Objectives

To Promote the Environment Management and Conservation through Sustainable Solid Waste Management Practices

Proposed Actions

- Formulation of waste management & pollution legislations
- Adopt and implement waste management strategy
- Development and management of waste management sites at Suguta, Maralal, Archers, Wamba, Kisima, Baragoi,
- Proposed dump site at Losesia



- Provision of garbage collection facilities in major towns, market centres and public institutions
- Sensitize the public on responsible waste management
- Encourage the three Rs of waste management

13.8.4 Vegetation Cover

Objectives

Promote land reclamation and enhance vegetation cover.

Proposed Actions

- Set up soil erosion control structures and reclamation of degraded lands for economic use in South Horr, Lodungokwe, Kisima, Nachola, Arsim, Lporos, Wamba, Loikas, Opiroi and Ngilai
- Construction of sand/sub-surface dams
- Control soil erosion on roads and bare spaces including "shambas" through the use engineering road side erosion control techniques, plant vegetation cover, terrace sloppy areas and pave dusty roads and footpaths.
- Provide urban storm drainage system in Maralal town.
- Backfill open holes and abandoned quarries on the land.
- Discourage human settlement and unsustainable agricultural practices on the hills and riparian reserves.
- Reduce soil erosion by planting trees and other vegetation to reduce surface run off.
- Increase vegetation cover with dominant indigenous species such as Acacia species, Markhamia Ficus Lutea, Ficus natalensis, Ficus Sur, Ficus sycomorus, Ficus thonn, ingii, Albizia species, Kroton species, Podocarpus falcatus, Prunus Africana, Bamboo among Lutea, others
- Use carbon credit mechanisms to promote tree planting. This involves annual financial payment for keeping some agreed woodlot.
- Promote use of non-wood building materials and energy sources.
- Encourage the practice agro forestry.

13.8.5 Strategy for Wildlife Conservation and Tourism Promotion

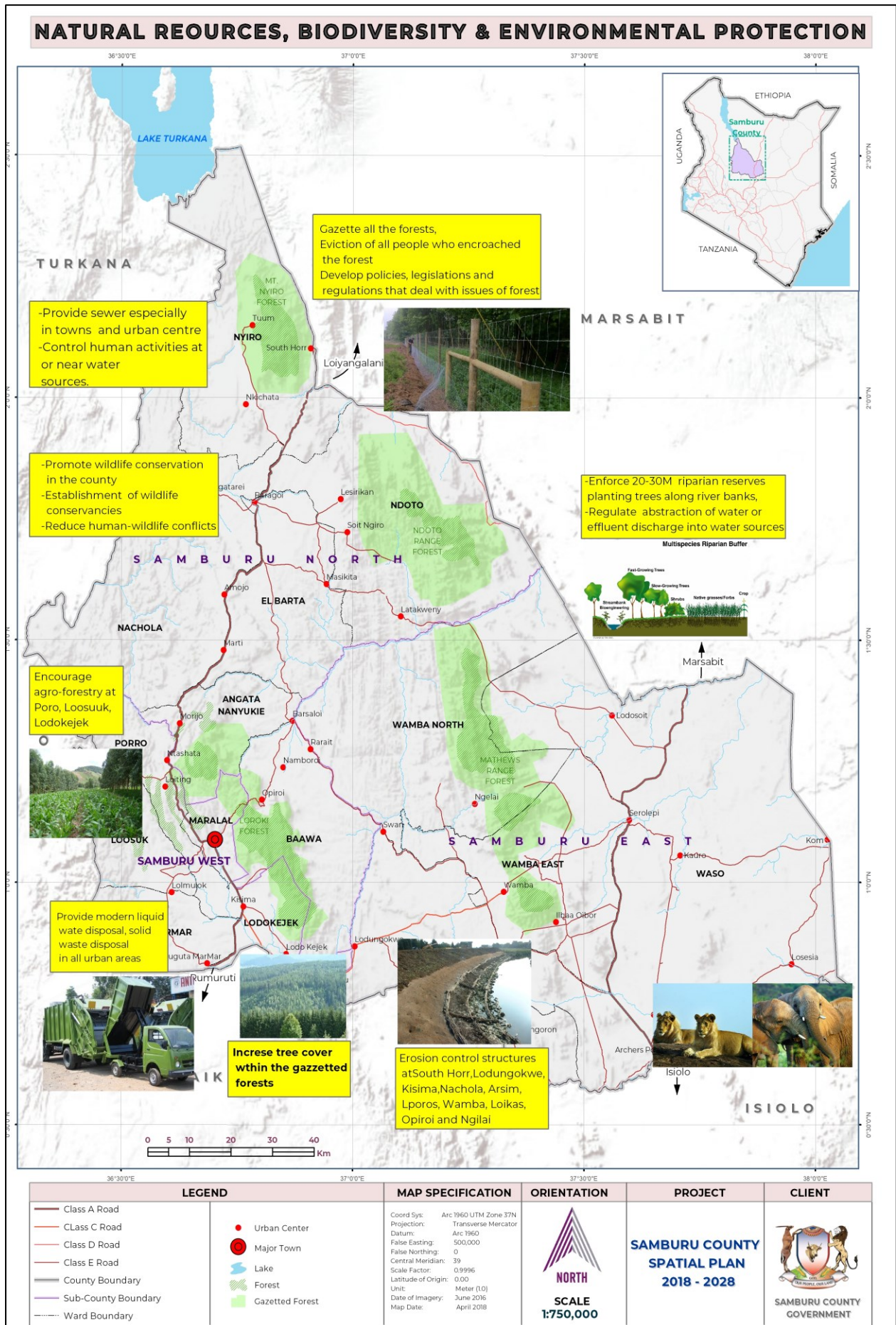
Objective:

To promote sustainable wildlife ecosystems for tourism development and economic growth.

Proposed Actions:

- 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
- 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
- Establish spatial planning, zoning and remove encroachment to corridors of wildlife.
- Establish wildlife conservancies along corridors to maintain the habitat.
- To identification and zoning of corridors for wildlife to remove the encroachment.

Map 13-16: Natural Resources, Biodiversity and Environmental Conservation Plan





13.9 Strategy for Conservation of Environmentally Sensitive Areas

- To protect and conserve National parks, wildlife corridors and wildlife dispersal areas.
- To zone and protect Wetlands, riparian areas and river banks.
- To demarcate and protect Water catchment areas

13.10 Strategy Climate Change, Disaster Management and Emergence Response

Objectives:

Ensure disaster preparedness and mitigation in all parts of the county

Proposed Actions:

- Undertake public education and make concrete plans on disaster management and prepare for volcanic eruptions, fractures, floodplains, sensitive areas of slopes,
- Disaster mapping of the entire county to guide building standards and land use bylaws.
- Establish quick response disaster management team. The National Operation Centre of the Office of the President chaired a key stakeholders meeting of emergency stakeholders and agencies.
- Increase of carbon sinks in the County through by increasing County tree cover to 30% through:
- Re-afforestation and rehabilitation of forests to increase the dedicated forest cover to 30%.
- Establishment of drought-resistant woodlots in the middle and lower zones in the County
- Establishment of large-scale solar energy generation farms at areas with high solar intensity
- Promotion of bio-fuel production and utilization in the bushlands.
- Construction of mega and medium sized dams in the lower and middle zones (for irrigation minimizing the impacts of water scarcity and flood control).
- Promotion of water harvesting.
- Promotion of water re-use and recycling, particularly in the urban areas.
- Promotion of the planting of drought-resistant crop varieties, particularly in the lowlands.
- Promotion of the rearing of drought-resistant livestock breeds, particularly in the lowlands.
- Strengthening of roads through construction of reinforced bridges along spots of heavy flooding during the rainy season.
- Mapping of hotspots of possible climate disasters (such as flood plains).
- Training of residents of climate hotspot areas on measures of climate change adaption.
- Integration of updated climate information into the already developed Digi-Farm mobile application (providing access to timely and relevant climate information and solutions) to all farmers.
- Regular dissemination of anticipated climatic conditions by the County through local radio stations, with proposed adaptation solutions.
- Establishment of disaster management centers in Maralal, Wamba, Baragoi and Archers Post.

13.11 Governance

Policies:

- Enhance and entrench civic participation to create accessible governance services through strengthened governance



- Reduced marginalization of vulnerable groups.

Proposed Actions:

- Establishment of gender-based violence recovery centers in all sub-county headquarters and Archers Post
- Establishment of a mental health unit in Maralal and Wamba.
- Establishment of elderly care centres at Maralal, Archers Post Wamba and Baragoi.
- Establishment of a public home for orphans and rehabilitation of street children in Maralal, Archers Post Wamba and Baragoi.
- Construction of a public boarding school for visually, hearing and speech impaired children.
- Mandatory participation of representatives of women, the elderly and PWDs in all county decision-making processes
- Setting up of relevant urban management boards for all Tier 1, 2 and 3 urban centers.
- Automation of County government services (such as procurement, licensing, development control, revenue collection and digitization of land records).
- To improve accessibility to information for planning and utilization and allocation of resources
- Regional Early Warning System:
 - Formulate the Early Warning System strategy
 - Collect and analyse data
 - Data Disseminate results of analysis



14. PLAN IMPLEMENTATION

14.1 Introduction

The following Implementation Plan should be adopted and approved as a framework to provide direction on the sequence and prioritization of the projects and programs. To this effect the board as the implementing body must ensure the following values are observed:

Transparency - The public should be notified of any planning and implementation activity in Samburu County. Working procedures should be clear; requirements from the public to get specific services should be made clear, including the offices which handle cases and the optimum time required to accomplish the tasks.

Accountability- The implementing bodies should be held accountable for their decisions. Duties and responsibilities should be clearly known ahead of time.

Public participation -The public should be consulted during each project preparation. Proper mechanisms should be established to ensure maximum public participation in plan implementation activities. As part of public participation, the private sector should be encouraged to actively engage in projects through different participation models.

Referral system- Mechanisms should be laid to allow inconvenienced parties to appeal against decision. This procedure builds confidence in the public about the rule of law and increases transparency, consistency and accountability of the implementing body.

14.2 Institutional Framework for Participatory Implementation

The implementation of this plan will be undertaken by a multiplicity of actors and hence the need for a coordinated approach. The lead agency will be the department of lands, housing and physical planning and urban development leading the implementation. The Director of Physical and land use Planning will exercise technical leadership and ensure that physical planning is coordinated between the other agencies and departments involved in physical planning. Partnerships between national and county governments and the private sector should be established to facilitate planning of identified projects and programs. An extensive public sensitization and awareness programme shall be developed to ensure that the public is sensitized on the requirements of CSP.

Implementation of the Samburu County Spatial Plan will require a multi-faceted approach, led by Samburu County Spatial Plan implementation committee with the cooperation and shared responsibility. It would be ideal that those organizations, institutions and beneficiary group representatives, who have planned locally, also implement the spatial plan measures together with other stakeholders. The proposals will be implemented through various approaches which include:

- Assimilation of the CSP policies to the other plans, projects and programs.
- Preparation of urban and action area spatial plans to integrate and conform to the County Spatial Plan.
- Formulation of policies, regulations and standards to guide development control.

The scope of projects proposed in the CSP fall within the mandate of a wide range of national government agencies, county government, private sector, non-governmental and donor institutions. A multi-layered institutional framework has been proposed for implementation, incorporating all levels of stakeholder institutions. It is proposed that implementation will be



done through a two-tier system, with one tier comprising of the county-level stakeholders, and the other incorporating national-level agencies with operations within the county. The two tiers will have feedback mechanisms for report on the plan implementation. The multi sectoral team will include:

- The County Secretary
- The County Executive Committee Member for Lands, Housing, Physical Planning and Urban Development
- All county assembly lands committee members
- The Heads of all County Departments
- four representatives from the private sector members in the County
- four representatives from non-governmental organizations operating in the County
- Special groups: One representative of persons with disability, one representative of a county-wide women's group and one representative of a county-wide youth group.

It is proposed that this team meet quarterly and should prepare one implementation status report per year, for presentation to the Inter-Agency CSP Implementation Team. It is proposed that the Inter Agency Team team is made up of:

- The Governor/Deputy Governor
- The County Secretary
- All County Executive Committee Members
- All other members of the CSP Multi-sectoral Implementation Team
- One representative from all national agencies operating within Samburu County (such as NEMA, KENHA, KURA, KERRA, KFS, KWS, KWS etc
- One representative from all county-level infrastructural service providers (such as SAWASCO, Kenya Power).
- Representative from the CBOs, civil societies, donor agencies

This team meets quarterly and should prepare one implementation status report per year.

Inter-departmental Committee on Implementation of CSP

The Inter-ministerial Committee for the implementation of the CSP shall play the overall coordination function on the implementation of the Plan. Its composition shall consist of CECs of all the departments. It shall be chaired by the CECs for Lands, Housing, Physical Planning and Urban Development. The functions of committee shall include:

- To mobilize resources for implementation of the Plan
- To ensure that the CSP policies mainstreamed in respective sectors
- Update executive on a regular basis on the implementation status of CSP
- To monitor the implementation of the Spatial Plan

Technical Committee

It shall consist of the County Director of Physical and Land Use Planning as well as County Directors from all the county departments. The Technical Committee shall provide technical support to the various implementing agencies and departments on issues relating to physical planning. The County Director of Physical and Land Use Planning shall exercise technical leadership and ensure coordination between the other agencies and ministries involved in physical planning.

County Physical Planning Unit



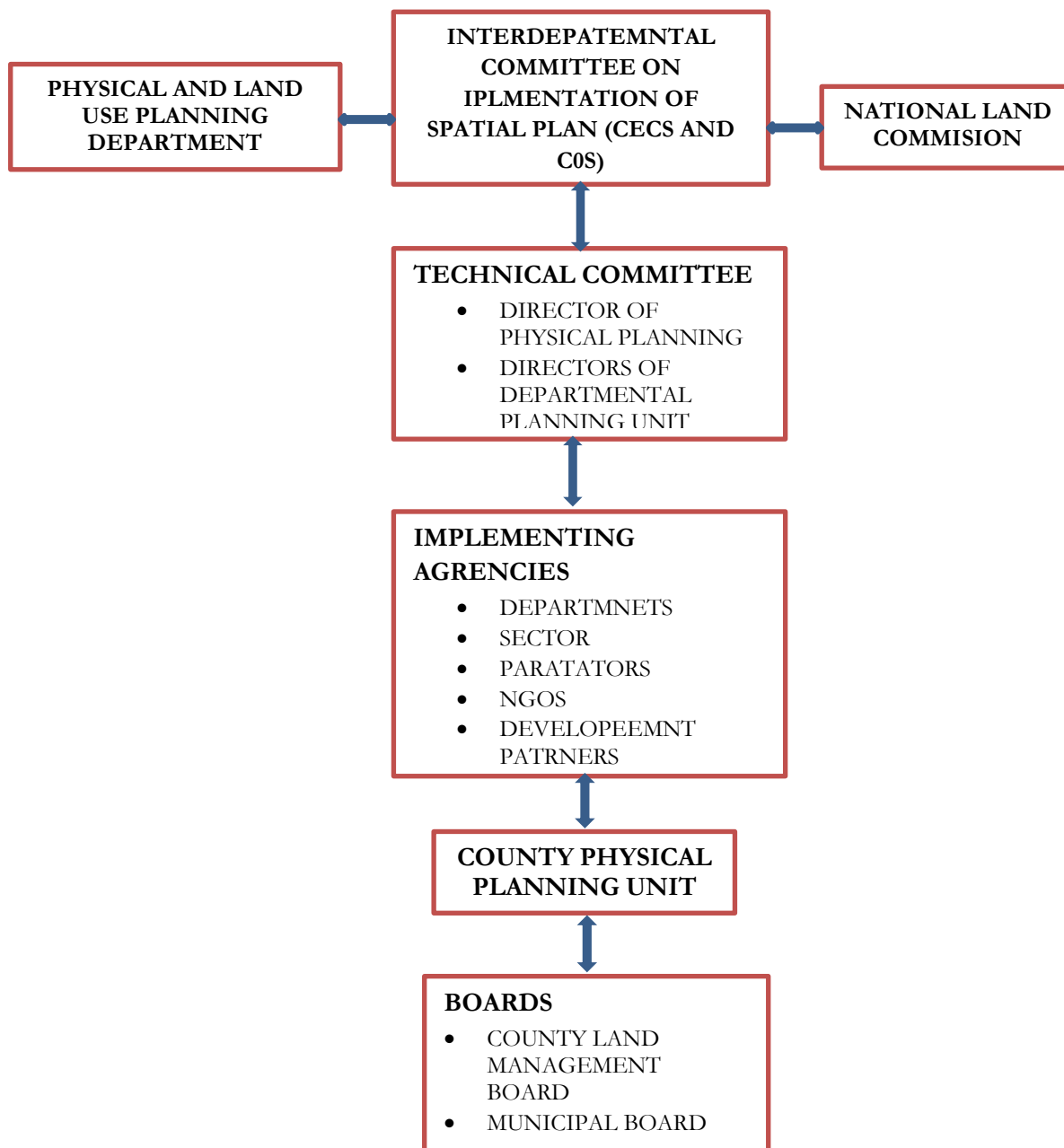
The role of the County Planning Department shall be to ensure that the County and Local Physical Development Plans articulate the aspirations of the NSP. The County Director of Physical Planning shall prepare an annual state of planning report, which shall among other things appraise the status of implementation of the CSP.

National Land Commission

The National Land Commission shall play its oversight role in land use planning to ensure efficient implementation of the CSP. Other functions of the Commission in the implementation of the CSP include:

- Formulate mechanisms for monitoring and overseeing land use planning
- Ensure that relevant planning authorities carry out their functions as required by law
- Make recommendations for improvements of the planning systems in the country
- Mobilize resources to support physical and land use planning

Intergrated CSP Implementaion Organizational Structure





Resource Mobilization

The government shall ensure that adequate resources in terms of finances and human resource are availed for the timely and effective implementation of the CSP.

Training and Capacity Building

Training and capacity building shall be undertaken to build capacity of sectoral staff, national and county level institutions that will be involved in implementation of the strategies and policies outlined in CSP. Special attention will be given to the capacity development of the physical planning units within the county government as they will be expected to provide technical expertise in the implementation of the spatial planning policies.

Communication

A communications strategy to promote support for the NSP, provide information on progress in its implementation and promote participation by public bodies, private sector, interest groups and the general public in achieving the objectives of the NSP will be developed and implemented by the County Department of Spatial/Physical Planning.

14.3 Mechanisms for Plan Implementation

14.3.1 Indirect Implementation

The implementation and related monitoring of the planned measures should be transferred by the project to the local program partners (government organizations, NGO's or self-help groups) as soon as possible. Periodic evaluations, in which all program partners should take part, create the basis for the joint learning based on the experiences gained during the implementation.

14.3.2 Decentralized Implementation

Independent on the planning and negotiation levels selected, the implementation of the plan will be always locally organized via local structures. This means, however, that organizations and institutions should be established, reinforced or coordinated at not only the sub county level but also the ward level, in order to guarantee the plan implementation.



15. CAPITAL INVESTMENT PLAN (CIP)

15.1 Overview

The Capital Investment Plan (CIP) is a plan meant for funding major purchases, land acquisitions, construction and restoration projects. The CIP is not a funding nor project authorization process but rather a planning tool intended to:

- Identify all capital needs anticipated for five years
- Plan, schedule and implement capital projects
- Identify appropriate actors to fund selected development projects
- Estimate the impact of capital projects on the operating budget
- Inform the public about proposed investments

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

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) would include capital investment by the County Government of Samburu, 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.

15.2 Samburu County's Financial Capacity

The projected resources accruing from the national government for the financial year 2018/2019 will be Ksh 4,427,400,000 as equitable share. Additionally, it's projected that revenue from local collections will amount to ksh 230,031,228. This will include monies collected from issue of single business permits, SNR, payment for land rate, facility improvement fund, and agricultural machinery services among others. The County will also get conditional grants from the national government. In total, the county's projected resource envelope for 2017/18 will be KSh 5,409,808,517.

15.2.1 Funding the investments

The 2020/21 Capital Budget will represent the funding for the first year of the CIP. 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. The mobilization of funds is critical if the County Government of Samburu will have to contribute to the overall goals of accelerating economic growth and poverty reduction. The following are some of the sources of funds for the CIP.

- National Government County transfers;



- County taxes and revenues;
- Development Partners funding e.g. FAO, DANIDA, WORLD BANK, African Development Bank (ADB) among others;
- Private and related collaborative sources (Public Private Partnerships - PPPs, etc).
- The local community through CBOs, CSOs, SACCOs etc

15.2.2 Partnership Strategy

The development plan should be implemented primarily in partnership between the national government, county government, development partners and the private sector. Such partnership arrangements could include:

i. Public Community Partnerships

Groups/ communities can be encouraged to join together in centralizing projects through individual financial, material or labour contribution.

ii. Public-Development Donor Partnerships

The county can involve donors in supporting projects within its area of jurisdiction. These donors include European Union, International Monetary Fund, World Bank and NGOs

iii. Public-Corporate Entities Partnerships

This is the involvement of the co-corporate entities (parastatals, semi government bodies) in projects implementation.

iv. Private Public Partnerships (PPPs)

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. 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.

15.3 Project Prioritization and Sequencing

For effective implementation of the plan proposals the projects need to be sequenced in a structured and rational manner as: short term, medium term and long term projects.

15.3.1 Short Term Activities

These are projects/programmes to be achieved within a period of 1-3 years.

15.3.2 Medium Term Activities

These are project/programmes to be achieved within a period of 3-5 years.

15.3.3 Long Term Projects

These are project/programmes to be achieved within a period of 6-10 years.



Sector	Strategies	Actions/ Project	Area	Short Term	Medium Term	Long Term	Actors/Implementing Authority	Approximate Cost (Ksh)
Spatial Plan Implementation							CGS	5,000,000
Local Economic Development	<i>Promotion of Value Chain and value addition</i>	Establish and designated industrial areas	Maralal, Wamba, Archer Post, Baragoi				CGS, National Government	20,000,000
		Establish Cottage industries to be at the ward level	Samburu County				CGS	150,000,000
		Development of modern market infrastructure	all the proposed growth centres				CGS, Donors PPP	500,000,000
		Upgrade honey processing at Maralal and establish others	Tuum, Ngilai, Ndongyowasin and Achers Post				Donors, Private cooperative	20,000,000
		Construction of coolers and milk processing plants	Maralal, Wamba, Baragoi, Ngilai, Archers Post and Suguta Mar Mar				CGS, Private cooperative	180,000,000
		Establish a leather city	Archers Post				Private National Govt	450,000,000
		Development of hospitality industry	Maralal and Archers Post				Private, Cooperative CGS	200,000,000
		Leather development industry and tanneries	Maralal				Private, Cooperative CGS	220,000,000
		Leather development trainings	Ngurunit, Wamba, Baragoi, South Horr,				Private, Cooperative CGS	120,000,000
Infrastructure Development Plan	<i>Provide adequate, efficient and reliable water for development</i>	Establish water points along livestock movement corridors	County wide				Donors, Cooperatives CGS, Private	300,000,000
		Establish boreholes	All county wards				Donors, Private Cooperatives, CGS,	400,000,000
		Construct mega and strategic dams	County wide				Donors National govt	4,500,000,000
		Construct and upgrade water pans	Ndoto Ward , Lodongo Wayert, Nkumeni, Lkujita Sirangu, Soitpus, Lorian Water, Charda, Ngilai, Lapariak, County wide				National government	250,000,000
	<i>Sustainable liquid waste management</i>	Sewer Reticulation	Maralal, Kisima, Baragoi, Wamba, Archers Post and Suguta Marmar				National government CGS	1,800,000,000
	<i>Energy</i>	Establish green energy systems	County wide				National government CGS	
Transportation	<i>Improve road network to enhance accessibility</i>	<i>Upgrading to bitumen:</i> -Maralal-Baragoi-South Horr -Lerata-Wamba (C78) -Wamba- Kisima (C78) 100km -Baragoi-Latakweny-Sereolipi Rd	County wide				KENHA KERRA	To be determined



		Construct of bridges/ drift	Loikumkum At R. Loikumkum, drift at River Kosikosi, Ltungai Drift, proposed bridges at Seiya –mega bridge, Bridge connecting Baragoi town and Natiti, Nkarenarok footbridge, Seiya Lodokejek Bridge, Bridge between dams at Suen				National government CGS	To be determined
		Tarmacking of roads in Urban Centres	Maralal, Wamba, Baragoi, Archers Post, Suguta MarMar, Kisima				CGS Kura	1,200,000,000
		Roads that need to be gravelled	County wide				National government CGS	
		Modern bus terminals	Maralal, Wamba, Archers Post, Suguta MarMar, Baragoi.				National government CGS	200,000,000
		Upgrading of the Kisima Airstrip to an Airport	Kisma				KCAA KAA	1,200,000,000
Tourism and Heritage	<i>Promote Samburu County as a Unique Tourism Destination</i>	Establish a tourist information centre at the county.	Maralal				National government CGS, Cooperatives	30,000,000
		Cultural Centre’s established	Maralal, Wamba and Baragoi				CGS, Cooperatives Local community	100,000,000
		Construction of cultural manyattas and rrehabilitation of existing ones	Maralal, Baragoi, Wamba				CGS, Cooperatives Local Community	100,000,000
Agriculture Development	<i>Increase Crop Production, Maintenance of Strategic Food Reserves and Enhance County Food Security</i>	-Zoning of agricultural and agro-pastoral areas.	Maralal				CGS	5,000,000
		-Establish a soil testing lab	Maralal				Min of Agric CGS	30,000,000
		Establish Agricultural and Livestock Research center	Maralal				Min of Agric CGS	80,000,000
		-Ensure access to farm inputs					Min of Agric CGS	
		-Introduce drought resistant crop: Katumani mpya, Finger millet, Kari Ndata Sorghum varieties, Cassava and sweet potatoes	County wide				Min of Agric CGS	20,000,000
		-Support and strengthen extension service	County wide				Min of Agric CGS	50,000,000
		-Install 30 green houses	All wards					100,000,000
Livestock Production and Rangeland Management	<i>Promote Livestock Sub Sector through Pasture Improvement and</i>	Constitution and rehabilation of cattle crushes	Ngambo, Lmisigiyo Lkiloriti, Lalangok, Lpepet , morijo, Nkirenyi Lpusi, at Lulu, Meterai and Ltungai, Lorrok- lolmonjo Lodgushaani				Donor CGS Private	



Rangeland Management	Construction and rehabilitation of 20 cattle dips	Tuum, South Horr, Arsim, Ngilai-Baragoi, Lonyangaten, Nachola, Siambu, Mugur, Logorate, Wamba, Mparingon, Milimani, Ngilai, Swaari, Lorrok Onyekie, Lengei, Losesia, Morijo, Kirimon				Min of Agric Donor CGS Private	
	-Reseeding and rehabilitation of denuded lands	Countywide				CGS Local Community	50,000,000
	- Demarcate the Livestock Grazing Areas and Routes.	Countywide				CGS,Locals community	5,000,000
	-Provide for community shared grazing	Countywide				CGS,Locals community	5,000,000
	-Create a livestock disease free zones -	Countywide				CGS, Donors National government	25,000,000
	-Establish Hay Reserve Stores	Wamba, Baragoi and Maralal				CGS, Local community	60,000,000
	-Planned grazing to reduce land degradation and conflicts	Countywide				CGS, Local community	5,000,000
	-Provide livestock routes, water and infrastructure.	Countywide				CGS Local Community	5,000,000
	-Establishment of a livestock laboratory	Maralal, Wamba and Baragoi				CGS Min of agric	150,000,000
	Employ veterinary officers	All ward				CGS	
Land Management and Human Settlements	Establish a lands registry	Maralal				CGS Ministry of Lands	50,000,000
	Develop a Land Management Information (LIM) system	County wide				CGS Ministry of lands	10,000,000
	Land adjudication, demarcation and issuance of titles	Nachola, Serolipi, Kalamodang, Nyiro , Nairimirimo areas urban centres.				CGS Ministry of lands	30,000,000
	Preparation of ISUDPs for the as per the proposed hierarchy	County wide				CGS Ministry of lands	100,000,000
	Provide services proportionate to the level of the urban Centre	County wide				CGS	
	Planning and survey of the following centres	Lolkunono, Loiboongale Losesia, Logorate, Ndikiir Sunyai Centre, Siambu, Loiting, Sunoni, Lulu				CGS Ministry of lands	100,000,000
	Planning of rural centres and group anhes	County wide					100,000,000
Trade, Commerce and Investments	Upscale trade and commercial activities through	Establish Samburu county annual agricultural trade fair/show.	Maralal			CGS ASK	50,000,000
		Develop modern market at Lerata, Modern market stalls at Kisima	County wide			CGS, Private cooperatives	80,000,000



	<i>promotion of trade and investment</i>	Provide one stop shop centre for trade and investment information, and processes investment	County wide				CGS, Private cooperatives	20,000,000
Social Infrastructure and Services	<i>Enhance accessibility to education institutions to provide inclusive and quality education.</i>	Equip all ECDE Centres with adequate learning facilities.	County wide				CGS, Private NGOs, Min. of Education, Donors	250,000,000
		Increase number of teachers.	County wide				CGS, Private NGOs, Min. of Education, Donors	50,000,000
		Establish mobile schools in selected parts of the county	Smaburu Nor And East Sub Counties				Min. of Education CGS, Private NGOs, Donors	50,000,000
		Establish ECDEs	Lorien, Lpetepet, Sere, Lodala, Lpus, Ngoteiya, Loibachai_Nkupuruti, Soit Nanyeisie, Lenchenche, Loomunyi, Lororo, Moru, Lomwata, Ltungai				CGS, Private NGOs Min. of Education Donors	120,000,000
		Establish additional primary schools	Poru, Opiroi, Ntepes, Lodgushaani, Lomwata, Raraiti, Lmarmaroc, Tepesi ECD- Upgrade to primary school, Losesia, Nkeju e muny, Loibachai, Larora, Natiir, Nachola, Lomirok, Naturkan, Logorate				CGS, NG-CDF Private NGOs Min. of Education Donors	200,000,000
		-Deploy adequate staff in rural and far-flung schools	County wide				CGS, Donors Private, NGOs Min. of Education	50,000,000
		-Equip secondary schools with laboratories.	County wide				CGS, Private, NGOs Min. of Education Donors, NG-CDF	200,000,000
		Proposed new Secondary schools	Marti, Losesia, Kawop, school, Nachola, Logorate, Lorien, Baawa,				CGS, Private, NGOs Min. of Education Donors, NG-CDF	280,000,000
		Acquire 50 hectares of land for development a university	Maralal and Wamba by 2024				CGS, Private, NGOs Min. of Education	800,000,000
	<i>To provide efficient and high-quality affordable health care by providing a robust health infrastructure.</i>	Upgrading Maralal County Hospital into 1000 bed capacity and a Medical Training College.	Maralal				CGS, NGOs Min. of Health Donors	600,000,000
Upgrade hospitals at Suguta Mar Mar, Baragoi and Wamba to modern hospitals with 400 bed		Suguta Mar Mar, Baragoi, Wamba				CGS, NGOs Min. of Health Donors	145,000,000	



		Establish dispensaries	Losesia, Sesei, Simale, Sumuruai , Loparaan, Lkayo, Naturkan Lomaro, Nkeju E Muny, Lemisigiyo, Mugur, Garma, Lulu Lmisigiyo, Lorubae, Lpus, Village, Lowa, Lorrok-Lolmonjo, Naimaralal, Lodgushaani, Ledero, Chada, Ngarenarok				CGS, NGOs Min. of Health Donors, private	250,000,000
		Construction of modern mortuary facilities	Wamba and Baragoi hospitals.				CGS, NGOs Min. of Health	80,000,000
	<i>Provide modern and adequate social services and facilities</i>	Set up a libraries and resource centres	Maralal, wamba, Baragoi, Archers Post				CGS, NGOs Donors, KNLS, Private	200,000,000
		Establish Huduma Centres	Wamba, Archers Post and Baragoi				CGS, National govt	120,000,000
		Establish a high court	Maralal				CGS, National govt judiciary	5,000,000
		Establish prison and remand facilities	Wamba and Baragoi				Kenya Prisons Services	120,000,000
		Establish Khadhis office at Magistrate courts	Wamba and Maralal Baragoi and Wamba				SUPKEM National govt judiciary	50,000,000 40,000,000
		<i>Establish staidums and talent deveoemepnet ccentres</i>	Maralal, Archers Post, Baragoi and Wamba				CGS National Govt	800,000,000
Disaster Management and Emergence Response	<i>Ensure disaster preparedness and mitigation in all parts of the County</i>	Mapping of hotspots of possible climate disasters (such as flood plains).	County wide				CGS, Cooperative Civil societies, National government	20,000,000
		Establishment of disaster management centers	County wide				CGS, Cooperative National government	50,000,000
		Regular dissemination of anticipated climatic conditions	County wide				CGS, Civil societies CBOs, National government	10,000,000
		Establishment of fire station	Maralal, Wamba, Archers Post and Baragoi				CGS, Donors National government	80,000,000
Environmental Conservation and Management	<i>Sustainable Forest Management and Conservation</i>	Relocation of settlements and squatters within gazzeted forest	Gazzeted forests				CGS, KFS National government Local community	20,000,000
		Formulation of county forest policy and legislation	County wide				CGS Local community	1,000,000
		Promotion of tree growing in public institutions and homesteads	County wide				CGS, KFS National government Local community	5,000,000
		Rehabilitation of degraded forest areas though reforestation to attain a forest coverage to 30%	County wide				CGS, KFS National government Local community	50,000,000



		Encourage agro-forestry practices	Poro, Loosuk, Maralal, Suguta, Lodokejek				CGS, KFS, NGOs National government Local community	5,000,000
	<i>To promote sustainable wildlife ecosystems for tourism development and economic growth.</i>	Establishment of hotel facilities and eco lodges in identified areas	County wide				Private, NGOs Local community	100,000,000
		Fencing of wildlife protected areas	County wide				CGS, Private, NGOs Local community	
		Establish wildlife conservancies along corridors	County wide				CGS, CBOs Local community	30,000,000
		zoning and remove encroachment to corridors of wildlife	County wide				CGS, Local community, CBOs	2,000,000
	<i>Promote land reclamation and enhance vegetation cover.</i>	Set up soil erosion and reclamation of degraded lands	South Horr, Lodungokwe, Kisima, Nachola, Arsim, Lporos, Wamba, Loikas, Opiroi and Ngilai				CGS Local community Private, NGOs	10,000,000
		Reduce soil erosion by planting trees and other vegetation to reduce surface run off	South Horr, Lodungokwe, Kisima, Nachola, Arsim, Lporos, Wamba, Loikas, Opiroi and Ngilai				CGS Local community Private, NGOs	5,000,000
	<i>Sustainable solid waste management practices</i>	Formulation of waste policies and legislations	County wide				CGS Local community	2,000,000
		Provision of garbage collection facilities in major towns	Suguta, Maralal, Archers, Wamba, Kisima, Baragoi				CGS, Private NGOs	20,000,000
		Development and management of waste management sites	Suguta, Maralal, Archers, Wamba, Kisima, Baragoi				CGS Local community	18,000,000



Summary of Capital Investment Costs

The realization of Samburu County Spatial Plan is entirely dependent on efficient flow of allocated financial resource and effective utilization by targeting phased implementation as provided in the implementation matrix above.

No.	Sector	Phase 1	Phase 2	Phase 3	
1.	Spatial Plan Implementation	5	-	-	5
2.	Local Economic Development	40	850	990	1680
3.	Infrastructure Development Plan	720	4620	1906	7250
4.	Transportation	200	300	1, 100	1600
5.	Tourism and Heritage	30	10	300	430
6.	Agriculture Development	100	270	550	920
7.	Livestock Production and Rangeland Management	65	300	850	1115
8.	Land Management and Human Settlements	10	80	200	390
9.	Trade, Commerce and Investments	300	830	2390	3180
10.	Social Infrastructure and Services	945	1255	1580	3520
11.	Disaster Management and Emergence Response	80	80	100	260
12.	Environmental Conservation and Management	61	244	38	353
	Total	1841	4079	9788	15, 708

16. MONITORING AND EVALUATION

16.1 Introduction

Monitoring and evaluation (M & E) of strategies, programmes and projects is necessary in generating information on progress being made towards achieving goal(s) and objectives i.e. (outputs), and impact of the county spatial plan. Monitoring and evaluation involves collection of data during periodic visits to project site(s) and programme area(s) by experts who are assigned to the tasks.

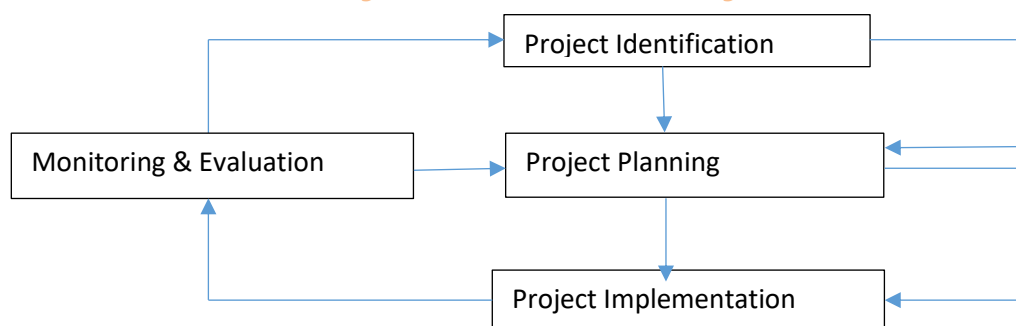
16.2 Monitoring and Evaluation Guidelines

Under this plan, monitoring will involve collection of data on achievements/ impact, to measure progress being made by various implementation agencies. Monitoring activities tracks changes in programme performance over time and allows stakeholders to make informed decisions regarding effectiveness of the different programmes, as well as establishing whether resources assigned for implementation are used efficiently. Evaluation activities on the other hand, will measure how well programme and objectives of activities have been met. The extent to which changes in the expected outcomes can be attributed to the implemented programmes and projects is also a measure of evaluation. Tangible (and/or intangible) outcome(s) in the form of positive or negative changes resulting from implementation will also be measured using criteria and standards of measurement that will be established. Monitoring and evaluation will therefore be used as a tool for measuring what is to be achieved as well as detecting the need to adjust financing, staffing levels and review of programmes and projects.

16.3 Monitoring and Evaluation Model

The plan provides a schematic logical flow of plan implementation through projects (as well as programmes) that will be executed by Samburu County Government and the various development agencies and communities in the county as shown below Figure 15-1. Monitoring and evaluation activities are integrated in identification of development projects, in the planning and design of those project as well as in implementation. This arrangement will ensure that all types of data and information that is used to perform monitoring and evaluation functions are collected as part of project planning and implementation.

Figure 16-1: Model for Monitoring and Evaluation



16.4 Implementation and Monitoring Indicators

There shall be several mid-term reviews and one final major review. Sustainable development indicators are intertwined within the; economic, social, environmental and spatial realms. Indicators of progress define whether the expected outcomes, as predicted in the implementation schedule, positively reflect sustainability. The matrix below explains in summary the progress indicators.



Table 16-1: Indicative Performance Monitoring and Evaluation Matrix

<i>Impacts</i>	<i>Expected Outcomes</i>	<i>Indicators</i>
Spatial Impacts	Equitable access to transportation services	Development of inter-modal connectivity infrastructure
	Enforcing urban and rural planning	Development and enhancement of requisite housing and infrastructure Protection of public land
	Highly controlled land use structure for the County	Reduced degradation and depletion of Natural resources
Social Impacts	Improved access and enrollment to education facilities	Increased literacy levels in the County
	Improved access to health care facilities	Reduced mortality, maternal death and disease prevalence rates
	Preservation of heritage value and culture	Reduced dilution of cultural heritage & Increased heritage tourism
	Improved access to water and sewer services	Increased number of household connections to potable water and sewer services
	Hierarchical development of centers	Giving urban area their unique functions
	Urban prosperity	Upgrade services in the various urban areas based on the hierarchical category, as outlined in the Urban Areas and Cities Act (UACA). Development and enhancement of requisite housing and infrastructure to promote urbanization.
	Rural revitalization	Enhance rural road network by upgrading existing roads and opening new areas Promotion of the clustering of rural settlements to reduce sprawl into rich agricultural land.
Economic impacts	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
Environmental impacts	Conserved and protected forests, rangelands, forest areas, sanctuaries, conservancies and national reserves	Gazettement of delineated natural forests No loss of natural forest Increased forest cover Increased carbon trading revenue
	Conserved and protected water catchment areas, wetlands and swamps	All identified Water catchment and wetland ecosystems gazetted and secured Increased and sustained water supply Increased civil awareness on environmental issues
	Improved wildlife conservation	Increased number of tourists visiting samburu County Reduced encroachment on natural capital assets Reduce human-wildfire conflicts

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16.5 Guidelines for Plan Implementation

Every successful plan is defined by a carefully crafted structure. The attributes of a carefully drafted plan are an expression of the amount of detail brought in, during the plan formulation stages. It is with that reason that the samburu County Spatial Plan, will incorporate the following:

- a) Bottom up planning is essential hence public participation is constitutionally provided for and once the people are part of the plan.
- b) Key sectoral stakeholders will ensure that the key strategic development areas are carefully and adequately provided for.
- c) Local leaders and all the administrative heads will be the voice of the people this will bring harmony between the professional team and the local residents.
- d) The county assembly will be mandated to look into coming up with policies and by-laws. The county government will enforce the laws
- e) The monitoring committee will from time to time keep tabs on the impact of change the SCSP has had on the lives of the people.
- f) The monitoring and evaluation reports will be analyzed by the Monitoring & Evaluation Committee, who especially look into how the existing funds as stipulated in the county annual budgets, will be used to realize the overall vision of the SCSP

16.6 Possible 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:

- a) Poor coordination among involved agencies and stakeholders' thereby preventing data aggregation and information flow across the involved sectors.
- b) Data assessment not shared among all involved agencies and stakeholders, causing inconsistencies and loss of time in data cleaning.
- c) Lack of commitment by involved stakeholders and agencies to source for funds to implement certain projects leading to delays in their execution.
- d) 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.
- e) Prioritising on projects that have less bearing on the development trajectory as envisioned in this CSP.

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.

16.7 Plan Review

This Spatial Plan has been prepared and will be implemented in a very dynamic environment. There may also be uncertainties and unforeseen circumstances which the Plan may not have anticipated and which may make it difficult to implement. The CSP will therefore be subject to periodic reviews which will allow for flexibility.



15.3.4 CONCLUSIONS AND RECOMMENDATIONS

The proposals have been formulated to address the development challenges identified in Samburu County. It seeks to optimally utilize the natural and manmade resources available therein. Consequently, the report presents the planning interventions proposed in line with the set project deliverables and objectives. Their preparation has been guided by the data obtained during the situational analysis phase. Additionally, the proposals presented have been guided by various visions including Vision 2030, Samburu County Vision and the planning vision proposed by the stakeholders. The further proposals embrace the spirit of the Kenyan constitution and they adhere to relevant regional, national and county legislations and policies. The plan envisions an agriculturally viable, industrialized and economically prosperous county with reliable infrastructure, utility and social service provision.

The recommendations have also been made in consideration to environmental sustainability taking into account the environmentally fragile ecosystems which are notably naturally and socio-economically significant. Finally, the participative approach taken during the formulation of the proposals is also advocated for during their implementation, monitoring and evaluation stage. Therefore, this CSP ensures the involvement of stakeholders with special attention to community members to contribute in the actualization of the set goals and objectives.



ANNEXES

1. Land Use Planning Standards/ Land Management Policies

a) *Undeveloped Land/Natural Environment*

ZONES:	STANDARDS:
1. Riparian Reserves:	<ul style="list-style-type: none"> • Must be a minimum of 30 metres of land on each side of a watercourse (both seasonal and perennial rivers). • Natural flow of river and tributary should be preserved and conserved.
2. Forest Areas	<ul style="list-style-type: none"> • A buffer zone of 60 metres from the forest reserve edge (including indigenous and plantation forests) should be maintained.
3. Wetlands	<ul style="list-style-type: none"> • A buffer zone of 30 metres from the high water mark edge should be maintained. • Development permission for wetland zones must be sought. • Prohibited activities include car washing, location of sanitary facilities and solid waste disposal as they can cause pollution.
4. Slope Areas	<ul style="list-style-type: none"> • Development on slopes of over 5 degrees can be allowed but with implementation of control measures. • No development should be allowed on areas with slopes exceeding 25 degrees.
5. Tourism Zones	<p>Areas of scenic beauty and cultural villages</p> <ul style="list-style-type: none"> • Provide a buffer zone of 50meters from the edge • The buffer zone can be used for provision of outdoor furniture, management of solid waste and sanitation • Provide major road access to these tourist sites • Provide for land for hotels and lodges <p>Protected Areas/ National parks and game Reserves</p> <ul style="list-style-type: none"> • Delineate areas • A buffer zone of 50 meters is recommended around the park. • Forest reserve should be buffered by 60 meter reserve use the reserve on compatible land use. • Wildlife corridor of 3 km. Is recommended
6. Flood Prone Areas	<ul style="list-style-type: none"> • A buffer zone of 30 metres from the high water mark edge should be maintained. (Uses such as damming and channeling for rice or fish farming are allowed).
7. Mines and Quarries	<ul style="list-style-type: none"> • A buffer of 1 km from the settlement should be maintained.

b) *Agriculture and Industrial Land Use*

Sector	Planning Provisions	Land Requirements
Industrial Land Use	<p>General guidelines for industrial area should be guided by:</p> <ol style="list-style-type: none"> 1. Separation from residential areas through buffer zones 2. Site planning and zoning 3. Minimum plot area and size 4. Loading area 5. Vehicle parking spaces 6. Network system, road hierarchy and transportation 7. Buffer zone 8. Workers hostels 9. Recreation 10. Shops and hawker centres 	
	<i>National parks game reserve areas of significant bio-diversity</i>	1.



Land sub division in rural areas	Agro ecological zone	Minimum Land Holdings
	Low potential area	4 Hectares 10.0 acres
	Medium Potential area	2 Hectares 5.0 acres
	Medium Potential area	2 Hectares 5.0 acres
Livestock stocking Rates	For sustainable livestock production, the policy uses a unit of livestock intensity/density per unit area known as stocking unit where a stocking unit is equivalent of a mature zebu cow weighing 300kg or 7 sheep or 7 goats.	

c) Categorization of Settlements

Hierarchy of Centre:	Catchment Population:	Resident Population:	Facilities:
1. LOCAL CENTRE	5,000	-	<ul style="list-style-type: none"> • Full primary school • Several shops • A dispensary, • A public water supply systems • An open-air market.
2. MARKET CENTRE	15,000	<2,000	<ul style="list-style-type: none"> • A public water supply • Post office • Telephone facilities • A police post • A local bus service • Other social commercial and local administrative services.
3. RURAL CENTRE	40,000	2,000 to 10,000	<ul style="list-style-type: none"> • A secondary school of at least form four standard • A health centre with a maternity facilities • Development of better shopping facilities • Markets and Banking facilities • A piped water supply and sewerage disposals systems • Electricity and telephone services postal
4. URBAN CENTRE	100,000-150,000	5000>	<ul style="list-style-type: none"> • A hospital • A secondary school • Commercial, industrial, administrative and recreational services

d) Residential Land Use

Housing Densities:	Proposed Minimum Land Sizes:	Necessary Facilities:
• Low Density Areas:	½ Acre (0.2 Ha)	<ul style="list-style-type: none"> • Recreational facilities • Community facilities • Roads and streets • 5% of residential area should be covered by urban agriculture • Commercial water points should be provided for informal settlements (At a distance of 500m from each other, preferably occupying an area of 3m x 3m. • 1 toilet block is required for every 100m.
• Medium Density Areas:	1/8 Acre (0.045 Ha)	
• High Density Areas:	Below 1/8 Acre (0.03 Ha)	
• Slum Areas:	0.025 Ha	

Detailed urban area plans should be formulated to determine appropriate maximum plot coverage's, plot ratios, building lines, street widths for residential areas.



e) Commercial Areas

	Standards:
Plot sizes	<ul style="list-style-type: none"> Minimum plot sizes should be 0.045 Ha.
Construction standards	<ul style="list-style-type: none"> Building setbacks should be provided to act as traffic islands. The concept of corner shops at each corner plot should be discouraged. Where roads range between 6-18 meters wide the building line shall be 6 m. For any roads above 18m the building line shall be 18m.
Accessibility	<ul style="list-style-type: none"> Remove through traffic by constructing a by-pass or relief road. There shall be no direct access. A provision of accelerated and deceleration lanes should be made at a 100m stretch. Beautification of the main highway- green area network along the highway should be done. Urban road reserves require more generous space provision because of additional street furniture and infrastructural facilities that have to be provided.
Parking	<ul style="list-style-type: none"> Parking facilities should be related to the level of commercial activities created. In central commercial and business zones, parking should be considered, particularly by encouraging storeyed parking in town centers (minimum plot size of 0.025 Ha). For every 100m² of land in the central Business District a minimum of 1½ parking space may be provided except where basement parking is provided. However, for small centers, car park may be provided for every 500m².
Major Shopping Malls	<ul style="list-style-type: none"> Need to be located along major outlet corridors from the town. Minimum plot size to be 4 acres (2 ha). Allow 25% plot coverage Minimum parking space of one and half meters car park space per every 100m² plinth.
Informal Economy	<ul style="list-style-type: none"> Kiosks should only be confined to areas adjacent to markets, bus parks and certain institutions. Minimum size of a kiosk should be 3m x 3m. Specific areas need to be designated for hawking (e.g. hawking grounds or hawking streets).
Pedestrian Separation	<ul style="list-style-type: none"> Provide vertical separation of vehicles and pedestrians by constructing roads and pedestrian's ways at different levels. Interrupt continuity of streets within the centre by bollards or other means. Remove vehicles from street and provide vehicular access and parking at rear of buildings
Sanitation	<ul style="list-style-type: none"> 1 toilet should be provided in all streets in all types of centres.

f) Transport

Sector	Planning Standards
Rural road network	<p>International trunk road (class A road)</p> <ol style="list-style-type: none"> They are provided with a road reserve of 60-110 meters. No direct access of a property to a Class A road Buffer zones of 10 meters should be provided all along giving access abutting properties Developments should come after the buffer zone and should be provided with acceleration and deceleration lanes The junctions should be at minimum of 300meters Petrol Service Station can be planned with acceleration and decelerations of 80-100meters after the 10metre buffer <p>National trunk road (class B roads)</p> <ol style="list-style-type: none"> They are provided with a road reserve of 60-110 meters. <p>Primary roads (Class C roads)</p> <ol style="list-style-type: none"> All designated urban centers should be linked by means of primary roads as a minimum. They are provided with a road reserve of 40 meters. <p>Secondary roads (class D roads)</p>



	<p>1. All designated rural centres should be linked by means of secondary roads as a minimum. They are provided with a road reserve width of 25 – 30 meters.</p> <p>Minor roads (class E roads)</p> <p>1. They range between 3 to 5 Km and are provided with a road reserve width of 20-25 meters.</p>
Airport and airstrips	<p>Basic requirements for location of an airport/airstrip include:</p> <ul style="list-style-type: none"> • Bird strikes-Land use planning around the airport to ensure no dumping sites which attract birds. • Flying objects-Ensure no quarrying or charcoal burning in airport vicinity. • Availability of ample flat land. • Developments in vicinity should not go beyond 15m high. • Location away from town (isolated) • Feasibility should be done to ensure stability of the rock

g) Education

Institution	Distribution	Location	Land requirements
Nursery schools	A kindergarten independent of primary school should be provided for 2500 catchment population.	Nursery schools should be located within and integral to residential areas. The recommended walking distance is 300-500meters	The land requirement of 0.15-0.25hectares is required for every primary school.
Primary schools	The pattern of distribution should be for every 4000 catchment population in rural areas and 3500 population in urban areas	They should be within residential areas related to principle pedestrian networks.	They should cover a minimum area of 3.9 Ha Schools are encouraged to build storied buildings for economy. Teaching staff accommodation if provided, it requires another 0.8 Ha
Secondary schools	The pattern of distribution should be for every 8000 catchment population	They should be within residential areas At gross densities of 50 persons per hectare and above, each secondary school should be within an easy walking distance i.e. relative to pupils' ages of 500 – 600 metre.	It should be considerate of no. of streams: One stream- 3.4 Ha Two streams- 3.5.Ha Three streams- 4.5.Ha
University	<p>The land size for a University should be at least 50 hectares made up of the following:</p> <ul style="list-style-type: none"> • 20 hectares or more to support up to 500 students. • 10 hectares or more for the main campus. • 2 hectares or more for any University land. • 2 hectares or more for open spaces and car parking exclusively. • 2 hectares of land set aside for sewerage plant where there lacks Local Authority sewerage system. • 5 hectares or more for outdoor sports for 500 students. 		

h) Recreational Areas

	Planning standards
Recreation in regional /county context	<ol style="list-style-type: none"> 1. Provided with public access of a minimum 9m. 2. Cater for recreation use by providing car-parking spaces, picnic sites and refuse disposal facilities of at least 0.4 ha. 3. Compatibility of tourist and recreational developments with surrounding land use patterns, cultural values of the local population and not injurious to the natural attraction of the area.



Recreation at community level	<p>(a) Parks</p> <ul style="list-style-type: none"> • A small area of recreational space within walking distance. • Closely located within community centres and social halls, health centre, local shops, primary and secondary schools. • It can be used as a landscaping buffer between major roads and the housing areas and between industrial areas and housing. • It should include 1-2 playing fields and children’s equipped playgrounds. <p>(c) Social Halls and Community Centres:</p> <ul style="list-style-type: none"> • The pattern of distribution should be for every 20,000 catchment population. • Land requirement of 0.25 hectares to be located in positions along main pedestrian routes
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j) Public Purpose

Sector	Services	Land Allocations
Health services	They should be easily accessible by an ambulance and be provided with basic infrastructural services. The public cemeteries should be conveniently located relative to the health facility, major open spaces and other compatible public utilities.	<ul style="list-style-type: none"> • National referral hospital- 20Ha • Provincial hospital- 8Ha • District hospital- 8Ha • Sub-district hospital- 4Ha • Health center- 3Ha • Sub health center- 2Ha • Nursing homes- 0.4Ha
Community centre	Every center should have a community center which will provide the following facilities:- Library/Resource center Social hall , VCT center, Public telephone Amphi-theater (Cultural dances, cinema etc.)	The proposed minimum area should be 1Ha.
Police stations	They should be located within residential neighborhoods	Proposed space requirements for the various levels of stations are: <ul style="list-style-type: none"> • Police stations- 2 ha. • Police post- 2.0 ha • Patrol base- 0.2 ha
Fire stations	The land requirement is a minimum of 0.4 hectares to include station, staff accommodation and drilling area. A small fire station would require 1 fire engine and at least 30 staff members to cover a population of between 50,000-100,000 people.	
Administrative areas	They should be sited away from the administrative zones e.g. professional, manufacturing and utility undertakers’ offices to allow close interaction with general public. Factors for their location: <ul style="list-style-type: none"> • Geographical centrality • Spatial compactness • Public parking • Accessibility 	

j) Public Utilities

Sector	Planning Provisions	Land Allocation
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Electricity	<p>Guidelines</p> <ol style="list-style-type: none"> 1. Source and ability of electricity supply 2. According to electricity usage requirements for domestic, commerce and industry 3. Main receiving sub-stations require a minimum of 5% of the exterior spaces that are reserved for landscape. 4. Main receiving sub-stations 275KV are not suitable to be close to residential areas, open spaces and public facilities. Require buffer zones in between sub-stations and other land uses (about 50m) 	<p>Way leave Requirements</p> <table border="1"> <thead> <tr> <th>Capacity of line</th> <th>Way leave</th> </tr> </thead> <tbody> <tr> <td>11 KV</td> <td>10m</td> </tr> <tr> <td>33KV</td> <td>20m</td> </tr> <tr> <td>40KV</td> <td>20m</td> </tr> <tr> <td>66KV</td> <td>30m</td> </tr> <tr> <td>132KV Single circuit towers</td> <td>50m</td> </tr> <tr> <td>132KV Double Circuit towers</td> <td>60m</td> </tr> </tbody> </table> <p>Electricity sub-stations</p> <p>Electricity substation Land requirements Size and function</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Requirement</th> <th>Condition</th> </tr> </thead> <tbody> <tr> <td>Main receiving sub-station</td> <td>1.6 ha</td> <td>Buffer zones</td> </tr> <tr> <td>Main distribution sub-stations</td> <td>45mx45m</td> <td>Building entry ways</td> </tr> <tr> <td>Electricity sub-stations</td> <td>16.5mx13.5m</td> <td></td> </tr> <tr> <td>Single</td> <td>17mx13.5m</td> <td></td> </tr> </tbody> </table>	Capacity of line	Way leave	11 KV	10m	33KV	20m	40KV	20m	66KV	30m	132KV Single circuit towers	50m	132KV Double Circuit towers	60m	Type	Requirement	Condition	Main receiving sub-station	1.6 ha	Buffer zones	Main distribution sub-stations	45mx45m	Building entry ways	Electricity sub-stations	16.5mx13.5m		Single	17mx13.5m	
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Water	<p>Provision of these facilities should consider catchments population to be served and the per capita consumption in the relation to the available water.</p> <ol style="list-style-type: none"> 1. Ground water reserves require buffer zones of 100 meter (bore holes). 2. Springs protection require a buffer zone of 100meters. 3. Tree planting is therefore encouraged in these areas. <p>Water reticulation systems</p> <ol style="list-style-type: none"> 1. Provide for water facilities such as water intake points, and pipeline way leave. 2. Buffer zones should be provided in areas where these facilities are located. 3. Intake points treatments work and communal water points require buffer zone of 10 meters (radius) <p>Commercial water points</p> <ol style="list-style-type: none"> 1. Provided for in informal settlements. 2. They should be at a distance of 500m from one another. 3. They should preferably occupy an area of 3 x 3 m. 																														
Sewage	<ol style="list-style-type: none"> 1. Sewage collection and sewage treatment plants be considered for all settlements with a population of 3,000 or more having an urban layout. 2. In settlements where an integrated sewage scheme is not provided provision should be made for septic tanks. 3. Land requirement for Buffer zones for sewered areas is 75 square meters whereas for un sewered areas are 110 square meters. 																														
Garbage Collection	<p>They should be located on the leeward side and have a 100m-protection belt.</p>																														
Telephone Services	<p>Minimum space of 0.4 hectares and 0.25 acres may be provided for the telephone exchange and booster respectively. Satellite earth stations should have at least 5 acres.</p>																														