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Freetown City Council

A Spatial Development Strategy for Sierra Leone

Preparatory Components and Studies of the Freetown Development Plan:
Support to Freetown City Council and to the Urban Planning Authorities

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Executive Summary

Overview

This report follows the Terms of Reference (TOR) for Activity 4.2.2 of the Institutional Support to the Freetown City Council and to the Urban Planning Authorities Project. It aims "...to also contribute to start a process of definition of a National Spatial/Territorial Development Plan. This Plan will analyse and recommend the spatial transformations that must happen for Sierra Leone to develop. With the overall objective of facilitating market access, the Plan will take into consideration topics like urban/rural linkages, mobility, regional exchanges, transport and energy network extension, mining, environment protection, climate change, etc. It will also include specific issues ... concerning the Freetown development and [which] might also have national implications."

Current Situation in Sierra Leone

- Population growth has averaged 2.45% over the past decade and has been steadily increasing during this period. The population is projected to grow by 2.55% to 6.35 million persons in 2014. By 2025 it is projected to be 7.7 million and by 2050 it will be 10.5 million. Sierra Leone is at stage two of the demographic transition, characterised by a high birth rate, a declining death rate and a rapidly expanding population. Approximately half of the population are children.
- The country is experiencing a period of rapid urbanisation (the current level is 42% and the rate is 3%), though it remains predominantly rural – more so than neighbouring countries – and the majority of the workforce is engaged in subsistence agriculture.
- Like much of sub-Saharan Africa, Sierra Leone has a high level of primacy; the capital city, Freetown, defined narrowly, is more than four times the size of the second biggest city, Bo. Greater Freetown and the surrounding suburbs in the Western Rural Area are home to an estimated 1.5 million people – 25% of the total population.
- Sierra Leone is one of the world's poorest nations and among the poorest countries in the West Africa. Poverty is more pervasive in rural areas than in towns and cities and is highest in the Eastern Province and the central districts of Tonkolili and Moyamba.
- The literacy rate in Sierra Leone is one of the lowest in the world, while more than half of those aged 15-24 are not in employment, education or training. Statistics do indicate, however, that education in Sierra Leone is improving.
- In recent years the labour force has grown more slowly than the number of dependents, due to the rapidly falling infant mortality rate. This is placing increasing pressure on workers and wages (earnings) must increase accordingly just for standards of living to be maintained before they can be improved.
- There is an abundance of natural resources dispersed throughout Sierra Leone. Although some areas are more endowed than others, in each and every district there can be found proven agricultural, mineral, energy, water or touristic potentials, which can be tapped to fuel the development process.
- In Northern Province, there are vast deposits of iron ore, much of which is high grade. The country also has diamond fields that cover an area of about 7,700 square miles in the south-eastern

and eastern areas, bauxite and rutile deposits in the south-west and oil has been discovered off the south coast of the country, near the border with Liberia.

- Sierra Leone is a water-abundant country, with fertile arable land throughout. Moreover, the numerous year round rivers and streams offer the potential for the production of over 1,200MW of electricity from various proposed hydroelectric power sites in the country. The biggest resources are found in just two districts, Kenema and Tonkolili, which together account for around 60% of the potentials.
- Despite this vast potential, power-generation capacity falls far short of meeting demand; just 7% of the population has access to mains electricity and the current capacity of 13MW per million people is one of the lowest, if not the lowest, in the world.
- Transport infrastructure is inadequate. Many roads are in poor condition leaving communities in the north-eastern and western parts of the country isolated during the rainy season and there is just one railway line in operation, which is owned and operated by a private mining company. The location of the only international airport at Lungi is a constraint on tourism, while much of the port infrastructure in Freetown is in need of replacement or repair.
- Sierra Leone is an example of a post-conflict country using wireless communications to advance its ICT development. The mobile phone penetration rate is more than a third of the population, though internet usage is among the lowest in the world at just 1.3 users per 100 people.

Recommendations for Spatial Strategy

A number of strategic and policy documents have been developed since the end of the civil war to support development and poverty reduction. These provide a good basis for development planning and poverty reduction. However a lack of spatial awareness and recognition of its importance in the implementation of projects and programmes is resulting in reduced internal rates of return on urban investment, diseconomies and negative externalities; and urban growth taking place without proper planning layouts, utilities, amenities and community services. Any spatial strategy for Sierra Leone should seek to complement and to add value to national development planning rather than substitute for existing policies and strategies.

The title for a spatial strategy to complement the current national development plan, The Agenda for Prosperity, is proposed as **A New Pathway to Prosperity**, echoing the AfP and indicating a route to prosperity.

The proposed accompanying spatial vision is:

- **A liveable, well-connected and competitive Sierra Leone, in which economic growth is inclusive, and human development is resilient and sustainable.**

The overall spatial concept proposed to put this vision put into practice is:

- **The establishment of an integrated network of human settlements at national, provincial and district levels.**

The goals to realise the spatial strategy are:

1. **Improving national, regional and international connectivity:** Considerable strides have been made already in the last decade in improving the road network, as well as telecommunications and power. This now needs to be amplified in by a concerted development corridor programme along the lines of the growth pole programme now under design by the Government of Sierra Leone. Two key spatial themes are identified: **promoting coordinated infrastructure use** and; **prioritising and targeting investment in power generation in the growth poles**. Additionally, the location of a new international airport at Mamanah has the potential to be a transformative initiative in promoting connectivity at all scales of the national territory and beyond.
2. **Enhancing the social and economic role of provincial and district centres:** The district capitals must be viewed as key nodal points for the integrated network of human settlements concept: they have a crucial role (as market towns) in improving agricultural productivity and building up the non-farm rural economy. Their functioning as growth centres should be investigated and further promoted through investments in land use management and planning, infrastructure and services (water, sanitation and power), housing and transportation and mobility improvements. Sierra Leone's medium-sized and small cities need to be assisted to grow more rapidly and more effectively so that they realise their potential for fostering truly national spatial development.
3. **Strengthening Greater Freetown as a platform for national, regional and international trade and business:** Freetown needs to become 'greater' and reconceived and planned accordingly as the metropolitan capital and centre of Sierra Leone with a potential regional (West African) role. Positive scale economies should be strengthened, while reducing diseconomies. To achieve this goal, three spatial planning directions are indicated: **urban renewal for the 'traditional' core city**, highlighting decongestive road improvements and further provision of land (space) for residential, commercial and production functions; **deconcentrating new economic and residential activities**, following the lines of movement already established, notably new peripheral suburbanisation to the south and east and; **planning for and rapidly commencing investment in a metropolitan centre** that is projected to be 2m people in 2025 and 4m in 2050.

1 Introduction

1.1 Scope of the report

This report follows the Terms of Reference (TOR) for Activity 4.2.2 of the *Institutional Support to the Freetown City Council and to the Urban Planning Authorities Project*.

The activity is located within Component 2 of the project: “to build the institutional capacity at central level [Ministry of Lands, Country Planning and Environment – MLCPE] as far as the urban planning issues are concerned...” MLCPE has thus been the counterpart for the NSTDP activity, and this report has been produced under the Ministry’s auspices.

The NSTDP, which falls under specific output 4.2.2.1. Urban Planning Legal Framework is then further specified as follows:

“...to also contribute to start a process of definition of a National Spatial/Territorial Development Plan. This Plan will analyse and recommend the spatial transformations that must happen for Sierra Leone to develop. With the overall objective of facilitating market access, the Plan will take into consideration topics like urban/rural linkages, mobility, regional exchanges, transport and energy network extension, mining, environment protection, climate change, etc. It will also include specific issues...concerning the Freetown development and [which] might also have national implications.”

1.2 Impetus for the report

Spatial planning, in contrast to more detailed and narrower land use planning, is usually defined as a wide set of concepts and instruments which give geographical expression to a society’s social, economic and other policies.

In the context of contemporary development policy and planning, national spatial planning aims at addressing the challenges of disparities and inequities in development across the national territory. This aspiration highlights differences in social and economic conditions – health, education, welfare, employment, income and poverty levels. Spatial planning complements and expresses national development policy. It takes place, both literally and figuratively, at the strategic level of overall guidance (and at the same time effectively incorporates land use planning). The emphasis is avowedly spatial: spatial planning dissipates or even loses its justification and meaning if it encompasses all development planning methods and techniques.

In the past, national spatial planning used to attempt – typically in the form of comprehensive, multi-volume plans which took years to formulate and often went unimplemented – to equalise social and economic conditions across the national territory. This was often accompanied with the intention of re-balancing the territory, by either proscribing or mandating the location of activities in particular places, or in some cases, attempting relocation.

Nowadays, the main strategic concern is spatial integration rather than spatial balance as such. Put broadly, policies, initiatives and investments are formulated and then implemented to link and ease movement between leading areas (which exhibit economic growth and dynamism) and lagging areas (which can be growing more slowly, or are in decline).

Strategic spatial planning at national level now typically aims at integrating these leading areas with lagging areas across the national territory. Leading areas, to put it in earlier spatial planning terms, are seen as mostly town, city, metropolitan or regionally-scaled growth centres oriented around 'propulsive' economic growth poles which generate linkages in other, associated sectors.

Building on and strengthening productivity-promoting external economies of scale known as agglomeration economies of the localisation (intra-sector/industry) and urbanisation (inter-sector/industry) variants is vital here, as is alleviating productivity-frustrating diseconomies of agglomeration, such as land use constraints or congestion.

Integration usually necessitates an emphasis on infrastructure policies, programmes and investments which are spatially connective, notably transportation systems like roads, railways, airports and harbours and telecommunications. These systems facilitate linkages across the national territory (e.g., urban-rural linkages), and the mobility of people, goods and ideas, and, crucially, access to markets and resources. They thus serve to spatially and economically integrate the national territory.

The same integration-through-improving-connectivity perspective can be applied to large, spatially-extending urban or metropolitan areas. It is usually complemented by what is termed spatial targeting – specific measures and/or investments applied to both leading areas (to support growth) or lagging areas (to improve the prospects of growth).

At the same time, the importance of spatially-neutral (i.e., equitable) provision of non-place or non-spatially-specific services (like health, education, pensions and other welfare benefits, etc.) is typically emphasised by today's spatial planners.

Contemporary approaches also no longer seek to develop 'old school' comprehensive spatial plans for the location of all sector activities and facilities in either current or future space. The trajectory of social and economic development is now understood to be too unpredictable for that. Rather, the intention is typically to create flexible frameworks that can further national developmental objectives by guiding and accommodating national spatial development, and framing it at sub-national (regional, local) levels.

To date, national development policies and plans for Sierra Leone have not incorporated a spatial dimension, despite the existence of significant disparities of all types across the territory, which are discussed as this report proceeds. The report should be seen precisely then as a start in defining the goals and content for national spatial planning in the form of a strategic spatial framework for integration and transformation which expresses national development policy,

1.3 Approach and the report structure

In the Inception Report for the overall Urban Planning project, Activity 4.2.3 was divided into a number of envisaged sub-activities:

- Activity 4.2.3.1: Organise the consultation process on the main goals and content of NSTDP, here principally concerned with the identification of stakeholders and interlocutors
- Activity 4.2.3.2: Conduct consultation sessions (workshops) with key stakeholders and interlocutors on the main goals and content of NSTDP, emphasising the goals, structure and content of the NSTDP
- Activity 4.2.3.3: Formulate a first draft of the NSTDP, on the basis of input from stakeholders
- Activity 4.2.3.4: Dissemination and presentation of draft NSTDP, involving information sessions and consultations, primarily for national level ministries and other institutions.

While this sequence of activities has been broadly followed, it has been supplemented by the collection and analysis of a great deal of data and information.

Chapter Two provides assessment of the current development situation in Sierra Leone. It does not seek to be all-inclusive but rather explores a number of the country's essential spatially-differentiated variables: demography (highlighting the urbanisation process); economic circumstances; the situation with regards to education and skills; welfare and poverty levels; environmental conditions; and infrastructure.

Chapter Three, drawing on extensive fieldwork in Northern, Eastern and Southern Provinces, covering all districts, reviews and depicts existing resources for development – social, economic, human, institutional, natural – as they are currently arranged at regional and local scales, and in the light of district-level development plans which utilise and build on these attributes.

Chapter Four then proposes the goals and content for a national spatial strategy, termed the A New Pathway to Prosperity, which reflects the imperatives of current national development policy in the form of PRSP 3: The Agenda for Prosperity. It also proposes an overarching implementation mechanism for implementation, in the form of a concerted growth pole programme which is already under discussion by the Government of Sierra Leone (GOSL), through the medium of work produced under the auspices of the Strategy and Policy Unit (SPU) of the Office of the President.

This is a detailed report but, as per the TOR, it is drafted as a framework precisely “to also contribute to start a process of definition” and to propose what should be seen at this stage as preliminary initial goals and content for a spatial strategy. Consequently, the report concludes in Chapter Five with a set of recommendations for taking forward the work conducted and reported upon here.

2 Sierra Leone's Territory in Global and Regional Context

2.1 Introduction

Assessment of the current development situation in Sierra Leone now follows, against the historical background where relevant, and with focus on those factors and dynamics which shape territorial space in the present day.

2.2 Demography

2.2.1 Population profile

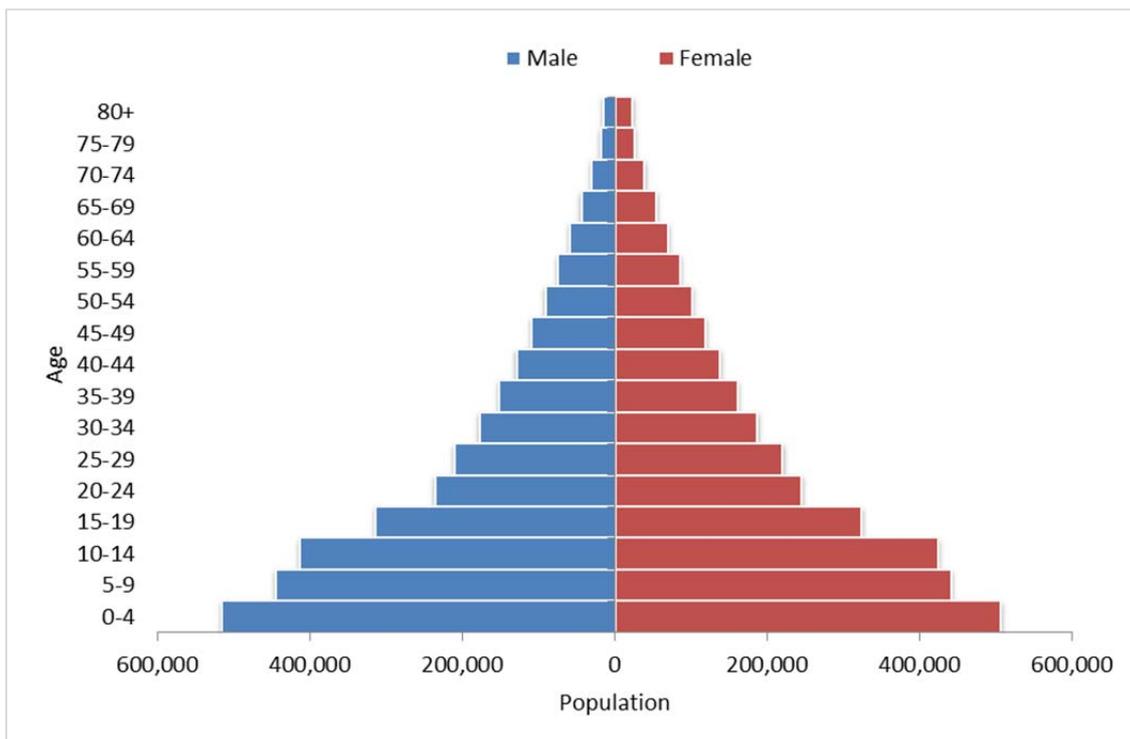
According to official projections based on the 2004 census,¹ the population of Sierra Leone currently stands at approximately 6.19 million persons. This is an estimated increase of 24% compared to the 2004 census population of 4,976,281.

The age profile of the country is remarkably young, with 44% of the population estimated to be below the age of 15 and 16.5% below the age of five. This means that over one million children, or a sixth of the total population, are younger than primary school age. There are slightly more females than males in Sierra Leone, particularly as age increases; 49% are estimated to be male and 51% female.

Figure 2-1 shows the population profile of Sierra Leone as a pyramid. The wide base of the population pyramid of Sierra Leone shows that it is at stage 2 of the demographic transition, characterised by a high birth rate, a declining death rate and a rapidly expanding population. Population growth in Sierra Leone has averaged 2.5% over the past decade and has been steadily increasing during this period. The population is thus projected to grow by 2.5% to 6.35 million persons in 2014.

¹ Koroma et al. (2006), "Analytical Report on Population Projection for Sierra Leone", available online at: http://www.statistics.sl/2004_pop.&hou.census_analytical_reports/2004_population_and_housing_census_report_on_projection_for_sierra_leone.pdf

Figure 2-1: Population pyramid for Sierra Leone, 2013



Source: Official population projections, available online at http://www.statistics.sl/2004_pop_&_hou_census_analytical_reports/2004_population_and_housing_census_report_on_projection_for_sierra_leone.pdf

2.2.2 Population projections to 2050

By 2025, Sierra Leone’s population is projected to grow to 7.7 million people and, by 2050 it is expected to reach 10.5 million. This is a growth rate of 69%, an average of 1.9% a year. Although significant, this is far from the highest projected population growth in the ECOWAS area. In fact, Sierra Leone has the second lowest projected population growth, after Cape Verde. The population of Niger, in contrast, is projected to grow by 289%, from 16.9 million in 2013 to 65.8 million in 2050. By 2050, the population of Sierra Leone is projected to account for just 1.3% of the ECOWAS total, compared to 1.9% today.²

2.2.3 Birth rate, death rate and life expectancy

The high population growth rate in Sierra Leone, particularly at the bottom of the pyramid, can be explained by the following factors. Firstly, although the birth rate has been falling steadily since the start of the century, this has been more than offset by the rapidly falling death rate, due in part to the end of the civil war in January 2002. Moreover, a significant proportion of this decline in the death rate is accounted for by the reduction in the infant mortality rate, which fell by 27% between 2000 and 2010.³ As a consequence of these trends, the country is experiencing the beginnings of a population boom.

² Population Reference Bureau, 2013 World Population Data Sheet

³ Calculated using estimates from The Population Department of the United Nations, available online at: <http://esa.un.org/unpd/wpp/index.htm>

However, it should be acknowledged that despite the above improvements Sierra Leone remains one of the least developed countries in the world. This issue will be discussed further in section 2.5. Life expectancy at birth is currently just 57 years, 199th out of 223 countries,⁴ and both maternal and infant mortality rates remain amongst the highest; the maternal mortality rate is 890 deaths/100,000 live births (4th), while the infant mortality rate is 74.95/1,000 live births (11th).

2.2.4 Urbanisation and population distribution

In addition to this rapid population growth, Sierra Leone is currently experiencing a period of significant urbanisation. This has not, in recent years, been as rapid as in some other African countries. But international evidence suggests that urbanisation proceeds slowly at initial stages of economic development, accelerates in the stage where countries are classified as middle income countries and then slows down at high levels of income⁵. As such, the urbanisation process in Sierra Leone can be expected to continue and spread as the country progress towards a middle income economy.

The current proportion of the population living in urban areas (known as the level of urbanisation) is estimated to be 41.8%, around 2.5 million people, compared to 36.7% in 2004 (approximately 1.9 million). Moreover, the rate of urbanisation, currently at 3%, exceeds the population growth rate and the share of the population living in urban areas is projected to be 42.5% in 2014. This urbanisation rate is expected to remain roughly constant at 3% to 2025, by which time the level of urbanisation will be in the order of 46%, to a total of 3.6 million.

Sierra Leone needs therefore to plan for a further 1.1 million urban residents.

An examination of the matrix of settlement size in Table 2-1 reveals that over the past century there has been a constant shift from settlements of a smaller size to larger settlements. This indicates that urbanisation – which results from a combination of natural increase, migration, and land use change on urban peripheries – does not only affect the largest cities, but also small and medium-sized urban centres.⁶ The evidence suggests that stepwise migration is common in Sierra Leone. In other words, at the same time as people are migrating from small urban localities to District capitals, others are migrating to these small towns from the countryside and, at the other end of the scale, migrating from the District capitals to Freetown. This stepwise migration will result in more and larger towns and cities, rather than rapid growth in just a few major cities. This is a pattern that can be found across West Africa.⁷

Table 2-1: Urban growth in Sierra Leone, 1910-2004

Size of urban unit	Number of urban localities					
	1910	1930	1963	1974	1985	2004
2,000 – 4,999	6	15	42	55	62	83
5,000 – 9,999	-	3	11	11	25	22
10,000 – 19,999	-	-	5	4	6	12
20,000 – 49,999	1	-	1	3	1	2
50,000 – 99,999	-	1	-	1	3	2

4 CIA World Factbook, available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/sl.html>

5 Lall, S., Planning for Uganda's Urbanization, Inclusive Growth Policy Note 4

<http://www.worldbank.org/en/topic/urbandevelopment/publication/urbanization-reviews>

6 Urban settlements in Sierra Leone are defined as those of 2,000 people and above.

7 <http://www.oecd.org/swac/publications/48231121.pdf>

Size of urban unit	Number of urban localities					
100,000 – 499,999	-	-	1	1	1	2
500,000 +	-	-	-	-	-	1
Total	7	19	60	75	98	124
Urban population	3.8%	6.3%	18.9%	27.5%	32.2%	36.7%

Source: Census data, various years

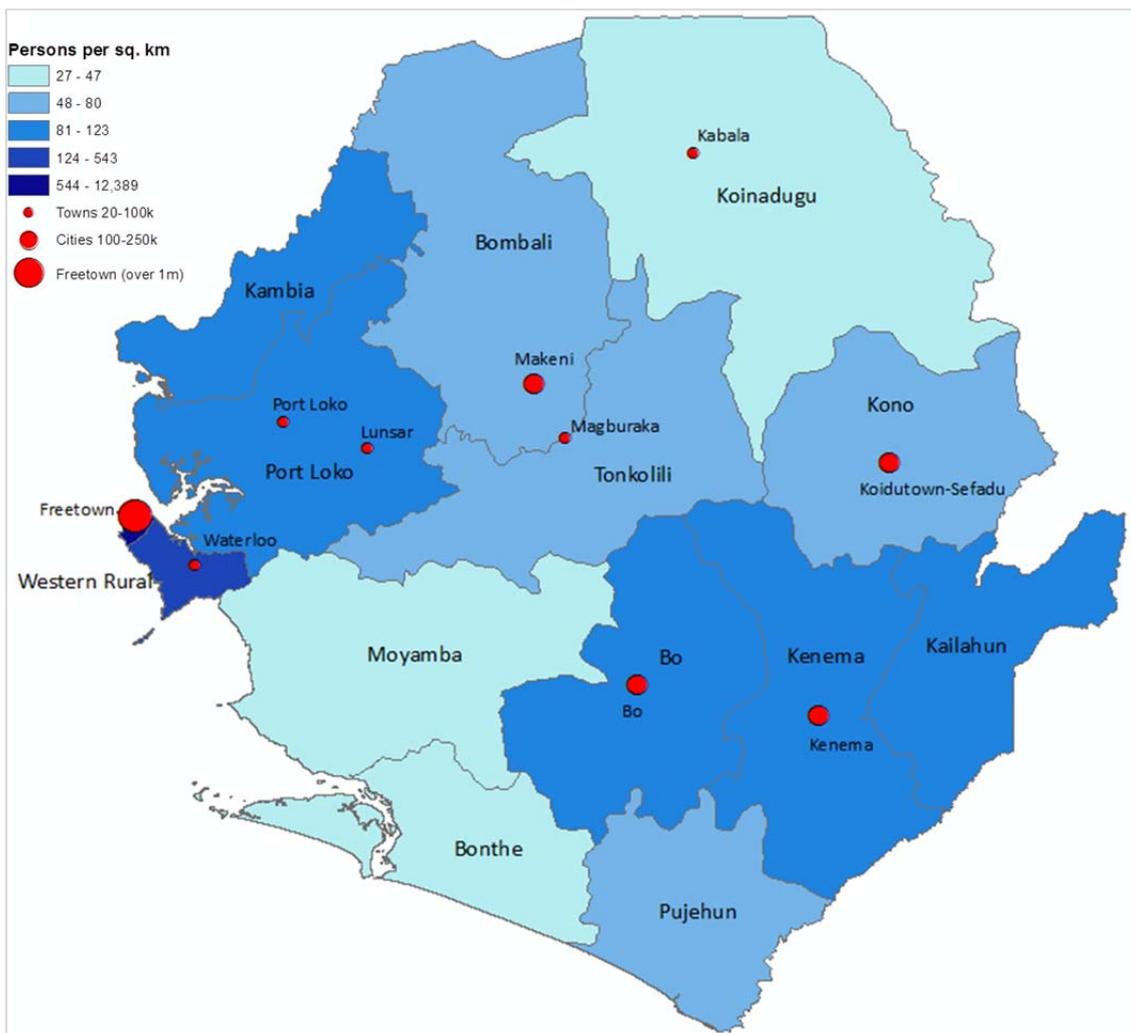
Despite this rapid urbanisation, Sierra Leone remains a predominantly rural country. The current average urban population share for countries in the Economic Community of West African States (ECOWAS) is 46.2%⁸, while it is 52.4% for the World⁹. Furthermore, the rate of urbanisation for the period 2010-2015 above, at 3%, compares to 3.9% on average across the ECOWAS.

Figure 2-2 below shows the distribution of persons across the 14 districts of Sierra Leone, as well as the top 10 population centres. It reveals a picture of uneven population distribution throughout the country, with more densely populated areas in the Western Area and the neighbouring districts in the west of Northern Province, as well as in the south-east of the country, and sparsely populated areas in the north-east and south-west fringes. Greater Freetown (Western Urban) and the surrounding suburbs in the Western Rural area represent just 0.78% of the total land area, yet are home to an estimated 1.27 million people – 20.5% of the total population.

⁸ Authors own estimate based on urban population percentages and rate of urbanisation from CIA World Factbook, available at: <https://www.cia.gov/library/publications/the-world-factbook/fields/2212.html>

⁹ *ibid*

Figure 2-2: Population density by district and top 10 population centres, 2013



Source: Official population projections, available online at http://www.statistics.sl/2004_pop_&_hou_census_analytical_reports/2004_population_and_housing_census_report_on_projection_for_sierra_leone.pdf

The concentration of population in Greater Freetown and the surrounding Western Area is an indication of the primacy of the capital city. According to official projections based on the 2004 census, the city of Freetown itself currently has an estimated population of 1.02 million – more than four times the size of the second biggest city, Bo with a 2004 population of about 150,000, and around 40% of the nation’s urban population. The primacy rate, the percentage of population of the four largest urban units contained in the largest settlement, is currently 64%. This is a decrease on the 2004 rate of 68%. In fact, the primacy rate has been declining since the 1980s, as shown in Table 2-2.

Table 2-2: Primacy rate, Sierra Leone 1963-2013

	1963	1974	1985	2004	2013
Population of four largest cities	180,919	422,922	664,491	1,134,072	1,592,229
Population of largest urban unit	127,917	276,247	469,776	772,873	1,015,829
Primacy rate	70.7	65.3	70.7	68.2	63.8

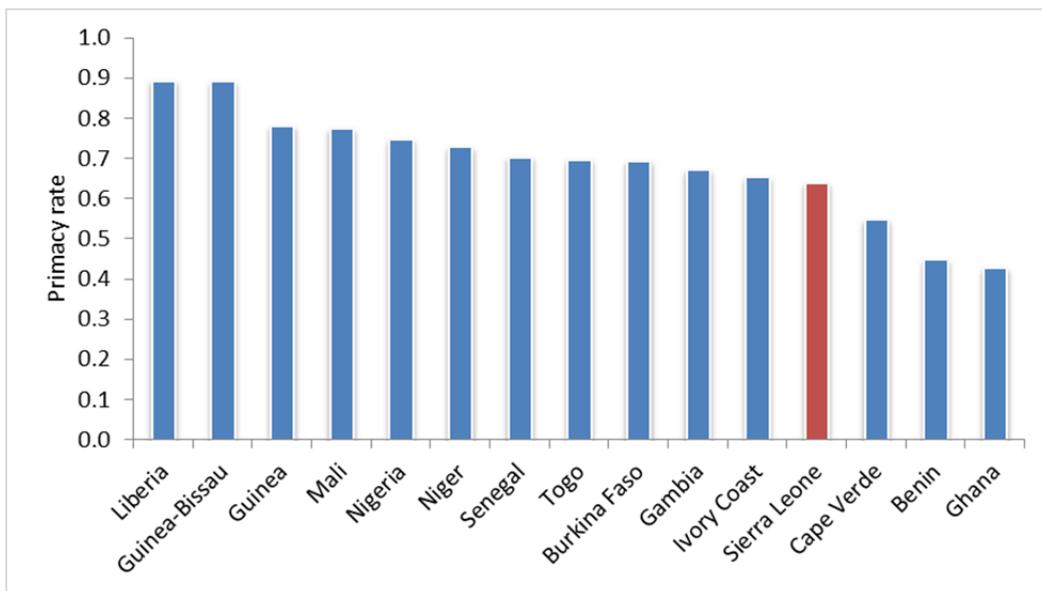
Source: census data and projections and authors' own calculations (for primacy rate)

This situation of high primacy, or ‘primate’ cities, is common across much of sub-Saharan Africa, as well as the developed world, and is not necessarily a cause for concern. Figure 2-3 shows the primacy rate of each of the ECOWAS nations. Sierra Leone has a primacy rate that is below the average for the region of 68.6%. Freetown’s urban growth rate to 2025 is higher than the national average, at 3.5% -- at that time it will contribute 43% of the urban population.

A significant – and under-recognised proportion of Sierra Leone’s urban population lives in secondary (medium-sized) cities, and in smaller towns and villages. There are 19 local councils comprised of five city councils and one municipal council in the urban areas, and 13 district councils in the rural areas. The provisions of the Local Government Act 2004 created five town councils, 12 district councils and Freetown City Council. It also created the new Western Area rural district by merging the four former rural districts of Koya, Waterloo, Mountain and York.

Through new statutory instruments introduced in 2006, city status was then granted to the former towns of Bo (town population 2004, 149,957), Kenema (128,402), Koidu-New Sembehun (82,899) and Makeni (82,840), and municipal status to Bonthe Town Council (9,740).¹⁰ As seen in Figure 2.2, there are a number of other towns – Port Loko, Lunsar, Magburaka and Kabala – with populations of in the order of 50,000 to 100,000, as well as smaller towns like Yengema, Kailahun, and Kambia.

Figure 2-3: Primacy rate in ECOWAS



Source: Authors’ own calculations based on population data from a range of sources

2.2.5 Historical population distribution trends

Table 2-3 below provides the population data for each province and district from the last two censuses. The total head count for the 2004 census was 4,976,871 persons; up from 3,515,812 in 1985, a 41.5% increase. The Western Area saw the largest percentage increase in population (71%), as well as the largest change in national population share, from 16% to 19%. Population in the Western Rural District grew by 106%. All of the districts, with the exception of Kono, saw their population increase,

¹⁰ These population figures are for the towns as demarcated, and do not include peripheral spatial expansion into the surrounding districts.

though populations grew at a faster rate in the Southern Province and the Western Area. The result is that the population distribution shifted relatively towards a greater concentration of persons in the Western Area and the Southern Province, than in the Eastern and Northern Provinces.

Table 2-3: Population distribution by province and district, Sierra Leone, 1985-2004

Province or District	Population 1985		Population 2004		Percent 1985-2004	
	Number	Percent	Number	Percent	Difference	Change
Western Area	554,243	15.76	947,122	19.0	3.24	70.89
Freetown	469,776	13.36	772,873	15.5	2.14	64.52
Western Rural	84,467	2.40	174,249	3.5	1.10	106.29
Northern Province	1,259,651	35.83	1,745,553	35.1	-0.73	38.57
Bombali	317,729	9.04	408,390	8.2	-0.84	28.53
Kambia	186,231	5.30	270,462	5.4	0.10	45.23
Koinadugu	183,286	5.21	265,758	5.3	0.09	44.99
Port Loko	329,344	9.37	453,746	9.1	-0.27	37.77
Tonkolili	243,051	6.91	347,197	7.0	0.09	42.85
Eastern Province	960,551	27.32	1,191,539	23.9	-3.42	24.05
Kailahun	233,839	6.65	358,190	7.2	0.55	53.18
Kenema	337,055	9.59	497,948	10.0	0.41	47.73
Kono	389,657	11.08	335,401	6.7	-4.38	-13.92
Southern Province	741,377	21.09	1,092,657	22.0	0.91	47.38
Bo	268,671	7.64	463,668	9.3	1.66	72.58
Bonthe	105,007	2.99	139,687	2.8	-0.19	33.03
Moyamba	250,514	7.13	260,910	5.2	-1.93	4.15
Pujehan	117,185	3.33	228,392	4.6	1.27	94.90
Sierra Leone	3,515,812	100.00	4,976,871	100.00	0.00	41.56

Source: Census data, 1985 and 2004

2.3 Key economic sectors and activity

2.3.1 Current trends and growth

Sierra Leone is the fourth smallest economy in ECOWAS, accounting for 0.96% of GDP and 1.88% of the population.¹¹ The country is becoming financially integrated with the rest of West Africa, as evidenced by increasing presence of regionally-owned financial institutions (notably commercial banks). The West African Monetary Zone (WAMZ), comprising of Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone, aims to introduce a common currency, the Eco, by 2015, with the eventual goal to merge the Eco currency with the CFA franc creating a monetary union for all of West and Central Africa.¹²

The mean growth rate of the economy during 1990-2001 was -2.2%.¹³ The cessation of hostilities and eventual restoration of security countrywide strengthened confidence, which facilitated economic recovery during the post-civil war years. Economic activity was spurred by countrywide reconstruc-

¹¹ Own calculations based on 2012 GDP and population data from the World Bank's DataBank, available at: <http://databank.worldbank.org/data/views/reports/tableview.aspx#>

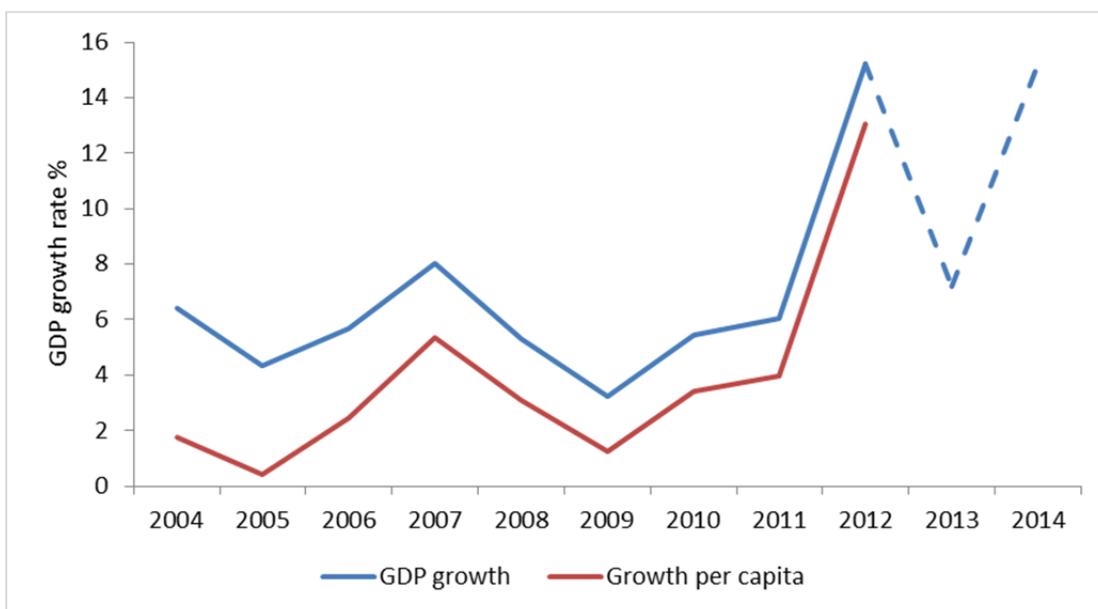
¹² <http://www.modernghana.com/news/219137/1/common-west-africa-currency-eco-in-2015.html>

¹³ Own calculations based on data from World Bank DataBank

tion and rehabilitation work and a broad recovery in agriculture, mining, manufacturing and services sectors.

Overall GDP has grown at an average of 6.6% since 2004, while per capita GDP has grown at an average of 3.9%.¹⁴ Up to 2009, this growth was mainly driven by increased output in the agricultural, construction and service sectors and was starting to slow down. Since 2010, however, increased output in the mining sector, especially in iron ore, led to acceleration in growth rates to reach 15.2% in 2012 (see Figure 2-4). This growth is projected to stabilise around 7.2% in 2013 before reaching 12.1% in 2014 as iron ore projects become fully operational.¹⁵

Figure 2-4: GDP growth in Sierra Leone, 2004-2012



Source: World Bank DataBank for 2004-2012 and Africa Development Bank for 2013-2014 projections

Macroeconomic performance during this period has also been influenced by external world market shocks emanating from high food and fuel prices, reduced receipts from donors and remittances, and a reduction in export earnings due to falling rutile and diamond production. These situations have now largely normalised. However, higher expenditures and lower than projected domestic revenue has led to a huge fiscal gap which has had to be financed by multilateral debt relief initiative (MDRI). In addition, the exchange rate has depreciated by 61% against the dollar and 31% in real terms since 2004.¹⁶

2.3.2 Agriculture

The economy is based primarily on agriculture, which accounted for 57% of GDP in 2011, followed by services and industry with 35% and 8% (half of which is manufacturing) respectively.¹⁷ In terms of employment, agriculture becomes even more significant, employing approximately two-thirds of the workforce based on current estimates. The share of agriculture in total GDP is high when compared with the other countries in ECOWAS, as Figure 2-5 illustrates.

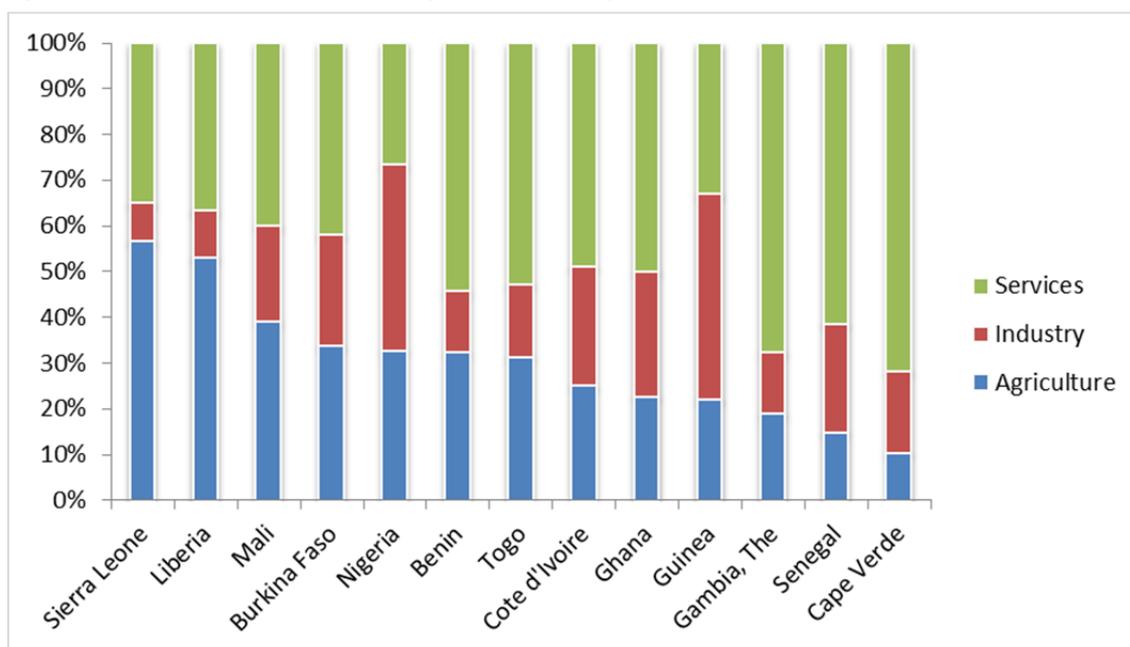
¹⁴ ibid

¹⁵ <http://www.afdb.org/en/countries/west-africa/sierra-leone/sierra-leone-economic-outlook/>

¹⁶ World Bank Data Bank

¹⁷ World Bank Data Bank.

Figure 2-5: Breakdown of GDP between agriculture, industry and services in ECOWAS countries



Source: World Bank DataBank, latest available data

The type of agriculture practiced in Sierra Leone is predominantly subsistence, although there have been efforts made recently by the government to encourage the planting of cash crops. Rice is by far the most important staple crop, with 85% of all farmers cultivating rice during the rainy season and an average annual consumption of 76 kg per person.¹⁸ Other subsistence crops include sweet potatoes; groundnuts; oil palm; cassava; and yams. Cash crops include: piassava; cocoa; palm kernel; ginger; cashew nuts; timber; coffee; and rubber. A variety of fruits and vegetables are also grown throughout the country for subsistence and cash crop purposes including pineapples; mangoes; oranges; guavas; plantains; and bananas.

Common livestock in Sierra Leone are cattle, sheep, goats, pigs and poultry. Although numbers have recovered its end, the civil war seriously depleted the level of livestock in the country. Livestock farming is mainly concentrated in the north of the country where cattle farming is dominated by the Fula ethnic group who own the majority of cattle and often manage cattle owned by other groups.

2.3.3 Mining

Mining has been a significant component of Sierra Leone's economy since the 1930s. The country is endowed with a vast array of mineral deposits, including diamonds, iron ore, gold, bauxite and rutile. During the pre-war period, the mining sector employed approximately 14% of the labour force, accounted for over 60% of export earnings and up to 20% of the country's GDP.¹⁹ However, corruption and mismanagement is generally blamed for the widespread view that few of the benefits from mining were derived by the general population. The dysfunction of the mining sector, in particular of diamond mining, was one of main factors behind the outbreak of the civil war.

¹⁸ Rice today, Volume 3: Rice facts (2004), International Rice Research, p. 48

¹⁹ Kargbo, J. Chapter 11, The Mining Sector and Growth: Lessons for the Future

Mining in Sierra Leone is organised into three broad categories. Large-scale production of non-precious minerals, such as iron ore, bauxite and rutile is carried out by foreign-owned companies. It is estimated that up to 38,000 people could be employed in large-scale mining, with an additional 300,000 including dependents and extended family members deriving their livelihood directly from these mines. Large-scale mineral production is expected to surpass \$500 million dollars within the next decade.²⁰ In addition to large-scale mining for non-precious minerals, some mechanised mining for gold and diamonds is undertaken by foreign companies on a smaller scale.

The majority of precious minerals, diamonds and gold, are extracted by artisanal miners. Artisanal mining employs around 200,000 to 300,000, making it the second biggest employer in the country after subsistence agriculture. Artisanal and small-scale miners account for an estimated 80 to 90% of all diamond exports.²¹ However, the sub-sector is currently unregulated and there is no set minimum wage or health and safety standards meaning that artisanal miners are kept in poverty. Additionally, mining without rehabilitation causes environmental degradation, water pollution and the destruction of arable farmland.

2.3.4 Trade balance

In 2012, Sierra Leone's total merchandise trade (exports plus imports) amounted to US\$2,712 million, growth of 28.6% compared to 2011. Export receipts totalled US\$1,065 million, while imports totalled US\$1,603 million. The trade deficit narrowed considerably in 2012 to US\$495 million, down from US\$1,367 million in 2011.²² This was largely due to the growth in exports from the mining sector. Sierra Leone's major exports and imports in 2011-2012 were as follows:

Table 2-4: International trade and reserves (US\$ '000), Sierra Leone

Imports	Jan-Dec 2011	Jan-Jun 2012	Jul-Dec 2012	Jan-Dec 2012
Food	245,884	152,338	153,709	306,047
<i>of which rice</i>	84,727	56,952	54,466	111,418
Beverages and Tobacco	33,142	14,700	13,797	28,497
Crude Materials	18,467	16,977	16,435	33,411
Mineral Fuels and Lubricants	275,758	163,749	182,822	346,571
<i>of which fuel</i>	243,704	155,581	166,525	322,106
Animal and Vegetable Oils	9,630	4,010	5,999	10,009
Chemicals	67,039	53,032	53,952	106,985
Manufactured Goods	175,716	94,087	75,217	169,305
Machinery and Transport Equipment	756,262	200,305	285,626	485,930
Other Imports	134,657	57,992	58,783	116,775
Total Imports	349,215	459,523	649,005	1,108,528
Mineral Exports	240,240	405,202	387,055	792,257
Diamonds	129,766	69,377	92,343	161,720
Bauxite	38,998	10,458	6,626	17,084
Rutile	34,437	109,288	94,456	203,744
Gold	7,280	3,363	2,377	5,740
Ilmenite	4,442	-	3,752	3,752

²⁰ *ibid*

²¹ *ibid*

²² Bank of Sierra Leone, Annual Report and Statement of Accounts, 2012

http://www.bsl.gov.sl/pdf/Annual_Report_2012.pdf

Imports	Jan-Dec 2011	Jan-Jun 2012	Jul-Dec 2012	Jan-Dec 2012
Iron Ore	14,863	201,186	155,816	357,002
Zircon	10,454	1,390	2,049	3,438
Agricultural Exports	46,779	19,633	10,298	29,931
Coffee	2,001	3,425	328	3753
Cocoa	44,022	15,836	9,874	25,710
Fish and Shrimps	746.6	371	97	468
Other Exports	28,997	15,255	210,998	226,253
Re-exports	33,199	19,432	40,654	60,086
Total Exports	349,215	459,523	649,005	1,108,528
Trade Balance	(1,367,342)	(297,667)	(197,337)	(459,004)
Foreign Reserves (\$m)	376.79	382.74	417.92	417.92

Source: Bank of Sierra Leone, Annual Report and Statement of Accounts, 2012

2.4 Education, employment and skills

Education in Sierra Leone is legally required for all children for six years at primary level and three years in junior secondary education, but a shortage of schools and teachers has made this a challenging goal. The civil war resulted in the destruction of 1,270 primary schools and, in 2001, 67% of all school-age children were out of school. The situation has improved considerably since then with primary school enrolment doubling between 2001 and 2005 and the reconstruction of many schools since the end of the war.

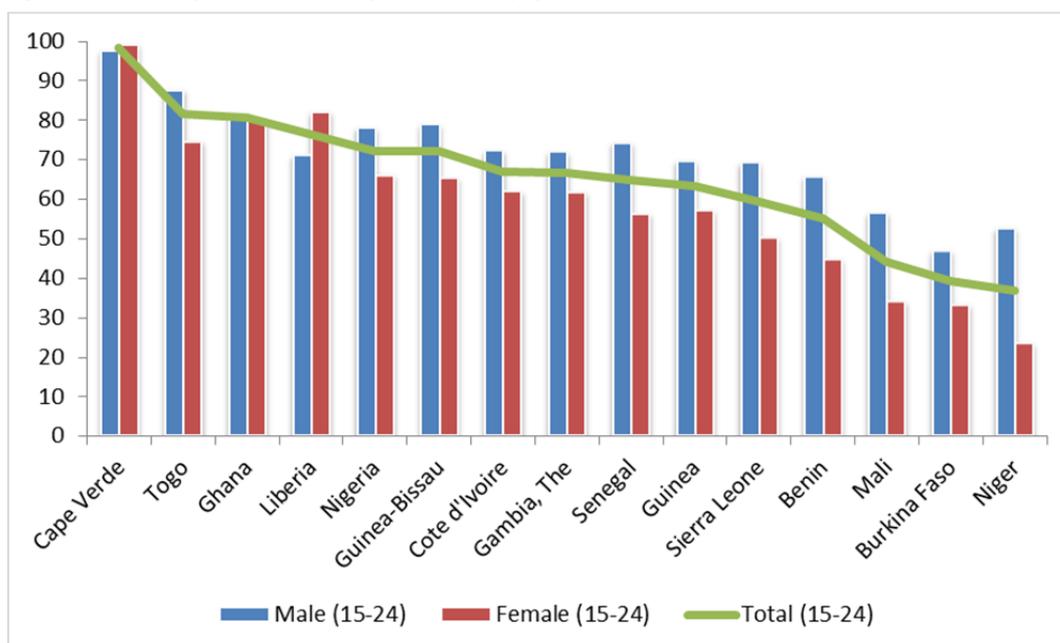
The country has three universities: Fourah Bay College, founded in 1827 (the oldest university in West Africa); the University of Makeni (established initially in September 2005 as the Fatima Institute, the college was granted university status in August 2009, and assumed the name University of Makeni, or UNIMAK); and Njala University, primarily located in Bo District. Njala University was established as the Njala Agricultural Experimental Station in 1910 and became a university in 2005. Additionally, teacher training colleges and religious seminaries are found in many parts of the country.

As mentioned above in 2.2.1, the population of Sierra is remarkably young. Over a quarter (27.8%) of the population is estimated to be of school age. This 'bottom heavy' population profile poses a challenge to policy makers in Sierra Leone to provide enough jobs for these youths as they grow up and enter the labour market. It can also become an economic advantage in the form of a demographic dividend.²³ This dividend will only be realised, however, with significant investment in education and skills.

Young people in fact are often unskilled and poorly educated. The literacy rate of youths in Sierra Leone is one of the lowest in the world and below the average for ECOWAS members (see Figure 2-6). Consequently, more than half of those aged 15-24 are not in employment, education or training (NEETs). For poverty reduction to be achieved, more needs to be done to improve the basic skills of the youth.

²³ Demographic dividend refers to a period – usually 20 to 30 years – when fertility rates fall due to significant reductions in child and infant mortality rates. This fall is often accompanied by an extension in average life expectancy that increases the portion of the population that is in the working age-group. This cuts spending on dependents and spurs economic growth.

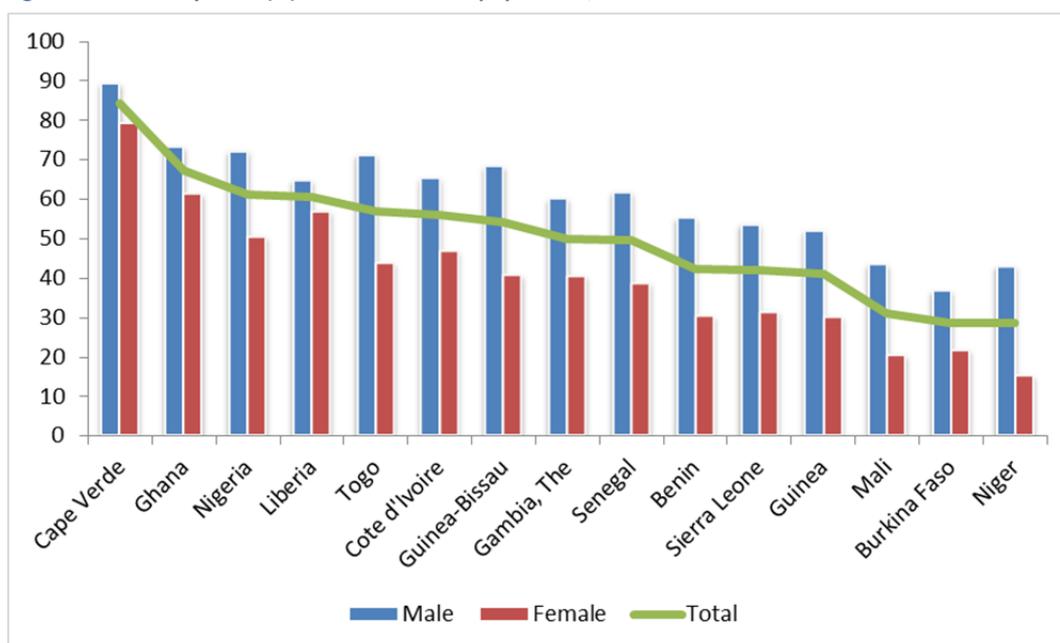
Figure 2-6: Literacy rates (%) of the youth (15-24) populations, ECOWAS



Source: World Bank DataBank, latest available year

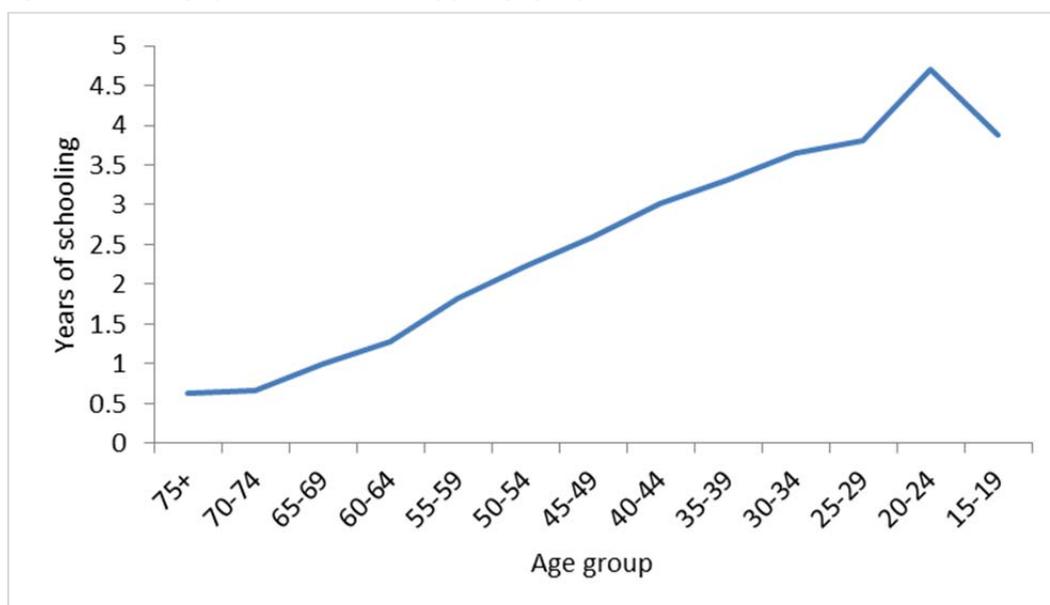
Statistics do indicate, however, that education in Sierra Leone is improving. When the literacy rate of the youth is compared to that of the total population, this is apparent; the youth (15-24) literacy rate is 59.4%, compared with 42.1% for the total adult population (Figure 2-7). Furthermore, the average years of total schooling increases as age decreases (Figure 2-8), which indicates both that young people are better educated than those in older age groups and also that children in Sierra Leone are increasingly staying in school for longer.

Figure 2-7: Literacy rates (%) of the total adult population, ECOWAS



Source: World Bank DataBank, latest available year

Figure 2-8: Average years of total schooling per age group, 2010, Sierra Leone



Source: Barro-Lee: Average years of total schooling, World Bank DataBank

The working age population (those aged 15-64) constitutes just over half (52.5%) of the total population. The age distribution of the population results in a total dependency ratio of 93.6; meaning that every 100 working age adults have to support 94 individuals who cannot work due to age. If other factors, such as physical and mental impairments are considered, it is likely that every working age person has at least one dependent. In other words, they must earn enough to support two people.

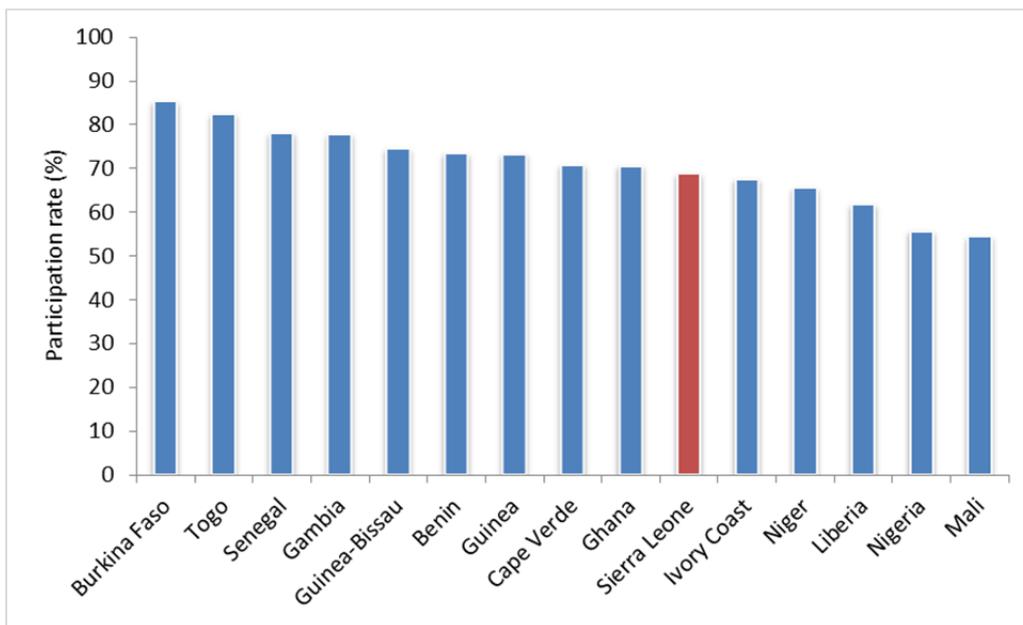
In recent years the labour force has grown more slowly than the number of dependents, due to the rapidly falling infant mortality rate. This is placing increasing pressure on workers and wages (earnings) must increase accordingly just for standards of living to be maintained before they can be improved.

In 2011, just over two-thirds (68.7%) of the working age population were economically active, a slight increase on the 2004 figure of 68%. This gives a total of 2,174,726 earners who must support themselves and 4,015,551 dependents – a total dependency ratio of 184.6. The economic activity rate declines significantly beyond 54 years of age, implying that productivity drops off at this age.

Labour force participation is slightly below the average for ECOWAS of 70.7% (see Figure 2-9). However, and importantly, female participation in the labour force is high in comparison to the other ECOWAS countries, second only to Togo. The ratio of female to male participation is 95.9%, compared to an ECOWAS average of 78.6%²⁴.

²⁴ World Bank DataBank

Figure 2-9: Labour force participation rates, 2011, ECOWAS



Source: World Bank DataBank, 2011

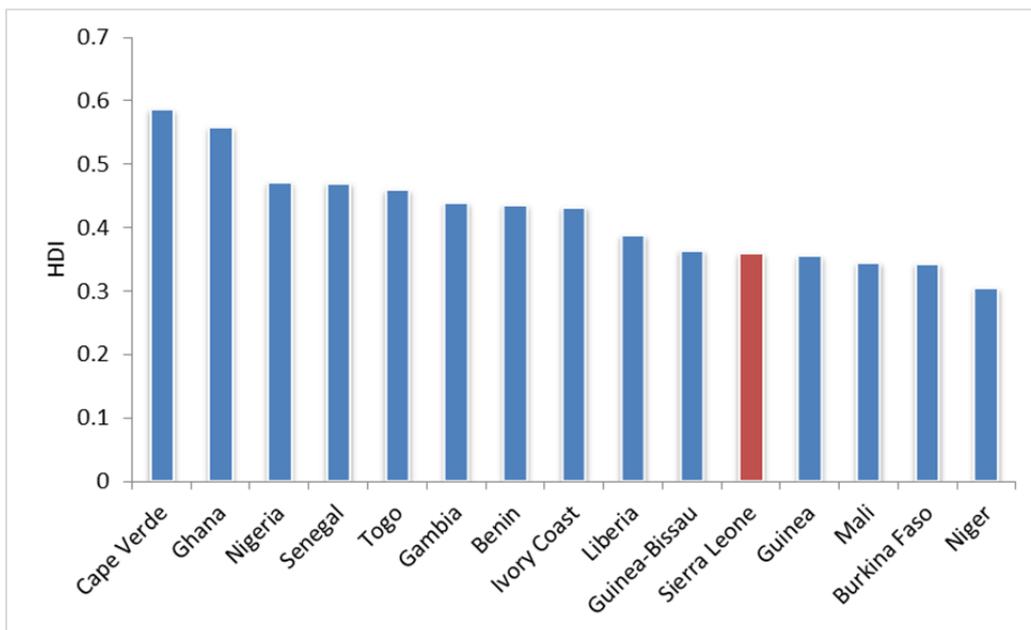
The vast majority of the workforce in Sierra Leone is engaged in subsistence agriculture or in the informal sector. Wage and salaried workers accounted for just 8% of total employment in 2004.²⁵ In the same year 68.5% of the workforce was employed in agriculture, 25% in services and just 6.5% in industry. Recent trends, however, suggest encouragingly that the proportion of the workforce engaged at least in subsistence agriculture is declining, while the number of wage and salaried employees is on the increase. This is crucial to improving standards of living, as many of these job placements in industry and services earn substantially more than subsistence agriculture.

2.5 Poverty levels

In spite of its huge natural resource potentials in agriculture and massive mineral and marine reserves, Sierra Leone is one of the world's poorest nations. The country also has some of the worst human development indicators: until the publication of the latest report, the country had been consistently ranked in the bottom 5% of the Human Development Index (HDI) since UNDP started the yearly ranking exercise. The 2013 report ranks Sierra Leone 177th out of 187 in the world, with a HDI score of 0.359. This is also significantly below the ECOWAS average of 0.421 (see Figure 2-10).

²⁵ *ibid*

Figure 2-10: HDI score, ECOWAS, 2012



Source: United Nations Development Programme's Human Development Report, 2013

Between 2003 and 2011, as seen above, Sierra Leone has experienced continued macroeconomic growth, but still lags behind the sub-Saharan African average GDP per capita. This growth has generally translated into poverty alleviation.

The poverty headcount has declined from 66% in 2003 to 53% in 2011. The overall reduction was led by strong growth in rural areas, where poverty declined from 79% in 2003 to 66% in 2011, yet this figure was overall still higher than urban poverty. Urban poverty declined from 47% in 2003 to 31% in 2011. This decline was despite a significant increase from 14% to 21% in the capital, Freetown.

District level poverty analysis showed that by 2011 most districts had converged to poverty levels between 50% and 60%, with the exceptions being Freetown at 21% and levels above 70% in Moyamba and Tonkolili (see Figure 2-11). Underlying this poverty reduction was an annualized 1.6% per capita increase in real household expenditure from 2003 to 2011. While steady positive progress is encouraging, much higher growth rates will be necessary to meet government's 4.8% targets outlined in the new Agenda for Prosperity.²⁶ The high poverty levels evident at the street level indicate that much more work still remains to be done before the majority of people start to feel the full benefits of national development efforts.

Households in which agriculture is the primary occupation of the household head are poorer than other occupations. The poverty headcount for agricultural households showed an 18.5% decrease from 75% in 2003 and 61% in 2011, while other households showed a 25.5% decrease from 41% to 31%. This is true even within rural areas, where the poverty headcount was 63% for agricultural households, compared with 52% for other primary occupations of the household head.²⁷

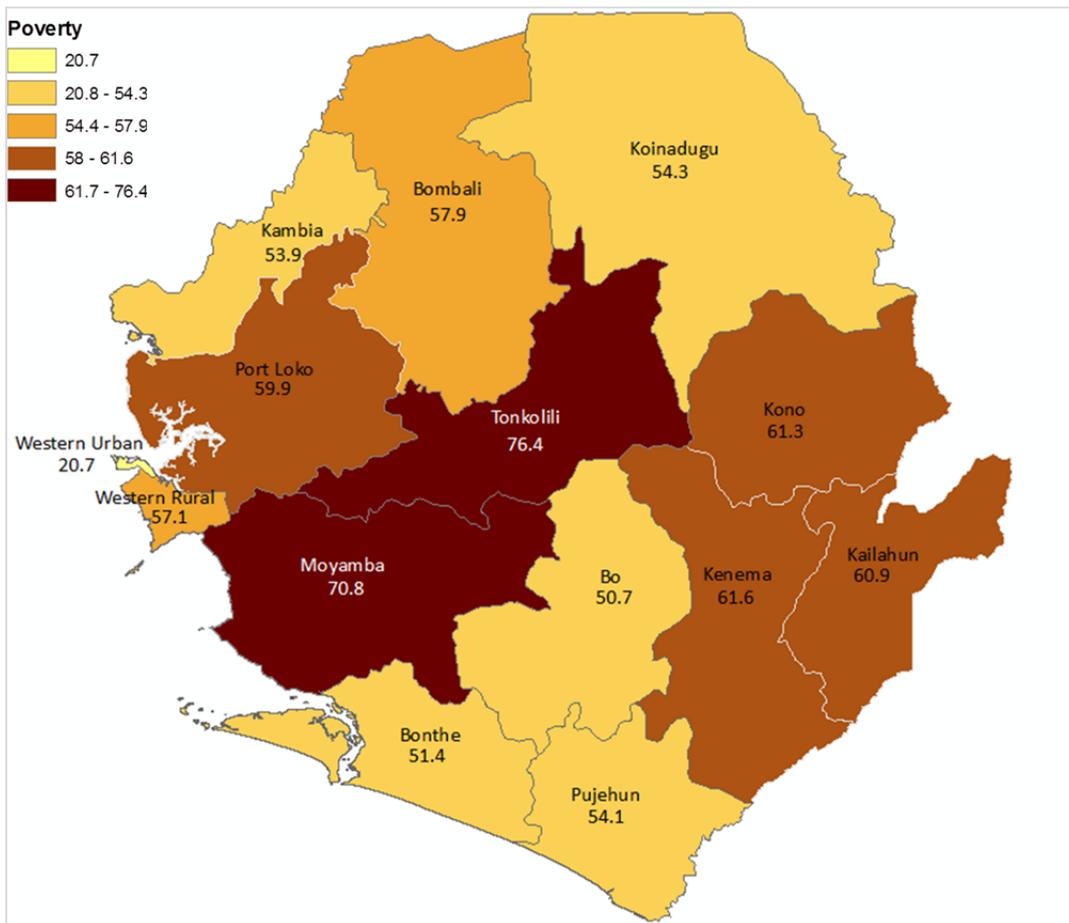
²⁶ The World Bank Poverty Reduction & Economic Management Unit (2013), A Poverty Profile for Sierra Leone

²⁷ *ibid*

Food poverty is correlated with total poverty but gaps do exist: there was a 72% positive correlation between food poverty and total poverty. For example, food poverty was higher than total poverty in Freetown. This was likely attributable to the fact that food is not home-produced in this area, and households may have opted, either out of preference or necessity, to purchase non-food items with limited resources. In contrast, in the Moyamba district, which was more than 90% rural, total poverty was much higher than food poverty. This likely indicates that food needs could be met more readily through home production, but that disposable income may have been more limited for non-food purchases.²⁸

The growth in Sierra Leone from 2003 to 2011 has – also encouragingly – been pro-poor. From 2003 to 2011, national inequality levels have decreased. The Gini coefficient, calculated for per-capita consumption, decreased from 0.39 in 2003 to 0.32 in 2011. The 2011 levels of inequality vary substantially, however, across districts. The highest level is in Bombali district, with a value of 0.42, and the lowest in Tonkolili, with a value of 0.21. Inequality is also relatively low in the capital Freetown, with a Gini coefficient of 0.27.²⁹

Figure 2-11: Poverty headcount by district, Sierra Leone, 2011



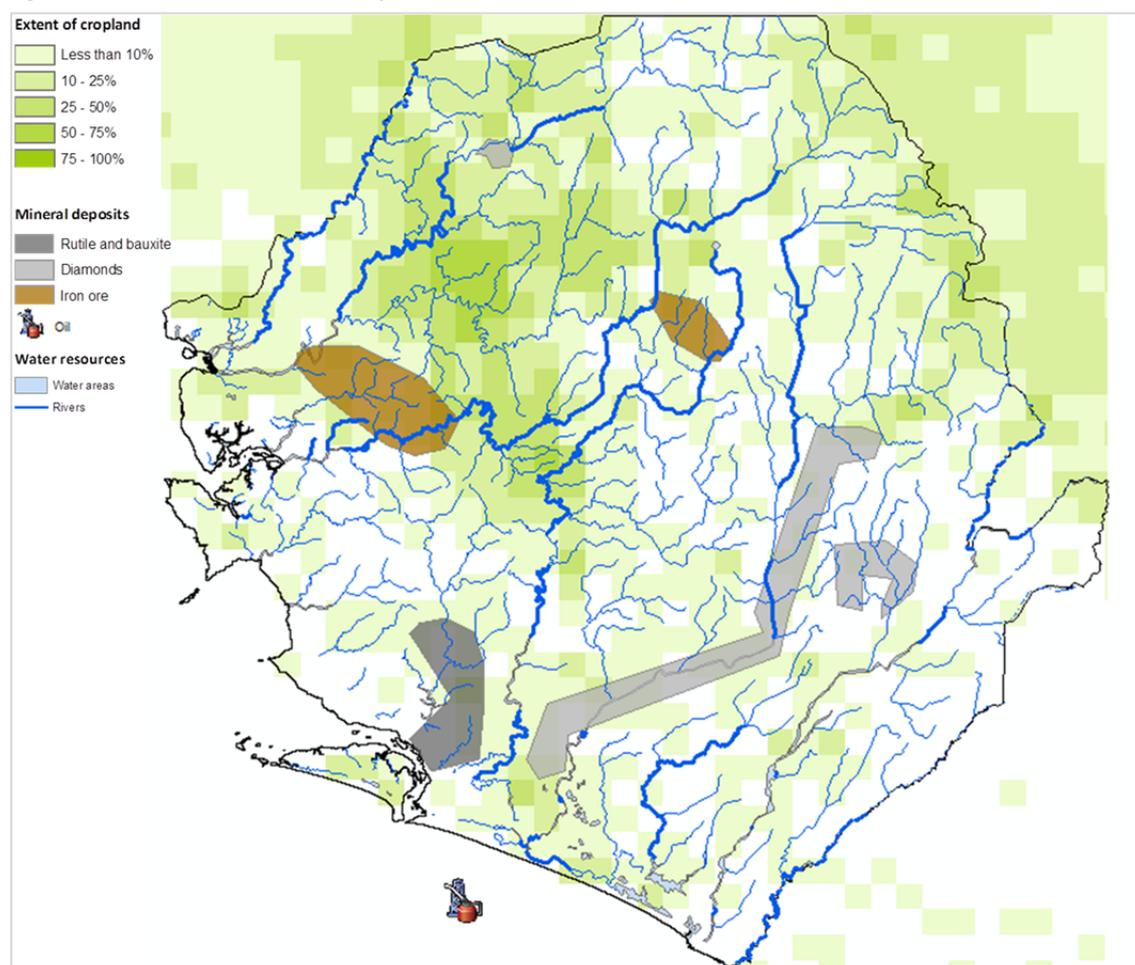
²⁸ ibid

²⁹ ibid

2.6 Environment and natural resources

There is an abundance of natural resources dispersed throughout Sierra Leone, although some areas are more endowed than others. In each and every district there can be found proven agricultural, mineral, energy, water or touristic potentials, which can be tapped to fuel the development process. Figure 2-12 illustrates the location of some of these key natural resource assets throughout country.

Figure 2-12: Location of key natural resources in Sierra Leone



Source: Extent of cropland data from: Ramankutty, N., A.T. Evan, C. Monfreda, and J.A. Foley. 2010. *Global Agricultural Lands: Pastures, 2000*. Palisades, NY: NASA Socioeconomic Data and Applications Center (SEDAC). <http://sedac.ciesin.columbia.edu/data/set/aglands-pastures-2000>;

2.6.1 Agricultural and fishing potentials

Sierra Leone is endowed with numerous rivers, rivulets, creeks and springs; vast expanses of fertile arable and inland valley swamps; plenty of sunshine and ample amounts of rainfall that can facilitate year round cropping. In the four ecologies – coastal, swamp (mangrove and freshwater), inland and upland –almost all kinds of tropical food and cash crops can be grown. There are vast expanses of self-replenishing alluvial soils spanning about 935,000 hectares for farming. Around 70% of the coun-

try's land is arable, but only 12% of this is currently being cultivated.³⁰ At present, agricultural activity is concentrated in the north, while the south has significant unexploited potential (see Figure 2-12).

Although the majority of agricultural activity is currently at the subsistence level, there is of potential for shifting to commercial agriculture and related value addition activities. Agro-processing of virtually all crops and other agricultural products is a possibility, if the right choices and investments are made. However, the viability of these potentials is diminished by a number of factors that inhibit growth in the agricultural sector, including lack of adequate financial and capital resources to invest in the sector; declining soil fertility; prevalence of traditional technologies and farming practices that return low yield, low value products; a complex land tenure system; inadequacy of energy and power; inadequate quality and quantity of agriculturally trained personnel; poor roads that limit market access; unpredictable weather conditions; fluctuating and unfavourable world market prices of primary products; high level of post-harvest losses; rural to urban labour flight and inadequacy of research in agriculture to inform policy.

The fishing sub-sector accounts for around 10% of the country's GDP and employs around 500,000 people.³¹ Fish exports, particularly to the EU market, were once a key contributor to GDP until the civil war led to drastically reduced commercial fishing activity. One positive aspect of this is that fish stocks have increased and Sierra Leone's waters are now home to the largest numbers of fish as well as the largest species of fish in West Africa. Potential production is estimated to be 16,000-40,000 tonnes of freshwater, 55,000 tonnes of pelagic fish and 85,000-100,000 tonnes of demersal fish.³²

Sierra Leone's fish stocks offer a sustainable and affordable source of protein for the domestic population, as well as a potential source of export revenues. For these potentials to be realised, however, two key issues must be addressed. The first is to control the problem of illegal fishing, which is estimated to cost around US\$ 30 million in revenues.³³ The second is to meet the standards required for export to the European Union, which will unlock valuable markets.

2.6.2 Mineral deposits

2.6.2.1 Diamonds

Sierra Leone boasts on some of the finest gems ever mined and is home to the largest alluvial diamond and third largest gem-quality diamond ever discovered ("The Star of Sierra Leone"). In the south and east of the country, alluvial diamond mining is ubiquitous, making the control of the diamond trade extremely difficult, but for the Kimberly certification scheme which came into being in about 2004. The Sierra Leone diamond fields cover an area of about 7,700 square miles (about one quarter of the country) in the south-eastern and eastern parts of Sierra Leone. Alluvial diamond concentrations occur in river channel gravels, flood-plain gravels, terrace gravels, gravel residues in soils and swamps.³⁴ The extent of alluvial diamond deposits is illustrated in Figure 2-12. In 2012, the government recorded production of 532,560 carats (106.5 kg) of diamonds; this included 123,030 carats (24.6 kg) of industrial diamonds and 409,520 (81.9 kg) of gem diamonds.³⁵

³⁰ The European Times, Sierra Leone, 2011

³¹ *ibid*

³² UK DFID estimates reported in The European Times, Sierra Leone, 2011

³³ The European Times, Sierra Leone, 2011

³⁴ <http://www.slminerals.org/index.php/country-information/key-minerals>

³⁵ Bank of Sierra Leone, Annual Report and Statement of Accounts, 2012

http://www.bsl.gov.sl/pdf/Annual_Report_2012.pdf

2.6.2.2 Iron ore

Sierra Leone has known reserves of approximately 13 billion tons of iron ore deposited between three current mining sites as follows:

- African Minerals – 11.2 billion tons (Tonkolili)
- London Mining – 900 million tons (Marampa)
- Marampa Mines (Cape Lambert) – 850 million tons

In addition, the Chinese King Ho group is examining locations close to the Gola Forest that are speculated to contain deposits of up to 30 billion tons. In 2012, 5,203,490 M tons of iron ore were produced.³⁶

2.6.2.3 Bauxite

Sierra Leone's production of bauxite, an aluminium ore, is just under 1% of the total global production.³⁷ Deposits occur between Moyamba and Mano, on the Freetown Peninsula, at Krim-Kpaka in the Pujehun District, southern Sierra Leone; in the north on the road from Falaba to Waia, at Kamakwie and Makumre. Proven reserves are estimated at 2 billion tons³⁸ and production was 734,480 M tons in 2012.³⁹ The only company currently mining bauxite in the country is Sierra Mineral Holdings.

2.6.2.4 Gold

There is a 'gold belt' running from Koinadugu and Tonkolili districts in the north through Kono and Kenema districts in the east and on to northern Bo district. At present, gold mining in Sierra Leone mainly consists of small-scale artisanal operations exploiting alluvial deposits, though new modern mechanised mines are expected to come into production in the next few years. Gold reserves are estimated at 4.5 million ounces⁴⁰ and production was 4,530 ounces in 2012.⁴¹

2.6.2.5 Rutile

Sierra Leone has the richest grade and largest deposit of rutile, a rare titanium ore, used in paint pigment, paper and welding rod coatings. Four groups of deposits are known to be distributed around the country: the Gbangbama Deposit, the Sembehun Deposit, the Rotifunk Deposit and the Kambia Deposit. The country was the largest producer of natural rutile in the world in 2012, producing 94,490 M tons and accounting for a third of the total production.⁴² Reserves are estimated at 600 million tons⁴³

³⁶ *ibid*

³⁷ <http://www.slminerals.org/index.php/country-information/key-minerals>

³⁸ Chapter 12

³⁹ http://www.bsl.gov.sl/pdf/Annual_Report_2012.pdf

⁴⁰ Chapter 12

⁴¹ http://www.bsl.gov.sl/pdf/Annual_Report_2012.pdf

⁴² *ibid*

⁴³ Chapter 12

2.6.2.6 Oil and other minerals

Oil has been discovered off the coast of the south of the country, near the border with Liberia. Exploration is still ongoing and the total volume of oil reserves remains unknown, but reports suggest that the potential is similar to offshore sites discovered in Ghana recently.⁴⁴

In addition to the mineral deposits outlined above, there are zircon (naturally occurring with rutile), tantalum, chromite, ilmenite, platinum, molybdenum, ruby and zephyr; for many of which active prospecting is ongoing.

2.6.3 Water resources

Sierra Leone has considerable amounts of water resources. There are seven main rivers and several tributaries, streams and rivulets that drain the land in a generally northeast to southwest direction. In addition, there are small lakes, springs, creeks and lagoons (see Figure 2-12). The rainfall is the highest in Africa and underground water resources allow for hand dug wells all over the country. The country is considered water-abundant, as it has 30,960 cubic metres per capita per year of renewable water resources.⁴⁵

The numerous year round rivers and streams offer the potential for the production of over 1,200MW of electricity from various proposed hydroelectric power sites in the country. The biggest resources are found in just two districts, which together account for around 60% of the potentials – Kenema (about 415MW or 35%) and Tonkolili (about 306MW or 26%). To date, only sites at Bumbuma (30-50MW) and Goma (3-6MW) have been harnessed. Power infrastructure is discussed further in 0.

Despite this abundance of water resources, only 50.5% of the population has access to safe water supplies; 35.2% in rural and 81.7% in urban areas, but only 50% in the Western Area.⁴⁶ This is a result of the lack of adequate water supply and sanitation infrastructure in the country, which is discussed below in section 2.7.3.

2.6.4 Natural environment and tourism potential

Sierra Leone has a varied topography of breath-taking scenic beauty, varied landscape of fine coastal beaches, bays and lagoons, plateaus, plains and mountains, dense tropical forests and grasslands with fascinating wildlife and biodiversity of the forest reserves, rich cultural heritage and history and a welcoming people.

The country's location in West Africa closer to Europe accords it potential advantages for tourism. The Freetown Peninsula is the only place in West Africa west of the Cameroons where mountains rise close to the coast. It was the attraction that the forest-clad mountains of this peninsula that made the Portuguese explorer, Pedro da Cintra, to name this part of Africa as "Serra Lyoa" or Lion Mountains. This peninsula has some of the finest beaches on earth and the best natural harbour in Africa.

⁴⁴ <http://www.investsierraleone.biz/index.php?l=english&p=35&pn=Oil%20and%20Gas>

⁴⁵ Pushak, N. and Forster, V. (2011), "Sierra Leon's Infrastructure: A Continental Perspective", *World Bank Policy Research Working Paper 5713*

⁴⁶ Statistics Sierra Leone (SSL) and ICF Macro (2009) – Sierra Leone Demographic and Health Survey 2008, Calverton, Maryland, U.S.A.: Statistics Sierra Leone (SSL) and ICF Macro; pp. xxxi, 23-25, Table 2.8

There are many places of historical importance to the foreign visitor on account of the country's unique role as the centre of British Colonial administration in West Africa. Banana, Tasso and York Islands were assembly points for slaves before shipment to the West Indies. York and Bonthe Islands were home to many foreign companies like C.F.A.O. and Paterson Zochonis. The ruins and remains of the slave 'factories' and manufacturing companies plus the associated history linked to the diaspora are valuable tourist attractions.

If developed and well-managed, tourism can become a leading pro-poor economic growth sector. It can create employment for men and women alike and increase livelihoods, or even lift people out of poverty. Tourism can also increase demand for services and goods like artifacts (e.g., 'Nomoli' culture, 'africana' ornaments, curios, etc.). Government can benefit from the spillover effect of such investments and employment through taxation, foreign exchange earnings and higher GDP growth rates.

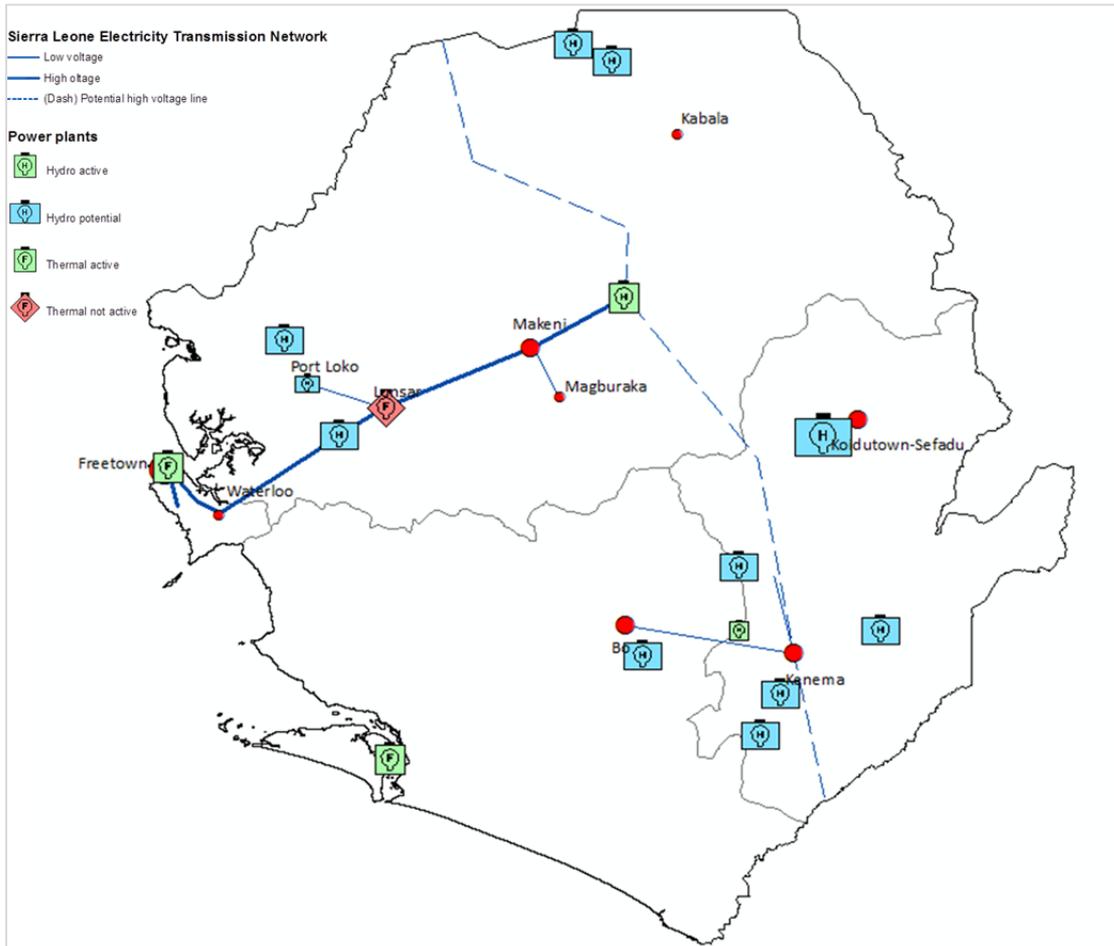
The World Travel and Tourism Centre projects that Sierra Leone's tourism industry will grow by 5.8% per year between 2010 and 2019 to reach US\$390 million in annual revenues. Other sectors of the economy, like the construction industry, agriculture, arts and culture, fashion and fishing would also be positively affected.

2.7 Infrastructure

The majority of Sierra Leone's public infrastructure was either damaged or allowed to dilapidate during the civil war. This section discusses the current state of infrastructure in Sierra Leone in the regional context, as well as forthcoming improvements and potential improvements that could be made in each area.

2.7.1 Power

Figure 2-13: Current and potential power infrastructure, Sierra Leone



2.7.1.1 Current status

In late 2009, the 50MW Bumbuna hydropower plant became operational, almost doubling Sierra Leone's existing installed power capacity and significantly reducing costs.⁴⁷ Prior to Bumbuna, Sierra Leone had just 27MW of conventional thermal energy and one of the highest power generation costs in Africa. Despite this progress, Sierra Leone's power-generation capacity falls far short of meeting demand and the current installed capacity of 13MW per million people is one of the lowest in the world.

Nationally, approximately 7% of the population has access to mains electricity, although the majority of these live in Freetown; this figure falls to less than 1% for those in rural areas. Outside of the Freetown power grid, the cities of Kenema and Bo are connected to the Goma hydropower plant, which generates between 3-6MW of power, and Makeni has access to power from the Bumbuna plant. Private diesel generators are the main source of power for businesses outside of Freetown, while the majority of households use paraffin for lighting.

⁴⁷ Sierra Leone's Infrastructure: A Continental Perspective (June 2011)

Power generation capacity can be unreliable and is susceptible to power outages. The country records 46 days of power outages a year, more than four times the level observed in other low-income and fragile states in Africa.⁴⁸ Hydropower from Bumbuna is also unreliable and capacity reduces from 50MW in the rainy season to just 20MW in the dry season. The low and unreliable power availability thwarts development efforts as it puts off investors, increases production costs, reduces productivity and employment generation and raises the cost of living. Estimates suggest that inadequate power generation has corroded as much as 0.1% of per capita growth in Sierra Leone over the past decade.⁴⁹

2.7.1.2 Future plans

The Government of Sierra Leone has prioritised energy in its development agenda and is working actively towards increasing the amount of electricity generated and consumed, exploring diversification of energy sources and increasing the reliability of supply. As discussed, the abundant water supply of the country has the potential to generate up to 1,200MW of electricity from several hydropower sites across the country (see Figure 2-13). The Bumbuna site alone has the potential to generate 300MW with further investment. It is hoped that 125MW of electricity capacity will come on-stream in the next five years to meet the current estimated 200MW of national electricity demand.

An alternative scenario involves importing power from neighbouring countries in West Africa, such as Cote d'Ivoire, which is one of West Africa's largest power exporters with a reputation as a reliable supplier in the WAPP today, providing Burkina Faso and Guinea with 1.8 terrawatt-hours. In the long term, Sierra Leone could also import power from Guinea, which has abundant low-cost hydropower and an export potential of 17.4 terrawatt-hours. To make this scenario a reality, the country would have to develop over 600MW of interconnector capacity.⁵⁰

There is currently a project underway, within the West African Power Pool framework, to construct 1,411km of high voltage transmission lines between Cote d'Ivoire – Liberia – Sierra Leone – Guinea, which will connect to the existing Sierra Leone power grid at Bumbuna and Kenema (see Figure 2-13). Once this project is completed, power could be imported from neighbouring countries to meet demand in the short term, with the potential to export power in the future, if the country's hydropower potential is realised.

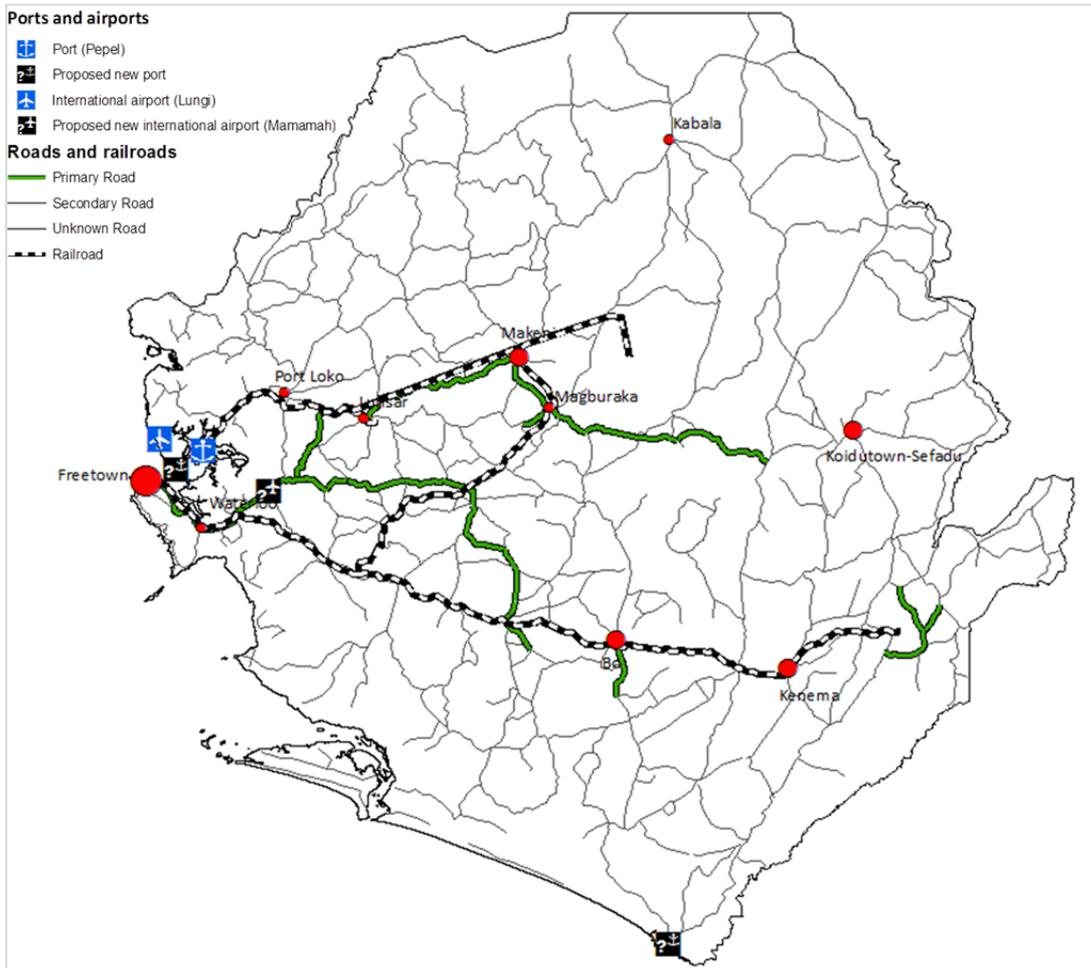
⁴⁸ *ibid*

⁴⁹ *ibid*

⁵⁰ *ibid*

2.7.2 Transport infrastructure

Figure 2-14: Current and potential transport infrastructure, Sierra Leone



2.7.2.1 Roads

Sierra Leone's road transport system consists of an estimated 11,311 km, of which 8,207 km (73%) is classified as A, B or F roads and forms the National Road System. The majority (90%) of the National Road System is unpaved, although just under a fifth (19.5%) of the core road network is paved. The remaining 3,104 km of roads generally form urban networks and most (96.3%) is also unpaved.

Table 2-5: Extent of road network in Sierra Leone

Functional Category	Paved (km)	Unpaved (km)	Total (km)
Primary (Class A)	767	1,384	2,151
Secondary (Class B)	24	1,880	1,904
Core road network	791	3,264	4,055
Feeder (Class F)	0	4,152	4,152
National road system	791	7,416	8,207
Other roads	115	2,989	3,104
National road network	906	10,405	11,311

Source: Aurecon (2012), "Consultancy Services for the Sierra Leone Transport Sector Strategy Development Study Working Paper 2 & 3: Transport System & Infrastructure Gaps

Good progress has been made recently to improve the overall condition of the National Road System. Despite this, nearly a third (31.5%) of roads is classified as being in 'poor' condition, though this is only 15.4% for primary roads. Over half (59.7%) of the urban road network (other roads) is in poor condition. Considering the national road network as a whole, approximately a third (32.6%) is in good condition, 28% is classified as fair and the largest part (39.3%) is in poor condition.

Table 2-6: Condition of road network in Sierra Leone

Functional Category	Good (km)	Fair (km)	Poor (km)	Total (km)
Primary (Class A)	1,058	753	329	2,140
Secondary (Class B)	434	569	901	1,904
Core road network	1,492	1,322	1,230	4,055
Feeder (Class F)	2,145	650	1,357	4,152
National road system	3,637	1,972	2,587	8,207
Other roads	54	1,196	1,854	3,104
National road network	3,691	3,168	4,441	11,311

Source: Aurecon (2012), Consultancy Services for the Sierra Leone Transport Sector Strategy Development Study Working Paper 2 & 3: Transport System & Infrastructure Gaps

The majority of roads in poor condition are located in the north-eastern parts of the country, as well as in scattered areas in the western and central parts of the country. The roads with the highest levels of traffic are concentrated in Western Area around Freetown. The route between Lunsar and Makeni also experiences high levels of use, as does the route between Kenema and Bo.

While investing in road infrastructure to ensure national connectivity is the principal priority, Sierra Leone also needs to integrate the regional transit network. Roads in the country are a bottleneck on the ECOWAS Trans-West Africa Coastal Highway.⁵¹ The highway will pass through Freetown, connecting its port to the regional corridor. More than 80% of the highway is complete and the majority of the remaining sections are in Sierra Leone, as well as Liberia and Cote d'Ivoire.

2.7.2.2 Railroads

Sierra Leone previously had a national rail network consisting of two links. One connected Freetown to the north, via Magburaka, and ending in Makeni, while the other connected the east, passing through Bo and Kenema. These links are shown on Figure 2-14. This network is no longer operational, having being stopped in the mid-1970s due to competition from road transport and the resulting decline in rail traffic.⁵² Most of the line and infrastructure has now either been removed or damaged beyond repair.

There is currently one rail line in operation in the country. This is owned and operated by African Minerals and runs from the port at Pepel to the Tonkolili mine. The development of this line consisted of the following:

⁵¹ *ibid*

⁵² Aurecon (2012), Consultancy Services for the Sierra Leone Transport Sector Strategy Development Study Working Paper 2 & 3: Transport System & Infrastructure Gaps

-
- 74 km of reconstructed rail (i.e. a reconstruction of a remaining portion of the ‘historic network’ of narrow gauge rail) between Pepel and Lunsar, and a new 126 km of narrow gauge rail from Lunsar up to the mine site. This was completed by 2011;
 - African Minerals Limited has also begun an exercise to upgrade 74km of track to support increased axle loads of 25t. This will allow wagon loads to be increased from 60t to 75t per wagon, with higher rail speeds;
 - Phase I operations commenced with a fleet of 20 locomotives and 456 wagons. This fleet is expected to be raised to at least 34 locomotives and 856 wagons.⁵³

The Ministry of Transport and Aviation has confirmed that this line will be available in future for public usage, either passengers or freight, despite now being owned and managed by a private operator.⁵⁴

2.7.2.3 Ports

In Freetown, Sierra Leone has one of the world’s largest natural deep water harbours. The Port of Freetown serves as the country’s main logistics hub for imports and exports. It has four terminals:

- Queen Elizabeth II (QE II) Quay – a multipurpose terminal handling general cargo, break bulk, containers and bulk;
- Kissy Oil Terminal;
- Kissy Ferry Terminal – passenger terminal; and
- Government Wharf – passenger terminal.

The infrastructure at the Port of Freetown was neglected during the civil war and much of it is in need of replacement or repair. For example, until recently, QE II Quay had no shore cranes available and the main lighthouse is still defective. Additionally, inaccurate charted depths due to sedimentation and the presence of many uncharted wrecks are still reported, causing navigation problems. Poor road linkages reduce accessibility and port security needs to be improved. All of these factors constrain the port’s capacity, hindering international trade.⁵⁵

Other ports in the country include:

- Sherbo Port, located on Sherbo Island – mainly used as a passenger terminal between Sherbo Island the mainland, but also used as a fish landing site;
- Pepel Port – owned and operated exclusively by African Minerals and dedicated to the export of iron ore from Tonkolili mine;
- Thofeyim Port – dedicated to the export of iron ore from the Marampa mine by London Mining; and
- Nitti Port – a small port facility located on the Sherbo River designed to handle barge shipments of bauxite and rutile.

⁵³ *ibid*

⁵⁴ *ibid*

⁵⁵ *ibid*

2.7.2.4 Airports

Freetown-Lungi International Airport, the only international airport in the country, is located in Lungi, approximately 15km north of Freetown on the opposite bank of the Sierra Leone River estuary (see Figure 2-14). Sierra Leone Airports Authority statistics indicate that, in 2011, approximately 100,000 enplaned passengers were recorded at Lungi. The largest scheduled commercial aircraft that currently services Lungi is an Airbus A330-300 operated by Brussels Airlines.⁵⁶

The location of the airport on the other side of the estuary from Freetown poses a major problem for accessibility. At one time, a helicopter shuttle service was available across the estuary to the centre of Freetown, but this no longer operates. This leaves two alternatives: passenger ferry or private speed boat operators; and transit by road.

2.7.2.5 Planned transport infrastructure investments

There are several major transport infrastructure projects currently in development, which have the potential to impact significantly on development in Sierra Leone.

The first of these is the construction of a new international airport to be located in Mamamah, Port Loko district, on the outskirts of Greater Freetown (see Figure 2-14). The project is being undertaken by China Railway International Co. at a cost of \$315 million and is expected to be completed by 2017.⁵⁷ The new airport will improve access and reduce journey times to Freetown, as well as to the rest of the country. In addition, there will be housing and commercial developments around Mamamah, which will help to draw businesses and residents away from the centre of Freetown, aiding the process of suburbanisation and reducing congestion in the capital.

Sulima has been suggested as a possible location for a new deep water port to serve the prospective oil industry. No formal plans are currently in place, but developments could progress swiftly now that oil deposits have been confirmed off the coast of Pujehan and Bonthe.

Lastly as part of Phases II and III of the Tonkolili mine development African Minerals plans to build a new port at Targin Point followed by a new standard gauge heavy haul rail line from the mine to this port. These infrastructure investments are discussed in more detail in section 2.8.1.

2.7.3 Water supply, sanitation and irrigation

2.7.3.1 Water supply and sanitation

According to a World Bank Policy Research Working Paper,⁵⁸ access to improved water and sanitation has declined steadily since 2000. Between 2000 and 2006 access to piped water decreased, whereas access to wells and boreholes increased. In the same period, an important percentage of the population was moving away from septic tanks and improved latrines to traditional latrines. Rapid population growth in urban areas, particularly Freetown, contributed to the declining access, as existing infrastructure struggled to cope. However, there remains a wide disparity between urban and rural areas, with greater access in towns and cities than in rural villages.

⁵⁶ *ibid*

⁵⁷ <http://www.sierraexpressmedia.com/archives/60882>

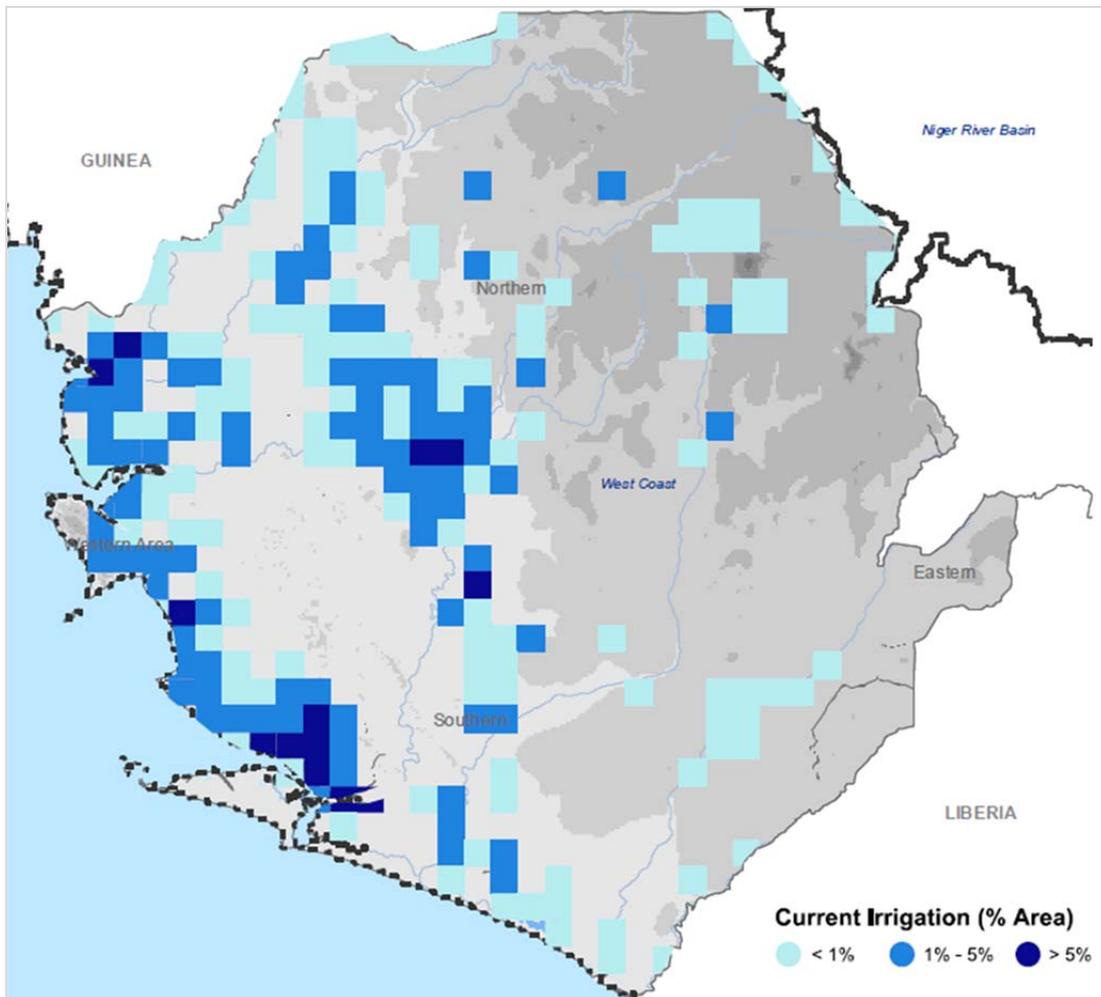
⁵⁸ Sierra Leone's Infrastructure: A Continental Perspective (June 2011)

It should be noted that statistics from the World Bank’s DataBank do not corroborate the aforementioned research paper. These data indicate increasing access to an improved water source⁵⁹ in both urban and rural areas since 2000; access in urban areas has increased from 75% in 2000 to 84% in 2011, while in rural areas it has increased from 31% to 40%. Access to improved sanitation facilities has improved slightly from 12% in 2000 to 13% in 2011.

2.7.3.2 Irrigation

Irrigation infrastructure in Sierra Leone is virtually non-existent: 807,000 hectares (11% of land area) are suitable for irrigation, but only 29,360 are equipped for irrigation, equivalent to less than 5% of cultivated land. An additional 126,000 hectares of non-equipped wetlands and inland valley bottoms were cultivated, bringing the total water-managed area to 155,360 hectares.⁶⁰ The majority of irrigation infrastructure is along the western coast and in the centre of the country surrounding Makeni and Magburaka, as illustrated in Figure 2-15 below.

Figure 2-15: Irrigation coverage, Sierra Leone



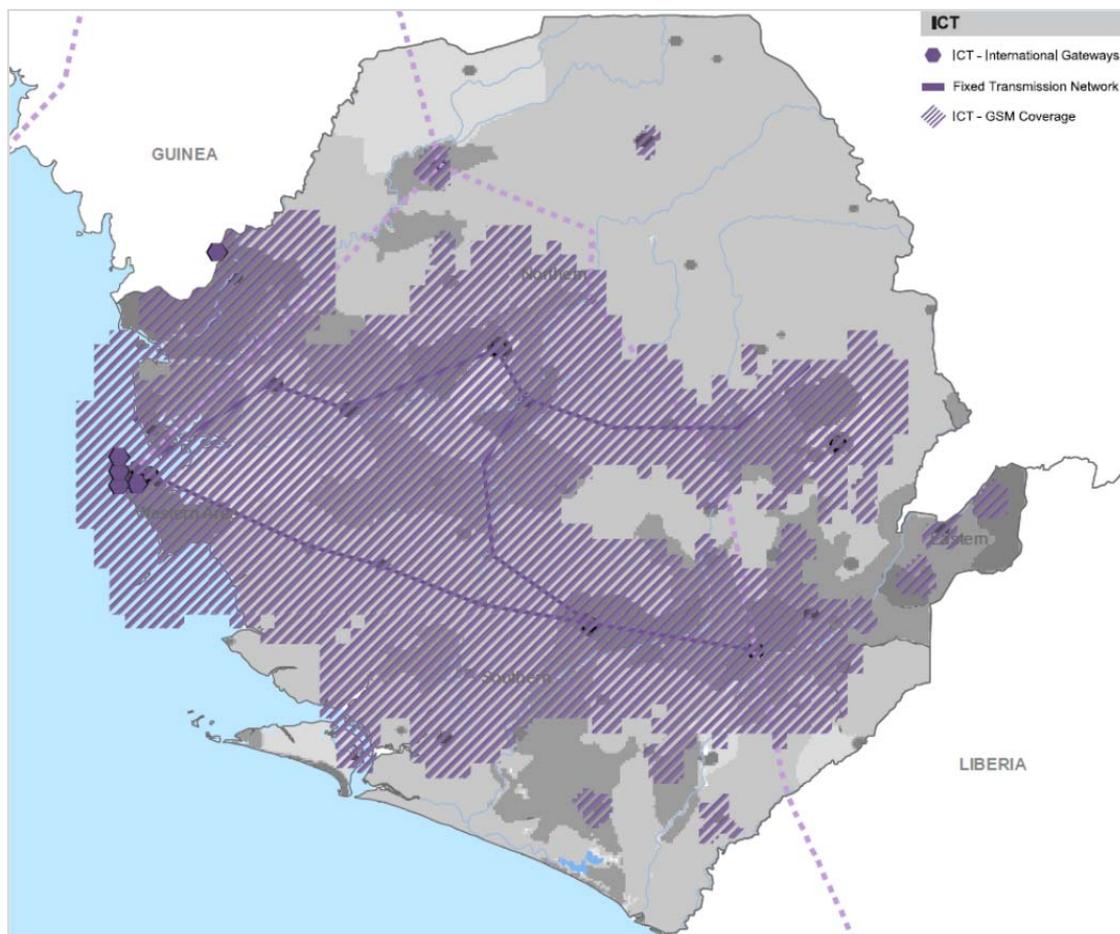
Source: AICD, Sierra Leone Interactive Infrastructure Atlas

⁵⁹ The improved drinking water source includes piped water on premises (piped household water connection located inside the user’s dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).

⁶⁰ Sierra Leone’s Infrastructure: A Continental Perspective (June 2011)

2.7.4 Information and communication technologies

Figure 2-16: ICT infrastructure and coverage, Sierra Leone



Source: AICD, *Sierra Leone Interactive Infrastructure Atlas*

2.7.4.1 Mobile phone coverage

Over three quarters of the population had GSM⁶¹ coverage in 2009 and it is estimated that up to 91% could be reached on a commercially viable basis.⁶² The remaining 9% of the population, mainly concentrated in the north of the country, would need a public subsidy for coverage to be viable.

Although Sierra Leone's mobile penetration is below the average for ECOWAS, it is still a significant accomplishment given a post-conflict situation. Sierra Leone is an example of a post-conflict country using wireless communications to advance its ICT development. Despite a civil war and absence of a regulatory authority, several mobile operators established operations in the country in the early 2000s. The number of mobile subscriptions has risen considerably from just 6,000 in 2000 to 2.1 million by 2012, a penetration rate of more than a third (36%) of the population.⁶³ The level of access to mobile communications is higher than the penetration rate given that multiple members of a house-

⁶¹ GSM (Global System for Mobile Communications) is a standard set developed by the European Telecommunications Standards Institute (ETSI) to describe protocols for second generation (2G) digital cellular networks used by mobile phones.

⁶² Sierra Leone's Infrastructure: A Continental Perspective (June 2011)

⁶³ World Bank DataBank

hold can use a single subscription. Considering that only 7% of households have access to mains electricity, it is argued that recharging a mobile handset is more of a challenge than adding prepaid credits.

2.7.4.2 Internet

Internet usage in Sierra Leone is among the lowest in the world and the lowest in ECOWAS. Only Burundi, Myanmar, Timor-Leste and Eritrea have a lower internet penetration. The World Bank estimates that there were just 1.3 users per 100 people in 2012, approximately 80,000 users in total.⁶⁴ High prices and low levels of literacy inhibit internet take-up.

Sierra Leone has recently however been connected, for the first time, to an international fibre-optic system via the Africa Coast to Europe (ACE) submarine cable. This should lead to increased internet speeds and reduced costs for users. Prior to the ACE, the country relied on satellite communications technology costing US\$4,000-5,000 per month per megabit per second.⁶⁵

2.8 Principal economic drivers of spatial change

2.8.1 Continued infrastructure investments by iron ore mining companies

The most significant FDI in recent years has been from mining companies, in particular those involved in the mining of iron ore. A key aspect of this is their investment in large-scale infrastructure projects, required to transport iron ore from the source (i.e. the mine) to a processing facility or a port for export. Due to remaining discontinuities in the country's transport network, and because of mining-specific requirements, the mining companies often contribute to the development, management and maintenance of transport infrastructure. Existing and planned infrastructure investments from the two major iron ore mining companies operating in Sierra Leone are discussed below.

2.8.1.1 London Mining

London Mining is a UK-based company which owns 100% of the Marampa hematite iron ore mine in Sierra Leone. The Marampa license is located 125km by road north-east of Freetown and comprises the mine, a power plant and a processing plant, with plans in place for a second processing plant.⁶⁶

London Mining secured an option to acquire the mining rights at the Marampa mine in December 2005. After securing funding, London Mining was able to exercise the option in January 2006 and in September 2006 the Marampa mining lease was assigned to LMC, a 100% subsidiary of London Mining. The Marampa mine recommenced production in December 2011.⁶⁷

London Mining is developing Marampa in two phases. Phase 1 is in production and will be expanded to produce 5Mtpa of sinter concentrates from a blend of tailings from previous operations and soft highly weathered ore. A bankable feasibility study outlining an expansion to 9Mtpa will be completed

⁶⁴ World Bank DataBank, 2012

⁶⁵ The European Times, Sierra Leone, 2011

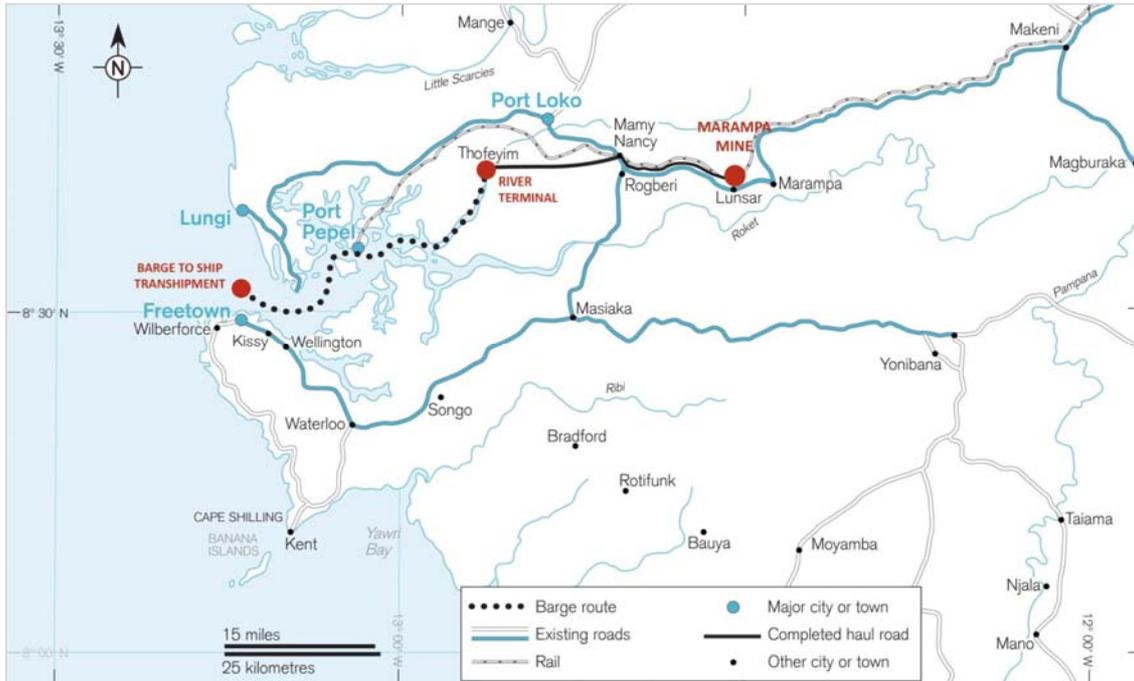
⁶⁶ Aurecon (2012), Consultancy Services for the Sierra Leone Transport Sector Strategy Development Study Working Paper 2 & 3: Transport System & Infrastructure Gaps

⁶⁷ *ibid*

in 2012. A pre-feasibility study has been completed for a Phase 2 expansion which will produce over 16Mtpa of concentrate from the remainder of the Marampa ore body over a 25 year mine life.

The map in Figure 2-17 below is a graphical illustration of the location of the infrastructure investment by London Mining at the Marampa mine.⁶⁸

Figure 2-17: Infrastructure investment by London Mining, Marampa Mine



Source: Aurecon (2012), Consultancy Services for the Sierra Leone Transport Sector Strategy Development Study Working Paper 2 & 3: Transport System & Infrastructure Gaps

As part of Phase 1 of the project, a new port was constructed on the river at Thofeyim and a 40km haul road was built to link the port to the Marampa mine site. Once extracted and processed at the mine site, iron ore concentrate is transported by trucks along the haul road to Thofeyim River Terminal, at which point it is unloaded into the stock yard, which has a capacity of 300,000t. The iron ore is then loaded onto a fleet of barges and transported 50km to the harbour at Freetown. From here it is transferred from the barges to ocean going vessels using either the vessel’s own loading gear or one of London Mining’s transshipment vessels. The Pride of Marampa floating offshore transshipment platform is able to load ships at a rate of 20,000t per day.⁶⁹

Phase 2 of the project will involve first expanding the existing haul road to accommodate 200t road trains. Barge loading capacity will also be increased by the use of a Cape Size floating storage vessel, which will be moored at the transshipment location. Following this, Phase 2b will involve the construction of a 42km overland pipeline to transport iron ore from the mine to the port at Thofeyim.

⁶⁸ ibid

⁶⁹ <http://www.londonmining.com/operations/sierra-leone/>

2.8.1.2 African Minerals Ltd

African Minerals Limited is a minerals exploration and development company with significant interests in Sierra Leone. It is listed on the Alternative Investment Market (AIM) of the London Stock Exchange, and is now headquartered in London, United Kingdom.

The Company is currently focused on the development of a world class iron ore deposit at Tonkolili and its related rail and port infrastructure. The project is set to become the largest employer and contributor to GDP in Sierra Leone.

Founded in 1996, the company was originally known as the Sierra Leone Diamond Company, with a focus on the prolific alluvial diamonds that had previously been exploited within the West African country. In 2005, the company funded exploration of possible targets within a number of mineral licences it had amassed; but no significant sources of diamonds were revealed. What did come to light, however, were some gold, nickel and uranium showings, as well as iron ore showings.

As a result, in 2008 the company's focus turned towards the major anomalies of iron ore discovered at Tonkolili, in Northern Province. The deposit is located in the Sula Mountain range and comprises four contiguous deposits, Simbili, Marampon, Numbara and Kasafoni, which extend over a combined strike length of 30km. Late that year, the discovery hole for the magnetite resource was established, and the company's name was changed to African Minerals, to reflect the broad-based nature of the mineral activity during the exploration of the previous three years.

From then to now, development at Tonkolili has been rapid. The company had its first ore on ship by quarter four of 2011, a timeframe of just three short years since discovery.

Following the identification of the need for a sufficient transport system (rail and port) for exporting the minerals, African Minerals secured a 99-year lease in November 2008 on the rail and port infrastructure surrounding the project. There was some pre-existing infrastructure from a previous mine operation which enabled the company to fast-track the development of the port operation at Pepel, as well as the first 74 kilometers of the railway, essentially a rehabilitation of what had previously existed 81.

AML makes use of the following infrastructure for the export of minerals from Tonkolili mine:

- A narrow gauge rail line between Tonkolili mine and Pepel Port. African Minerals Limited has reconstructed 74km of rail and built a new 126km narrow gauge railroad to the mine site; and
- The port facility at Pepel.

African Minerals Limited proposed a three-phased development of the project, with each phase requiring some infrastructure development (illustrated in Figure 2-18):

1. Phase I: entailed the rehabilitation of existing rail and construction of new rail between Pepel Port and Tonkolili mine. The length of new and fully reconstructed rail from Tonkolili to Pepel is 200km.
2. Phase II: expansion project will entail the development of a new purpose-built port at Tagrin Point. The preferred option for transporting hematite concentrate from Tonkolili mine to this

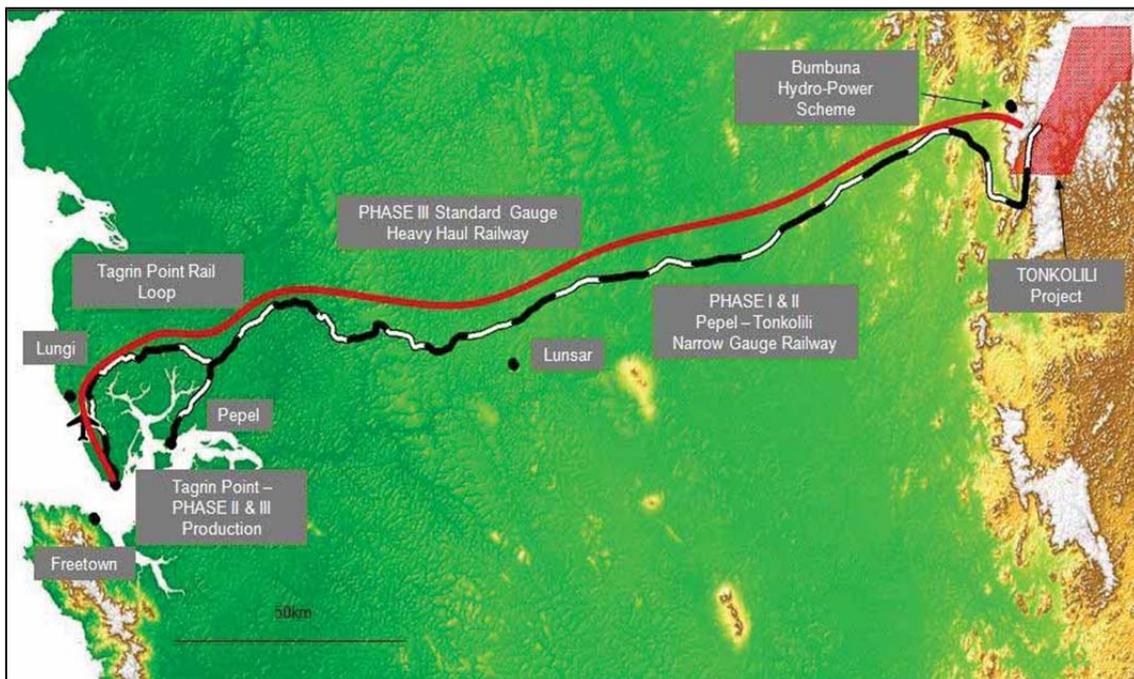
port is still being considered, but will probably be either of expanded narrow gauge rail, a new standard gauge rail or a slurry pipeline.

3. Phase III: will entail the development of a standard gauge heavy haul rail line from Tonkolili mine to Tagrin Point.

The three phases of development of the project correspond to the three different layers of ore that have been identified. Phase I is 126Mt of direct shipping ore (DSO), which will support the company's planned production rate on a standalone basis for about nine years. Phase II is 1.1Bt of saprolite, which at the planned production rate of 23Mtpa of product will support a mine life of between 18 and 19 years. Phase III, at 11.6Bt of magnetite iron ore (90% of the resource), will support over 60 years of production.

According to the companies lease agreement with the GoSL on the rail and port infrastructure, they are responsible for the construction, development, management, operation and maintenance of port (both Pepel Port and Tagrin Point) and rail facilities.⁷⁰

Figure 2-18: Infrastructure investment by African Minerals, Tonkolili Mine



Source: <http://www.african-minerals.com/>

2.8.2 Drive to increase output and commercialisation of agriculture

2.8.2.1 Smallholder Commercialisation Programme

The GoSL is committed to promoting the transition from subsistence to commercial farming, which President Koroma has made his number one priority.⁷¹ The Smallholder Commercialisation Programme (SCP)⁷² is a nationwide initiative aimed at increasing the productivity of the agricultural sec-

⁷⁰ Aurecon (2012), Consultancy Services for the Sierra Leone Transport Sector Strategy Development Study Working Paper 2 & 3: Transport System & Infrastructure Gaps

⁷¹ *ibid*

⁷² https://www.gafspfund.org/sites/gafspfund.org/files/Documents/SL_SCP.pdf

tor, in line with the ultimate goal to achieve agricultural self-sufficiency and food security for the country. The SCP initiative is budgeted at US\$403 million and comprises five main components:

- **Component 1: Smallholder Commercialization: production intensification, diversification, value addition and marketing.** The objective of this component is to promote commercialisation of smallholder agriculture through increasing productivity, value addition, and marketing with emphasis on commodity chain development and institutional strengthening of farmer-based organisations (FBO).
- **Component 2: Small scale irrigation development.** The aim of this component is to develop appropriate small scale irrigation infrastructure in order to boost rice production.
- **Component 3: Market Access Expansion through Feeder Road Rehabilitation.** The objective of this component is to improve the ability of smallholders, market-oriented farmers and agribusinesses to physically access to markets and to operate in a profitable way through the rehabilitation and effective maintenance of priority feeder roads.
- **Component 4: Smallholder Access to Rural Financial Services.** The objective of this component is to access of smallholders and the rural poor and their organisations to rural financial services geared to their needs.
- **Component 5: Strengthening Social Protection, Food Security, Productive Social Safety Nets.** The objective of this component is to promote national growth and development with equity by reducing household vulnerability to shocks and disaster, and increasing food security and nutrition levels of vulnerable households.

Over the period 2011-2014, the SCP aims to lift 2.5 million people out of poverty through agriculture.

2.8.2.2 Inward investment in commercial agriculture projects

A number of large-scale investments have been made in the agricultural sector in recent years and a number of innovative projects are currently underway. One such project is being run by Marika Enterprises in Masiaka, Port Loko District. It involves the production of oil palm and rice crops using irrigation techniques. In July 2010, Marika Enterprises completed Sierra Leone's first harvest of an irrigated rice crop.⁷³

Other projects include: Genesis Farms, an initiative to promote the mechanised production of food crops, to develop market access for these products, and to secure the necessary tools for commercial farming; and Arul Trading, a rice cultivation and milling facility that has established a fully mechanised operation with two production lines, which can produce more than 80 tonnes of milled rice per day to international standards. The company employs 200 people at its facility in Gbongeh.

In addition to these investments in food crops, foreign firms have been investing in sugarcane and palm oil production to produce biofuel. The most prominent of these projects is the €267 million investment by Swiss based Addax Bioenergy,⁷⁴ outlined in Box 1 below.

⁷³ The European Times, Sierra Leone, 2011

⁷⁴ <http://www.addaxbioenergy.com/en/the-makeni-project/facts-and-figures.php>

Box 1: Addax Bioenergy Project

Summary

The project area is located approximately 15km west of the town of Makeni in the Chiefdoms of Makari Gbanti and Bombali Shebora in the Bombali District, and in the Chiefdom Malal Mara in the Tonkolili District in Northern Province.

The sugar cane estate is approximately 10,000 hectares (ha), planted in circular fields watered by pivot irrigation. Planting sugar cane in smaller circular fields rather than in one big block minimises its impact on local livelihoods and preserves much of the existing farmland and natural reserves. The factory and related infrastructure, fields developed for rice farming and ecological conservation areas cover another 4,300 ha, bringing the effective project area to around 14,300 ha.

The field locations and irrigation systems for the sugar cane estates have been carefully selected, based on dialogue with local communities, in-depth investigations and an aerial survey of the area. This has proven instrumental in protecting biodiversity and existing farmland and allowed the project to steer clear of populated areas, thereby avoiding physical resettlement.

Key Facts

- The sugar cane estate covers an area of approximately 10,000 hectares.
- It will produce about 85,000m³ of ethanol per annum and approximately 100,000 MWh of renewable power per annum.
- The refinery and the irrigation system for the sugarcane estates will be powered by the biomass plant, fuelled with sugarcane fibre residues.
- A capacity of up to 15 MW of power will be supplied to the national grid of Sierra Leone, significantly adding to the country's overall electric power capacity.
- Construction of the distillery and power plant began in 2011 with production becoming fully operational in 2014.
- At July 2013, the project employed 2,007 people and will create over 2,000 jobs when fully operational.

Source: <http://www.addaxbioenergy.com/en/the-makeni-project/facts-and-figures.php>

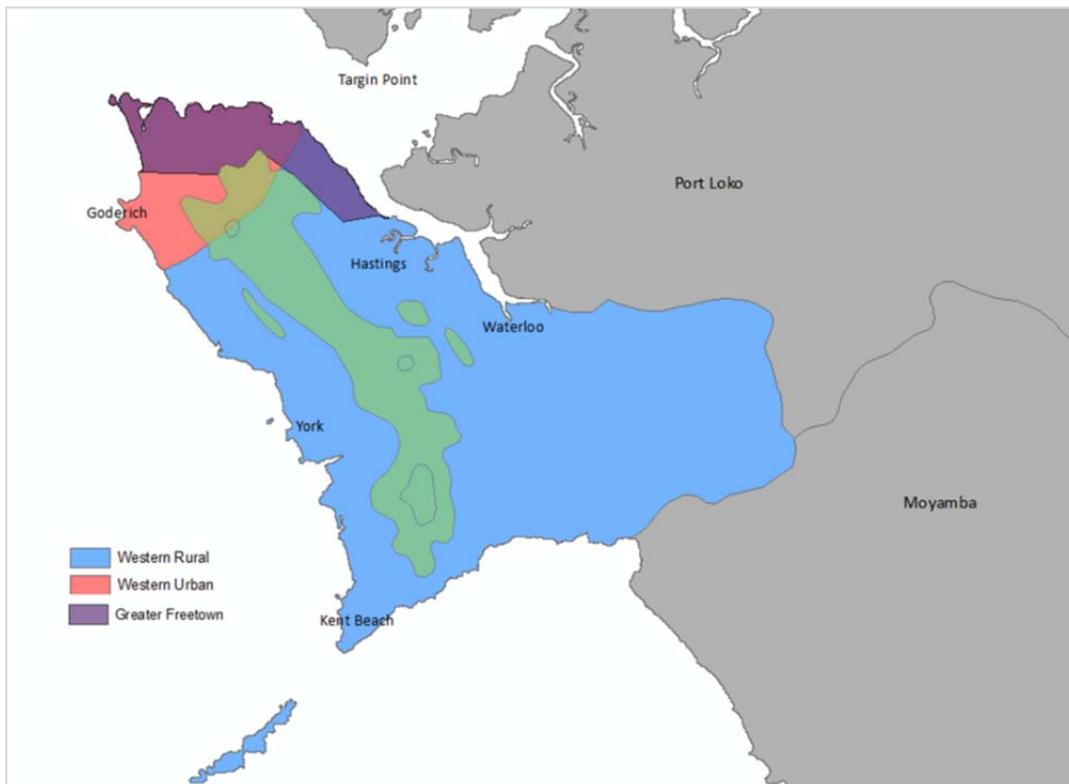
3 The Perspective from the Provinces, Districts, Cities and Towns

3.1 Introduction

This chapter presents the findings from the ‘Background Paper’ to this report, prepared by Ibrahim Sesay. It is based on information gathered from the various local councils in the districts/provinces for use in the formulation of the spatial strategy.⁷⁵ This is complemented by the presentation in Annex 1 of Development priorities from the perspective of the local authorities.

A brief SWOT analysis is conducted at the beginning of each section, outlining the strengths, weaknesses, opportunities and threats in each of the four provinces. This is followed by a description of each of the districts.

Figure 3-1: Western Area, Sierra Leone



⁷⁵ To collect this information, the 19 local councils (District and City/Municipal) and several main mining- and agro-related companies/firms were the units of investigation. They were all visited and interviewed *in situ*. The key respondents were:

- a. Public sector – Mayors/Chairmen, Chief and Deputy Chief Administrators, Development Planning Officers and other staff of the local councils and provincial administration; and
- b. Private sector – Business Executives/operators and entrepreneurs.

Other respondents were Chiefs and community elders, and parastatal staff members.

3.2 Western Area

Strengths

- The Western Area is home to the capital city of Sierra Leone, Freetown, which houses the headquarters of all Government Ministries, Departments and Agencies, as well as those of the majority of commercial and NGO institutions.
- Freetown is strategically located on the western horn of the country with one of the world's largest natural deep water harbours.
- Unlike much of the country, the Western Area has an operational power grid, which provides a semi-reliable source of electricity for industrial and commercial use.

Weaknesses

- Roads, utilities and other public infrastructure are already stretched beyond capacity and significant investment and planning is required to improve the situation.
- Infrastructure at the Port of Freetown is in a poor condition, increasing waiting times and reducing capacity.
- Freetown has comparatively high levels of crime and social problems.

Opportunities

- The completion of the Trans-West African Coastal Highway will link Freetown to neighbouring countries along the coast from Lagos, Nigeria, to Dakar, Senegal. This provides an opportunity for Freetown to become a major regional shipping port and trading hub.
- There is the potential for commercial and residential developments in the Western Rural area district (in towns such as Waterloo) that will encourage residents away from Freetown, thus reducing the problem of overcrowding and congestion.

Threats

- The continuing trend towards urbanisation in Sierra Leone means that migrants are likely to continue to flow into the Western Area (particularly Freetown), worsening social problems and the burden on public infrastructure.
- The disproportionate age distribution of the population is creating a shortage of jobs for young people. This poses the threat of social unrest as youth unemployment continues to rise.

3.2.1 Western Urban Area

The Western Urban District is the capital city of Freetown. It is strategically located at the western horn of the country and plays the role of a refuelling, bulk breaking and bunkering destination on the western bulge of West Africa. It has the Western Rural Area to its south, southeast and east, the Sierra Leone River estuary to the north and northeast and the Atlantic Ocean to the northwest. It occupies a land area of 82 km² and has an estimated population of about one million in 49 wards.

The Greater Freetown Metropolitan Area (GFMA) was created in 1973. The legislation led to boundary changes that added Calaba Town, Wellington, Allen Town, Hill Station, Aberdeen, Lumley, Murray Town, Wilberforce and Kissy to the city. Freetown is the most functional sea port, receptacle of cosmopolitan developments, administrative centrepiece housing the headquarters of all Ministries, Departments and Agencies of Government (and of almost private/non-governmental institutions) and

centre of trade for the whole country. This naturally accords the city maritime, administrative and political, commercial and socio-cultural advantages and endowment of socio-economic infrastructure that go with agglomeration economies and potentials for economic growth.

In addition, because the country has a small population with a dualistic economy characterised by a rural agrarian sector juxtaposed to an underdeveloped urban-industrial sector in Freetown, there is a perception by rural peoples that jobs exist in the city. A perceived urban-rural income gradient propels 'surplus labour' in the villages to flow into the city in a pattern predicted by the Lewis-Fei-Ranis model.⁷⁶ The secondary cities (i.e. the district capitals in particular) have not asserted much influence as secondary growth poles in the country. Consequently, the prominence and influence of Freetown continues to attract migrants from all over the country. The development and spread of shanties and slums has left in their wake an urgent need for urban renewal in Freetown.

The perceived extent of Freetown's primacy has become a concern for some policy makers. For example, the city is said to utilise more than 85% of all electricity generated in the country, consumes more than 80% of all petroleum products, hosts about 90% of all vehicles, 95% of all doctors and over 60% of all nurses.

This primacy has already led to urban diseconomies of scale, such as traffic jams, infrequent power supplies, safe water shortages, congestion of the housing environment and school facilities and inadequate sanitary conditions. Youth unemployment is high and will continue to rise, due to the disproportionate distribution of population at the bottom of the pyramid. Moreover, the low skill levels of these youth mean that they are unsuited to many of the jobs that will arise as a result of economic development. These problems are common to urban areas in the provinces as well, but the scale in Freetown is significantly larger and, as such, warrants serious consideration by both the central government and the Freetown City Council.

3.2.2 Western Rural Area

The Western Rural Area is also in the western horn of Sierra Leone, occupying the entire Freetown Peninsula outside the city boundaries. It is surrounded by the Sierra Leone River estuary to the north and northeast, Port Loko District to the east and the Atlantic Ocean to from the northwest to the southeast. It covers an area of 475 km² with a 2004 population of 174,249 in 20 wards. These new wards were decomposed in 2004 from the original four wards of Waterloo, Koya, Mountain⁷⁷ and York.

The greatest potential of the Western Rural Area is the growing possibility of it being a secondary convergence point away from Freetown through the creation of satellite towns, such as Waterloo. The availability of land is attracting middle class suburban development. Rurban (rural-urban) fringe activities like mixed cropping and market gardening, quarrying and sand mining on the beaches (coastal and riverine), animal rearing, fishing, small-scale manufacturing, tourism, services and trades can be found.

Presently, the following development interventions are either planned or ongoing in the district:

⁷⁶ See, for example, Sesay, I.M., 1992: p.19.

⁷⁷ The former Mountain Rural District comprised Fourah Bay College, Gloucester, Leicester and Regent.

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- Guang Dong Fishing Company (Korean) – fishing, fish processing and packaging;
 - First Step International – fruit canning using raw materials from all over the country;
 - Pharmaceutical Factory – chemicals and body lotions;
 - NASSIT⁷⁸ – developing an estate with 20 middle class, low cost houses;
 - NASSIT-Regimanuel Gray – development of low cost building materials and middle class, low cost houses;
 - Rollings Foundation – will develop the touristic potentials of Kent;
 - Friends of Sierra Leone – Sierra Leoneans in the diaspora will build an International Children’s Hospital at Waterloo;
 - Africana Trading Company – production of building zinc and aluminium through import substitution, and
 - Sweet Salone Hotel – to be the biggest hotel in the country. The new management of Africana Toke Village bought 200 hectares of land where a low cost housing scheme and eco-tourism will be developed.

The latter will contribute to the development of tourism. The industry springs from a string of very fine beaches on the peninsula from Kent to Sussex, breathtaking scenery and a number of game reserves like the Tacaguma Park. Elsewhere, there are a few holiday resorts, guest houses or inns that are homely to the traveller.

The Western Area Rural District Council is home to important institutions that can engender social progress and economic growth. There are the Police Training School (PTS) at Hastings, the main campus of the College of Medicine and Allied Health Sciences (COMAHS) and Benguema (military) Training Centre. These also encourage ancillary activities that attract population.

Although there is plenty of potential for development, there are many systemic problems that deny its inhabitants the fruits of economic growth and transformation. The largest settlement, Waterloo (78,000 population in 2004, likely double that now), is the fastest growing city in the country and, unless better planned, is likely to face similar problems to those of present day Freetown. There are spontaneous, sporadic developments of housing without access to facilities (water, electricity, roads/streets, etc.) and with very little prospects of some areas getting them in a decade. About 90% of the developments lack documentation.

In addition, the population is indiscriminately causing soil degradation through red rock mining (especially around Devil Hole), deforestation due to firewood harvesting and charcoal burning and sand mining on coastal beaches and along streams and in swamps.

Moreover, the expansion of Freetown is already causing problems for the Western Rural Area authorities. The Freetown City Council is collecting rates and dues from residents in locations that fall under the jurisdiction of the Waterloo Rural Council.

⁷⁸ NASSIT is the National Social Security and Insurance Trust.

3.3 Northern Province

Strengths

- The Districts of Port Loko and Tonkolili have vast deposits of iron ore, much of which ore is of high grade. The quantity of iron ore deposits already discovered have the potential to support mining in the Northern Province for at least the next 60 years.
- The Province also has significant agricultural potentials, especially in the northern areas of Kambia, Bombali and Koinandugu.
- The Bumbuna hydroelectric power (HEP) site has a potential capacity of 305MW and is already connected to the power grids of Makeni, Lunsar and Port Loko (although the majority of the power is diverted to Freetown).
- The Northern Province has one of the major tourist attractions in the country, the Outambakilimi National Park in Bombali, as well as tourism potentials in Koinadugu.

Weaknesses

- The north of the country has some of the worst roads in the country, particularly in Koinadugu, which act as a constraint on its agricultural and touristic potentials. Additionally, the poor road connections that Koinadugu has with the rest of the country mean that a lot of agricultural produce is diverted to neighbouring Guinea.
- The Northern Province has some of the fastest growing cities in the country which is placing increasing pressure on their public infrastructure and utilities. There are existing infrastructure capacity problems in Makeni, Port Loko Town, Lunsar, Lungi and Masiaka.

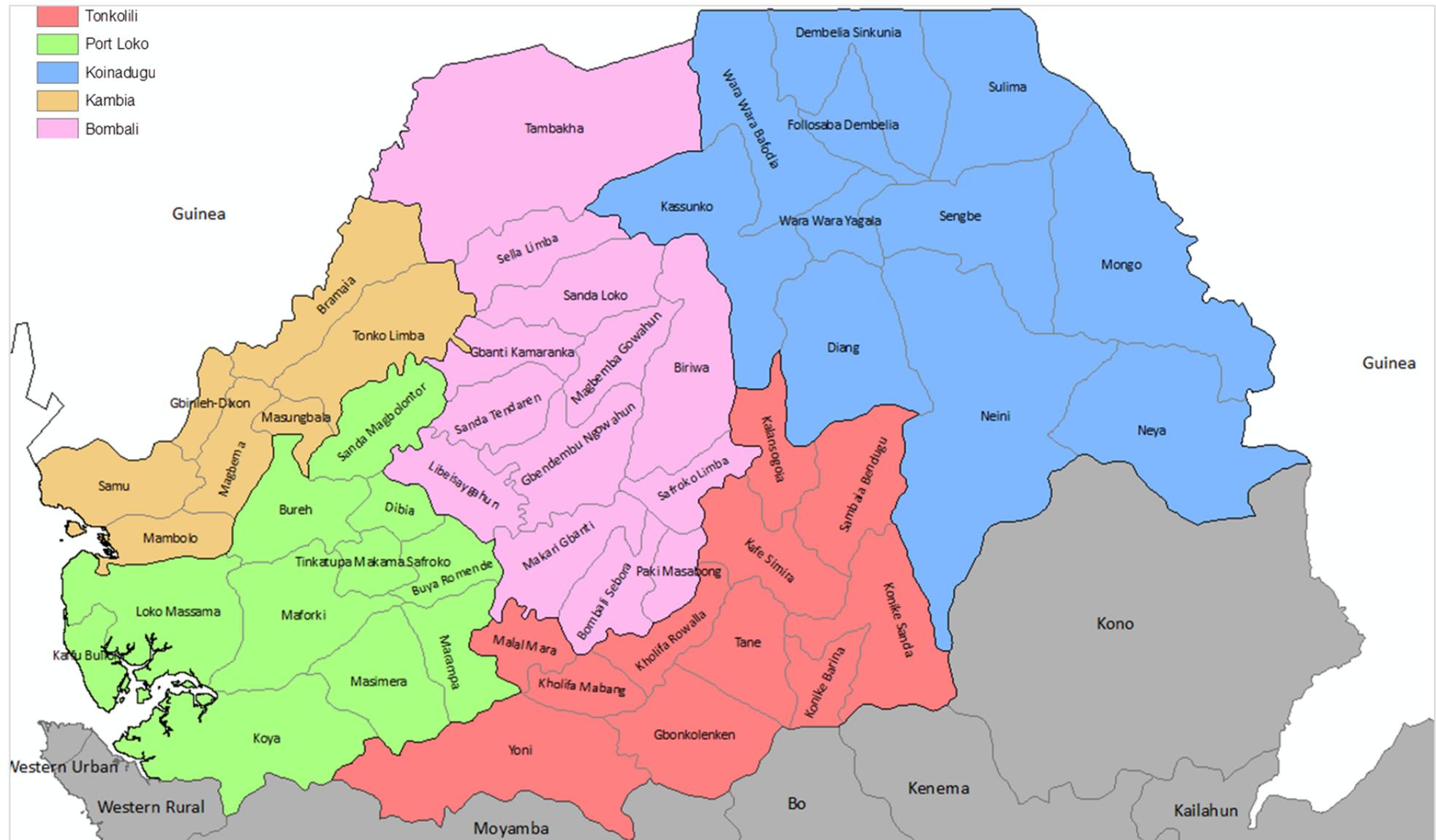
Opportunities

- Mining companies (African Minerals and London Mining in particular) are investing heavily in infrastructure improvements across the Northern Province, creating a potential development corridor from north-eastern Tonkolili District to the Sierra Leone River estuary in western Port Loko District. The spillover effects from this investment can be harnessed to promote development in complementary and supplementary economic activities in the corridor.
- Chinese investors have rehabilitated the Lungi-Port Loko road link, which has the potential to create a natural industrial corridor. Here the iron ore could be processed to manufacture steel. An Indian company, SAMSHI, has already signed a \$180 million investment deal to build a steel processing plant in Maforki Chiefdom, Port Loko District, which will also generate 30MW of power.
- A €16 million EU grant has been allocated to Kambia, Port Loko and Bombali Districts to increase cashew nut production and packaging for export and international agricultural companies, such as Drie Wilgen and ADDAX, have purchased land for farming projects. These investments offer a significant opportunity to transition from subsistence to commercial farming.

Threats

- The border with Guinea is poorly policed and there is the threat of light weapons produced being smuggled into Sierra Leone, as well as gold and diamonds being illegally smuggled out through unofficial channels.
- As more employment is diverted from agriculture to mining, this may pose the threat of food shortages. Local food production already is said to lag behind demand in Port Loko District.
- There are concerns about environmental degradation caused by some of the economic activities in the Province, which threaten to reduce agricultural output and curb tourism.

Figure 3-2: Districts and Chiefdoms in Northern Province, Sierra Leone



Bombali

Bombali District is located in north-central Sierra Leone. It is bounded to the north by the Republic of Guinea, to the northeast is Kambia District, and Port Loko, Tonkolili and Koinadugu Districts to the southeast, south and east respectively. It is the second largest district in Sierra Leone, occupying a land area of 7,985 km² with a 2004 population of 408,390 across 13 chiefdoms.

The main economic activities include small-scale gold mining, agricultural food crop production and rearing of small ruminants and cattle. Whilst gold mining is not widespread, northern Bombali District can be considered to have first grade dairy farming potentials. The staple food, rice, can be grown in the inland valley swamps and basins (*'bolis'*). Other food crops like plantain, banana, sweet potatoes, cassava, yams, millet, maize, vegetables and legumes abound. There are also cash crops like oil palm, cashew nuts, oranges, mangoes and rice.

The enormous potentials for large-scale agricultural production and its agrarian setting of vast expanses of arable land can be transformed into a great contributor to the achievement of national food security. If well harnessed, this could result in the creation of a series of income-generating activities, the direct employment of women and youth and supporting ancillary activities.

However, traditional slash and burn upland farming practices result in sporadic bush fires in the vast savannah grasslands and patchy secondary forests. This devastates the flora and fauna. The increase in population density from 40 to 51 persons per square kilometre between 1985 and 2004 brought in its wake added demand for farmland, thus reducing the period of bush fallow to five years or less. Unfortunately, the average yield per hectare is reducing at a time when the costs of agricultural inputs are high and the result of experimenting with tractors has failed. In addition, most products are sold raw because of the lack of industrial and post-harvest processing facilities.

As discussed, there is a World Bank Ministry of Agriculture, Forestry and Food Security rural private sector project on value addition and market access that provides power tillers to farmers and builds market stalls. ADDAX BioEnergy company is engaged in planting 10,000 hectares (24,000 acres) in Makari Gbanti, Bombali Seborá and Maram Mallal chiefdoms to produce a million tons of sugar cane for the extraction of bio-fuel. The presence of roads, power lines and rivers, as well as local political influence, dictated the location choice of the project.

Bagasse (sugar cane fibre) is used to produce electricity. ADDAX BioEnergy will also produce 32MW of power, which will be split equally between the company and the country. The company's peak production of electricity will be in the dry season and be fed into the Bumbuna grid. In addition, ethanol produced from sugar cane can be blended from a 10:15 to an 85:90 mix to run petrol engines,⁷⁹ but the Sierra Leone Government needs to make a decision on this. Ethanol can also be converted into a gel for used in domestic cooking. Excess water discharged from Bumbuna will be used for irrigation. No fertilisation is required.

The operation of the company will create 2,000-3,000 permanent jobs in the district and there will be on-the-job training in first line management. There is a Farmer Development Programme in all communities affected by the project. About 1,250 hectares of land has been planted with rice to create food security for the population in areas where they work. The Woodlot Programme is planting plum

⁷⁹ Biodiesel can also be produced from palm oil which is plentiful in Sierra Leone.

trees for use in construction. Finally, the company's board is actively considering moving its headquarters to Lungi Town because of the ease of transportation created by the construction of the Lungi-Port Loko ring road.

With a 2004 population of 82,840, the district headquarters, Makeni, is one of the fastest growing cities in the country. 52% of the city's inhabitants are female, while 48% are male, and 35% are aged between 15-39. The rapid rise in population was due in part to the civil war and the perception of rural people that the city afforded an escape from the rebel onslaught. However, this has led to overcrowding of public goods (congestion of social amenities and infrastructure) that is now affecting the political system. The disarmament, demobilisation and reintegration (DDR) programme was weak in the creation of capacity for family tracing and reintegration. Consequently, there are many street children and high levels of child labour, and crime rates have increased significantly.

Like much of the country, a large proportion of the population in the district are young. Youth unemployment and underemployment are high and the majority of young people are uneducated and unskilled. Even with the presence of London Mining and other mining companies, young workers in Bombali are often unsuited for certain jobs that require high levels of education and skills. The net effect is that income levels are low and overall poverty levels remain high in the district.

Infrastructural development in Makeni City has improved considerably in the last three years, during which five kilometres of streets were paved. The second phase of this development is connecting the city to a shopping mall, the Regional Hospital and important government, NGO and donor offices, and a high class suburban development called 'New York' (just after the African Muslim Agency en route to Magburaka). Telecommunications service is excellent in and around the city and there is perfect network coverage of all mobile phone operators in the country. There are also internet facilities and electricity is available in some parts of the city. There is ongoing work to connect the entire city to the Bumbuna Hydro Electric Power project.

The district's strengths include a strong community spirit to initiate and take part in development activities, a University to help develop the human resource capacity and easy access to other districts and Freetown, which can help facilitate trade. However, there are also problems of solid waste disposal, inadequate safe water supplies and flooding during the rainy season.

Kambia

Kambia District is found in the north-western part of Sierra Leone. It borders with the Republic of Guinea to the northwest, Port Loko District to the southeast, Bombali District to the northeast and the Atlantic Ocean to the west. It has a land space area of 33,013 sq. km, and comprises of seven chiefdoms. The 2004 population was 270,462 with a low density of 9.4 persons per km².

Subsistence agriculture is the main activity for approximately three-quarters of the population. The district is one of the major rice bowls in the country with rice being grown in each of its five ecologies (upland, inland valley swamps (IVS), 'bolilands', mangrove swamps and coastal environments). Arable swamp lands are used for swamp rice and vegetable production for commercial purposes. Rice, tubers, oil palm and vegetables are cultivated throughout the district. However, cattle-rearing is resulting in overgrazing and seasonal bush fires and indiscriminate logging with power saws is impacting negatively on the amount and quality of farmlands.

The agricultural sector suffers from low yields, lack of irrigation and inadequacies of seeds, machinery, implements and fertilisers. Therefore developing this sector will increase productivity and farm family income, provide employment, economic growth and trade, improves health and reduce the incidence of diseases, malnutrition, infant mortality and morbidity.

Cassava and cashew nuts are grown and then processed in the district to add value before exporting. A €16 million EU grant is earmarked for Kambia, Port Loko and Bombali Districts (among others) to increase cashew nut production and packaging for export. Sugar is identified by Sierra Leone Import and Export Promotion Agency (SLIEPA) for export promotion in Masungbala and Tonko Limba Chiefdoms. Additionally, other cash crops are grown, including oil palm, groundnuts and pepper.

Only artisanal gold mining is presently done in Magbema, Tonko Limba and Masungbala Chiefdoms but the benefits go to individuals because the activity is not structured. However, mineral explorations are ongoing by Sierra Minerals (VIMETCO MV) of Gondama (bauxite, believed to be ubiquitous) and TAMZIRON and Cape Lambert (iron ore in Bramaia and Tonko Limba Chiefdoms). A recent Environmental Protection Agency (EPA) report identified crude oil in the riverine areas of Samu and Mambolo Chiefdoms. Other mineral resources include granite, which could provide potential resources for construction and salt, which is processed locally in Kychom, Samu Chiefdom.

The woodlands of the eastern part of the district are sources of firewood and cattle dung, which, if properly managed, offer potential sources of biomass to generate electricity and heat. The Great Scarcies River, which runs from the northeast to the northwest of the district into the Atlantic Ocean, is one of the seven largest in the country. There are also numerous smaller rivers that provide fishing opportunities, hydroelectric power potentials and water for general use, industrial purposes and river transportation. Fishing takes place for personal consumption and also on a small-scale commercial basis. There are six jetties in the district at Rokupr, Rosinor, Mambolo, Kychom, Kasirie and Yeliboya, but not all of them are fully functional.

Kambia district has great human resource potentials but they are underdeveloped. Large proportions of women, children and youth are not educated and engaged in any meaningful economic activity and, therefore, have no regular source of income or livelihood. There are security threats from yearly cholera epidemics and the possibility that light weapons produced in the Republic of Guinea will make their way across the border into Sierra Leone.

Due to its proximity to the Republic of Guinea and serving as the gateway on the trans-West African Highway, it is an international business centre. There are designated days each month on which traders from various countries converge in the district. The Gbamoï international market attracts a 'floating population' of 11,000 people. Trading in the district has been facilitated by the rehabilitation of about 280 kilometres of feeder roads selected in almost all the chiefdoms. This has helped to increase the population of the district. In addition, there are daily and weekly markets in three other chiefdoms. The relevance of this sector cannot be over-emphasised, as it promotes domestic and International trade, raises household income, strengthens the district's revenue base and improves the living standards of its population.

Koinadugu

Koinadugu District is the northernmost in Sierra Leone. Its northern boundary (latitude 10 degrees north) is shared with the Republic of Guinea. To the west is Bombali District, Tonkolili is to the south west and Kono to the south. It is the largest district in the country, covering 12,370 km² in 11 chiefdoms, and has the highest land mass (Bintumani-Loma-Sula-Wara Wara Mountains). Three of the seven main rivers that drain the nation originate in this environment and the largest inland lake (Sonfon) is located here.

Despite its relatively large size, the 2004 population was just 265,758, with a density of only 22 persons per km². Such a sparse population could be due to the relatively low birth rate, high infant and maternal mortality, and lack of economic activities. An additional factor could be the rugged nature of the terrain, which makes it inaccessible.

The temperate climate and fertile soil make the district of Koinadugu ideal for agriculture. In fact, agriculture is so successful that livestock rearing and almost every crop grown for subsistence generate surpluses that are sold. Cash crops include mangoes and pineapples in Diang and Nieni Chiefdoms, coffee in Nieni Chiefdom and rice in Sulima, Mongo and Neya Chiefdoms, while potatoes, spices and vegetables are ubiquitous. Livestock is also reared in Folosaba Dembelia Chiefdom. However, the poor transport and communication networks in the district reduce its potentials for development. In addition, post-harvest losses in the agricultural sector are huge and a good proportion of the crops are sold across the border into neighbouring Guinea, reducing the amount of food provided to Sierra Leone.

The district also has the following mineral potentials: diamonds in the Baffin and Bagbe river basins; gold in Nieni and Diang Chiefdoms, and iron ore in Neya, Sengbe and Diang Chiefdoms. The gold mining in the district benefits only the mining companies and artisanal miners because the Government of Sierra Leone has no operative regulatory framework in the areas. The District Council, therefore, gets no revenues from mining. There is also a significant amount of gold and diamonds being smuggled into the Republic of Guinea.

Koinadugu also has the potential for tourism. The vast stretches of grasslands that encourage wildlife, together with the mixed culture, temperate climate, the scenic beauty of the highlands and the presence of Lake Sonfon are all potential attractions. However, tourism is largely undeveloped due to the lack of support services, like hotels, trained personnel and paved roads, and poor or non-existent connections to the rest of the country.

Port Loko District

Port Loko District is in the northwest quadrant of the country. Its borders are Kambia district to the north, Bombali district to the northwest, Tonkolili district to the south and the Western Area and Atlantic Ocean to the west and southwest. It occupies a total space of 5,719 km² and comprises of 11 chiefdoms.

In 2004, Port Loko District was the highest populated provincial district in the country with a total population of 453,746. However, the population is not evenly distributed across the 11 chiefdoms. The population is concentrated in the four chiefdoms of Kaffue Bullom, Koya, Loko Massama and

Maforki, with an average of 68,000 persons per chiefdom. They are all located in close proximity to the nation's capital, Freetown, and the Lungi International Airport. The bulk of the population is composed of persons between the ages of 18 and 35 years. This composition constitutes both an economic opportunity and a potential problem in the context of lack of employment opportunities. In terms of gender distribution, there are more women than men.

The main economic activity in the district is subsistence farming, practiced alongside other economic activities, including fishing, small-scale petty trading and commerce and animal husbandry. The main crops grown in the district are rice, cassava, millet, groundnut, sweet potatoes, plantain, maize and vegetables (garden eggs and pepper). Recently, non-traditional crops like cashew nut and pineapples have been introduced. There is also a bustling trade in charcoal, which has become an alternative source of livelihood for most farmers, albeit with adverse effects on the environment.

Drie Wilgen (DW), a Dutch company, has signed a Memorandum of Understanding (MoU) with the Port Loko District Council for agricultural land development. Genesis Farms in Masimera Chiefdom grows rice, cassava, other staples and cash crops like vegetables. DW purchases the agricultural products from the farmers at agreed prices set by the Council and the Ministry responsible for agriculture. DW adds value to some of these crops and then exports. As part of its corporate responsibility, the Lunsar-Mathoir tarmac toll road will be built.

There are several mineral deposits in the district. Iron ore is the most strategically important and can be found in Marampa and Maforki Chiefdoms. Gold is also mined in Lokomasama chiefdom. Bauxite is yet to be mined, though it has been discovered in large quantities in the district. On a minor scale, sand is mined in Masimera and Maforki chiefdoms as means of livelihood for unemployed and unskilled youths.

The influence of mining in Port Loko district is huge. It is reported that about 60 per cent of youth employment is by London Mining⁸⁰ and African Minerals⁸¹. London Mining uses what was originally the Marampa Mines concession. The company uses Thofayim port from which barges take the ore through the creek to vessels waiting in the deep waters of the Rokel river estuary. The company will pave the road from Lunsar to the port, is awarding scholarships to school children in its operational areas and is also paying landowners surface rents, which in 2012 totalled US\$125,000, split between nine communities. African Minerals plans to move its operational headquarters from Lunsar to Ferengbaia and Port Loko Town.

Cape Lambert, an Australian company, a split from London Mining, currently located in Lunsar, is exploring for iron ore in the Lunsar area and bauxite in Kambia District. It is about to float the Marampa Iron Ore Company on the London Stock Exchange. The company's concession is considerably bigger than that of London Mining and completely surrounds it. Whilst the company undertakes the EIA, the communities express anxiety for the foreseen jobs and wish an earlier start to mining operations. As part of their corporate responsibilities, there would be more healthcare services, employment and education.

Bauxite mining will soon start in the district. A port will be identified and dredged for the operations. Moreover, an Indian company, SAMSHI, has leased 200 hectares of land to start smelting iron ore. An

⁸⁰ London Mining operates purely within Port Loko District.

⁸¹ African Minerals uses Pepel port even though the ore is extracted in Tonkolili District

environmental Impact Assessment (EIA) is planned. SAMSHI will develop a rolling mill to produce rebar and other round products. They will generate 10 megawatts of electricity. Another company, Sierra Leone Exploration and Mining Company (SLEMCO) will start a bauxite mine at Rokom. They will use barges navigating the Port Loko to gain access to the Atlantic Ocean where bauxite can be transhipped into ocean carriers.

As a consequence of mining, Lunsar's population has allegedly trebled over the past six years. The risks of a disease like HIV/AIDS have increased and solid waste disposal has become a public concern in Port Loko Town, Lunsar, Lungi and Masiaka. Employment has been diverted from agriculture and fishing to the mines or to artisanal iron ore mining that brings Le100,000 per 50 kg bag. These mineral sands may be remnants of ore tailings washed downstream by rain water.

Chinese investors are rehabilitating the Lungi-Port Loko road link, which is a ring road that will create a natural industrial corridor. The completion of this road will attract population to the Lungi Peninsula and away from the Freetown Peninsula. This can have far-reaching economic and spatial ramifications for the future spatial development of Sierra Leone.

Tonkolili

Tonkolili District lies at the centremost part of Sierra Leone. Yele, in Gbonkeleke Chiefdom, is the actual centre of the country. It shares boundaries with seven out of the other eleven districts. It is bounded in the north by Koinadugu, East by Kono and Kenema, South by Bo and Moyamba, West by Port Loko and northwest by Bombali. It has 11 chiefdoms and occupies a land area of 7,003 km². It has the fourth largest population (347,197) of all the districts.

The land is well drained by the Rokel River, the longest in Sierra Leone, and the Pampana (Taia River); two of the main rivers in the country. The Rokel has the Bumbuna waterfalls and main national HEP⁸². Bumbuna is the largest potential HEP site in the Northern Province with a capacity of 305MW. Water from this river is also used for irrigation at the Magbass Sugar and ADDAX BioEnergy Plantation⁸³. Both rivers and their tributaries are useful for gold mining and domestic use. The Magbass sugar complex produces sugar and ethanol. It provides employment for a good number of people, especially youths within the district, hence contributing to the consolidation of peace and economic growth in the region. There is also a 'gari' factory at Robinke, which provides ready market for cassava growers and employment for especially women.

Agriculture is the mainstay of the local economy in Tonkolili District. It provides livelihoods for up to three quarters of the population. However, results of the recent needs assessment carried out in the district reveal that poverty is pervasive and food crop farmers are among the district's poorest inhabitants. The land resource could be better harnessed to produce more rice and livestock. The livestock sub-sector in particular remains relatively small and underdeveloped. Moreover, despite the abundance of land and water resources, the majority of the farmers have smallholdings of 0.5 to 2.0 cropped hectares, operating as basic subsistence food production units. This limited size is determined mainly by the limitations of labour availability, the fertility of the rotational slash, burn and fallow land use system, and the reliance on rudimentary manual technology (i.e., the hoe, axe and cutlass). Thus, the full potentials of agriculture remain untapped in the district.

⁸² There are mini hydroelectric system potentials at Makali and Yele.

⁸³ For a full discussion on ADDAX, see Bombali District above.

There are vast productive ‘*bolilands*’ and inland valley swamp ecologies for cultivation of rice and other staple foods. There is a vibrant fishing culture centred on the Rokel and Pampana Rivers and various fish ponds have been created. There is also a game reserve at Mamunta. Underground water resources have been harnessed to provide water supplies to communities.

Mining is also important in Tonkolili. There are iron ore reserves at Ferengbaia and gold deposits in Kafe Simiria, Tane and Kunike Barina Chiefdoms. African Minerals Limited (AML) is mining the iron ore. The former northern railway has been rebuilt by the company for transportation of the ore to the port of Pepel, from whence it is shipped overseas. Many young people in the district abandon the farms for employment in the mining sector. AML uses the railway exclusively and certain communities have apparently been dislodged and livelihoods lost.

There are concerns about environmental degradation arising out of various activities in the district as follows:

- The Bumbuna Hydro Electric Project, which has caused serious displacement of populations (though compensated), as a result of controlled flooding of dam and overhead high powered connection cables;
- The impact of iron ore mining at Ferengbaia has also triggered environmental concerns as vast arable lands have been degraded or destroyed and populations relocated;
- There is growing depletion of forest resources due to the traditional farming practice of burning and shifting cultivation. Once forested areas in the Malal Mara, Kholifa Mabang, Upper Yoni, Tane and Kholifa Rowalla chiefdoms are now grass lands; and
- Environmental concerns associated with the loss of arable for food crop production on account of the agricultural activities of the Magbass Sugar and ADDAX BioEnergy Companies.

Trading is very active in Tonkolili District due to the growing need for locally produced and manufactured goods. Weekly trade fairs (“Lumas”) are held in all the chiefdom headquarters in the district. Traders from all over the country bring their wares at these fairs. The centrality of the district accords it the advantage of been geographically closer to many other districts.

There is high level of illiteracy in the district. About 75% of the population are unable to read and write. Literacy levels for girls are considerably lower than boys in the district. The generally low rates of education in the district can be attributed to the high levels of poverty, which restricts access to education.

3.4 Eastern Province

Strengths

- The Eastern Province has substantial deposits of diamonds and gold throughout each of the three districts.
- There is also massive agricultural potential, as much of the fertile land is uncultivated.
- There are several potential HEP sites, including the Bikongor Falls, a series of three HEP sites with a potential capacity of 345.7MW.

-
- The city of Koidutown-Sefadu in Kono is strategically located en route to Guinea. It has the potential to become an important regional trade centre, performing nodal functions, such as bulk breaking, warehousing, transshipment and distribution services.
 - Commerce has remained strong in the Province, particularly in Kenema where there is a thriving business community. The amount of capital that changes hands in the district is second only to the city of Freetown.

Weaknesses

- The Eastern Province has some of the worst road networks in West Africa. Poor feeder road connections are a constraint to development in rural areas; some of the most productive agricultural areas in the Province are left isolated and their potential wasted. Like in the Northern Province, the poor connections with the heart of the country mean that agricultural produce is diverted out of the country to Guinea.
- The eastern part of the country witnessed the start of the civil war and was also the last part to be liberated. Consequently, infrastructure damage here was worse than in any other province, with 94% of all infrastructure destroyed in Kailahun, for example.
- The civil war has also left a severe shortage of skills needed to drive the development process.

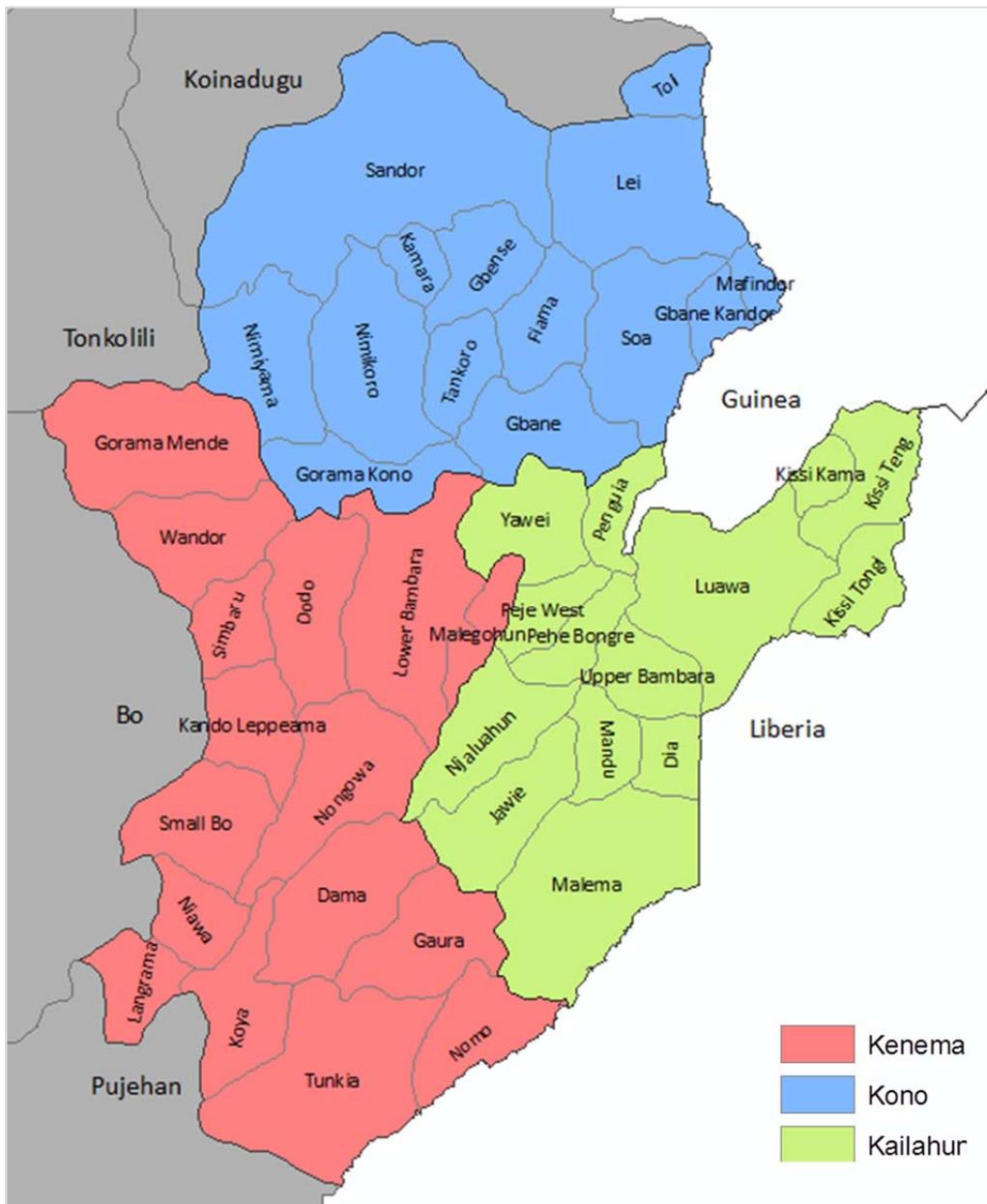
Opportunities

- World Bank/Ministry of Agriculture and Food Security (MAFS) approved a US\$35M Agriculture Project to be implemented in Kenema District.
- The shared border with both Guinea and Liberia provides an opportunity for the Eastern Province to become an important centre of trade in the region.

Threats

- Environmental degradation caused by mining activities, slash and burn agriculture and logging are causing air and water pollution. Moreover, the indiscriminate digging of the land for gemstones in Kono has undermined public infrastructure.
- The current border dispute with Guinea that emanated from the war is a threat to stability in the Eastern Province. Moreover, it is threatening international trade: the international market at Koindu, a town close to the border with both Guinea and Liberia, has been prevented from restarting by this border dispute.

Figure 3-3: Districts and Chiefdoms in Eastern Province, Sierra Leone



Kailahun

Kailahun District is in the eastern horn of Sierra Leone. It shares common boundaries with the Republics of Guinea and Liberia to the north and east respectively, Kenema District to the west and southwest, and Kono District to the northeast. It has a land area of 3,946 km², comprises 14 chiefdoms and holds a 2004 population of 358,259. There are many internally displaced Sierra Leoneans and Liberian refugees resident in the district. Most of these are women and this has led to a sex imbalance. The population has a high cultural mix of persons from many countries in West Africa.

The main economic activity is agriculture, although some small-scale mining is undertaken. Shifting cultivation and crop rotation is the main farming practice. Though the *'bolilands'* are underutilized

because of lack of machines, there is an extensive swamp cultivation in the district. Average yields are below the maximum to be expected, especially in upland cultivations. The main cash crops are cocoa and coffee, but kola nuts, cashew nuts, pineapples, Avogadro pear, millet, plantains and bananas, sorghum and maize are also important. All tropical hardwoods abound in the Gola Forest, a very dense tropical forest of very high annual rainfall. Almost all food crops in the country are grown in this district including rice (which is also sold for cash), cassava, yams and vegetables. Only two minerals are mined and on a small-scale basis – gold in Yawei and Penguia Chiefdoms and diamonds in Malema and Jawi Chiefdoms.

Most of the agro-products are sold unprocessed. There is a high level of post-harvest losses and an inadequacy of storage facilities in the district. Many experienced farmers were killed in the war and there is a generation gap, as many young people have abandoned the farms. The brain drain experienced during the war left in its wake a huge deficit of the amount of qualified human resources required to drive the development process.

Notwithstanding the perceived wealth of Kailahun, it has some of the worst development statistics in the country. The population per functioning primary healthcare facility is 15,600, compared with an average across the districts of 8,000. There are only two secondary hospitals and no tertiary facility. The situation with respect to other public services (e.g., education) is no better, as the district witnessed the start of the war and was the last to be freed from the rebels. Consequently, it was the most devastated, with 94% of its infrastructure destroyed. During the rainy season, the roads linking the district with the rest of the country are cut off and impassable.

On account of the security threats and infrastructure collapse during the war, the international market centre at Koindu, which used to attract merchants from Cote d'Ivoire, Guinea and Liberia, was abandoned. The current international boundary dispute with Guinea that emanated from the war, coupled with the inability of the economic sectors of the district to recover, continues to put the restart of this market in abeyance. Experimenting with the development of touristic potentials (wild life and game reserves of the Gola Forest and the beaches on the Moa River), harnessing the huge HEP potential on the Moa for local electricity supply and for export and completing the Kenema-Kailahun road could be the start economic recovery in Kailahun.

Kenema

Kenema district lies in the eastern region of Sierra Leone and it borders with Tonkolili and Kono districts to the north, Kailahun district to the east, Pujehun district to the southwest and Bo district to the West. In addition, it shares a border to the south with the Republic of Liberia. It occupies a total land area of 6,053 square kilometres. The district is densely populated because of its huge mining opportunities and potentials in both the productive and economic sectors. The district has 16 chiefdoms and a 2004 population of 497,988. Kenema Town is not only the district headquarters; it is also the headquarters of the provincial administration.

With good soils, Kenema is part of the bread basket of the country. The main economic activity in the district is farming employing over 75% of the people. The district receives adequate rainfall and has extensive inland valley swamps that are under cultivation. The major crops grown in the district are rice, cassava, vegetables, groundnuts, garden eggs, pepper and eggplant. Cash crops come from oil

palm, rubber⁸⁴, coffee and cocoa plantations. Cashew nuts, oranges, plantains, bananas, pineapples, mangoes and kola nut are also grown on a large scale, especially in the eastern part of the district. Extensive timber logging, harvesting of bush sticks and charcoal burning also abounds. There is a rich variety of fauna and riverine and swamp fishing in many communities.

The World Bank/Ministry of Agriculture and Food Security (MAFS) has approved a US\$35M Agriculture Project to be implemented in nine Chiefdoms within Kenema District for a five year period (2012-2016). In addition, the emerging job creation opportunities, such as the Kenema Forest Industries Corporation, the Sierra Leone Rubber Company and the Gola Forest Project, which is now fully in operation in some chiefdoms, will lead to an improvement in standards of living, especially for the youth.

Mining is also an important economic activity. As Tonguma Holdings⁸⁵ prepares to start operations, Lower Bambara Chiefdom is soon to be the largest diamond mining field in the country. It has the largest kimberlite dykes and the most extensive alluvium deposits. The stones are of small to medium size but are very numerous, dense in concentration and high in quality. Two other companies are prospecting for diamonds in the chiefdom (between Lowoma and Bonya) and Lion Mountain Mining and Fishing Company is prospecting for tantalum and other base metals in Nongowa Chiefdom. Gold mining is practiced in Gorama Mende, Nongowa and Lower Bambara Chiefdoms. There is iron ore in Bagra Hills (Tunkia Chiefdom), chromite deposits in the vicinity of Hangha and prospecting for tantalum is ongoing in the Kambui Hills, close to Kenema City.

Other economic activities include sand and stone quarrying in the Moa River basin and some swamps. This is not only an economic activity, but also aids in post-war rehabilitation and the reconstruction of facilities and amenities. Great tourist opportunities exist in the game reserves of the Gola Forest and Kambui-Nimini Hills, the Tiwai Island (Koya Chiefdom) and the beaches on the Moa.

Trading is a bustling activity in the district. With about the highest number of urban settlements in any district, wide geographic spread of alluvial diamond mining, many cash crops and the biggest population outside the Western Area, there is a thriving business community that defied and survived the 11-year rebel war. There are many monthly periodic markets held at various locations across the district. Kenema City, the district and provincial headquarters, has the only branches of the Bank of Sierra Leone and Government Gold and Diamond Office outside Freetown. The amount of capital that changes hands in the district is second only to the city of Freetown.

Apart from the 6 megawatt Goma HEP project that supplies part of the power requirements of Bo and Kenema cities, there are many HEP potentials in the district. The Bikongor Falls (Bikongor II = 280.6MW, Bikongor III = 26.2MW)⁸⁶ in Punduru, Gorama Mende Chiefdom, will become the largest HEP project in the country when it comes on-stream. Together with the Levuma Falls (65.2MW) and Baraka Falls (37.5MW), the district can boast of at least 415MW of HEP potential⁸⁷; the largest in the country. The hub for a national power grid, with the possibility of exporting power to Guinea and Liberia, can be based on these potentials.

⁸⁴ Rubber is in Small Bo, Niawa, Koya, Tunkia, Nomo and Simbaru Chiefdoms.

⁸⁵ Tonguma Holdings is a subsidiary of OCTEA (formerly called Koidu Holdings).

⁸⁶ Bikongor is a series of HEP sites totaling 345.7 mw; Bikongor I (38.9 mw) is in Kono District.

⁸⁷ Other less surveyed potentials like the ones on the Kambui Hills around Kenema City and at Njakudorma, Lower Bambara Chiefdom, may be tapped in due course.

The great economic potentials in the district notwithstanding, poor feeder and trunk roads system are a development problem in all chiefdoms in the district.⁸⁸ Combined with the primitive agricultural practices of cultivation, lower average yield per hectare and poor storage, warehousing and post-harvest management of agro-products and fisheries, the full benefits of the agricultural sector continue to elude inhabitants. Policy failures and lack of alternative livelihoods for forest poachers have led to massive deforestation, sand mining in swamps threaten inland valley swamp cultivation, stream pollution from stone and gold mining dries up the streams in the dry season and the seasonality of electricity discourages the development of a vibrant industrial culture in Kenema District.

The district has land degradation problems caused by rampant and uncontrolled timber logging, mining and slash and burn cultivation in various chiefdoms. This has led to environmental problems such as soil erosion, climatic changes, excessive rainfall, etc. In addition, although the war systematically destroyed over 70% of houses in the rural areas of the district, no shelter projects have been implemented.

Kono

Kono District is located in the north eastern plateau of Sierra Leone. It has a large land size of about 5,641 sq. km and is densely populated. It shares borders with the Republic of Guinea to the east, Koinadugu to the north and Tonkolili, Kenema and Kailahun Districts to the north, west and south respectively. The district comprises 14 chiefdoms and had a 2004 population of approximately 335,401. Kono District's population before the war was second only to the Western Area. However, the district experienced one of the highest human population displacements in the country, massive infrastructure damage and a decrease in mining activities on account of insecurity of life and property during the war.

Agriculture is the major economic activity in the district, though the sector is less prevalent than in other areas. It is the predominant activity in six out of 14 chiefdoms and directly employs about 55% of the total workforce. Rice cultivation is important, along with plantation farming of oil palm, coffee and cocoa in all chiefdoms as cash crops. Other valuable agricultural products include: timber (Gorama Kono Chiefdom); cassava; potatoes; plantains; cocoyam; cashew; sugar cane; and fruits (e.g., mangoes, pineapples, bananas, etc.). Additionally, vegetables (garden eggs, tomatoes, okra, and pepper) are grown in many chiefdoms. However, livestock rearing has decreased, even though the tsetse fly is no longer a problem, and fishing has become a redundant subsector. Agro-processing is not carried out and all farm products have to be sold with no value added.

The district exhibits the potential to become a significant agricultural producer, but only if the right mechanisms are put in place. Unfortunately, most of the agricultural practices are currently for subsistence and the district has some of the worst road networks in West Africa. For example, the major food crop production areas, like Lei, Mafindor, Toli, Gbane-Kandor and Sandor Chiefdoms, have some very productive sections of their wards cut off from the rest of the district because of poor feeder road connections. The roads also impede the development of social infrastructure, like education, health, commerce and other economic activities. Consequently, people in those areas have more links to the Guinean side of the border causing a high exit flow of produce to Guinea instead of Sierra Leone.

⁸⁸ For example, poor road connectivity between Wandor and Gorama Mende Chiefdoms has diverted most of the activities of the inhabitants towards Bo District and Tonkolili District.

Kono district is synonymous with diamond mining, having contributed the second (“The Star of Sierra Leone”) and third biggest gem stones ever mined on earth, after the discovery of the “Cullinan”. Gold mining is another vibrant sector. Prospecting and exploration by large-scale enterprises for both minerals is uncommon, but the alluvial/artisanal mining is a household practice.⁸⁹ Mining leases and surface rents paid by government to chiefdom authorities are used for small-scale development in the chiefdoms and district at large.

Mining activities have led to the degradation of the environment, causing air and water pollution, as well as food contamination, accidents and vibrations from blasting of rocks by OCTEA (former Koidu Holdings), which has led to cracks in buildings. During blasting, air pollution results from the pungent gases and dust that are released. No gas masks are provided to community members and police officers may be assigned to enforce the evacuation, which can happen even during the rains. In 2013, OCTEA will be moving 1,000 households from Gbense Chiefdom to Tankoro Chiefdom. In 2007, community dissatisfaction with the company’s handling of their corporate responsibilities resulted in mass demonstrations and two deaths. Operations were closed down for eight months and a Commission of Enquiry instituted.

The indiscriminate digging of the land for gemstones has undermined public infrastructure including public buildings and amenities, water supply systems and road networks. Sand and clay mining are carried out along streams and swamps, leading to the degradation of soil fertility. Bush fires in Lei, Toli and Mafindo are causing further loss of the vegetation cover and depletion of the soil fertility. Poor policing of the Sierra Leone-Guinea border encourages illegal activities like mineral smuggling and forest poaching, as well as transnational crimes.

The district headquarters, Koidu-New Sembehun City, with its gridiron layout in the town centre, is one of the best planned towns in the provinces. It is highly cosmopolitan with few ethnic tensions and high social cohesion. It is strategically located en route to Guinea and can perform nodal functions like bulk breaking, warehousing, transshipment and distribution services.

3.5 Southern Province

Strengths

- Njala University, located in Njala and Bo, is the second largest university in the country. There are also other education institutions in the Province, including the Opportunities Industrialisation Corporation College in Bo and Matru School of Nursing. Together these can provide a supply of skilled labour to drive the development process.
- The largest fish stocks in West Africa are found off the coast of Southern Province.
- There are significant tourism potentials, with some of the best beaches in the country on Bonthe and York islands and many historical sites dating back to the colonial era.
- The mining sector (bauxite, rutile, gold and diamonds) is one of the most successful in the country and provides significant employment opportunities for the young workers, as well as revenue from surface rents.

⁸⁹ Alluvial mining is phasing out gradually. The emphasis is now on deep mining.

Weaknesses

- There is a lack of infrastructure to support the fishing industry. Fishing gear, landing jetties and storage facilities are all needed.
- Road infrastructure is bad, particularly outside of Bo District, and much of the southern coast is cut off from the rest of country as a result. Bonthe District has the lowest road density in the country.

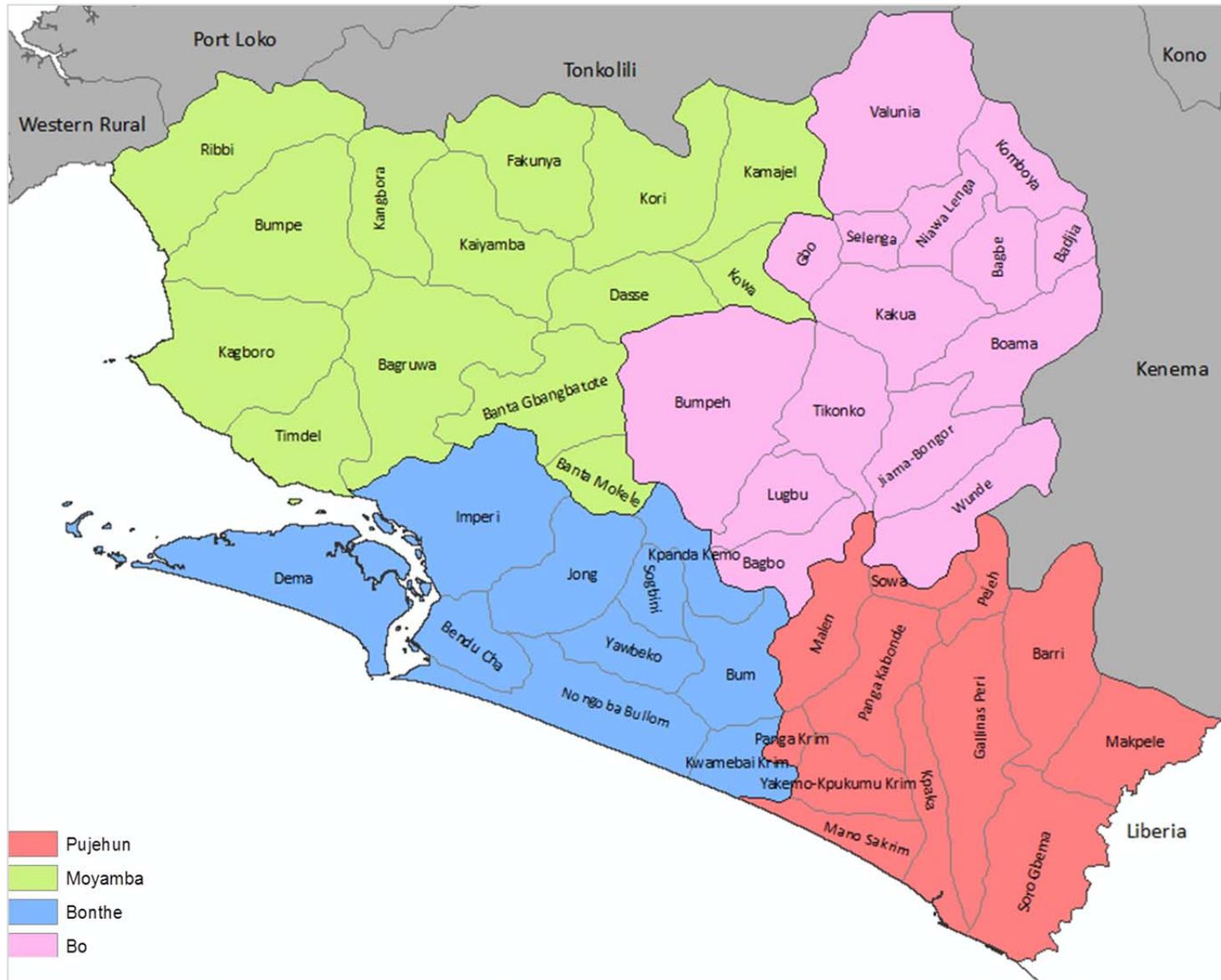
Opportunities

- The Mano River HEP Project has the potential to generate 180MW of electricity. Being on the river that forms the international boundary between the Republic of Liberia and Sierra Leone, the project would have to be undertaken as a joint venture by the two governments.
- Oil has been discovered off the coast of Pujehan and Bonthe. The exact amount is unknown, but reports suggest that the potential is the same as offshore sites discovered in Ghana recently.
- There is huge export potential for the fishing sector, if the standards required for export to the EU can be met.

Threats

- Illegal fishing off the coast of Southern Province threatens the emerging fishing industry and costs US\$30 million a year in lost revenues.
- Bonthe Island may soon be cut off from the rest of the country if the Sherbro Rivers are not dredged to deal with siltation accumulated from years of mining.
- Environmental degradation caused by mining is a problem in both Bo and Moyamba, where it has already caused the creation of artificial lakes, pollution of farm lands, air and water pollution, as well as food contamination and accidents.
- Pujehan is the only district with extensive rubber plantations, and latex is produced and sold across the border into Liberia by individuals. However, this practice is on the decline, as a lack of labour and finance has left thousands of hectares of family cash crop farms abandoned.

Figure 3-4: Districts and Chiefdoms in Southern Province, Sierra Leone



Bo

Bo District is one of two very centrally located districts in the country. It is bounded in the north by Tonkolili District, to the west by Moyamba District, to the southwest and south by Bonthe and Pujehun Districts respectively, and to the east by Kenema District. The District occupies an area of 7,003 km² and is subdivided into 15 chiefdoms with a 2004 population of 463,688, the second largest in the provinces.

Bo District has significant potential, highlighting: extensive cultivable lands; large mineral deposits of diamonds and gold; reliable water resources; ample labour supply; an accommodating, tolerant and rich culture; development of a vibrant indigenous entrepreneurial class; donor good will; foreign investment possibilities; and positive inter-chiefdom relationships.

The economy of Bo District is agricultural, although mining for diamonds and gold accounts for about 20% of output. Agricultural produce, including forest products, livestock and fisheries, accounts for 65%, while the other 15% is accounted for by the transport and commercial sectors. However, food production is still at the subsistence level and mechanised commercial farming is grossly underdeveloped. The main food crops include rice, maize, cassava, sweet potatoes, yams, groundnuts, mangoes, bananas, oranges, pineapples, plantains and vegetables; while extensive cash crop plantations of oil palm, coffee, cocoa, cashew nuts and citrus are scattered all over. Industrial investment is conspicuously absent, and every effort at attracting industrial investment, even at the cottage industry level, has been frustrated by the lack of efficient pipe-borne water systems and a reliable electricity supply.

Mining of precious minerals of diamonds and gold occurs in most chiefdoms in the District. Diamond mining is concentrated in the Baoma, Tikonko, Lugbu, and Kakua Chiefdoms, gold mining is prevalent in the Valunia, Bagbwe, Badjia and Komboya Chiefdoms and bauxite and rutile are found in Bumpe Ngao Chiefdom. Prospecting is ongoing for diamonds and an Indian company, Cruff, is also prospecting for gold. Lion Mountain Mining and Fishing Company is prospecting for tantalum and other base metals in Valunya Chiefdom.

Bo City is the second largest in Sierra Leone, after Freetown. There is a campus of Njala University College, as well as a polytechnic college, the Opportunities Industrialization Corporation (O.I.C). The city has a pool of technically trained people (electricians, mechanics, carpenters, masons, nurses, etc.) that can be used in the development process. The operating depot of the Bo-Kenema Power Services (B.K.P.S.) is located here, sourcing hydroelectric power from the Goma dam in the rainy season and supplying thermal energy to clients in the dry season.

However, there are also real constraints to the development process including: widespread poverty; an unstable economy and absence of own base revenue, leading to overdependence on central government and donor funding; corruption; weak administrative institutions; slow and unwilling devolution to the council; unskilled manpower; poor and undeveloped domestic market; unpredictable climate changes affecting the agricultural sector; and disease outbreaks including malaria, tuberculosis and HIV/AIDS. Despite the fact that mining provides important employment opportunities for the youth (diamonds) and women (gold) and greatly contributes to the earnings of rural people, the land degradation that has resulted is enormous. This is exacerbated by the non-enforcement of land reclamation measures. The consequence is that mining has contributed to the degradation of large acreages of land that would otherwise be put under agricultural production.

Bonthe

Bonthe is the southernmost district in Sierra Leone. It is bounded on the southwest, south and southeast by the Atlantic Ocean, on the west is Moyamba District, on the north is Bo District and on the northeast and east is Pujehun District. The landmass consists of the mainland separated from Bonthe and York Islands by the Sherbro Rivers, a lagoon formed by the coalescence of the mouths of the Moa, Sewa and Jong (Teiyei) rivers. It has a land area of 3,468 km² and a 2004 population of 129,947 in 11 chiefdoms.

The district has great potential for agriculture – fertile soils, well-drained land and a temperate climate. Food crops include rice, grown in the ‘*bolilands*’, potatoes and yams. Oil palm, coconut and cassava plantations produce cash crops. Fishing in the riverine and coastal areas is a vibrant activity. Marine resources, including whales, sharks, lobsters, crabs, prawns and shrimps abound in the coastal waters and in the riverine areas. Piassava has been exported since colonial times and continues to be an important export product in the area.

The mining sector is one of the most successful in the country. Rutile is mined in Imperrri and Jong Chiefdoms by Sierra Rutile Ltd. (American), while Sierra Minerals (VIMETCO MV) (Romanian) is mining bauxite in Kpanda Kemo Chiefdom. Illmenite and zircon naturally occur with these two minerals. There are prospects of crude oil in Kwame Bai Krim, Nongoba Bullom and Bendu Cha Chiefdoms, which the Canadian Company, TIMAC, wants to extract.

On the mainland, there is no public electricity supply, no pipe-borne water system, only one mobile telephone network and one community bank. Although the Mattru School of Nursing with about 800 students is the largest in the country, there are not enough trained nurses in the remote riverine areas. The road network in the district is deplorable, with one of the lowest road densities in the country. The many swamps, creeks, rivers and tributaries present challenges to road construction and the only ferry is aged and grounded; thus, market access is greatly reduced. The Bauya-Bendu Cha road (19 kilometres) is not motorable and this has increased travel time between the mainland and Bonthe Island from 20 minutes to six hours.

The island suffers from isolation because of its remoteness and may soon be cut off from the rest of the country if the Sherbro Rivers are not dredged to deal with the siltation accumulated from the operations of Sierra Rutile Ltd. over the years. Bonthe Urban Municipality is far better endowed than the rest of the island and is the source of healthcare and education services and facilities. There is a lot of pressure on these facilities from residents of the chiefdoms on the island whose development allocations are received in Mattru Jong.⁹⁰

Nonetheless, there is a potential for tourism, as the island has many historical sites dating to the Atlantic Slave trade era, game reserves at Bohol, surfing on the Sherbro Rivers and some of the best beaches in the country on Bonthe and York Islands and Turner’s Peninsula. The old ports at Bonthe Municipal and Nitti could be rehabilitated to provide transshipment services, as they did in the second half of the twentieth century.

⁹⁰ Allocations for Kwame Bai Krim, Bendu Cha, Sittia and Dema Chiefdoms go to the District Council with headquarters in Mattru on the mainland but the municipality services their education and health needs and referral system.

Moyamba

Moyamba District is located in the south-western part of Sierra Leone. The district is bordered by the Atlantic Ocean on the west, Port Loko and Tonkolili Districts on the north, and Bo and Bonthe Districts in the east and south respectively. The district comprises fourteen chiefdoms and covers an area of 6,902 square kilometres with an estimated population of 260,910.

Mining and agriculture (rice growing, oil palm plantations and fishing) are the main economic activities in the district. With fertile and well drained soils, the agriculture sector is dominated by crop farming, which is mostly done on a subsistence basis and employs rudimentary production techniques. Food crop farming involves crops like rice, cassava, potatoes, yam and cocoyam. Cash crops are maize, sorghum, black pepper, sugar cane, ginger, oil palm, pineapples, vegetables and cocoa, which are also grown on a smaller scale compared to food crops. In Kori Chiefdom, ARUL Company is packaging and exporting rice. Salt processing is an important activity in the coastal chiefdoms, especially in Bumpah Chiefdom. There are plans to start rubber plantations in the district. Fishing is a common livelihood activity in the coastal and riverine areas. The largest local boat building works in the country is found in Shenge, Kagboro Chiefdom.

Large-scale mining focuses on two major minerals, rutile (Lower Banta, Upper Banta and Bagruwa Chiefdoms) is mined by Sierra Rutile Ltd. and bauxite (Lower Banta, Upper Banta and Mano Dasse Chiefdoms), mined by Sierra Minerals (VIMETCO MV). The two mining companies employ the greater proportion of the formal labour force in the district and have positively affected the economy of the district. In addition, crude oil is expected in Kaiyamba Chiefdom and gold, zephyr, ruby, molybdenum and diamonds exist in Bagruwa Chiefdom. Alluvial artisanal mining of zircon is also ongoing in the latter.

The port of Nitti in Lower Banta chiefdom is the lifeline of the mining sector. It provides the only deep water port in the south suitable for direct mechanical loading and offloading. The ores are loaded in barges that empty into oceangoing ships waiting in deep waters for onward shipment overseas. Moyamba District is home to the Njala University, which has the potential of training high calibre human resources, especially in agricultural and environmental science. A suggested HEP site in Singima, Bagruwa Chiefdom is the largest power potential in the district.

In spite of the potential assets outlined above, the district also has many problems that continue to plague its development efforts. Mining activities in the Mokanji Hills and Mobimbi has led to the degradation of the environment, creation of artificial lakes, pollution of farm lands, air and water pollution as well as food contamination and accidents. All roads are bad, reducing market access for the farmers, increasing the chances of post-harvest losses, reducing farmers' incomes and discouraging agricultural expansion. A World Bank funded cold room at Shenge has become a white elephant because of its inaccessibility. Inadequate mechanisation of the IVS, prevalent poverty, lack of public utilities, inadequate medical facilities and personnel and a huge housing backlog combine to reduce the standard of living of the inhabitants in the district.

Pujehun

Pujehun District lies in the southern tip of Sierra Leone. The district has borders with Kenema District in the east, Bo District in the north and Bonthe District in the west. The Atlantic Ocean is in the southwest and Republic of Liberia to the southeast. It had a 2004 population of 228,392 and a surface area of 4,105 square kilometres that is subdivided into 12 chiefdoms.

Like much of the rest of the country, Pujehun has significant natural resource potentials. The Gola Forest National Park stretches across Makpele and Soro Gbema Chiefdoms, along the border with Liberia, and is a significant biodiversity hotspot. There are also excellent farming potentials in the arable lands, stretches of inland valley swamps and riverine grasslands particularly in the Krim Chiefdoms of the District (Yakemo Kpukumu Krim, Soro Gbema, Mano Sakrim, Kpaka and Gallinas Perri).

However, agricultural productivity levels are far below the potential of the district and needs of the people. Large tracts of mechanically cultivable areas and other arable lands remain fallow. Therefore, the major food crops, such as rice, millet, cassava, sweet potato, sorghum, yam, plantains, bananas, maize, groundnut, oil seed, fruits and vegetables, are grown in insufficient supply.

Cash crop production (namely, cocoa, kola nuts, bitter kola, coffee, rubber, oil palm and kernel) is a thriving way of life in the district. Pujehun is the only district with extensive rubber plantations and latex is produced and sold across the border into Liberia by individuals. However, the exploit of cash crops is almost dying out, as a lack of labour and finance has left thousands of hectares of family cash crop farms uncared for. Much of the land has been reclaimed by nature and is now covered by thick bush.

The Atlantic Ocean and Moa and Waanje Rivers provide ample fish requirements. However, lack of fishing gear, landing jetties and storage facilities, and poaching on the high seas by foreign ships (because there is no monitoring since the Sierra Leone Navy does not maintain a presence in the area) pose serious problems to the development of artisanal fisheries.

The district has large deposits of diamonds in Makpele, Soro Gbema, Panga Krim, Panga Kabonde, Kpaka and Gallinas Perri Chiefdoms; an enormous potential of wealth that is yet to be profitably tapped. Alluvial mining is insufficient to tap the deep-seated kimberlite dykes that stretch between the Makpele and Soro Gbema and Gallinas Perri Chiefdoms. There is iron ore in Funyehun and bauxite and rutile deposits, both in Sowa Chiefdom. In addition, recent research has proven rich offshore deposits of crude oil in Gallinas Perri and Kpaka Chiefdoms. In the past, mining arrangements were negotiated at the prerogative of the central Government. For the district to benefit from its mining sector, the local authorities should be part of all contract negotiating processes.

Sulima and Bengani towns hold big potentials in the tourism sector in the form of large stretches of naturally beautiful beaches. Tiwai Island in Barri Chiefdom is a fantastic tourist attraction with wide ranging biodiversity. The trans-West African Highway will pass through Pujehun District, which should be a boost for tourism and the broader economy of the District. The border facility at Gendema currently operates far below its capacity because of difficulty of traders to access it from the Sierra Leone side.

The Mano River HEP Project has the potential to generate 180MW of electricity. Being on the river that forms the international boundary between the Republic of Liberia and Sierra Leone, the project would have to be undertaken as a joint venture by the two governments.

The primary development problem in the district is the inadequate road network, which has few connections to other parts of the country, due to a series of river bifurcations and creeks that make road construction difficult. This has made the district remote with many settlements cut off from the rest of the country. There is also an absence of any large commercial enterprises in the district. This is a significant setback in utilising the potentials of the district, as small family holdings bring marginal (if any) profits and only satisfy subsistence demands.

4 A Spatial Strategy for Sierra Leone: A New Pathway to Prosperity

4.1 Introduction

We begin this chapter by reviewing the status of national development policy planning and policy in Sierra Leone, in order to guide the formulation of spatial strategy. We also elaborate on the role of spatial planning. Then, based on the socio-economic assessment set out in Chapters 2 and 3 and on our understanding of existing sound contemporary planning practices, we present the goals and main content of a spatial strategy for Sierra Leone.

4.2 The current status of national development policy and planning

Sierra Leone entered the new millennium with outdated policies and legislation.⁹¹ However, since the end of the civil war in 2002 a number of strategic and policy documents have been developed to support economic growth and poverty reduction in Sierra Leone. Such policies and strategies include:

- *Medium Term Expenditure Framework (MTEF)* – The MTEF represents a macro-economic strategy instrument for public investment and has been in use since 2001. The main purpose of the MTEF is to align public expenditure with the growth and poverty reduction strategies. Current planning practice now follows the MTEF process according to which a series of rolling three year programme cycles are implemented in order to give effect to the realisation of the goals of the poverty reduction strategy papers discussed below.
- *Interim Poverty Reduction Strategy Paper (I-PRSP)* – In response to the Millennium Development Goals (MDG), the Government prepared an Interim Poverty Reduction Strategy Paper (I-PRSP) in 2001. This provided a comprehensive overview of the incidence, depth and severity of poverty and outlined the Government's interim strategy for enhancing growth and combating poverty.
- *National Recovery Strategy (NRS)* – The medium term phase of the I-PRSP (operational from 2003-2005) was implemented through the NRS. This focused on, inter alia, peace-building, enforcement of human rights, resettlement and reintegration of refugees and displaced persons, social service delivery and stimulation of economic growth.
- *Sierra Leone VISION 2025* – Issued in 2003, this represents a longer term strategic framework and sets out a vision for Sierra Leone up to 2025. The vision is to produce “united people”, a “progressive nation” and an “attractive country”.

The Government of Sierra Leone built on these initiatives with a series of Poverty Reduction Strategy Papers (PRSPs). The first of these – *PRSP (2005-2008)* – was adopted in 2005. This provided a comprehensive road map for development and a framework for aligning domestic policies and programmes and development aid. Building on the achievements of the I-PRSP and NRS, PRSP I strived to contribute towards the MDGs and other economic and social indicators.

The three pillars of the first PRSP were concerned with good governance, security and peace-building; promotion of pro-poor growth for food security (through investment in the agriculture and

⁹¹ African Development Bank, 2011, Infrastructure and Growth in Sierra Leone

fisheries sectors) and job creation (through infrastructure investment – energy, transport, ICT, etc); and human development (education, health and nutrition, housing and water and sanitation).

Importantly, PRSP I sought to move away from relief and humanitarian assistance to that of human development and good governance. Whilst PRSP I resulted in considerable improvements in education, particularly for girls, some road improvements, investment in health and nutrition services and some poverty reduction, there were a number of inefficiencies in the implementation of the strategy. For example, the PRSP I was not fully integrated into the work of public sector organisations and national capacity to implement was limited.

PRSP I was followed by *PRSP II (2008-2012) – An Agenda for Change* – in 2009. The preparation of PRSP II coincided with the democratic change of government in 2007. PRSP II focused on energy, transport, agriculture and human development, whilst also adhering to a number of fundamental principles (e.g. peace, security and good governance, macro-economic stability, private sector growth and management of natural resources). This included substantive investment in supportive infrastructure, improved delivery of social services and private sector development. An evaluation of the achievements of the Agenda for Change recommended included improved monitoring and evaluation (M&E), improved coordination between national, regional and local public agencies, better regulation of the behaviour of contractors and additional donor support⁹².

Most recently, the Government of Sierra Leone adopted *PRSP III (2013-2018) – Agenda for Prosperity*. This is currently the reference point for national planning and extends the achievements of and lessons learnt from the previous Poverty Reduction Strategies. It sets out the long-term vision for Sierra Leone to become a middle-income country by 2035. In the short to medium-term (2013-2018), the aim of the AfP is to build a “*stable economy, founded on private sector-led growth, and diversified across several competitive sectors to achieve our economic and human development vision.*” Achieving this aim will require:

- Adequate transport facilities (e.g. modernisation and expansion of port facilities, second airport, upgrading major trunk and feeder roads);
- Continuous and affordable power supply (e.g. developing water resources, improving the power generating and distribution capacity);
- Appropriate information communication technology (e.g. linking all major cities and towns to the national fibre optic network); and
- Improved financial services infrastructure.

Responsible exploitation of natural resource endowments, together with a modernised agricultural sector (combining smallholder commercialisation and larger-scale agro-based production), are also identified as fundamental components of sustainable growth. However, a wider process of diversification and linkages across economic sectors will also be required to generate additional value-added activities. This may, for example, include the development of a heavy manufacturing base producing steel from iron ore. In terms of longer term economic growth, the target is 4.8% per annum (in terms of GNI per capita) and 6.7% for GNI overall (this can be compared to the 5.2% average annual growth in GDP, excluding iron ore production, which was achieved during the AfC period). This ambition will

⁹² IMF, 2011, Sierra Leone: Poverty Reduction Strategy Paper - Progress Report 2008-10
<http://www.imf.org/external/pubs/ft/scr/2011/cr11195.pdf>

require greatly strengthened infrastructure, in terms of transport, power water, ICT and financial services.

In terms of improving the quality of living in Sierra Leone, the focus will be on health and education, particularly for women and children. For example, health initiatives will build on free health care provision and scaled-up nutrition initiatives, expanding immunisation and access to water and sanitation. Education measures will focus on improved access, equity and quality, improved literacy levels and the development of a labour force with the skills demanded by the employment-generating sectors of the economy.

More broadly, the AfP identifies eight pillars for achieving greater prosperity:

- Diversified economic growth
- Managing natural resources
- Accelerating human development
- International competitiveness
- Labour and employment
- Social protection
- Governance and public sector reform
- Gender and women's empowerment

Notwithstanding these development policy advances, there are still a number of deficiencies that adversely affect the planning landscape – and most specifically with regard to what is currently a missing dimension: spatial planning. Put simply, the planning process does not take cognisance of spatial variables, processes and dynamics, and there is a lack of spatial awareness and recognition in the implementation of projects and programmes. The disregard of these factors leads to reduced internal rates of return on investments and the creation of diseconomies of agglomeration that hamper economic growth and social development.

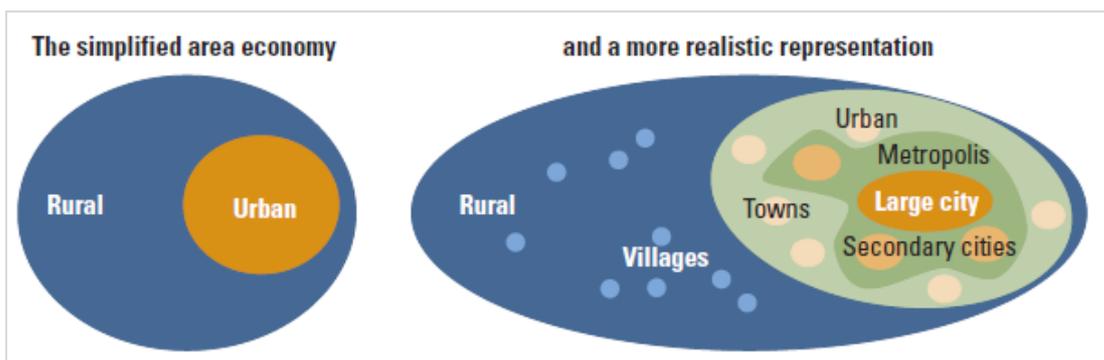
In addition, spontaneous urban growth and expansion without guidance in the form of urban planning is commonplace. Human settlements tend to expand without proper strategic and detailed land use plans, infrastructure, services and community amenities. As seen above, areas designated as rural exhibit higher levels of poverty and other indices of public welfare. The capacity of and resources available for local government structures is also limited which affects their ability to identify local needs and develop effective strategies that addresses these in line with national development policy. Urban planning and management staff shortages are also evident at the central and local government levels.

4.3 National spatial planning and spatial frameworks

At all spatial levels, globally, regionally, nationally, locally and within cities, there is generally a pattern in which production is concentrated in particular areas (based on agglomeration economies, historical factors, location of natural resources, etc.). This, in effect, means that economic activity is not evenly distributed across space and hence some areas are more prosperous than others.

As a result of such spatial inequalities, space is often conceived of in terms of dichotomies – core and periphery, urban and rural, and leading and lagging areas. While useful, as discussed previously, this in many respects represents an oversimplification of reality and can fail to recognise the spectrum of settlements or portfolio of places that exists – from the leading, primary or largest city to secondary cities, small urban areas, towns and villages (World Bank, 2009). This is further illustrated in the figure below.

Figure 4-1: From dichotomy to continuum of space



Source: World Development Report, 2009

The most important aspect of spatial planning is spatial integration. Such integration may be important in reducing spatial inefficiencies which undermine the realisation of the development potentials, or which make access to employment and economic activities difficult.⁹³ As discussed previously, spatial integration requires focus on spatially connective infrastructure policies, programmes and investment, highlighting transportation and telecommunications systems. These make possible wider and deeper linkages across the national territory and hence better access to markets and resources.

The development of a spatial strategy can have a number of functions. In the broadest sense it provides a mechanism for managing the “space” that people live, work and move around in by focusing on where “things are taking place”. More specifically, a spatial strategy for development provides a framework to guide policies, programmes and investment and is designed to achieve a better arrangement of social, economic, physical development and population growth across “space”.

A spatial strategy at national level usually specifically expresses and advances a preferred developmental end state (or vision) for a national territory which pursues the objectives or goals which such a vision incorporates.

In addition, a spatial strategy allows policy makers to consider various territorial dimensions – local, national, regional and global – and create solutions for specific geographical areas. This may indicate the targeting of particular investments and measures on particular places. Moreover, it allows coordination of various aspects of socio-economic development across the sectors of society: urban development, development in rural districts, urban-rural relationships, the development of infrastructure and sustainable use of land and natural resources.

⁹³ Todes, A., 2013, Spatial Targeting: Lessons from South African Experience

Understandably given urbanisation dynamics, contemporary spatial planning tends to emphasise larger city development. The planning discourse and practice would also benefit from shifting beyond the rural-urban dichotomy and focusing instead more on how best to urbanise and develop the rural non-farm economy and secondary towns.⁹⁴ For example, recent research in Tanzania shows that about one in two individuals/households who exited poverty did so by transitioning from agriculture into the rural non-farm economy or secondary towns. Only one in seven left poverty by migrating to a large city, although those moving to a city experienced on average faster consumption growth. As such, it can be argued that spatial policy should adopt a dual approach which accepts and endorses the primacy of larger cities and also seeks to diversify economic activity in and around secondary cities and towns.

A national framework can thus include:

- A vision, most often derived from national development policy
- An overarching spatial ('design') concept, which articulates the overall imperative to integrate (or cohere) the national territory (e.g. a spatial network with nodes, or regional areas/bands)
- Specific objectives (or goals) aligned with national development policy which the strategy seeks to achieve
- Spatial planning design instruments (or measures), such as growth poles and centres, development corridors and new nodes
- Spatially-targeted investment interventions, like special economic zones, export processing zones or industrial development zones, and the projects which often anchor them (large-scale industrial facilities); also mega-projects (airports, harbours, power plants, government facilities (administrative, defence, etc.), regional malls, large-scale housing estates, etc.)⁹⁵

4.4 Guiding vision, concept and goals for the national spatial strategy

Any spatial strategy for Sierra Leone should seek to complement and to add value to national development planning rather than substitute for existing policies and strategies. In particular, spatial strategy, focused as it is on the **spatial** aspect of all societal activities and on investments and instruments to execute strategy, should create enhanced spatial awareness and recognition. This in turn must guide the financing and implementation of projects, and programmes and thus improve returns on investment, strengthen (existing) agglomeration economies and generate further positive (spill over) externalities which can stimulate economic growth and prosperity.

In consequence, the vision set out in the Agenda for Prosperity for Sierra Leone – to build a **“stable economy, founded on private sector-led growth, and diversified across several competitive sectors to achieve our economic and human development vision”** and ultimately to become a middle income country by 2035 – should inspire the overarching vision, concept and goals for national spatial strategy.

⁹⁴ Christiaensen, L. et al, 2013, Urbanization and Poverty Reduction The Role of Rural Diversification and Secondary Towns <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-6422>

⁹⁵ Such targeted interventions can also be aimed at cities, or specific areas within them, in the form of neighbourhood regeneration/renewal or informal settlement upgrading projects

The title for a spatial strategy is proposed as **A New Pathway to Prosperity**, echoing the AfP, and indicating the route – or way of access – to prosperity.

The proposed accompanying spatial vision is:

- **A liveable, well-connected and competitive Sierra Leone, in which economic growth is inclusive, and human development is resilient and sustainable**

This vision for territorial development emphasises the following elements:

- **Liveability:** good quality living conditions and physical environments for all inhabitants of Sierra Leone's human settlements
- **Connectivity:** citizens and settlements in Sierra Leone linked through well-functioning transportation and telecommunication systems
- **Competitiveness:** an excellent climate for business activities which facilitates higher productivity and innovation, the well-springs of competitiveness
- **Inclusivity:** economic growth which incorporates the needs of all citizens and at combating poverty
- **Resilience:** human settlements and a citizenry which can withstand the impacts of foreseen and unforeseen events and shocks, notably climate-related disasters
- **Sustainability:** meeting current needs responsibly, with social and environmental conditions and constraints acknowledged, in order not to compromise future needs.

The overall spatial concept proposed to put this vision put into practice is:

- **The establishment of an integrated network of human settlements at national, provincial and district levels**

The national territory is formed and structured by its various types of human settlements which should be conceived of and ordered as an interconnected and interactive physical and socio-economic network.

The goals to realise the spatial strategy are:

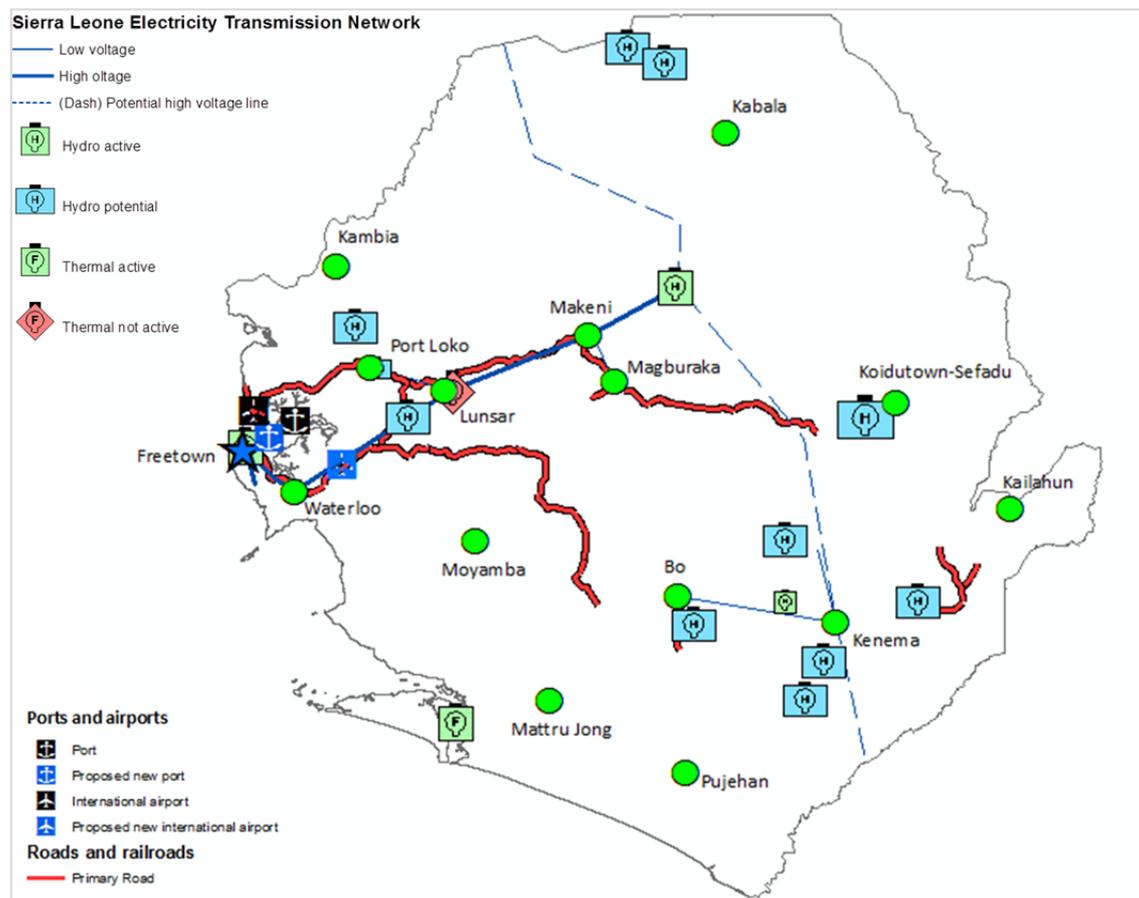
- Improving national, regional and international connectivity
- Enhancing the social and economic role of provincial and district centres
- Strengthening Greater Freetown as a platform for national, regional and international trade and business

Box 2: Principles for spatial planning

- Articulate a national development vision, overall concept and goals in spatial terms
- Be evidence-based, on analysis of those key economic, social and urban and rural human settlement development factors and dynamics which have, over time and currently, influence spatial development
- Address identified spatial priorities, both opportunities and challenges, within shorter, medium and longer-term perspectives
- Be realistic and strategic (resources are usually constrained) and focus on achieving particular defined outcomes, using specific spatial measures or instruments
- Be implementable, through measures that are well-defined, fundable and amenable to performance management (monitoring and evaluation).

4.4.1 Improving national, regional and international connectivity

Figure 4-2: Goal 1: Current state of connectivity



As noted above, the main strategic concern nowadays for spatial planning is integration. Indeed, to reiterate, successful strategic spatial planning at national level typically aims at facilitating linkages across the national territory to support the mobility of people, goods and ideas, and access to markets and resources and thus serve to spatially and economically integrate the national territory – with the broader goal of promoting national prosperity and poverty reduction (as set out in the Agenda for Prosperity). As noted above, such integration usually necessitates investment in connective transportation systems, such as roads, railways, airports and ports, and digital/ICT infrastructure.

As seen in Chapters 2 and 3 above, considerable strides have already been made in the last decade in improving the trunk and parts of the feeder road network, as well as the telecommunications systems and power supply. Much remains to be done, though, particularly in terms of creating better accessibility to and unlocking the potential of natural and human resources which are presently located in areas of districts that are underserved by transportation infrastructure as well as characterised by inadequate infrastructure services, especially water and power. Continuing the improvement of feeder roads, in particular, is a priority in order to allow agricultural goods to get to markets. There also considerable potential in restoring and extending regional and/or cross-border markets with Guinea and Liberia. These were once powerful hubs for interaction, innovation and revenue generation, and addressing current constraints (transport, border disputes) would also seem a priority. Removing constraints to the construction of the ECOWAS Trans-West Africa Coastal Highway is also a major concern.

The location of a new international airport at Mamanah, close to the road junction of the national system which leads to both Makeni and Bo, has the potential to be a transformative initiative in promoting connectivity at all scales of the national territory and beyond. It is already well-understood that Freetown will benefit from improved accessibility to an international airport. This works both in real terms (potential reduced travel time to and from the city) and in terms of traveller perceptions: the commonly-held negative view on the time-consuming and uncomfortable (if not risky) additional boat or ferry journey across the estuary from Lungi to Freetown currently serves as a major impediment to the country achieving its full tourist potential. At the same time though, the new airport would represent and bring into being a **national** rather than a Freetown/Western Area airport, creating far better international, regional and local (if national air service can be instituted) access for Northern, Southern and Eastern provinces and their cities and towns.

A number of potential specific interventions, which would serve to improve connectivity and integration, have also been identified during the course of this assignment:

Table 4-1: Specific connectivity and integration interventions

Intervention	Description
Create a national territorial ringed highway	Integrated National Territorial Ringed Highway, with interconnections, ensuring that almost all areas are within 80km of a major highway.
Create a national electricity grid system	Development of national electricity grid system by interlinking the power hubs across the country. Importantly, this would mean that the location of economic activity would not be constrained by the availability of power. Linking the national grid to the West African Power Pool would also facilitate export of any excess electricity (estimated at around 1,000MW initially)
Unbundle the power sector	Create a regulated and privatised market for power generation and transmission, as well as power distribution and sales.
Revitalise the safe water sector	Despite its favourable climate and many water bodies, access to safe drinking water is very limited. Water sector needs to be restructured and modernised through investment in new dams, new transmission and distribution lines.
Diversify the port system	Privatisation and recapitalisation of ports such as Pepel, Queen Elizabeth II Quay, Nitti and Bonthe in order to open up the country further to international trade.

In respect of connectivity, there are two spatial themes that come out particularly strongly from the analysis: promoting coordinated infrastructure use and investment in power generation. Each of these is discussed in more detail below.

4.4.2 Promoting coordinated infrastructure use

The discussion in Chapters 2 and 3 highlights a number of inefficiencies in relation to the use of transport infrastructure. This is most notable in the northern part of the country where the two main mining companies use separate means of transporting and shipping iron ore from their respective mines, using roads and railways that have been created by the companies for their exclusive use. This possibly represents a duplication or even waste of resources given the close proximity of the two mines. A more efficient use of these resources could be to use the railway and Pepel as a common port facility. In the Southern Province two mining companies (Sierra Rutile Ltd and Sierra Minerals) are sharing the port facilities in Nitti. Whilst the facilities for berthing are separate, the collective cost on maintenance is significantly less than it would be if separate port facilities were used.

One of the main recommendations from a recent Africa Review report on mining is to establish capacity for resource-based development corridors that optimise the collateral use of mineral infrastructure (transport, power and water) to establish economic activity in other sectors, such as agriculture, forestry and resource processing. Such corridors would assist in overcoming the large mineral infrastructure financing constraints through PPPs and the grouping of infrastructure users to maximize economies of scale.

4.4.3 Prioritising and targeting investment in power generation in the growth poles

Perhaps the most acute infrastructural problem is the availability of cheap and sustainable power generation. Power generation is a key requirement for diversifying the economy of Sierra Leone and supporting economic prosperity, including through commercialisation of the agricultural sector and by diversifying mining and manufacturing activity.

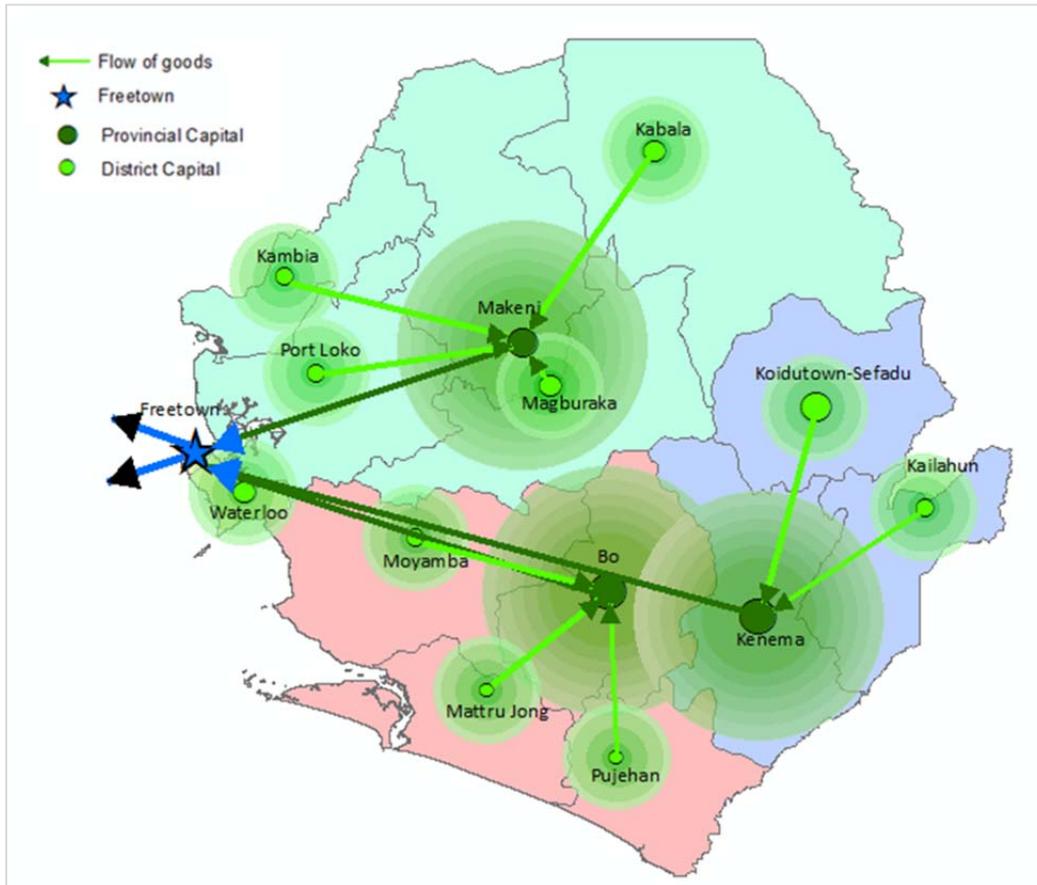
Whilst Sierra Leone has benefited from a number of recent power generating infrastructures, including the Bumbuna I hydro-power generation plant, the power generating capacity is still very low. Indeed, the electrification ratio remains below 10% and is mostly concentrated in the Greater Freetown area. Moreover, until recently, much of the power generated came from costly fuel-based thermal power.

Encouragingly, there is significant potential to generate additional. For example, there is potential to create an Eastern Integrated Power Grid (EIPG) linking around 630MW of electricity (45% of the national HEP potential). Any excess power generated could be released into the national grid and/or exported to Guinea and Liberia. Similarly, there is potential to generate approaching 570MW in the north and 149MW in the south of the country. There is further potential to develop a further 160MW, bring the total national HEP potential to 1,505 (excluding the 180MW potential on the Mano River which is expected to be a joint project between the Government of Liberia and Sierra Leone).

The spatial strategy should therefore prioritise power generation, in order to support economic diversification and to reduce and turnaround the power generation deficit.

4.4.4 Enhancing the social and economic role of provincial and district centres

Figure 4-3: Goal 2: Enhancing the social and economic role of provincial and district centres



The assessment in Chapter 2 and 3, while not conclusive, indicates much under-utilised potential in the secondary and tertiary layers of the urban settlement system. It is not inaccurate to argue that the discussion on urbanisation and urban development in Sierra Leone is monopolised by the concerns about and the travails of Freetown. This is understandable, but overlooks the fact that, at this point, some 60% of the urban population resides outside of the city of Freetown.

According to United Nations statistics, Freetown's primacy will increase only slowly to 2025, to 43.2% of the urban population – as compared to 38.2% in 1950. Of course, this is complicated by ongoing urban population growth and spatial expansion around Freetown, which could take Greater Freetown's proportion up to 50% in the coming years.

The reality, though, is that there appears to be considerable scope for strengthening the social and economic functions of the three provincial capitals – Makeni in Northern Province, Bo in Southern Province, and Kenema in Eastern Province – as well as those in other prominent and thriving market secondary cities like Koidu-New Sembehun, Port Loko, Lunsar, Magburaka and Kabala – as well as already-mentioned smaller towns like Yengema, Kailahun, and Kambia. Provincial and district capitals have an important role in terms of acting as local administrative centres, and providing public health, education and cultural facilities to its own residents as well as surrounding market towns and villages.

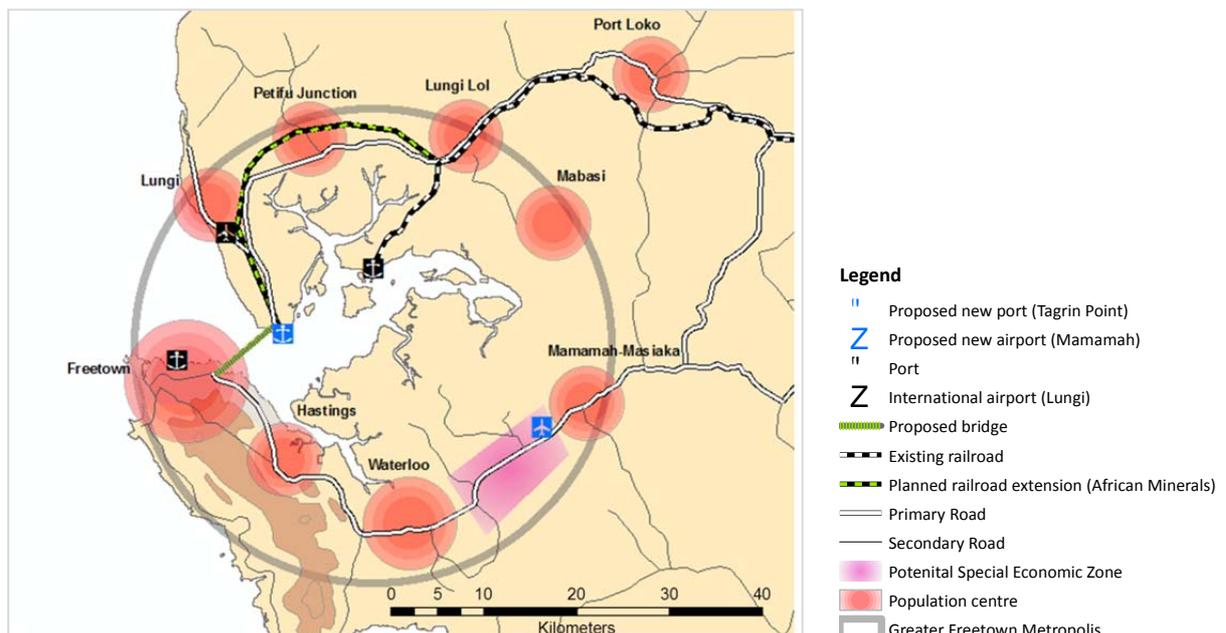
These towns and cities need to be recognised and incentivised as the key nodal points for the integrated network of human settlements that proposed as the spatially-structuring concept for the strategy. As nodal points, they serve to facilitate the flows of goods, services and people across national space, as the figure above indicates. Equally, they provide a variety of facilities, goods and services for their immediate hinterlands.

Their actual and potential functioning as growth centres for their provinces and districts should therefore be investigated and, as indicated, further promoted through concerted investments in land use management and urban planning, social and economic infrastructure and services (water, sanitation, power, etc), housing, telecommunications and transportation and mobility improvements. The secondary (and tertiary) centres towns have a particularly crucial role as market towns in improving agricultural productivity and in building the non-farm rural economy, as Christiaensen et al (2013) argue. Completion of the decentralisation programme is required, and extension could be considered: urban governance, management and municipal finance in the capitals require improvement and upgrading.

In essence, Sierra Leone’s medium-sized and small cities need to be assisted to grow more rapidly and more effectively so that they realise their potential for national spatial development.

4.4.5 Strengthening Greater Freetown as a platform for national, regional and international trade and business

Figure 4-4: Goal 3: Strengthening Greater Freetown



As stated above, Freetown’s situation dominates the national debate on urbanisation and urban development. The general view on Freetown is, however, overwhelmingly negative. Spatial strategy urgently needs to contribute to change the widespread perception of Freetown only as a problem, and re-focus instead on planning for making the most of Freetown’s advantages for national territorial spatial development.

It is possible to recognise Freetown's primacy in the urban system, which is significant but not unusual, while simultaneously acknowledging the assets the city – or rather the metropolitan area – offers for economic and social development. Like all big cities, Freetown concentrates scale (or agglomeration) economies – a labour pool, skills, know-how, business services, infrastructure, government facilities, etc. – which reduce the costs of transacting business, and improve its productivity. Ranged against this array of scale advantages, which can operate within business sectors and also more widely across the city, are diseconomies of scale which frustrate productivity gains: congestion, land use issues, poor and costly economic and infrastructure services, etc.

Freetown harbours both types of scale economy: the key imperative is to shift the balance towards the positive. It is counter-productive to try and restrict the centrality of Freetown to the national spatial economy. This is certainly not to say that growth in Freetown should be unmanaged. The city needs to be assisted to perform its necessary 'platform' functions – as the country's centre for national, regional and international economic activity – more efficiently.

This functionality should be accepted and endorsed, through the spatial strategy, in order to help Freetown to become a major regional, even continental, city that can serve as a gateway for international trade, investment and business, rather than attempting to shift industry and services to the provincial centres. These centres need to grow, in fact, in the context of their relation to Freetown, in a mutually-beneficial fashion. Spatial development is not a zero-sum game. A substitute for Freetown is not another city in Sierra Leone, but another capital in the region, i.e. Conakry or Monrovia – or Accra. Freetown needs to become 'greater' – and reconceived and planned as the metropolitan capital and centre of Sierra Leone with a stronger regional and international role.

Encouragingly, the emergence of a Greater Freetown is already well underway. In recent years, driven by investments in road transportation, business facilities (principally commercial), and residences, Greater Freetown has started to expand its spatial influence and connectivity with the wider territory. Ongoing road improvements from the west side to the city centre and on to the eastern, and most populous, part of the city have the potential to facilitate mobility and significantly reduce travel times, which in turn may allow further residential development in central and eastern zones that is currently characterised by low-quality informal settlements. It should be noted, however, that there is noticeable infill-style housing being built in central Freetown, in the form of new residences and flats. An "international" business district is also emerging in and around an upgraded Wilkinson Road, featuring company headquarters, a new shopping mall, and other shops and amenities, notably restaurants. Large-scale suburban development, featuring both individual residences and developer-built estates, is taking place in IMATT, Hill Station, Regent and, on the other side, in and beyond Goderich.

To the south of Freetown, suburban development is also emerging very rapidly in and around Waterloo, the country's fastest-growing settlement, which represents a gateway to the country's provinces. Waterloo is also becoming better connected to western Freetown as both the peninsula road and the Hastings road are both upgraded. As discussed previously, there are also advanced plans to construct a new international airport at Mamanah (Mile 36). This, together with developments in Western Area around Waterloo, represents a significant opportunity for further strengthening the role of Greater Freetown as a gateway to the country's provinces and relieving Freetown of some of the pressures of growth and congestion. In particular, the Waterloo area has the potential to become a

spatially-targeted investment intervention (e.g., a special economic zone (SEZ) in order to develop the industrial and service sector and attract business facilities.

To the north of the city, across the river, the existing international airport at Lungi, the upgrading of the road from Lungi to Port Loko (and around to Masiaka), and the infrastructure created for iron ore mining and export (notably rail, road, and harbour facilities) now provide important links to the Northern Province, as well as connectivity to the rest of the region and world. Reflecting these developments, Chinese investors have envisioned a circular Greater Freetown metropolitan area that surrounds the Sierra Leone River, which by 2050 could have a population of five million. Extending from Lungi-Masiaka-Hastings-Freetown, provision is made for a new city beyond Hastings, and transportation and industrial facilities. The ambition of the proposal should be welcomed: the figure above represents a version of such a Greater Freetown.

To achieve the goal of a strengthened Greater Freetown, three spatial planning directions can be indicated:

- Urban renewal for the ‘traditional’ core city, highlighting ongoing decongestive road improvements and further provision of land (space) for residential, commercial and production functions, including the informal sector which is presently the preponderant activity in the city’s economy ⁹⁶
- The deconcentration of new economic and residential activities, and the creation of new centres, following the lines of movement already established, notably new peripheral suburbanisation to the south and east
- Planning for and rapidly commencing investment in a metropolitan centre that is projected to be 1.5m – 2m people in 2025, and doubling to 2050
- A Greater Freetown is already on the way: making the most of its current and potential advantages for production and trade is a key spatial planning challenge for the nation.

4.5 Taking care of the basics

The suggested goals outlined above only make sense if they are successfully combined with a continuation and enhancement of the ‘basic’ tools of economic development.

4.5.1 Extending and improving the provision of basic services

As noted above, economic activities tend to concentrate in and around urban areas in order to benefit from economies of scale. This implies the basic services, such as primary education, primary health care, sanitation and clean drinking water, all need concerted attention. In particular, many smaller urban settlements and rural areas have limited access to basic services. This is likely to be caused by a combination of two factors – supply constraints and affordability. Improved connectivity has important implications for service delivery particularly in rural areas and smaller urban settlements.

⁹⁶ The Freetown Structure Plan also produced with Freetown City Council under the Urban Planning Project has numerous proposals in this regard

4.5.2 Investing in education and science and technology

In the analysis in Chapter 2 and 3, the inadequacy of education and/or training was identified as a significant development problem. Since it is common knowledge that the human capital of a nation can transform the economy of a nation, Sierra Leone should invest in education to improve on its human capital base. There are currently critical skills lacking in the economy. These should be catered for by the educational system by first assessing the estimates which are then projected onto the skills-producing institutions (the educational system). With a very low science and technology base, there should be even more attention in this area since no nation develops well without the deployment of science and technology.

4.6 Implementing the Spatial Strategy

A potential overarching mechanism for implementing the goals of the spatial strategy, as proposed here, is to develop and promote integrated and coordinated growth poles based on natural resources and economic activities. Indeed, this instrument is already being considered by the Government of Sierra Leone through the medium of work produced under the auspices of the Strategy and Policy Unit (SPU) of the Office of the President, with input from the World Bank.⁹⁷

A national spatial development plan oriented around such a spatial design instrument, combined with spatially-targeted investment initiatives (like industrial zones) is consistent with sound practice elsewhere (see Boxes 2 and 3), and also with more general World Bank recommendations.⁹⁸

This spatial approach to development can be highly effective when targeting regions that already have natural or economic geography advantages.⁹⁹

- Growth poles as are simultaneous, coordinated investments in many sectors to support self-sustaining industrialization in a country... usually combin[ing] public and private investments and are specifically built around an already-existing resource at a specific location in an economy.
- Central to the growth pole is a group of dynamic industries connected around a particular resource. These industries are, by virtue of their dimension or negotiation strength, anticipated to have the capacity to innovate and adapt to market conditions. The growth of dynamic industries is anticipated to generate further investment, employment, and distribution of factor payments, including profits that may be reinvested. The growth of dominant industries, in turn, generates external effects that stimulate the growth of other industries due to inter-industry linkages.¹⁰⁰

⁹⁷ Sierra Leone Growth Poles Program: A Development Approach for Agenda for Prosperity, Government of Sierra Leone Office of the President, August 2013.

⁹⁸ World Bank, 2013, The Africa Competitiveness Report 2013

⁹⁹ World Bank, 2008, World Development Report 2009: Reshaping Economic Geography

¹⁰⁰ World Bank, 2013, The Africa Competitiveness Report 2013, p. 93.

Box 3: Lessons from the South African experience of SDIs

Much like the economic growth poles identified in Sierra Leone, Spatial Development Initiatives (SDIs) were conceived in South Africa in the mid-1990s as a way of generating growth and investment in regions with significant, but unrealised potential for growth. SDIs attempted to “unlock” this potential through targeted investment in infrastructure. The SDIs emphasised export oriented and private sector led growth. The initial focus was on manufacturing, but this was later extended to include agriculture and tourism. Overall, 11 SDIs were identified across South Africa (mainly in rural areas or smaller towns).

SDIs were generally successful in delivering infrastructure improvements, although in some cases barriers remained. A public-private partnership approach also allowed leveraging of investment and hence development of infrastructure that would not otherwise have been possible.

A number of important lessons came out of the South African experience of SDIs.

Firstly, special agency institutions linked to the SDIs can be highly effective, if they are given flexibility to operate across administrative boundaries and the freedom to engage with various stakeholders. In South Africa, however, these agencies received insufficient support from national government. There was also a lack of integration between government departments, which in many cases impeded development. Thus, setting up special agencies is not enough – the way they are institutionalised and supported is critical.

Secondly, SDIs were not given enough time to implement the required transformational changes. The emphasis on speed of delivery also undermined a participatory process.

Thirdly, spatial targeting has to focus on those areas where there is real economic potential (based on thorough assessment and evidence). Moreover, it should not attempt to deal with complex social issues.

Fourthly, many anchor projects in South Africa were intensive resource-based projects that had limited employment effects or produced only low-wage temporary work (e.g. during construction). It is therefore important to ensure that there is a plan in place to ensure that any development leads to spin-offs and linkages. Only when such spin-offs and linkages are created (e.g. through support to SMEs, training provision, skills upgrading, etc) can SDIs have a lasting impact on unemployment and poverty. Finally, a programme of monitoring and evaluation needs to be set up from the start. This was a particular gap in the South African experience, which has made it difficult assess the impact of the SDIs.

Source: Todes, A., 2013, Spatial Targeting: Lessons from South African Experience

The growth pole theory is built on the assumption that, for an economy to attain higher income levels, that economy should first develop within itself one or several regional centres for economic strength.¹⁰¹ Growth poles, as a broad spatial planning instrument, draw on the following concepts: 1) economies of scale; 2) the nurturing of backward and forward economic supply linkages; and 3) economies of agglomeration, which are associated with spatial clusters and the geographic concentration of economic activities.

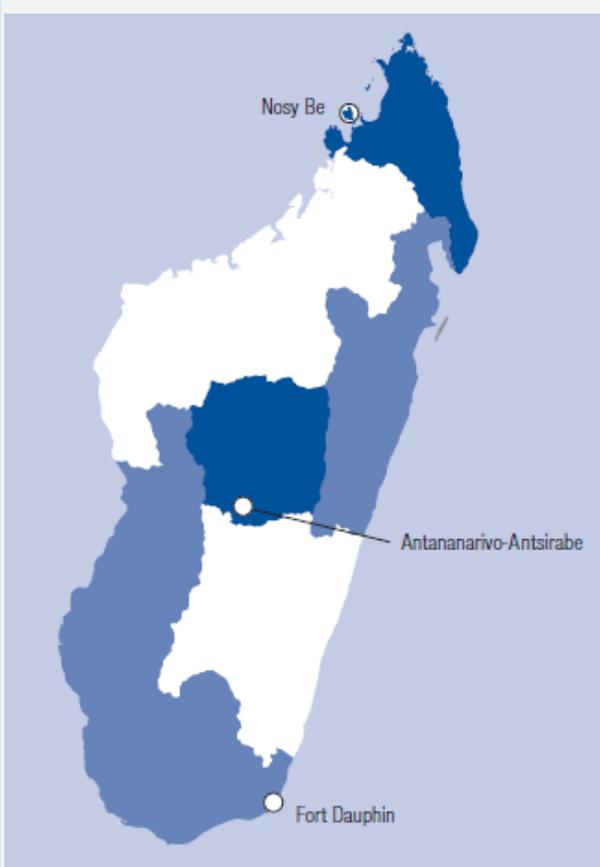
Until recently, the growth pole approach has not attracted much attention in Africa, compared to Asia and Latin America. However, through international partnerships and government commitments the interest in the growth pole concept has increased.¹⁰²

¹⁰¹ Perroux, 1955, as cited in The Africa Competitiveness Report 2013

¹⁰² Gantsho, M., 2008, Cities as growth poles: implications for rural development

Box 4: Integrated Growth Poles in Madagascar

The Madagascar Integrated Growth Poles Project aims at stimulating the growth of three geographical regions of Madagascar centred around the growth poles of Nosy Be, Fort Dauphin, and Antananarivo-Antsirabe. The objective of the poles is to address key constraints to investment, including infrastructure, business environment, institutional capacity, skills and access to finance. The poles are multi-sector projects with particular focus on tourism-led growth in Nosy Be, mining- and tourism-led growth in Fort Dauphin, and export-led growth in Antananarivo-Antsirabe.



In **Nosy Be**, the pole focuses on building support infrastructure (rehabilitating roads and improving water supply); strengthening municipal capacity for administration, fiscal management, and service delivery; and supporting business environment reforms. The project supports a new hotel training school in partnership with other donors and the private sector, and the establishment of a marine reserve to protect rare ecological resources vital to the sustainability of the tourism industry.

In **Fort Dauphin**, the pole is jointly invested in by the government and the mining company Rio Tinto to ensure that large mining investments benefit the local population. They co-financed the construction of a new public multiuser port managed by a private consortium and in operation since 2009. Investments were also made in road construction to support tourism and to facilitate market access for local production.

In addition, the project is supporting innovative public-private partnerships (PPPs) with Rio Tinto in power generation and transmission – with a guarantee from the Multilateral Investment Guarantee Agency – and in improving access to water supply. A partnership with the United Nations Development Programme, Rio Tinto, and other private

firms has led to the establishment of a vocational training centre to bridge local skills gaps. The emphasis on ensuring that mining projects have a positive impact on local populations and on the economy more broadly serves as an example of what can be done for other mining investments.

In **Antananarivo-Antsirabe**, PPPs have been established in skills development for the garments, tourism, and information technology industries. For example, the growth pole includes a private university and firms in the garments industry, which have collaborated to offer the first textile engineering diploma program in Madagascar.

The growth poles in Madagascar are showing positive results, and the main objectives of these investments have not been revised. Until the onset of the political crisis of 2009, the poles were on track to achieve their development objectives and results in terms of private investments and job creation. Private investment increased from US\$84 million in 2005 to US\$1,045 million in 2007. In 2006–08, some 5,000 new businesses were registered in the three poles. During the same period, an estimated 10,000 formal jobs were created in the three poles, and the number of new hotel rooms in Fort Dauphin and Nosy Be increased by 40 percent and 27 percent, respectively. Regional development plans were adopted and most of the main infrastructure works were completed, leading to major improvements in local infrastructure. Since 2009, Fort Dauphin and Nosy Be continue to show progress, and by 2013, had added over 13,000 formal jobs.

The overall business environment in Madagascar has been improved: it is now easier to register a business, trade, pay taxes, and obtain a license. In Fort Dauphin, it now takes four days to register a new business; before the project was initiated, this took two months. The Economic Development Board of Madagascar regional offices in Nosy Be and Fort Dauphin can now register individually owned enterprises, which have significantly reduced the cost and time required for small business start-ups. By 2013, following results assessments on the poles, the Antananarivo-Antsirabe pole was deemed less successful and discontinued.

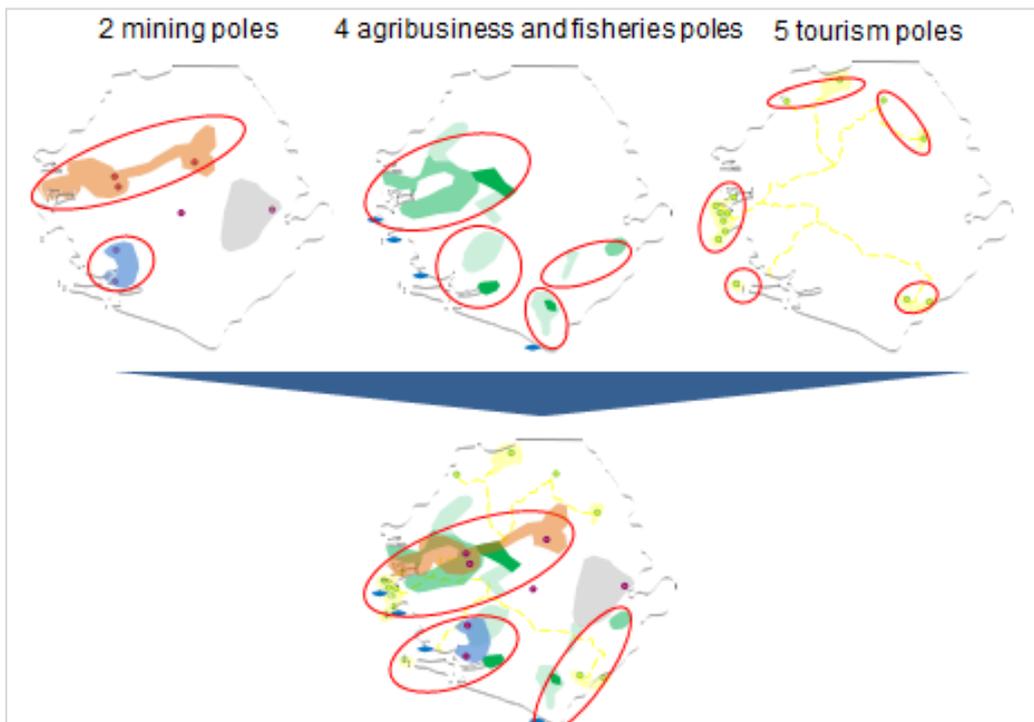
Overall, indicators from the poles suggest promising private-sector response to the investments made in infrastructure, the improvement in the business environment, and job creation.

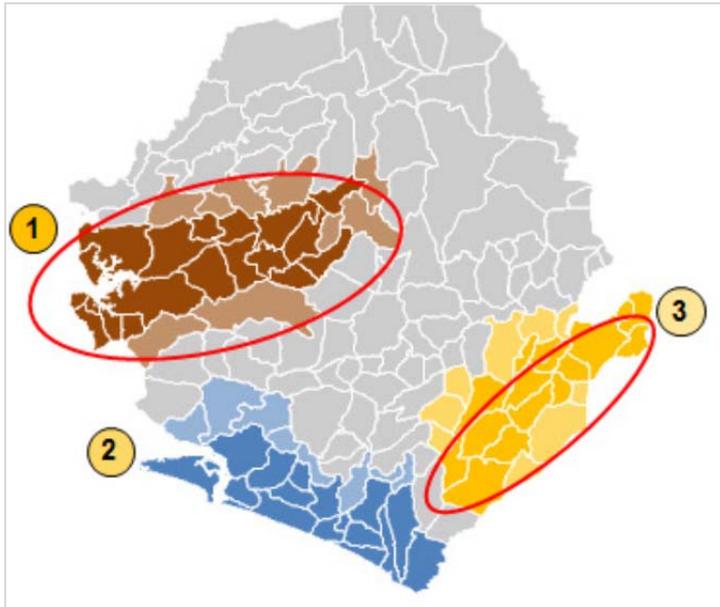
Source: *The World Bank's Integrated Growth Poles Project*, available at <http://www.worldbank.org/projects/P083351/integrated-growth-poles?lang=en>

The analytical work done to date by the Office of the President identifies three feasible combined (multi-sectoral) growth poles from a total of 11 that were identified:

- The Northern growth pole: Freetown to Tonkolili
- The Coastal growth pole: Bonthe to Sulima
- The South-Eastern growth pole: Tiwai to Kailahun

Figure 4-5: Potential growth poles





These are described in the report as follows:

The Northern growth pole: The Northern growth pole focuses on developing power infrastructure and market access, particularly within the mining and agricultural industries, as well as support institutions and mining linkages. Raw outputs to be developed in this growth pole include iron ore, rice, bio-ethanol, cassava, and palm oil. At the industrial level, agro-processing, fisheries, services, and tourism are all key focuses of this growth pole. This region has numerous advantages that make it ideal for this investment, including a large relatively educated population that provides a robust labour supply, a pre-existing SEZ, an international airport, and easy access to shipping via port. In order to achieve optimal impact, it still requires more investment in roads, skills trainings for employees, and enforcement of government regulations. Competitive industries are iron ore, bio-fuel, light manufacturing, logistics, rice, palm oil, fisheries and tourism. The Northern growth pole goes from Freetown to Tonkilili, including cities such as Lungi, Port Loko, Lunsar and Makeni.

The Coastal growth pole: The Coastal growth pole, which stretches from Bonthe to Sulima, focuses more on infrastructure development, tourism and agribusiness, in addition to strengthening business linkages in mining and agriculture. In particular, it will refine agricultural production by investing in agro-processing and strengthening linkages between small and larger holder farmers. It also seeks to strengthen linkages from the mining industry to the rest of the economy and to ramp up mineral production within the heavy sand minerals (bauxite, rutile, zirconium, and illemite). This region is attractive as it is the likely to be the headquarters of the emerging oil industry, and is an ideal location for a deep water port and a highway to Liberia. However, in order to reach maximum potential, it needs further development of roads and access to finance. It is also somewhat limited in that it is not very populous and has limited skilled labour. Competitive industries are bauxite, illemite, zircon, rutile, palm oil, rice, ecotourism, beaches and oil exploration. The game changing factor that will drive the future of this growth pole is the location of Sierra Leone's next deep-water port.

The South-Eastern growth pole: The South-Eastern growth pole, which stretches from Tiwai to Kailahun, provides a platform to develop institutions and strategies for cross-border trade, some tourism, small business linkages, and extends the value chain for agribusiness. This area has some of

the greatest tourism potential with Tiwai Island as an attraction and several other potential ecotourism sites. Agro-processing in cocoa and coffee can add significant value, particularly as an export. The region is the site of many schools and universities, which will be invaluable in developing the labour force, though more technical training is still necessary. Other competitive industries are wood, palm oil, rubber and diamonds.

The fieldwork conducted separately for this report in effect corroborates the growth pole definitions above. One spatial corridor and two economic zones were identified in the fieldwork, as follows:

Northwest-to-Northeast Economic Corridor (NEC)

The Northwest-to-Northeast Economic Corridor (NEC) runs from southern Koinadugu and eastern Tonkolili District through Port Loko District to the Western Area. The corridor has significant mining activity and potential with deposits of gold, iron ore and bauxite. The area also has agricultural activity in rice, fruits, horticulture/vegetable gardening and sugar cane plantations.

The corridor is currently constrained by a number of factors, including a poor road network outside the main urban areas (particularly to the agricultural heartlands), limited availability of public electricity, a lack of high quality hotels and guesthouses, and limited accessibility to financial institutions and credit facilities for indigenous farmers and businesses. All of these constraints currently hold back the economic potential of the corridor.

To realise the full potential of the corridor, the feeder road system within the corridor would need to improve. Connectivity with economic centres to the north, east and south also need to be improved. Backward and forward linkages with the main industries (mining and agriculture) would also need to be significantly strengthened and improved, through for example a supplier development programme and contract farming (or out-growing farming) schemes. Future development phases of Bumbuna HEP should also be fast-tracked in order to add to the much needed electricity generation in the area. This would be complemented with the ADDAX BioEnergy and further HEP potentials in the corridor (Betma, Rokon and Bankasoko). Overall, this would yield a total power generation of 568.4MW.

Overall, increased investment in infrastructure (including transport), rationalised seaports at Freetown and an expanded Pepel port should bring about opportunities for increased employment and mineral and agricultural exports.

South Coastal Economic Zone (SEZ)

The South Coastal Economic Zone (SEZ) is less well defined but stretches from Shenge-Rotifunk to the Mano River on the border to Liberia, encompassing areas such as Moyamba, Bonth and Pujehun Districts. The corridor has significant natural resources, including, rutile, illuminant, bauxite, zircon, iron ore, diamonds and crude oil, and its agricultural products include rice, piassava, sugar, fruits, coconut plantations, palm oil, cassava, ginger, rubber and timber. It also has a fisheries industry.

Future opportunities include increased rutile and bauxite production, exploration of onshore and offshore crude oil and economic diversification through agro-processing (coconuts, palm oil, ginger, piassava, sugar, fruits, rubber, fishery and marine resources).

The economic potential of this area is severely limited by the lack of public electricity generation (0.5MW in Pujehun Town) and feeder roads (the exceptions being the operational areas of Sierra Rutile Ltd and Sierra Minerals Inc.). There are no hotels or standard guesthouses to serve the tourism industry and the public utilities are inadequate or non-existent even in the district headquarters. Connections with northern and eastern Sierra Leone are also unsatisfactory.

Realising the potential in this area would require substantial infrastructure investment, including:

- an integrated HEP project could also generate 149MW of electricity to support economic activities in the area;
- feeder roads to improve the efficiency of the agricultural sector;
- construction of the proposed highway linking Sierra Rutile mine and Rotifunk;
- an upgrade of the Nitti port and the old trading port in Bonthe;
- dredging of the Sherbro rivers and lagoons to facilitate ocean going vessels.

Support is also required to develop supplier development programmes and contract farming schemes. Hotels and guesthouses are also needed to capitalise on historical sites such as Bonthe and York Islands, game reserves around Bohol, good beaches (Turner’s Peninsula and Dema), excellent surfing facilities (Atlantic Ocean and Sherbro Rivers)

Eastern Economic Zone (EEZ)

The Eastern Economic Zone (EEZ) comprises the Eastern Province and Bo District. Like the other two economic growth poles, the EEZ has extensive natural resource reserves, including diamonds, gold, iron ore, tantalum, chromite, rutile, bauxite. Agriculture is also an important sector, with an abundance of timber, cocoa, coffee, palm oil and rice. Cassava, cashew nuts, rubber, bananas and plantains are also produced.

The economic importance of the EEZ has declined in recent years and suffers from particularly low productivity levels. Contributing factors to the low productivity levels include the poor interconnectivity within the EEZ (with the exception of the Bo-Kenema highway) and the limited power generation (11MW capacity but only 3.5MW generated due to outdated machinery). Following the civil war, many plantations have also been left unattended or poorly maintained, which has reduced overall yields. Public utilities are also underdeveloped. Despite its tourism potential through the game reserves of Kono, Kenema and Kailahun Districts, the beaches on the Moa River, the Gola Forest and Tiwailand, there are very few guesthouses and only four 2-star hotels (Bo City, Kenema City and Kailahun Town).

Notwithstanding these weaknesses and challenges, there is potential to reinvigorate the economy and exploit opportunities within agro-processing, manufacturing and tourism. This would, however, require investment in a number of areas, including:

- feeder roads needs to be upgraded and connected with the trans-regional highways;
- industrial, deep mining of diamonds and gold;
- a tarmac highway that connects the three eastern districts;
- resurfacing of the Kono-Tonkohili highway;
- creation of an Eastern Integrated Power Grid (EIPG) linking HEP potentials to generate 629.3MW of electricity (45% of the national HEP potential) – excess power to be released into national grid and/or exported to Guinea and Liberia.

The additional HEP potential provides the necessary power generation to support agro-processing industries and manufacturing of primary, secondary and tertiary products. Supplier development programmes, contract farming schemes and investment in science and technology would support this economic diversification process further.

As noted above, the area also has considerable tourism potential. However, in order to serve the potential tourism market, the hotel and guesthouse offer in the zone would need to be extended and improved, particularly in the District headquarters and the key urban centres in the zone.

The growth pole instrument, and specifically the three combined poles identified by the Office of the President, provides an overarching integrative instrument through which to consider implementation of the three objectives of the spatial strategy proposed here, to repeat:

- Improving national, regional and international connectivity
- Enhancing the social and economic role of provincial and district centres
- Strengthening Greater Freetown as a platform for national, regional and international trade and business.

Viewed the other way, the proposed spatial strategy (vision, concept, goals) provides an overarching national strategic framework in which to situate the growth pole mechanism, with emphasis placed on the potential and opportunities presented by existing human settlements, and notably the country's cities and towns. .

5 The Way Forward

A number of brief recommendations can be made on the way ahead:

- As further design work proceeds on the Sierra Leone Growth Pole Program, it is important that MLCPE, as the Ministry responsible for spatial and land use planning, participate fully in the formulation and implementation of the program as it gains further definition. This implies further development of MLCPE spatial planning institutional capacity and resources, to build on what has already been undertaken by the Urban Planning project
- This report, conducted under the auspices of MLCPE, has been researched and written as per the TOR in order “to contribute to start a process of definition of a National Spatial/Territorial Development Plan.” It thus represents a starting point rather than ending point, and further work on the National Spatial Development Plan should certainly be carried out by MLCPE, as harmonised with the Growth Pole Program above. This work on the National Spatial Development Plan needs to be undertaken on a bigger scale. The Urban Planning Project has established a relationship with the Land Administration Project (LAP) in Ghana, and specifically with the Town and Country Planning Department (TCPD) which falls within the Ministry of Environment, Science and Technology. Under LAP’s second phase, TCPD is currently leading the Formulation of the National Spatial Development Framework (NSDF) project, which is an 18 month project with an input of 105 person months, involving both national and international consultants.

Development priorities from the perspective of the local authorities

Development priorities from the perspective of the local authorities

No.	District	Development Priorities	
		Development Plan	Interview with Local Authorities
1	Port Loko	<ol style="list-style-type: none"> 1. Construction of a Standard Football Field (Mini Stadium) in Port Loko Town 2. The construction of Social Welfare Gender and Children's Affairs Office in Port Loko town 3. Construction of Bridge at Robunth in Masimera chiefdom. 4. Construction of small ruminant shed for ABC's five shed. 5. Completion of poultry at Loko Masama 6. Rehabilitation and development of inland valley swamps. 7. Establishment of 10 acres of swamp for youth employment in the district (Maforki Chiefdom) 8. Rehabilitation of 250.6km feeder roads. 9. Rehabilitation of portable water system in Port Loko. 10. Improve basic education. 	<ol style="list-style-type: none"> 1. Strengthening of the health service delivery system 2. Mining companies to increase employment of youths 3. Creation of an industrial corridor from Lungi to Port Loko 4. Raising productivity in local food production and value addition in agricultural products 5. Location of African Minerals Ltd. Co. head-quarters in Port Loko Town and Ferengbaia. 6. Bauxite mining to start at Rokom. 7. Construction and rehabilitation of feeder and trunk roads for the population in remote areas to access medical facilities, schools and agricultural markets in urban areas 8. Rural hand dug wells and urban pipe-borne water systems
2	Bombali	<p>Social Sector</p> <ol style="list-style-type: none"> 1. Primary and tertiary healthcare 2. Pre-primary, primary and junior secondary education 3. Water and sanitation 4. Social welfare 5. Youth and sports 6. Solid waste management <p>Social Infrastructure</p> <ol style="list-style-type: none"> 1. Roads, culverts and bridges 2. Community centres 3. Community stores 4. Recreational centres 5. Parks 6. Cemetery 7. Market 8. Mini stadium <p>Productive Sector</p> <ol style="list-style-type: none"> 1. Agriculture 2. Trade and commerce 3. Micro-finance 	<p>Social Sector</p> <ol style="list-style-type: none"> 1. Strengthening health care and referrals 2. Education; especially science education 3. Water and sanitation 4. Family tracing and reintegration 5. Youth training and employment 6. Solid waste dumping <p>Social Infrastructure</p> <ol style="list-style-type: none"> 1. Urban and rural road development 2. Decongestion of city centre of Makeni – new suburbia development 3. Social amenities; toilets, youth training centres, markets 4. Combat forest fires <p>Productive Sector</p> <ol style="list-style-type: none"> 1. Food security and rural agriculture value chain addition – cash crops, live-stock/diaries 2. Building of markets
3	Tonkolili	<ol style="list-style-type: none"> 1. Infrastructure (Feeder and trunk roads, community centers and markets) 2. Education, science and technology 3. Quality, accessible and affordable health, water & sanitation services 4. Tourism 5. Diversify agriculture and improve food security by value addition 	<ol style="list-style-type: none"> 1. Road, electricity 2. Educational facilities 3. Water and health 4. Fisheries 5. Amalgamation of small holder farming and mechanisation

No.	District	Development Priorities	
		Development Plan	Interview with Local Authorities
		<ul style="list-style-type: none"> 6. Social Welfare, Gender and Children's Affairs 7. Youth, training, employment and sports 8. Strengthen administrative and financial management 	
4	Koinadugu	<ul style="list-style-type: none"> 1. Rehabilitation of trunk roads and 287km. feeder roads 2. Construction and refurbishment of schools 3. Agriculture – development of IVS, management of forest reserves, value chain addition, improve livestock supply 4. Improve accessibility to health, water and sanitation facilities 5. Shelter – low cost housing schemes 6. Enhance local governance and rule of law 7. Youth training, education and sports 8. Promote private sector-led growth 9. Promote eco-tourism 10. Exploration and mining 	<ul style="list-style-type: none"> 1. Feeder and trunk roads 2. Improve Council's revenue base; e.g., to benefit from gold mining 3. Agriculture – fruits, vegetables, cross-breeding livestock, rice, Irish potatoes, spices, etc., improve farm inputs 4. Water supply and HEP from Mongo River 5. Start mining of iron ore and crude oil 6. Good landscape and climate, mixed culture, to exploit potentials for tourism 7. Sensitize families to send girl children to school
5	Kambia	<ul style="list-style-type: none"> 1. Agriculture – food self-sufficiency and right to food 2. Infrastructure & feeder roads, mini stadium 3. Affordable, accessible basic education especially for girls 4. Safe water supply and clean environment 5. Effective primary healthcare system 6. Sound management & governance system 	<ul style="list-style-type: none"> 1. Mechanised agriculture value chain addition – cashew nut, salt processing, groundnut, cassava, oil palm, sugar cane, sea foods, pepper 2. Trade – transform Gbamo into an international market 3. Mining of bauxite and iron ore. Later crude oil 4. Safe water 5. Rehabilitate feeder roads & electricity 6. Build a Polytechnic 7. Improve primary healthcare
6	Kono	<ul style="list-style-type: none"> 1. Reduce illiteracy by affordable formal and informal education 2. Improve the health status of the population 3. Water and sanitation 4. Social protection of the vulnerable/excluded 5. Proper land management, affordable housing and sound mining and environmental protection 6. Roads, transport and communication 7. Increase and diversify food production 8. Improve internal and external trade 9. Industrialisation, job creation and youth employment 10. Improve resource mobilisation 	<ul style="list-style-type: none"> 1. Sustainable tourism, forestry and livestock 2. Improve cash crop (cocoa, coffee) and vegetable farming 3. Intra-city, feeder and trunk roads 4. Improve education especially science education 5. Tap Bikongor HEP 6. Improve revenue base 7. Agricultural value addition in pineapples, cocoa, coffee, plantains 8. Reclamation of mined out wastelands and stop to destructive mining practices by OCTEA 9. Diamond cutting and polishing and jewelry manufacturing factories 10. Police boarder to curb illegal activities

No.	District	Development Priorities	
		Development Plan	Interview with Local Authorities
7	Kenema	<ol style="list-style-type: none"> 1. Quality and affordable basic/tertiary education 2. Improve the health service delivery system 3. Construct rural hand pump water wells and urban pipe-borne water; improve sanitation and waste management 4. Implement the National Youth Policy 5. Social protection of vulnerable and excluded children 6. Empower women to become self-reliant in income generation 7. Increase agricultural productivity, post-harvest losses and value chain addition 8. Construct or tarmac intra-city roads and lorry parks and provide street lights; construct feeder roads with reduced curves and hills 	<ol style="list-style-type: none"> 1. Construction of safe city pipe-borne, gravity system water from the Kambui Hills 2. Intensive agriculture in the IVSs and vast expanses of arable land 3. Mining: sand in Moa River; stone in swamps 4. Five star hotel and tourism on beaches on the Moa, Maina and Tiwai Island 5. Largest Kimberlite dykes – diamonds; gold and iron ore mining 6. HEP generation – Bikongor, Njakudorma (lower Bambara) and Dodo (to be expanded) 7. Diamond processing and jewelry industries 8. Forest industries 9. Mega stadium and an international airport 10. University of the East with Faculty of Medicine campuses in Segbwema & Panguma & Gbeinkama 11. Agro-processing of cocoa, coffee, cashew nuts, fruits, rubber 12. Intra-city, feeder & trunk roads
8	Kailahun	<ol style="list-style-type: none"> 1. Enhance access to affordable quality health and sanitation delivery system 2. Improve access to quality and quantity basic education services 3. Social protection for physically and socially disadvantaged persons 4. Sustainable women and youth empowerment & training programmes 5. Construction of roads, lorry parks, bridges 6. Energy and safe water supplies 7. Rehabilitate international market at Koindu 8. Increase agricultural productivity for food security and export 9. Low cost housing schemes 	<ol style="list-style-type: none"> 1. HEP on the Moa River; prospects of solar energy 2. Mechanized rice cultivation 3. Gold and diamond mining 4. Timber products 5. Kenema-Koindu Mano River Union Highway 6. International market centre at Koindu 7. Branch campus of University of the East with French courses 8. Sustainable exploitation of the Gola Forest 9. Agro-processing of cash crops – bitter kola, kolanuts, cocoa, coffee, fruits, oil palm, cassava, cashew nuts,
9	Bo	<ol style="list-style-type: none"> 1. Enhancement of own source revenue – taxes from properties, gold and diamond mining 2. Rehabilitation of water facilities and provision of gravity water system 3. Rehabilitation, maintenance & construction of feeder roads 4. Improving primary healthcare 5. Increasing productivity of food, value addition and marketing of agricultural products 	<ol style="list-style-type: none"> 1. Intensive/mechanised agriculture – cassava, oil palm, cocoa, coffee, cashew nuts, yams, rice 2. Controlled mining of diamonds, gold, bauxite 3. Voc/Tech training & tertiary education (one campus of Njala University College) 4. Water resources for drinking, general use and irrigation 5. Feeder road development for market access

No.	District	Development Priorities	
		Development Plan	Interview with Local Authorities
		<ul style="list-style-type: none"> 6. Solid waste management in villages and towns 7. Improving basic education 8. Youth training and employment 9. Low cost housing 	<ul style="list-style-type: none"> 6. Centrality functions: services – insurance, financial, maintenance, legal, etc. 7. Industrialization – e.g., palm products into soaps, diesel fuel, body lotions/gels, etc. 8. Joint programming of District & City Councils in data issues (housing rate cadastral), waste management, collection of rates and dues, etc.
10	Pujehun	<ul style="list-style-type: none"> 1. Construction and rehabilitation of health facilities 2. Construction and rehabilitation of schools 3. Water and sanitation: Construction and rehabilitation of pipe borne water and hand pump wells 4. Youth employment, sports and recreation 5. Infrastructure – road, energy, economic, social infrastructure 6. Agriculture - fisheries, crop, forestry & livestock development 7. Mining of crude oil, 3rutile, diamonds 8. Tourism – coastal and riverine beaches, game reserves, etc. 9. Social protection of girl child mothers, excluded and vulnerable persons 	<ul style="list-style-type: none"> 1. Establishment of fish canning and rubber processing factories 2. Establishment of an oil refinery plant 3. Construction of the trans-West African Highway and a first class common boarder facility – guest houses, warehousing, markets 4. Develop tourism in Sulima, Tiwai Island & Bengani (Mano Sakrim) 5. Rehabilitate feeder roads 6. Tap HEP on the Moa and Mano Rivers 7. Establish a buoyant navy to monitor marine poachers and bring them to book
11	Moyamba	<ul style="list-style-type: none"> 1. Community centres 2. Feeder & trunk roads: rehabilitation 3. Basic education 4. Provision of health care 5. Support to increased agricultural productivity 6. Safe water supplies and sanitation 7. Mini Stadium 8. Housing sector 9. Gari processing & rice milling 10. Fishing: provision of gears and construction of canoes 	<ul style="list-style-type: none"> 1. Mining: rutile, zephyr, diamond, molybdenum, ruby, gold, zircon, crude oil 2. ARUL Company: To replicate rice packaging and exporting from Kori Chiefdom in other areas 3. Actualize the Singimi HEP in Bagruwa C/dom 4. Set up a polytechnic – MCH Aide Centre to a Nursing School and a new Teachers Training College as an expanded NUC off-centre campus 5. Mechanization of IVS 6. Utilities– piped water, electricity and telephone 7. Low cost housing scheme 8. Roads – trunk, feeder and city 9. Agro-processing of rice, fish, oil palm, fruits, rubber and cassava
12	Bonthe	<ul style="list-style-type: none"> 1. Diversify food production and attain food self-sufficiency in 2014 2. Energy and power supply 3. Build recreational facilities, community and market centres 4. Improve tourism 5. Improve revenue collection 6. Amenities: telecoms, safe water & sanita- 	<ul style="list-style-type: none"> 1. Marine resources: Sustainable exploitation & processing of aquatic reserves of lobsters, whales, prawns, sharks, crabs & fishes 2. Tourism: Bonthe City, Turner’s Peninsula and York – fine beaches & biodiversity 3. Intensive cultivation & export: oil palm, rice, coconut & piassava

No.	District	Development Priorities	
		Development Plan	Interview with Local Authorities
		<p>tion</p> <p>7. Trunk and feeder roads</p> <p>8. Sustainable exploitation and value addition of marine resources</p> <p>9. Institutionalise anti-sea poaching</p> <p>10. Improve health: provide resident medical officers and qualified nurses & health facilities</p> <p>11. Improve education & skills training of youths: provide resident trained and qualified teachers</p>	<p>4. Rehabilitate/dredge the port facilities at Bonthe and Niti</p> <p>5. Rehabilitate Bonthe Technical Training College as an expanded NUC off-centre campus</p> <p>6. Market access and mainland-island link: re-habilitate Bauya-Bendu Cha road & all feeder & trunk roads. Senehun-Mattru ferry to be replaced with a bridge</p> <p>7. Strengthen district health referral system & attract teachers and nurses</p> <p>8. Utilities: electricity, safe water & telecoms</p> <p>9. Joint development programming with Bonthe District Council</p> <p>10. Reconstruct a new airport</p> <p>11. Construct the Worlai Falls (Mattru) HEP</p> <p>12. 12. Strengthen local administrative organs</p> <p>13. Upgrade Mattru School of Nursing to B.Sc. level (NUC)</p> <p>14. Build community banks</p> <p>15. Improve revenue generation for councils</p>
13	Waterloo Rural		<p>1. Provision of safe water, electricity & telecoms</p> <p>2. Build intra-city and feeder roads</p> <p>3. Develop tourism</p> <p>4. Training in skills and entrepreneurship</p> <p>5. Food processing industry</p> <p>6. Transform Waterloo to a satellite town</p> <p>7. Partnership with city of Freetown: solid waste management</p> <p>8. Outsourcing revenue collection to private companies</p> <p>9. Improve education, especially secondary</p> <p>10. Improve environmental management</p> <p>11. Institute land reform</p>

Annex 2

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