RESEARCH REPORT

URBANIZATION IN NORTH RIFT KENYA
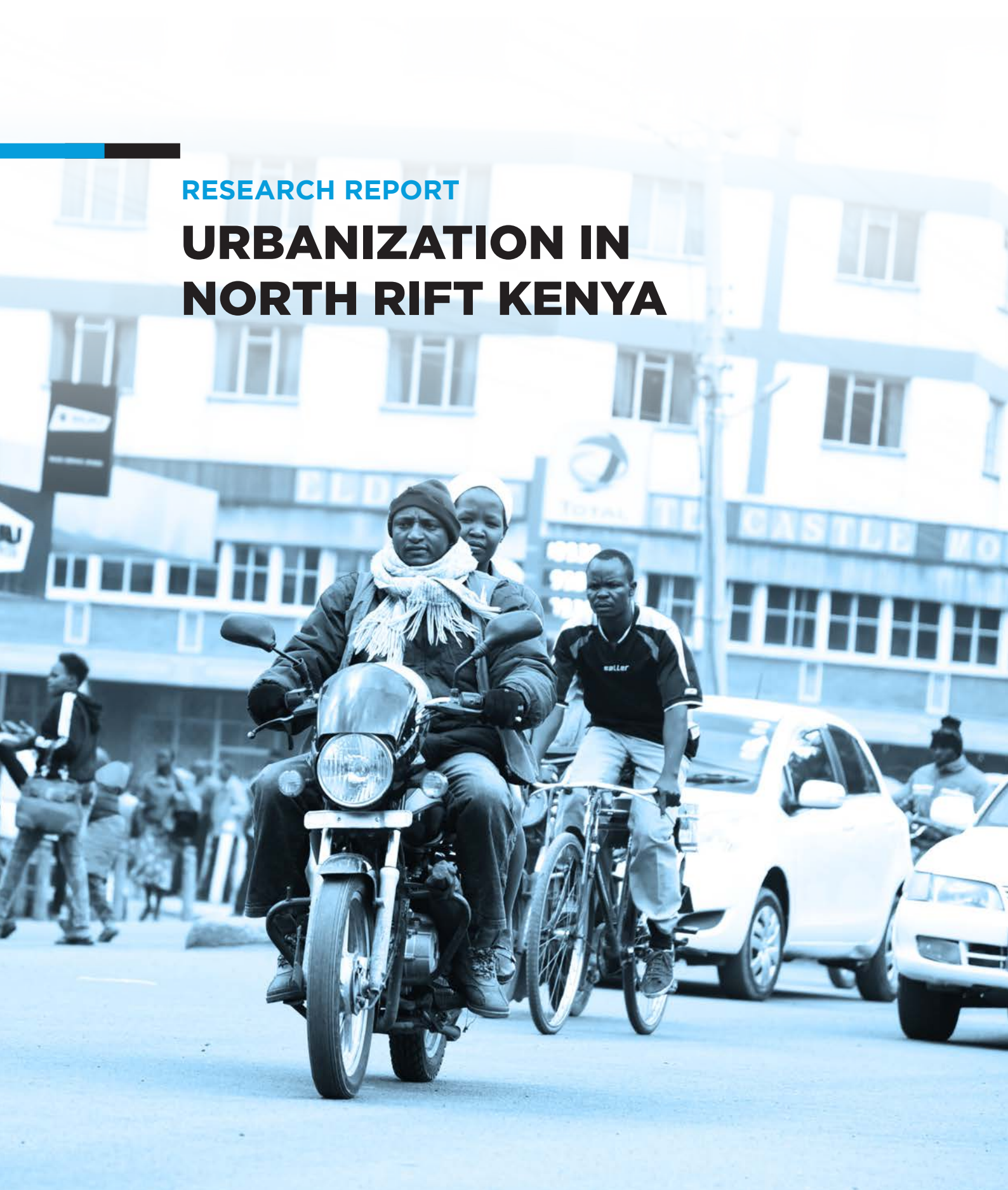
ACKNOWLEDGEMENTS

URBANIZATION IN NORTH RIFT KENYA

RESEARCH REPORT

TABLE OF CONTENTS

List of Boxes, Figures and Tables

ABBREVIATIONS

ASALs	Arid and Semi-Arid Lands
CIDP	County Integrated Development Plan
COMESA	Common Market for Eastern and Southern Africa
CGP	County Gross Product
EAC	East Africa Community
GIS	Geographic Information Systems
GoK	Government of Kenya
IEBC	Independent Electoral and Boundaries Commission
KIIs	Key Informant Interviews
KISEDP	Kalobeyei Integrated Socio and Economic Development Programme
KNBS	Kenya National Bureau of Statistics
LAPSSET	Lamu Port-South Sudan-Ethiopia-Transport corridor
LRAs	Local Research Assistants
ODK	Open Data Kit
NEC	Northern Economic Corridor
NOFBI	National Optic Fibre Backbone Infrastructure
NOREB	North Rift Economic Bloc
NUDP	National Urban Development Policy
NSP	National Spatial Plan
OSR	Own Source Revenue
SDGs	Sustainable Development Goals (SDGs)
TCG	Turkana County Government
UNHCR	United Nations High Commissioner for Refugees
UNEP	United Nations Environment Programme
WHO	World Health Organization

© UN-Habitat, Dream Magical Studio

EXECUTIVE SUMMARY

Introduction

This report focusses on the North Rift Region and Turkana County in the wider northern region of Kenya. Kenya's northern region is the country's least urbanized, particularly in areas considered to be Arid and Semi-Arid Lands (ASALs). Historically, these ASALs have been marginalised, however there is growing optimism with the recent establishment of county governments and ongoing investments by the national government to provide infrastructure aimed at promoting regional connectivity. This report examines urbanization in this region, specifically the North Rift Economic Bloc (NOREB) in relation to its local and regional contexts. NOREB consists of eight counties: Baringo, Elgeyo Marakwet, Nandi, Samburu, Trans Nzoia, Turkana, Uasin Gishu, and West Pokot. The key focus of the analysis is on outlining the nature and trends in the region's urbanization and identifying emerging issues for policy attention. The analysis presented in this report primarily relies on secondary data, and it's among the first to examine the region's urbanization. However, the study was limited by scant data and information, which was often aggregated at county level, and therefore lacked focus on individual urban centres in the region.

Kenya's Urbanization Context

The analysis begins with a focus on the national urbanization context. Kenya is one of the fastest urbanizing countries in sub-Saharan Africa, yet one of the least urbanized countries in the region. The country's 2019 census reported 31% of its population as urban (from a total of 47,564,296), of which 43% were aged 15-34 years. In actual numbers, the census reported this national urban population of 31.2% as 14,744,474 people[1]. According to the United Nations Population Division's 2018 Urbanization Prospects, the country is only expected to become 50% urbanized after 2050, at which time the world is estimated to be about 68% urban. Structurally, Kenya's urbanization landscape encompasses a broad spectrum of characteristics, which range from the size of settlements to their socio-economic

dominance. Some of the defining traits of Kenya's urbanization include the following:

- Rapid rate of urbanization amidst low levels of urbanization and a growing rural population

- Service sector- and agriculture-driven urbanization

- A history of centralised urbanization, with potential for urban re-distribution

- Urbanization without structural transformation

Geographically, a system of interconnected cities and urban areas emerges, with each level performing a unique function both at the local context and within the urban continuum. In 2019, Kenya's urban landscape consisted of a total of 307 urban areas which met the minimum population threshold of 2,000 people. When considering only their population size, these urban areas constituted 8 cities (≥250,000 residents), 39 municipalities (50,000 - 250,000 residents), 101 towns (10,000 – 50,000 residents) and 159 market centres (2,000 – 10,000 residents). The census data indicates Kenya's largest city, Nairobi, had a population of 4,397,073 in 2019. The next largest city is Mombasa with a population of just over one million, according to the 2019 census[2]. The other major centres are secondary cities with populations of about 500,000 residents, including Eldoret, Nakuru, Kisumu and Ruiru. Notably, Ruiru is a satellite town of Nairobi city.

Most Kenya's urban centres (and urban population) are connected by Northern Economic Corridor (NEC) or can be found within 100-kilometre radius from the corridor. NEC connects Kenya's port city of Mombasa in the south-east to Malaba and Uganda to the west. While the northern part (or North Frontier Districts) is the least urbanised region in Kenya. Socio-economic development in region is marked by history marginalisation, which resulted in its poor spatial and economic connectivity with the rest of Kenya. However, recently Government of Kenya embarked on the Lamu Port South Sudan Ethiopia Transport (LAPSSET) corridor, which is anticipated to connect the northern region with

1   KNBS (2019a). 2019 Kenya Population and Housing Census: Volume II. Distribution of Population by Administrative Units. Online access (16/02/2021):
     https://www.knbs.or.ke/?wpdmpro=2019-kenya-population-and-housing-census-volume-ii-distribution-of-population-by-administrative-units
2   Ibid

NEC and neighbouring countries. NEC has been instrumental in shaping spatial-economic development. The enhanced connectivity is also anticipated to trigger urbanisation and growth of the towns along the new corridor. NEC has the oldest infrastructure in the country: the Kenya–Uganda Railway and the A1 road that runs parallel to it – both of which connect Kenya to Central Africa. A new railway line was built parallel to the old one, but this new line is yet to connect the entire stretch of NEC. Besides, the old railway is largely dysfunctional. Based on a 2016 World Bank study[3], NEC has three urban clusters:

- **The Coastal cluster** – concentrated around the coastal counties of Mombasa, Kilifi and Malindi which largely rely on the 'blue economy'. This is strongly connected to the port of Mombasa, as well as the tourism and hospitality sectors. This area features the oldest cities and towns in Kenya.

- **The Central cluster** – this largely consists of the Nairobi Metropolitan Area, including Nairobi city and its satellite towns. It is Kenya's main industrial and commercial hub, with Nairobi city being the nation's capital.

- **The Western cluster** – this hub consists of the main inland secondary cities, with hinterlands dominated by agricultural production. The main cities in this region are Eldoret, Kisumu and Nakuru.

Kenya's economic growth strategy, called Vision 2030, has placed high stakes on urbanization. Subsequent policies such as the National Urban Development Policy (NUDP) and the National Spatial Plan (NSP) emphasise the crucial role of urban centres in the country's economic transformation. However significant investments are needed in infrastructure and services that promote urban economic development, planning and management, if Kenya's urbanization is to lead to structural transformation. It also requires closer policy attention to secondary cities and small towns, as well as urbanization in historically marginalised regions.

Urbanization in North Rift Kenya

The second level of analysis is focused on NOREB, a region that lies in the north-western part of Kenya. NOREB is dominated by rural agricultural and pastoral settlements, with most of its counties displaying an urbanization level below the national average. The distribution of population reveals that NOREB counties with the highest populations and a reliance on farming also have the highest densities. The region is characterised by urban primacy, with Eldoret acting as a primate city, intermediate cities that are mostly county headquarters, and numerous small towns and rural centres serving as livestock auction centres. Livestock keeping is a major economic activity in the region, especially for pastoral communities. This urban primacy is replicated within counties, which usually feature one major urban centre, along with many small towns and rural centres. In Turkana County, the county capital of Lodwar has a population more than double that of the next largest town, Kakuma.

The urban centres that recorded the highest increase in population between 2009 and 2019 are Eldoret, Kapsabet, Kiminini, Lodwar, Maralal and Matunda, where populations have almost doubled during the intercensal period. While most urban centres recorded high population growth, some towns registered a decrease in population, e.g., Kakuma (2009-2019) and Lokichoggio (1999-2019) in Turkana County. Unplanned urbanization also dominates urban growth in NOREB – a trend that is reflected across the rest of Kenya. This is linked to traditional land management systems and inefficient urban planning dominated by 'plotting'- of poorly planned land subdivisions. Such failures of urban planning, among other factors, have resulted in a proliferation of informal settlements in urban centres.

Urban centres in this region have been historically disadvantaged through poor connectivity and integration with the national and international (East Africa) urban system. But there is the potential for greater connectivity and integration

3   World Bank (2016). Kenya Urbanization Review. World Bank, Washington D.C. Accessed on 10 July 2020 at: http://documents1.world-bank.org/curated/en/639231468043512906/pdf/AUS8099-WP-P148360-PUBLIC-KE-Urbanization-ACS.pdf

with the anticipated trade flows between Kenya and South Sudan associated with the ongoing construction of the A1 road between Lodwar and Nadapal (East Africa Community (EAC) Corridor No. 3), and the other infrastructure proposed under the LAPSSET corridor. LAPSSET will be crucial for enhancing the connectivity of NOREB, nationally and internationally, as well as internally within the region. Already the Nairobi-Moyale Road has been completed, traversing Samburu County. The section of the LAPSSET corridor through NOREB will begin from Isiolo, connecting to Juba through Baringo and Turkana Counties. At Lokiochar, this corridor will merge with NEC's A1 Road.

Beyond strategic connectivity, most urban centres in the region have inadequate infrastructure and services, and face myriad urban planning challenges which have negatively impacted socio-economic conditions and slowed local economic development. While variations exist regarding planning approaches and the level of access to services and amenities across NOREB counties, the exact measurement of service provision at the individual city or town level is difficult to establish, as available data is not disaggregated at that level. Importantly, devolution has presented an opportunity for counties to institutionalise urban management and focus on promoting urban development in the region. However, outcomes will largely depend on the urban strategies that counties deploy. The analysis indicates that there is a lack of dedicated focus on urban development in development planning and financing, even though urban centres are major sources of the Own Source Revenue (OSR) levied by county governments.

Urbanization in Turkana County

Chapter Three of the report analyses at a smaller scale, focussing on human settlements, urbanization, and spatial development in Turkana County. The county neighbours Uganda, South Sudan and Ethiopia. Its population predominantly practices nomadic pastoralism, which has a significant impact on the low urbanization levels in the county and promotes settlements

that are temporary or seasonal, depending on availability of pasture and water. Urbanization in Turkana County, therefore, unfolds in a relatively unique context, being characterised by influxes of refugees and an increasing shift from pastoral to urban-based livelihood activities among the host community. Additionally, Turkana County Government (TCG) states that 'recent years have seen increased levels of migration into Turkana from other parts of Kenya, with many community members now seeking economic opportunities in urban centres, particularly Lodwar and Lokichar —especially since the discovery of oil and gas reserves in the Lokichar Basin[4]. Lake Turkana is another major resource located in the county. However, the growth and economic potential of urban centres along the lake's shores has been hampered by a lack of infrastructure that links to larger economic hubs and urban centres. For example, road infrastructure is currently of poor quality, which increases transportation costs in accessing communities along the lake's shores.

Lodwar is the largest urban centre in Turkana County, by population, and one of the largest in NOREB, and is classified as municipality with regards to Kenya's Urban Areas and Cities Act (2011). The next largest town is Kakuma, followed by other small rural centres sparsely distributed across the vast county. However, it must be noted that Kenya's official census population statistics do not include refugee populations. If Kakuma's refugee population were also counted, Kakuma will be the largest urban area in Turkana West, and second largest in NOREB, after Eldoret. Most small towns in the county are livestock auction centres and are located adjacent to some form of water source. These centres link the livestock economy with markets outside the county. The livestock economy is the main means of livelihood for the Turkana people, while other forms of economic activities exist in more settled communities, including beadwork and basketry, which is common in Eliye Springs, Kaboi, Kerio and Turkwel. However, these industries remain underdeveloped, with potential for enhanced productivity.

---

4   Turkana County Government (2018). Turkana County CIDP 2018-2022. Turkana County Government, Lodwar.

In the sub-county of Turkana West, populations concentrate in four unique kinds of settlements:

- urban centres (or urban villages)
- rural sedentary villages
- nomadic villages; and
- refugee settlements.

Kakuma and Lokichoggio are the main towns in Turkana West, although their population growth is reported to have slowed, according to the 2019 census. Both towns have hosted refugee-based operations, with a refugee settlement in Kakuma. However, the refugee-based operations in Lokichogio have since been closed, resulting in a decline trend for the town[5].

The historical underdevelopment of infrastructure, especially road and energy, has isolated urban centres in Turkana West, and the area more broadly. While air connectivity has served the area for a long time, it is largely limited to the operations of humanitarian organizations. Therefore, enhanced road connectivity is anticipated to stimulate local economic development and provide benefits for the greater population, including host and refugee communities.

Recommendations

The analysis reveals that urbanization trends across NOREB are not uniform. Patterns are different in ASAL regions compared to areas where crop farming is the dominant economic activity. This is because pastoral communities in ASALs are less urbanized due to the predominance of nomadic pastoralism, whereas crop farming areas tend to feature concentrated populations and more urban centres. However, geographical factors are superseded by migration as the main driving force of urbanization in the NOREB region. These are rural-urban migrations, triggered by various factors such as drought and famine in the ASALs, and youth seeking alternative livelihoods to livestock and farming. Forced displacement from neighbouring countries, such as South Sudan and Somalia, has seen Turkana County record a unique form of urbanization that

is associated with refugee influxes to camps at Kakuma and Kalobeyei. These refugee camps co-exist with small towns and host communities. Urban centres in the region face numerous challenges, including:

- Underdeveloped infrastructure and poor provision of basic services
- Inadequate housing especially the increasing challenge of providing affordable housing for all
- Urban poverty and high unemployment
- Weak urban economies
- Poor urban planning and continued prevalence of unplanned urbanization
- Municipal financing challenges
- Environmental challenges.

Thus, for the NOREB region to benefit from the positive agglomeration advantages associated with urban centres, several interventions are required. At a global level, countries have adopted the Sustainable Development Goals (SDGs), which includes Goal Eleven: seeking to achieve 'Sustainable Cities and Communities'. Prior to SDGs, UN member states adopted the New Urban Agenda, which is wholly dedicated to the attainment of sustainable urbanization and development. At a national level, Kenya has the National Urban Development Policy, which outlines numerous interventions needed to address the unfolding urbanization in the country. In addition to these frameworks, this report makes the following recommendations:

1. Prioritise the urbanization agenda in the County Integrated Development Plan

While most of the population in NOREB counties live in rural settlements, their urban population is growing. Although NOREB urban centres are relatively small, they perform important economic roles, including linking rural-based economies to a wider economic network. Yet the County Integrated Development Plan (CIDP) only weakly addresses urbanization and does little to ensure

5   Koskei, S (2014). Lokichoggio, the town that lost its glory. Accessed on 28 October 2021: https://www.standardmedia.co.ke/north-eastern/article/2000104732/lokichoggio-the-town-that-lost-its-glory

focussed investments for enhancing sustainable urbanization. A deliberate focus on urbanization and the role of urban centres is required for the county's development. This must include attention to the following issues:

• Urban-rural linkages. Links between urban and rural economies are important to socio-economic development in the region.

• Financing urban development.

• A networked system of urban centres and rural settlements, including the prioritisation of regional connectivity infrastructure, ensuring urban centres are linked with transportation networks, communication, and energy systems.

2. Institutionalise Urban Planning

Most urban centres in the region are growing rapidly, but lack any coordinated urban planning. This has resulted in numerous land development challenges including sub-standard developments, low-quality urban spaces, challenges in providing reticulated infrastructure, congestion, environmental degradation, scarcity of public open spaces etc. Cities and towns need appropriate planning, and the capacity to coordinate and implement those plans. NOREB counties need to structure the administration of urban planning so that all sizes of urban centres can be well-planned.

3. Establish Functional Urban Administration and Management

The region's rapidly growing urban centres not only lack effective urban planning, but also functional urban management. According to Kenya's Urban Areas and Cities Act (2011), each major town in NOREB has the legislative opportunity to have a municipality. While the major secondary cities are part of the Kenya Urban Support Program, a national government program funded through a World Bank loan[6], which assists the establishment of municipalities, considerable efforts are still needed to ensure that municipalities are fully functional, including matters of:

• Municipal staffing

• Municipal revenues and financing

• Municipal planning and engineering capabilities

• Municipal service provision capabilities

4. Develop Appropriate Policies and Legislation to Support Effective Urban Management

To realize functional municipal management, counties need to develop appropriate urban policies and legislation. This is important for operationalising municipal management. Policies and legislation support the effective performance of:

• Local/municipal finances

• Spatial planning and development management

• Affordable housing and basic services provision – water and sanitation, mobility, energy etc

• Local economic development

• Good urban governance, including public participation, partnerships, inclusion and equality, accountability and transparency.

5. Invest in Local Infrastructure and the Provision of Basic Services

The availability of good local infrastructure and basic services is a major determinant of urban economic development. Interconnectivity within NOREB and between the major towns in the region must be improved for NOREB counties to optimise the opportunities brought by the A1 road linking Kenya and South Sudan. Improved local connectivity will ensure that agriculture and livestock producers in the hinterlands have better access to the market opportunities presented by the A1 road. Without accompanying local investments, the economic flows brought by the A1 road may simply bypass the region.

---

6   World World Bank (n.d.). Kenya Urban Support Program. Accessed on 29 October 2021: https://projects.worldbank.org/en/projects-operations/project-detail/P156777

6. Establish an Alliance of Cities and Towns in the NOREB Region and along the A1 Corridor

To promote learning and capacity development, and to strengthen economic integration, a platform for networking the urban centres along the corridor and the region should be established. This would provide an opportunity to bring together policy makers, urban planners, municipal managers, urban political leaders and the private sector, among other important actors. The NOREB Secretariat can be a starting point to conceptualize, assess and organize this kind of alliance, supported by the respective counties, and development partners. This platform could address issues including:

- Networking municipal management to strengthen capacity for urban management
- Networking producers (e.g. livestock and agriculture production) businesses and local industries
- Addressing policy and institutional barriers to trade within the region and between urban centres along the corridor
- Sharing knowledge about urban infrastructure development and services provision

7. Plan and Invest in Strategic Infrastructure Networks in the Region

NOREB, as an economic bloc, can leverage economies of scale by jointly planning and implementing certain projects allowing counties invest in mutually supportive projects rather than competing ones. An example is the bloc's initiative to build a shared meat factory in West Pokot. These collaborations can be scaled up to the provision of strategic infrastructure such as water supply. Inter-basin water transfers could be possible within such a system, and facilitated by the inter-county framework of service provision envisioned in Kenya's County Governments Act (2012).

This initiative would make it easier for water scarce areas, such as Turkana, to enhance its water provision by working with neighbouring counties that have a higher potential for such water projects. Such collaborative projects can maximise value for money in infrastructure investments.

Conclusion

This report analyses the trends in urbanization in the NOREB region and demonstrates the importance of regional connectivity infrastructure in shaping a system of secondary cities and towns, especially along the A1 Road. The analysis reveals the influence of prevailing socio-economic patterns on urbanization, noting that ASALs are far less urbanized due to the dominance of nomadic pastoralism in those areas, whereas urbanization is higher in areas dominated by crop farming and sedentary livelihood strategies, even though rural-based sectors still dominate economic productivity. In Turkana County, the exceptional phenomenon of refugee influxes has had a significant impact on the growth of urban centres in Turkana West, notably Kakuma-Kalobeyei.

This reveals the need for mixed approaches to promote sustainable urbanization in the NOREB region and along the A1 corridor, as the varied contexts dictate certain specific interventions. For example, the future of Kakuma-Kalobeyei town is strongly linked to the refugee presence, which makes the growth of the town uncertain in the coming years, given the Government of Kenya's recent policy shift towards closing all refugee settlements. The closure of refugee settlements will have profound impacts on the socio-economic development of the area, similar to the economic decline that followed in Lokichoggio after the exit of refugee-based operations. Yet humanitarian and development interventions in the area have not created sufficient resilience capacity to ensure minimum negative impacts in that eventuality.

© UN-Habitat, Dream Magical Studio

Fundamentally, Kakuma-Kalobeyei needs to be imagined beyond a refugee-based economy, with a focus on investing in the long-term socio-economic development of the local area. However, this is not the case with the secondary cities like Eldoret, Kitale and Lodwar, and other small towns in the region where rural-urban migrations are the main drivers of urbanization, and where humanitarian inflows are not determinants of the structure of the local economies. These towns require interventions that focus on strengthening existing systems and connectivity to regional networks.

Yet despite these variations and specific local contexts, strategic interventions are nevertheless needed at a regional level. Key among this are the interventions geared towards establishing a network of cities and towns in the region, and addressing common urban challenges such as urban planning, infrastructure and utilities, housing, incomes and equitable economic growth. These variations – elements of both diversity and commonality – can be the basis for alliances and shared platforms for implementing a common vision for the sustainable urbanization in the NOREB region.

CHAPTER 1. INTRODUCTION

Introduction

Urbanization is unfolding rapidly in most parts of the global South, including sub-Saharan Africa. Yet even though rates of rural-urban migration are high in Kenya, the country remains one of the least urbanized in the region. Kenya's geography of urbanization is uneven, as levels of urbanization vary across regions and counties. This report, based on desktop analysis, primarily focusses on the North Rift Economic Bloc (NOREB). NOREB is home to Turkana County and Turkana West Sub-County, where urbanization and human settlements developments have been significantly influenced by its role over recent years in hosting foreign migrants – mostly refugees and asylum seekers. Turkana County is also classified as Arid and Semi-Arid Land (ASAL) – a climatic condition that also prevails in other NOREB counties such as Baringo, West Pokot and Samburu. NOREB counties that are not ASALs include Elgeyo Marakwet, Nandi, Trans Nzoia and Uasin Gishu.

NOREB is among the least urbanized regions in Kenya, which is largely attributable to the predominance of its agricultural and pastoral livestock economic sectors. However, the region's urban settlements nevertheless play a critical economic role. Unfortunately, their integration and connectivity with the wider national and regional urban system is not fully established due to numerous factors, such as poor road connectivity, that hinder optimal economic flows. However, the area has significant potential for such integration and connectivity, particularly as it is home to Kenya's fourth largest city, Eldoret,

and will soon benefit from investments in trans-national transportation infrastructure that will link the region with an extended network of economic corridors and settlements.

Purpose and Approach to the Study

This report is designed to examine the nature of urbanization and its accompanying issues in the NOREB region, including a special focus on Turkana County and its unique urbanization context influenced by the presence of refugees. This analysis is among the first to examine the region's urbanization. However, the study was limited by scant data and information, which was often aggregated at county level, and therefore lacked focus on individual urban centres in the region. Future work may focus on studying individual urban settlements in relation to their hinterlands, and their connections to other urban settlements. Therefore, this study can be viewed as explanatory and a starting point for more in-depth analysis on urbanization in the region.

The analysis relies on desktop research. Geographic Information Systems (GIS) have been used to analyse existing spatial data, combined with an analysis of socio-economic data from Kenya's population and housing censuses, content analysis of county development plans, and a review of publications related to human settlements/development in the region and across Kenya.

Structure of the Report

This report is structured as follows:

Chapter One: Introduction – This provides the background and purpose of this study, and an outline of this report.

Chapter Two: Urbanization in Kenya – This chapter examines on the national urbanization context, with a focus on urbanization trends, urban distribution and the regional dimension of urbanization in Kenya, as well as the emerging opportunities and challenges faced by urban centres.

Chapter Three: Urbanization in North Rift Region – This chapter focusses on the regional context of urbanization and the associated socio-economic development issues in the NOREB region.

Chapter Four: Urbanization in Turkana County – Scaling down from the regional analysis, this chapter focusses on Turkana County, and analyses Turkana West Sub-County in detail, examining its connections with a wider context.

Chapter Five: Recommendations and Conclusion – This chapter provides policy recommendations on urbanization and human settlement issues in Turkana West Sub-County, Turkana County and the NOREB region.

CHAPTER 2. URBANIZATION IN KENYA

Introduction

Current projections indicated that the world, especially global South, are becoming increasingly urban. With this shift comes major opportunities and challenges, ranging from the physical and environmental to the socio-economic and technological. These shifts are experienced differently across countries, regions, and even within individual settlements. It's therefore important to understand the prevailing urbanization trends in order to develop well-informed interventions-addressing the challenges while optimizing the opportunities.

This chapter will introduce the urbanization trends in Kenya – one of the fastest urbanizing countries in sub-Saharan Africa, yet one of the least urbanized countries in the region by population distribution. It will discuss national population trends over time, the nature of Kenyan urbanization and its drivers, as well as the existing national policies and institutional setups.

The chapter will also examine the ASAL counties in the North Rift sub-region of Kenya, including Turkana County, highlighting urbanization trends and how these are likely to unfold into the future given the state of infrastructure and governance.

Urbanization Trends in Kenya

Kenya, which measures 569,140 km^2 has seen a quadrupling of its population over the last five decades, from 10.9 million in 1969 to 47.6 million people in 2019, with the highest intercensal population increase recorded during the 2009-2019 period.[7] The recorded population growth has resulted in a gradual increase in the average national population density from about 19 persons per square kilometre in 1969 to about 83 persons per square kilometre in 2019 (see Fig. 2.1).

Figure 2.1 **Population Growth Trends in Kenya – 1969-2019**
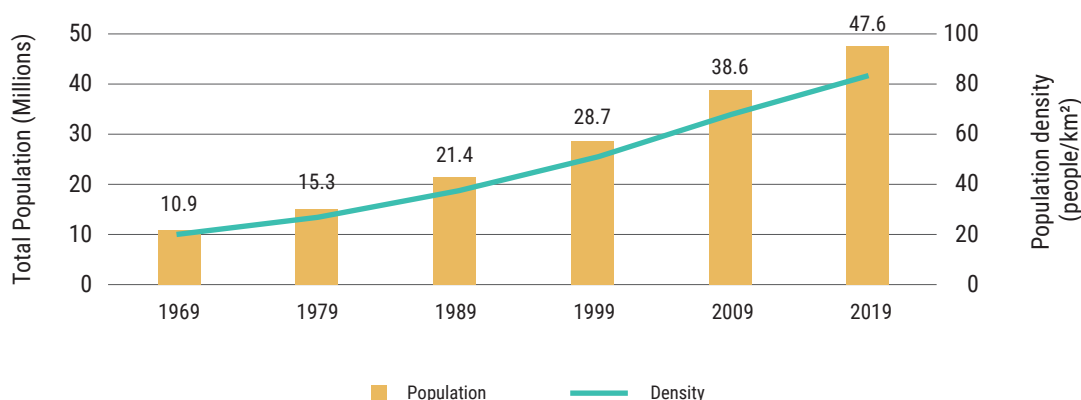
Data source: KNBS (2020)*

* Ibid.

---

7   KNBS (2019). 2019 Kenya Population and Housing Census: Volume I. KNBS, Nairobi.
     Accessed on 10 July 2020 at: https://www.knbs.or.ke/?p=5621

The gradual increase in Kenya's population over the years has been marked by two unique trends – a rapid rate of urbanization against a relatively rapid increase in rural populations. It is because of these factors that Kenya is one of the fastest urbanizing countries in Africa, yet remains one of the least urbanized. Between 1950 and 1980, Kenya experienced urbanization rates of more than 7%, which was higher than the global average rates, as well as those for Africa and Eastern Africa. This rate slowed down to an average of about 4.4% between 1980 and 2020, but mostly remained higher than the global and Africa averages. The country's urbanization rate is expected to further slow down over the next 30 years to about 3% by 2050,[8] as shown in Figure 2.2. During the 2015-2020 period, Kenya's annual urbanization rate was estimated at 4.23%, making it the 15th fastest urbanizing country in Africa and 7th fastest in East Africa.

Figure 2.2 **Average Annual Rate of Change of Urban Population – 1950-2050**
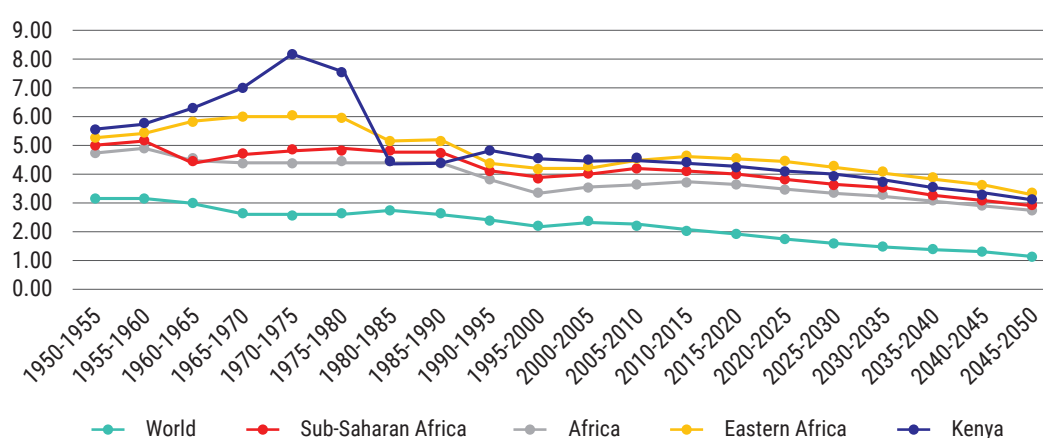
Data source: UNDESA, 2018*

**   United Nations, Department of Economic and Social Affairs, Population Division (2018).
World Urbanization Prospects: The 2018 Revision, Online Edition.*

Despite these high urbanization rates, only 28% of the population lived in urban areas in 2020,[9] making Kenya the 10th least urbanized country in Africa and the 7th least urbanized country in East Africa. If the projected urbanization rates shown in Figure 2.2 remain unchanged, the country is only expected to become 50% urbanized by 2050, at which time the world is estimated to be about 68% urban (see Fig. 2.3).[10] Kenya's 2019 census counted 31.2% of the population as urban, of which 43% were aged 15-34 years.[11] In actual numbers, the census reported that 14,831,700 people lived in urban centres and the rest (32,732,596 people) lived in rural areas.[12]

8   United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision, Online Edition.
9   Ibid.
10   Ibid.
11   KNBS (2020). Economic Survey 2020. KNBS, Nairobi.
12   KNBS (2019). 2019 Kenya Population and Housing Census: Volume II. Nairobi, KNBS.

Figure 2.3 **Percentage of Population at Mid-Year Residing in Urban Areas, 1950-2050**
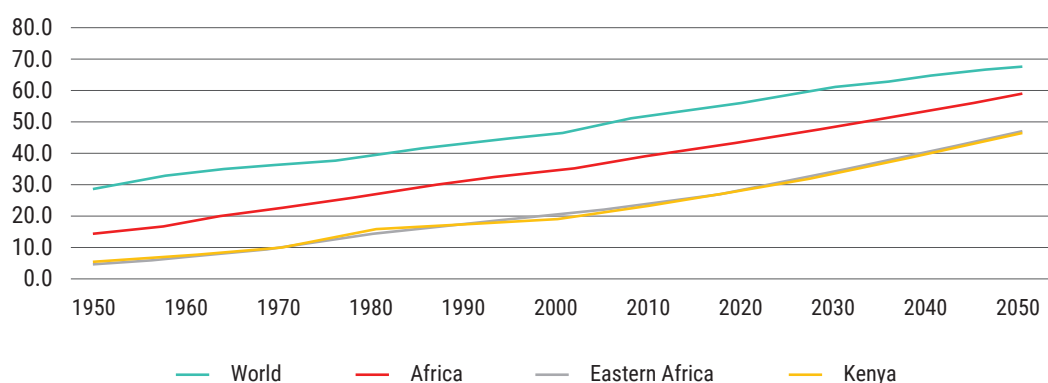
Data source: UNDESA, 2018

Structurally, Kenya's urbanization landscape encompasses a broad spectrum of characteristics, which range from the size of settlements to their socio-economic dominance. Some of the key traits that define Kenya's urbanization include the following:

- Rapid rate of urbanization amidst low levels of urbanization and a growing rural population
- Service sector- and agriculture-driven urbanization
- A history of centralised urbanization, with potential for urban re-distribution
- Urbanization without Structural Transformation

Rapid Rate of Urbanization amidst Low Levels of Urbanization and a Growing Rural Population

A 2016 study by the World Bank[13] compared Kenya's Gross Domestic Product (GDP) per capita to its urbanization level and found out that the country is under-urbanized compared to its economic peers. According to the report, 'Kenya has an urbanization rate similar to countries whose income per capita is less than Kenya's (Mozambique, Bangladesh, and Zimbabwe), while it is urbanizing faster than countries with a similar share of population in urban areas but have higher incomes per capita.' This implies a generally lower share of urban populations in Kenya compared to both its urbanization rates and its economy, which can partly be explained by a rapid rate of increase in rural populations, thereby neutralising the high urbanization rate.

---

13 World Bank (2016). Kenya Urbanization Review. World Bank, Washington D.C. Accessed on 10 July 2020 at:
     http://documents1.worldbank.org/curated/en/639231468043512906/pdf/AUS8099-WP-P148360-PUBLIC-KE-Urbanization-ACS.pdf

Figure 2.4 **Urban and Rural Population in Kenya**[14]
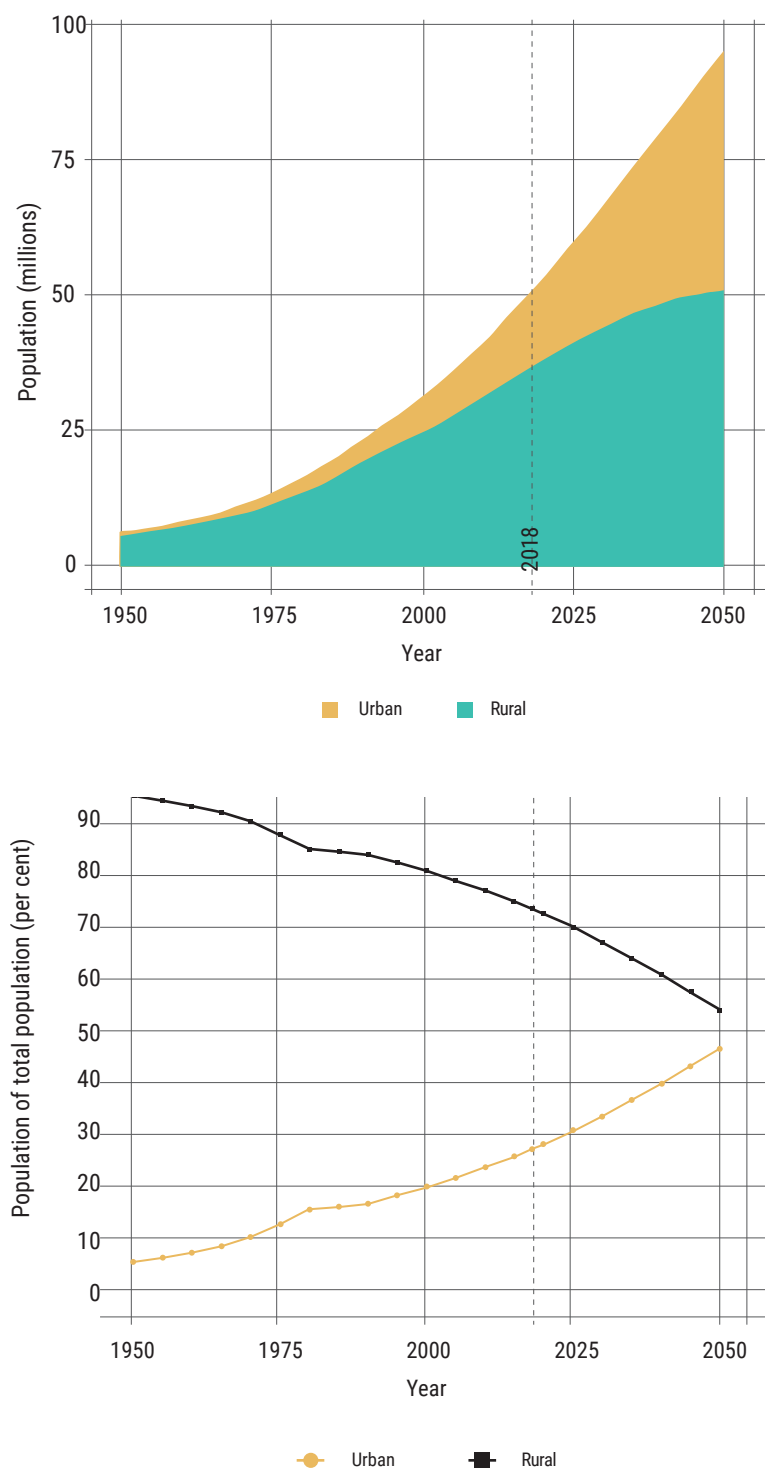
14   United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision.

Service Sector- and Agriculture-Driven Urbanization

Despite the rapid rate of urbanization, agriculture still accounts for the largest share of Kenya's GDP. Kenya's 2020 economic survey report indicated that 'agriculture remained the dominant sector, accounting for slightly over a third of the total value of the economy. The bulk of the growth recorded in 2019 was explained by service activities while agriculture, forestry and fishing activities, and industry related activities accounted for 14.1 and 16.3 per cent of the growth, respectively, in 2019.[15] This strong reliance on agriculture, which is also the highest employer, accounting for 57% of all Kenyan jobs,[16] could be one of the driving factors for the growth of small towns across the country, given that they often act as trading and market centres for agricultural produce. According to the World Bank's 2016 Kenya Urbanization Review, the impact of Kenya's urbanization levels on the contributions made by the manufacturing and service sectors to the GDP were below the predicted values, with increasing urbanization recorded against a stable GDP share in industry and services (see Figure 2.5). This is indicative of an urbanization trajectory where growth is not driven by conventional factors such as industrialization, but rather by rural types of activities (e.g. agriculture).

Figure 2.5 **Kenya's Urbanization is Driven by Services rather than Industry**[17]
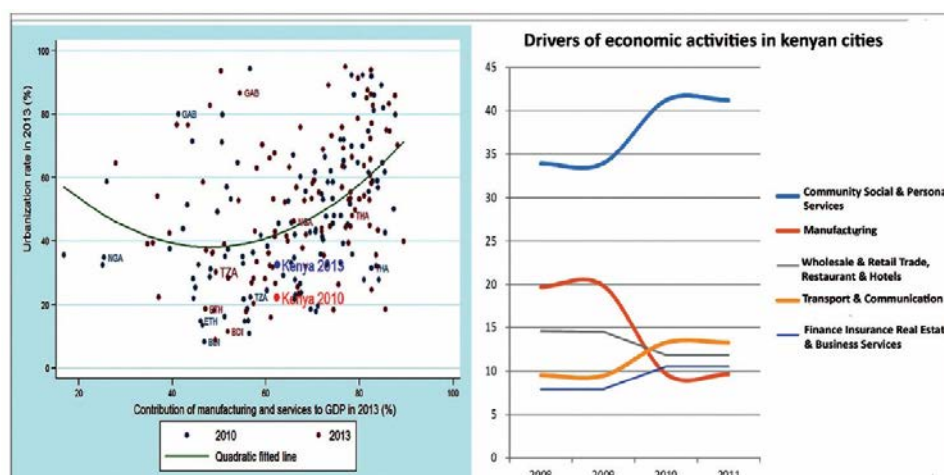
Note: GAB (Gabon); NGA (Nigeria), TZA (Tanzania), BDI (Burundi), ETH (Ethiopia). Quadratic line equation: Urbanization = 83.02 − 1.87; Manufacturing and services + 0.02 squared (Manufacturing and services); R squared = 0.18.
Source: World Bank, World Development Indicators

Source: World Bank, 2016

Domination of Nairobi's Urban Primacy and the Emerging Secondary Cities

Historically, Kenya has experienced urban primacy centred around the capital Nairobi. For example, in 1969 Nairobi accounted for 47.4% of the national urban population – a figure that gradually declined to 29.8% in 2019 (see Figure 2.6).[18] However, if the city is considered together with its greater metropolitan region, incorporating satellite towns and immediate peri-urban areas, this share rises significantly to almost half (50%) of the country's urban population. Following Kenya's 2013 governance shift away from a centralised system to a devolved system, several smaller towns increased in importance after being named as county headquarters, suddenly becoming the locus of responsibility for core administrative functions. These towns attracted new migrants, largely those seeking economic opportunities. While Nairobi continues to dominate the share of the urban population and Kenya's urban economy, significant gains by secondary cities are anticipated for the future.

---

15   KNBS (2020). Economic Survey 2020. KNBS, Nairobi (p.1).
16   The service sector accounts for 35% of jobs, while industries account for 8%. Nordea (2020). The economic context of Kenya. Accessed on 10 July 2020 at: https://www.nordeatrade.com/dk/explore-new-market/kenya/economical-context
17   Figure to be Recreated/Better resolution
18   KNBS Census Data: 1969 and 2019 reports

Figure 2.6 Urban Population Share of Nairobi vs Other Towns in Kenya Over Time
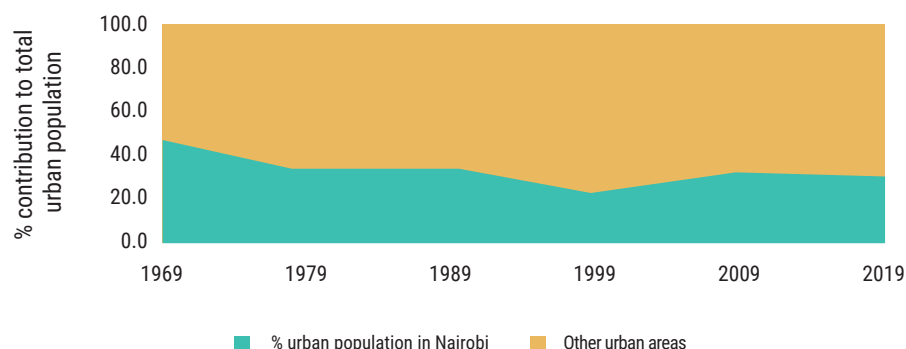
Data source: KNBS, 1969-2019

Urbanization Without Structural Transformation

Urbanization is sometimes praised for being a major driver of rapid economic growth, enhanced prosperity, and in some cases a reduction in poverty. As urbanization in Kenya continues to increase, the country has experienced steady growth in its economy, though the benefits have been mostly limited to a small section of the population. Poverty is still high in urban Kenya, as characterized by the significant share of the population living in informal settlements.[19] Many livelihoods, some of which are precarious, are derived from the informal sector, while many urban centres lack basic utilities and amenities, like water and sanitation, as populations surge. The KNBS has stated that 'the informal sector was estimated to have created 767.9 thousand [767,900] new jobs in 2019 compared to 744.1 thousand [755,100] new jobs created in 2018. Wage employment in the modern sector recorded a 2.4 per cent growth in 2019 compared to a 2.8 per cent growth in 2018, translating to 67.8 thousand [67,800] new jobs in the same period.'[20] According to the 2018 Kenya Economic Update,[21] despite a decline in the proportion of Kenyans living below the poverty line (spending less than 1 USD/day) – from 46.8% to 36.1% between 2005/2006 and 2015/2016 -the actual numbers are high.

One of Kenya's major growth challenges is its high reliance on agriculture, which limits the responsiveness of its economic growth to poverty reduction. 'Kenya's poverty is less responsive to growth compared to other countries where equivalent growth rates result in higher levels of poverty reduction. Growth in the agriculture sector accounted for the largest share of poverty reduction, but also revealed progress is vulnerable to climatic shocks.'[22] To increase the responsiveness of its economic growth to poverty reduction, Kenya must thus strengthen the contribution its manufacturing and industrial sectors make to the economy, and leverage the newly emerging urban centres for long term economic benefits from urbanization.

The Geography of Urbanization

A system of interconnected towns and cities is key for facilitating movement of goods, services and produce up and down the urban continuum. In many countries, smaller towns connect surrounding rural populations to services while also providing a trading space for their agricultural produce, while intermediate towns offer higher order goods and services. Large cities offer large markets for produce and the highest order goods and services, and play important economic, administrative and high order connectivity roles. This array of different sized towns and cities is

---

19   World Bank (2016). Kenya Urbanization Review. World Bank, Washington D.C. Accessed on 10 July 2020 at: http://documents1.world-bank.org/curated/en/639231468043512906/pdf/AUS8099-WP-P148360-PUBLIC-KE-Urbanization-ACS.pdf
20   Kenya National Bureau of Statistics (2020). Economic Survey 2020. KNBS, Nairobi
21   Achieng, A. et al (2018). *Kenya economic update: policy options to advance the Big 4 - unleashing Kenya's private sector to drive inclusive growth and accelerate poverty reduction (English)*. Kenya economic update; no. 17. Washington, D.C. : World Bank Group.
22   Achieng, A et al (2018).

essential for a country's urban functionality and development.

Such a system of interconnected cities and urban areas exists in Kenya, with each level performing a unique function both at the local context and within the urban continuum. The most common classifications of urban areas in the country include City, Municipality, Town and Market Centres, with each classification playing a specific role as set out in the relevant policies or legislative frameworks, such as the Urban Areas and Cities (Amendment) Act (2019) (UACA), the National Urban Development Policy (2016) and the County Government Act (2012). According to the UACA, a city must have a population of at least 250,000 people, a municipality at least 50,000, a town at least 10,000 people and a market centre at least 2,000 people. Each of these sizes of urban centre should also have basic services and infrastructure at the urban threshold which enable their functioning. In addition, all settlements that are named as county headquarters automatically became municipalities when the act came into force regardless of the population size, excluding the three cities of

Nairobi, Mombasa and Kisumu.

In 2019, Kenya's urban landscape consisted of a total of 307 urban areas which met the minimum population threshold of 2,000 people. Considering only the population sizes, these urban areas constituted 8 cities (≥ 250,000 residents), 39 municipalities (50,000 - 250,000 residents), 101 towns (10,000 – 50,000 residents) and 159 market centres (2,000 – 10,000 residents) (see Figure 2.8). Figure 2.7 shows the major urban settlements in Kenya according to UNDESA's system of classification. This indicates that Kenya has only one mega city – Nairobi. The next largest city is Mombasa with a population of just over one million, according to the 2019 census. The other major centres are secondary cities with populations of about 500,000 residents, including Eldoret, Nakuru, Kisumu and Ruiru. Notably, Ruiru is a satellite town of Nairobi city. This implies that secondary cities play a major role in Kenya's urban geography as they act as the major urban centres with significant regional importance.

© UN-Habitat, Dream Magical Studio

Figure 2.7 **Major Urban Centres by Size in Kenya**[23]
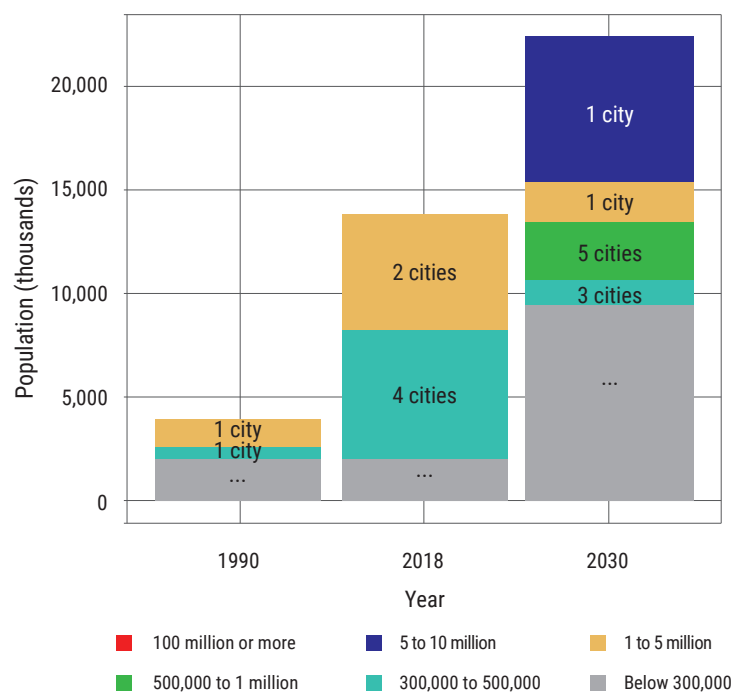
© 2018 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO.

Note: Urban population by size class of urban settlement and number of cities, 1990, 2018 and 2030. The grey area is a residual category that includes all urban settlements with a population of less than 300,000 inhabitants.

Source: UNDESA (2018*)
* Ibid

23   United Nations, Department of Economic and Social Affairs, Population Division (2018).
      World Urbanization Prospects: The 2018 Revision.

Figure 2.8 Distribution of Urban Areas in Kenya, 2019

Land Use Classification

- Agriculture (dense)
- Agriculture (sparse)
- Barren land (Rocky)
- Barren land (Sand/Gravel)
- Bushland (dense)
- Bushland (sparse)
- Forest
- Grassland
- Plantation
- Swamp/Flood Zones
- Urban
- Water (artificial)
- Natural Waterbody
- Woodland

— Old Railway Line
— Northern Corridor Main Route
— Northern Corridor Sub-route
— Other Major Road
— Administrative County Boders

URBAN AREAS: 2019 Population || Status
- 2,000 - 9,999 || Urban Center
- 10,000 - 49,999 || Town
- 50,000 - 249,999 || Municipality
- > 250,000 || City

Data Sources: KNBS, ICPAC, OSM, ESRI, HDX

0   50   100   200 KM

Source: UN-Habitat/Turkana West Surveys 2020

Urbanization Agglomerations

The pattern of urban areas in Kenya follows various urbanization drivers, such as transport infrastructure corridors, dominant economic activities and economic potential (e.g. agriculture, mining, pastoralism), presence of natural resources (e.g. oil, minerals, water bodies etc), and administrative functions. Historically, most of the Kenya's urbanization has occurred along the Northern Transport Corridor, which connects Kenya's port city of Mombasa in the south-east to Malaba and Uganda in the west. This corridor contains the oldest infrastructure in the country: the Kenya–Uganda Railway and the A1 road that runs parallel to it, both of which connect Kenya to Central Africa. This corridor, which traverses some of the most agriculturally productive areas in the country has significantly shaped the entire urbanization trend in Kenya.

Along NEC there are many towns and urban areas, whose existence, survival, and prosperity relies on connections enabled by transport infrastructure. The Corridor originates from Mombasa, Kenya's major seaport and second largest city, where goods are imported or exported via sea. Nairobi, Kenya's capital and a major economic hub for Eastern Africa, is located 485.8 kilometres north-west of Mombasa along the Corridor. Kenya's third largest town, Nakuru, is also located along the Corridor and its growth has largely been driven by agriculture, industrial production, tourism and services. Eldoret, the country's fifth largest city, is similarly located along the Corridor and its growth has largely been a result of a vibrant agricultural economy and investments from external capital. Kisumu, on the shores of Lake Victoria, also relies on

agriculture and fisheries, as well as playing a significant administrative role for in western Kenya.[24]

Many other small towns along the corridor have developed both as marketplaces and collection points for agricultural produce, which often travels up the market chain to Nairobi and Mombasa. These towns have also developed as a result of the service industry aimed at in-transit customers along the Corridor.

Based on a 2016 Urbanization Review by the World Bank, about 85% of all urban dwellers in Kenya lived within 35 kilometres of the Northern Corridor, while 75% of the total urban population lived within just 15 kilometres. The report identifies three major urban clusters along the Corridor: The Coastal cluster, the Central cluster, and the Western cluster.

- **The Coastal cluster** – concentrated around the coastal counties of Mombasa, Kilifi and Malindi which largely rely on the 'blue economy'. This is strongly connected to the port of Mombasa, as well as the tourism and hospitality sectors. This area features the oldest cities and towns in Kenya.

- **The Central cluster** – this largely consists of the Nairobi Metropolitan Area, including Nairobi city and its satellite towns. It is Kenya's main industrial and commercial hub, with Nairobi city being the nation's capital.

- **The Western cluster** – this hub consists of the main inland secondary cities, with hinterlands dominated by agricultural production. The main cities in this region are Eldoret, Kisumu and Nakuru.

24   World Bank (2016). Kenya Urbanization Review. World Bank, Washington D.C. Accessed on 10 July 2020 at:
http://documents1.worldbank.org/curated/en/639231468043512906/pdf/AUS8099-WP-P148360-PUBLIC-KE-Urbanization-ACS.pdf

Figure 2.9 Major Urban Centres in Kenya

SOUTH SUDAN

ETHIOPIA

Lokichoggio

Mandera

Kakuma

Moyale

Lodwar

Lake Turkana

UGANDA

SOMALIA

Malaba

Eldoret (0.5 Million)

Busia

Isiolo

Lake Victoria

Kisumu City (0.4 Million)

Nakuru (0.6 Million)

Garissa

Thika (0.3 Million)
Ruiru (0.5Million)
Kikuyu (0.3 Million)
Nairobi Capital City (4.4 Million)

TANZANIA

Lamu

Namanga

Kenya's Primary Cities (Population> 250,000)
[2019 Kenya Census Data]

Administrative County Boundaries

International Administrative Boundaries

LAPSSET Corridor (Proposed)

Minor Roads

Major Roads

Northern Economi Corridor
Main Route

Sub route

Water Bodies

Voi

Indian Ocean

Mombasa City (1.2 Million)

Data Sources: KNBS, ESRI, KRB, LCDA

0   50   100   200 KM

Source: UN-Habitat/Turkana West Surveys 2020

A common feature of these clusters is their spatial-economic connectivity, provided by the Northern Transportation Corridor. The urbanization and economic trends along the Corridor point to the role of urban infrastructure in shaping human settlements and economic patterns in Kenya. However, the abovementioned clusters are poorly connected to small towns in their hinterlands, especially in northern Kenya, which is the nation's least urbanized region. Importantly, the Lamu Port South Sudan Ethiopia Transport (LAPSSET) corridor is anticipated to connect the northern region with these clusters and establish another major economic corridor. It is a major regional investment, consisting of a major road, railway and pipeline that will likely contribute to the transformation of Kenya's urbanization geography, even though Nairobi's primacy is projected to continue for some years to come. The LAPSSET corridor has already triggered speculative urban growth in small centres the infrastructure is mapped to pass through, such as Hindi whose urban footprint has changed significantly between 2008 and 2018.[25]

Figure 2.10 Emerging Developments along the LAPSSET Corridor
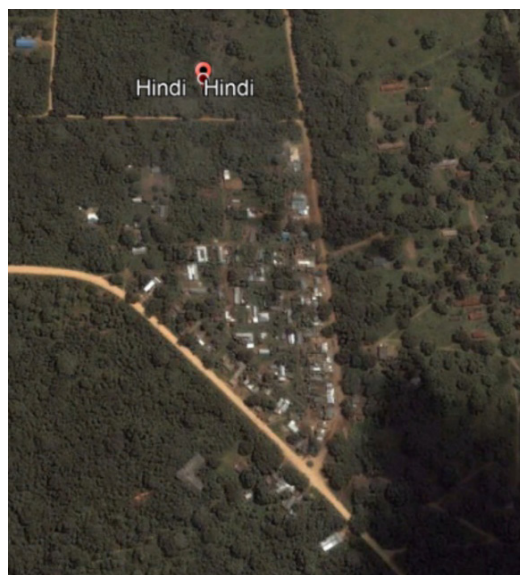
Source: Google Earth/Maxar Technologies, 2008/2018

© UN-Habitat, Dream Magical Studio

25   Image source: Google Earth/Maxar Technologies, 2008/2018.

Box 2.1 Opportunities in Kenya's Small and Intermediate Towns

In human settlements planning, it is imperative to consider the linkages between urban and the rural settlements. Urban migrants in Kenya retain strong linkages with their rural homes and communities as a form of safety net, including as strategy for retirement- reintegration in cases of return to rural areas upon retirement (Mberu et al, 2012). Urban households also support rural economies through remittances or investment in housing and rural economic enterprises, including commercial and agricultural activities. Linkages also exist for cultural reason as families often have members in both rural and urban areas, which may also influence urban-rural migration. Furthermore, small urban centres serving rural hinterlands often have strong economic linkages with large urban areas. Indeed, many value chains in large urban areas are interlinked with rural economies, such as food production, construction materials and other resource flows.

Urban-rural linkages should be harnessed to positively inform policies and strategies for guiding sustainable urban transitions, with emphasis on infrastructure such as transportation and communication, basic services, energy and food security, and the role played by secondary cities, small and intermediate towns. Small and intermediate towns have potential for:

1. Centres of service provision – including agricultural extension services, education, healthcare etc

2. Centres that create market demand for agricultural production from the hinterlands

3. Centres of Information, Communication and Technology (ICT) and knowledge transfer – necessary for socio-economic advancement and structural transformations

4. Centres of employment – particularly absorbing surplus labour that cannot be utilised by agriculture-based economies in the hinterlands

5. Centres that promote import substitution for some sectors by enhancing local manufacturing and commerce. This can be used to optimise the potential of the informal sector, which has proved to enhance labour intensive small-scale enterprises and industrial production of local goods.

6. Centres for enhancing a sustainable human settlements hierarchy, promoting settlement linkages, and hence bridging the rural-urban dichotomy, leading to more sustainable urban transitions and development.

Adapted from: UN-Habitat (2015). UN-Habitat Support to Sustainable Urban Development in Kenya. Vol. 1. UN-Habitat, Nairobi. Accessed on 22 July 2021: https://unhabitat.org/sites/default/files/download-manager-files/UN-Habitat%20Support%20to%20Sustainable%20Urban%20Development%20in%20Kenya.pdf

Additional Data: Mberu et al (2012). Family Ties and Urban–Rural Linkages among Older Migrants in Nairobi Informal Settlements. Population, Space Place 19, 275–293

Over the next decade, the LAPSSET corridor is likely to accelerate urbanization in the ASAL counties through which it passes, from Lamu County in the south-east to Turkana County in the north-west. The main towns along the current LAPSSET corridor design are Garissa, Isiolo, Kakuma, Lamu Lodwar Marsabit, and Moyale. Most of these will emerge as secondary cities and small towns. The creation of county governments and their mandate for urban planning and management will likely see greater policy focus on these urban centres.

Factors Affecting Urban Distribution

Several factors combine to shape Kenya's urban geography. These include:

- Infrastructure development patterns
- Administrative and economic functions
- Total population distribution dynamics
- Major transportation and economic corridors

Infrastructure Development Patterns

As discussed previously, infrastructure, particularly transport, has played a significant role in Kenya's urbanization along the Northern Corridor. These infrastructures and their associated connectivity and service sectors have been expanding over the years, and have not only resulted in the development of new urban areas across the country, but have also triggered the rapid urban expansion of towns. For example, the expansion of the Nairobi-Thika highway resulted in burgeoning developments along the entire route, altering property values.

The LAPSSET corridor, which traverses through some of the most marginalised parts of Kenya, is anticipated to have the same urbanization trigger effect through these counties.

'Good connectivity between Nairobi and its satellite towns remains the main driver of population and economic growth in its metropolitan area. Of the 25 largest urban areas in Kenya, 10 (including Nairobi itself) are within this metropolitan area. These 10 cities have about **5.77 million people** and nearly **40 percent** of Kenya's urban population. Of these 10 cities, three—Thika, Juja, and Kitengela—were among the 10 fastest-urbanizing areas in Kenya, and four others—Mavoko, Ngong, Ongata Rongai, and Ruiru—were in the top 25 fastest-urbanizing areas.' – *World Bank (2016)**

* World Bank (2016). Kenya Urbanization Review. World Bank, Washington D.C. Accessed on 10 July 2020 at: http://documents1.worldbank.org/curated/en/639231468043512906/pdf/AUS8099-WP-P148360-PUBLIC-KE-Urbanization-ACS.pdf

Administrative and Economic Functions

Generally, Kenya's urbanization has occurred around areas of significant administrative and economic function. During the early years of independence, Kenya established provincial and district headquarters in certain settlements, which became administrative capitals at the second and third levels of governance respectively. This played a significant role in shaping Kenya's urban structure. These headquarters received a lot of government investments over a period of about 50 years, and played critical administrative functions, which made them attractive for investors and the working class, leading to gradual population and spatial growth. Today, many of the former provincial and district headquarters have become county headquarters, owing to their already developed infrastructure from previous regimes. This also occurred in the NOREB ASAL counties, such as Turkana, where the county capital of Lodwar was previously the district headquarters, and is now the most populous and developed urban area.

The same could be said of Nairobi, Kisumu and Mombasa, which have historically played major administrative roles in Kenya. The three cities form important urban hubs along the Northern Corridor and are likely to continue to play a significant role in Kenya's urbanization over the next decade, even as growth continues in regional administrative centres.

Total Population Distribution Dynamics

Kenya's population distribution has a direct influence on the country's urbanization trends, with most counties with high population sizes also recording a greater number of urban areas. In 2019, most counties with a total population below 500,000 had five urban areas; most counties with populations ranging from 500,000 to one million people had four to seven urban areas, while most counties with populations above one million had seven urban areas. This last category also recorded at least four counties with more than 10 urban areas.

Table 2.1 **Distribution of Urban Areas by County Population in Kenya, 2019**

County Population Class	2	3	4	5	6	7	8	9	10	>10
Number of Towns										
<500,000		2	1	3	1					
500,000 − 1,000,000	1	1	3	4	4	3	1	2	1	
>1,000,000		1			1	6	3	1		4

*Excludes Nairobi and Mombasa which are city counties

Data source: KNBS, 2019

© UN-Habitat, Dream Magical Studio

Figure 2.11 Distribution of Urban Areas by Major Type of Economic Activity in Different Counties in Kenya
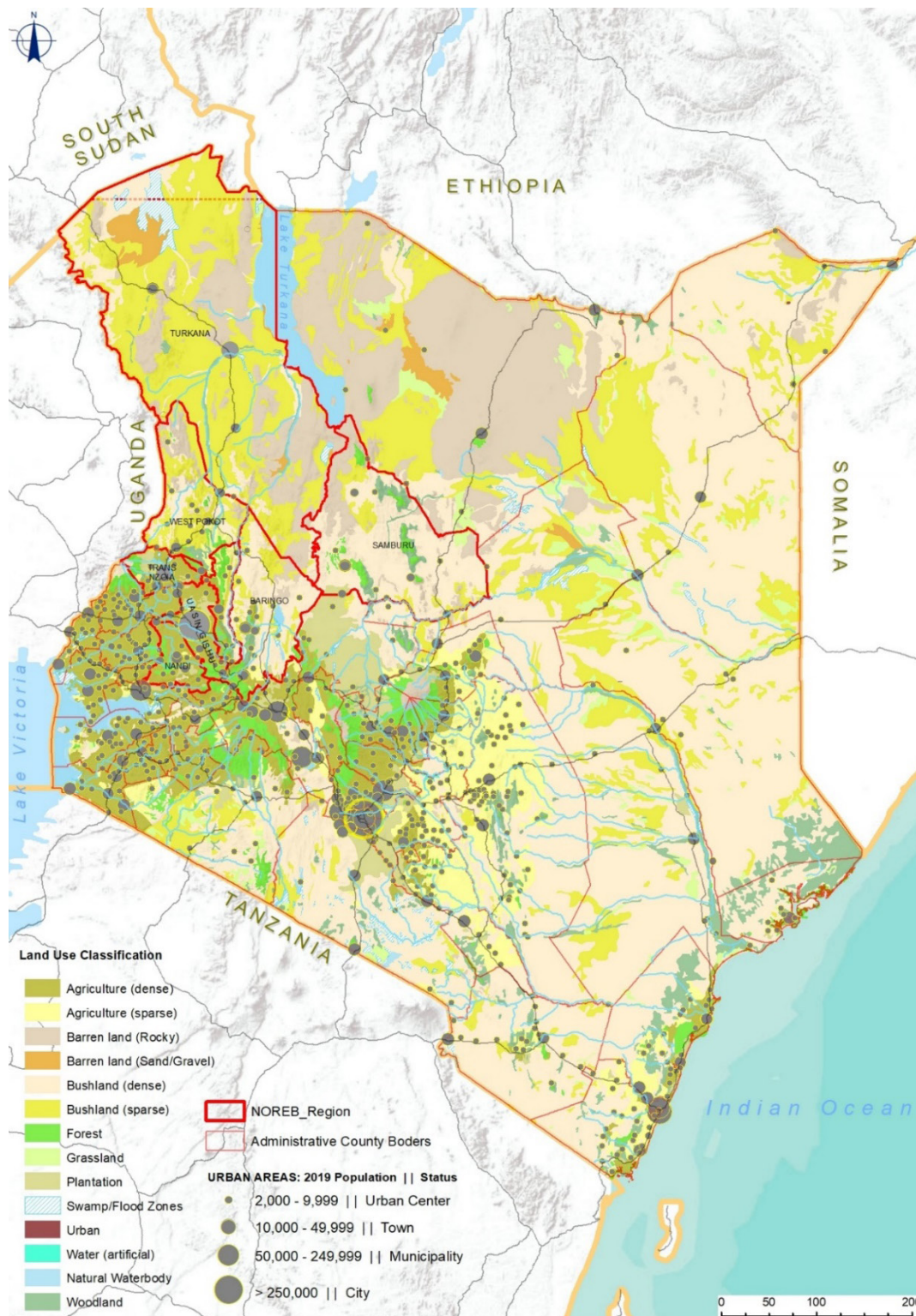
UN-Habitat/Turkana West Surveys 2020

Major Transportation and Economic Corridors

As discussed previously, Kenya's urbanization follows the northern corridor, which also connects the majority of the agriculturally productive counties with major internal and export markets through a network of roads, rail, air-routes and a seaport. Higher levels or urbanization are present in counties where farming agriculture is practiced, which may be explained the settle nature of this lifestyle. Conversely, lower levels of urbanization and generally lower populations are evident in more pastoral counties.

Figure 2.12 Major Urban Centres along the LAPSSET Corridor

UN-Habitat/Turkana West Surveys 2020
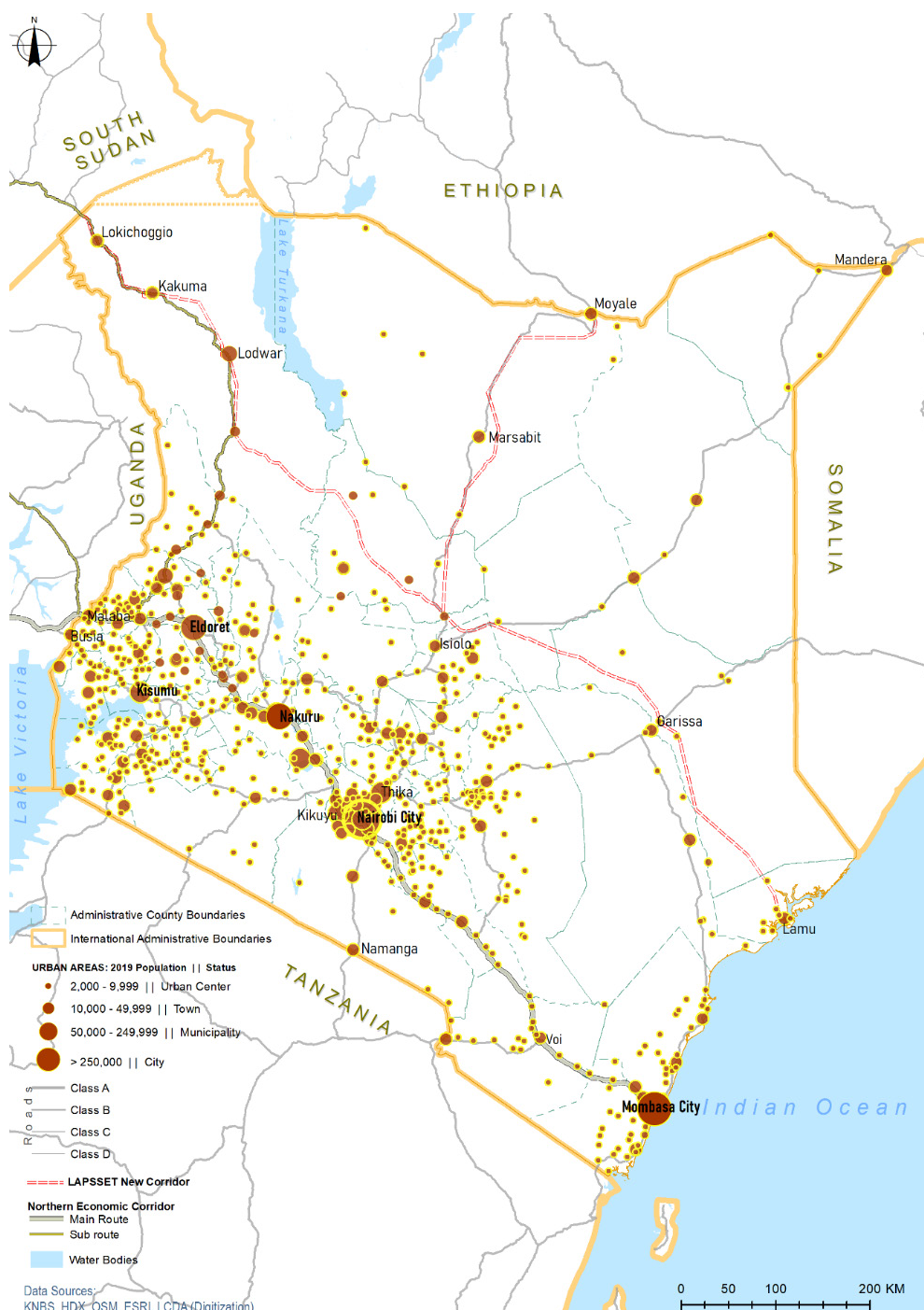
Urbanization in Arid and Semi-Arid Lands of Kenya

Urbanization in the Arid and Semi-Arid Land (ASAL) counties of Kenya, including the North Rift counties of Samburu, West Pokot, Turkana, and Baringo, has been very slow over the years. This can be closely linked with the population growth dynamics in these counties, where their populations largely practice livestock keeping with limited seasonal migrations, while enduring many years of marginalisation in both economic and development terms. Of the four counties, Turkana is the most urbanized, with a total urban population of 140,791 people in 2019, which is at least four times the total urban population of West Pokot.[26] The majority of the urban areas in the four counties are small towns and market centres, with Lodwar being the largest with a total population of 82,970 people in 2019. Of the 18 urban areas in the three counties, nine are urban areas with a population of less than 10,000, while three have populations between 10,000–20,000, and five have populations between 20,000–50,000. Only one has a population of between 50,000–100,000 (See Table 2.2.). Urbanization across the North Rift will be analysed in detail in Chapter Three.

Table 2.2 Distribution of Urban Areas by Population in the ASAL Counties of North Rift Region

County	Cities of <10,000 residents	Cities of 10,000-20,000 residents	Cities of 20,000-50,000 residents	Cities of 50,000-100,000 residents	Total urban population
Baringo	4		2		65,283
Samburu	4		1		47,132
Turkana		3	1	1	140,791
West Pokot	1		1		31,841
Total No. cities	9	3	5	1	18

Data source: KNBS, 2020

© UN-Habitat, Dream Magical Studio

26   KNBS 2019 - Census Data.

Figure 2.13 **Climatic Conditions and Distribution of Urban Centres in Kenya**

Agro-Ecological Zones

Zone	Classification
I	Humid
II	Sub-Humid
III	Semi-Humid
IV	Semi-humid to Semi-arid
V	Semi-Arid
VI	Arid
VII	Very Arid

NOREB Region
Administrative County Boders
Water Bodies

URBAN AREAS: 2019 Population || Status

• 2,000 - 9,999 || Urban Center
• 10,000 - 49,999 || Town
• 50,000 - 249,999 || Municipality
• > 250,000 || City

0   50   100   200 KM
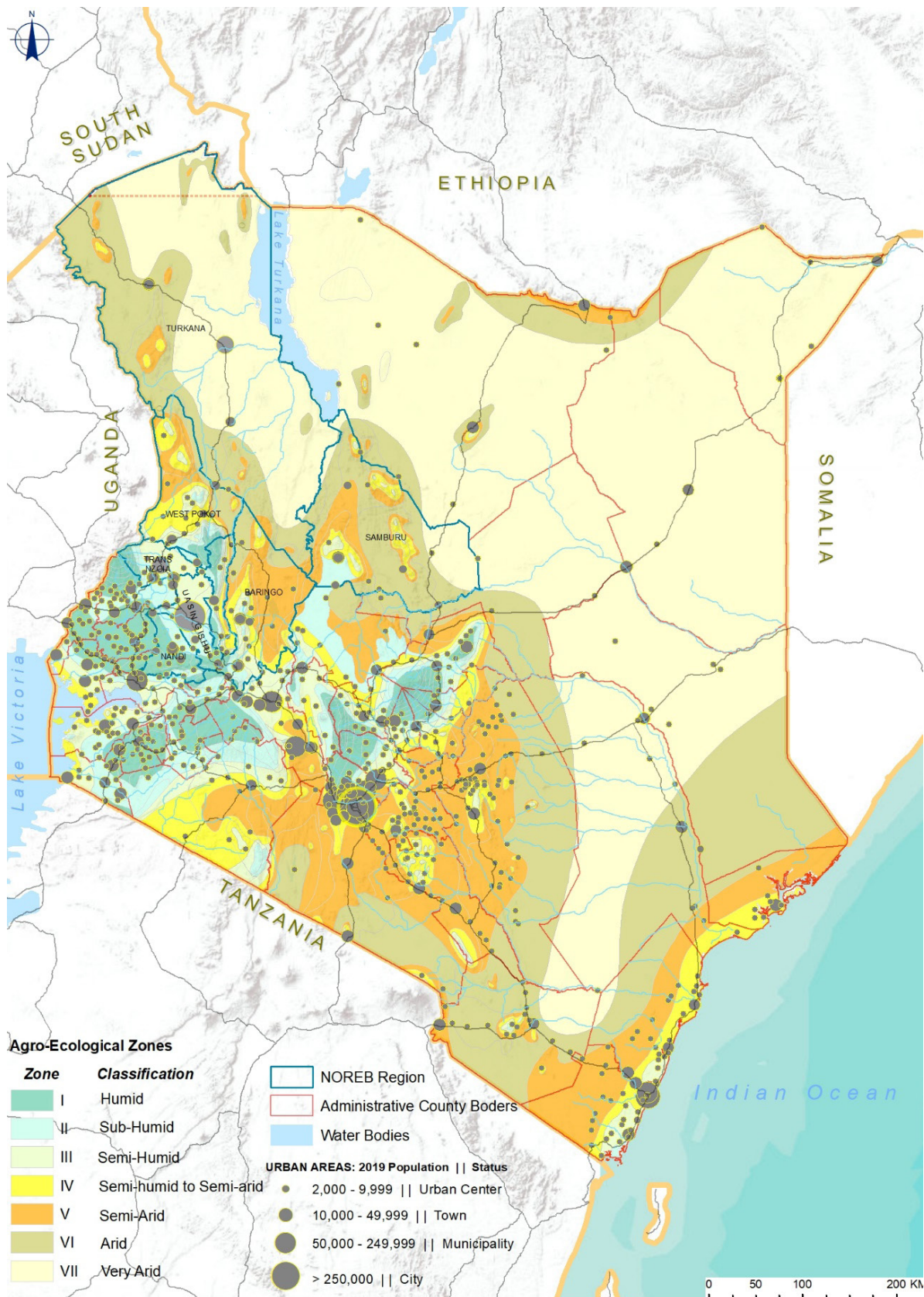
Source: UN-Habitat/Project Research Team

Policies and Economic Growth Strategies of Kenya

Kenya's urbanization is guided by various policies, economic growth strategies and legal frameworks. The key ones are the County Governments Act (2012), the National Urban Development Policy, the National Spatial Plan, the National Integrated Transportation Policy, the Kenya Vision 2030 strategy and the Urban Areas and Cities Act (2011). While each document makes specific recommendations and/or identifies key action areas for attainment of sustainable urbanization, they all collectively contribute to the common goal of guiding and promoting sustainable urbanization.

Devolution

The Constitution of Kenya (2010) establishes a devolved system of government comprising a national government and 47 county governments. The County Government Act (2012) assigns county governments with the responsibility for urban management.

This devolution brings development and investment resources closer to local communities and presents a unique opportunity to achieve redistribute economic growth. It has already resulted in the rapid growth of county headquarters across the nation and is projected to significantly shape the future of Kenya's urban structure. It is also particularly important to the ASAL counties in North Rift Kenya, where decades of marginalisation have contributed to the area's slow rate of development. By assigning urban management duties to county governments, the County Government Act equally presents opportunities for urban planning as well as enhanced public participation in urban planning processes at the local level.

Urban Areas and Cities (Amendment) Act, 2019 – this act, which modifies the Urban Areas and Cities Act (2011) redefines the classification of urban areas, the procedure for defining urban boundaries, and the basic services required for an urban area to operate optimally. The Act also dictates how urban areas should be managed, and how the management structures (i.e. urban boards) should be constituted and linked to the overall functions of the county government. In addition, the Act requires that integrated development plans be devised for cities and municipalities using a set of specified guidelines. If properly followed, these guidelines will solve the challenge of 'urbanization without planning', which has historically defined Kenya's urbanization. By setting additional guidelines on public participation in planning processes, the Act equally seeks to ensure a sense of public ownership of plans, which is key to effective implementation and workable development control measures.

Kenya Vision 2030

Kenya Vision 2030 is the country's long-term development blueprint, with the objective of transforming 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. The Vision identifies the role of urbanization in the attainment of its objectives and creates special growth areas and a strategy to develop the infrastructure necessary for accelerated and sustainable urbanization. In particular, the vision identifies six metropolitan regions where investments would be directed to spur economic expansion, facilitate regional equity, conserve land and natural resources, and distribute population growth.[27] Since its launch in 2007, the Vision 2030 strategy has played a significant role in Kenya's urbanization and investment trajectories, and is likely to continue to coordinate with new strategies, such as the National Urban Development Policy, as well as other county governance and investment structures.

---

27   World Bank (2016).

National Urban Development Policy

This policy creates a framework for the attainment of sustainable urban development in the country, in line with the provisions of the Constitution of Kenya (2010), Kenya Vision 2030 and other global agenda such as the Sustainable Development Goals and the New Urban Agenda. The policy provides guidelines and recommendations for promoting sustainable urban areas across sectors, including the following:

- Urban economy
- Urban finance
- Urban governance and management
- National and county urban planning
- Land, environment and climate change
- Social infrastructure and services
- Physical infrastructure and services
- Urban housing
- Urban safety and disaster risk management
- Marginalised and vulnerable groups

National Spatial Plan

The National Spatial Plan is Kenya's spatial development strategy designed to ensure the sustainable utilisation of the country's land and land-based resources. The strategy, which acts as a long-term spatial plan for Kenya (extending for 30 years), has several objectives. They include:

- Creating a spatial planning context that enhances economic efficiency and strengthens Kenya's global competitiveness;
- Promoting balanced regional development for national integration and cohesion;
- Optimising utilisation of land and natural resources for economic development;
- Creating liveable and functional human settlements for high quality of life in both urban and rural areas;
- Securing the natural environment for sustainable development; and
- Establishing an integrated national transportation network and infrastructure system.

The plan also promotes principles of effective public participation, compact cities with delineated urban boundaries, smart and green urban growth that promotes health and aesthetics, sustainable development for posterity, liveability and efficiency, among others.[28] The provisions of the plan are expected to significantly guide how urbanization occurs across the country, particularly regarding optimal use of resources and ensuring balanced and equitable development throughout the urban-rural continuum.

---

28   Republic of Kenya (2016). National Spatial Plan: Optimal Productivity, Sustainability, Efficiency and Equity in the use of our Land and Territorial Space. Ministry of Lands and Physical Planning, Nairobi.

CHAPTER 3. **URBANIZATION IN THE NORTH RIFT REGION**

Introduction

The distribution of Kenya's population and urbanization is skewed, with Arid and Semi-Arid Lands (ASAL) regions being the least urbanized. In this analysis, reference is made to North Rift Economic Bloc (NOREB) constituting eight counties, including Baringo, Elgeyo Marakwet, Nandi, Samburu, Trans Nzoia, Turkana, Uasin Gishu and West Pokot. The counties of Baringo, Samburu, Turkana and West Pokot are considered to be ASALs. This chapter considers Kenya's urbanization at a regional level, specifically the NOREB region. This will include discussions of urbanization levels, the geography, and specific socio-economic and spatial development issues that accompany the urbanization trends. The report is designed to speak to a strategic policy audience, i.e. policy makers in NOREB counties and their development partners. This chapter aims to position and identify linkages, connections and relations that Turkana County has with the region, including outlining opportunities and challenges, and how they can impact the development policies and socio-economic development.

Figure 3.1. The NOREB Region's National and International Context
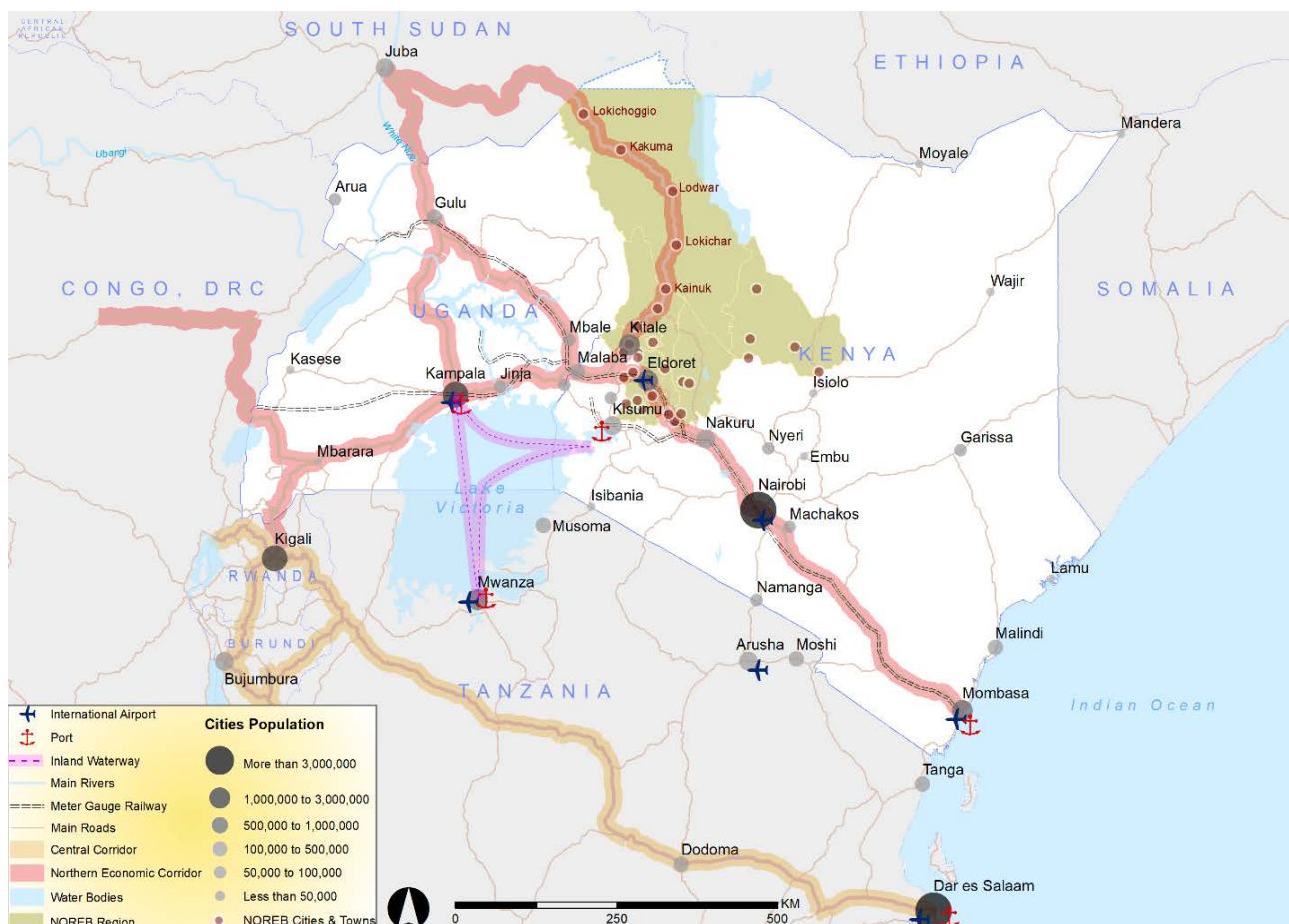
UN-Habitat/Turkana West Surveys(2020)

Why Focus on the North Rift Region?

As noted in the previous chapter, the NOREB region is dominated by rural agricultural and pastoral settlements, with most of the counties registering an urbanization level that is below the national average. The region is dominated by small towns and local centres that are poorly connected to major urban centres and their associated economic systems. However, there is potential to develop and enhance a system of urban centres, given the emerging secondary cities in the region. The area is also highly diverse in terms of climatic conditions, topographical character and socio-economic development.

NOREB's counties have the potential to play an increasingly significant international role both politically and economically, as they constitute Kenya's frontier with Ethiopia, Uganda and South Sudan. With improved road connectivity, the NOREB region could host an important corridor that intersects the Northern Corridor, connecting northern Tanzania, through western and north-western Kenya, to link with Ethiopia and South Sudan. For example, the A1 road runs along the Rift Valley from the Tanzania-Kenya border town of Isebania, through Mukuyu, Kisumu, Kakamega, Kitale, Lodwar, Lokichogio to Nadapal on the South Sudan Border. This road presents NOREB with the opportunity to integrate with the East Africa Community (EAC) and the Common Market for Eastern and Southern Africa (COMESA).

Most studies of Kenya's urbanization have largely focused on the major urban centres, located mainly within the catchment of the Northern Economic Corridor. This includes the major urban centre of Eldoret in the NOREB region, but limited research exists about the city, as with the rest of the towns in the NOREB region. As such, this study is one of the first to focus on urbanization and development in ASALs and north-western Kenya.

The role of urban centres and rural centres is critical for development planning, particularly since devolution.

Population and Human Settlements in North Rift Region

As noted in Chapter Two, Kenya's population has been on a steadily growing. The NOREB region has echoed this trend, except for Turkana County, where 2019 population data indicated that population growth was slowing. The sharpest rise in population can be observed in counties whose main economic activities is farming (i.e. crop farming and non-pastoral livestock production) – counties that already had the largest populations in the region. These include the counties of Uasin Gishu, Nandi and Trans Nzoia.

© UN-Habitat, Dream Magical Studio

Box 3.1 North Rift Economic Bloc

The North Rift Economic Bloc (NOREB) was formed in 2015, after a 2-day summit held in Mombasa, Kenya, as a trade and economic bloc for the eight counties in North Rift Valley region. The eight counties are Baringo, Elgeyo Marakwet, Nandi, Samburu, Trans Nzoia, Turkana, Uasin Gishu and West Pokot. The Bloc is still in its initial phases of formation, with its institutional and governance arrangements still evolving.

Figure 3.2 NOREB Counties and Major Urban Centres
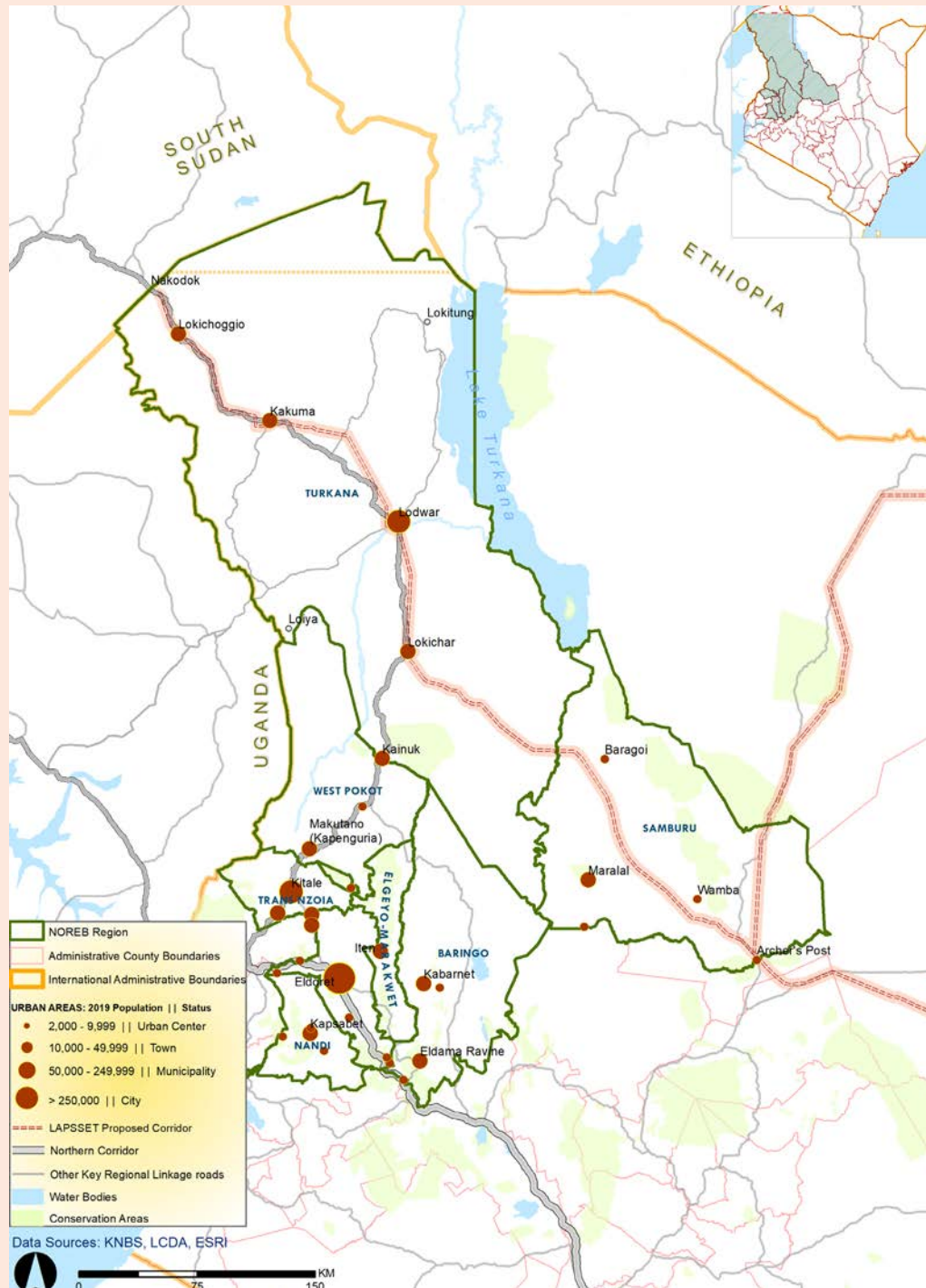
UN-Habitat/Turkana West Surveys(2020)

Figure 3.3 Population Growth Trends of NOREB Counties

	1979	1989	1999	2009	2019
Baringo	203,792	347,990	403,141	555,561	666,763
Elgeyo Marakwet	148,868	216,487	284,494	369,998	454,689
Nandi	299,319	433,613	578,751	752,965	885,711
Samburu	76,908	108,884	143,547	223,947	310,327
Trans Nzoia	259,503	393,682	575,662	818,757	990,341
Turkana	142,702	184,060	450,860	855,399	926,976
Uasin Gishu	300,766	445,530	622,705	894,179	1,163,186
West Pokot	158,652	225,449	308,086	512,690	621,241

Data Source: KNBS/Adapted from data compilation by Thomas Brinkhoff *
* Brinkhoff, T (2021). City Population. Accessed on 11 October 2021: https://www.citypopulation.de/en/kenya/admin/

Although urbanization remains low in this region, the data indicates an increasing urban population alongside steady overall population growth. Population distribution data reveals that the counties with the largest populations tend to rely on farming, and also have the highest densities. Turkana County – the nation's second-largest county covering 77,000 km^2 – has the largest land size and lowest population density among the NOREB counties.[29]

Table 3.1 Population and Density in NOREB Counties According to 2019 Census Data

County	Population	Avg. Density (No. of Persons per km²)
1 Baringo	666,763	60.75
2 Elgeyo Marakwet	454,689	149.9
3 Nandi	885,711	310.1
4 Samburu	310,327	14.73
5 Trans Nzoia	990,341	396.9
6 Turkana	926,976	13.59
7 Uasin Gishu	1,163,186	342.9
8 West Pokot	621,241	68.09

Data Source: Kenya National Bureau of Statistics (2019)

---

29   Turkana County Government (n.d). About Turkana.
      Accessed on 22 October 2021: https://www.turkana.go.ke/index.php/turkana-overview/

Baringo, Elgeyo Marakwet, Samburu and Turkana Counties operate under pastoral land systems. Pastoral rangelands account for 82.43% of Kenya's total land area, equating to 483,840 km[2].[30] These areas are mainly inhabited by pastoral communities, who account for approximately 16% of Kenya's population,[31] and whose settlements are mix of temporary, seasonal and permanent centres and small towns.

The increasing population in farming counties is having a significant impact on land fragmentation, as demand for subsistence production and space for new homes increases. This has implications for agricultural productivity, but also indicates the transformation of human settlements in those counties.

Figure 3.4 Rural Settlement Variations: Farming (Nandi County) and Pastoral (Turkana County) Communities

Source: Google Earth

30   LAPSSET Corridor Development Authority (2017). Strategic Environmental Assessment-SEA in the LAPSSET Corridor Infrastructure Development Project (LCIDP) – Draft Report. LCDA, Nairobi.
31   Ibid.

Urbanization Trends and Geography in the North Rift Region

Urbanization in NOREB is characterised by a primate secondary city (Eldoret), intermediate cities that are mostly county headquarters, and numerous small towns and rural centres. The ASAL parts of the region are the least urbanized.

Figure 3.5 Share of Urban Population to Total Population in 2019

	Samburu	Elgeyo Marakwet	West Pokot	Baringo	Nandi	Turkana	Trans Nzoia	Uasin Gishu
Total population	310,327	454,689	621,241	666,763	885,711	926,976	990,341	1,163,186
Urban population	47,132	20,579	31,841	75,289	59,479	140,191	178,734	510,205
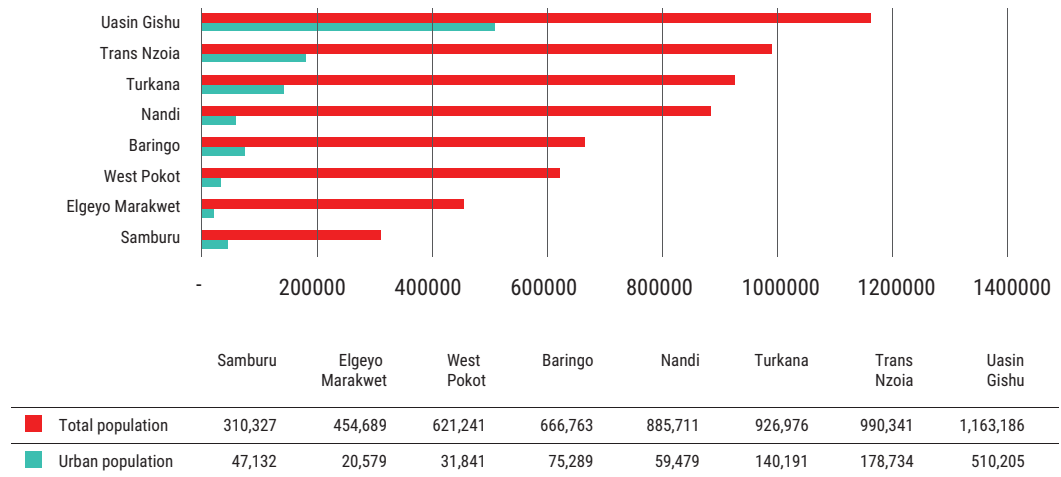
Data Source: 2019 Kenya Population and Housing Census: Volume II

Trends in Urbanization

This study revealed a strong connection between land use and urban geography in Kenya, in that crop farming is associated with higher population densities and a concentration of urban centres, while pastoral farming areas have less dense population patterns, such as in the ASAL regions of northern Kenya. Nandi, Trans Nzoia and Uasin Gishu counties, whose economies rely on crop and non-nomadic livestock production, have a relatively higher population density. It should also be noted that these counties have better connectivity to the Northern Economic Corridor, where urban concentration in Kenya is at its highest.

© UN-Habitat, Dream Magical Studio

Figure 3.6 Map of Kenya's Population Distribution*

Legend
County Boundary
1 dot = 500

0   70   140   280 Km
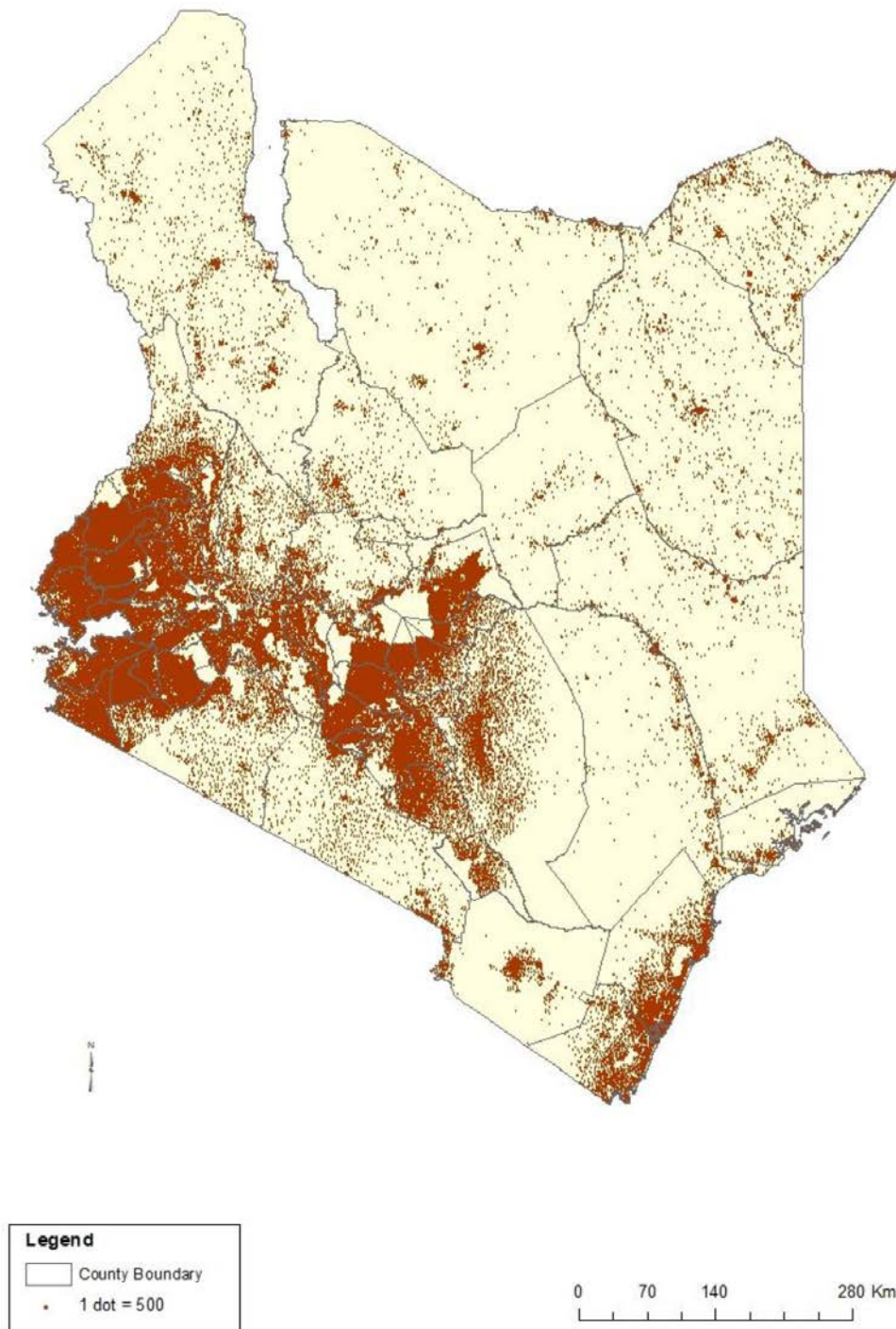
*Map: KNBS (2019)***

* The Map will be modified- to indicate the NOREB counties (overlay)
** The Map will be modified- to indicate the NOREB counties (overlay)

As NOREB's primate city, Eldoret is the largest urban centre in the region with a population approaching half a million (475,716), followed by Kitale whose population (162,174) is barely half that of Eldoret. This urban primacy is replicated within counties, which usually feature one major urban centre, along with many small towns and rural centres. For instance, in Trans Nzoia County, Kitale town contains the largest proportion of the county's urban population, with the rest residing in the other sub-county headquarters of Kiminini, Kwanza, Endebess, Saboti and Kachibora.[32]

32   County Government of Trans Nzoia (2018). Trans Nzoia CIDP 2018-2022. County Government of Trans Nzoia , Kitale

Figure 3.7 Land Use Patterns and NOREB Urbanization
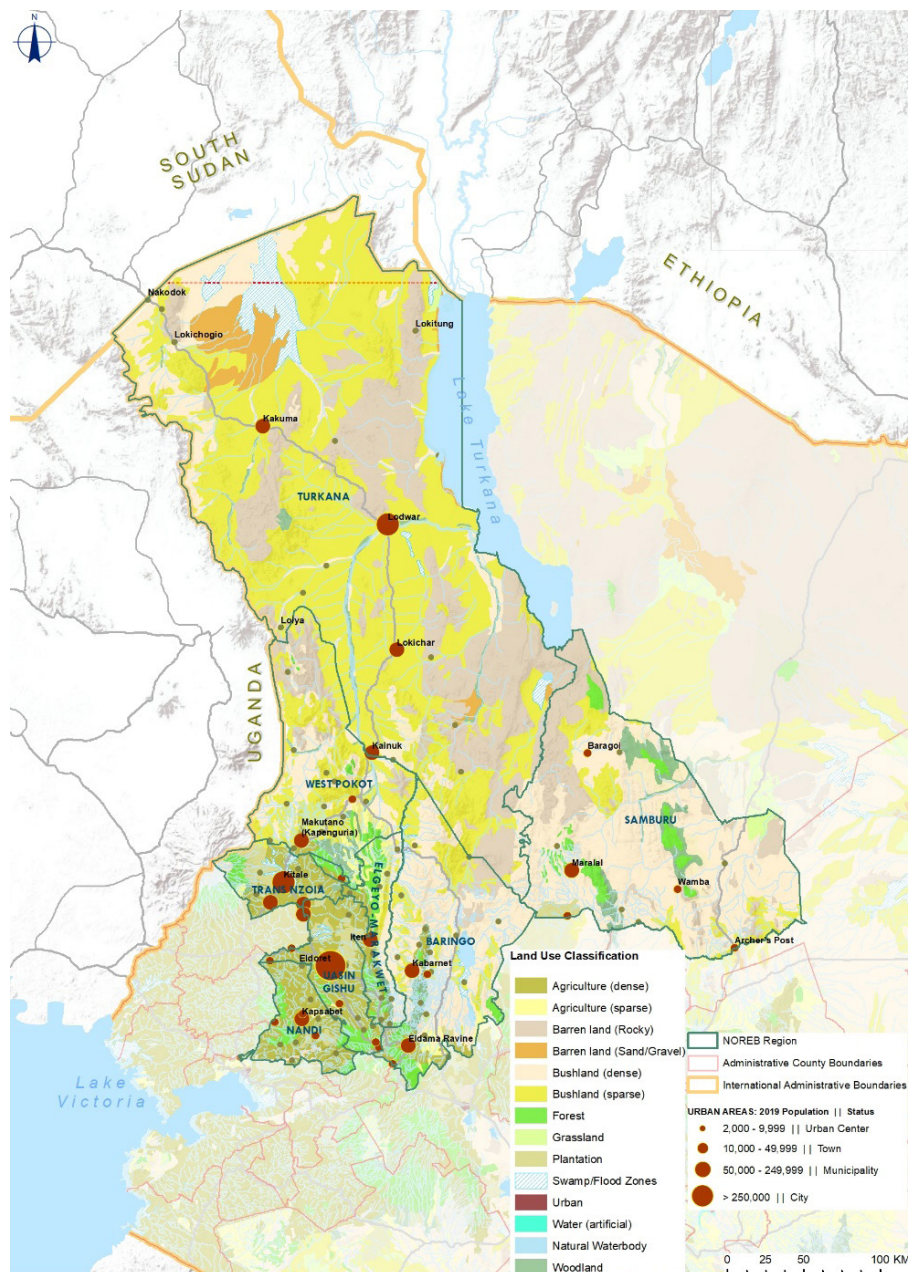
Source: UN-Habitat/Project Research Team

As with other parts of Kenya, unplanned land developments dominates urban growth in NOREB. Most urban centres in the region have grown spontaneously, without spatial development frameworks. Spatial analysis points to a trend where major urban centres have a planned core (i.e. central district), with the largest sections produced by means of unplanned developments or developments approved without proper urban planning. For instance, the urban core of Eldoret mimics a grid system of streets, which fades towards the periphery where growth has largely been spontaneous. Traditional land management systems and planning by 'plotting' or land subdivisions are practices linked to this nature of urban development. These failures of urban planning, among other factors, have resulted in the proliferation of informal settlements in these urban centres. In some areas, urban development is also hindered by conflicts. As Onono notes, 'there are cases where violent conflicts even lead to closure

of trading (market) centres, schools and dispensaries.'[33] This makes investments more risky, causing developers to avoid such urban centres, or choose to only invest in makeshift structures. Most of the centres affected by this risk lie in ASAL areas, such as Kainuk and Kapedo in Turkana County.

Figure 3.8 Urban Form Variations- Select Towns

Kapenguria Town, West Pokot County

Source: Google Earth

Iten Town, Elgeyo Marakwet County

Source: Google Earth

---

33   Onono, P. (2016). Economic Effects of Inter-community Conflicts in Kenya: Evidence of the Importance of Peace in the Realization of Sustainable Development. International Journal of Cooperation & Development. 3(2): 118-129.

Lodwar, Turkana County

Source: Google Earth

Eldoret Central Business District, Uasin Gishu County

Source: Google Earth

Urban Geography of North Rift Region

Eldoret, the largest urban centre in NOREB, is one of Kenya's major cities. At the time of the 2019 census, Eldoret had a population of 475,716 [34] – a significant increase from the 247,500 individuals registered in the 2009 census. Kitale is the next largest settlement in NOREB with a population of 162,174, followed by Lodwar with a population of 82,970 at the time of the 2019 census.[35] The other settlements in NOREB are small towns and market centres.

---

34   KNBS (2019). 2019 Kenya Population and Housing Census: Volume IV- Distribution of Population by Socio-Economic Characteristics.
      KNBS, Nairobi.

35   Ibid.

According to the Urban Areas and Cities (Amendment) Act (2019), a clustered human settlement with a population of over 2000 residents qualifies as an urban centre. While this population threshold may sound small, in a Kenyan context, it excludes hundreds of smaller centres from urban development policies. These centres with less than 2000 residents are critical to the hierarchy and system of urban centres in the NOREB region. Beyond operating as centres for services, they also act as the interface between the rural and urban economies, and are more widely distributed than larger centres.

Figure 3.9 Urban Centres in NOREB Region
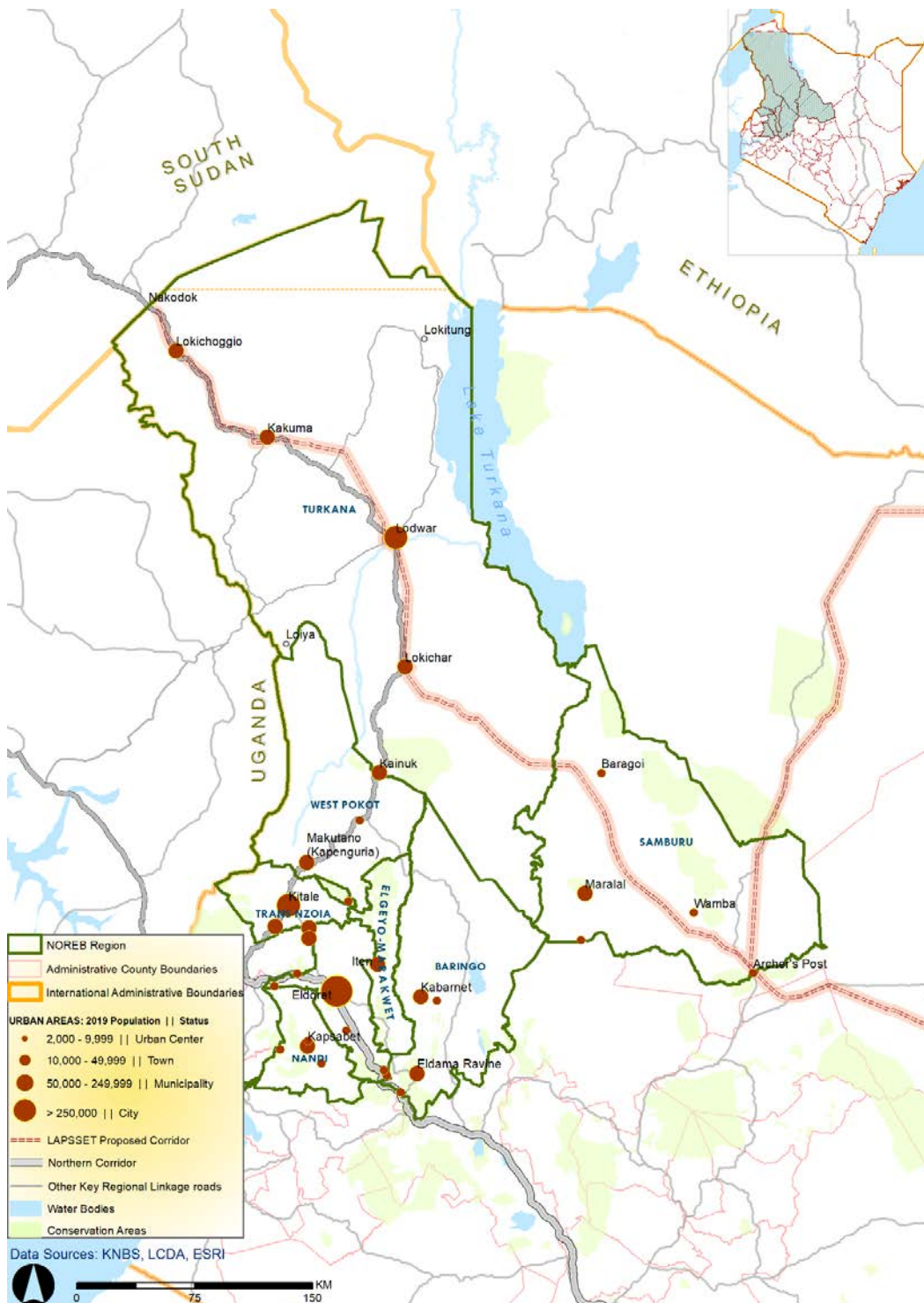
Source: UN-Habitat/Project Research Team

Figure 3.10 Major Cities in Kenya

		Nairobi	Mombasa	Nakuru	Ruiru	Eldoret	Kisumu	Kikuyu	Thika	Naivasha	Karuri
■	Series 1	4,397,073	1,208,333	570,674	490,120	475,716	397,957	323,881	251,407	198,444	194,342

Data Source: KNBS (2019)

© UN-Habitat, Dream Magical Studio
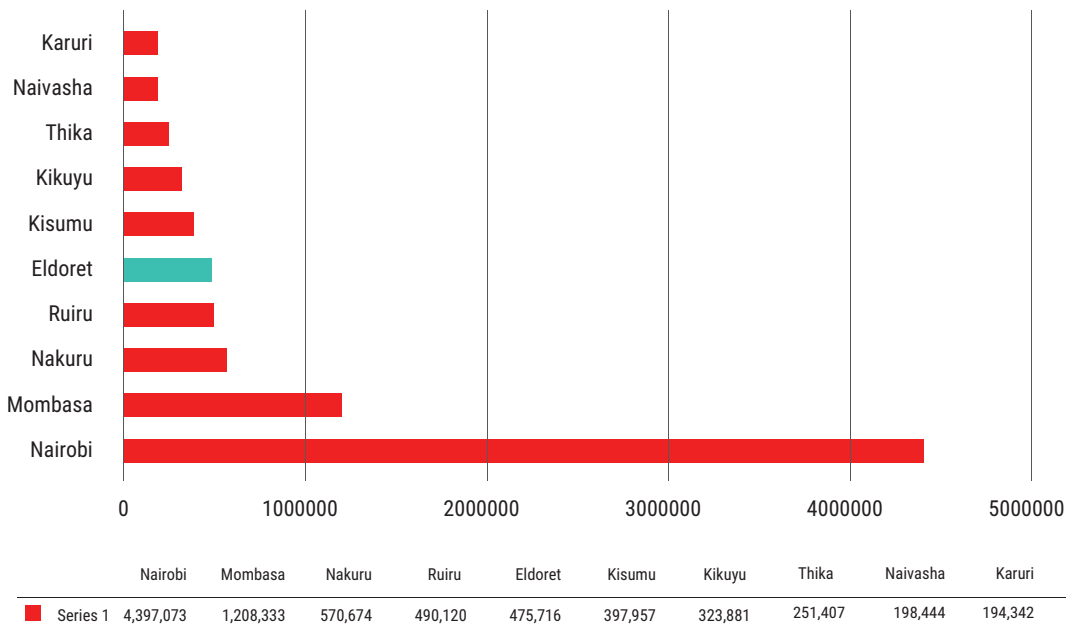
Table 3.2 Urban Centres in NOREB Region

Town	2019 Population	County
Baraton	2043	Nandi
Makutano	2147	Baringo
Kesses	2293	Uasin Gishu
Suguta Marmar	2328	Samburu
Turbo	2559	Uasin Gishu
Kapcherop	3240	Elgeyo-Marakwet
Ortum	3372	West Pokot
Baragoi	4254	Samburu
Wamba	4580	Samburu
Archer's Post	4620	Samburu
Kapkangani	4709	Nandi
Timboroa	4744	Uasin Gishu
Musoriot	4916	Uasin Gishu
Maji Mazuri	5138	Uasin Gishu
Nandi Hills	8032	Nandi
Marigat	9395	Baringo
Kainuk	10,535	Turkana
Matunda	10,807	Uasin Gishu
Iten	12,630	Elgeyo-Marakwet
Lokichar	12,676	Turkana
Moi's Bridge	16,355	Uasin Gishu
Kiminini	16,560	Trans Nzoia
Eldama Ravine	21,385	Baringo
Kabarnet	22,474	Baringo
Kakuma	22,984	Turkana
Makutano (Kapenguria)	28,469	West Pokot
Maralal	31,350	Samburu
Kapsabet	41,997	Nandi
Lodwar	82,970	Turkana
Kitale	162,174	Trans Nzoia
Eldoret	475,716	Uasin Gishu

Data Source: KNBS (2019)

While most urban centres recorded high population growth over recent intercensal periods, some recorded a decrease in population. For example, Kakuma from 2009-2019, and Lokichoggio from 1999-2019 registered decreases in population. Such negative growth rate is exceptional in Kenya's urbanization context and requires further inquiry such as examining whether the unique context of hosting refugees, presents special dynamics to the growth of Kakuma and Lokichoggio.

For Kakuma and Lokichoggio, analysis of their population declines points to the following concerns:

- What impact did closure of refugee operations in Lokichoggio have to the town?
- What urban boundaries were used for the censuses of 2009 and 2019?
- What does the refugee-based economy in Kakuma mean to seasonal patterns of [labour} migrations?
- What does the seasonal migration of the pastoral host community mean to reporting on population, and what are the implications for development planning?

Also, it's important to note that the published census data for Kakuma does not include its refugee population, while the closure of refugee operations near Lokichoggio during the intercensal period caused the local population to decline.

The urban centres that recorded the highest population increase between 2009 and 2019 were Eldoret, Kapsabet, Kiminini, Lodwar, Maralal and Matunda. The populations of these urban centres almost doubled during the intercensal period. Given their larger size, Eldoret and Lodwar present important cases studies for analysis of their growth. While Eldoret lies strategically along the Northern Economic Corridor and thus derives location advantages, Lodwar does not attract such advantages (though this may change after the completion of improvements to the Nadapal A1 road). This implies that Lodwar's doubling in population is fuelled by other factors, such as the impact of devolution and an increasing influx of youth from rural areas, as noted by the current County Integrated Development Plan (CIDP).

Figure 3.11 Towns Recording the Most Significant Population Change in NOREB Region

	Eldoret	Kakuma	Kapsabet	Kitale	Lodwar	Lokichoggio	Maralal	Matunda
Population 1999	167,016	9,107	17,918	63,245	16,981	11,626	16,281	
Population 2009	247,500	31,581	23,303	98,071	44,153		15,213	5,115
Population 2019	475,716	22,581	41,997	162,174	82,970	13,728	31,350	10,807
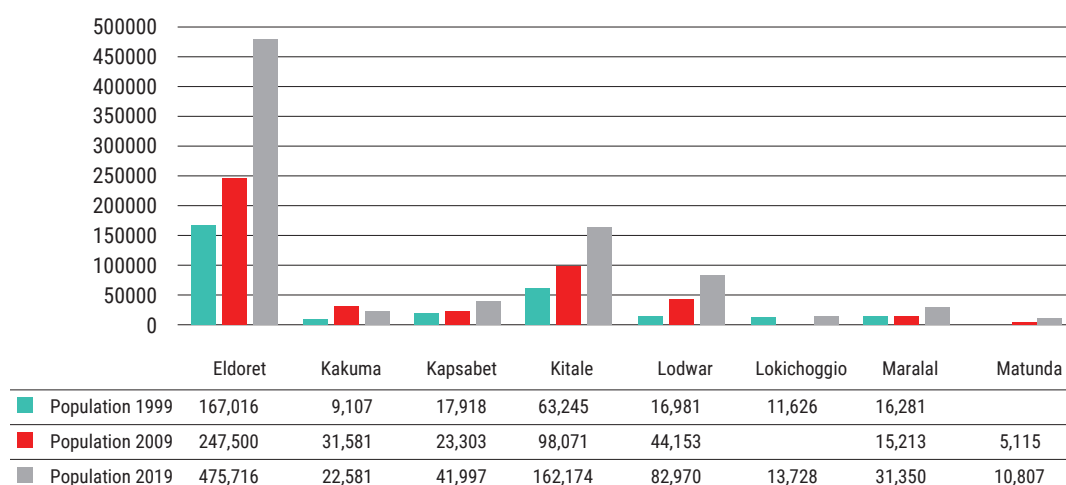
Data Source: Kenya National Bureau of Statistics (2019)

The data reveals that an urban system is emerging in the North Rift region, which revolves around Eldoret as the main city. Intermediate cities, which are mainly the county capitals, operate in the orbit of Eldoret, including Kitale, Lodwar, Kapsabet and Maralal. Further analysis is needed to establish what functional relationships exist among these NOREB cities, such as market (i.e. economic) exchanges. For instance,

the data suggests that Lodwar has a functional relationship with Kitale and Eldoret, based on the following observations:

- There are daily and once per week flights between Lodwar and Eldoret, depending on the airline services. These are usually on the Lodwar-Nairobi route, with Eldoret as a key stopover.

- There are frequent passenger and cargo services between Kitale and Lodwar, including frequent shipments of agricultural produce.[36]

- The *matatu* (bus) services from Nairobi to Kitale also link passengers bound for Lodwar

The NOREB region has the potential for greater integration through an urban network, particularly because of the anticipated trade flows between Kenya and South Sudan associated with the ongoing construction of the A1 road between Lodwar and Nadapal. The area had previously been essentially cut-off from the rest of Kenya and Nadapal has been unable to grow as a border town. Indeed, the customs post on the South Sudan side of the border at Nadapal has no basic infrastructure and operates with very limited staff.[37] According to the World Bank, 'It is anticipated that traffic likely to be diverted to the project road will be derived from the A104 trunk road… because it is shorter, in terms of travel time, compared to the Uganda route.'[38] A similar impact is anticipated along this alternative route to Juba as has occurred with the growth of small towns along the Northern Corridor.

Urban Centres and the Livestock Economy

In the NOREB region, the livestock economy plays a crucial role in shaping human settlements and urbanization. A study commissioned by the International Livestock Research Institute (ILRI) identifies Kenya's system of urban centres as the prime destination (i.e. market) for northern Kenya's livestock. The organization identifies the implementation of LAPSSET corridor as key major market infrastructure for northern Kenya's ASAL economies.[39] This implies that urban centres in the NOREB region play a crucial role in connecting the local economy to a wider national and international economy. From the analysis in this study, it is clear that such connectivity begins with small rural centres that host livestock auction markets. A similar characteristic, based on the CIDPs, is observable within the farming economy.

© UN-Habitat, Dream Magical Studio

36   SNV (2018). Identification and Engagement of Domestic Market Buyers for Agricultural Produce. https://snv.org/cms/sites/default/files/explore/download/identification_of_domestic_buyers_in_the_horticulture_sector_report_by_snv_kmhp_programme.pdf

37   World Bank (2014). South Sudan – Eastern Africa Regional Transport, Trade and Development Facilitation Project - First Phase of Program. Project Appraisal Report. World Bank, Washington DC.

38   Ibid.

39   Said, M et al (2013). Challenges and Impacts of Land use and Land use Planning on Ecosystem, biodiversity, and people. https://www.slideshare.net/ILRI/said-2013-landuse-and-landuse-planning-iucnawfworkshop2013

Figure 3.12 Geography of Livestock Markets in Kenya
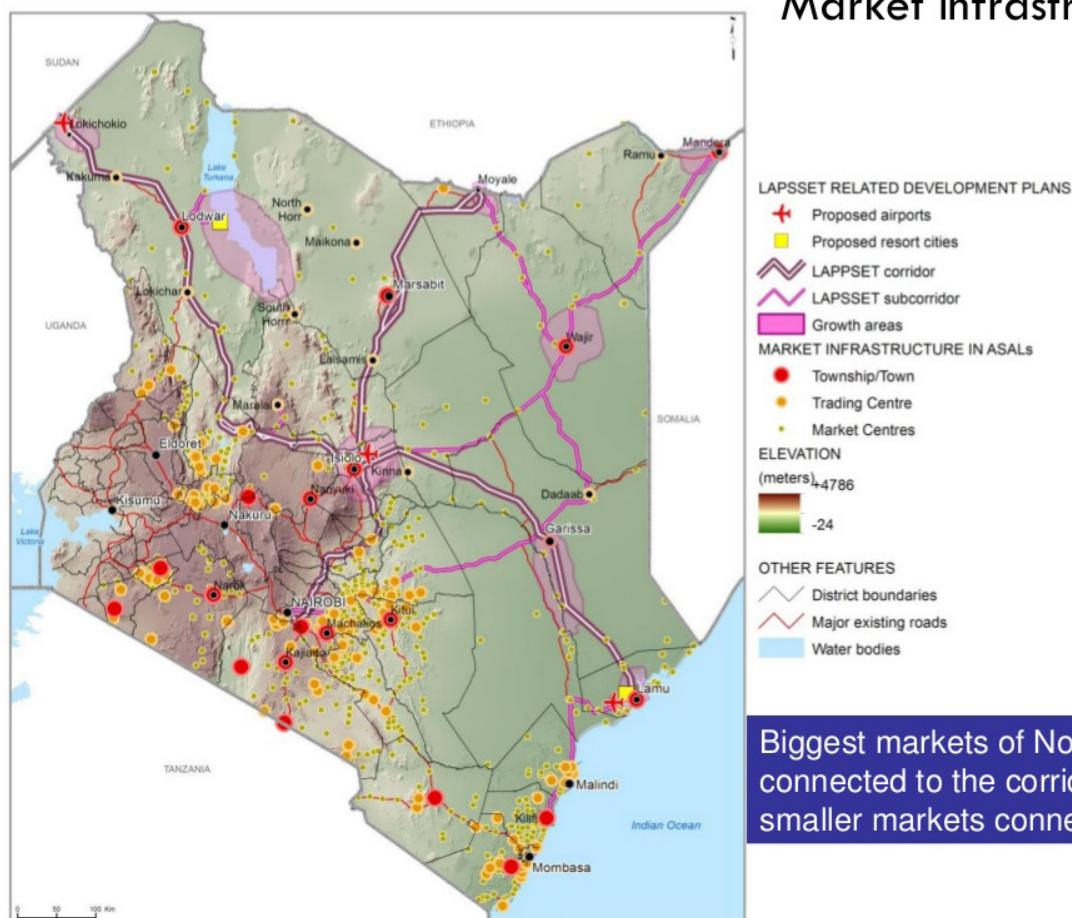
Map: ILRI & World Resources Institute (2013)

For instance, West Pokot County has several urban centres that double as livestock auction centres. The main livestock markets are in Kapenguria and Chepareria Sub-Counties. Destinations for these livestock include: Trans-Nzoia, Uasin-Gishu, Nakuru, Maimahiu, Nairobi and Mombasa. With the recent investments in a modern abattoir in the Nasukuta area, West Pokot County is positioned to become the livestock processing hub of the NOREB region. In terms of urbanization, the location of the abattoir is anticipated to trigger a small-town development, as its functions will create demand for low-cost housing and other related services.[40]

Strategic Infrastructure and Spatial Development

Infrastructure development varies across the NOREB region. ASAL counties tend to have less developed infrastructure, compared to counties whose economies rely on farm agriculture. This pattern is also evident when NOREB is analysed in the national context. As such, this pattern in infrastructure development has impacted on the region's spatial development. This will be discussed in terms of the following areas of focus:

- Road transportation and connectivity
- Air transportation and connectivity
- Energy
- Water and sanitation
- Information, Communication and Technology (ICT) infrastructure and services

40   KTN News Kenya (2020). Economic boost: NOREB counties set up hub for meat production in West Pokot. Accessed on 18/06/2020: https://www.youtube.com/watch?v=Q89IFMjNohE

Road Transportation and the Potential for Enhanced Connectivity

The Northern Transportation Corridor is Kenya's main economic corridor. While it has a branching connection to north-western Kenya, the full integration of this region is undermined by the condition of the infrastructure and other factors, such as insecurity. Nevertheless, the Northern Corridor presents significant economic opportunities for Turkana West and NOREB.

'One of the most serious obstacles to regional connectivity and economic integration is poor physical infrastructure. There is a long list of supply-side constraints and bottlenecks: poor road and rail networks with important missing links and significant operational capacity problems; congested and inefficient regional ports; inadequate electricity supply; and poor access to information and telecommunications technology.*

* World Bank (2012). Regionalizing Infrastructure for Deepening Market Integration: The Case of East Africa. Policy Research Working Paper 6113. Accessed on 20 June 2021: *https://openknowledge.worldbank.org/bitstream/handle/10986/19934/WPS6113. pdf?sequence=1*

Lokichogio and Juba A1 road. © UN-Habitat

Figure 3.13 Road Networks in Kenya
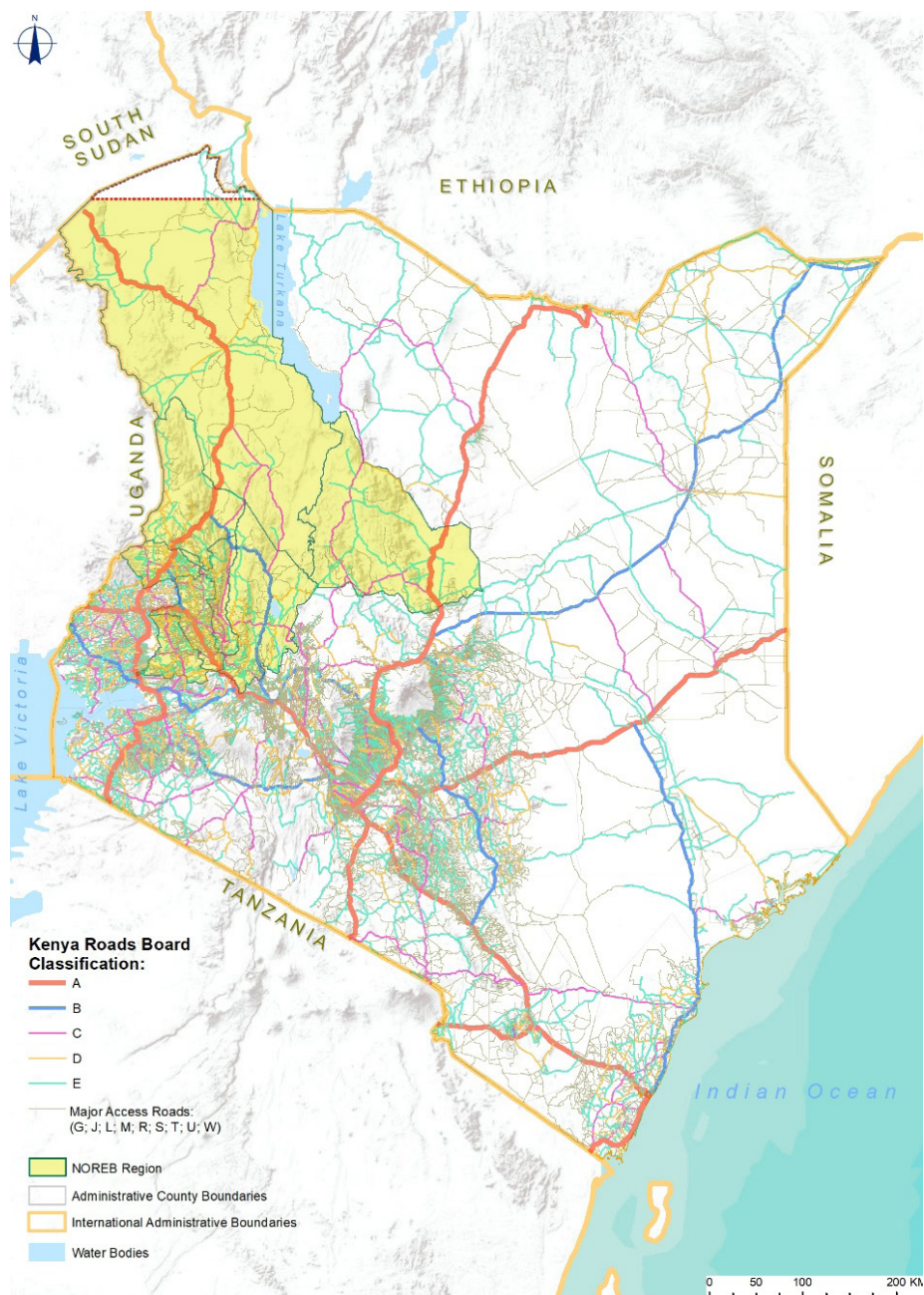
Source: UN-Habitat/Project Research Team

In Kenya, road density is substantially lower in northern Kenya compared with the rest of the country. These regions have dispersed settlements, the lowest population density and have been marginalized for decades, resulting in lower connectivity and more barriers to market (i.e. economic) integration arising from transportation challenges. The constrained traffic flows of people and goods are especially severe in ASALs such as Turkana West. However, the lower parts of the NOREB region appear to have relatively more developed road connectivity.

Figure 3.14 Road Density and Traffic Flow through Major Roads in Kenya in 2012
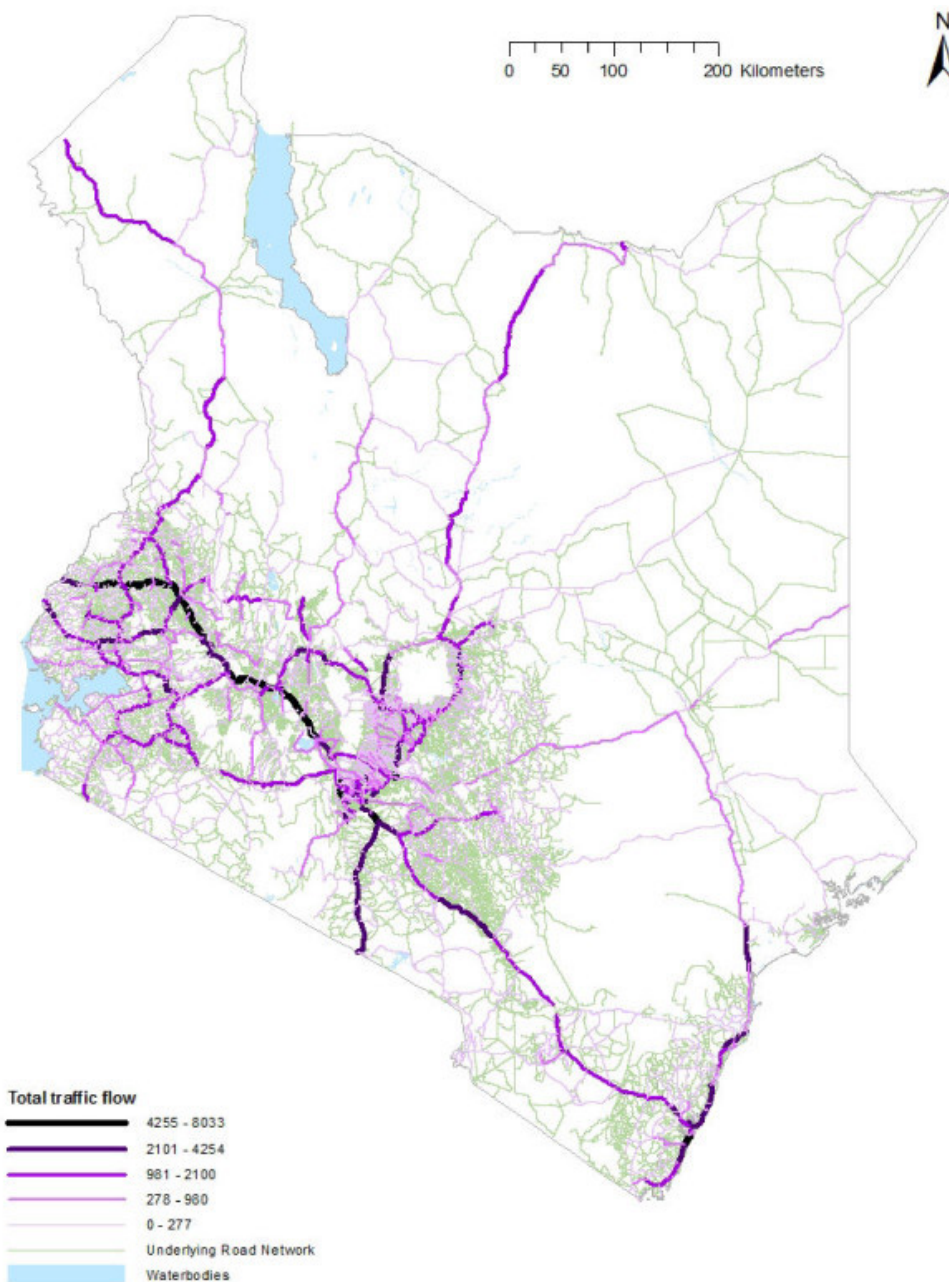
Map: Deepa et al (2012)*

* Pindolia, Deepa & García, Andrés & Wesolowski, Amy & Smith, David & Buckee, Caroline & Noor, Abdisalan & Snow, Robert & Tatem, Andrew. (2012). Human movement data for malaria control and elimination strategic planning. Malaria journal. 11. 205. 10.1186/1475-2875-11-205.

At a national and international level, several ongoing investments will significantly improve connectivity in the upper parts of NOREB, including the Juba-Nadapal-Eldoret road. This road is part of the East Africa Community road corridors, specifically Corridor No. 3 (Biharamulo-Mwanza-Musoma-Sirari-Lodwar-Lokichoggio). This corridor links South Sudan, Kenya, Tanzania and Rwanda. 'Part of the Juba-Nadapal road, Juba-Kapoeta, serves the Kampala-Juba-Addis corridor, which links Uganda, South Sudan and Ethiopia.'. [41]

---

41   World Bank (2014). South Sudan – Eastern Africa Regional Transport, Trade and Development Facilitation Project - First Phase of Program. Project Appraisal Report. World Bank, Washington DC.

Figure 3.15 **The Northern Economic Corridor and its Major Urban Centres**

Source: Japan International Cooperation Agency (2017)*

* Japan International Cooperation Agency (2017). Project for Master Plan on Logistics in Northern Economic Corridor: Final Report.

The ongoing Lodwar–Lokichogio–Nakodok A1 Road is therefore is expected to be a key element in the LAPSSET transport corridor that will transverse northern Kenya from Lamu Port to South Sudan and Ethiopia. As stated in a World Bank study, 'Apart from positioning Kenya as a regional economic hub, the road will also substantially open Turkana and the larger north-western Kenya region to opportunities to access commodity markets and achieve rapid economic growth. This road project will also provide the much-needed infrastructure for activities associated with recent developments such as the discovery of oil and water in Turkana County to connect to the national economy.'[42]

According to a Kenya National Highways Authority(KeNHA, 2015) [43] study, Eldoret is the centre of recent economic flows between Juba in South Sudan and the port of Mombasa in Kenya. The study notes:

42   World Bank (2014). Environmental and Social Impact Assessment (ESIA) of the Proposed Upgrading of LodwarNakodok Road. Accessed 06 June 2020 at: http://documents1.worldbank.org/curated/en/224531468200340716/pdf/E43480V40AFR0E00Box385438B-00PUBLIC0.pdf

43   Kenya National Highways Authority (2015). ESIA Report for the Proposed Rehabilitation of Marich Pass-Lodwar Road (A1). KeNHA, Nairobi. Accessed 06 June 2020 at: http://documents1.worldbank.org/curated/en/517891467999363044/pdf/E47470V30AFR0E-00Box385438B00PUBLIC0.pdf

'There are currently three (3) main road corridors into South Sudan along which trade, and commerce is conducted and goods, services distributed and passengers. Starting from Eldoret the Corridors are:

1.   Corridor A: Eldoret - Malaba - Jinja - Kampala – Gulu – Kaya – Yei -Juba,

2.   Corridor B: Eldoret - Malaba – Jinja – Kampala – Gulu – Nimule – Juba,

3.   Corridor C: Eldoret - Kitale – Marich Pass – Lodwar – Lokichogio – Nadapal - Juba'

Figure 3.16 **A1 Road Section Between Lodwar-Nakodok**
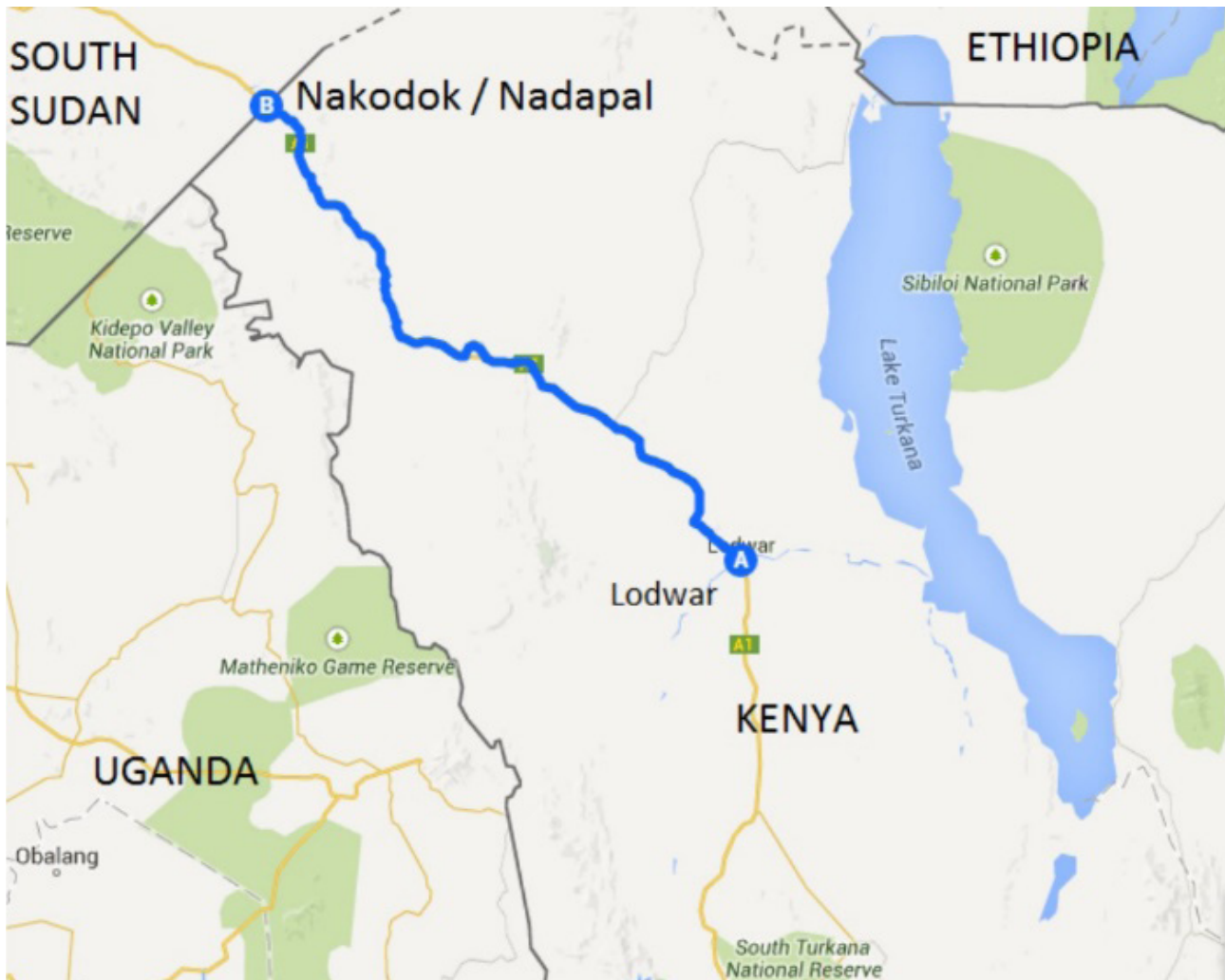
Source: KeNHA (2015)

Domestically, these international corridors are also strategic. For instance, Turkana County relies heavily on Trans Nzoia County for crops, food and business flows, as Kitale acts as a connecting hub to the Eldoret and Kisumu corridors. At the national level, the A1 Road between Isibania, through Kisumu to Turkana is also an important economic corridor. The road passes through the counties of Vihiga (Maragoli Town), Kakamega (Kakamega and Malava towns), Bungoma (Webuye town), Trans Nzoia (Kitale town), West Pokot (Kapenguria-Makutano town) and Turkana (Lokichar, Lodwar, Kakuma towns), before continuing to South Sudan through Nakodok.

Section of A1 Road under construction in Turkana County

© UN-Habitat, Dream Magical Studio

LAPSSET will be crucial in enhancing connectivity within NOREB and to its national and international context. The LAPSSET Corridor Development Authority (LCDA) has stated that the proposed corridor 'is intended to operate as an Economic Corridor with the objective of providing multiple Eastern African nations access to a large-scale economic trade system thereby promoting socio-economic development in the region.'[44] The corridor comprises a railway line, an arterial road and a pipeline. The Nairobi-Moyale Road traversing Samburu County has already been constructed, while the proposed LAPSSET corridor from Isiolo will connect Juba through Baringo and Turkana Counties. However, if the LCDA proceeds to change the route of the highways the new alignment will traverse Samburu and Turkana Counties, but leave out West Pokot County. In either case, the longest stretch of the LAPSSET corridor in any county, will be through Turkana County. To leverage the opportunities provided by the proposed corridor, NOREB counties must invest in connecting infrastructure.

44   LAPSSET Corridor Development Authority (LCDA). Brief on LAPSSET Corridor Project. July 2016. LCDA, Nairobi.

Figure 3.17 Location of Kenya's Major Urban Centres and LAPSSET context
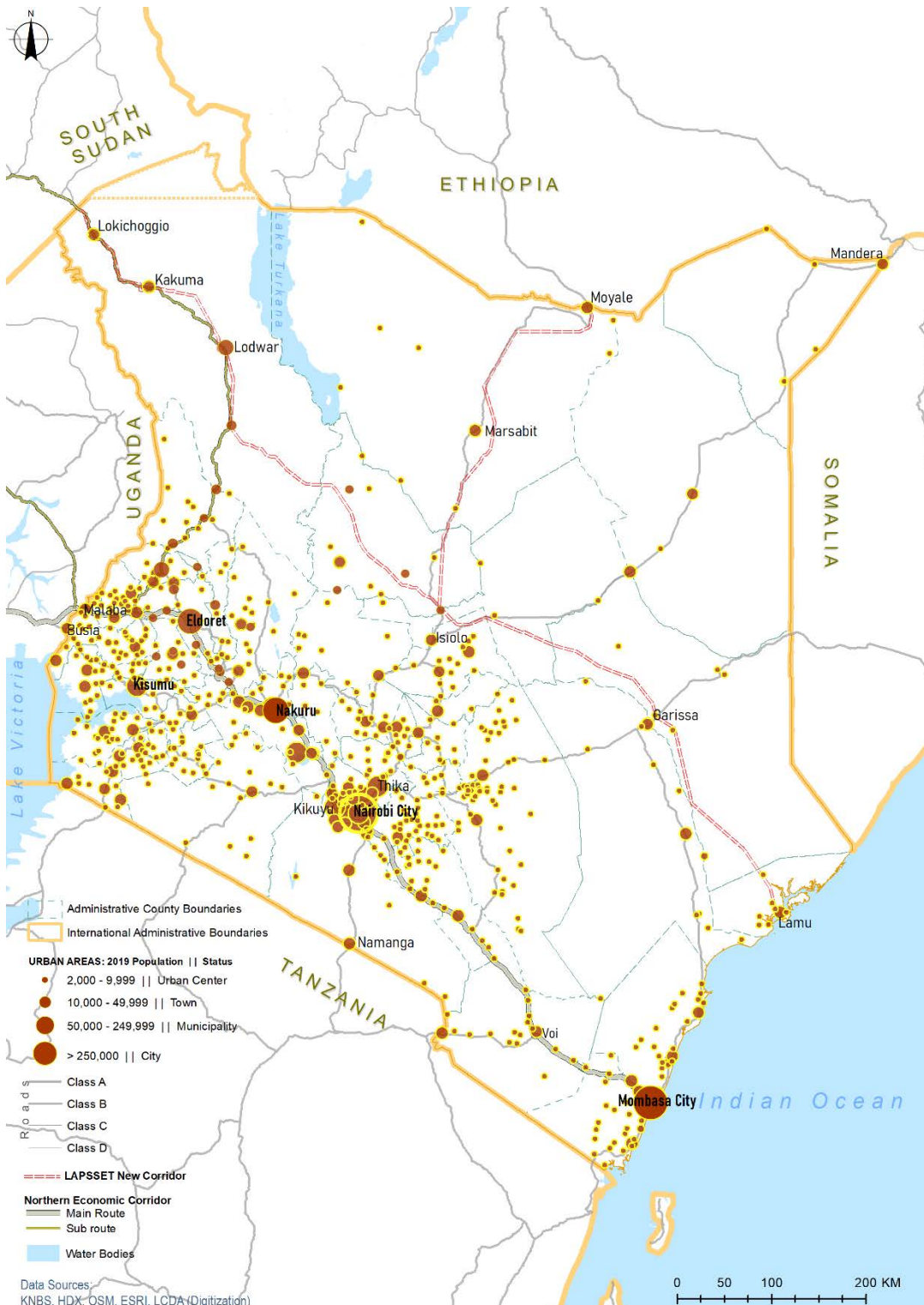
Source: Drawn by UN-Habitat/Turkana West Surveys 2020

The Northern Corridor Master Plan establishes the connection to Juba through Lodwar (EAC Corridor No. 3) as a critical route.This is reinforced by the planned LAPSSET corridor. LAPSSET and the EAC Corridor No. 3 will therefore provide the NOREB region with access to two major regional economic corridors, including seaports at Mombasa and Lamu. This is anticipated to significantly boost local socio-economic development by connecting NOREB urban centres and rural economies to a wider

economic market, as well as facilitating the enhanced mobility of people between NOREB and the rest of Kenya. Such enhanced mobility is critical, especially for the youth who may seek higher education/ training and opportunities in other urban centres.

Air Transportation and Connectivity

NOREB's road connectivity is complemented by its growing air connectivity. Perhaps due to remoteness and limited road access, some of major urban centres in NOREB such as Lodwar have relied heavily on air connectivity. There are international airports at Kisumu and Eldoret, while smaller airstrips exist across NOREB, including three in Turkana County at Lodwar, Kapese (oil fields) and Kakuma (refugee settlements area). However, the impact of air transport infrastructure on the local economy requires further analysis. In Turkana County, most air traffic is linked to the activities of international organizations undertaking humanitarian and development work.

Figure 3.18 Airports and Airstrips in NOREB and Kenya
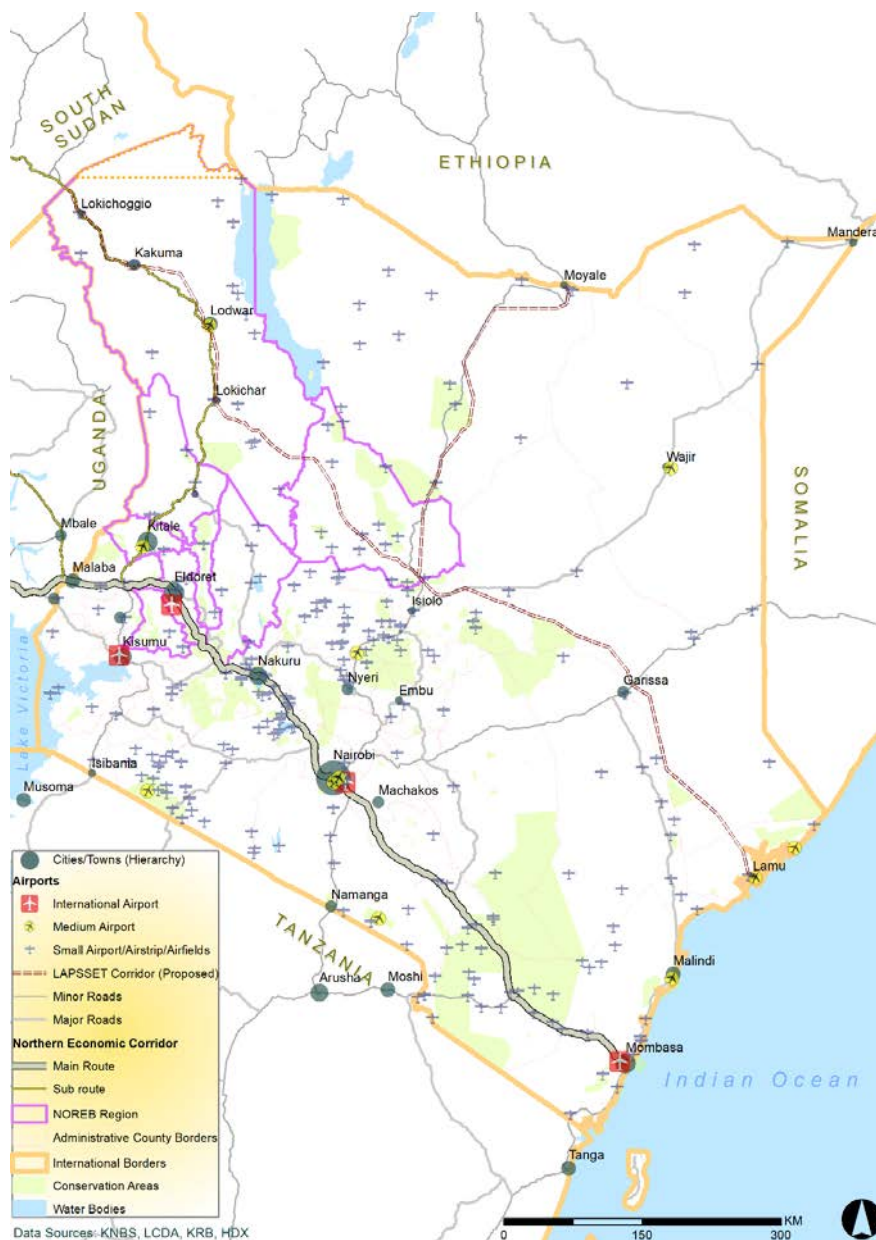
Source: Drawn by UN-Habitat/Turkana West Surveys 2020

Railway Connectivity

Kenya's old railway system penetrated into some sections of the North Rift region, reaching Eldoret then Kitale town. The Eldoret-Kitale line is part of the Northern Corridor line, branching at Nakuru town. This railway was constructed for the purpose of moving raw materials and agricultural produce from the productive zones to Mombasa port. After Kenya gained independence in 1963, sections of the railway fell into decline and have ceased being functional, including the Eldoret-Kitale line.

Recently, Kenya embarked on a modernization of its railway system, starting with the construction of a new Standard Gauge railway line from Mombasa to Naivasha, alongside the existing metre-gauge railway. The old metre-gauge railway is operated by Magadi Rail, mainly to transport soda ash from Lake Magadi to Mombasa for export.[45] Although new railway lines have been proposed to traverse NOREB, their realization is uncertain, given that construction of the new railway line from Mombasa to Kisumu/Malaba has halted at Naivasha due to funding challenges after China withdrew its support for the project.[46]

Figure 3.19 **Existing Railway Network in Kenya**[47]

Source: WFP

45   World Food Programme (n.d.). Logistics Capacity Assessment. Kenya Railway Assessment. https://dlca.logcluster.org/display/public/DLCA/2.4+Kenya+Railway+Assessment

46   David Herbling and Dandan Li (2019). China's Built a Railroad to Nowhere in Kenya. https://www.bloomberg.com/news/features/2019-07-19/china-s-belt-and-road-leaves-kenya-with-a-railroad-to-nowhere

47   World Food Programme (n.d.). Logistics Capacity Assessment. Kenya Railway Assessment. https://dlca.logcluster.org/display/public/DLCA/2.4+Kenya+Railway+Assessment [Data on this map will be used to create set of new maps- Northern and LAPSSET corridors, systems of urban centres and NOREB region shown]

Apart from Nairobi city, which was initially established as a railway depot and later became the settler colonial capital, the Mombasa-Kisumu railway has not had significant impact on urbanization along its route, which is part of the Northern Corridor. Rather, it is the Corridor's road infrastructure and its related flows that have had the most significant impact on urbanization. A similar trend is expected of the LAPSSET corridor.

Figure 3.20 Existing and Proposed New Railway Network[48]

Source: Africa-Confidential (2014)

3.5.4. Energy Infrastructure

In the NOREB region, Eldoret plays a significant role in access to petroleum energy. The city is linked to Kenya's oil pipeline and hosts the only national oil depot/storage facility in the North Rift region.[49] Therefore, urban centres and rural settlements in the region depend heavily on Eldoret for petroleum supplies. This has created a logistics business between Eldoret and other urban centres in the region, as oil from the depot is mainly transported by road. Although oil has been discovered in Turkana County there has been delays in its commercialization[50]

While the future of oil production in Turkana is uncertain, the NOREB region and northern Kenya has a high potential for renewable clean energy production, notably solar and wind. Currently, the largest wind farm in sub-Saharan Africa is the Lake Turkana Wind Power Project – a 310 MW capacity plant located in the Lake Turkana Basin in Loiyangalani, Marsabit County.[51] Additionally, the Turkwel Gorge Hydropower plant operates on the Turkwel River in West Pokot County, and is connected to the national grid.[52] However, the realization of this potential for renewable energies in NOREB largely depends on the economics of energy production and its political economy.

---

48   Africa-Confidential (2014). Available at Railway Pro Communication Platform (2016). Kenyan Railways holds tender for consultancy services.
49   World Food Programme (n.d). Logistics Capacity Assessment. Kenya Fuel. https://dlca.logcluster.org/display/public/DLCA/3.1+Kenya+-Fuel
50   Burkhardt, P & Herbling, D (2020). Tullow Oil suspends Kenyan oil-export program. https://www.worldoil.com/news/2020/6/3/tullow-oil-suspends-kenyan-oil-export-program
51   LTWP (2019). H.E. President Uhuru Kenyatta Officially Inaugurates The 310MW Lake Turkana Wind Power Project.
52   KenGen (n.d). Turkwel Storage Dam. https://www.kengen.co.ke/index.php/index.php?option=com_content&view=article&id=203:turkwel-storage-dam&catid=33:power-stations

Figure 3.21 Photovoltaic Power Potential in Kenya
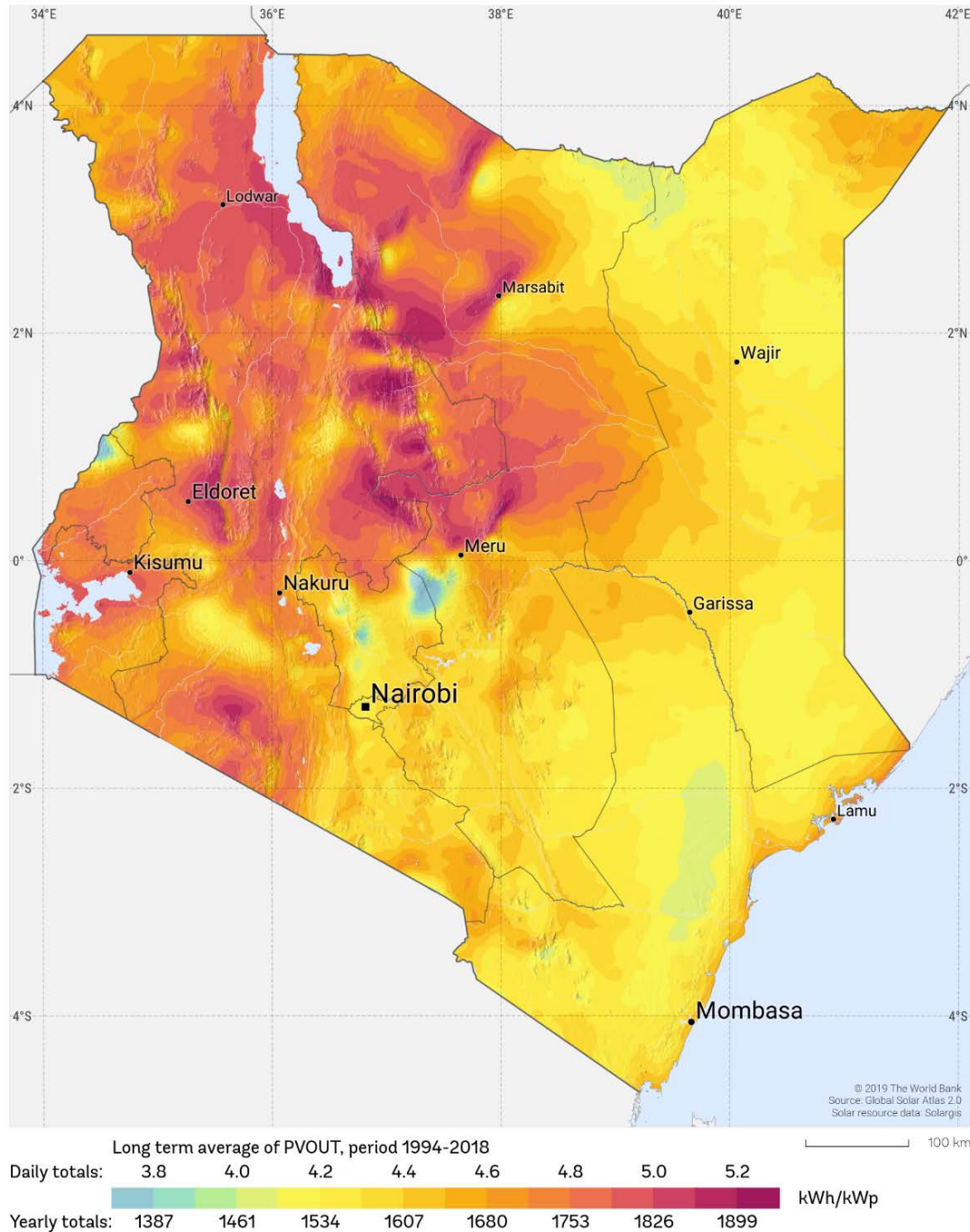
Source: World Bank (2020)/ Global Solar Atlas 2.0/ Solar resource data: Solargis[53]

---

53   World Bank (2020). Solar resource maps https://solargis.com/maps-and-gis-data/download/kenya of Kenya. Data: Global Solar Atlas
2.0, Solar resource data: Solargis. Accessed on 29 October 2021: https://solargis.com/maps-and-gis-data/download/kenya

Figure 3.22 **Wind Power Density in Kenya**
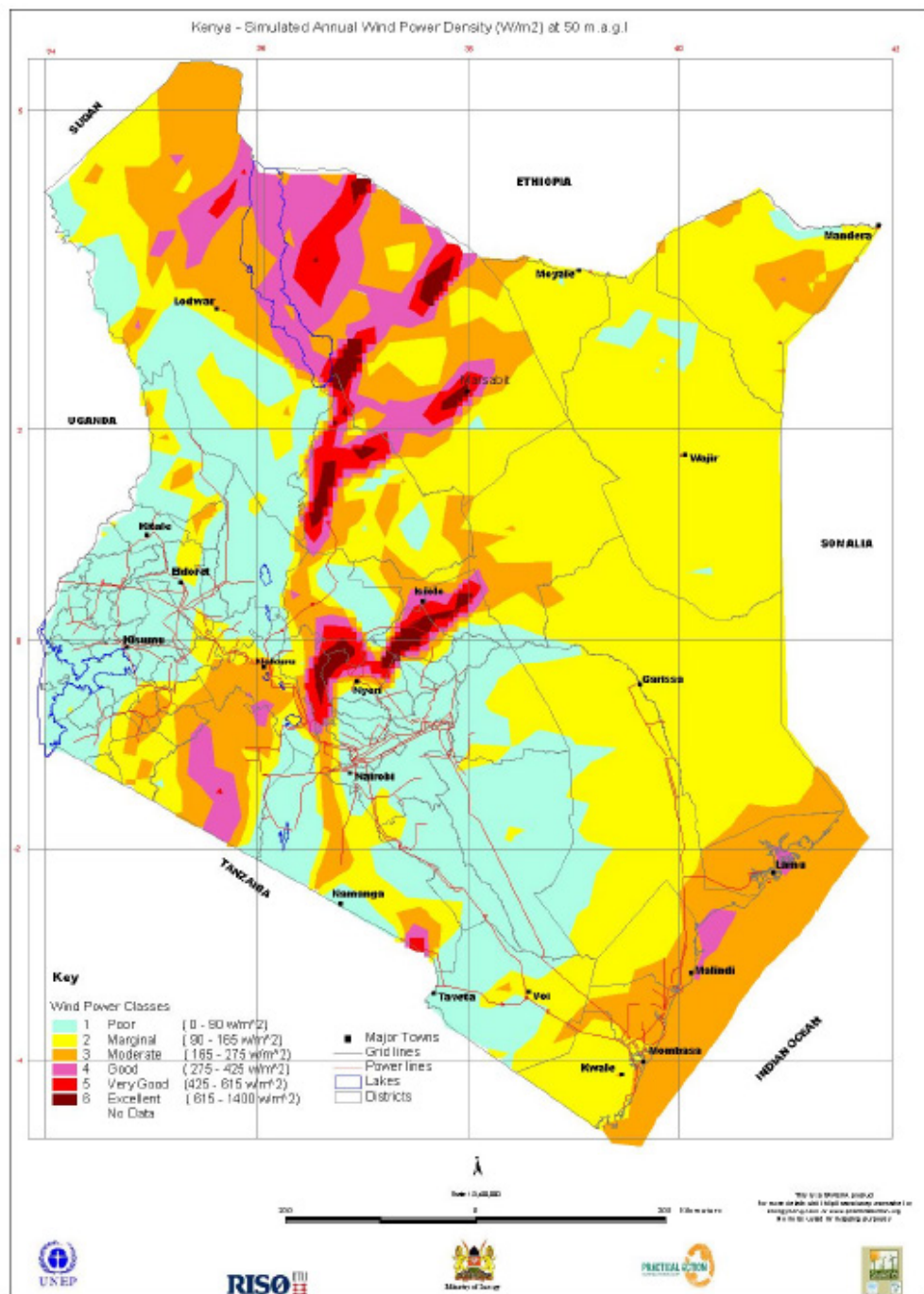
Source: United Nations Environment Programme (UNEP) (2008)[54]

While access to electricity from the grid has increased in recent years, major gaps still exist in northern Kenya, as most households and various small centres remain unconnected. Fundamentally, the nature of the region's pastoral and nomadic economies have a major impact on how households can access reliable energy. Nevertheless, without reliable electricity, urban centres and rural settlements in

---

54   UNEP (2008). Solar and Wind Energy Resource Assessment: Kenya Country Report. UNEP, Nairobi. Access on 29 June 2021: http://kerea.org/wp-content/uploads/2012/12/Kenya-Solar-Wind-Energy-Resource%20Assessment.pdf

the region suffer negative socio-economic impacts. Plans to build mini[local] grids present a greater opportunity to accelerate access to reliable electricity in these regions, as connecting them to the national grid may require higher costs due to expensive transmission infrastructure.

Figure 3.23 Electricity Distribution in Kenya
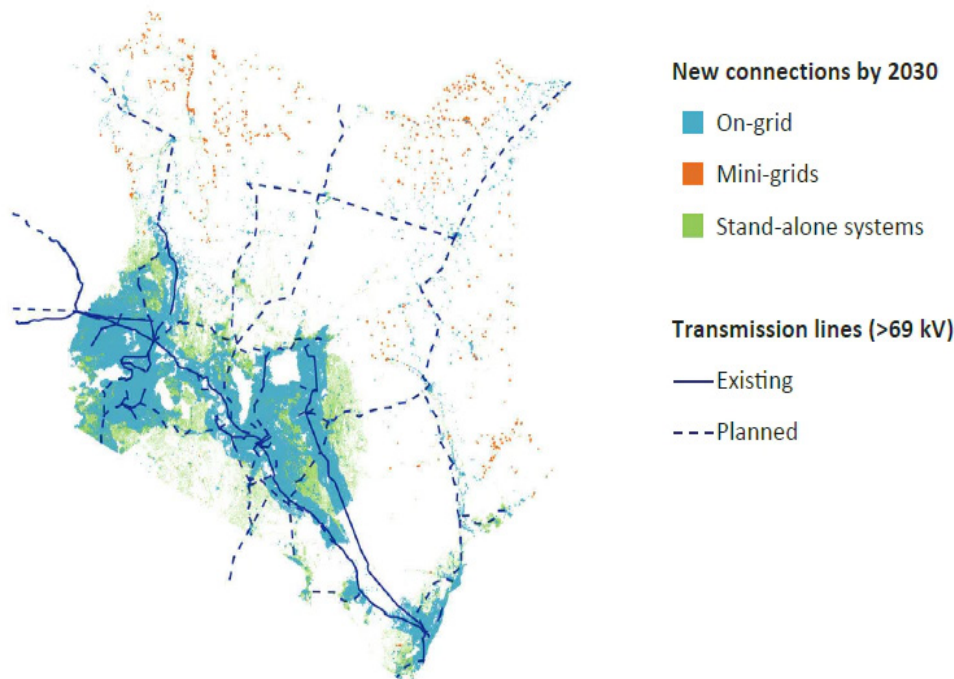
Source: International Energy Agency (IEA),(2019)[55]

3.5.5. Water and Sanitation

Access to water is a major determinant of human development outcomes and has major influence on socio-economic conditions and human settlement patterns in northern Kenya. The reliability of water sources also strongly influences the spatial development of human settlements (both urban and rural) in northern Kenya. Most urban centres in the region lack reticulated clean water and sanitation systems, which has significant negative impacts on local economic activities and socio-economic conditions. Rural settlements also suffer from insufficient water and sanitation infrastructure. For example, the 2019 census revealed that households in Turkana County access drinking water from unimproved sources. This includes 30% who rely on streams or rivers, and 12% who rely on unprotected wells.[56] Besides municipal water systems, access to water is also a major factor influencing socio-economic development with respect to rural and pastoral life in ASAL regions of NOREB. Water access influences the movement patterns of nomadic households, as well as the growth of rural centres and small towns.

55   IEA (2019). Kenya Energy Outlook: Analysis from Africa Energy Outlook 2019. Accessed on 22 May 2021: https://iea.imgix.net/e050f-c2a-aecf-4f19-a56e-bb23e9bda539/WEO2019_Kenya.png?auto=compress%2Cformat&fit=min&q=80&rect=0%2C0%2C868%2C486&w=800&fit=crop&fm=jpg&q=70&auto=format&h=448

56   Republic of Kenya (2019). 2019 Kenya Population and Housing Census: Volume IV: Distribution of Population by Socio-Economic Characteristics. Kenya National Bureau of Statistics, Nairobi.

Issues of water supply rank high in the priorities of NOREB counties. However, ASAL counties require the greatest investments in water services for both urban and rural settlements, as water is scarce in these regions. For example, the Samburu County Government notes that 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. To ensure water quality at household level, the county Department of Health provides water treatment chemicals (Aqua Tabs) and there is ongoing health education on water quality and safety.'[57] The Trans Nzoia County Government notes that 'the number of households accessing clean and safe water increased from 18.29 percent in 2013 to 35.32 percent in 2017… the average distance to water points reduced to 1.5km from 2km at the start of 2013. The sewerage coverage has increased from 2,699 to 3,721 households being connected to the main sewer.'[58]

These statements note each county's impact on the provision of water services, but deficits continue to mount as demand for water surges. However, the NOREB region is endowed with significant water resources, albeit located in ASALs. Indeed, LAPSSET authority notes that 'the Rift Valley is the most expansive of Kenya's drainage basins, spanning from Kenya's northern border with South Sudan to the southern border with Tanzania. The basin comprises of several internal draining sub-basins including Lake Baringo, Suguta Valley (Lake Longipi) and Lake Turkana (LAPSSET, 2017)[59].

In terms of sanitation, the urban centres in NOREB rely mainly on small scale, individual and decentralised systems of sewage management. In most towns, conventional public sewer networks are either non-existent or have very low coverage.

This means developers must invest in their own solutions, such as septic tanks, bio-digesters, cess pits, pit latrines, small decentralised systems etc. This increases the cost of investments in these towns. Rural areas mainly depend on pit latrines for faecal disposal, although open defection/bush method is still prevalent in some areas in Turkana, West Pokot, Samburu and Baringo Counties (see Fig 3.26). In these counties, a significant proportion of the population engage in nomadic livestock production, meaning their shelters are predominantly temporary, so investing in appropriate faecal disposal systems would not be a priority.

However, open defection is also practiced in some of the urban centres. For instance, a study established that in Lodwar, '81% of the sampled households did not possess a latrine facility; 27% of the respondents attributed the lack of latrine to high poverty levels in the region; and 44% of the respondents attributed open defection practices to the culture of the people in the area. A total of 20% of the respondents were scared of using a latrine, with most of the reasons being loose sand used to construct the latrines. A total of 333 (83%) of respondents stated that the latrine construction materials influenced latrine ownership' (Busienei et al, 2019)[60] Indeed, poverty has been linked to open defection in parts of Kenya where the practice is prevalent, such as in ASALs and urban informal settlements. Another study noted that 'People living in poverty are less likely to spend on sanitation. This predisposes them to sanitation related diseases resulting in decreased productivity and increased expenditure on health care… people living in poverty are also more likely to live in poor environmental conditions characterized by… insufficient water supply.'[61] Poor hygiene conditions in the region have been associated with frequent cholera outbreaks, with a recent outbreak reported in Turkana West in May, 2020.[62]

57   Samburu County Government (2018). Samburu County CIDP 2018-2022. Samburu County Government, Maralal p 51.

58   Trans Nzoia County Government (2018). Trans Nzoia Government Integrated Development Plan 2018-2022. West Pokot, County Government, Kitale, p. 94.

59   LAPSSET (2017). Strategic Environmental Assessment. Unpublished Draft. LAPSSET, Nairobi.

60   Busienei, P; Ogendi, G & Mokua, M (2019). Open Defecation Practices in Lodwar, Kenya: A Mixed-Methods Research. Environmental Health Insights. Volume 13: 1–13.

61   Njuguna, J & Muruka, C (2017). Open Defecation in Newly Created Kenyan Counties: A Situational Analysis. Journal of Health Care for the Poor and Underserved, Volume 28, pp. 71-78.

62   Sammy Lutta (2020). New wave of cholera cases hits Turkana West. Accessed on 20 October 2021: https://www.nation.co.ke/counties/turkana/New-cholera-wave-hits-Turkana-West/1183330-5563784-551w24/index.html

Inadequate access to safe drinking water compounds the hygiene challenges in these areas, particularly in urban areas. Consequently, water supply and sewerage management infrastructure remain a major gap in the socio-economic development in NOREB region, which will necessitate county governments increasing investments in urban and rural services. Currently, major shortfalls exist in financing water and sanitation in both NOREB counties and across the nation.

Figure 3.24 Main Faecal Waste Disposal Methods for Households in NOREB region

	Turkana	West Pokot	Samburu	Trans Nzoia	Uasin Gishu	Elgeyo Marakwet	Nandi	Baringo
Main Sewer	0.4	0.2	0.4	1.7	9.6	0.3	0.4	0.3
Septic tank	1.4	1.2	1.4	4	10.9	1.1	1.8	2.1
Cess pool	0.2	0.1	0	0.2	0.2	0	0.1	0.1
VIP Latrine	3.3	5.3	4.2	13.9	14.4	8.8	17.3	12.4
Pit latrine- covered	18.9	41.7	23.6	64.6	55.3	57.7	67.1	45.7
Pit latrine-uncovered	6.8	8.1	4.2	13.8	8.6	24.9	11.5	8.3
Bucket latrine	0.8	0.7	0.6	0.4	0.3	0.3	0.2	0.3
Open/Bush	68.1	42.7	65.6	1.4	0.5	6.8	1.5	30.8

Data Source: KNBS (2019)

Water access is also a source of conflicts between pastoral communities, meaning that enhancing water access is also a critical security issue. Secure water access can contribute to peaceful coexistence in the region – an important pre-condition for enhanced local economic development. Strategic water supply systems are required that balance growing needs in both rural areas (i.e. pastoral and farming areas) and urban areas.

The failure of urban planning and the proliferation continued spontaneous urbanization serves to increase future costs in providing this vital service and infrastructure. However, given that most urban centres are projected to continue growing into the future, an opportunity exists for institutionalising planned urban development. Without water and sanitation infrastructure and services, the potential for investments will remain untapped, leading to continued slow socio-economic development in both urban and rural settlements.

Figure 3.25 Financing Gap (KES Billions) to meet Vision 2030 Targets for Infrastructure Services
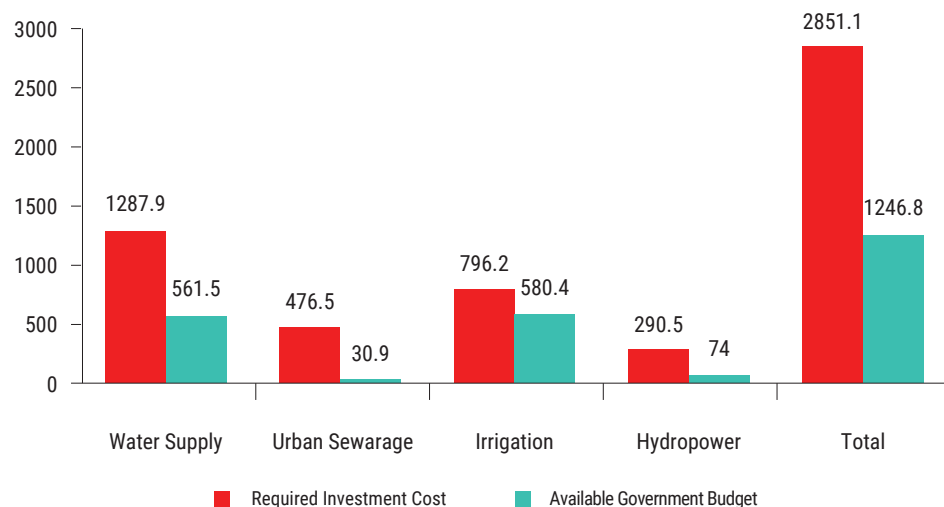
Note: No urban-rural breakdown is available

Source: World Bank (2016).

ICT Infrastructure and Services

ICT infrastructure and its ensuing digital connectivity is a key driver of economic transformation in the contemporary world. Access to this infrastructure varies across the NOREB region and Kenya, with the pastoral ASALs of NOREB being the least connected regions when compared to overall national levels. Urban centres, especially the region's major towns, have relatively better connectivity as most service providers tend to prioritise these areas. Importantly, the Kenyan Government has promised connectivity to all 47 counties[63] through the National Optical Fibre Backbone Infrastructure (NOFBI).

'There has been significant progress in the development of the Middle Mile infrastructure because of the National Optical Fibre Backbone Infrastructure (NOFBI) project. This initiative aims to ensure connectivity in all of Kenya's 47 counties by laying terrestrial fibre optic and carrying out network device installations. To date, the project has been completed for the 47 counties and fibre has been installed. However, Last Mile infrastructure still needs to be developed in order for these services to reach final users. For users to adopt high-speed broadband networks, these services will need to be affordable as well'.*

* Engineering for Change (2020). The ICT Landscape in Northern Kenya: Challenges and Opportunities. Accessed on 11/10/2021 https://www.engineeringforchange.org/wp-content/uploads/2020/10/E4C-ICT_Northern_Kenya.pdf

---

63   ICT Authority (n.d). National Optic Fibre Backbone (NOFBI). Accessed on 11/10/21: https://icta.go.ke/national-optic-fibre-backbone-nofbi/

However, enhancing ICT connectivity in northern Kenya requires a consideration of the diverse types of communities, socio-cultural contexts and the geographical distribution of human settlements in the region.

Figure 3.26 NOFBI Network Map
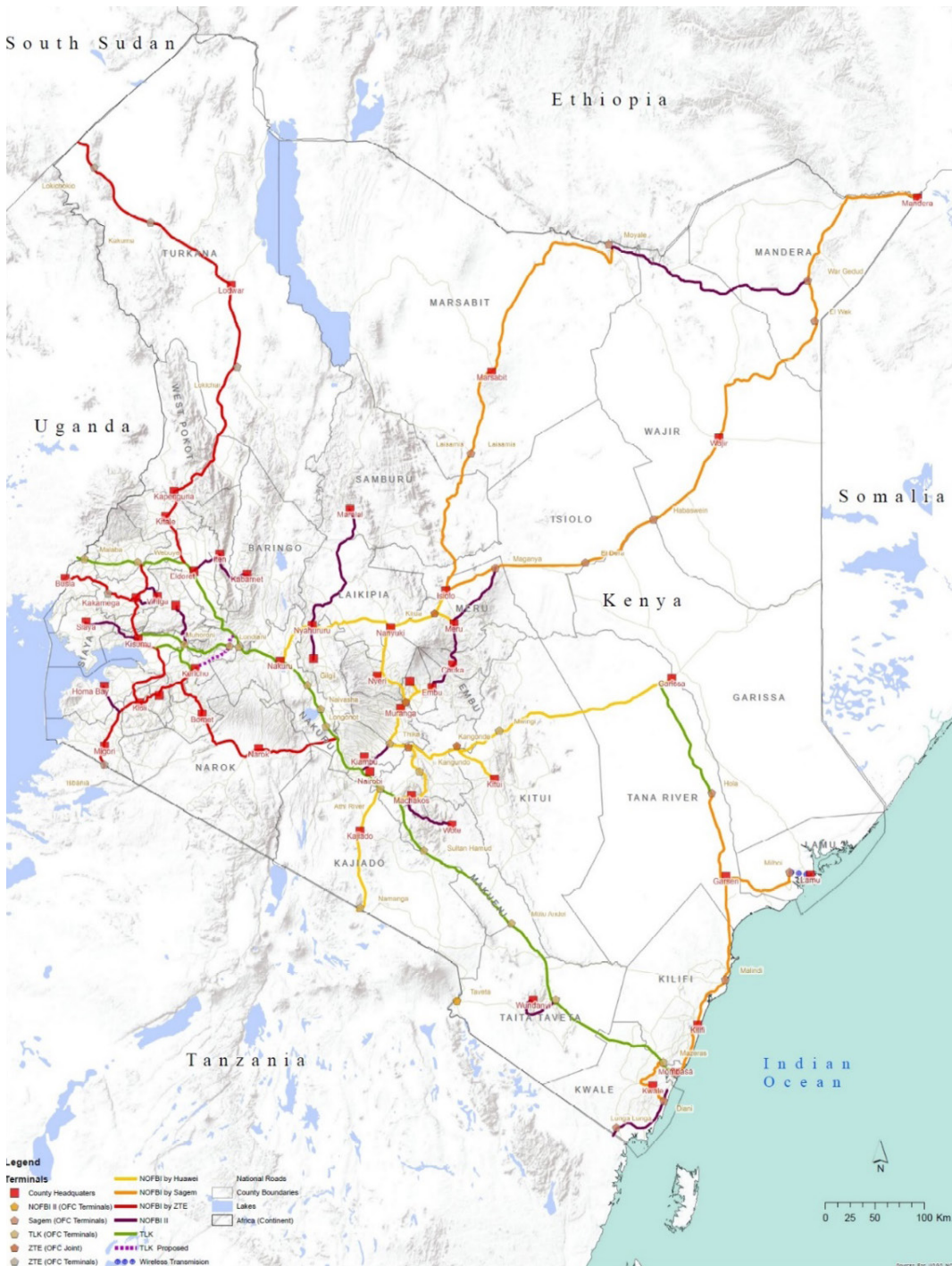
Source: ICT Authority (n.d)[64]

---

64   ICT Authority (n.d). National Optic Fibre Backbone (NOFBI). Accessed on 11/10/21: https://icta.go.ke/pdf/NOFBI.pdf

Figure 3.27 Considerations for ICT Solutions in Northern Kenya

Infrastructure
Poor or inappropriate delivery
methods & infrastructure
Access to electricity
Availability and accessibility of physical infrastructure
(schools, healthcare centers)
Concentration in settlement pockets

Geographical/Environment
Aridity
Remoteness
Nomadic pastoralists
Extreme weather conditions
Low population density

Technology
Affordability of mobile network connection
Provision of training for use
Predominance of feature phones

Socio-cultural
Pastoral nomads
Insecurity
High poverty rates
Presence of socioeconomic inequality
Literacy and access to education
Religious and cultural beliefs
Local language within people groups
Pastoralists and agro-pastoralist tribes
Gender inequality

Institutional
Lack of trained professionals
Skills and training level of providers
Level of government involvement
Availability of trained professionals
(healthcare, education)

Economic
Poverty level
Climate-dependent
Limited economic activities ouside
Pastoralist

Source: Engineering for Change (2020)[65]

The Economy in the North Rift Region

Despite the infrastructure challenges mentioned above, the counties of NOREB enjoy various economic opportunities, contributing to the national GDP through different economic sectors, especially agriculture and livestock production.

© UN-Habitat, Dream Magical Studio

65   Engineering for Change (2020). The ICT Landscape in Northern Kenya: Challenges and Opportunities. Accessed on 11/10/2021 https://www.engineeringforchange.org/wp-content/uploads/2020/10/E4C-ICT_Northern_Kenya.pdf

Table 3.3 Gross County Product (GCP) by Economic Activities, 2017 in KES Millions

County	Agriculture, forestry and fishing	Mining and quarrying	Manufacturing	Electricity supply	Water supply; waste collection	Construction	Wholesale and retail trade; repair of motor vehicles	Transport and storage	Accommodation and food service activities	Information and communication	Financial and insurance activities	Real estate activities	Professional, technical and support services	Public administration and defense	Education	Human health and social work activities	Other service activities	FISIM	Total
Turkana	41,493	88	65	2,066	487	4,684	2,581	7,750	361	366	2,198	2,537	16	3,529	6,252	1,946	2,172	(290)	78,301
West Pokot	19,311	2,835	27	69	427	522	2,270	3,904	168	302	3,330	1,861	373	4,416	4,799	1,045	1,302	(176)	46,785
Samburu	10,847	47	29	123	180	661	4,354	1,234	132	143	1,386	1,236	11	3,403	1,703	587	569	(142)	26,503
Trans Nzoia	50,628	273	785	810	707	3,031	9,551	7,958	625	1,967	15,734	8,934	68	5,177	7,237	2,248	2,079	(1,129)	116,683
Uasin-Gishu	63,017	713	7,915	1,042	1,314	7,121	19,511	17,552	1,645	1,075	17,218	12,880	1,482	6,267	6,262	3,833	2,270	(8,843)	162,273
Elgeyo Marakwet	127,967	485	42	209	258	1,485	3,487	3,579	103	544	4,423	5,877	3	4,949	4,068	1,245	940	(131)	159,531
Nandi	71,213	593	4,116	489	719	1,301	4,264	3,300	203	801	11,955	5,013	5	4,990	7,603	1,924	1,912	(709)	119,691
Baringo	53,633	125	232	413	1,048	1,336	4,687	4,737	266	911	9,095	3,088	2	6,017	5,077	1,276	1,411	(488)	92,866

Data Source: KNBS (2019)[66]

66   KNBS (2019). Gross County Product Report 2019, KNBS, Nairobi (Extracted from Table 1 page 12).

Figure 3.28 Proportion of County Economic Activities by Broad Sectors

Legend: Agriculture | Manufacturing | Other industries | Services
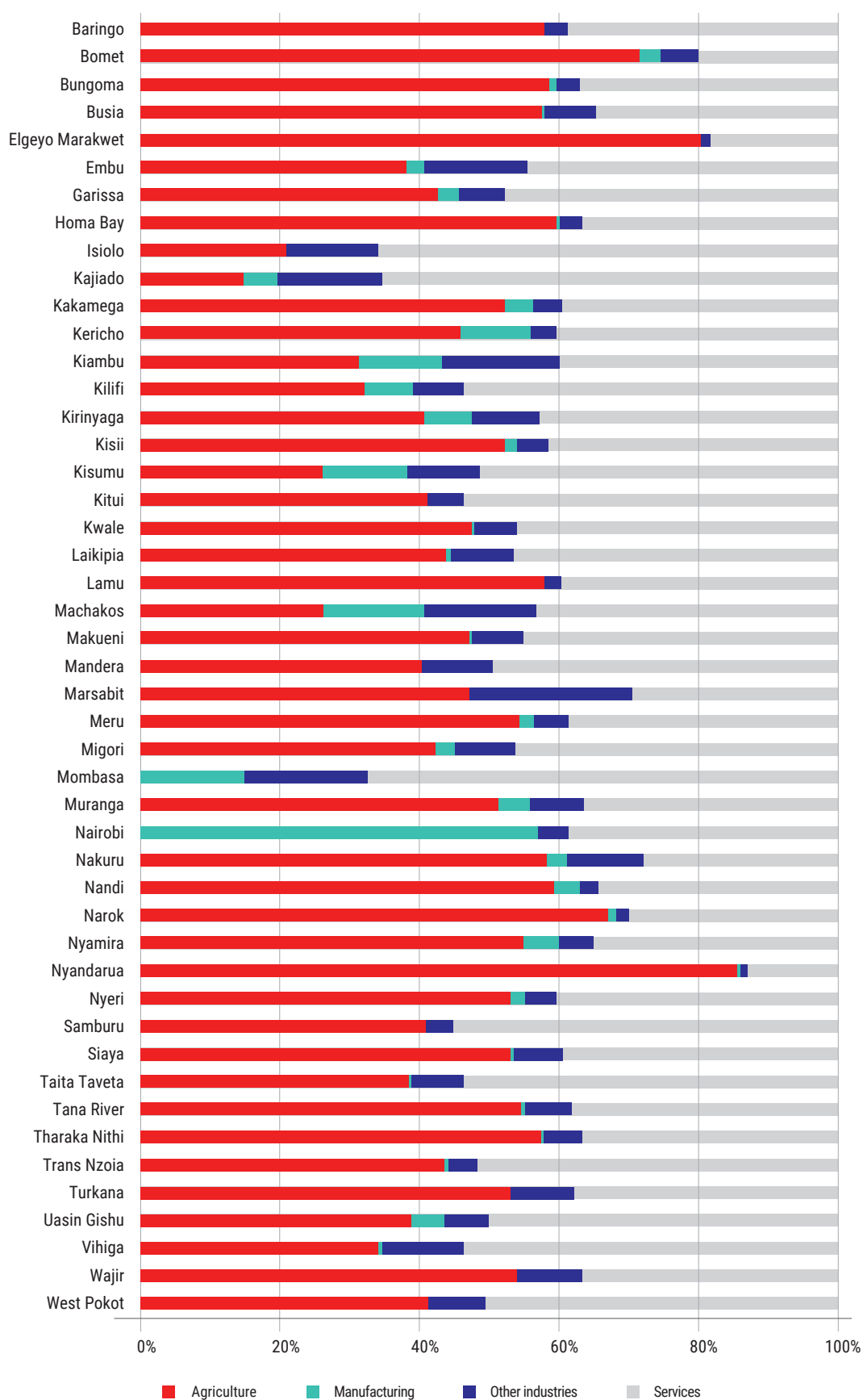
Source: KNBS (2019)[67]

67   KNBS (2019). County Gross Domestic Product 2019. Online access (16/02/2021): https://www.knbs.or.ke/?wpdmpro=gross-county-product-2019&wpdmdl=5160&ind=R0NQIHJlcG9ydCAyMDE5LnBkZg

Data indicates that since the commencement of devolution, the economies of NOREB counties have grown steadily, as counties have had the opportunity to generate Own Source Revenue (OSR) (See Fig. 3.29).

Figure 3.29 GCP per County

	2013	2014	2015	2016	2017
Turkana	51,349	58,064	67,910	73,761	78,301
West Pokot	28,940	33,226	38,432	43,093	46,785
Samburu	14,572	17,076	18,401	23,498	26,503
Trans Nzoia	74,642	85,468	97,622	99,005	116,683
Uasin Gishu	103,861	121,836	135,521	148,668	162,273
Elgeyo Marakwet	55,041	65,504	92,266	126,950	159,531
Nandi	68,892	75,817	92,634	104,412	119,691
Baringo	41,020	49,474	65,837	77,905	92,866
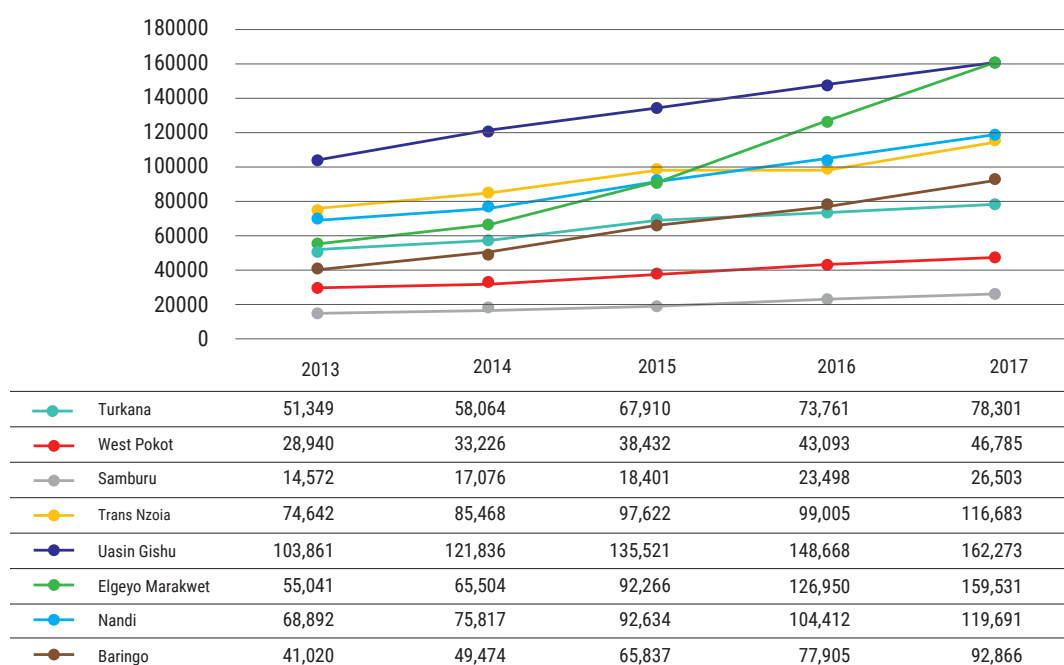
Source: KNBS (2019). [68]

The capacity for revenue generation and actual revenue generated varies across counties. In NOREB, Uasin Gishu County has the largest economy, followed by Elgeyo Marakwet, whose GCP is the most transformed in both the NOREB region and nationally.

Turkana County receives the most funding, while the highest annual average per person is received by Samburu County, followed by Turkana. However, National Treasury transfers and counties' OSR still leave major budget gaps in these counties, especially for development financing. This implies that efforts to enhance OSR must be combined with strategies for local economic development to stimulate growth that can provide increased revenues for development financing. This requires NOREB counties to invest in basic infrastructure and amenities, and support local economic sectors to transform the socio-economic conditions of households.

68   KNBS (2019). Gross County Product Report 2019. KNBS, Nairobi (Table 4 page 21).

Figure 3.30 Cumulative Amount Received by NOREB Counties from the National Treasury

Baringo
28,475,387,045

West Pokot
27,191,934,301

Elgeyo Marakwet
1,051,230,128

Nandi
29,762,514,231

Uasin Gishu
33,150,223,981

Samburu
22,720,297,668

Turkana
61,651,106,857

Trans Nzoia
32,102,772,375
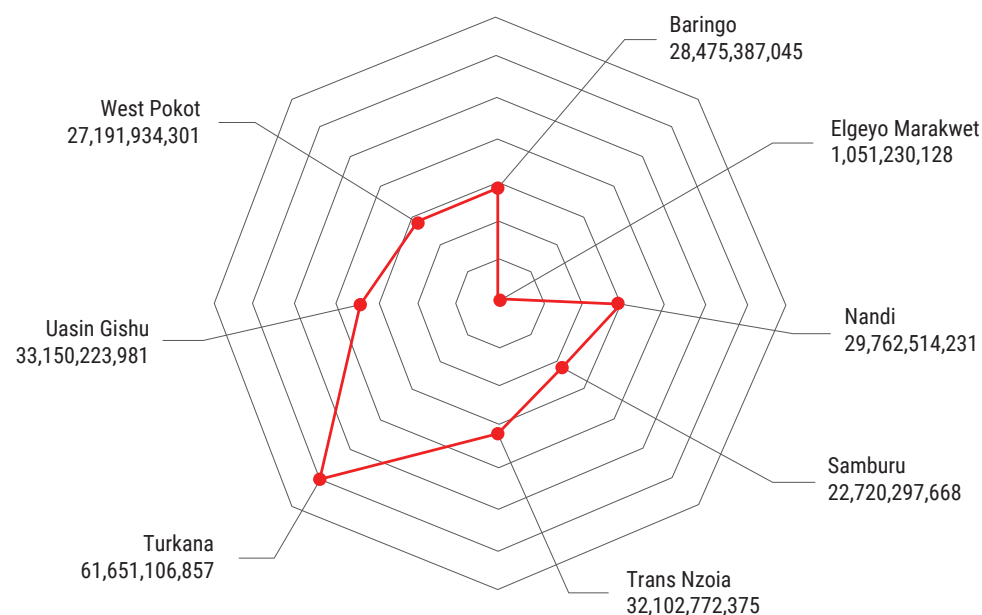
Data Source: National Treasury (2019) [69]

Table 3.4 Payments to Counties, Per Person

	Amount Per Person [Annual Average in KES]
Baringo	8,543
Elgeyo Marakwet	9,483
Nandi	6,588
Samburu	16,909
Trans Nzoia	6,535
Turkana	12,012
Uasin Gishu	6,179
West Pokot	8,840

Source: The National Treasury (2019) [70]

Agriculture

Given their low levels of urbanization, NOREB counties rely on rural-based economies like agriculture and livestock. Indeed, crop farming and livestock production are the main sub-sectors in each county. However, these economies are highly dependent on the urban system in the region, as urban centres provide vital markets for agricultural and livestock produce, as well as access to other markets. The kinds of produce and their associated land use varies across counties, as agro-ecological zones play a major role in determining what type of agricultural or livestock products are produced.

69   National Treasury (2019). Public Statement on the Status of Payments to County Governments. The National Treasury and Planning. Accessed on 20 July 2020: https://treasury.go.ke/media-centre/general-press-releases.html?download=940:nt-public-statement-on-county-fiscal-transfers-for-fy-2018-19&start=20

70   ibid

Figure 3.31 Household Agriculture and Livestock Activities

■ Farming   ■ Crop Production   ■ Livestock Production   ■ Aquaculture   ■ Fishing   ■ Irrigation
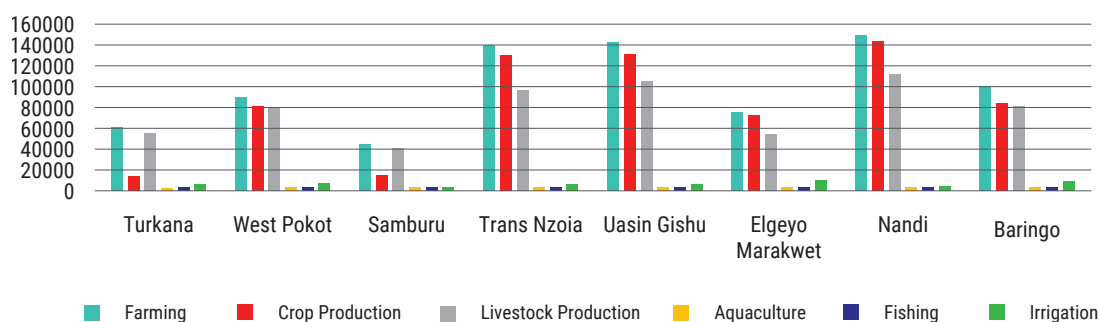
Source: KNBS 2019

Figure 3.32 Distribution of Agricultural Land in Hectares

	Marsabit	Turkana	West Pokot	Samburu	Trans Nzoia	Uasin Gishu	Elgeyo Marakwet	Nandi	Baringo
■ Area of Agricultural Land (Hectares)	86,529	435,576	303,114	205,508	154,167	192,326	68,102	211,761	182,613
■ Area under Subsistence production	60,308	366,142	289,400	177,593	105,145	108,582	55,480	164,111	165,508
■ Area under Commercial production	3,985	1,484	7,666	2,118	47,750	74,336	11,974	46,718	12,459

Source: KNBS (2019)

The counties of Nandi, Uasin Gishu, Trans Nzoia and parts of West Pokot rely on farming as the main means of economic production. Urban centres in these areas, which are mainly small towns, act as services centres that link farms with external markets. Both small holdings and large farms are common in these areas, producing various kinds of products. For example, in Nandi County both tea farming and milk production takes place.

Tea farm in Nandi Hills. © Shutterstock

Livestock Production

Livestock production is a major economic sector in NOREB counties. The main products are meat and milk, with other products including hides and skins. Productivity is dependent on climatic conditions, production methods, types of animals kept, as well as safety issues. For instance, cattle rustling is a major issue affecting the livestock economy in the NOREB region, having transformed from a cultural practice to a highly commercialized criminal venture, where powerful 'cattle warlords' control the activity.[71] Cattle rustling affects mostly ASALs, where livestock production is undertaken via pastoralism and the marketing of livestock at auction markets. As mentioned above, small towns and rural centres act as important auction markets for products that will ultimately be shipped to large cities. Milk production is highest in farming areas, where climatic conditions favour the stocking of high-yielding breeds. These areas include the counties of Elgeyo Marakwet, Nandi, Trans Nzoia, and Uasin Gishu.

---

71   Osamba, J (2002). ILSA Journal of International & Comparative Law [Vol. 8:941].

Box 3.2 Nasukuta Export Abattoir at Nasukuta Livestock Improvement Centre

NOREB has identified West Pokot County as a specialized hub for meat production. Initially a national government project, construction of an abattoir and livestock market facility began on three acres of land at Nasukuta, Chepararia Ward. After March 2017, responsibility for the project was given to the West Pokot County Government. It is expected to employ 1200 persons and service local, national, and international export markets. Speaking during a tour of the facility, NOREB chairperson and Governor of Uasin Gishu County Jackson Mandago said that 'West Pokot has taken a lead in livestock meat processing. The rest of us [other NOREB counties] don't need to [build an] abattoir but bring our livestock here for processing.' Governor Mandago's comments imply that NOREB counties should ensure key projects are not duplicated for economies of scale. It is likely that this facility will likely trigger surrounding urban growth.

Data source: KTN News Kenya (2020). Economic boost: NOREB counties set up hub for meat production in West Pokot. Accessed on 18/06/2020: https://www.youtube.com/watch?v=Q89IFMjNohE

Fisheries

The NOREB region is major producer of fish destined for markets in Kenya and across the EAC because of the Lake Turkana fishing industry. Additional fish production occurs via fish farming using ponds and small reservoirs in Kitale, and other locations across Uasin Gishu, Nandi and Trans Nzoia Counties.[72] In West Pokot County, fish production mainly takes place in the Turkwel Hydro Dam reservoir, while in Baringo County, Lake Baringo, Lake 94 and Kapnarok are the main fishing areas. The Nandi County Government CIDP states that 'a total of 1400 households are currently engaged in fish farming in the county, with a total of 1550 fishponds of which half are occupied… In 2017, fish production reached 220 tons, valued at KES 77 million,

while the potential from all the ponds is 465 tons with a possible value of KES 163 million.'[73] The Baringo County Government CIDP states that 'the freshwater fisheries of Lake Baringo contribute over 80% of total fish production in Baringo County. Approximately 250 tons were landed in 2016 and earned the fishermen KES 75 million… There are 200 artisanal fishermen operating in the lake and fish using small wooden canoes.'[74] Many of NOREB counties' CIDPs indicate that the fishing industry has a greater potential and can be enhanced. However, it should be noted that fishing has not been a key driver of urbanization in the region. For instance, in Turkana County fishing has only created small fishing villages and not major urban centres, despite the economic importance of the industry.

---

72   Trans Nzoia County Government (2018). Trans Nzoia Government Integrated Development Plan 2018-2022. Trans Nzoia County Government, Kitale p. 41-42.

73   Nandi County Government (2018). Nandi County CIDP 2018-2023. Nandi County Government, Kapsabet.

74   Baringo County Government (2018). Baringo County CIDP 2018-2022. Baringo County Government, Kabarnet

Figure 3.33 Settlements Along Lake Turkana
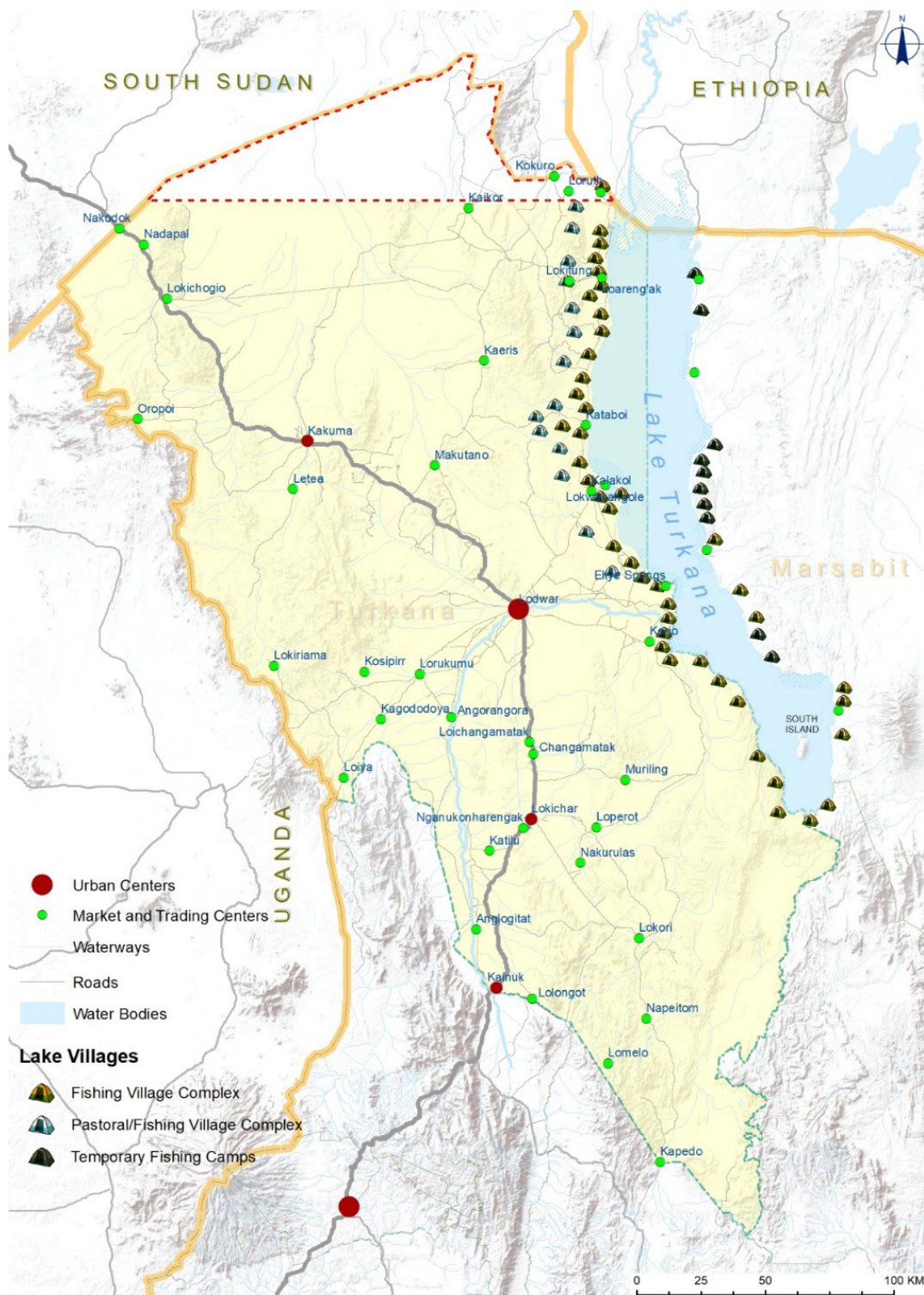
Source: UN Habitat/Turkana West Surveys (2020)

Socio-Economic Context and Policy Implications

This section focusses on household composition, energy, income and employment. While data exists at a county level, there is little data specific to the various towns in NOREB counties. Such data is critical for analysing the urban conditions present in various sizes of urban settlement. Providing such data (both quantitative and qualitative) would require intensive fieldwork that covers the various types of towns, which is not within the scope of this project. However, the county level data still provides an indication of the aggregated conditions that both urban and rural households face in the region.

Household composition

Kenya's national average household size is 3.9 members, with NOREB counties having a significantly higher average household size. The only exception to this is Uasin Gishu County, which reported an average of 3.8 members in the 2019 census. Close to one third of Uasin Gishu County's population resides in Eldoret city. Across all counties, children and youth constitute the largest share of the household members.

Table 3.5 Household Composition in NOREB Counties and Comparison with National Average as per 2019 Census Data

County	Population	No. of Households	Average Household Size
Baringo	662,760	142,518	4.7
Elgeyo Marakwet	453,403	99,861	4.5
Nandi	883,634	199,426	4.4
Samburu	307,957	65,910	4.7
Trans Nzoia	985,333	223,808	4.4
Turkana	922,210	164,519	5.6
Uasin Gishu	1,152,671	304,943	3.8
West Pokot	618,867	116,182	5.3
National	**47,213,282**	**12,143,913**	**3.9**

Data Source: KNBS (2019)

Household Energy

Most households rely on firewood and charcoal energy for cooking. These energy sources are also important economic sub-sectors, especially the trade in charcoal. Urban centres are major consumers of charcoal in Kenya, and the NOREB region no exception. Rural settlements, as producers of firewood and charcoal, experience significant environmental impacts such loss of vegetation cover.

Figure 3.34 Type of Energy Used by Households for Cooking

	Turkana	West Pokot	Samburu	Trans Nzoia	Uasin Gishu	Elgeyo Marakwet	Nandi	Baringo
Solar	0.2	0.4	0.3	0.2	0.1	0.2	0.2	0.1
Charcoal	16.7	7.9	21.1	17.3	22	8.5	7.6	13.3
Firewood	79.8	87.9	73	69.8	46.5	87.1	84.7	81.4
Biogas	0.4	0.3	0.4	0.4	0.4	0.2	0.3	0.3
Gas (LPG)	1.9	2.3	4.5	8.7	24.6	3.1	5.8	4.1
Paraffin	0.4	0.6	0.3	3	5.6	0.4	1	0.4
Electricity	0.4	0.6	0.5	0.6	0.9	0.5	0.5	0.4
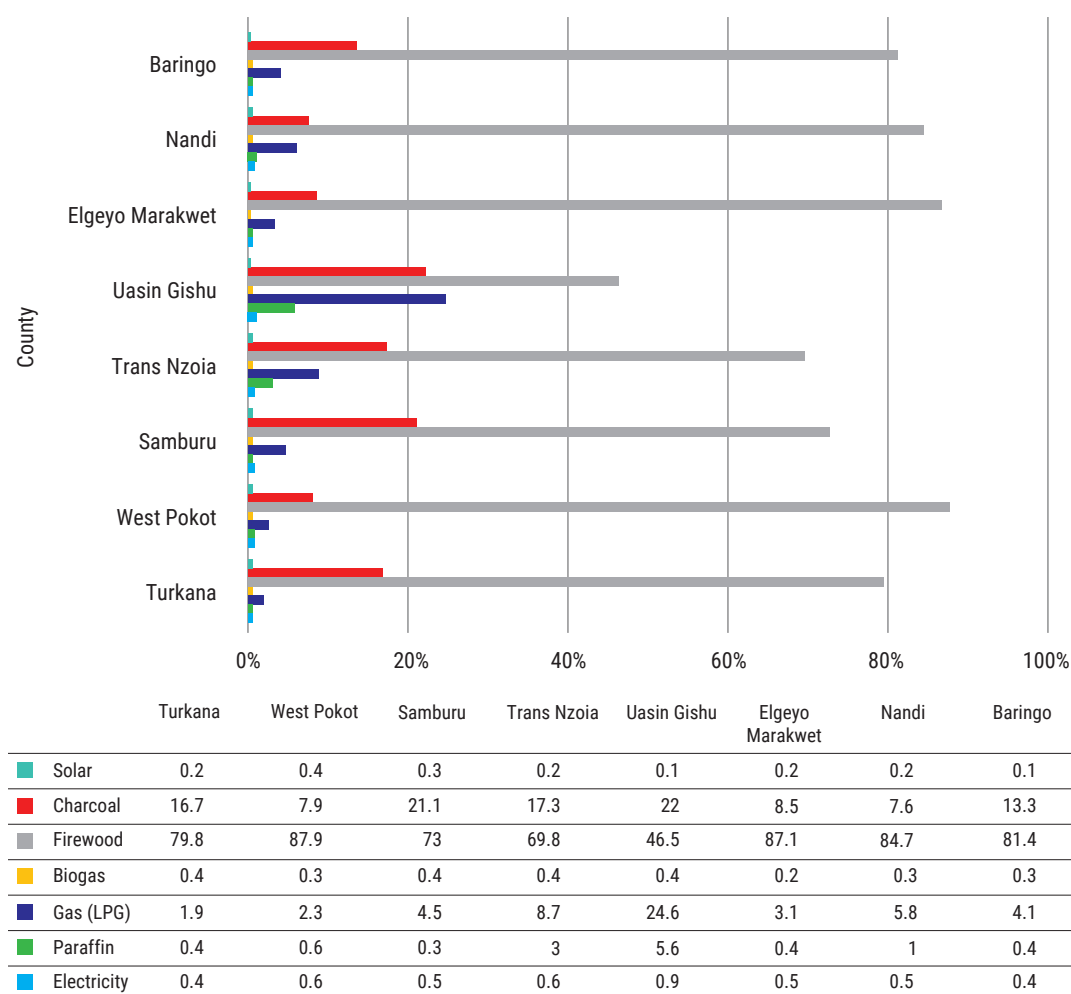
Data source: KNBS (2019)

For lighting, there are variety of sources. Importantly, the penetration of electricity varies significantly with the lowest coverage noted in the ASALs where nomadic pastoralism is dominant. For example, the 2019 census reported that only 1% of the households in Turkana use electricity for lighting, with the vast majority (80%) relying on firewood for lighting. Notably access to electricity is higher among urban households than rural households, with variations when the rural-urban access is compared within a county.

Figure 3.35 Type of Energy Used by Households for Lighting
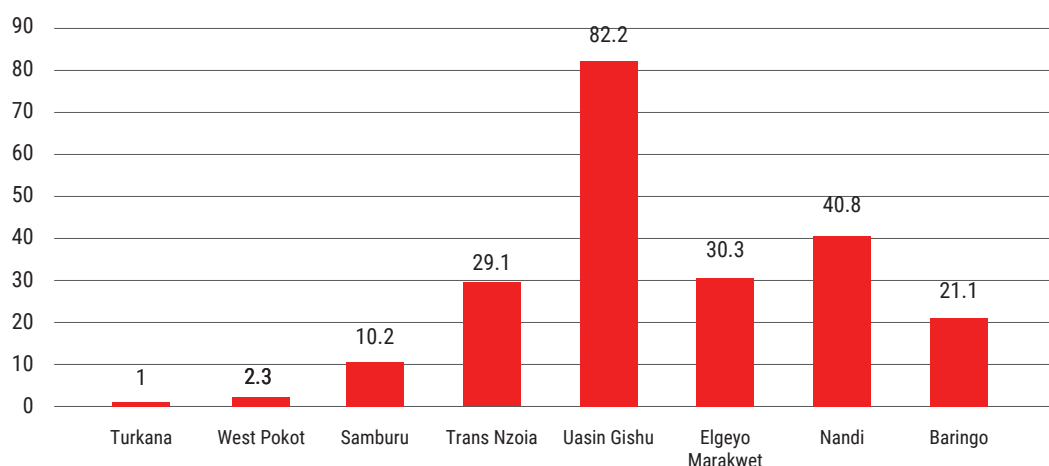
Source: KNBS, 2019

Figure 3.36 Households for Cooking Using Wood Fuel for Lighting

Source: KNBS, 2019

Income and Employment

The informal sector dominates employment in the NOREB region and at a national level,[75] in both urban and rural economies. The Kenyan Bureau of Statistics has reported the dominancy of the informal sector in creating new jobs in recent 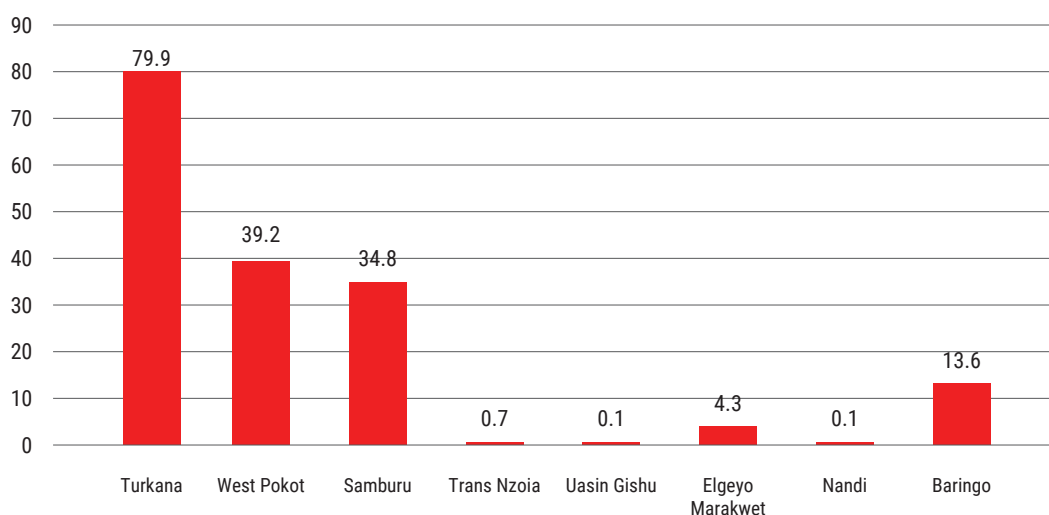years, noting in 2019 that 'with the shrinking job creation in the formal sector, the majority of the youth who exit from learning institutions and individuals who leave formal employment easily join the informal sector… The informal sector created 767.9 thousand (767,900) new jobs, which constituted 90.7 per cent of total new jobs created outside small-scale agriculture.'[76] This indicates that if small-scale agriculture is also included, the informal sector accounts for even more jobs.

75 'The Kenyan informal sector covers mainly small-scale activities that are normally semi organized, unregulated and use low and simple technologies.' – Kenya Economic Survey 2020.

76   Kenya National Bureau of Statistics (2020). Kenya Economic Survey 2019. KNBS, Nairobi.

Figure 3.37 New Employment Creation in Kenya
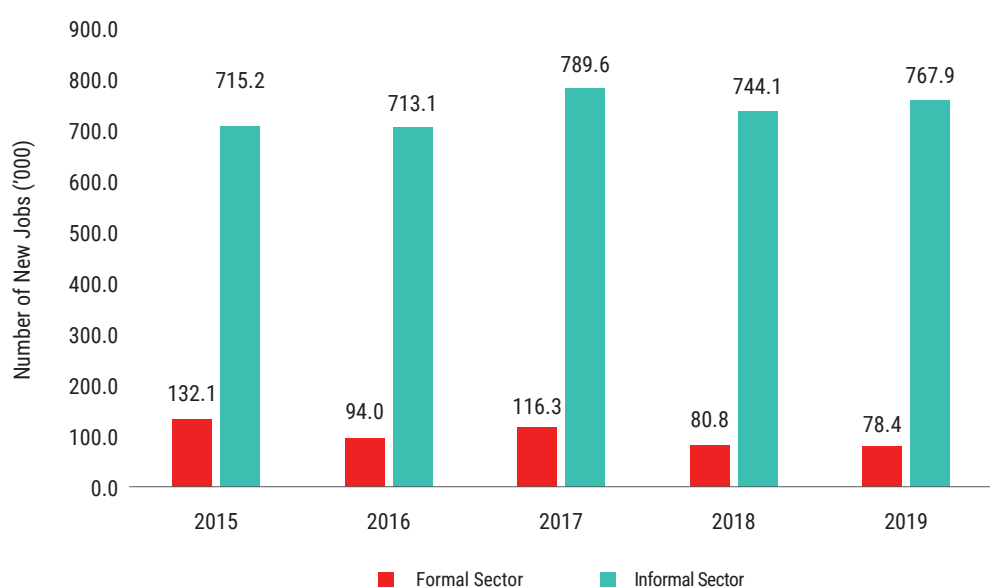
Source: KNBS (2020)

Table 3.6 Persons Engaged in the Informal Sector by Activity, 2015-2019

Activity	2015	2016	2017	2018	2019*
Manufacturing	2,438.8	2,596.2	2,728.9	2,878.8	3,044.9
Construction	307.2	322.9	348.6	367.8	385.2
Wholesale and Retail Trade, Hotels and Restaurants	7,196.6	7,612.5	8,111.3	8,557.1	9,005.6
Transport and Communication[2]	376.2	399.7	422.3	445.5	470.2
Community, Social and Personal Services	1,168.5	1,239.0	1,316.1	1,388.2	1,462.5
Others	549.5	579.7	612.6	646.2	683.2
Total	**12,036.8**	**12,749.9**	**13,539.6**	**14,283.6**	**15,051.6**
Urban	4,271.4	4,511.8	4,801.9	5,070.7	5,337.4
Rural	7,765.4	8,238.1	8,737.6	9,212.9	9,714.2

* Provisional
1 Estimated
2 Includes mainly support services to transport activity

Source: KNBS (2020)[77]

Livestock keeping is the main source of income for the ASAL areas such as Turkana and Samburu Counties. In counties like Nandi, Trans Nzoia and Uasin Gishu, farm agriculture is the main forms of household sustenance. Notably, the urban economies in NOREB towns are highly interlinked with the agricultural and livestock production economies of the hinterlands. Only Eldoret town has a relatively more diversified urban economy, perhaps owing to its large size and role as a major secondary city in Kenya. Handicrafts are a significant alternative industry in the region, such as Turkana County's *duom* palm laundry baskets, which 'continue to occupy a place in the international market.'[78]

77   ibid
78   Republic of Kenya (2018). Integrated National Export Development and Promotion Strategy plus Implementation Plan. State Department for Trade, Nairobi.

Marginalisation and Potential Transformation from Regional Infrastructure Investments

The wider northern Kenya region, which is largely classified as ASALs, has been nationally recognised as marginalised and disproportionately disadvantaged, though this excludes Nandi, Uasin Gishu, and Trans Nzoia Counties. In fact, these three counties are among the most productive agricultural areas in Kenya. Therefore, the marginalisation aspect of NOREB needs to be understood in the geographical context of ASALs.

Special attention has been given to this region in several policy documents, particularly the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007 and the Kenya Vision 2030 growth strategy.[79] Due to decades of historical marginalisation, ASAL counties receive a relatively higher allocation from the national government's Equalization Fund following Kenya's 2010 constitutional reforms,[80] as well as constitutional recognition of communal land ownership that dominates ASAL regions.[81]

The creation of county governments is major opportunity for ASALs to grow and develop, as counties have powers to generate revenue, formulate and implement development plans, and enjoy semi-autonomous powers that include legislating and entering into transactions. However, this opportunity will only translate into actual growth and development if counties execute this mandate effectively and attract the necessary support from the national government. Currently, most of the counties are reliant on national government transfers, with OSR remaining only a small fraction of county revenue streams. In its CIDP, the Baringo County Government states that 'actual collections from OSR have significantly increased from Ksh. 201.5 million in the 2013/14 financial year to 286.5 million in the 2016/17 financial year. Actual collections for 2014/15 and 2015/16 financial years were 249.7 million and Ksh. 279.7 million respectively.'

> 'Northern Kenya displays many of the characteristics of remote rural areas caught in chronic poverty traps, which face multiple and interlocking forms of disadvantage. Isolation, insecurity, weak economic integration, limited political leverage, and a challenging natural environment combine to produce high levels of risk and vulnerability.'*
>
> ** Republic of Kenya (2012). Sessional Paper No. 8 of 2012 on National Policy for the Sustainable Development of Northern Kenya and other Arid Lands. Ministry of State for Development of Northern Kenya and other Arid Lands, Nairobi.*

The development of strategic infrastructure could be a major opportunity for leveraging the economic potential of the NOREB region. Such an opportunity is represented by the ongoing A1 road construction and the LAPSSET corridor.

---

79 Odhiambo, M (2013). The ASAL Policy of Kenya: Releasing the Full Potential of Arid and Semi-arid Lands – An Analytical Review. Food and Agriculture Organization of the United Nations.
80 Article 204 of Kenya Constitution 2010.
81 Article 63 of Kenya Constitution 2010.

'LAPSSET therefore is aimed at redressing regional inequality occasioned by past development strategies which were skewed in favour of Kenya's high-potential areas and which only succeeded in increasing social disparity within the 89% of Kenya described as Arid and Semi-Arid and home to 36% of the national population who currently feel marginalised on account of disproportionately high poverty levels, poor dietary intake, poor access to social infrastructure and basic facilities, high infant mortality, poor enrolment in schools and generally low quality life.'*

LAPSSET CDA (2017). Strategic Environmental Assessment-SEA in the LAPSSET Corridor Infrastructure Development Project (LCIDP) – Draft Report. LCDA, Nairobi.

Emerging Issues in Economic Growth and Transformation in Northern Kenya

Counties in the northern region face various challenges to the economic and development transformation. These barriers are largely linked the historic marginalisation of the ASAL regions.

- **Poor infrastructure and its impact on market access** – poorly developed transportation and water supply infrastructure is a major barrier to local economic development and sustainability. For example, a study by Kenya Markets Trust (2019)[82] analysed livestock value chains, and noted the increased costs of business associated with transporting products sourced from the counties of northern Kenya, including Turkana County. This increases the gap in accessing markets.

- **Urban Management Challenges** – As previously discussed, the largest share of the population in NOREB live in rural areas, while the region's urban centres play an important socio-economic role. However, these urban areas face numerous urban management challenges that limit their capacity to shape structural transformation in the region. These challenges including rapid growth with insufficient urban planning, poor provision of basic services, underdeveloped infrastructure, unemployment and urban poverty, and a lack of dedicated municipal administration.

- **Education and Human Resource Capacity** – Low education attainment especially in the ASALs have undermined skills development and diversification of livelihood strategies.

- **Water Scarcity** – A vast region of NOREB i.e. the ASALs is a water scarce region that requires major investments in strategic water supply to address prevailing socio-economic problems.

- **Human security challenges** - The World Food Program (WFP, 2016)[83] has identified insecurity along the transit routes in Turkana County as a major threat to the supply chain of commodities. Security problems increase costs for traders, who then increase the prices of commodities, ultimately compelling households to pay more. Indeed, cases of cattle raids and inter-community conflicts are common in the region (Obika & Bibangambah, 2013)[84]. These conflicts are also linked to access to water and pasture in a region where droughts are recurrent. Drought is one of the most significant threats to human security in the ASAL areas of NOREB.

82   Kenya Markets Trust (2019). Political Economy Analysis of the Livestock Sector: 2019 Report.
83   WFP (2016). Country Programme Kenya (2014-2018): Standard Project Report 2016. World Food Programme.
84   Obika, J & Bibangambah, H (2013). Climate Change and Peacebuilding among Pastoralist Communities in Northeastern Uganda and Western Kenya. In Omeje, K & Hepner, T (edts). Conflict and Peacebuilding in the African Great Lakes Region. Indiana University Press. muse.jhu.edu/book/23700.

According to the National Drought Management Authority (NDMA), 'droughts may lead to a decline in food production, affect the migratory patterns of pastoralists, exacerbate resource-based conflict, and cause substantial loss of assets, triggering acute food insecurity among vulnerable households and placing a heavy strain on both the local and national economies... While climate variability is a normal characteristic of dryland ecosystems, it will become more pronounced and unpredictable with climate change.'[85]

Figure 3.38 Section of NOREB with High Risk of Insecurity
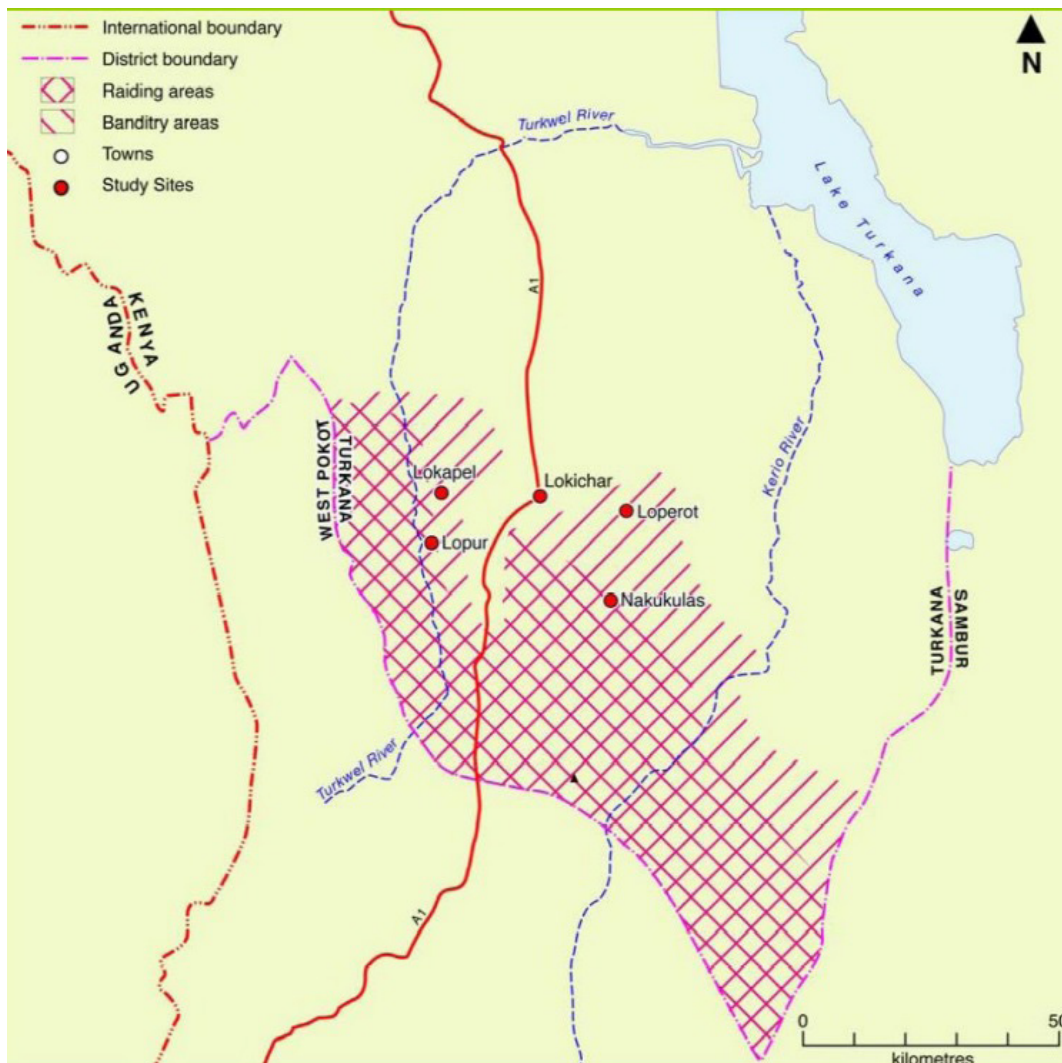
Source: KeNHA (2015)

- **Natural Disasters and Climate Change** – These have a major impact on livestock production and livelihoods, with prolonged droughts often linked with excessive losses of livestock. This reduces economic productivity and escalates poverty conditions. It is also linked to drought-affected households shifting away from pastoral livestock keeping to urban-based economies. Loosing livestock can instantly cast a household into a poverty trap. As the LCDA notes, 'Without animal assets to produce food for their own consumption, stockless households are highly dependent on cash earnings to survive and end up working in towns as unskilled labourers (often in food-for-work schemes) or pursue petty trade in firewood, charcoal, and illicit brews.'[86]

85 National Disaster Management Authority (2013). Sector Plan for Drought Risk Management and Ending Drought Emergencies: Second Medium Term Plan 2013-2017. https://www.ndma.go.ke/index.php/resource-center/policy-documents/send/44-policy-documents/4310-vision-2030-sector-plan-for-drought-risk-management-and-ede-2013-17

86 LAPSSET CDA (2017). Strategic Environmental Assessment-SEA in the LAPSSET Corridor Infrastructure Development Project (LCIDP) – Draft Report. LCDA, Nairobi.

CHAPTER 4.   URBANIZATION IN TURKANA COUNTY

Introduction

Turkana County is the second largest county in Kenya in land size, after Marsabit County. However, it has a long history of marginalisation in terms of public development financing, both in colonial and postcolonial Kenya.

'Turkana County, a vast rangeland area on Kenya's northwest frontier with the country's highest poverty rate, embodies the contradictions inherent in the centre's changing relationship with northern Kenya's margins. Seen from the perspective of the state, Turkana was of little value and, hence, successive regimes did not invest in basic infrastructure, services or the local pastoral economy. The economic blueprint for Kenya after independence, the Sessional Paper no. 10 (1965) …, enshrined as official policy the unequal expenditure of public funds and distribution of government services to benefit the agricultural highlands.'

This chapter highlights the nature of urbanization in Turkana County, including the impact of pastoralism, the geographical distribution of urbanization and the significance of refugees in the county's urbanization.

Pastoralism and Urbanization

In Turkana County, 15% of the county's population (140,191 of 926,976 individuals) reside in urban centres.[87] Given the limited infrastructure that has been developed in the Turkana County, settlement patterns are highly influenced by the availability of water and pasture, as a majority of households practice nomadic pastoralism, and a few practices sedentary pastoralism, facilitated by a communal tenure system. The areas bordering Uganda tend to have the least severity to drought; hence, relatively better access to water and pasture for the pastoralists. Fundamentally, the nomadic settlements, small towns and villages, mostly located near water resources. The Turkwel and Kerio rivers are main water sources that have attracted settlements at various points along their courses, while Lake Turkana, in the east of the county, has also attracted many settlements.[88]

---

87   KNBS (2019).
88   World Bank (2013).

Figure 4.1 Drought Severity in Turkana County
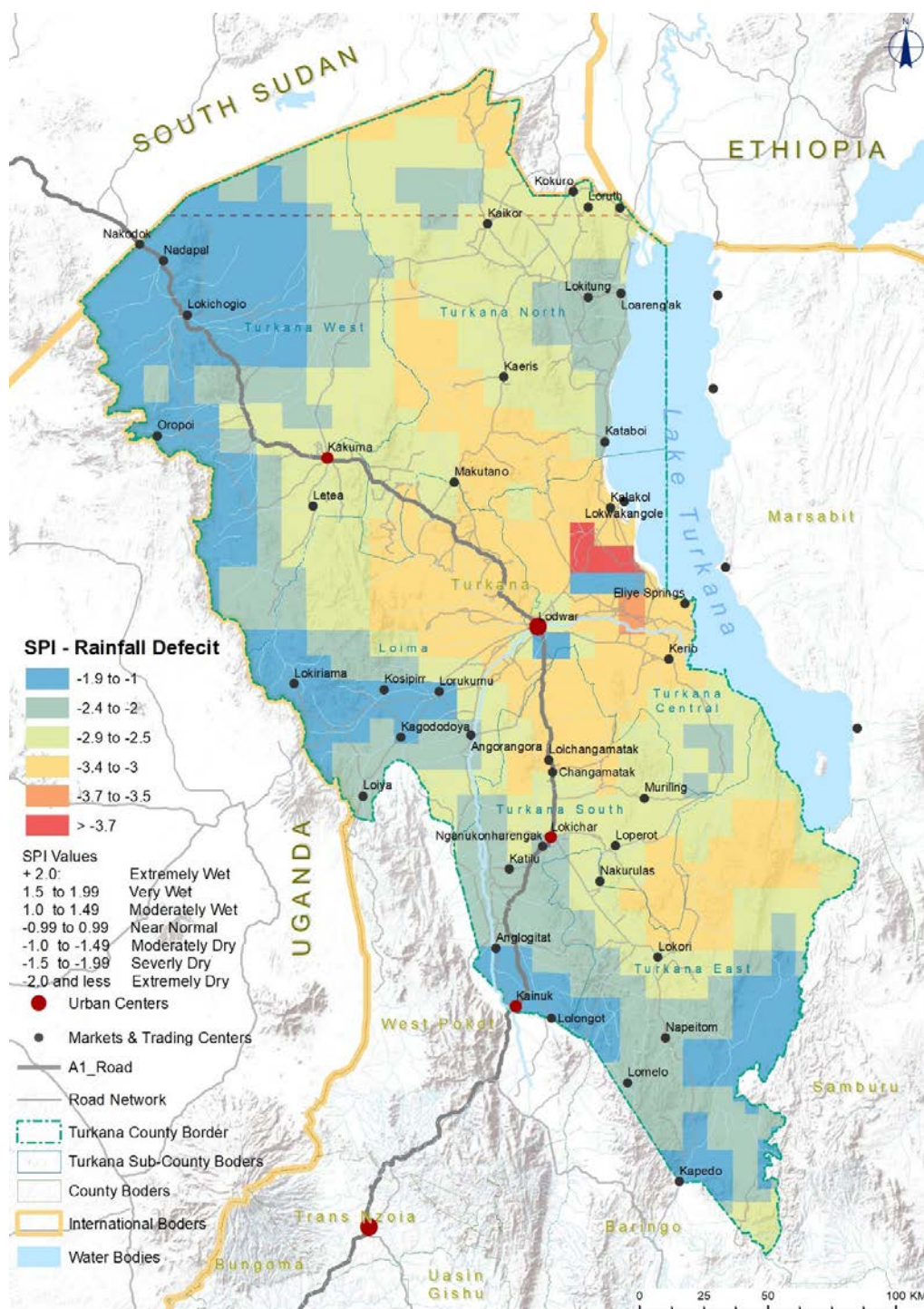
Source: UN-Habitat/Turkana West Surveys 2020

Nomadic pastoralism promotes settlements that are temporal or seasonal, depending on the availability of pasture and water. Notably, climatic conditions in Turkana are unsuitable for crop farming, which tends to enhance settlements, as noted with regards to the farming NOREB counties of Nandi, Trans Nzoia and Uasin Gishu. Although some crop farming occurs in Turkana, significant investments in rainwater harvesting and irrigation farming are needed to make it viably competitive. For example, some settled communities practice irrigated farming along the Turkwel River, Kerio River and other

flood plains, with their production determined by the volume of water available, among other factors.[89] Ultimately, investments that promote alternative livelihood strategies are urgently needed, as pastoralists continue to face harsh conditions brought about by recurring droughts and famine. Such alternatives include irrigated agriculture and basketry, which is common among women in areas around Eliye Springs, Kaboi, Kerio and Turkwel. These industries remain underdeveloped and require interventions to boost their productivity and commercial potential.

Table 4.1 Agro-Ecological Zones in Turkana County

#	Division	Area (Km²)	AEZs	Current use	Potential land use
1	Lokichogio	9126	Lower midlands (LM5) Inner lowlands 6 (IL6)	Livestock keeping	Livestock keeping, water harvesting for farming
2	Kaaleng	10830	Inner lowlands 6 (IL6) Inner lowlands 7 (IL7)	Livestock keeping	Livestock keeping
3	Lapur	4652	Inner lowlands 7 (IL7)	Livestock keeping	Livestock keeping
4	Lokitaung	5208	Inner lowlands 7 (IL7)	Livestock keeping	Livestock keeping
5	Kibish	5127	Unsurveyed area	Livestock keeping	Livestock keeping, water harvesting for farming
6	Lokichar	2913	Inner lowlands 5, 6 & 7 (IL 5, 6 & 7)	Livestock keeping	Livestock keeping
7	Oropoi	5348	Inner lowlands 5 (IL5) Inner lowlands 6 (IL6)	Livestock keeping Sorghum growing	Livestock keeping, water harvesting for farming
8	Lokori	5008	Inner lowlands 4, 5, 6 & 7 (IL 4, 5, 6 & 7)	Irrigation sorghum and maize growing; Livestock	Livestock keeping, water harvesting for farming, irrigation
9	Lomelo	5962	Lower midland 5 (LM5) Inner lowlands 5, 6 & 7 (IL5, 6, 7)	Livestock keeping	Livestock keeping
10	Katilu	1187	Inner lowlands 5 & 6 (IL5 & 6) Lower midlands 5 (LM5)	Irrigation scheme Sorghum and maize growing, livestock	Livestock keeping, water harvesting for farming, irrigation
11	Kainuk	2504	Inner lowlands 4 & 5 (IL5 & 6) Lower midlands 5 (LM5)	Irrigation scheme; Sorghum and maize growing, Mangoes and pawpaws; livestock keeping	Livestock keeping, water harvesting for farming, irrigation
12	Central	2099	Inner lowlands 7 (IL7)	Livestock keeping, very little agriculture	Livestock keeping, water harvesting for farming, irrigation
13	Kerio	2703	Inner lowlands 7 (IL7)	Livestock keeping, very little agriculture	Livestock keeping, water harvesting for farming, irrigation
14	Kalokol	3470	Inner lowlands 7 (IL7)	Livestock keeping, very minimal agriculture	Livestock keeping, water harvesting for farming
15	Turkwel	3093	Inner lowlands 5, 6 & 7 (IL5, 6 & 7)	Irrigation scheme and livestock keeping	Livestock keeping, water harvesting for farming, irrigation
16	Loima	2174	Inner lowlands 5 & 6 (IL5 & 6)	Livestock keeping,	Livestock keeping
17	Kakuma	5596	Inner lowlands 6 & 7 (IL6 & 7)	Livestock keeping, little farming	Livestock keeping, water harvesting for farming
	Total	**77000**			

Source: World Bank (2013).

---

89   Ibid.

Urban Distribution and Geography

Lodwar is the largest urban centre in the Turkana County, with the other major centres being Kakuma, Lokori, and Lokichoggio. However, Kakuma becomes the largest urban area when the refugee population is counted. Kenya's official 2019 census population statistics do not include refugee numbers as party of Kakuma town's population.

Figure 4.2 Major Urban Centres in Turkana County
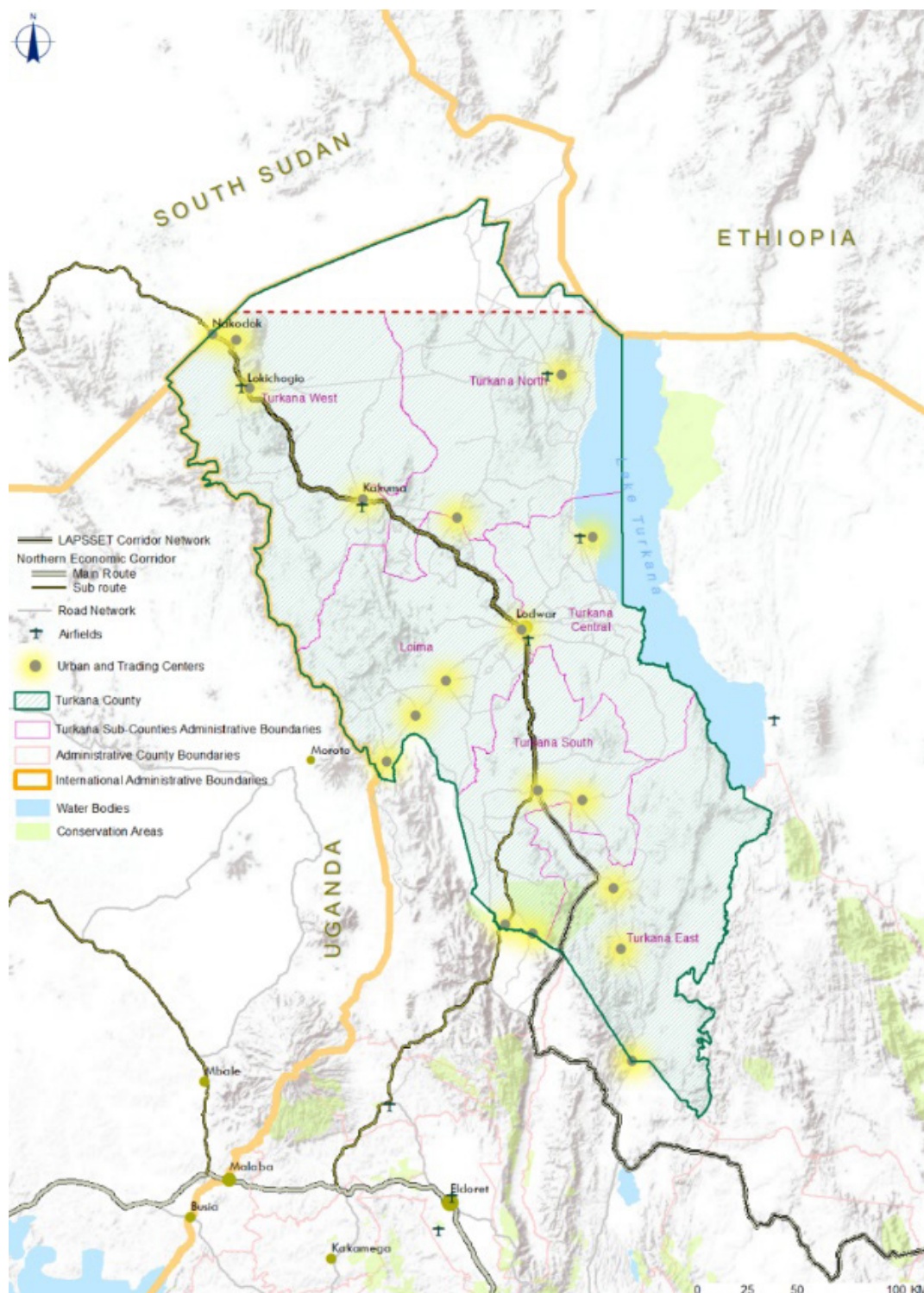
Source: UN-Habitat/Turkana West Surveys 2020

The distribution of the county's urban population can be categorized as follows:
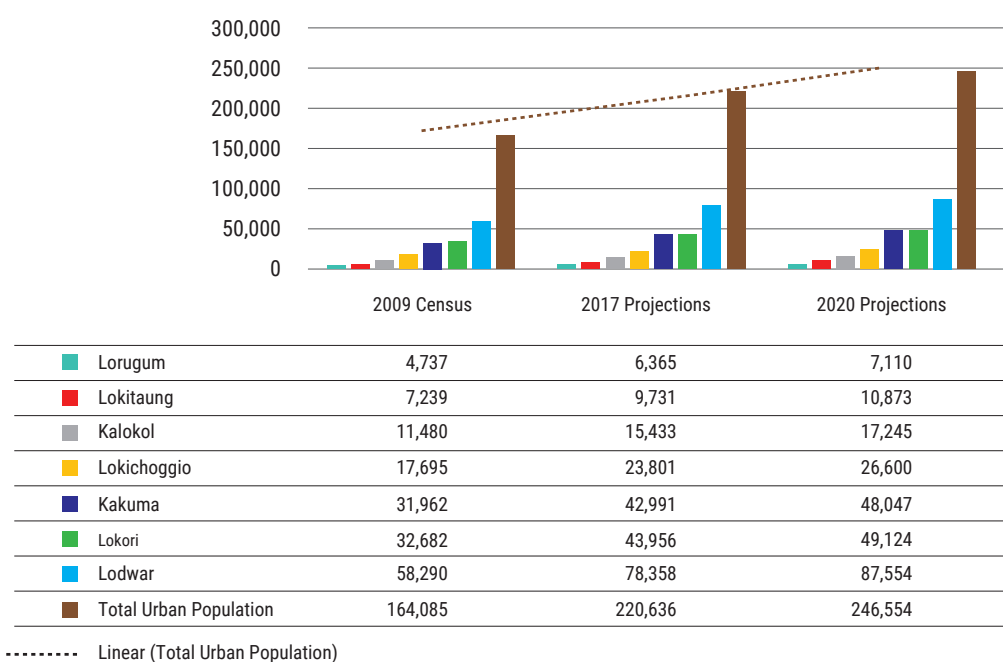
- **Large Towns** – Lodwar and Kakuma. These towns offer formal employment (mainly NGOs and INGOs), livestock markets, transport businesses and active airstrips. Kakuma's growth is attributed to the presence of refugee settlements and the related operations of support organizations. Lodwar is the county administrative capital and largest commercial hub in Turkana.

- **Small Towns** – These are second level towns with livestock markets, decentralised county administration, trade and commerce, relatively small resident populations, and minimal operations by NGOs. They include Lokichar, Kainuk, Lokori and Lokichoggio. Small lake towns that depend on fishing include Kalokol and Lowarengak. Lowarengak is closer to Ethiopia and relies on cross-border trade. Lokichar's recent growth has been catalysed by the establishment of oil and gas exploration activities and speculation around LAPSSET.

- **Rural Market Centres** – these are small centres that are mainly characterised by shops and small livestock markets, with predominantly 'day-time' population and relatively small 'night-time' population. They include Kaaleng, Kalemunyang, Letea, Lokitaung, Kalemungorok, Makutano, Oropoi, Turkwel etc.

Figure 4.3 Urban Growth Projections by Turkana County

	2009 Census	2017 Projections	2020 Projections
Lorugum	4,737	6,365	7,110
Lokitaung	7,239	9,731	10,873
Kalokol	11,480	15,433	17,245
Lokichoggio	17,695	23,801	26,600
Kakuma	31,962	42,991	48,047
Lokori	32,682	43,956	49,124
Lodwar	58,290	78,358	87,554
Total Urban Population	164,085	220,636	246,554

-------- Linear (Total Urban Population)

Data Source: Turkana County CIDP 2018-2022

The Turkana County CIDP 2018-2022 attributes increasing urbanization to:

- Drought, which continues to push a section of the rural pastoral population to urban centres.

- Increasing youth population who wish to shift from rural pastoralism to alternative livelihood strategies, some perceived to exist in the urban centres.

- Refugee hosting in Turkana West Sub-County has contributed to the rapid expansion of Kakuma and Lokichoggio towns.

Increasing incidences of drought have contributed to the establishment of more permanent rural settlements – a shift from nomadic temporary villages. This consolidation of clustered rural settlements signals a gradual change in human settlements organization in Turkana County.[90]

The Lake Economy and Urbanization in Turkana

Lake Turkana is the largest desert lake in the world[91] and is surrounded by Kenya and Ethiopia, with the largest part lying on the Kenya side. The lake stretches 250 km from north to south, about 30 km wide, with depths averaging 30 metres, but is over 100 metres in the deepest point (Avery et al, n.d)[92]. As such, the lake is an important resource whose governance requires multilateral engagements. Ethiopia's construction of the Gibe III dam on the Omo River risked the Lake's national parks being declared as endangered World Heritage sites.[93] Ethiopia has constructed additional dams (Gibe I and II), with

future plans for Gibe IV and V on Omo River (ESI Africa, 2014)[94]. Fluctuations in the lake's water levels associated with these dams and irrigation schemes is a major ecological concern, compounding already existing concerns about the effects of climate change.[95]

'Although Lake Turkana may have the potential to increase food security in a region where reliance on food aid is ubiquitous, the sustainability of the fishery has not been extensively studied. Pastoralism has been the preferred livelihood of people surrounding the lake for the last few thousand years, but fishing provides an important alternative and a 'safety net' livelihood in the region. Currently, one of the largest obstacles faced by the Lake Turkana fishery is postharvest losses, which can be as high as 50%' [96]

90   Turkana County Government (2018). Turkana County CIDP 2018-2022. Turkana County Government, Lodwar.
91   UNESCO (2020). Lake Turkana National Parks. Accessed 03 July 2020: https://whc.unesco.org/en/list/801/
92   Avery, S et al (n.d). Lake Turkana – monitoring the 'Jade Sea' from space. ESA Diversity II Biodiversity Story. . Accessed 03 July 2020 at: http://www.diversity2.info/products/documents/DEL8/D2Story-Turkana.pdf
93   UNESCO (2018). Lake Turkana National Parks (Kenya) inscribed on List of World Heritage in Danger. Accessed 03 July 2020: https://whc.unesco.org/en/news/1842
94   ESI Africa (2014). Two more dams for Ethiopian power generation. Accessed 03 July 2020: https://www.esi-africa.com/top-stories/two-more-dams-for-ethiopian-power-generation/
95   https://www.researchgate.net/publication/311786385/figure/fig4/AS:451407741493251@1484635400628/Fishing-and-mixed-fishing-pastoral-Turkana-village-areas-at-Lake-Turkana-Major-village.png
96   Ojwang, W. & Obiero, Kevin & Donde, Oscar & Gownaris, Natasha & Pikitch, Ellen & Omondi, Reuben & Agembe, Simon & Malala, J. & Avery, S.T.. (2016). Lake Turkana: World's Largest Permanent Desert Lake (Kenya). 10.1007/978-94-007-6173-5_254-1.

Figure 4.4 Turkana County Urban Economic Clusters
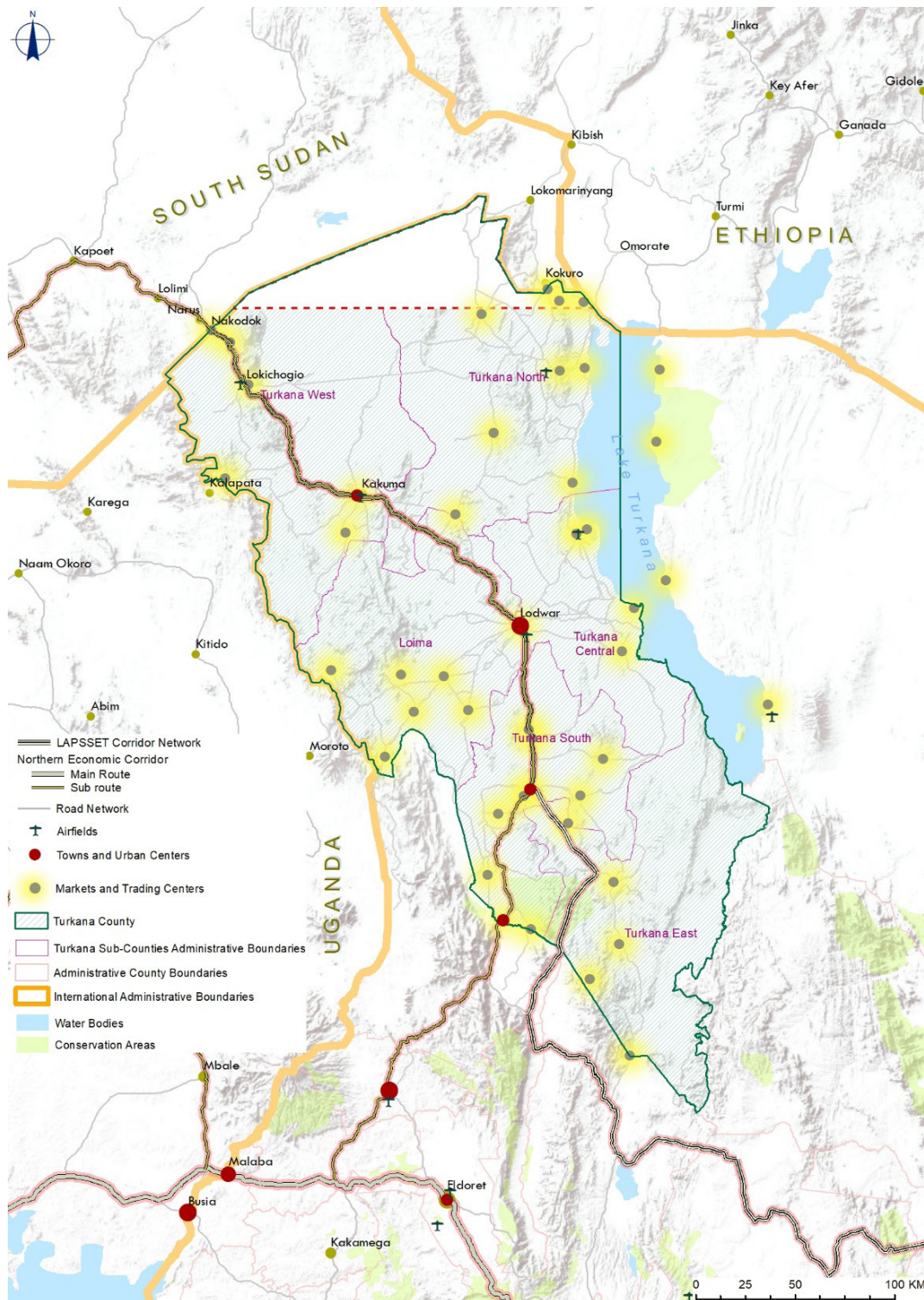
Source: UN-Habitat/Turkana West Surveys (2020)

However, the economic potential and growth of urban centres on the lake's shores are hampered by a dearth of properly developed infrastructure linking the area with Kanya's main urban centres and economic activities. Current road infrastructure is of poor quality which increases the costs of physical connectivity to the lake's shores. Improved infrastructure will greatly transform the fishing industry and the lake's urban development.

Figure 4.5 Market Flows for Lake Turkana Fish Products
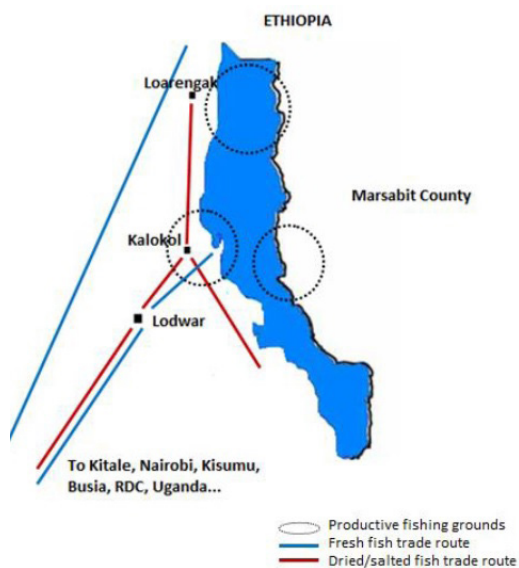
Source: SNV Netherlands Development Organisation (2016)

The recent discovery of oil in Turkana County has prompted increased interest in Lake Turkana.[97] The national government, through LAPSSET, has proposed a Resort City in one of the Lake's islands. However, the reality of achieving these investments needs to be imagined in the context of the complexities that faces implementation of mega projects.

The lake is also an important ecological and historical heritage site. UNESCO describe the lake as follows:

'The most saline of Africa's large lakes, Turkana is an outstanding laboratory for the study of plant and animal communities. The three National Parks serve as a stopover for migrant waterfowl and are major breeding grounds for the Nile crocodile, hippopotamus and a variety of venomous snakes. The Koobi Fora deposits, rich in mammalian, molluscan and other fossil remains, have contributed more to the understanding of paleo-environments than any other site on the continent.' - UNESCO[98]

Urban Centres and the Livestock Economy in Turkana

In Turkana County, periodic livestock markets are a major factor influencing the growth of towns. Considering livestock markets, a study by Oxfam and the Turkana County Government categorised towns in Turkana as follows:

- 'Lodwar, Kakuma and Lokichar: Large or growing towns with NGOs, livestock markets, transport businesses, and active airstrips[99].

- Kainuk, Lokori, Lokichokio: Second level towns with small livestock markets and fewer NGOs.

- Kalokol, Kataboi and Lowarengak: Small lake-side towns dominated by the fishing business and trade with Ethiopia and Marsabit.

- Kaaling, Kalemunyang, Letea, Kalemungorok, Turkwell, Lorugum, Lokiriama: The smallest towns with small livestock markets, but growing fast.'[100]

97   Ibid.

98   UNESCO (2020). Lake Turkana National Parks. Accessed 03 July 2020 at: https://whc.unesco.org/en/list/801/

99   The three towns are quite different due to the presence of the refugee camp in Kakuma, oil mining in Lokichar and Lokichoggio having faced exit of refugee-based operations that saw it's decline.

100 Oxfam GB and Turkana County Government (n.d). Market-driven value chain for the livestock sector Turkana County Report.

Figure 4.6 The Connection Between Clustered Settlements and Network of Livestock Markets in Turkana County
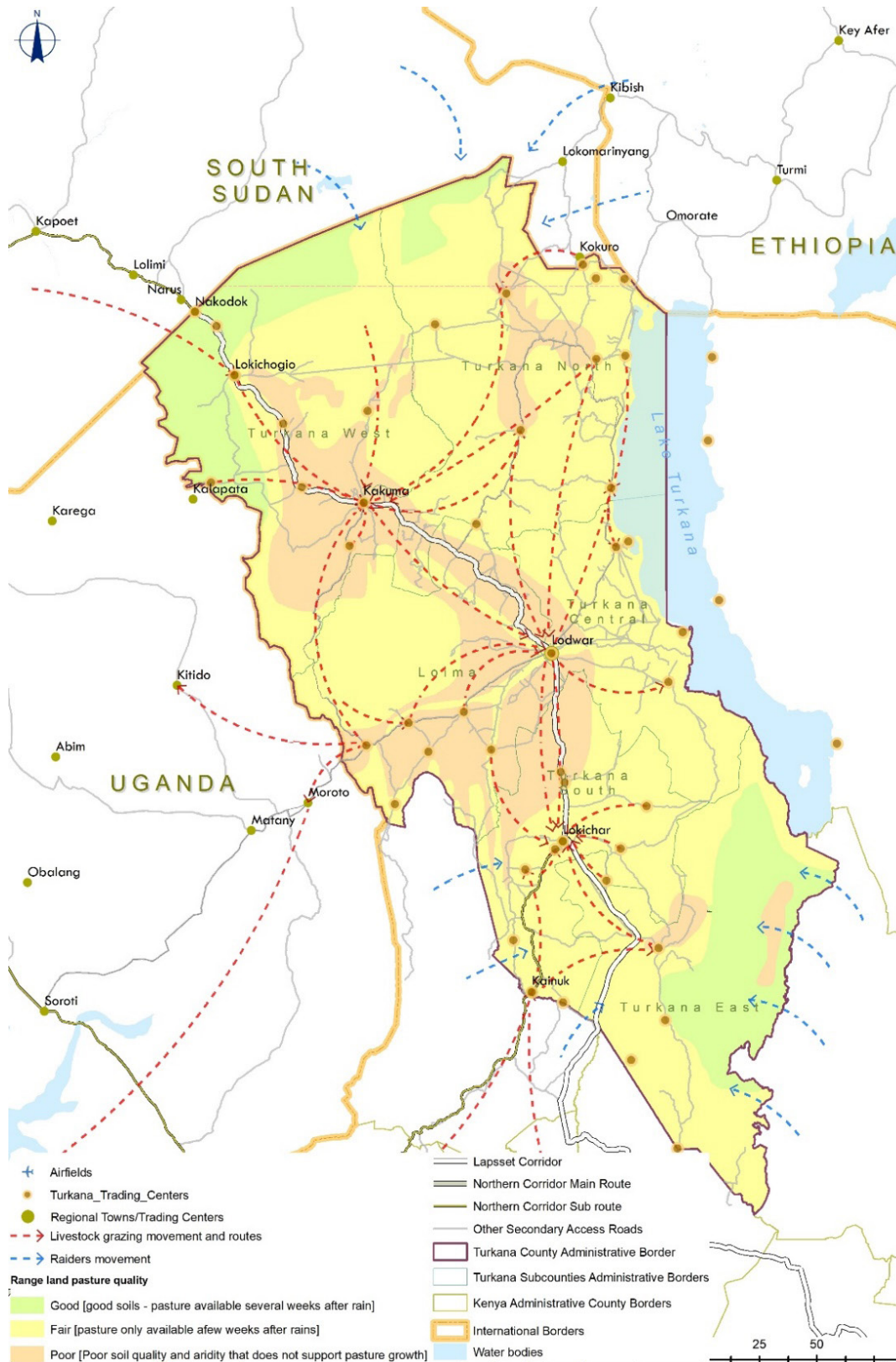
Map Redrawn by UN-Habitat/ Source: Oxfam GB and Turkana County Government

This study established connections of local production with external livestock markets outside the county, including Nairobi, Nakuru, Kitale, Chwele, Bumala, Baringo, Marigat, Amakuriat market in West Pokot, Moroto market in Uganda, and markets in Juba (South Sudan).

Refugees and Urbanization in Turkana West

According to the County Government of Turkana, increasing urbanization in the county is largely driven by rural-urban migration, associated with diminishing prospects of livelihoods sustenance through traditional pastoralism.[101] Recurrent droughts have compelled many households to seek alternative livelihoods including urban-based opportunities. Similarly, young people are increasingly opting to migrate to the county's major urban centres in search of alternative livelihoods, as well as education and training. Clustered settlements are also consolidating, with increasing numbers of households choosing sedentary agriculture (e.g. along the Turkwel River) or a combination of sedentary and nomadic pastoralism, along with other alternative livelihood means, such as craft industries (e.g. basketry) and fishing (along the shores of Lake Turkana) and other varied business activities.[102]

'Population growth, the expansion of the youth population and the impact of recurrent droughts upon pastoralist communities have resulted in rapid levels of urbanization in Turkana County.'- Turkana County CIDP 2018/22 p.19

Lodwar, the county's largest urban centre, is expanding at a very rapid rate. The town's population grew from 44,153 residents in 2009 to 82,970 residents in 2019.[103] However, as in many regions of Kenya, this rapid urbanization has not been matched by the provision of adequate infrastructure and housing, nor the availability of adequate income generating activities, resulting in increasing urban poverty levels. Fundamentally, the arid and semi-arid conditions of Turkana County and the legacy of its historical marginalisation compound the socio-economic challenges facing the growing urban centres and rural settlements.

However, Kakuma town – the second largest urban centre in the county – has experienced a decline in population, according to data from Kenya's population census of 2019.[104] This goes against expectations that the town should be recording a high influx of rural migrants seeking opportunities due to the economic benefits associated with the presence of the refugee settlements near the town. The county government in 2019 issued a statement questioning KNBS over the recorded decline of population, citing inadequate coverage of the vast county, as well as nomadic movements during the census period.

'… Turkana County fertility rate is 6.9% and the Growth rate is 3.35%, which is higher than the national average used by KNBS of 5.9% fertility rate and 2.2% growth rate respectively. This has contributed to the underreporting of the Turkana County population by 234,221 people according to our projection using the County's fertility and growth rates of 6.9% and 3.35%' (County Government of Turkana, 2019).[105]

---

101 Ibid.

102 ILRI (2008). Livelihood diversification opportunities for pastoralists in Turkana, Kenya. International Livestock Research Institute (ILRI), Nairobi, Kenya. Online Access (18/2/21): https://cgspace.cgiar.org/bitstream/handle/10568/233/RR5_LivelihoodDiversification.pdf?sequence=1

103 KNBS (2009; 2019).

104 KNBS (2019).

105 County Government of Turkana (2019). Statement on the 2019 Kenya Population and Housing Census Wednesday 6th November 2019, Lodwar Kenya. Online Access 20 January 2021: https://www.turkana.go.ke/index.php/2019/11/06/statement-on-the-2019-kenya-population-and-housing-census-wednesday-6th-november-2019-lodwar-kenya/

Figure 4.7 Turkana West Sub-County
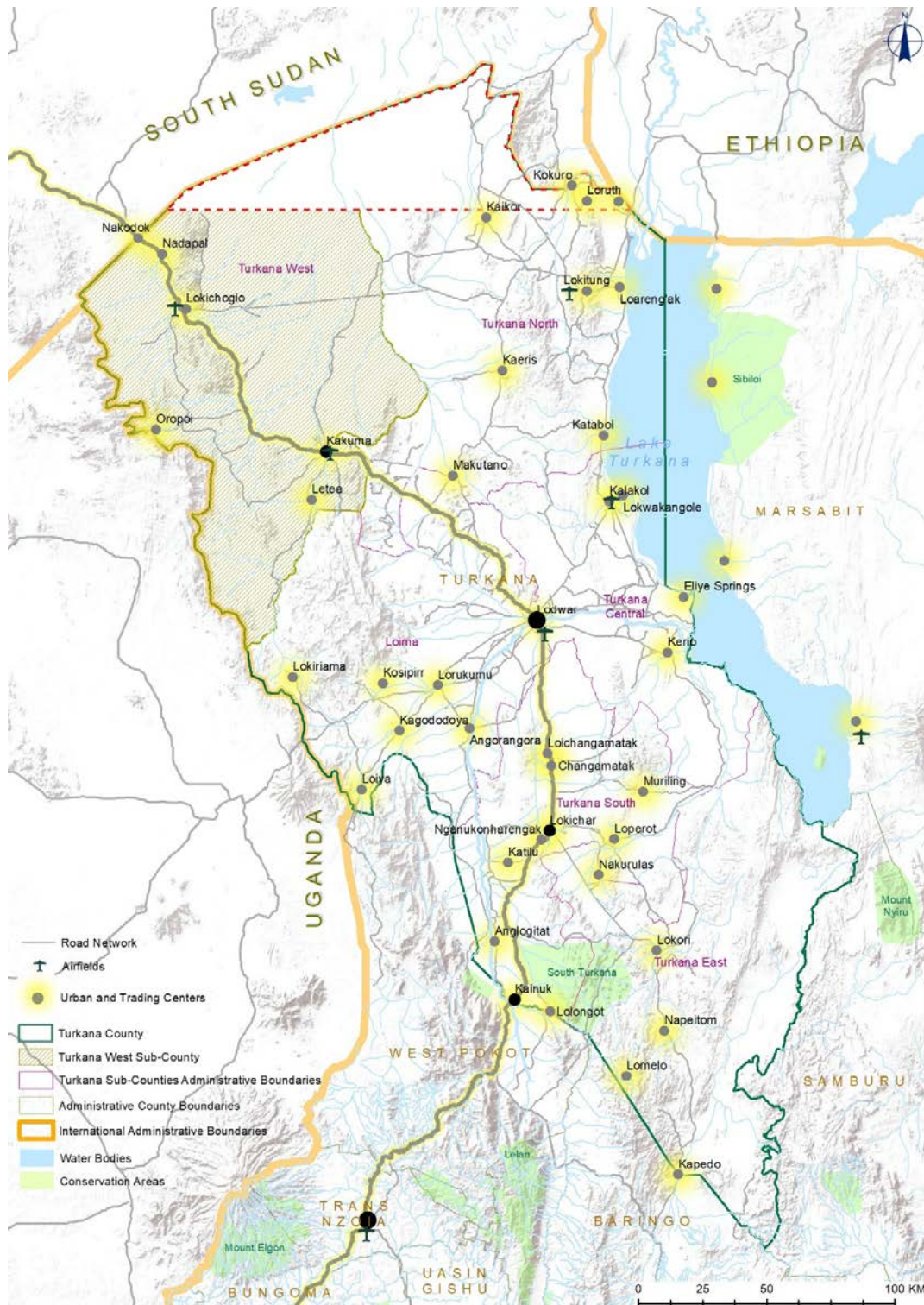
Source: UN-Habitat/Turkana West Surveys 2020

The presence of refugee settlements in Turkana West Sub-County is also a driving factor for urbanization in the county. Kenya's encampment policy has facilitated the establishment of settlements that are purposively designed to accommodate refugees. The impact of refugees on the county's urbanization has produced mixed outcomes. For instance, in Turkana West Sub-County, Lokichoggio town's economy and growth largely depended on refugee assistance programming, but has been in decline since the closure of refugee-related activities in the area. These events offer a warning for the future of Kakuma town, where growth is strongly tied to the nearby Kakuma and Kalobeyei refugee settlements. Recently, the Government of Kenya has announced its intention to close all refugee camps in the country. Meanwhile, current interventions in the area are largely focused on humanitarian assistance. This implies that policies and humanitarian-development programming are required to build resilience and support sustainable, long-term socio-economic development in Kakuma-Kalobeyei and Lokichoggio.

Future programming for the Kakuma-Kalobeyei area must be accompanied by several other considerations, such as refugees' individual preferences and aspirations for future resettlement, and the establishment of long-lasting stability in refugees' countries of origin. However, within Turkana West, there is a need to invest in functional urban centres with resilient economies that demonstrate a capability to grow beyond the current distortion linked to a dependency on foreign aid. This functionality involves the availability of socio-economic opportunities (e.g. jobs), social development (reliable livelihood means, adequate access to good health and education etc.), and effective urban governance and management. This a major undertaking that demands deliberate and coordinated action from both the county and national governments, as well as the multiple local and international organizations delivering humanitarian- development assistance in the area. Currently, such functionality is missing in Kakuma-Kalobeyei.

© UN-Habitat, Dream Magical Studio

Figure 4.8 Turkana West and the Immediate International Context
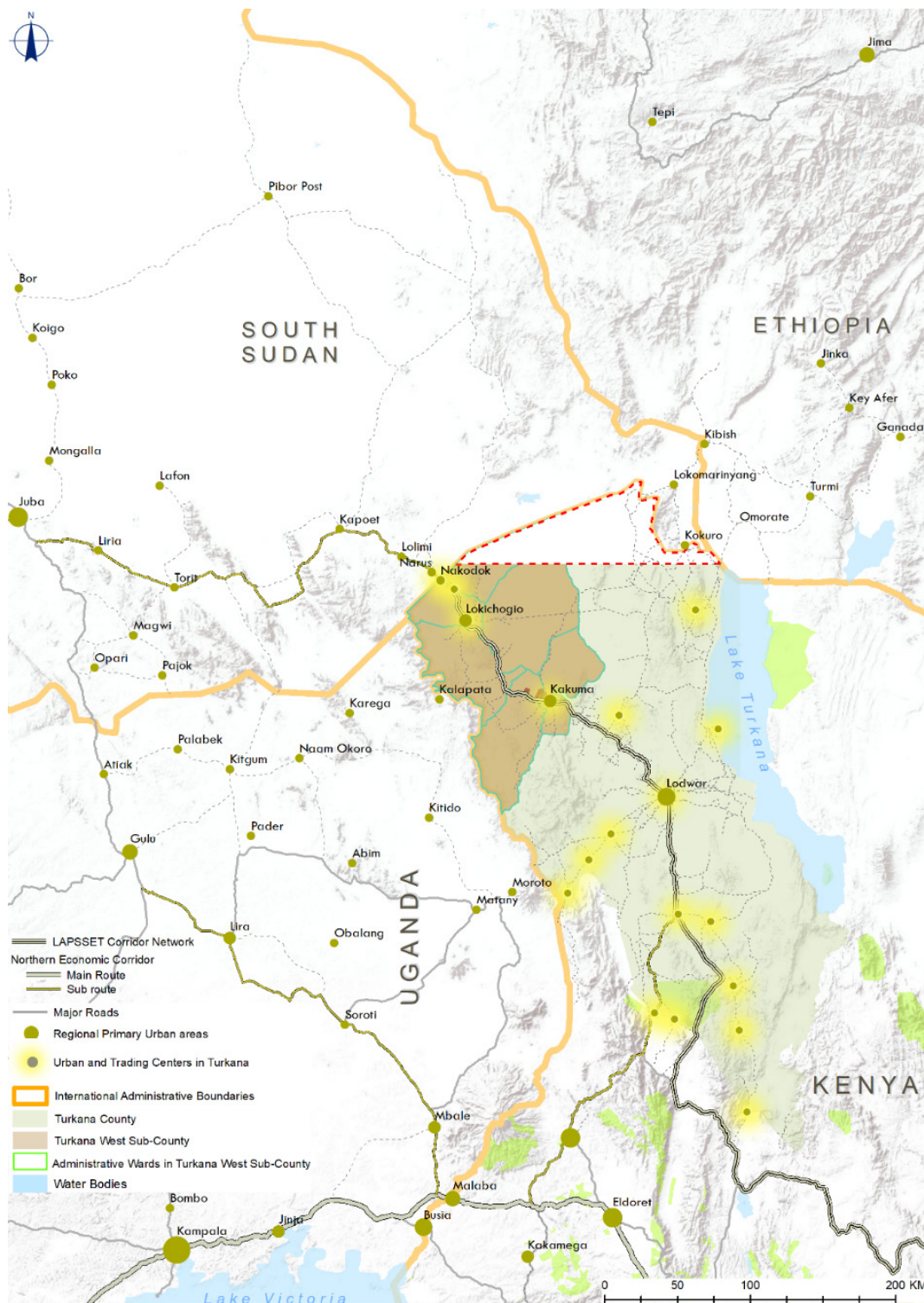
Source: UN-Habitat/Turkana West Surveys 2020

Settlement Patterns in Turkana West

Within Turkana West, populations are concentrated in settlements which can broadly be categorized as:

a.   Urban centres (or urban villages);

b.   Rural sedentary villages;

c.   Nomadic villages; and
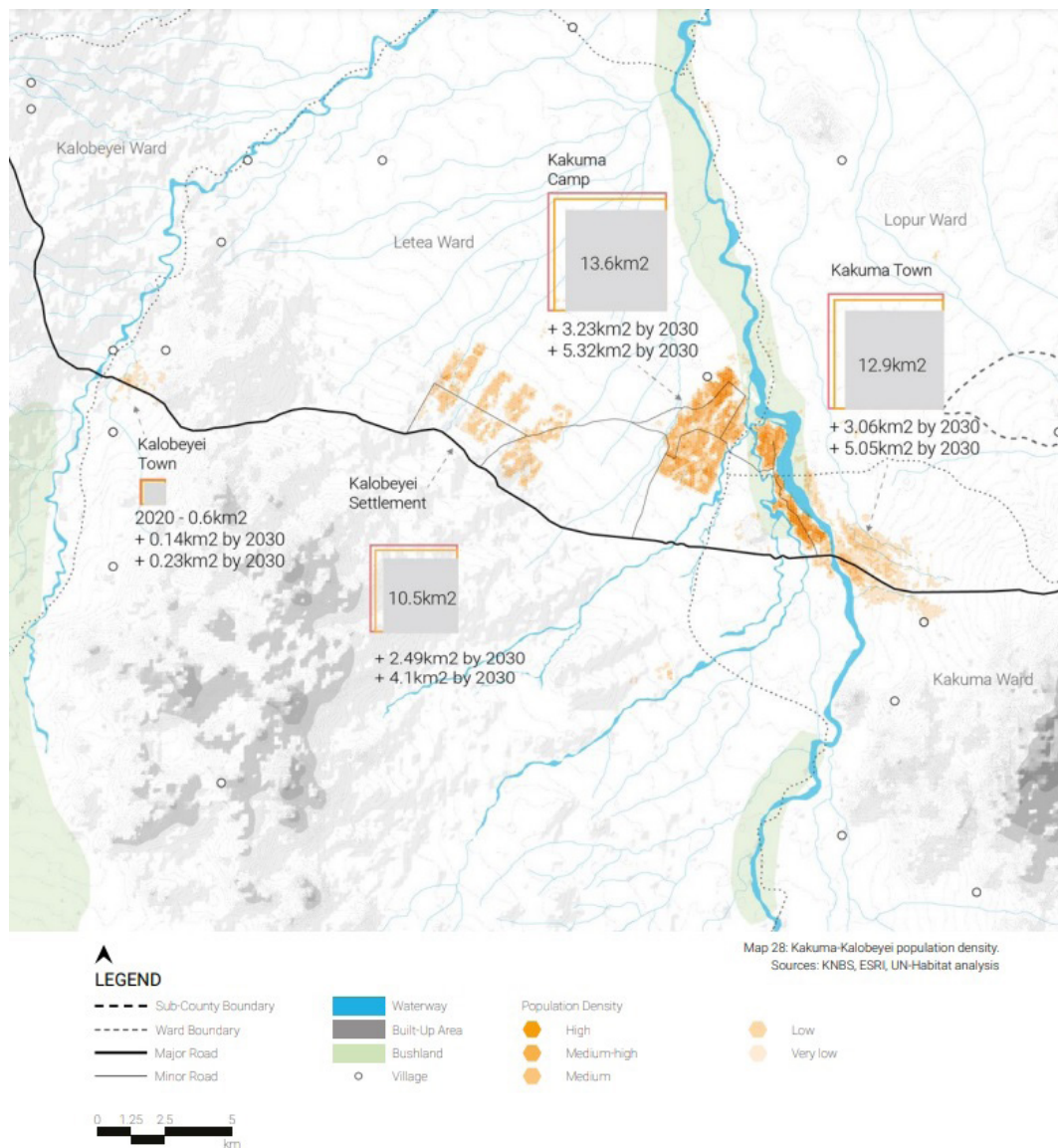
d.   Refugee settlements.

While the first three kinds of settlement are spread out throughout the sub-county, the refugee settlements – Kakuma Refugee Camp and Kalobeyei New Settlement – exist only near Kakuma. Each settlement type exhibits unique characteristics, which are influenced by certain factors, including the Turkana way of life, conventional urbanization drivers (e.g. infrastructure, presence of administrative services etc), and governance structures (e.g. laws restricting refugees' freedom of movement). The urban centres and urban villages feature high population concentrations and built-up areas, and are mostly located along the major transport corridors, particularly the Lodwar–Lokichoggio road. The non-nomadic rural settlements are products of the emerging settled (i.e. non-nomadic) lifestyles among the Turkana community. Nomadic villages are usually temporary settlements which are periodically constructed and abandoned by groups of herders along grazing routes, and are repeatedly occupied during specific times of the year.

The manifestation of the different settlements both in terms of type and size varies significantly between the wards of Turkana West Sub-County, and often mirror the major economic and social structures of each ward. Kakuma ward, for example, has the densest settlements in the sub-county, which is closely associated with the presence of Kakuma Refugee camp. Equally, newly emerging settled villages can be observed on the fringes of Kalobeyei New Settlement, which are tied to the social and economic interactions between refugees and host communities in the area. Outside the Kakuma and Kalobeyei area, different types of settlements dot the vast landscapes of Turkana West, ranging from small town centres along the major road networks to nomadic villages hidden deep in the shrubs and grasslands.

© UN-Habitat, Dream Magical Studio

Figure 4.9 Densities and Population Concentration in Kakuma-Kalobeyei

Map 28: Kakuma-Kalobeyei population density.
Sources: KNBS, ESRI, UN-Habitat analysis
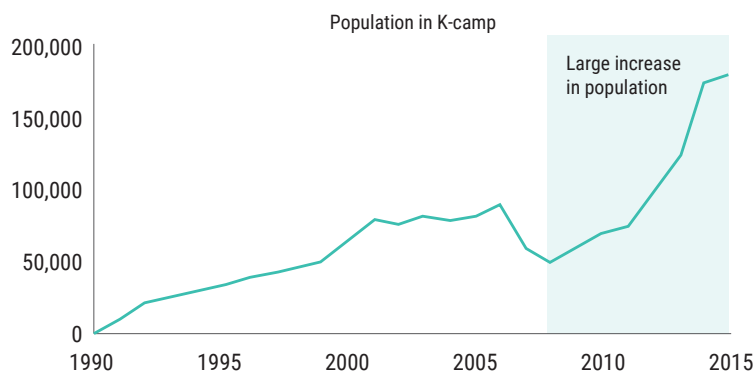
Source: UN-Habitat (2021)[106]

There is a multi-nodal spatial pattern of small towns in Turkana West, whose core area is Kakuma-Kalobeyei, with several smaller centres and villages located along or near the A1 Lodwar-Lokichoggio road. The centrality and significance of Kakuma within this urban structure can be tied to several factors:

a. It is the largest settlement by population size in Turkana West and second largest in the county.

b. It hosts multiple administrative functions.

c. It is home to mid-to-high order services (especially education and health); and

d. It represents a major economic agglomeration in the county, albeit shaped by financial streams targeting refugees.

---

106 UN-Habitat (2021). Kakuma and Kalobeyei Spatial Profile. Accessed on 10/10/2021: https://unhabitat.org/sites/default/files/2021/06/210618_kakuma_kalobeyei_profile_single_page.pdf

The refugee settlements are deeply interconnected with Kakuma town, to the extent that reductions in the camp population negatively impact both the spatial growth and the economic prosperity of Kakuma town.[107] Outside Kakuma, each node represents an important urban centre that mostly acts as the administrative, commercial and market centre for the different wards in the sub-county, often offering low order goods and services to the residents. Outside these urban centres, many scattered and temporary nomadic villages and small urban centres are spread throughout the sub-wards.[108]

Figure 4.10 Kakuma Population over 15 years from 1990

Source: World Bank & UNCHR (2016).

Figure 4.11 Main Settlement Clusters in Kakuma-Kalobeyei
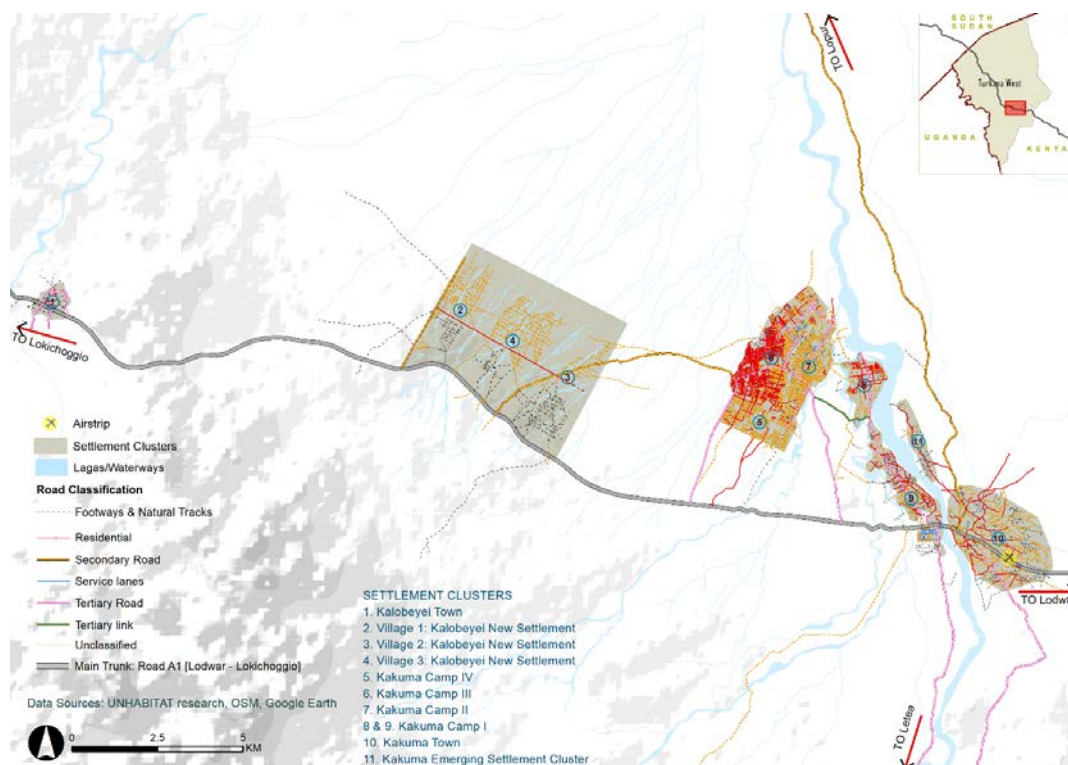
Source: UN-Habitat/Turkana West Surveys 2020

---

107 UN-Habitat (2017). KISEDP Socio-Economic and Mapping Baseline Survey Report, 2016. Nairobi, UN-Habitat.
108 Ibid.

There is need to advance interventions that aim to address the future of these populations and settlements, taking into account the prevailing socio-political realities. This will include examining and tapping into the opportunities afforded by regional infrastructure investments, such as the A1 Road and proposed LAPSSET developments, which may stimulate long-term urban development, especially in Kakuma-Kalobeyei and Lokichoggio. These investments will enhance connectivity, especially in transportation, which could trigger increased flows of migrants between South Sudan, Turkana West and the rest of Kenya. This will likely include migration induced by economic factors, rather than merely the forced migration that has dominated cross-border migration between the two countries. Whether the major urban centres in Turkana become a major destination for these likely migrations is an important element for policy. Indeed, the significance of migration to socio-economic development should be an important issue for policy makers in both Turkana County and the Kenyan Government.

Integrating Turkana in NOREB and the Regional Connectivity

Despite Turkana West's important international role in the region, the area's socio-economic development remains low. The area faces multiple development challenges, including poor connectivity with the rest of the region, underdeveloped local infrastructure, a weak economy, and high poverty levels. Although the majority of the population of Turkana relies on other towns such as Eldoret, Lodwar, Kitale and Nairobi for most of their supplies, it is not easy for these commodities to reach the area. Likewise, local economic production that requires external markets, like livestock marketing, is undermined by the area's marginalisation. Lokichoggio and Kakuma – Turkana West sub-county's two main towns – have a weak urban economy, with Kakuma's also highly dependent on humanitarian financial flows. This indicates that building up the local area economy is imperative for sustained socio-economic development to be realized in Turkana West.

In particular, the local economy should ultimately be free from the prevailing dependence on external aid. To achieve this, the opportunities associated with regional economic integration should be leveraged. The A1 road construction will increase market integration between north-western Kenya, NOREB and the Northern Economic Corridor, as well as integration into the South Sudan market. Eventually, LAPSSET implementation will reinforce these linkages.

Figure 4.12 **Turkana Commodity Flows**
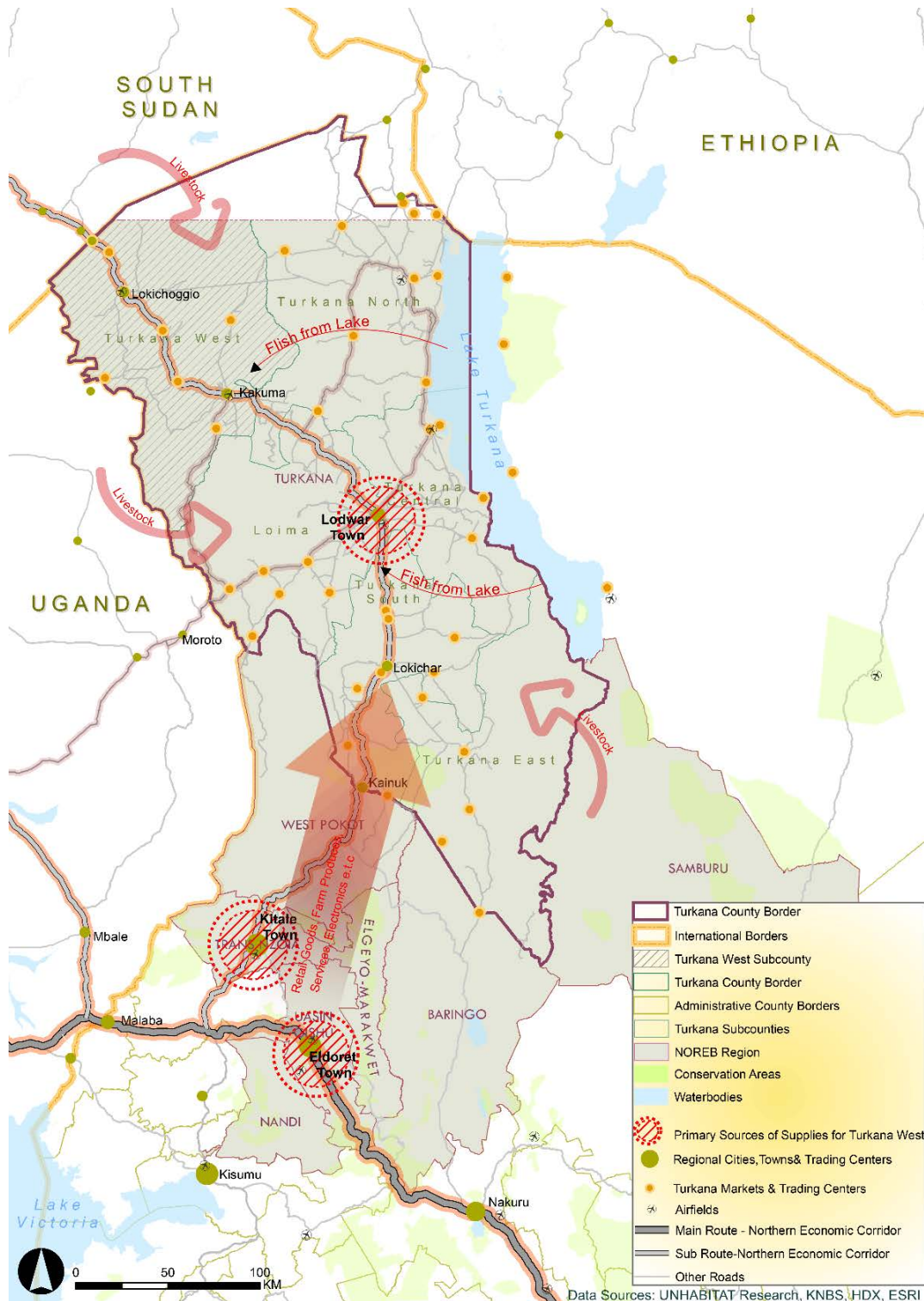
Map Drawn by UN-Habitat/Turkana West Surveys 2020

Integrating Turkana West in the wider economic context and system of urban centres is crucial, but will demand certain shifts in policy, as well as the design and implementation of interventions in the area. The issues to consider include:

- Understanding the prevailing urbanization in Turkana West as unique and driven by factors that may not prevail in the long-term, notably the presence of refugees. The decline in the populations of Lokichoggio and Kakuma towns indicates unpredictable urbanization in Turkana West, dependent on refugee influx trends. The ongoing urban challenges in Kakuma would be compounded by a closure of refugee settlements and an outflux of refugees.

- The long-term economic development of Turkana West will be affected by the connectivity of the area with its wider context. It is important to prioritise this connectivity, given the vulnerability if refugee-based economies, as demonstrated by Lokichoggio following the closure of refugee-based operations in the town.

- Turkana West's economic flows extend beyond international and county borders. These can be enhanced and strengthened by improved infrastructure.

© UN-Habitat, Dream Magical Studio

© UN-Habitat, Dream Magical Studio

CHAPTER 5. RECOMMENDATIONS

Overview

This chapter outlines a set of policy recommendations that seek to contribute to interventions for promoting sustainable urbanization and development in the NOREB region. The target audience for these recommendations includes policy makers in NOREB counties and the national government, humanitarian and development support organizations operating in the region, and other relevant stakeholders.

Recommendations

Urbanization trends in NOREB are not uniform. ASAL regions exhibit different patterns compared to areas where crop farming is practiced. Pastoral communities are much less urbanized due to nomadic pastoralism practiced in ASAL regions, while crop farming areas tend to have more concentrated populations and more urban centres. Fundamentally, rural-urban migrations are the main factor driving urbanization in the NOREB region. These are migrations are triggered by various factors such as drought and famine in the ASALs, and youth who are seeking alternative livelihoods to livestock and farm production. The major towns of the region are the main destination of migrants, especially Eldoret, Lodwar and Kitale. Importantly, all sizes of urban centres are growing due to these inflows of migrants, with a significant number of rural-urban migrants destined for urban centres outside NOREB. In Turkana County, forced displacement from neighbouring countries, especially South Sudan and Somalia, has seen the county record a unique form of urbanization associated with the migration of refugees to the Kakuma-Kalobeyei camps in Turkana West.

These refugee camps now co-exist with small towns populated largely by Turkana host communities. Urban centres in the region face numerous challenges to a greater or lesser extent. The major prevailing urban challenges are:

- Underdeveloped infrastructure and poor provision of basic services

- Inadequate housing, especially the increasing challenge of providing affordable housing for all

- Urban poverty and high unemployment

- Weak urban economies

- Poor urban planning and the continued prevalence of unplanned urbanization

- Municipal financing challenges

- Environmental challenges

Thus, for the NOREB region to benefit from the positive agglomeration advantages associated with urban centres, several interventions are required. At a global level, countries have adopted the Sustainable Development Goals (SDGs), which includes Goal Eleven: seeking to achieve 'Sustainable Cities and Communities'. Prior to SDGs, UN member states adopted the New Urban Agenda, which is wholly dedicated to the attainment of sustainable urbanization and development. At a national level, Kenya has the National Urban Development Policy, which outlines numerous interventions needed to address the unfolding urbanization in the country. In addition to these frameworks, and building on existing recommendations, this report makes seven key recommendations outlined in the following subsections.

Box 5.2. Shared Vision of the New Urban Agenda

We envisage cities and human settlements that:

a. Fulfil their social function, including the social and ecological function of land, with a view to progressively achieving the full realization of the right to adequate housing as a component of the right to an adequate standard of living, without discrimination, universal access to safe and affordable drinking water and sanitation, as well as equal access for all to public goods and quality services in areas such as food security and nutrition, health, education, infrastructure, mobility and transportation, energy, air quality and livelihoods;

b. Are participatory, promote civic engagement, engender a sense of belonging and ownership among all their inhabitants, prioritize safe, inclusive, accessible, green and quality public spaces that are friendly for families, enhance social and intergenerational interactions, cultural expressions and political participation, as appropriate, and foster social cohesion, inclusion and safety in peaceful and pluralistic societies, where the needs of all inhabitants are met, recognizing the specific needs of those in vulnerable situations;

c. Achieve gender equality and empower all women and girls by ensuring women's full and effective participation and equal rights in all fields and in leadership at all levels of decision making, by ensuring decent work and equal pay for equal work, or work of equal value, for all women and by preventing and eliminating all forms of discrimination, violence and harassment against women and girls in private and public spaces;

d. Meet the challenges and opportunities of present and future sustained, inclusive and sustainable economic growth, leveraging urbanization for structural transformation, high productivity, value-added activities and resource efficiency, harnessing local economies and taking note of the contribution of the informal economy while supporting a sustainable transition to the formal economy;

e. Fulfil their territorial functions across administrative boundaries and act as hubs and drivers for balanced, sustainable and integrated urban and territorial development at all levels;

f. Promote age- and gender-responsive planning and investment for sustainable, safe and accessible urban mobility for all and resource-efficient transport systems for passengers and freight, effectively linking people, places, goods, services and economic opportunities;

g. Adopt and implement disaster risk reduction and management, reduce vulnerability, build resilience and responsiveness to natural and human-made hazards and foster mitigation of and adaptation to climate change;

h. Protect, conserve, restore and promote their ecosystems, water, natural habitats and biodiversity, minimize their environmental impact and change to sustainable consumption and production patterns.

Source: UN (2017). New Urban Agenda. Accessed 29/09/21:
https://unhabitat.org/sites/default/files/2019/05/nua-english.pdf

Prioritise the Urbanization Agenda in the County Integrated Development Plan

While most of the population in NOREB counties live in rural settlements, their urban population is growing. Although NOREB urban centres are relatively small, they perform important economic roles, including linking rural-based economies to a wider economic network. Yet the County Integrated Development Plan (CIDP) only weakly addresses urbanization and does little to ensure focussed investments for enhancing sustainable urbanization. A deliberate focus on urbanization and the role of urban centres is required for the county's development. This must include attention to the following issues:

- Urban-rural linkages. Links between urban and rural economies are important to socio-economic development in the region.
- Financing urban development.
- A networked system of urban centres and rural settlements, including the prioritisation of regional connectivity infrastructure, ensuring urban centres are linked with transportation networks, communication, and energy systems.

Institutionalise Urban Planning

Most urban centres in the region are growing rapidly, but lack any coordinated urban planning. This has resulted in numerous land development challenges including sub-standard developments, low-quality urban spaces, challenges in providing reticulated infrastructure, congestion, environmental degradation, scarcity of public open spaces etc. Cities and towns need appropriate planning, and the capacity to coordinate and implement those plans. NOREB counties need to structure the administration of urban planning so that all sizes of urban centres can be well-planned.

Establish Functional Urban Administration and Management

The region's rapidly growing urban centres not only lack effective urban planning, but also functional urban management. According to Kenya's Urban Areas and Cities Act of 2011, each major town in NOREB has the legislative opportunity to have a municipality. The major secondary cities are part of the national government's Kenya Urban Support Program, which is funded through a World Bank loan. The program assists the establishment of municipalities, but considerable efforts are still needed to ensure that municipalities are fully functional, including matters of:

- Municipal staffing
- Municipal revenues and financing
- Municipal planning and engineering capabilities
- Municipal service provision capabilities

Develop Appropriate Policies and Legislation to Support Effective Urban Management

To realize functional municipal management, counties need to develop appropriate urban policies and legislation. This is important for operationalising municipal management. Policies and legislation support the effective performance of:

- Local/municipal finances
- Spatial planning and development management
- Affordable housing and basic services provision – water and sanitation, mobility, energy etc
- Local economic development
- Good urban governance, including public participation, partnerships, inclusion and equality, accountability and transparency.

Invest in local infrastructure and provision of basic services

The availability of good local infrastructure and basic services is a major determinant of urban economic development. Interconnectivity within NOREB and between the major towns in the region must be improved for NOREB counties to optimise the opportunities brought by the A1 road linking Kenya and South Sudan. Improved local connectivity will ensure that agriculture and livestock producers in the hinterlands have better access to the market opportunities presented by the A1 road. Without accompanying local investments, the economic flows brought by the A1 road may simply bypass the region.

Establish an Alliance of Cities and Towns in the NOREB region and along the A1 Corridor

To promote learning and capacity development, and to strengthen economic integration, a platform for networking the urban centres along the corridor and the region should be established. This would provide an opportunity to bring together policy makers, urban planners, municipal managers, urban political leaders and the private sector, among other important actors. The NOREB Secretariat can be a starting point to conceptualize, assess and organize this kind of alliance, supported by the respective counties, and development partners. This platform could address issues including:

- Networking municipal management to strengthen capacity for urban management

- Networking producers (e.g. livestock and agriculture production) businesses and local industries

- Addressing policy and institutional barriers to trade within the region and between urban centres along the corridor

- Sharing knowledge about urban infrastructure development and services provision

Plan and Invest in Strategic Infrastructure Networks in the Region

NOREB, as an economic bloc, can leverage economies of scale by jointly planning and implementing certain projects allowing counties invest in mutually supportive projects rather than competing ones. An example is the bloc's initiative to build a shared meat factory in West Pokot. These collaborations can be scaled up to the provision of strategic infrastructure such as water supply. Inter-basin water transfers could be possible within such a system, and facilitated by the inter-county framework of service provision envisioned in Kenya's County Governments Act of 2012. This initiative would make it easier for water scarce areas, such as Turkana, to enhance water provision by working with neighbouring counties that have a higher potential for such water projects. Such collaborative projects can maximise value for money in infrastructure investments.

Conclusion

This report has analysed the trends in urbanization in the NOREB region and demonstrated the importance of regional connectivity infrastructure in shaping a system of secondary cities and towns, especially along the A1 Road. The analysis has further revealed the influence of prevailing socio-economic patterns on urbanization, noting that ASALs are far less urbanized due to the dominance of nomadic pastoralism in those areas, whereas urbanization is higher in areas dominated by crop farming and sedentary livelihood strategies, even though rural-based sectors still dominate economic productivity. In Turkana County, the exceptional phenomenon of refugee influxes has had a significant impact on the growth of urban centres in Turkana West, notably Kakuma-Kalobeyei.

© UN-Habitat, Dream Magical Studio

This reveals the need for mixed approaches to promote sustainable urbanization in the NOREB region and along the A1 corridor, as the varied contexts dictate certain specific interventions. For example, the future of Kakuma-Kalobeyei town is strongly linked to the refugee presence, which makes the growth of the town uncertain in the coming years, given the Government of Kenya's recent policy shift towards closing all refugee settlements. The closure of refugee settlements will have profound impacts on the socio-economic development of the area, as occurred in Lokichoggio after refugee activities ceased in the area. Yet humanitarian and development interventions in the area have not created sufficient resilience capacity to ensure minimum negative impacts in that eventuality. Fundamentally, Kakuma-Kalobeyei needs to be imagined beyond a refugee-based economy, with a focus on investing in the long-term socio-economic development of the local area. However, this is not the case with the secondary cities

like Eldoret, Kitale and Lodwar, and other small towns in the region where rural-urban migrations are the main drivers of urbanization, and where humanitarian inflows are not determinants of the structure of the local economies. These towns require interventions that focus on strengthening existing systems and connectivity to regional networks.

Yet despite these variations and specific local contexts, strategic interventions are nevertheless needed at a regional level. Key among this are the interventions geared towards establishing a network of cities and towns in the region, and addressing common urban challenges such as urban planning, infrastructure and utilities, housing, incomes and equitable economic growth. These variations – elements of both diversity and commonality – can be the basis for alliances and shared platforms for implementing a common vision for the sustainable urbanization in the NOREB region.

REFERENCES

Achieng, A. et al (2018). *Kenya economic update: policy options to advance the Big 4 - unleashing Kenya's private sector to drive inclusive growth and accelerate poverty reduction (English).* Kenya economic update; no. 17. Washington, D.C. : World Bank Group.

Africa-Confidential (2014). Available at Railway Pro Communication Platform (2016). Kenyan Railways holds tender for consultancy services.

Avery, S et al (n.d). Lake Turkana – monitoring the 'Jade Sea' from space. ESA Diversity II Biodiversity Story. . Accessed 03 July 2020 at: http://www.diversity2.info/products/documents/DEL8/D2Story-Turkana.pdf

Baringo County Government (2018). Baringo County CIDP 2018-2022. Baringo County Government, Kabarnet.

Brinkhoff, T (2021). City Population. Accessed on 11 October 2021: https://www.citypopulation.de/en/kenya/admin/

Burkhardt, P & Herbling, D (2020). Tullow Oil suspends Kenyan oil-export program. Accessed on 11 October 2021: https://www.worldoil.com/news/2020/6/3/tullow-oil-suspends-kenyan-oil-export-program

Busienei, P; Ogendi, G & Mokua, M (2019). Open Defecation Practices in Lodwar, Kenya: A Mixed-Methods Research. *Environmental Health Insights.* Volume 13: 1–13.

Carr, Claudia. (2017). Turkana Survival Systems at Lake Turkana: Vulnerability to Collapse from Omo Basin Development. 10.1007/978-3-319-50469-8_9. Accessed on 20/08/2020: https://www.researchgate.net/publication/311786385/figure/fig4/AS:451407741493251@1484635400628/Fishing-and-mixed-fishing-pastoral-Turkana-village-areas-at-Lake-Turkana-Major-village.png

Cities Alliance (2019), Connecting Systems of Secondary Cities, Cities Alliance/UNOPS, Brussels.

County Government of Trans Nzoia (2018). Trans Nzoia CIDP 2018-2022. County Government of Trans Nzoia, Kitale.

County Government of Turkana (2019). Statement on the 2019 Kenya Population and Housing Census Wednesday 6th November 2019, Lodwar Kenya. . Accessed on 11 October 2021: https://www.turkana.go.ke/index.php/2019/11/06/statement-on-the-2019-kenya-population-and-housing-census-wednesday-6th-november-2019-lodwar-kenya/

David Herbling and Dandan Li (2019). China's Built a Railroad to Nowhere in Kenya. https://www.bloomberg.com/news/features/2019-07-19/china-s-belt-and-road-leaves-kenya-with-a-railroad-to-nowhere

Engineering for Change (2020). The ICT Landscape in Northern Kenya: Challenges and Opportunities. Accessed on 11/10/2021 https://www.engineeringforchange.org/wp-content/uploads/2020/10/E4C-ICT_Northern_Kenya.pdf

ESI Africa (2014). Two more dams for Ethiopian power generation. Accessed 03 July 2020: https://www.esi-africa.com/top-stories/two-more-dams-for-ethiopian-power-generation/

ICT Authroity (n.d.). NOFBI Backbone Fibre Optical Transmission Network. Accessed on 20 OCTOBER 2021: https://icta.go.ke/pdf/NOFBI.pdf

ILRI (2008). Livelihood diversification opportunities for pastoralists in Turkana, Kenya. International Livestock Research Institute (ILRI), Nairobi, Kenya. Online Access (18/2/21): https://cgspace.cgiar.org/bitstream/handle/10568/233/RR5_LivelihoodDiversification.pdf?sequence=1

Ojielo, O., Ochwada, H., Opongo, E.O., McClain, L.M., Ochen, E.A., Alusa, D., ... Omeje, K. (2013). Conflict and Peacebuilding in the African Great Lakes Region. Bloomington: Indiana University Press.

Japan International Cooperation Agency (2017). Project for Master Plan on Logistics in Northern Economic Corridor: Final Report.

KenGen (n.d). Turkwel Storage Dam. Accessed 03 July 2020: https://www.kengen.co.ke/index.php/index.php?option=com_content&view=article&id=203:turkwel-storage-dam&catid=33:power-stations

Kenya Markets Trust (2019). Political Economy Analysis of the Livestock Sector: 2019 Report.

Kenya National Bureau of Statistics (2020). Kenya Economic Survey 2020. KNBS, Nairobi.

Kenya National Highways Authority (2015). ESIA Report for the Proposed Rehabilitation of Marich Pass-Lodwar Road (A1). KeNHA, Nairobi. Accessed 06 June 2020 at: http://documents1.worldbank.org/curated/en/517891467999363044/pdf/E47470V30A-FR0E00Box385438B00PUBLIC0.pdf

KNBS (2019a). 2019 Kenya Population and Housing Census: Volume II. Distribution of Population by Administrative Units. Online access (16/02/2021): https://www.knbs.or.ke/?wpdmpro=2019-kenya-population-and-housing-census-volume-ii-distribution-of-population-by-administrative-units

KNBS (2019). County Gross Domestic Product 2019. Online access (16/02/2021): https://www.knbs.or.ke/?wpdmpro=gross-county-product-2019&wpdmdl=5160&ind=R0NQIHJlcG9ydCAyMDE5LnBkZg

KNBS (2019). 2019 Kenya Population and Housing Census: Volume IV. Nairobi, Kenya National Bureau of Statistics. Distribution of Population by Socio-Economic Characteristics. Online access (16/02/2021): https://www.knbs.or.ke/?wpdmpro=2019-kenya-population-and-housing-census-volume-iv-distribution-of-population-by-socio-economic-characteristics

KNBS (2019d). 2019 Kenya Population and Housing Census Volume I: Population by County and Sub-County - Kenya National Bureau of Statistics. (2019). Online access (16/02/2021): https://www.knbs.or.ke/?wpdmpro=2019-kenya-population-and-housing-census-volume-i-population-by-county-and-sub-county

Koskei, S (2014). Lokichoggio, the town that lost its glory. Accessed on 28 October 2021: https://www.standardmedia.co.ke/north-eastern/article/2000104732/lokichoggio-the-town-that-lost-its-glory

KTN News Kenya (2020). Economic boost: NOREB counties set up hub for meat production in West Pokot. Accessed on 18/06/2020: https://www.youtube.com/watch?v=Q89IFMjNohE

LAPSSET CDA (2017). Strategic Environmental Assessment-SEA in the LAPSSET Corridor Infrastructure Development Project (LCIDP) – Draft Report. LCDA, Nairobi.

LAPSSET Corridor Development Authority (LCDA). Brief on LAPSSET Corridor Project. July 2016. LCDA, Nairobi.

Lind, J (2018). Devolution, shifting centre-periphery relationships and conflict in northern Kenya. *Political Geography* Vol 63. Pp 135-147.

LTWP (2019). H.E. President Uhuru Kenyatta Officially Inaugurates The 310MW Lake Turkana Wind Power Project.

Nandi County Government (2018). Nandi County CIDP 2018-2023. Nandi County Government, Kapsabet.

National Disaster Management Authority (2013). Sector Plan for Drought Risk Management and Ending Drought Emergencies: Second Medium Term Plan 2013-2017. Accessed 03 July 2020: https://www.ndma.go.ke/index.php/resource-center/policy-documents/send/44-policy-documents/4310-vision-2030-sector-plan-for-drought-risk-management-and-ede-2013-17

Njuguna, J & Muruka, C (2017). Open Defecation in Newly Created Kenyan Counties: A Situational Analysis. *Journal of Health Care for the Poor and Underserved*, Volume 28, pp. 71-78.

Nordea (2020). The Economic Context of Kenya. Accessed on 10 July 2020 at: https://www.nordeatrade.com/dk/explore-new-market/kenya/economical-context

Obika, J & Bibangambah, H (2013). Climate Change and Peacebuilding among Pastoralist Communities.

Odhiambo, M (2013). The Asal Policy of Kenya: Releasing the Full Potential of Arid and Semi-Arid. *Nomadic Peoples*. Vol.17, Issue 1 (158-165).

Ojwang, W. & Obiero, Kevin & Donde, Oscar & Gownaris, Natasha & Pikitch, Ellen & Omondi, Reuben & Agembe, Simon & Malala, J. & Avery, S.T.. (2016). Lake Turkana: World's Largest Permanent Desert Lake (Kenya). 10.1007/978-94-007-6173-5_254-1.

Onono, P. (2016). Economic Effects of Inter-community Conflicts in Kenya: Evidence of the Importance of Peace in the Realization of Sustainable Development. *International Journal of Cooperation & Development.* 3(2): 118-129.

Osamba, J (2002). ILSA Journal of International & Comparative Law [Vol. 8:941].

Oxfam GB and Turkana County Government (n.d). Market-driven value chain for the livestock sector.

Pindolia, Deepa & García, Andrés & Wesolowski, Amy & Smith, David & Buckee, Caroline & Noor, Abdisalan & Snow, Robert & Tatem, Andrew. (2012). Human movement data for malaria control and elimination strategic planning. Malaria journal. 11. 205. 10.1186/1475-2875-11-205.

Republic of Kenya (2010). Kenya Constitution. Nairobi, Government Printer.

Republic of Kenya (2012). Sessional Paper No. 8 of 2012 on National Policy for the Sustainable Development of Northern Kenya and other Arid Lands. Ministry of State for Development of Northern Kenya and other Arid Lands, Nairobi.

Republic of Kenya (2016). National Spatial Plan: Optimal Productivity, Sustainability, Efficiency and Equity in the use of our Land and Territorial Space. Ministry of Lands and Physical Planning, Nairobi.

Republic of Kenya (2018). Integrated National Export Development and Promotion Strategy plus Implementation Plan. State Department for Trade, Nairobi.

Republic of Kenya (2019). Public Statement on the Status of Payments to County Governments. The National Treasury and Planning. Accessed 03 July 2020: https://treasury.go.ke/media-centre/general-press-releases.html?download=940:nt-public-statement-on-county-fiscal-transfers-for-fy-2018-19&start=20

Said, M et al (2013). Challenges and Impacts of Land use and Land use Planning on Ecosystem, biodiversity, and people. Accessed 03 July 2020: https://www.slideshare.net/ILRI/said-2013-landuse-and-landuse-planning-iucnawfworkshop2013

Samburu County Government (2018). Samburu County CIDP 2018-2022. Samburu County Government, Maralal p 51.

Sammy Lutta (2020). New wave of cholera cases hits Turkana West. Accessed 03 July 2020: https://www.nation.co.ke/counties/turkana/New-cholera-wave-hits-Turkana-West/1183330-5563784-551w24/index.html

SNV (2018). Identification and Engagement of Domestic Market Buyers for Agricultural Produce. Accessed 03 July 2020: https://snv.org/cms/sites/default/files/explore/download/identification_of_domestic_buyers_in_the_horticulture_sector_report_by_snv_kmhp_programme.pdf

Trans Nzoia County Government (2018). Trans Nzoia CIDP 2018-2022. Trans Nzoia County Government, Kitale.

Turkana County Government (2018). Turkana County CIDP 2018-2022. Turkana County Government, Lodwar.

Uasin Gishu County Government (2018). Uasin Gishu CIDP 2018-2022. Uasin Gishu Government, Eldoret.

UN-Habitat (2021). Kakuma and Kalobeyei Spatial Profile. Accessed on 10/10/2021: https://unhabitat.org/sites/default/files/2021/06/210618_kakuma_kalobeyei_profile_single_page.pdf

UNEP (2008). Solar and Wind Energy Resource Assessment: Kenya Country Report. UNEP, Nairobi. Accessed 03 July 2020: http://kerea.org/wp-content/uploads/2012/12/Kenya-Solar-Wind-Energy-Resource%20Assessment.pdf

UN-Habitat (2017). KISEDP Socio-Economic and Mapping Baseline Survey Report, 2016. Nairobi, UN-Habitat.

UNESCO (2020). Lake Turkana National Parks. Accessed 03 July 2020: https://whc.unesco.org/en/list/801/

UNESCO (2018). Lake Turkana National Parks (Kenya) inscribed on List of World Heritage in Danger. Accessed 03 July 2020: https://whc.unesco.org/en/news/1842

United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision.

United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision. Country Profiles.

West Pokot County Government (2018). West Pokot CIDP 2018-2022. West Pokot County Government, Kapenguria.

West Pokot County Governmnt (2018). West Pokot CIDP 2018-2022. West Pokot County Government, Kapenguria.

WFP (2016). Country Programme Kenya (2014-2018): Standard Project Report 2016. World Food Programme.

World Bank (2012). Regionalizing Infrastructure for Deepening Market Integration: The Case of East Africa. Policy Research Working Paper 6113. Accessed on 20 June 2021: https://openknowledge.worldbank.org/bitstream/handle/10986/19934/WPS6113.pdf?sequence=1

World Bank (2014). Environmental and Social Impact Assessment (ESIA) of the Proposed Upgrading of Lodwar-Nakodok Road. Accessed 06 June 2020 at: http://documents1.worldbank.org/curated/en/224531468200340716/pdf/E43480V40AFR0E00Box385438B00PUBLIC0.pdf

World Bank (2014). South Sudan – Eastern Africa Regional Transport, Trade and Development Facilitation Project - First Phase of Program. Project Appraisal Report. World Bank, Washington DC

World Bank (2016). Kenya Urbanization Review. World Bank, Washington D.C. Accessed on 10 July 2020 at: http://documents1.worldbank.org/curated/en/639231468043512906/pdf/AUS8099-WP-P148360-PUBLIC-KE-Urbanization-ACS.pdf

World Bank (2018). KDRDIP Additional Financing Social Assessment Report. Accessed 03 July 2020: https://www.treasury.go.ke/publications/other-publications/category/171-kdrdip.html?download=1047:kdrdip-social-assessment-report-may-2018

World Bank (2020). Solar resource maps https://solargis.com/maps-and-gis-data/download/kenya of Kenya. Data: Global Solar Atlas 2.0, Solar resource data: Solargis. Accessed on 29 October 2021: https://solargis.com/maps-and-gis-data/download/kenya

World World Bank (n.d.). Kenya Urban Support Program. Accessed on 29 October 2021: https://projects.worldbank.org/en/projects-operations/project-detail/P156777

Food Programme (n.d). Logistics Capacity Assessment. Kenya Railway Assessment. Accessed 03 July 2020: https://dlca.logcluster.org/display/public/DLCA/2.4+Kenya+Railway+Assessment

World Food Programme (n.d). Logistics Capacity Assessment. Kenya Railway Assessment. Accessed 03 July 2020: https://dlca.logcluster.org/display/public/DLCA/2.4+Kenya+Railway+Assessment [Data on this map will be used to create set of new maps- Northern and LAPSSET corridors, systems of urban centres and NOREB region shown]

World Food Programme (n.d). Logistics Capacity Assessment. Kenya Fuel. Accessed 03 July 2020: https://dlca.logcluster.org/display/public/DLCA/3.1+Kenya+Fuel

HS/007/22E