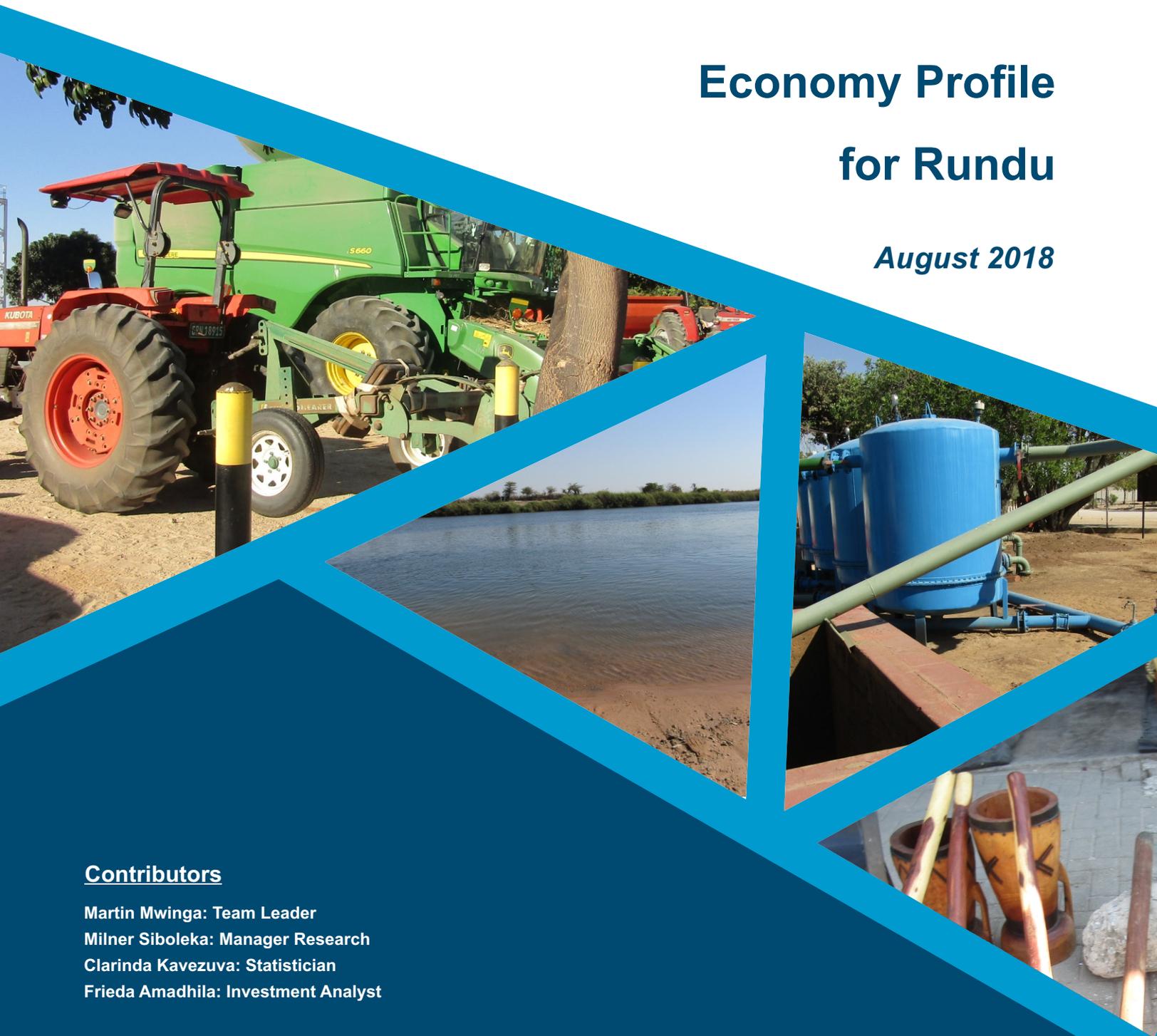




FIRST CAPITAL
TREASURY SOLUTIONS
(Pty) Limited

Economy Profile for Rundu

August 2018



Contributors

Martin Mwinga: Team Leader
Milner Siboleka: Manager Research
Clarinda Kavezuva: Statistician
Frieda Amadhila: Investment Analyst



CONTENTS

LIST OF TABLES.....	iv
ACRONYMS	iv
SECTION ONE: DEMOGRAPHIC, SOCIAL AND GEOGRAPHIC SITUATION	3
1. INTRODUCTION	3
2. POPULATION DEMOGRAPHICS	4
2.1. Population Trends.....	4
2.1.1. <i>Rundu Population Trend</i>	4
2.1.2. <i>Population Comparisons by town</i>	5
2.2. Trend of Population Growth.....	6
2.3. Population Age Distribution.....	6
3.1. Land Size	8
3.2. Population Density.....	8
4. UNEMPLOYMENT LEVELS	10
4.1. Labour Force Population in Rundu	10
4.2. Employment level	10
4.3. Formal and Informal Employment Situation	11
4.4. Unemployment Situation	11
SECTION TWO: ECONOMIC ANALYSIS BY SECTORS.....	12
5. PRIMARY SECTOR ACTIVITIES	12
5.1. Agriculture Activities.....	12
5.1.1. <i>Crop Farming Activities</i>	12
5.1.2. <i>Does the Kavango East region hold competitive advantage of Crop farming?</i>	15
5.1.3. <i>Vegetables farming activities</i>	15
5.1.4. <i>Challenges faced by farmers in Kavango East</i>	15
5.1.5. <i>Livestock Farming Activities</i>	17
5.1.6. <i>Livestock Markets</i>	17
5.1.7. <i>Wildlife animals' farming</i>	18
5.1.8. <i>Fish Farming and Fish Feed Production</i>	18
5.1.9. <i>Rainfall Patterns</i>	18
5.1.10. <i>Temperature Patterns</i>	20
5.1.11. <i>Soil Types</i>	20
5.2. Mining and Quarrying Activities.....	21
5.2.1. <i>Mineral Mining Activities</i>	21
5.2.2. <i>Quarrying Activities</i>	22
6. INDUSRY SECTOR ACTIVITIES	24
6.1. Manufacturing and Processing Activities.....	24
6.2. Electricity Supply	24
6.2.1. <i>Access to Electricity</i>	24
6.2.2. <i>Electricity Usage</i>	24
6.2.3. <i>The cost of Electricity</i>	25
6.2.4. <i>Simulation of electricity cost burden on households</i>	26
6.3. Water Supply.....	26
6.4. Water Consumption.....	26
6.4.1. <i>Access to Tap Water</i>	26
6.4.2. <i>Price of Water</i>	26
6.5. Construction Activities.....	27
6.5.1. <i>Residential Building Plans</i>	27
6.5.2. <i>Businesses building plan</i>	28
6.5.3. <i>Price of Land by Location</i>	28

6.5.4. List of major Government expenditure projects in Rundu.....	29
7. SERVICES SECTOR ACTIVITIES.....	31
6.1. Educational Services.....	31
6.1.1. Access to Education.....	31
6.1.2. Number of Learners in the Region.....	31
6.1.3. Learner to Teacher Ratio.....	32
6.1.4. Cost to Educate a Learner.....	33
6.1.5. Education Budget Allocation by Region.....	33
6.1.6. Budget allocation For Kavango East.....	34
6.1.7. Access to Tertiary Education.....	35
6.1.8. Demand for University Enrollment.....	35
6.1.9. Demand for Vocational and College Training.....	36
6.1.10. Literacy Rate.....	36
6.2. Health Services.....	37
6.2.1. National Situation.....	37
6.2.2. Situation in Rundu.....	37
6.2.3. Chronic Diseases Prevalence by Region.....	38
6.3. Security Services.....	38
6.4. Government Administrative Services.....	39
6.5. The Cost of using local recreational facilities.....	39
6.6. Financial Services.....	40
6.6.1. Banking services.....	40
6.6.2. Non-Banking services.....	41
6.7. Tourism and Hospitality Services.....	41
6.8. Transport Services.....	42
6.8.1. Travelling Services.....	42
6.8.2. Road Network.....	42
6.8.3. Number of Cars registered by town.....	42
6.8.4. Rail Infrastructure.....	45
6.8.5. Harbours.....	45
6.8.6. Air Network.....	45
6.9. Information and Communication Services.....	45
6.9.1. Radio and Television Access and Infrastructure.....	46
6.9.2. Telecommunication Access and Infrastructure.....	46
SECTION 3: HUMAN DEVELOPMENT.....	48
7. SOURCES OF INCOME.....	48
8. POVERTY INCIDENCE.....	48
9. HOUSING SITUATION.....	49
9.1. Housing Delivery.....	49
9.1.1. Supply of Houses in Rundu.....	50
9.1.2. Demand for Houses.....	51
SECTION 4: NATIONAL INFRASTRUCTURE PROJECTS.....	52
10. INFRASTRUCTURE DEVELOPMENT.....	52
10.1. Government Expenditure by Region.....	52
10.2. Top Programs of National Government Expenditure.....	53
10.3. List of Major Government Expenditure Projects.....	53
CONCLUSION.....	55
ABOUT US.....	56

LIST OF FIGURES

Figure 1: Population trend over time	4
Figure 2: Rundu Population share trend	5
Figure 3: Population comparison of Rundu	5
Figure 4: Average Population Growth rate (Urban vs. Rural)	6
Figure 5: Median Age of Population	7
Figure 6: Population Age Distribution	7
Figure 7: Area Size	8
Figure 8: Population Density	9
Figure 9: Labour Force Size	10
Figure 10: Rundu Labour market statistics	10
Figure 11: Informal employment by region	11
Figure 12: Size of Households engaged in Agricultural Farming	12
Figure 13: Maize output by farm	13
Figure 14: Wheat Production by Farm	14
Figure 15: Namibia Rainfall Patterns	19
Figure 16: Annual Rainfall trend over the past 7 years	19
Figure 17: Rundu Average Temperature	20
Figure 18: Soil types in Namibia	21
Figure 19: Mineral Deposits in Namibia	22
Figure 20: Building Material Prices	23
Figure 21: Average usage of Electricity	25
Figure 22: Electricity Charges	25
Figure 23: Rundu Water Charges	27
Figure 24: Residential building plans	27
Figure 25: Business building plans charges	28
Figure 26: Prices of land in Rundu	29
Figure 27: Number of learners in the region	32
Figure 28: Learner to Teacher Ratio	32
Figure 29: Cost to Educate a Learner	33
Figure 30: Education budget allocation by region	34
Figure 31: Budget Allocations	34
Figure 32: Demand for University	35
Figure 33: demand from vocational and college training	36
Figure 34: Population Literacy Rate	37
Figure 35: Population of people suffering from chronic diseases	38
Figure 36: Vehicles registered by area in Namibia	43
Figure 37: The Growth of Vehicles registered by area in Namibia	43
Figure 38: The ratio of vehicles registered per population comparison	44
Figure 39: The trend of Cars registered in Rundu vs. Namibia	44
Figure 40: Households Owning Communication Devices	46
Figure 41: Main Sources of Income	48
Figure 42: Poverty Incidence	49
Figure 43: Types of Houses for Households	50
Figure 44: Supply of Houses in Rundu	50
Figure 45: Demand of Houses in Rundu	51
Figure 46: 2018/19-2020/21 MTEF Capital Expenditures by Area	52
Figure 47: 2018/19-2020/21 MTEF Capital Expenditures by Program	53

LIST OF TABLES

Table 1: List of Major Capital Expenditures in Rundu	30
Table 2: costs of recreational facilities	40
Table 3: List of Government's Major Capital Expenditures	54

ACRONYMS

AMTA	: Agro Marketing and Trade Agency
ATM	: Auto Teller Machine
FC	: First Capital
GIPF	: Government Institutions Pension Fund
GMO	: Genetic Modification
GRN	: Government of the Republic of Namibia
Kg	: Kilogram
KM	: Kilometers
KWh	: Kilowatt Hours
LFPR	: Labour Force Participation Rate
mm	: Millimeters
MoE	: Ministry of Education
MoF	: Ministry of Finance
MoHSS	: Ministry of Health and Social Services
MTC	: Mobile Telecommunications
MTEF	: Medium Term Expenditure Framework
MWh	: Megawatt Hours
NBC	: Namibia Broadcasting Corporation
NHIES	: National Household Income & Expenditure Survey
NORED	: Northern Regional Electricity Distributor Company
NSA	: Namibia Statistics Agency
N\$: Namibian Dollar
RTC	: Rundu Town Council
Sq. KM	: Square Kilometers
TN	: Telecom Namibia
UNAM	: University of Namibia
WHO	: World Health Organisation

NOTE TO THE READER

We welcome you to this research publication of the Rundu economy profile which is part of a series of our research publications on local and regional economic analysis. This research focuses on the geographical area of Rundu, the population, economic activities as well as the potentials of the town's economy. We recognize that the country's economy is made of a combination of what every region provides, and, in these reports, we take stock of what each region provides to the national economy as well as potentials that can be utilized to enhance economic activities. This report extensively uses amongst others primary data obtained through First Capital surveys, secondary data from national document sources and information from respective stakeholders. Using our research capacity, we extensively analyze and present scenarios to every conclusion we make. Using current information and other leading indicators, we also present our view on the likely scenarios for the short to medium term outlook.

ACKNOWLEDGEMENT

We thank the Local and Regional Authority (Town Council & Regional Council respectively) for their support in providing information which was useful in this report. We equally thank all local private sector companies that took time to provide us with information of how they contribute to the economy of the town. Our gratitude is equally extended to all residents of Rundu and Kavango East region in general for speaking to our research team and taking time to share their experiences. We also thank all offices that were consulted at the national level to provide us with information. Finally, we are thankful to the government bureaucracy for the system which makes it possible to access the needed information from respective offices though the window for improvement exists.

RUNDU LOCAL ECONOMY AT GLANCE

RUNDU STATISTICS	
Population (2018 est.)	85,700
Annual Population Growth	5.40%
Median Age of Population	19
Area	164.1 Square Kilometers
Population Density	1,889 persons per sq. KM
Proportion of Population using public Health Services	88%
Admission capacity for Public & Private Hospitals	300 Beds for Public Hospital & 26 Beds for Private Hospital
Number of Doctors	25 Doctors in Public Hospital, 7 Private Hospital, 9 Consulting Doctors
Ratio of Public Medical Doctors per Population	5,144
Ratio of Private Medical doctors per Population	2,505
School Going Population in Kavango East region	56,152 or 38% of Total Population
Number of Public Schools	13 Primary, 10 Secondary & 3 Combined School
Number of Private Schools	4 Secondary Schools
Number of Schools with Hostel Accommodation	1 Primary Government School, 2 Secondary Government Schools & 4 Private Secondary Schools
Learner to Teacher Ratio	25
Grade 10 & 12 Pass Rate	55% and 39% respectively
Literacy Rate	95%
Unemployment Rate	40%
Proportion of Households farming Livestock	23%
Proportion of Households farming Crops	53%
Number of Cattle in Kavango East region	77,090
Number of Goats in Kavango East region	30,161
Average number of Cattle per farmer	20
Average number of Goats per farmer	12
Average Annual Rainfall	580 mm
Average Day Temperature Range	15 to 28 degree celcius
Estimated Annual Maize Crop output	19,800 tonnes
Estimated Annual Wheat Crop output	8,000 tonnes
Estimated Annual Barley Crop output	1,500 tonnes
Average Cost of Electricity (Pre-Paid Residential)	N\$2.12 per KWH
Rundu's Water Consumption	496,000 cubic meters
Average Cost of Water (Residential Customers)	N\$58.94 Basic Charge plus N\$12.94 per Kilo Litre of 1-15 Kilo Litres Monthly Water Usage

Statistics Continued	
Average Cost of Water (Businesses)	N\$112.13 Basic Charge plus N\$12.94 per Kilo Litre of 1-15 Kilo Litres Monthly Water Usage
Housing Stock	7,540
Housing Backlog (Rundu Town Council)	12,000
Average Land Price per square meter	Residential N\$35-N\$135 Business Plot (N\$65-N\$225)
Average Monthly demand for building bricks	183,000 bricks per month
Average Monthly demand for building sand	1,050 cubic meters per month
Average Cement Price (Both 42 & 32)	N\$114
Price of Sand	Retail Suppliers charge N\$1,300 per 6 cubic meters & Rundu Town Council charge N\$520 per 4 cubic meters
Price of Super Brick	N\$3.00
Cost of Food (Basket Comparison)	Cost in Rundu: N\$1,580; Cost in Windhoek: N\$1,240
Government Capital budget to the region (MTEF, 2018/19-2020/21)	N\$ 717 Million

Source: Various statistics and First Capital Survey

SECTION ONE: DEMOGRAPHIC, SOCIAL AND GEOGRAPHIC SITUATION

1. INTRODUCTION

The name Rundu comes from the word 'Ndundu', meaning a mountain or hill in Kavango native languages. Rundu, measuring 164.1 square kilometers, is an administrative capital for the Kavango East region. According to the 2011 National Census, Rundu had the second highest population (63,431) among all towns in the country following Windhoek with a population of 322,500. The town was founded in 1936 by the South African colonial government and have always served as an administrative centre for the Kavango region. The last labour force survey of 2016 estimated the unemployment rate in Kavango East region at 40 percent above the 33 percent national unemployment rate. As a frontier town, Rundu is the hub for trade and development in the north, especially with rebuilding efforts in Angola and the Trans-Caprivi highway that links the country and its main port in Walvis Bay to the rest of Africa. With its diverse cultures and people, many skills and talents are evident in the creativity of business activities in the town. On the western side, Kavango East region borders Kavango West region, on the south western direction it borders Otjozondjupa region, in the eastern direction is Zambezi region, in the northern direction is Angola while in the south eastern it borders Botswana. Its location connects the local economic hub of the region to the central and northern parts of the country which makes it a gateway town to the northern and central part of the country. Rundu is located 715 kilometers away from Windhoek the capital city of the country.

In this report, we will present the economic activities taking place in Rundu and the potential of the town's economy. The structure of the report is divided into four sections. The first section provides a situational analysis of its geography, demographic trends and labour market. The second section details the economic potentials of the town in terms of primary sector activities (Agricultural and Mining activities), Industry sector (Construction and Manufacturing activities), and Services sector activities (Education, Health Care, Water provisions and sanitation services, Financial, Tourism, Real estate, Transport network systems and services). The third section will present a summary of Human development situation and poverty incidence. The fourth summarizes major investments by government budgeted under the current MTEF period (2018/19- 2020/21). The last section draws conclusion on the research.

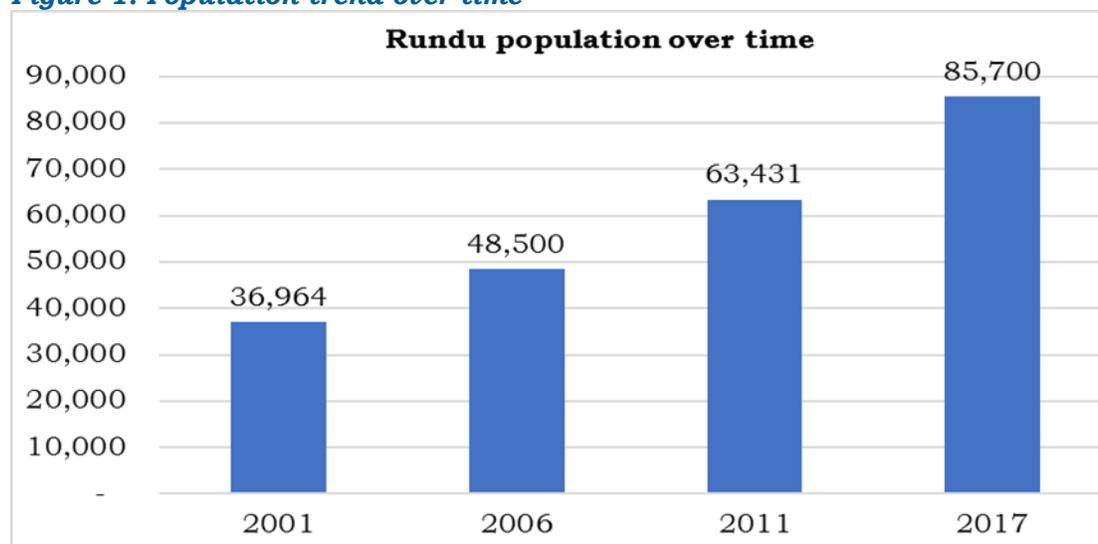
2. POPULATION DEMOGRAPHICS

2.1. Population Trends

2.1.1. Rundu Population Trend

Rundu's population is estimated at 63,431 residents excluding those living in nearby villages that are not part of the jurisdiction of the town, with an annual population growth of 5.4 percent (2011 National Census). Using the population growth of 5.4 percent per annum, we estimate the population of Rundu to have reached 85,700 in 2017. This represents an absolute population increase of 22,269 over a 6 years period between 2011 and 2017. The population is estimated to further increase by 4,700 to reach 90,000 in 2018.

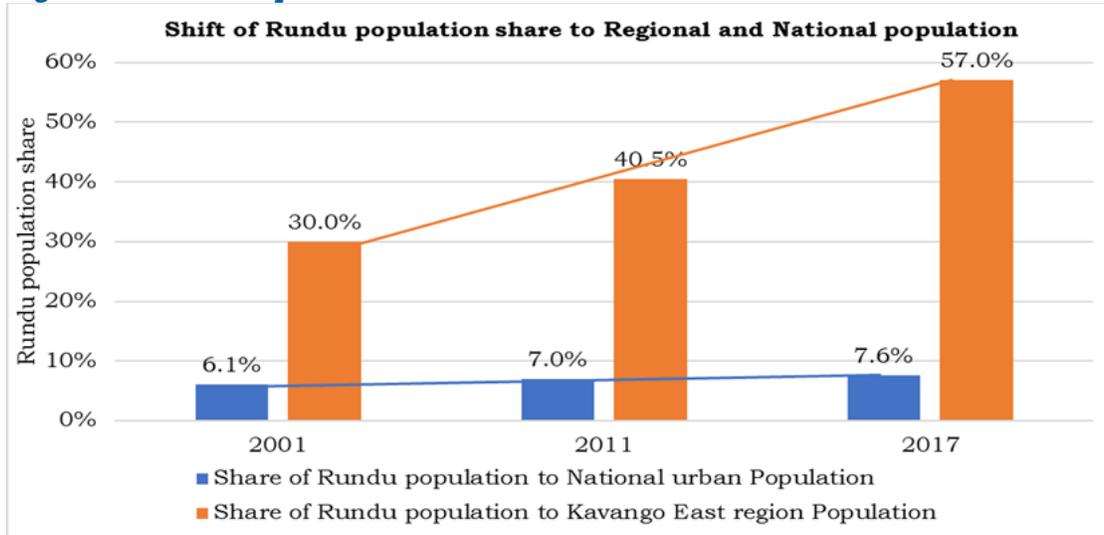
Figure 1: Population trend over time



Source: 2011 National Census & First Capital Calculations

At 5.4 percent population growth, Rundu's population is increasing at a rate much higher than both the national urban population mean growth (4.2 percent) and median growth (3.3 percent). As shown in figure 2 below, Rundu's population share to that of the region has increased from 30 percent in 2001 to 57 percent in 2016. Equally so, the Rundu town population share to the total urban population of all towns in the country has increased from 6.1 percent in 2001 and to 7.6 percent in 2016, indicating that Rundu's population growth is higher than the average national urban population growth.

Figure 2: Rundu Population share trend

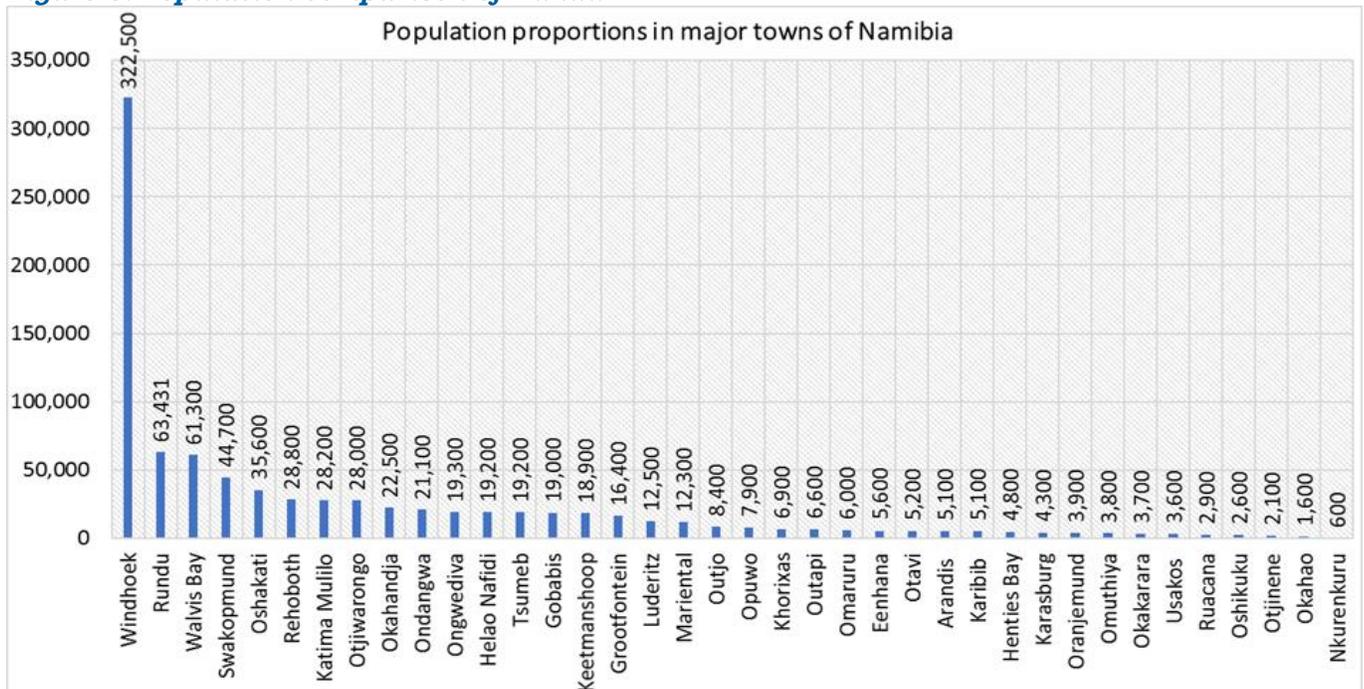


Source: 2011 National Census & First Capital Research

2.1.2. Population Comparisons by town

As shown in figure 3 below, Rundu has the second highest population among all urban towns after Windhoek. Rundu’s population of 63,431 is reflective of only those residing within the demarcated proclaimed boundaries of the town excluding those living in nearby villages that are not part of the jurisdiction of the town.

Figure 3: Population comparison of Rundu

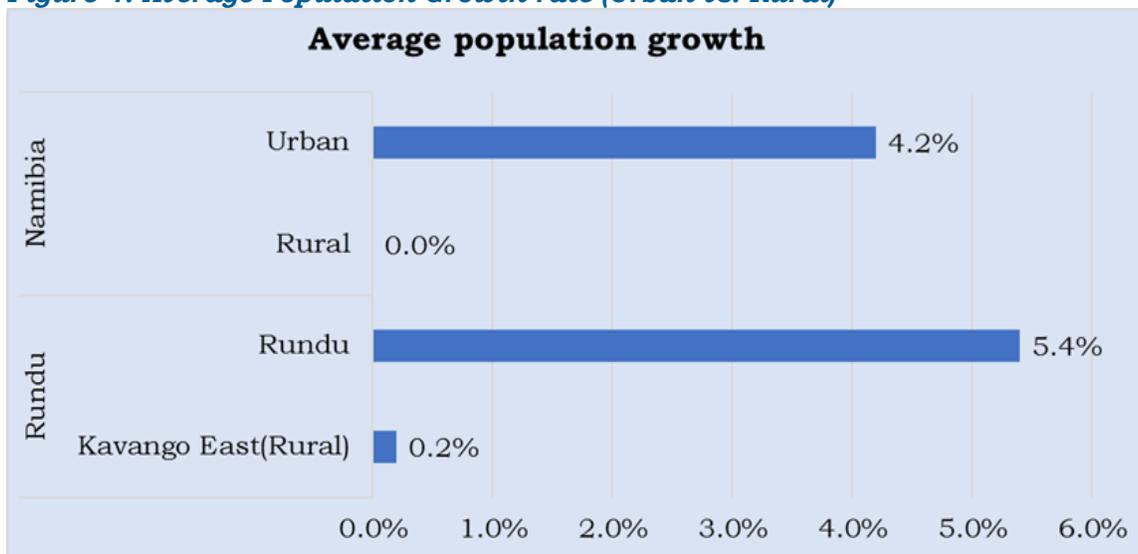


Source: 2011 National Census

2.2. Trend of Population Growth

Figure 4 compares the average population growth for Rundu and surrounding villages in the region with the national urban and rural population growth. The national urban population has been growing at an average growth of 4.2 percent relative to 5.4 percent population growth of Rundu. However, the national rural population has been stagnant between 2011 and 2016, a trend similar to that of Kavango East region population which has been growing at a marginal growth of 0.2 percent per annum. The rapid population growth in Rundu compared to rural areas in the region is similar across other regions in the country, a trend suggesting rapid urbanization.

Figure 4: Average Population Growth rate (Urban vs. Rural)

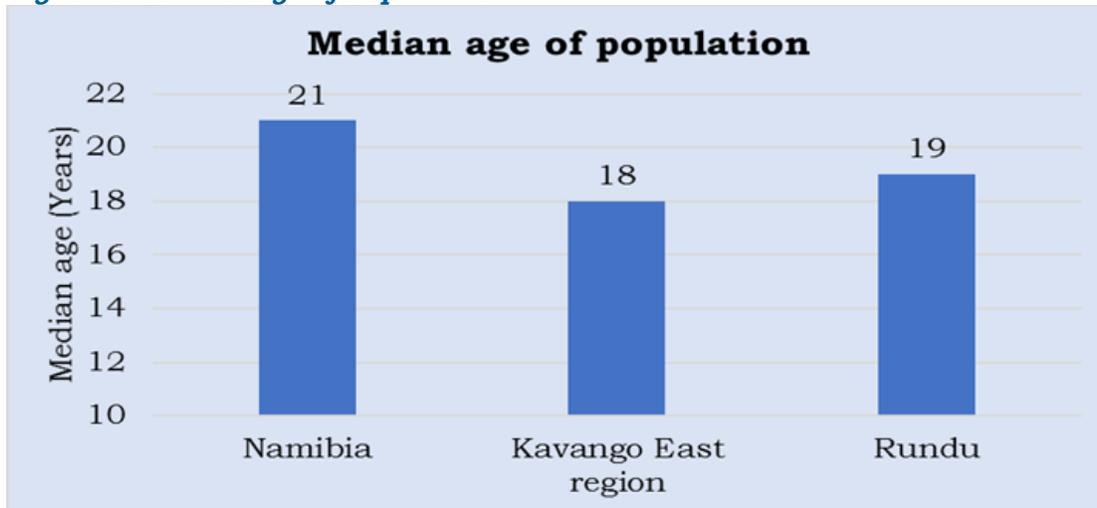


Source: 2015/16 NHIES & 2011 National Census

2.3. Population Age Distribution

Rundu has a median population age of 19 years, which is below the National median age of 21 years indicating that the population in Rundu is younger than the national average. The median population age of Rundu at 19 years is slightly above the region's median age of 18 years.

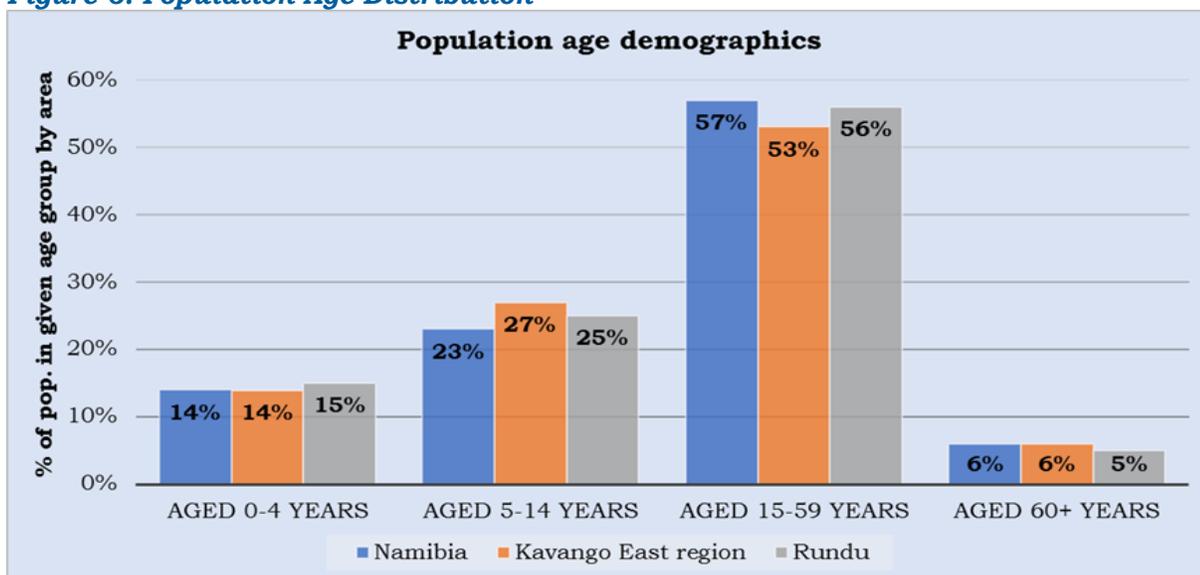
Figure 5: Median Age of Population



Source: 2015/16 NHIES & 2011 National Census

Figure 6 below shows a breakdown of the age distribution for Rundu in comparison to that of Kavango East region as well as the national distribution. Rundu’s population has a share of children aged below 4 years accounting for 15 percent of the total population as opposed to the 14 percent national share of this age group in the country. Furthermore, the population aged between 5 and 14 years accounts for 25 percent of Rundu’s population, while at the national level this age group accounts for 23 percent of total population. However, Rundu’s population remains much concentrated on the working age population which accounts for 56 percent of the total population.

Figure 6: Population Age Distribution



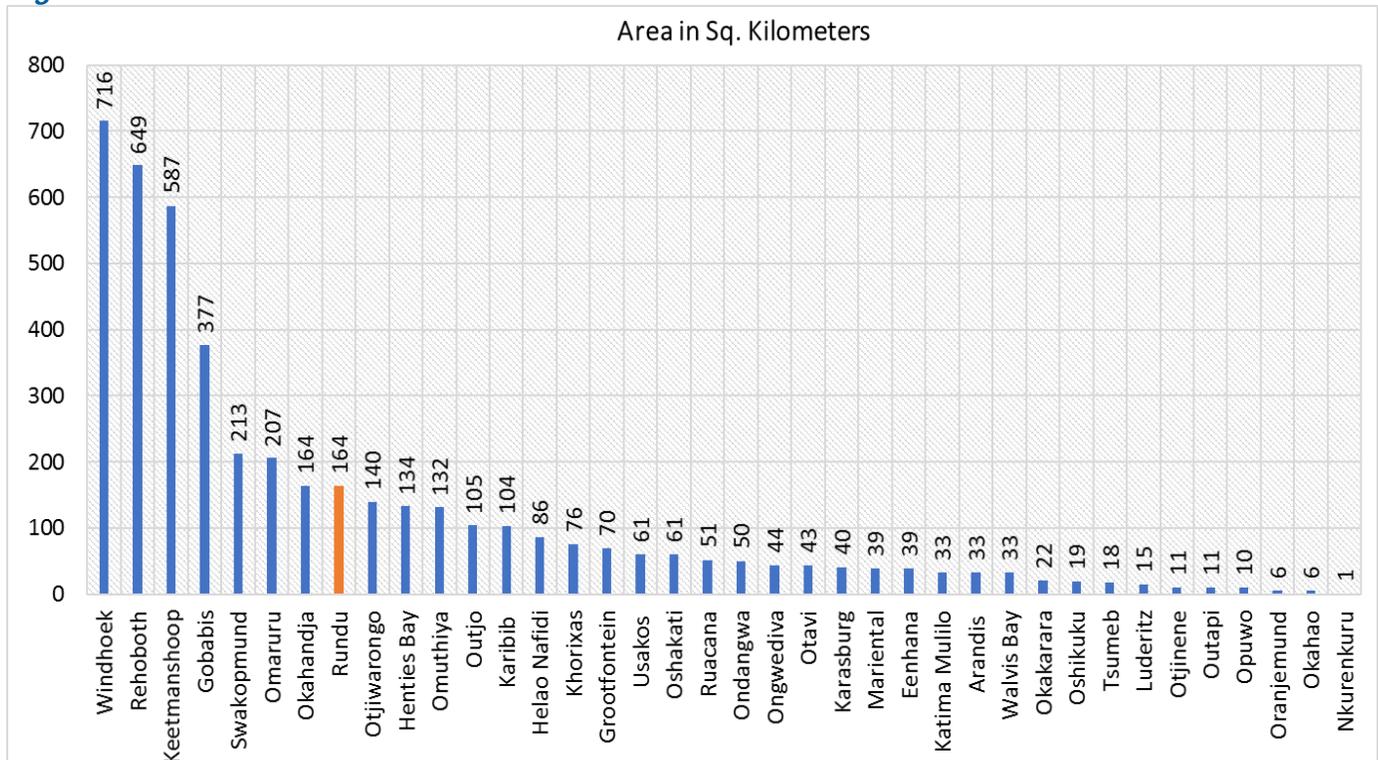
Source: 2015/16 NHIES, 2011 National Census & First Capital Research

3. GEOGRAPHIC AREA

3.1. Land Size

Figure 7 below shows the geographical sizes all urban areas in the country. Windhoek remains the largest of all urban areas in the country by geographical size measuring 716 square kilometers. Rundu has an area measuring 164.1 square kilometers making it the 8th largest town, with an equivalent geographical size to that of Okahandja (See figure 7).

Figure 7: Area Size



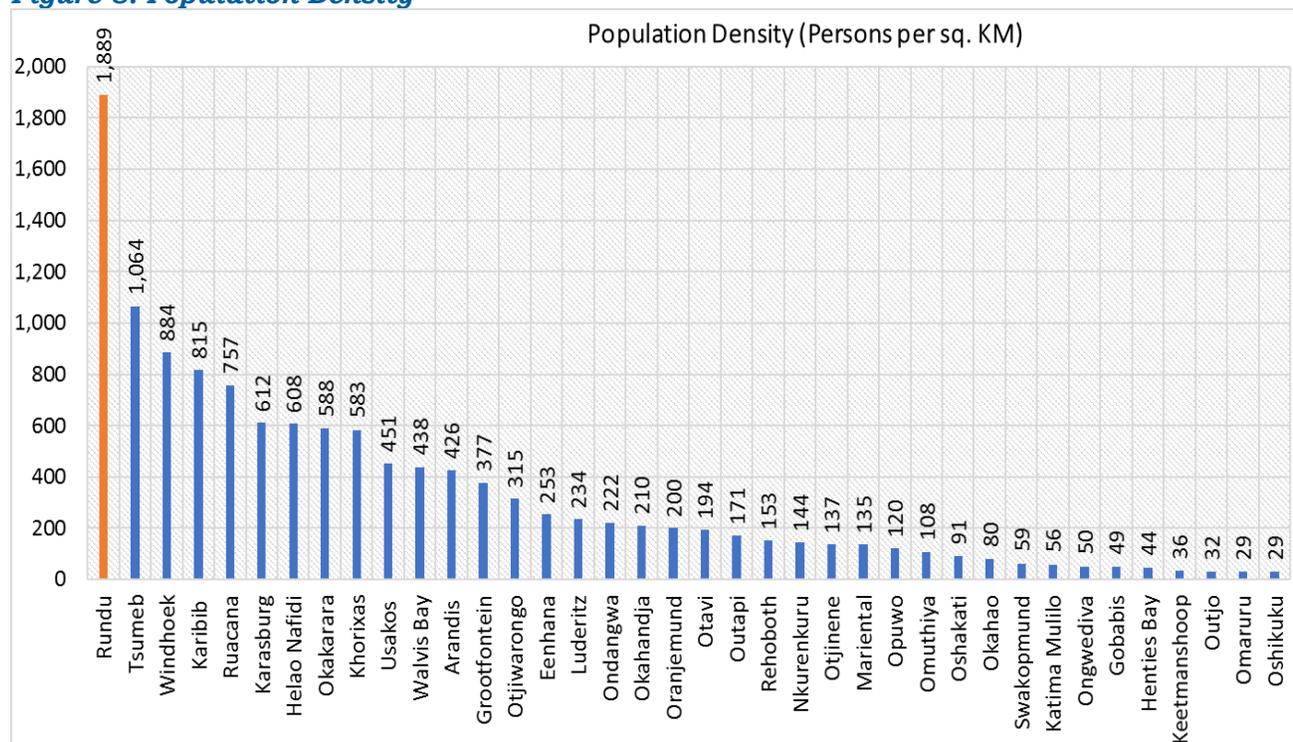
Source: 2011 National Census

3.2. Population Density

Population density of a country, town or any other place shows how crowded this place is, by dividing the population by the area which is expressed as ‘number of people per square kilometer’. Rundu has a population density of 1,189 persons per square kilometer (See figure 8 below). At 1,189 persons per square kilometer, Rundu remains the most densely populated town in the country. The national population density stands at 193 persons per square kilometer. However, the town’s high population density provides opportunities for increased economic activities.

As the town council continue to invest in acquiring land from surrounding villages, as well as the developments in the newly proclaimed towns of Nkurenkuru and Divundu, the population density is likely to decline. Central government needs to inject more funds and support Rundu Town Council (RTC) to acquire and service more land to meet the demand due to high population which is even growing at a faster rate.

Figure 8: Population Density



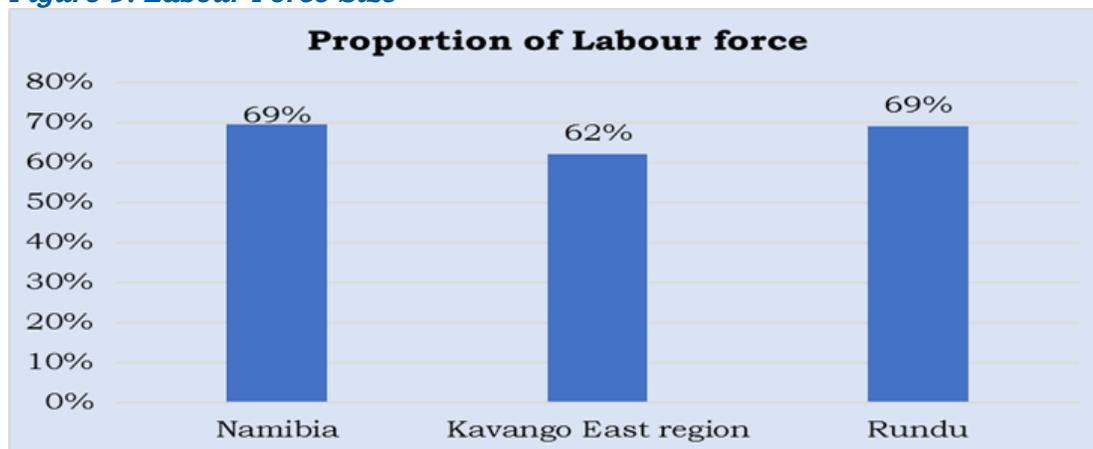
Source: 2011 National Census

4. UNEMPLOYMENT LEVELS

4.1. Labour Force Population in Rundu

This research estimates the labour force size for Rundu at 33,114, representing a Labour Force Participation Rate (LFPR) of 69 percent. Lower LFPR indicates high dependence rate which is not an ideal demographic situation for a country grappling with high poverty levels like Namibia. However, in the case of Rundu, low LFPR can be viewed as an opportunity since the dependent population or economically inactive are mainly composed of young school going population who are likely to benefit the local economy with better skills in future.

Figure 9: Labour Force Size

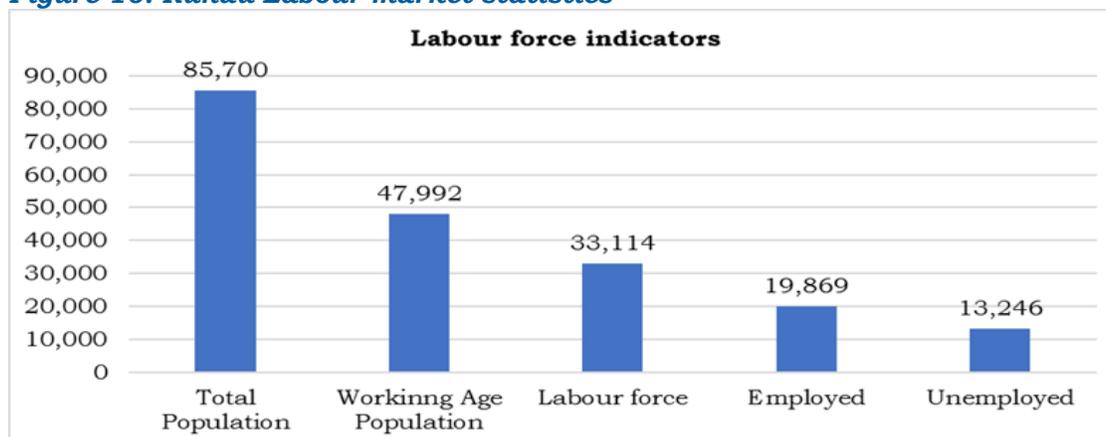


Source: 2015/16 NHIES, 2011 National Census & First Capital Research

4.2. Employment level

A total of 19,869 individuals are employed out of the labour force population of 33,114 (See figure 10 below). At this level 60 percent of the labour force in Rundu are employed.

Figure 10: Rundu Labour market statistics

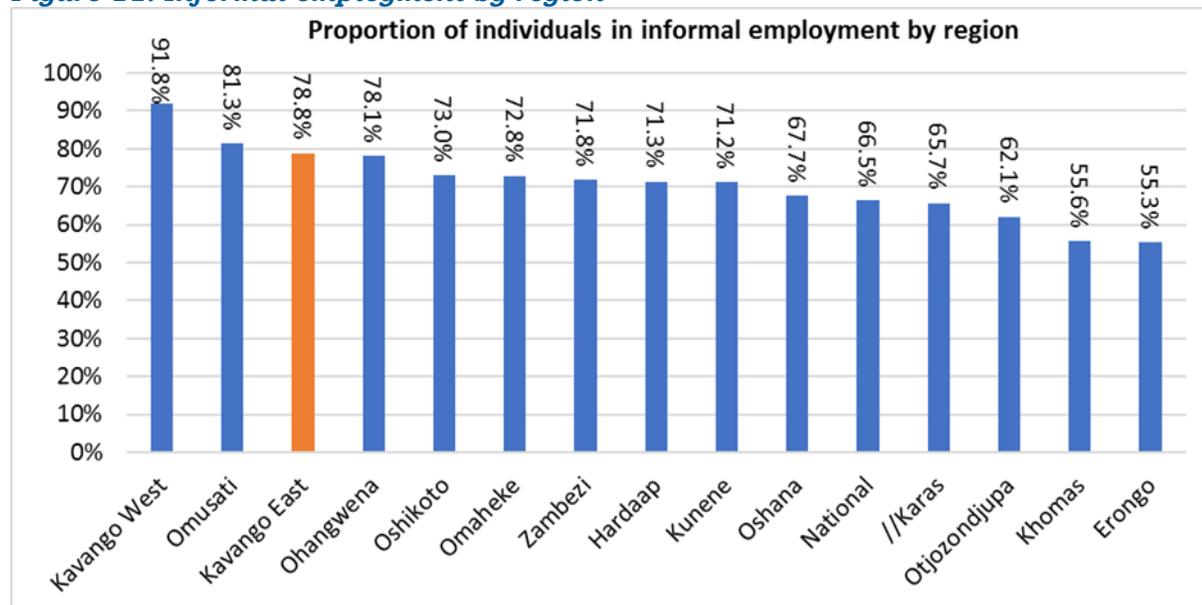


Source: First Capital Research findings triangulated with NSA data

4.3. Formal and Informal Employment Situation

The 2016 National Labour Force Survey classifies formal or informal employment based on whether the employee is provided with some form of social protection like pension scheme, medical aid and/or social security. Kavango East region has one of the highest levels of informal employment at 78.8 percent compared to the national informal employment proportion of 66.5 percent (see figure 11).

Figure 11: Informal employment by region



Source: NLFS 2016

4.4. Unemployment Situation

Out of total labour force composition of 33,114 in Rundu, we estimate about 13,246 individuals are without jobs. This translates to an unemployment rate of 40 percent. The 40 percent unemployment rate for Rundu is in line with the 40 percent unemployment rate derived in the 2011 National Census, though above the 34 percent national unemployment rate. Our research found that the rapid pace of development in Rundu is attributed to the unemployment situation not rising beyond the 40 percent estimated by the 2011 National Census, as jobs have been created mainly in agriculture, manufacturing, construction and wholesale retail sectors.

SECTION TWO: ECONOMIC ANALYSIS BY SECTORS

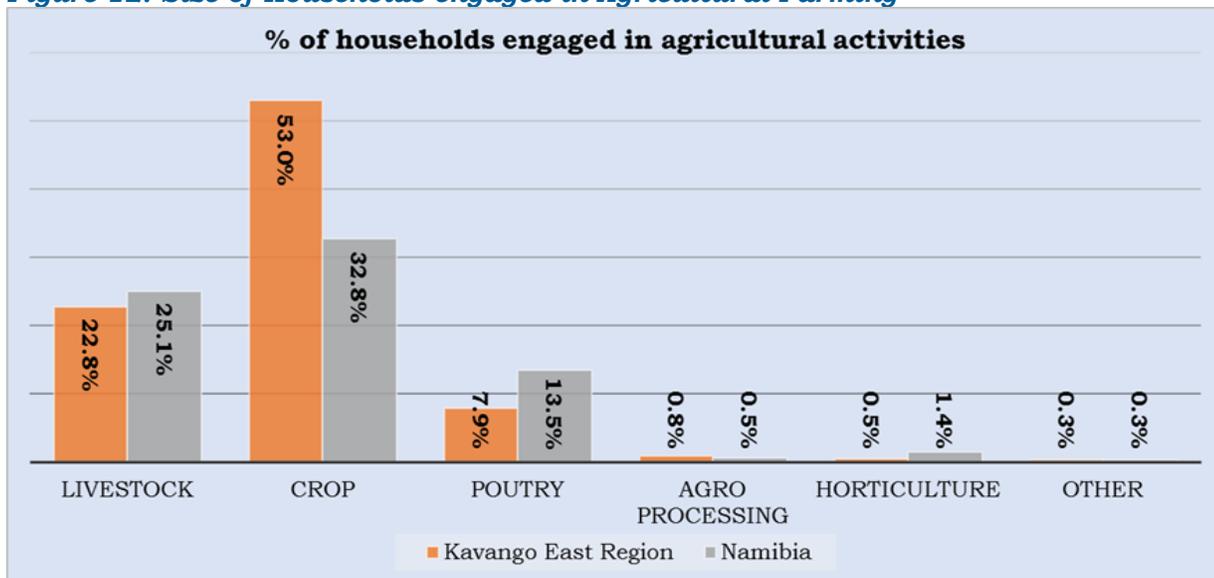
5. PRIMARY SECTOR ACTIVITIES

This section summarizes economic activities in the agricultural and mining sectors.

5.1. Agriculture Activities

Agricultural activities are common in Kavango East region mostly crop and livestock farming. A significant number of residents interviewed indicated to be involved in either one or most of the common agricultural activities as mentioned above. This is in line with the findings of the Household Income and Expenditure survey which found that most households or families living in the region were engaged in agricultural activities. According to the last census, 22.8 and 53 percent of households living in Kavango East region were engaged in livestock and crop farming activities respectively (See figure 12). Furthermore, only 7.8 percent of the region's households were engaged in poultry farming activities.

Figure 12: Size of Households engaged in Agricultural Farming



Source: 2015/16 NHIES, 2011 National Census & First Capital Research

5.1.1. Crop Farming Activities

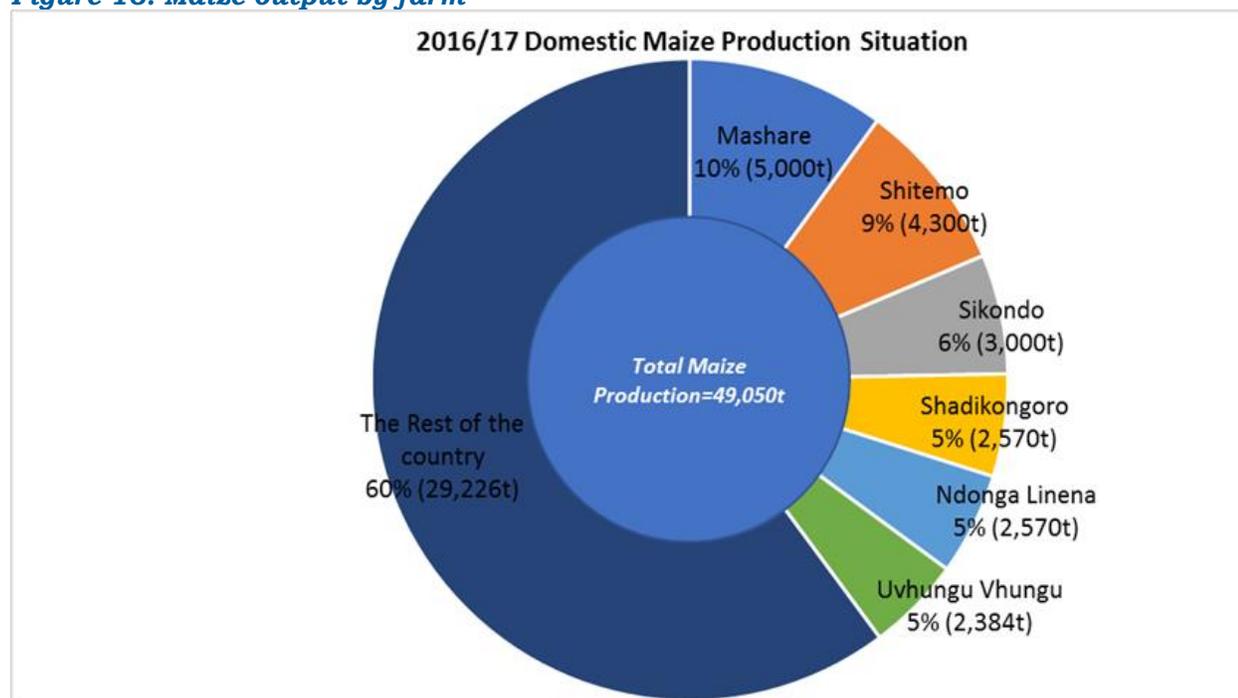
Crop production in Namibia is commonly practiced with the production of three controlled crops namely: Maize, Mahangu and Wheat. Crop and vegetable production require a good soil fertility, temperature and sufficient rain or water supply. Rundu and its surrounding rural areas is conducive for crop production due to its suitable soil type for crops, high rainfall, conducive weather conditions and its rich water resources.

The common crops produced in the region are wheat and maize while Mahangu production is only concentrated to communal farming. National rainfall records indicate that Rundu is classified as one of the areas with above average rainfall in the country. For example, over the past 5 years, Rundu received an average of 520 millimeters of rain per annum, which meets the minimum recommended 450 and 330 millimeters of rainfall for production of maize and Mahangu respectively, the commonly rain-fed crops in the country (see figure 14). However, the rainfall distribution throughout the growing season is a crucial determining factor to yields. In addition to the good rainfall pattern for Rundu, the perennial Okavango river is a source for irrigation water that is highly utilized in mostly commercial agricultural projects.

Maize Production

There are 6 Green Schemes in Kavango East Region, namely: Mashare, Ndonga Linena, Shadikongoro, Sikondo, Uvhungu Vhungu and Shitemo irrigation agricultural projects. The 6 Green Scheme farming projects in the region have a combined annual maize output of 19,824 tons equivalent to 40 percent of the national domestic maize production. Mashare, Shitemo and Sikondo farms produce the highest output of 5,000, 4,300 and 3,000 tons respectively per annum.

Figure 13: Maize output by farm

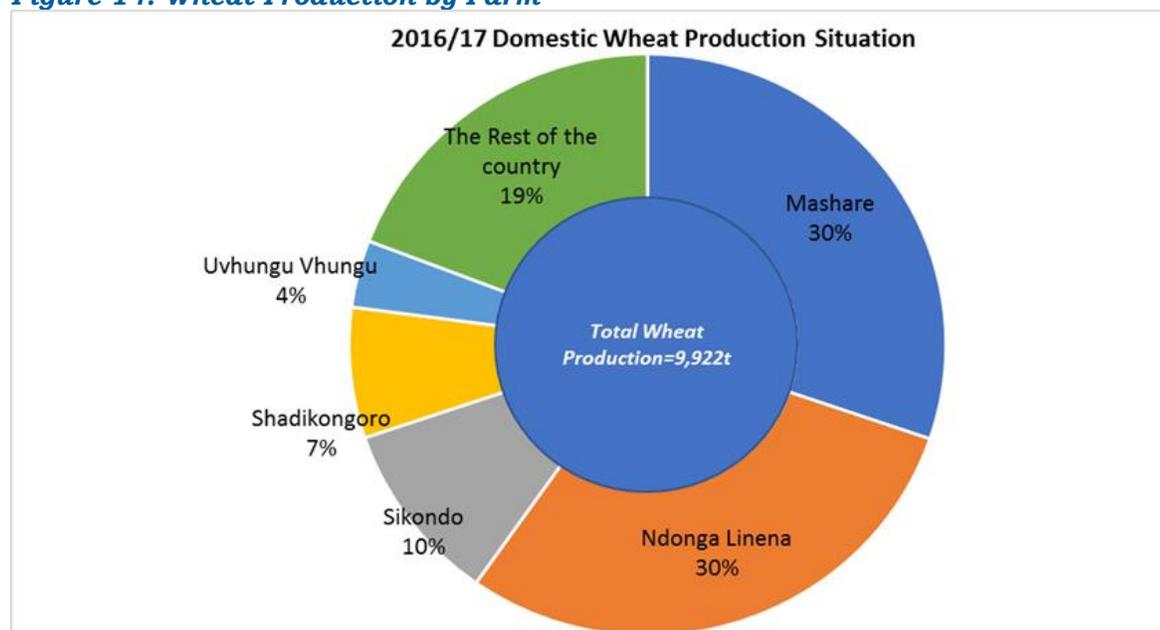


Source: First Capital Research from various sources

Wheat Production

The 6 Green Scheme farming projects in the region have a combined annual wheat output of 8,000 tons equivalent to 81 percent of the national domestic wheat production. Among all the farms, Mashare and Ndonga Linena farms produce the highest of 3,000 and 2,928 tons per annum respectively which is equivalent to 60 percent of the national domestic wheat production. Sikondo farms is the third largest producer of wheat with an output of 1,000 tons per annum (see figure 14 below).

Figure 14: Wheat Production by Farm



Source: First Capital Research from various sources

Barley Production

Two out of the 6 Green Scheme farming projects in the region produces barley which is used for production of beer. The two farms produce barley to Namib Breweries which is used to produce King Lager beer. Shadikongoro and Ndonga Linena's barley production add up to 1,490 tons of which 850 tons come from Ndonga Linena, while 640 tons come from Shadikongoro. Due to the mismatch between domestic production and demand for barley, most of barley used in the production of local beer is imported (40,000 tons per annum).

Sunflower Production

Shadikongoro is the only farm which produces sunflower on a dry land size of 61 hectares. The sunflower produced on the farm is processed into cooking oil which is sold to community

members in Kavango East region. Moreover, sunflower cake which remains after oil extraction can be used as a protein feed component for livestock feed.

5.1.2. Does the Kavango East region hold competitive advantage of Crop farming?

The 6 Green Schemes are strategically located along the Okavango river in the range of 5 km, which saves on sunk and operational costs of extracting water from the river. Moreover, Kavango East region is amongst the regions that receives the most rainfall in Namibia (which is a key factor in crop production requirements). The day temperature in Kavango East region ranging between 15 to 32 degree Celsius during summer is conducive for optimum crop production. Most of the people in Kavango East are traditionally exposed to communal crop farming, which provides them with basic skills to be employable at commercial farms. Due to high incidence levels of poverty in northern parts of the country where most of the population resides, Rundu's potential to be a production hub resonates well with the country's strategy on food security and employment creation.

5.1.3. Vegetables farming activities

Rundu has several communal vegetable farmers in addition to vegetable production on Green Scheme farm projects in the region, who produce vegetables mainly for both subsistence consumption and limited intra-town trade. Most commonly produced vegetables include potatoes, onions, cabbages, carrots, tomatoes, rape, green peppers, spinach, beetroot, butternuts, water melons and pumpkins. Uvhungu Vhungu irrigation project is currently the largest vegetable producer in the region.

5.1.4. Challenges faced by farmers in Kavango East

Most of the irrigation schemes face similar challenges such as high cost of electricity, access to capital due to lack of collateral and government subsidies, high transport and fuel costs, cash flow problems, high input costs (fertilizers, pesticides, seeds and herbicides), lack of storage facilities at the farms and cost of storage, army worms, lack of access to markets specific to vegetables, wheat price competition with international markets, wheat attacks by quelea birds and high sunk costs.

High Cost of Electricity: Irrigation schemes use electricity powered pumps to extract water from the river which costs on average about N\$ 700,000 per month for each green scheme.

Access to Capital: Small-scale farmers have guarantees from the government which help them to borrow fund while commercial farmers cannot borrow funds because they do not

have guarantees from the government. Moreover, farm managers highlighted that if they were subsidized by government it could assist them financially.

Transport and Fuel Costs: The farms use their own transport to transport grain and vegetables to their desired destinations which includes local millers and markets. Tractors is one of the required equipment in crop farming, with the ever-increasing fuel prices, farmers indicated how much of a high cost this is to them.

Cash Flow Problems: The major retailers for crop products from the farms are Namib and Omhalanga mills for maize and Bokomo for wheat. These millers process the payments for the grains once they mill the grains which can take months, and this creates cash flow problems due to the time lag before settlement. This also negatively affects day to day operations and planning for the next planting seasons of the farms.

High input costs (fertilizers, pesticides, seeds and herbicides): Most of the farms import their inputs from South Africa. Inputs are generally cheaper to import from South Africa than buying from local sellers of which farmers indicated as a challenge that is associated with the cost of importing.

Lack of Storage Facilities: Farms do not have enough silos on site which makes it hard for them to store large quantities of grain for a longer period which can compromise on grain quality. The largest buyers which is government have scaled down which has significantly affected the domestic market for grains. Furthermore, in the absence of government buying grain, the current millers do not have capacity to buy all produced stock at once shortly after harvesting which means farms should store grain until such a time they are bought.

The recurring outbreak of Army worm: Army worms are the most destructive pests in cereal crop farming. Over the past years army worm outbreak has been common on most of the crop producing farms which have significantly reduced the potential crop yields. To control and manage this outbreak farmers have been using pests' control and crop treatment which comes at a cost to farmers.

Access to Markets: AMTA used to be the major buyer alongside local millers, but the former has scaled down on buying grains from green schemes, which had a lasting impact on their

market. Equally so, vegetables produced from the local farms are struggling to meet requirements to be sold in local supermarkets.

Wheat Competition with International Market: The wheat market is open to foreign trade which makes it difficult for local producers to compete with South African and international markets. Our production input cost is very high compared to that of South African farmers who do enjoy low prices of seeds, fertilizers and electricity due to government subsidies as such South African crop products tend to be cheaper as compared to Namibian products.

High Sunk Costs: It takes a long time to recover sunk costs incurred during infrastructural developments. Farming requires large investments to set up physical infrastructure and to acquire farming equipment and machineries. As such, farmers find it difficult to invest due to high sunk costs.

5.1.5. Livestock Farming Activities

The most common livestock in Kavango East region includes cattle and goats. There are also few farmers who own sheep. Our estimation on the total stock of cattle and goats' livestock among communal farmers in Kavango East region is that there is an average of 20 cattle per cattle farmer and 12 goats per goat farmer, adding up to a total combined population of 77,090 and 30,161 cattle and goats respectively. The 77,090 stock of cattle in Kavango East region accounts to a share of 2.4 percent to the total national stock of 3,173,767 cattle country-wide while the 30,161 stock of goats' accounts to a share of 1.5 percent to the total national stock of 1,968,513.

5.1.6. Livestock Markets

There is no Rundu or Kavango East based abattoir. However, Meatco operates a mobile abattoir in the northern parts of the country including Rundu. This provides a platform for farmers around Kavango East to market their livestock to Meatco. However, there are also common intra-farmer transactions to increase the stock levels. Some community members are also buying livestock for meat consumption at household level and sometimes for special occasions like weddings and other celebration. Recently the demand for red meat has peaked due to increase in prevalence of weddings and other celebrations in the northern part of the country. A challenge still remains for northern farmers as they cannot access international markets due to Foot and Mouth Disease (FMD) regulations.

5.1.7. Wildlife animals' farming

Besides livestock farming, there are five wildlife farming conservancies within Kavango East region namely the Joseph Mbambangandu, Muduva Nyangana, George Mukoya, Shamungwa and Kapinga Kamwale Conservancies which have both direct and indirect benefits to the local economy of the region's administrative capital city. Our research finds that hospitality facilities in Rundu, retail shops, transport services, and banking institutions derive both direct and indirect benefits from economic and social benefits accruing from the conservancy tourism services. Most common wildlife species on these conservancies include; antelope, elephants, zebras, wild dogs, lions and leopards.

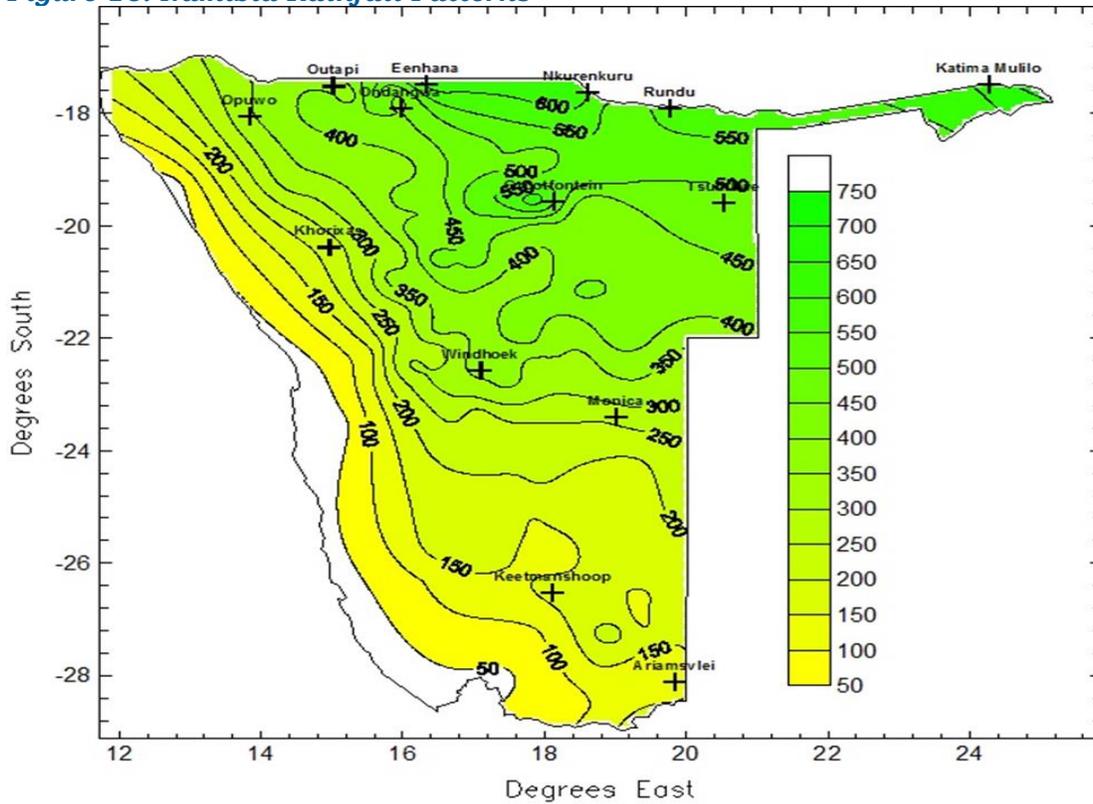
5.1.8. Fish Farming and Fish Feed Production

Kavango East region has seen potential in aquaculture (fish) production over the past years with the establishment of Kamushonga fish farm which was founded in 2008. The Kamushonga fish farm breeds fingerling species which are supplied to other fish farms which raise them up to a stage they are ready for consumption. The farm is also used as a research center for students who are majoring in aquaculture and marine biology where knowledge and skills are developed during the production of fish.

5.1.9. Rainfall Patterns

Rundu is one of the areas in the country classified to have above national average rainfall patterns. The Meteorological Service of Namibia classifies Rundu's average rainfall patterns in the range of 600 millimeters per annum which is double the national average of 300 millimeters of rainfall per annum. The map presented below under figure 15 shows the geographic patterns of rainfall in Namibia. Higher rainfall patterns are much more concentrated in the northern parts of the country including Rundu, while the coastal and southern parts of the country are classified as low rainfall pattern areas (*see figure 15 below*).

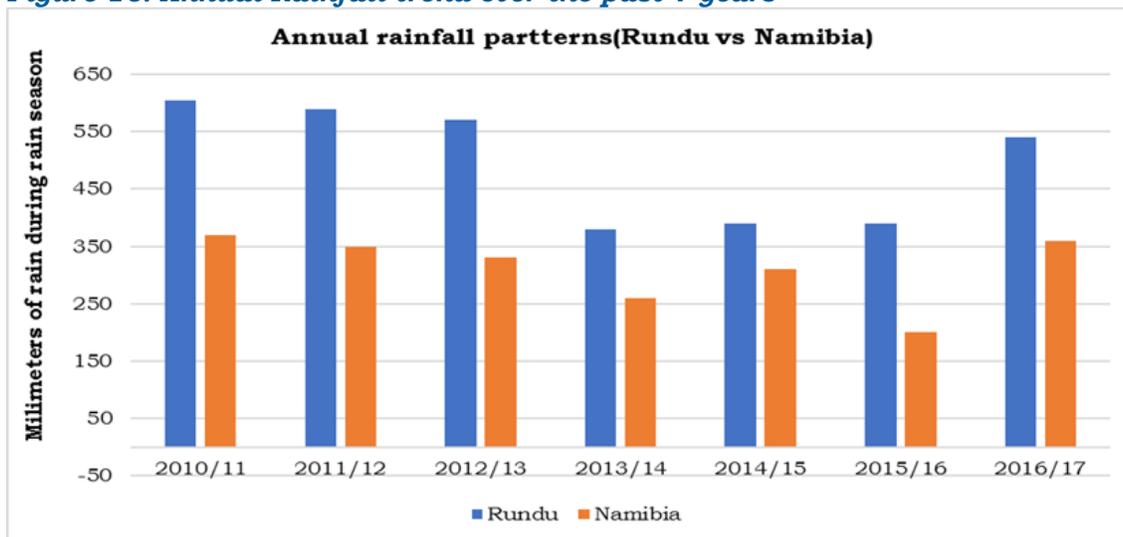
Figure 15: Namibia Rainfall Patterns



Source: Meteorological Service of Namibia

As shown in figure 16 below, on average rainfall received in Rundu over the past 7 years has been above the national average rainfall received. Over the past 7 years the year 2014/15 received the lowest rainfall compared to other years in Rundu a trend like most places across the country.

Figure 16: Annual Rainfall trend over the past 7 years

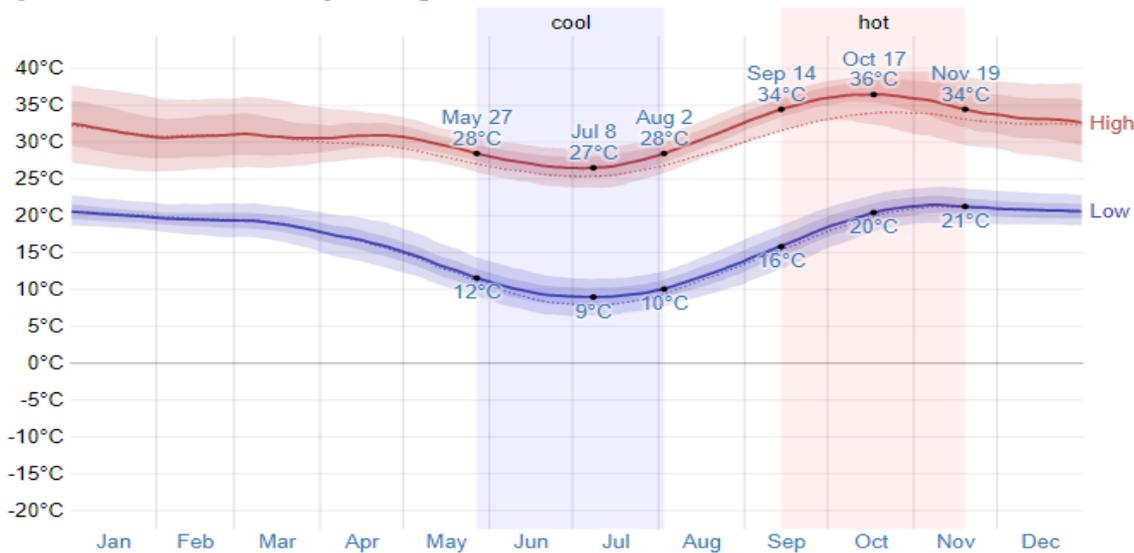


Source: Metrological Office of Namibia, calculation done by First Capital Research

5.1.10. Temperature Patterns

Most crops require temperature range of 15-28 degree Celsius during the day to ensure optimum growth and final yields. Temperatures above and below that can have a negative effect on crops at different stages of growth. Minimum temperature ranges at night should not go to freezing points since that will burn the plant tissues forcing some to dry and die. For Kavango East during hot seasons or summer, day temperature average is between 15-32 degree Celsius with some exceptionally very hot days reaching up to 37 degree Celsius.

Figure 17: Rundu Average Temperature

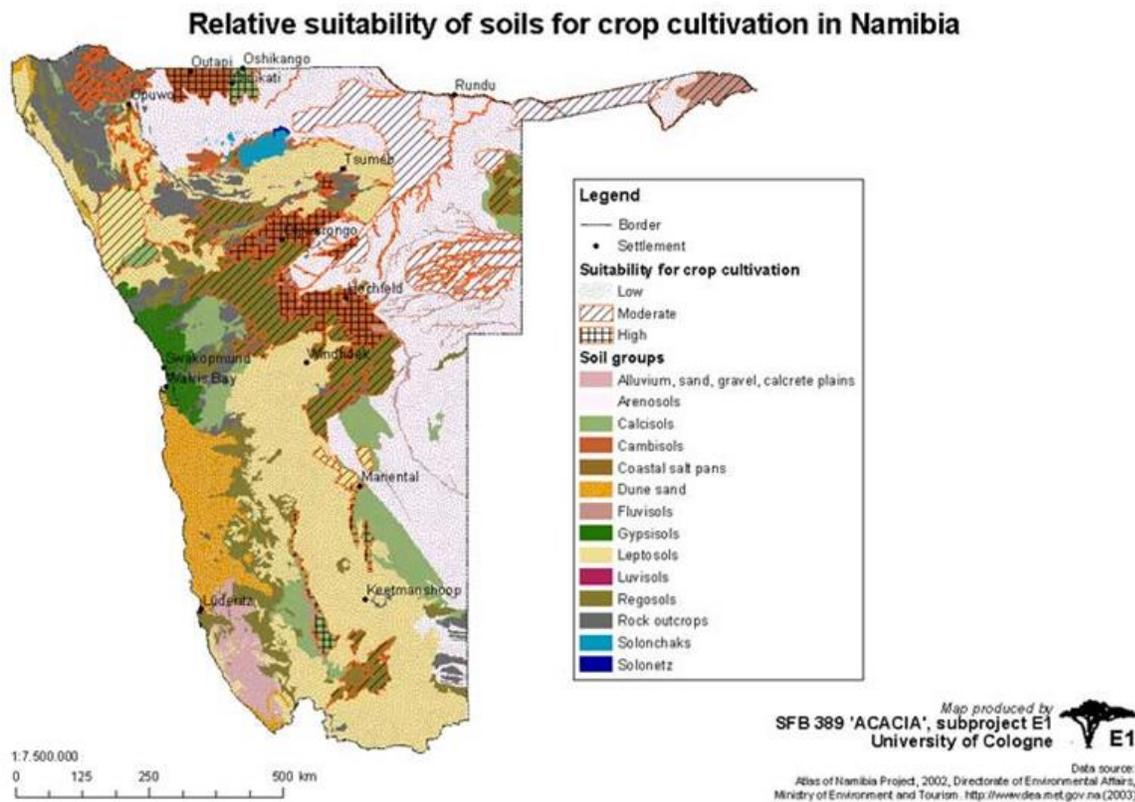


Source: Weather Sparks

5.1.11. Soil Types

In Northern and North Eastern Namibia, soils are moderately and lowly suitable for cropping since they are lighter, sandy and less inherently fertile, deeper. The farmers cause for crop production is heavily aided by the abundant availability of open water from perennial rivers and application of manure and commercial fertilizers. Kavango East region falls in this soil suitability for cropping criteria, but with the listed water advantage farmers are doing crop production well also taking advantage of the deeper soils which permits easy plant root penetration for accessing necessary nutrients and moisture.

Figure 18: Soil types in Namibia



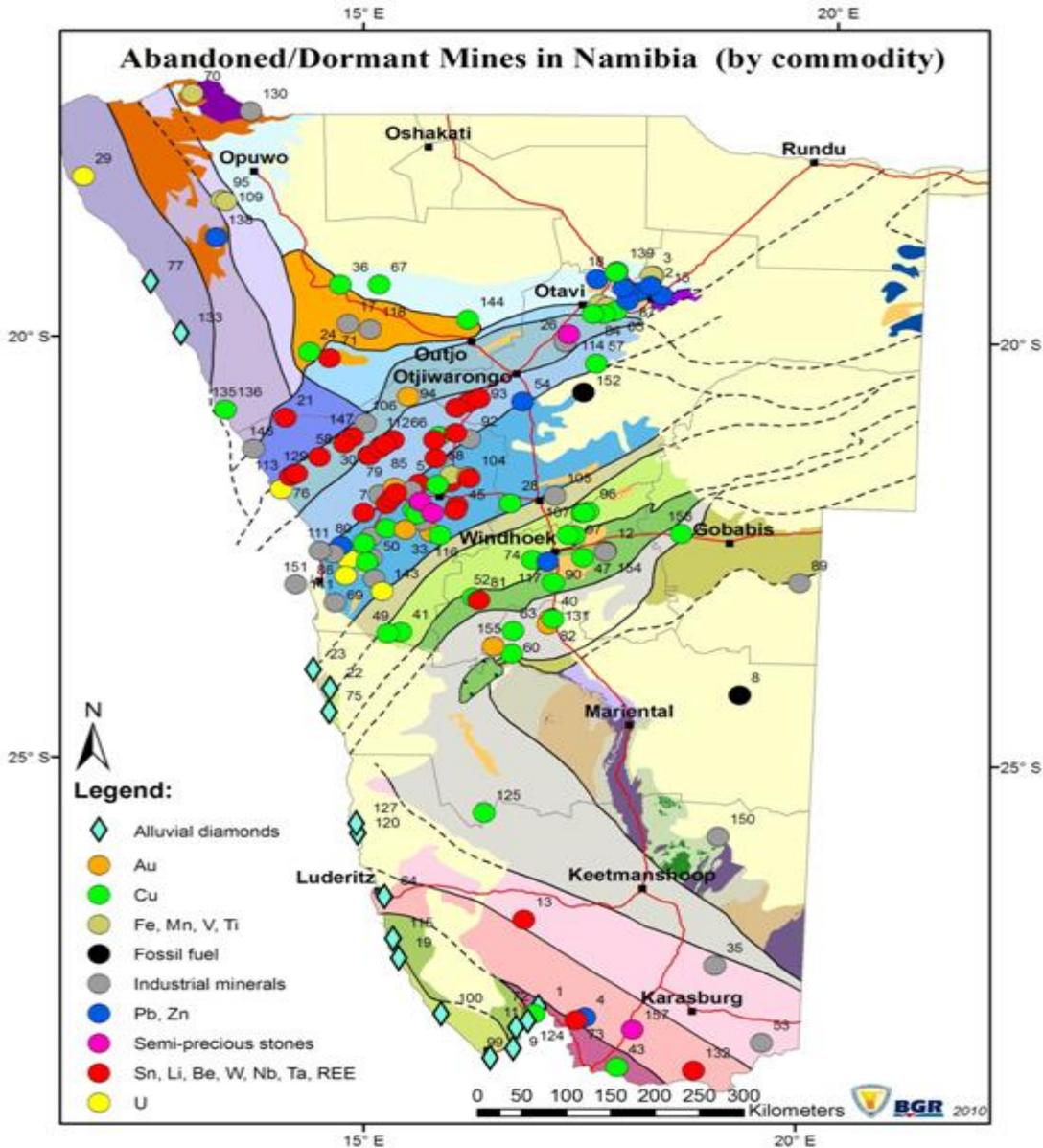
Source: University of Cologne

5.2. Mining and Quarrying Activities

5.2.1. Mineral Mining Activities

Currently there are no mining operations in Rundu and Kavango East region in general. This is in line with geological maps that shows low potential of mineral deposits in the northern parts of the country including Kavango East region (See figure 19 below).

Figure 19: Mineral Deposits in Namibia



Source: Ministry of Mines and Energy

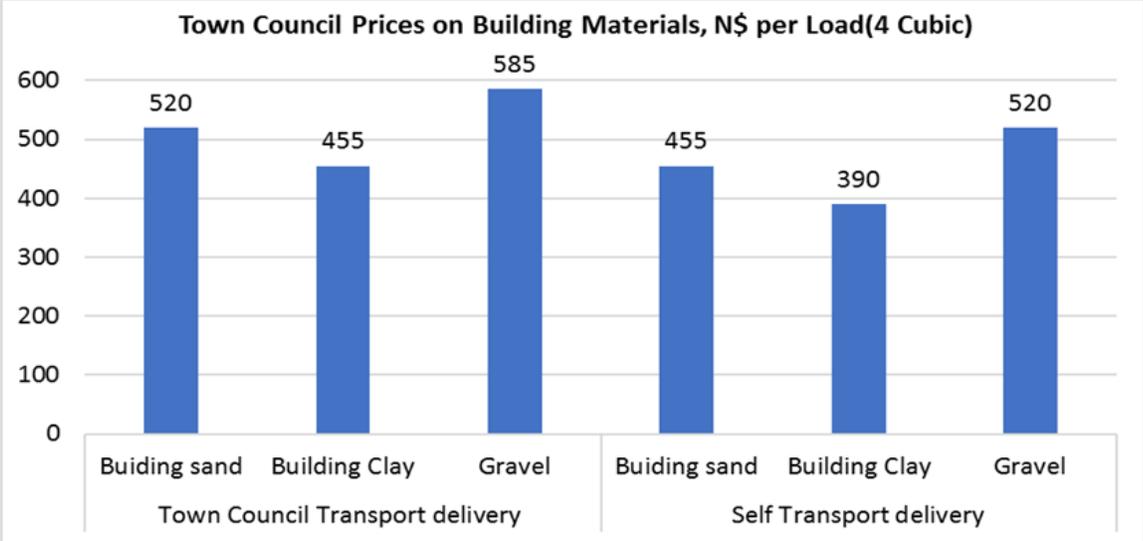
5.2.2. Quarrying Activities

Quarrying of sand is common in Rundu and Kavango East region. Due to the increase in construction activities in Rundu which includes the construction of residential houses, business buildings as well as government infrastructure buildings the demand for sand have also increased. Retail suppliers of sand charge N\$1,300 per 6 cubic meters of sand within Rundu town while that price is increased when the deliveries are made in areas outside the town of Rundu to cover for the transportation cost. However, the RTC sells sand at a cheaper price of N\$ 520 including transport costs.

Given the government’s commitments to enforce regulation of sand mining activities in the country for environmental management purposes, we expect that competition will lessen as some suppliers would be required to close on falling short to meet requirements, and the lengthy process to apply for fitness certificates would be another factor that would see less competition in the medium.

According to Figure 20 below, the prices of building sand, building clay and gravel are N\$ 455, N\$ 390 and N\$ 520 respectively. These are equivalent to self-delivery while the Town Council charges N\$ 65 higher for delivery of these building materials per load.

Figure 20: Building Material Prices



Source: RTC

6. INDUSRY SECTOR ACTIVITIES

This section summarizes economic activities involving processing and manufacturing of products for final consumption. It also involves construction activities taking place in the area.

6.1. Manufacturing and Processing Activities

The town's value addition in terms of manufacturing activities is moderate due to art crafting and other processing activities. However, agricultural value addition remains low despite the region's potential on high raw agriculture commodity output. Part of the reason for low value addition in agriculture output is partly due to the absence of processing plants for agricultural products in Rundu specifically with crops which are sent to other towns for milling and related processing. Some manufacturing activities that are available in Rundu includes brick making. The brick making industry has grown over the past years due to the demand from construction activities taking place within the region. The total demand for bricks in Rundu is estimated at 183,000 bricks per month.

6.2. Electricity Supply

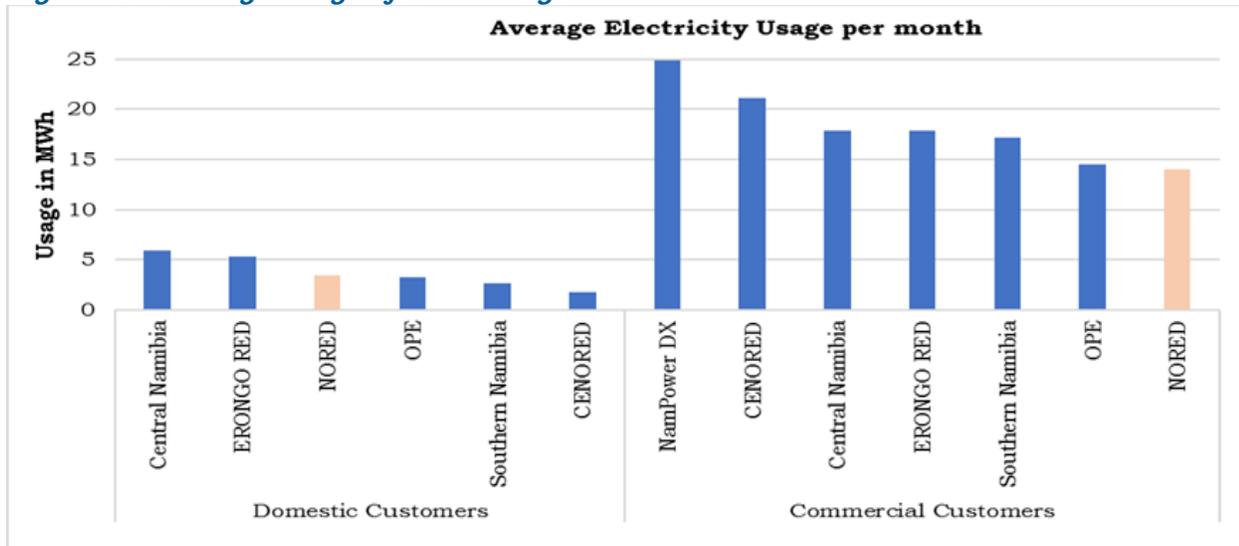
6.2.1. Access to Electricity

Electricity supply in the town of Rundu is managed by the Northern Regional Electricity Distributor Company (NORED). Electricity costs in the town are subject to the tariffs charged by NORED in distributing electricity to the town. Using the data on access to electricity in the country it is estimated that, 53 percent families have access to electricity in the town of Rundu.

6.2.2. Electricity Usage

The average usage of electricity in the country for individual customers is 4 megawatt hour per annum equivalent to 333 kilowatt hour per month. However, it differs by area. Individuals in the northern regions where Rundu is included uses 3.5 megawatt hour of electricity per annum (292 kilowatt hour per month) which is slightly below the national average of 4 megawatt hour (333 kilowatt hour per month). Based on the surveyed individuals we estimate the average electricity usage in Rundu to be 3.6 megawatt hour equivalent to 300 kilowatt hour per month. Commercial users of electricity in Kavango East region uses 17 megawatt hour in a year equivalent to 1,417 kilowatt hour per month.

Figure 21: Average usage of Electricity

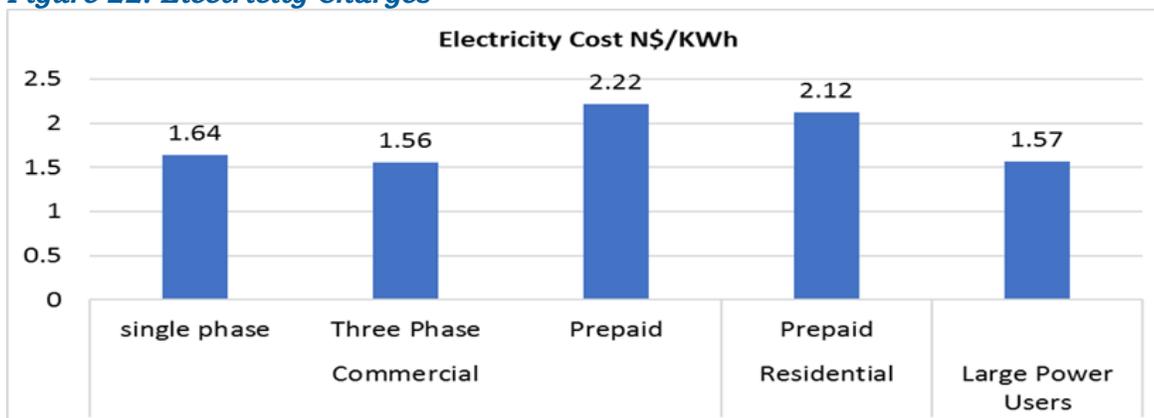


Source: ECB

6.2.3. The cost of Electricity

Electricity distribution in Rundu is managed by NORED which also distributes to other northern regions. NORED uses five classifications for electricity charges. Single phase is mostly used by households and office blocks or any unit with small power requirement, while three phases is used by large users such as factories, schools with hostels, big hospitals and banks. Figure 22 below highlights the standard rates (low season) charged on electricity usage expressed in N\$/KWh. Commercial operators using prepaid meters are charged N\$ 2.22 KWh, which is the highest compared to single phase and three phases who are charged N\$ 0.58 KWh and N\$ 0.66 KWh lower respectively. Residential users pay the second most using prepaid meter at the rate of N\$ 2.12 KWh while Larger power users pay N\$ 1.57 KWh. Overall, the cost of electricity is higher when using prepaid meter.

Figure 22: Electricity Charges



Source: NORED

6.2.4. Simulation of electricity cost burden on households

This scenario presents a model of the average monthly electricity burden of a resident in Rundu. Taking into consideration the usage of 3.6-megawatt hour of electricity equivalent to 300-kilowatt hour per month for an average family in Rundu at a cost of N\$ 2.12 per kilowatt hour, we estimate the average bill for residents in Rundu at N\$ 636 per month.

6.3. Water Supply

Clean water supply to the town is managed by Namwater and the distribution is done by the Town Council which sells to residents. Water supplied to the town is extracted from the Okavango river on the border between Namibia and Angola and is transported to the two purification plants all situated within 5km distance from the river. The two purification plants supply water as follows: Nkarapamwe purification plant supplies to Rundu Army base, villages, Kehemu, Kaisosi, Safari, New Millennium, Nkarapamwe and Ndama and Rundu Town purification plant supplies to hospitals, schools, industrial area and Sauyemua, Kasote, Tutungeni and Rainbow locations.

6.4. Water Consumption

The town of Rundu consumes a total of 496,000 cubic meters of water of which 300,000 cubic meters is supplied by Nkarapamwe water reservoirs and 196,000 cubic meters supplied by Rundu reservoir.

6.4.1. Access to Tap Water

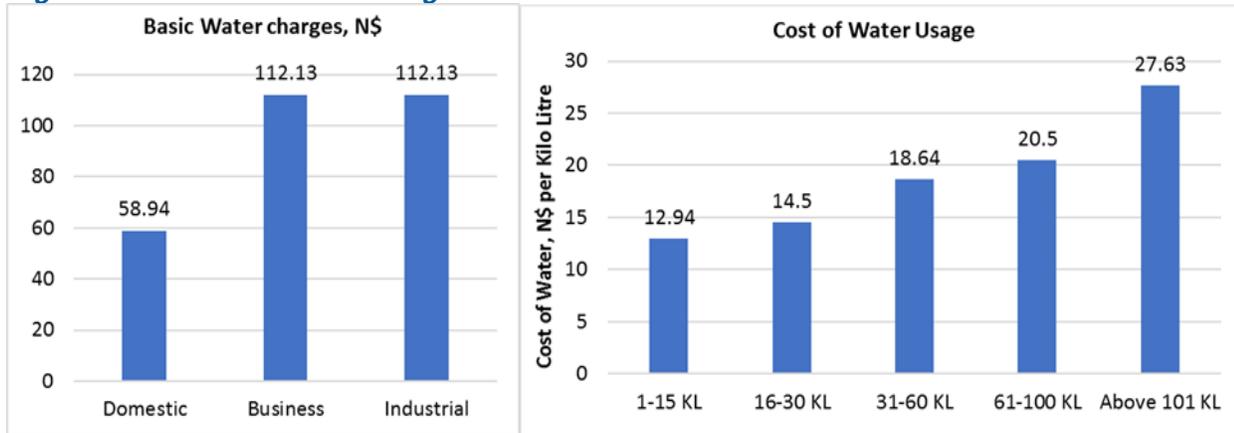
Using various data sources our research estimate that 97 percent of households are connected to the town council's water services in the town. Connections to the town water services is done by RTC. It costs N\$1,700 for a client to get new connection to the town water services.

6.4.2. Price of Water

Water supplied by the Town council to end users is charged at different rates to different clients. The measurement of water consumption is expressed in Kiloliters where 1 Kiloliter is equivalent to a 1,000 Liters. On every transaction, a customer is subject to a basic charge depending on the type of customer namely: domestic, business and industrial charged N\$ 58.94, N\$ 112.13 and N\$ 112.13 respectively. In addition to the basic charge, customers pay water based on individual usage as shown in figure 23 below. The more the consumption of water, the more they pay. The lowest rate charged per Kiloliter is N\$ 12.94 for the usage

between 1-15 Kiloliters per month, and peaks at N\$ 27.63 per Kiloliter for water usage above 101 Kiloliters.

Figure 23: Rundu Water Charges



Source: Rundu Town Council

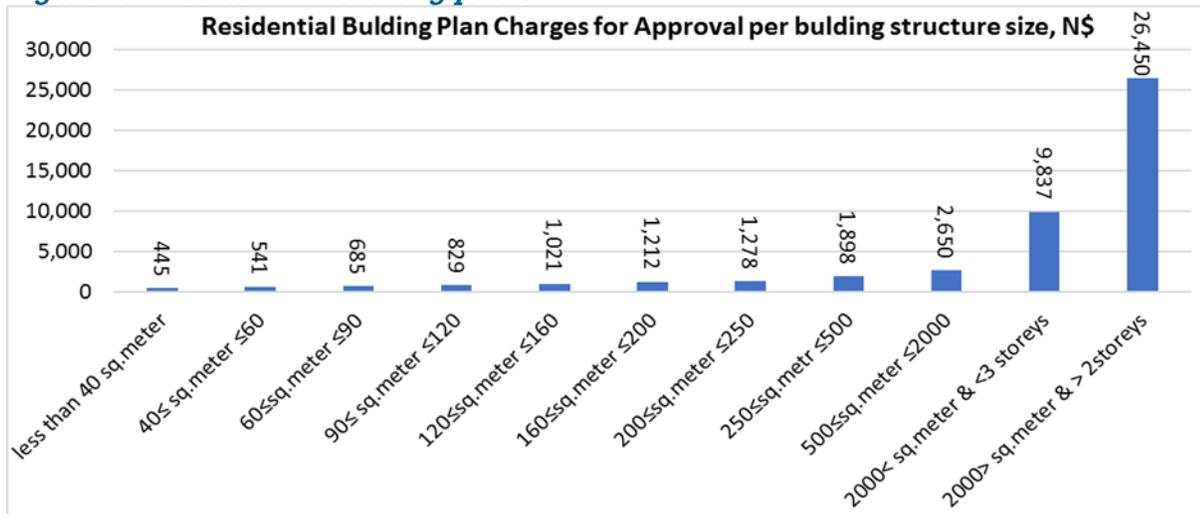
6.5. Construction Activities

There are several construction projects in the town of Rundu.

6.5.1. Residential Building Plans

The RTC reviews and approves building plans at a fee charged based on the size and the building structure of the plan. A building plan of a dwelling less than 40 sq. meter is charged N\$ 455 while a structure of the size ranging between 40 and 60 sq. meter is charged N\$ 541 and N\$ 685 for a structure between 60 and 90 sq. meter. The larger the size of the dwelling on the building plan the higher the cost for approval.

Figure 24: Residential building plans

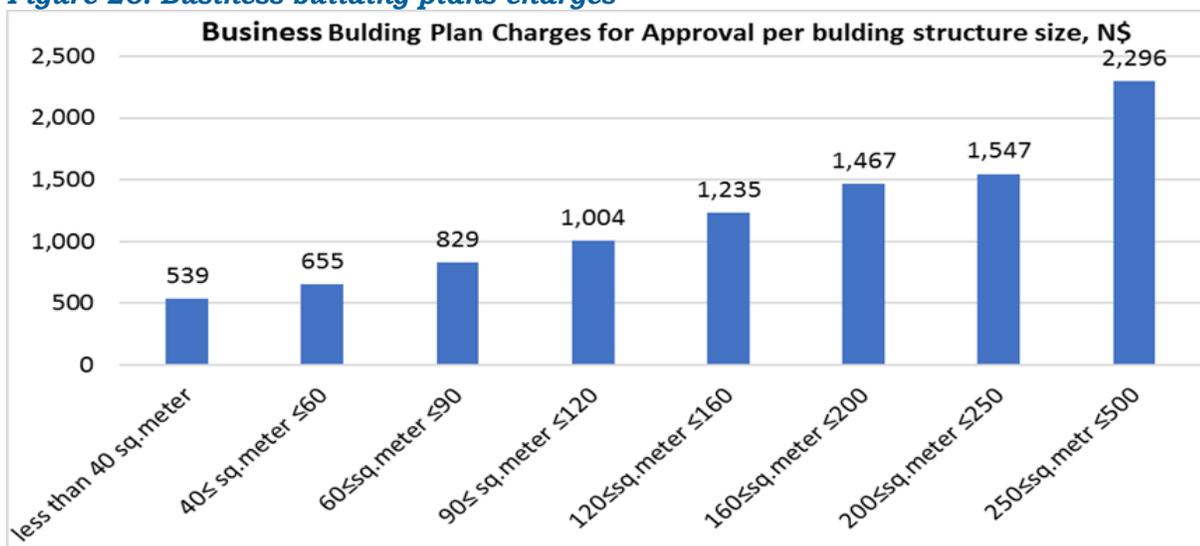


Source: Rundu Town Council

6.5.2. Businesses building plan

Approval of business building plans is charged based on the size and the building structure of the plan. A building plan of a structure less than 40 sq. meter is charged N\$ 539 while a structure of the size ranging between 40 and 60 sq. meter is charged N\$ 655 and N\$ 829 for a structure between 60 and 90 sq. meter. The larger the size of the structure on the building plan the higher the cost for approval. We observed that the business building plans cost more than residential building plans for approval at the Town council.

Figure 25: Business building plans charges

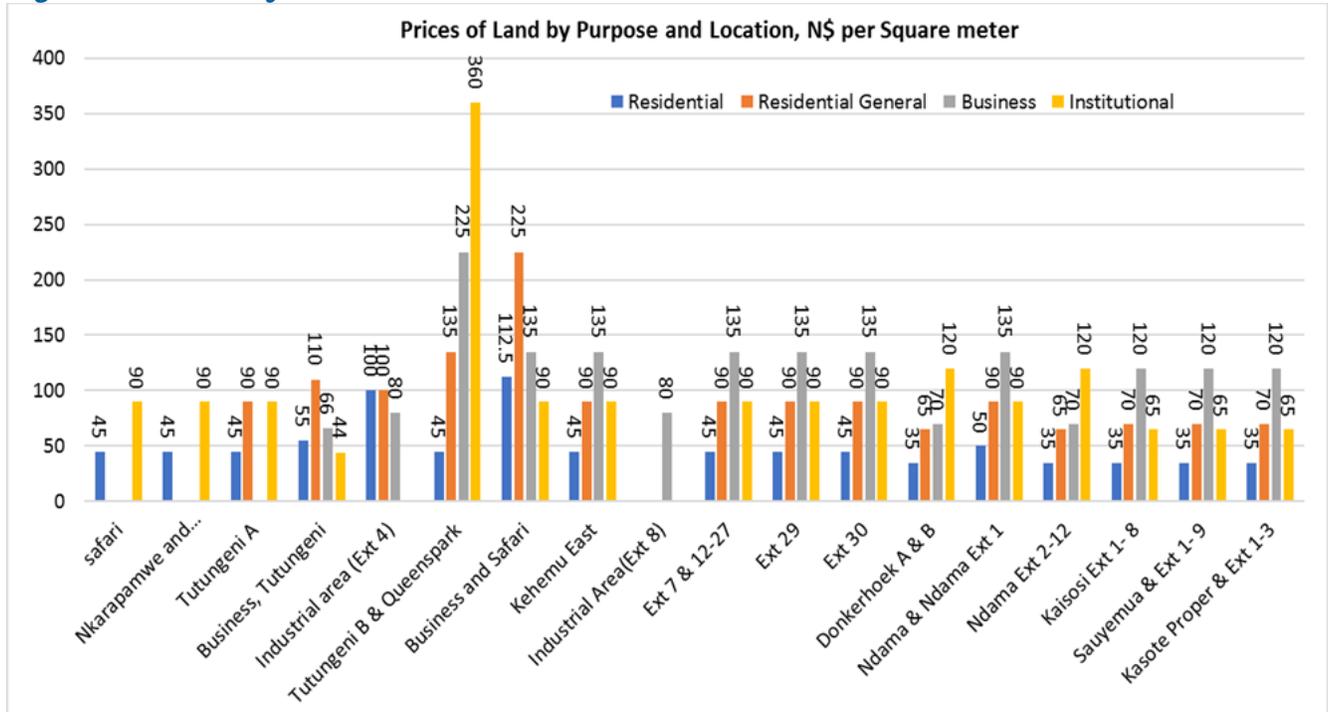


Source: Rundu Town Council

6.5.3. Price of Land by Location

Land prices differ by location and area. In Rundu prices are classified depending on whether land is used for residential, business or institutional purposes. Residential land price is cheaper in Donkerhoek, Ndama, Kaisosi, Sauyemua and Kasote where the lowest one can pay is N\$ 35 per square meter. Land for residential is expensive in Safari, Tutungeni and Queenspark where the prices ranges from N\$ 112.5 to N\$ 135 per square meter. The prices in figure 26 excludes Rundu Bluff with prices ranging between N\$ 1,500 to N\$ 2,000 per square meter, which is more expensive in comparison to all suburbs within Rundu.

Figure 26: Prices of land in Rundu



Source: Rundu Town Council

6.5.4. List of major Government expenditure projects in Rundu

Table 1 below summarizes the top major government projects budgeted for Rundu. In the year 2018/19 the government budgeted to spend N\$ 5 million on the Mass land servicing in Rundu and N\$ 4.1 million in Divundu. The total budget of the Mass land servicing program is N\$ 410 and N\$ 140 million in Rundu and Divundu respectively, which will be spent over the next 5 years. There is also a budget of N\$1.58 billion meant to construct the Dimbare Youth center. N\$3.5 billion is budgeted for development of Green Schemes.

Table 1: List of Major Capital Expenditures in Rundu

No	Project Name	Implementing Agency	Area of project implementation	Total Project Cost (N\$ Million)	2018/19 (N\$ Million)	Balance to complete Project(N\$ Million)
1	Mass Land Servicing in Rundu	Ministry of Rural and Urban Development	The project will continue for the MTEF period	410.4	5.0	356,181.0
2	Mass Land Servicing in Divundu	Ministry of Rural and Urban Development	New Project	140.0	412.2	135.9
3	Upgrading of Elizabeth Nepemba Correctional Facility	Ministry of Safety & security	After Feasibility study Construction to begin	311.6	1.2	274.2
4	Construction of Divundu Correctional Facility Unit Management	Ministry of Safety & security	After Feasibility study Construction to begin	210.1	2.5	190.5
5	Construction of Housing Accommodation at Border Post & Outpost	Ministry of Safety & security	Commencing in 2018	44.5	5.0	44.5
6	Construction of Grain Silo at Divundu Correctional Facility	Ministry of Safety & security	In Progress	390.0	350.0	32.0
7	Construction of Primary School at Rundu Rural West	Ministry of education, Arts and culture	In Progress	88.5	10.0	70.5
8	Upgrading and Renovation of Rundu Hospital	Ministry of health and social services	Completion in 2018	60.5	15.0	0.9
9	Upgrading and Extension of Rundu Regional Health Training Centre	Ministry of health and social services	In Progress	30.0	2.0	16.2
10	Upgrading and Renovation of Andara Hospital	Ministry of health and social services	In Progress	17.0	1.0	10.3
11	State Security Infrastructure	Ministry of Security and Safety	In Progress	19.8	2.7	9.1
12	Construction of Land Reform Ministry Regional Office	Ministry of Agriculture, Water and Forestry	In Progress	33.1	10.0	9.1
13	Construction and Upgrading of Fran's Dimbare Youth Centre	Ministry of Sports, Youth and National Service	Completion in 2019	1,584.4	36.0	770.0
14	Construction of Ministry of Fisheries & marine Resources Regional Office	Ministry of Fisheries & marine Resources	Completion in 2019	33.9	15.5	1.5
15	Green Schemes	Ministry of Agriculture, Water and Forestry	In Progress	3,500.0	62.0	2,273.9
16	Agro-Processing	Ministry of Industrialization, Trade and SME Development	New Project	351.0	7.0	288.2
17	Construction of Services Infrastructures in Rundu	Ministry of Urban and Rural Development	Continuation	410.4	15.0	356.2
18	Construction of Services Infrastructures in Divundu	Ministry of Urban and Rural Development	In Progress	35.0	10.0	17.0
19	Construction of Services Infrastructures in Ndiyona	Ministry of Urban and Rural Development	In Progress	30.0	8.0	20.0
20	Construction of Veterinary Clinics, Offices and Accommodation	Ministry of Agriculture, Water and Forestry	In Progress	597.0	2.3	437.4

Source: MoF

7. SERVICES SECTOR ACTIVITIES

This section summarizes the services activities provided in the town of Rundu. These services range from educational, health, financial, Tourism, Transport and other administrative services provided by government and related offices.

6.1. Educational Services

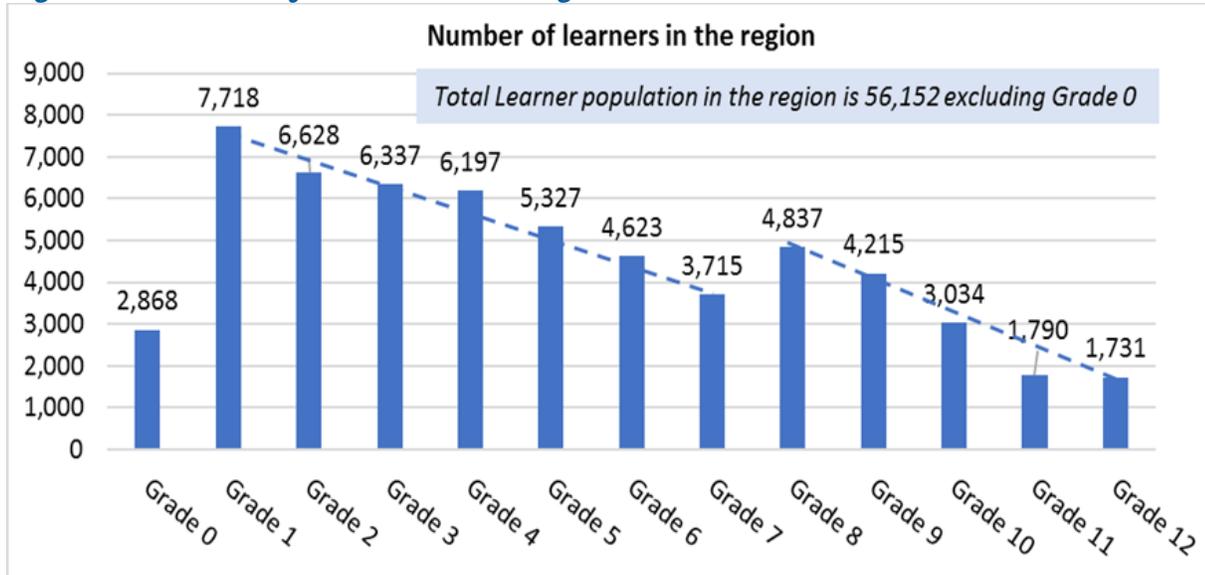
6.1.1. Access to Education

There are five tertiary Institutions in Rundu, namely: University of Namibia Rundu campus, Institute of Open Learning (IOL), Rundu Vocational Training Centre, Namibia College of Open Learning (NAMCOL) and Triumphant College. Additionally, Namibia University of Science and Technology has a center in Rundu that provide support for students who are studying on distance. There are 13 primary schools, 10 secondary schools and 3 Combined schools. Among the primary schools 12 are government school with no hotel, while 1 is private with hostel. However, there are 4 government secondary schools with no hostels and 2 government secondary schools with hostels. Private secondary schools are 4, all with hostels including the highly reputable St Boniface College, a Roman Catholic Church school 33km east of Rundu, which has been ranked the best-performing school in Namibia for the eighth consecutive year.

6.1.2. Number of Learners in the Region

There is a total number of 56,152 learners in Kavango East region excluding 2,868 Grade 0 learners. Overall, the number of learners decreases with higher grade. Because of its reputable secondary education, Rundu schools continue to import secondary school learners from other parts of the country thus high intake in Grade 8. Grade 1 has most enrollments than all the grades with 7,718 and lowest enrollment are in Grade 12 with 1,731.

Figure 27: Number of learners in the region

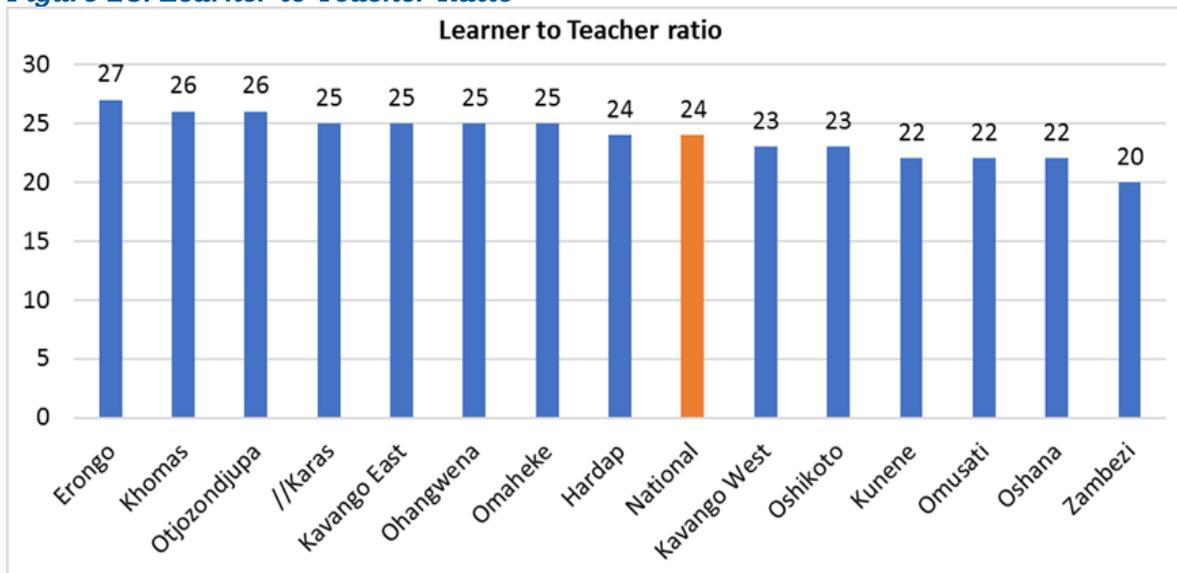


Source: MoE

6.1.3. Learner to Teacher Ratio

The learner to teacher ratio indicates resource allocation to education. The learner to teacher ratio in Namibia is 24. In Kavango East it is 25 which is not significantly different from the national average of 24.

Figure 28: Learner to Teacher Ratio

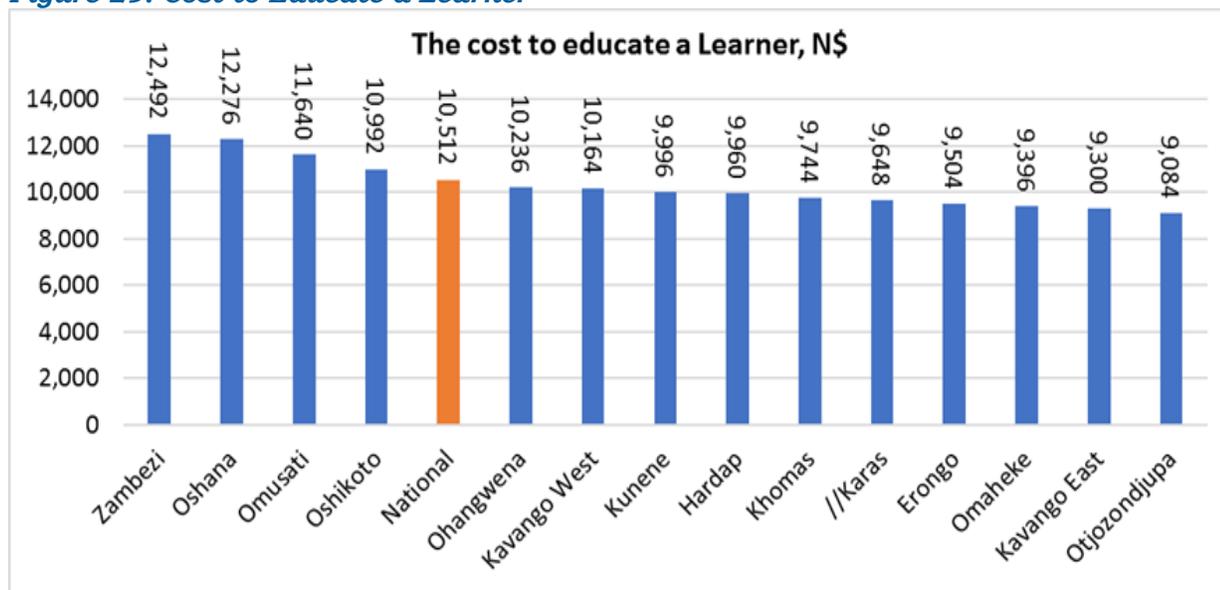


Source: MoE

6.1.4. Cost to Educate a Learner

The cost of educating a learner in this context is the operational cost on education divided by the number of learners per annum. Kavango East region has an average cost for educating a learner of N\$ 9,300. This is lower than the national average cost for educating a learner of N\$ 10,512. However, interpreting this information in relation to efficiency of education can be misleading due to other confounding variables like the qualification and experience of teachers which is a determining factor for teachers wages or the number of learners in the region in relation to teachers.

Figure 29: Cost to Educate a Learner

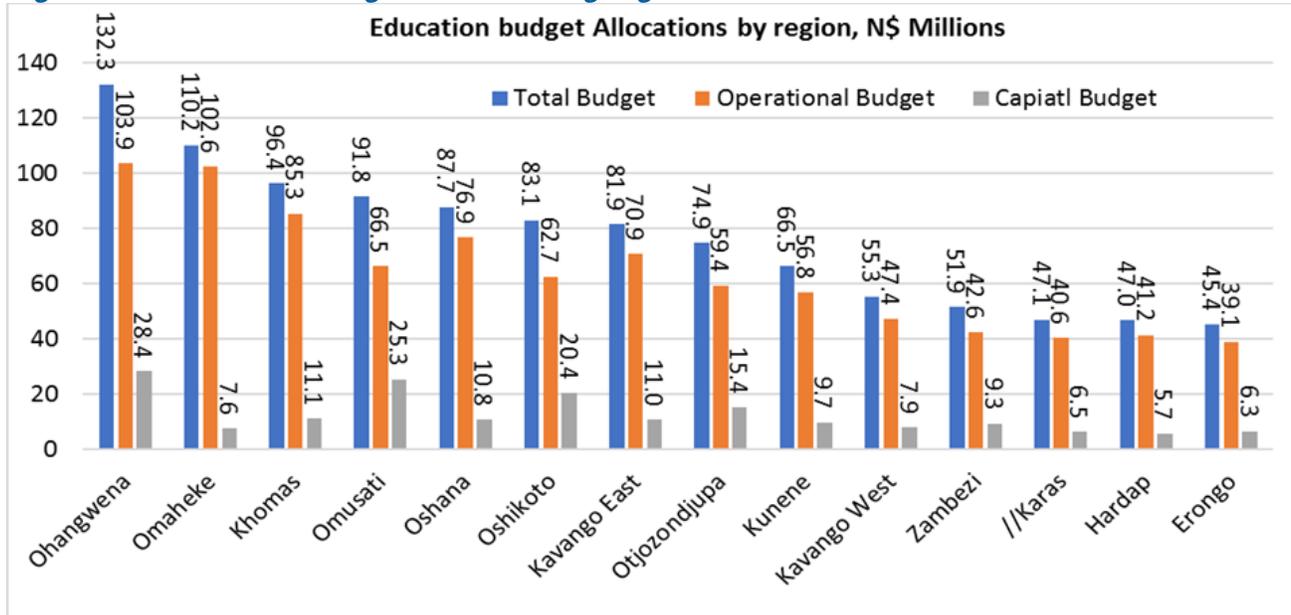


Source: MoE

6.1.5. Education Budget Allocation by Region

During 2017/18 Ohangwena region received the highest budget allocation of N\$132.3 million compared to other regions followed by Omaheke and Khomas region with N\$ 103.9 and N\$ 96.4 million respectively. Kavango East budget allocation of N\$ 81.9 million which was the 7th highest among all regional allocation in the country.

Figure 30: Education budget allocation by region

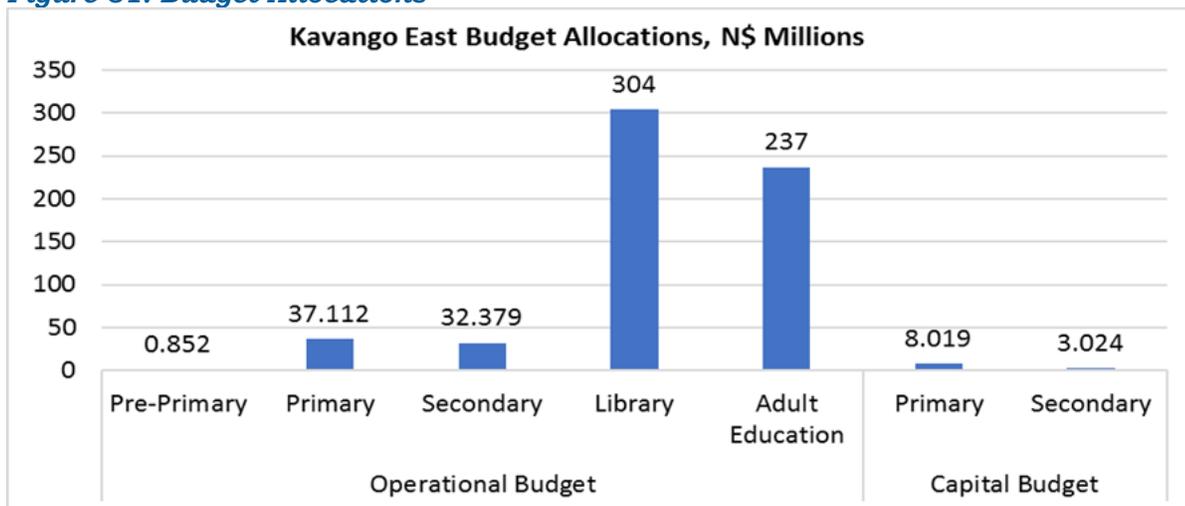


Source: MoE

6.1.6. Budget allocation For Kavango East

The budget allocation for operational expenditure is higher in Kavango East region compared to capital expenditure. In 2017/18 library related operational expenditure was allocated N\$ 304 million and adult education operational expenditure received a budget of N\$ 237 million in the same period. Primary and Secondary education operational expenditures received N\$ 37.1 and N\$ 32.4 million respectively. Capital expenditure on primary and secondary education were allocated a budget of N\$ 8 and N\$ 3 million respectively.

Figure 31: Budget Allocations



Source: MoE

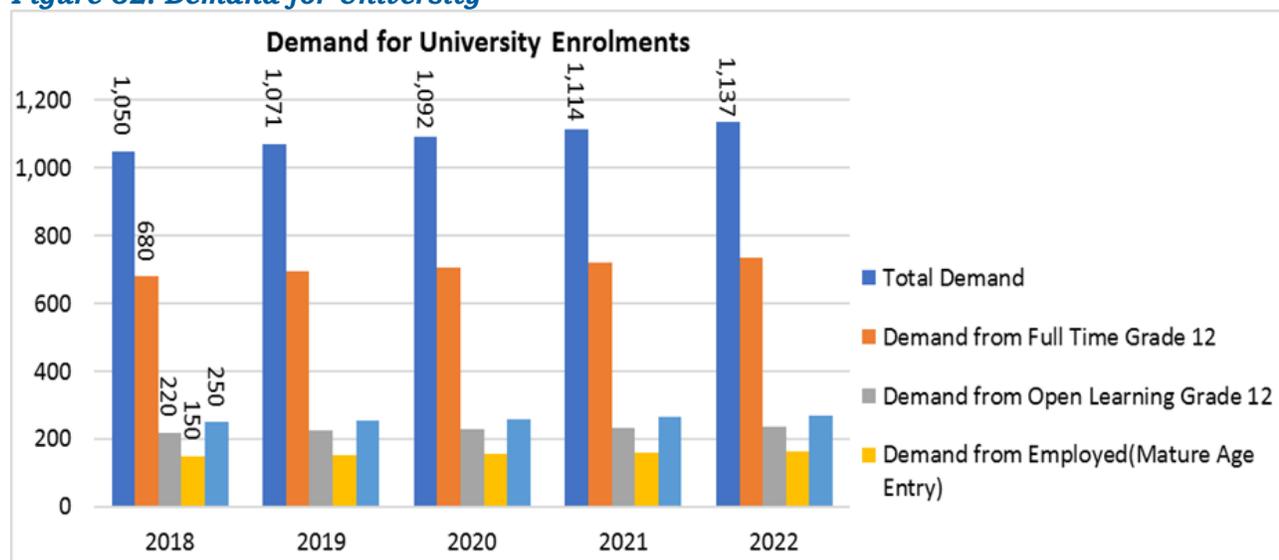
6.1.7. Access to Tertiary Education

The University of Namibia has a campus in Kavango East region offering Education, Nursing, Business and Economics courses. The UNAM campus has a total enrollment of 2,000. The town of Rundu has a Vocational Training Centre, the Rundu Vocational Training Centre (RVTC) with a total enrollment of 649 offering courses in joinery and cabinet making, office administration, plumbing and pipe fitting, bricklaying and plastering, welding and metal fabrication, auto mechanic, auto electric, electrical general and boiler making. The courses offered at the UNAM campus and RVTC presents potential to address the developmental challenges in the town and Kavango East region in general.

6.1.8. Demand for University Enrollment

The total number of learners seeking university placements in Kavango East is composed of those that have passed Grade 12 full time and open learning, as well as those who enters through mature age entry due to their older age and required work experience. At 39 percent pass rate (meeting university requirements) we estimate that 700 out of 1,780 learners in grade 12 schools of Kavango East region will need placement at University in 2019. Furthermore, 220 learners upgrading through grade 12 open learning system are estimated to qualify for University placements in 2019. Moreover, less than 200 of the employed in Kavango East region could qualify for University placements in 2019. Overall, the total demand for University placements in Kavango East region is estimated at 1,071 in 2019 way above the new intake enrollment capacity of the Rundu UNAM campus.

Figure 32: Demand for University

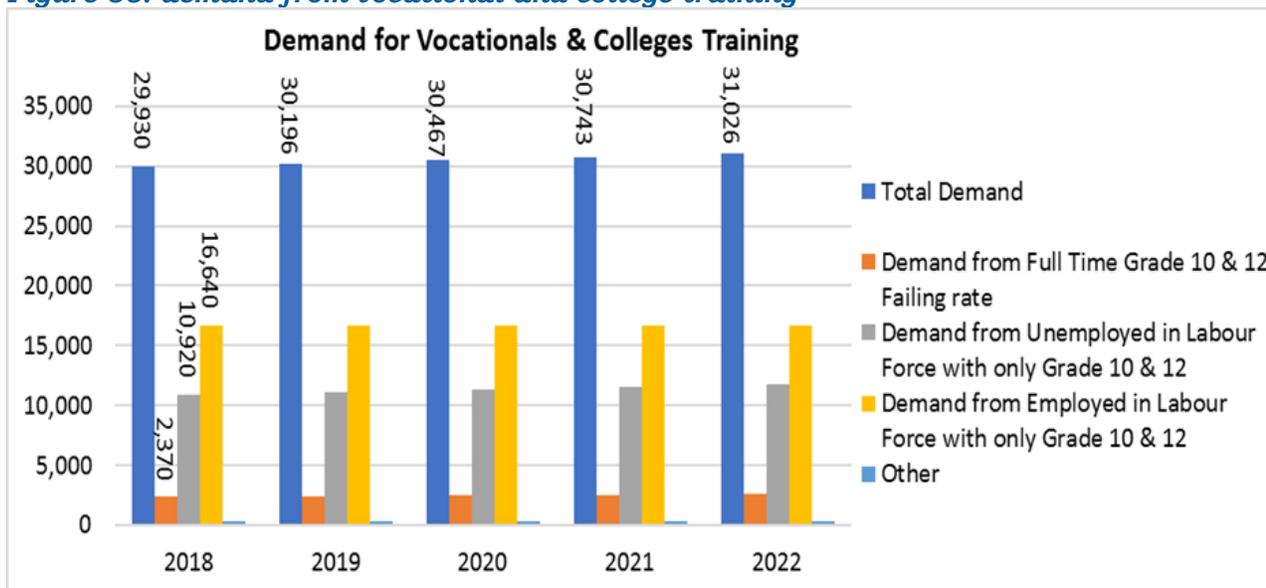


Source: First Capital Research

6.1.9. Demand for Vocational and College Training

The total number of learners in need of vocational and college placements in Kavango East is composed of those who will not meet university requirements in Grade 10 and 12 full time and open learning learners, as well as those who are unemployed and have their qualification of grade 10 and 12 and even those employed without tertiary education. At 61 percent rate of not meeting university requirements among Grade 12 learners and 45 percent rate of not passing Grade 10 we estimate that more than 2,400 learners from the full-time system in Kavango East region will require vocational and college placements in 2019. Furthermore, nearly 11,000 stock of unemployed individuals with only Grade 10 or 12 education will need placement at vocational and college in 2019. Moreover, nearly 17,000 stock of employed individuals with only Grade 10 or 12 education will need placement at vocational and college in 2019. Overall, the total demand for vocational and college placements in Kavango East region is estimated at 30,196 in 2019 way above the new intake enrollment capacity at local vocational and college training institutions in Kavango East region.

Figure 33: demand from vocational and college training

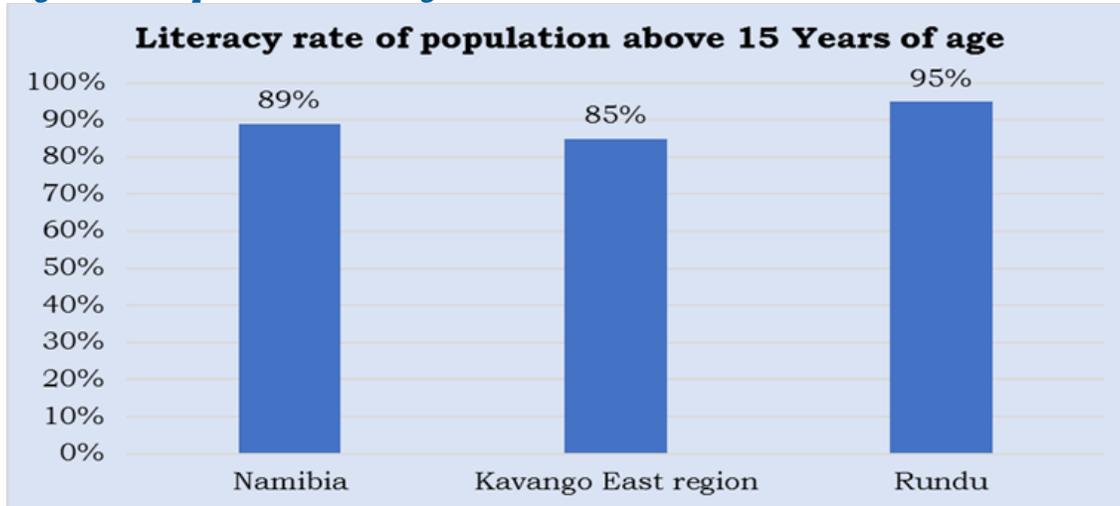


Source: First Capital Research

6.1.10. Literacy Rate

The literacy rate is measured in terms of people that can read and write. Rundu has a literacy rate of 95 percent which is 10 percentage points higher than Kavango East literacy rate and 6 percentage points lower than that of the country among the population aged 15 years and above.

Figure 34: Population Literacy Rate



Source: 2015/16 NHIES, 2011 National Census & First Capital Research

6.2. Health Services

6.2.1. National Situation

Namibia has a dual system of health care servicing: public (serving 85% of the population) and private (15%) health care providers. The Ministry of Health and Social Services (MoHSS) is the main implementer and provider of public health services with a four-tier system: outreach points (1,150) clinics and health centers (309), district hospitals (29) and intermediate and referral hospitals (4). Faith-based organizations operate services for the MoHSS on an outsourcing basis. The private sector is sizeable, with 844 private health facilities registered with MOHSS. A total of 342 health facilities (Hospitals, clinics & health centers, excluding outreach points) serves an estimated population of 1.9 million. On average the national public system has an infrastructure of 1 health facility per 5,700 population.

6.2.2. Situation in Rundu

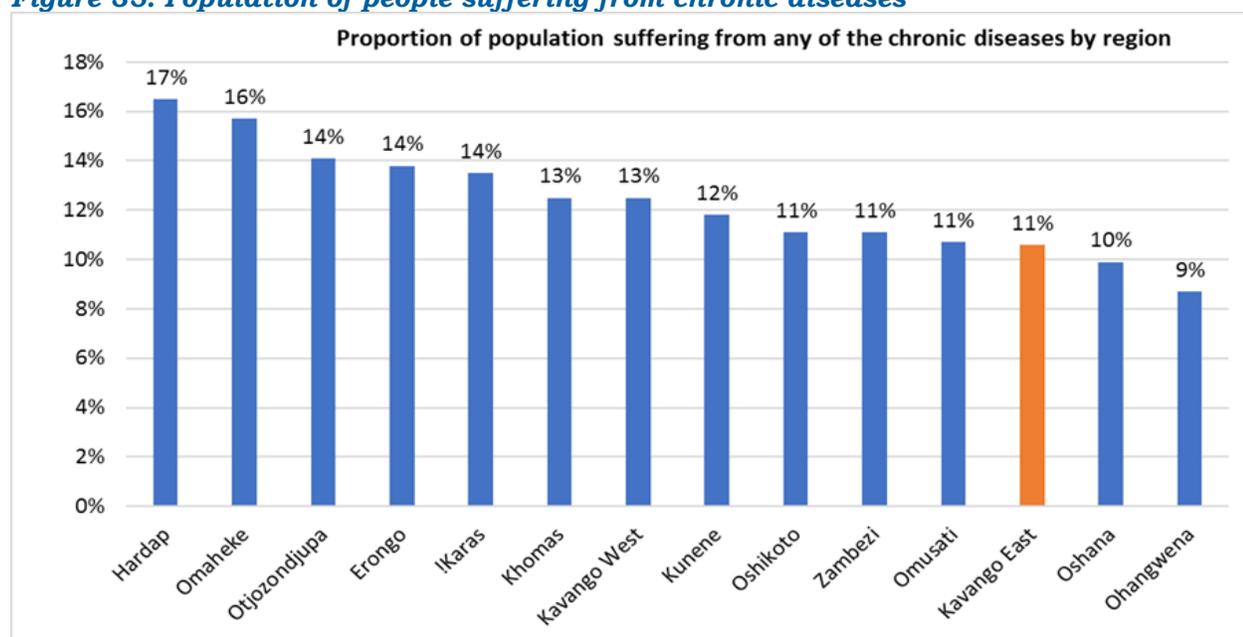
Rundu has 7 health facilities made of 1 state hospital, 1 private hospital and 5 clinics serving a population of 85,700. The state hospital goes beyond serving only those living in Rundu but caters as well as those in rural areas. This research estimates that only 12 percent (17,538) of the population in Rundu and surrounding villages are using private medical services while 88 percent (128,6130) use public health facilities. There are also 9 private health consultation facilities practices operating in Rundu which do not offer bedding to admit patients. The state hospital in town has 25 medical doctors putting the average medical doctors to population ratio at 1:5,144 which is far from the WHO recommended of

1 medical doctor per 1,000 population. The shortage of medical doctors in Rundu is a national challenge common in the health care system of the country. There are 7 private doctors serving a population of 17,538 people with an average ratio of 1:2,505. The public hospital has 300 beds, meaning only 300 patients can be admitted at a given time, while the private has a capacity to admit 26 patients.

6.2.3. Chronic Diseases Prevalence by Region

Namibia has a prevalence rate of 12 percent of the population or 269,400 individuals estimated to be suffering from one or a combination of chronic diseases. These diseases include among others Blood pressure, diabetes, cancer, joint inflammations, cardiac/heart diseases, respiratory diseases (e.g. Asthma), Chronic kidney diseases, Anemia, Epilepsy and psychological/mental health illness. Hardap and Omaheke region has the highest percentage of individuals suffering from chronic diseases of 17 and 16 percent respectively. Kavango East region has 11 percent prevalence rate.

Figure 35: Population of people suffering from chronic diseases



Source: 2015/16 NHIES

6.3. Security Services

The town of Rundu has a police station serving with 105 police officers stationed at that police station. With 105 police officers, it translates to the ratio of one police officer to 800 residents. The town has of recent seen a scale up in private companies offering security

services on properties which has been a positive intervention to aid the national police service efforts in reducing housebreaking and other security related cases within the town.

6.4. Government Administrative Services

Within the town, there are several government branch offices that are meant to provide most of the services provided by the respective ministries at the head offices in Windhoek. The ministry of Agriculture has an office to provide advises to farmers on all farming activities. They are also in charge of surveillance for any possible animal related diseases in the areas to assist farmers when there is a need. The Ministry of environment has also an office which is meant to provide services especially to those in the game tourism and farming industry. The ministry is also responsible to ensure preservation of wildlife animals and assist communities in case of conflicts with animals. Moreover, the Ministry of Education also has an office in Rundu which offers educational administrative services to the town, nearby villages and towns.

6.5. The Cost of using local recreational facilities

Community Halls: Residents of Rundu can access Kehemu community hall for occasions. Using the hall requires a deposit of N\$ 126, the Rundu Town council administers the use of this facility at a cost N\$491.40 per occasion.

Sports Facilities: The Town council charge N\$ 150 per day for the use local sports facilities.

Convention Centre: The Town council charge different prices to different clients for the use of the convention Centre. There are four classifications of clients namely: Private companies and Parastatals; Government intuitions and NGO's; Civic organizations including unions and political parties; Community members and Schools events. The cost of rental per day for Private companies and Parastatals, Government institutions and NGO's, ranges between N\$ 8,700 to N\$ 9,000 which is the highest while community events and schools are charged the lowest between the range of N\$ 2,500 to N\$ 4,500, for all occasions held. All clients using the convention Centre are subject to a refundable deposit of N\$ 2,500. The costs are as summarized in *table 2* below.

Table 2: costs of recreational facilities

Facilities and Clients	Events	Rent per occasion (N\$)
1. Community hall	Rent per occasion	491.4
	Deposit	163.8
	Rental agreement per month	780
2. Sports facilities: Rental per day		150
3. Convention Centre		
3.1. Private companies and Parastatals Price per day deposit refundable	Conferences, Seminars, Meetings, Business Dinners, Press conferences, award ceremonies and shareholders meetings	8,700
	Team Building Events Events, Tarde shows, Expo, Auctions, Indoor sports, Product launces and Executive Retreats	9,000
3.2. Government Institution and NGO's price per day deposit refundable	Conferences, seminars, Meetings, Breakfast & dinner meetings, Presss Conferences, Award Ceremonies	9,000
	Team Building Events, Tarde shows, Expo, Auctions, indoor sports, Product launces and executive Retreats	8,800
3.3. Civic Organisatio: Unions, Political parties ets. Prices per day Deposit refundable	Meetings, conferences, Fundraising and Press conferences	7,500
3.4. Communities Events and parties prices per Day Deposit Refundable	Weddings and all kinds of parties	6,500
	General meetings, Church conferences and seminars	4,500
	Youth conferences and seminars	2,500
	Memorial services	3,000
3.5. School Events	Award Ceremonies, Conference, Indoor sports and General meetings	2,500

Source: RTC

6.6. Financial Services

6.6.1. Banking services

Rundu town has four branches of commercial banks namely: First National Bank, Bank Windhoek, Ned bank and Standard bank serving clients with banking services with. There are 10 ATMs of First National Bank, 7ATMs of Standard bank, 4 ATMs of Bank Windhoek and 1 of Ned bank. The deposit taking services of banks operating in Rundu are supported by the businesses that operate in the area within the retail, construction, farming, and services sectors. The Rundu local economy houses several both formal and informal businesses who sells goods and services within the local economy. Their inflows from their businesses are always deposited with commercial banks on a regular basis. Equally so with those retail business sector who frequently deposit with banks of their cash inflows from their businesses.

The availability of government offices and other related formal employing organizations like parastatals provides much spill over benefits for the demand of banking services. Most notably the town has a fair number of government employees in the ministries of education, Health and Safety and Security who are part of the clientele for banking sector in the town.

6.6.2. Non-Banking services

The town of Rundu has other non-banking financial services for residents. The non-banking financial institution services are insurance. In line with the increase in economic activities and employment within the town, the demand for insurance services has also increased, insurance companies in the town are Hollard, Metropolitan, Old Mutual, Sanlam and BonLife. As more assets are acquired, individuals choose to insure their assets for unexpected risks. Life insurance is also common among employed individuals who have formal jobs both in the private and public sector. There is also a growing demand of pension fund services in the town and region at large due to the high population of employed individuals in the country's second largest populated region, Kavango East region. Government Institutions Pension Fund (GIPF) which serves nearly half of the population who are active members of pension funds in the country has a branch in the town of Rundu to better service to its active and retired members in the region.

6.7. Tourism and Hospitality Services

Rundu has diverse sceneries for tourism. Most notably, the Okavango river which borders Namibia and Angola. Kaisosi River Lodge is also found 7 km east of Rundu town is a bit which culturally exhibits centers of cultural heritage of the local people.

As one of the potentials to attract tourists to the region and town of Rundu in particular, is the Rundu Open Market which was founded in 1996 where you can find a wide variety of things, from local food and drinks to clothes, shoes, beans and flour. It is one of the interesting places to pass through. Namibian crafts are displayed there, one can also interact with sellers, they are very friendly and welcoming. Additionally, there is also Mbunza Museum which is situated 14 km west of Rundu. The living museum which shows pre-colonial lifestyle in the Kavango area.

6.8. Transport Services

6.8.1. Travelling Services

Most Namibians use road transport as a means of transport comparing to other modes of transport. Most individuals in Rundu travelling to nearby towns use private small cars and mini bus public transports, there is one hiking point to various towns. Travelling to Windhoek is 715 km costing N\$ 250, travelling to Ondangwa is 565 km costing N\$ 220 while travelling to Katima Mulilo is 514 km costing N\$ 240. Travelling to Nkurenkuru in Kavango West region which is 130 km away costs N\$ 80. Within Kavango East region individuals travelling to Nyangana which is 100 km away costs N\$ 60 while travelling to Divundu situated 200 km east of Rundu costs N\$ 110. Within the town itself there are taxis operating from locations to town and back for a charge of N\$10 per trip. It can cost more depending on the destination within the town.

6.8.2. Road Network

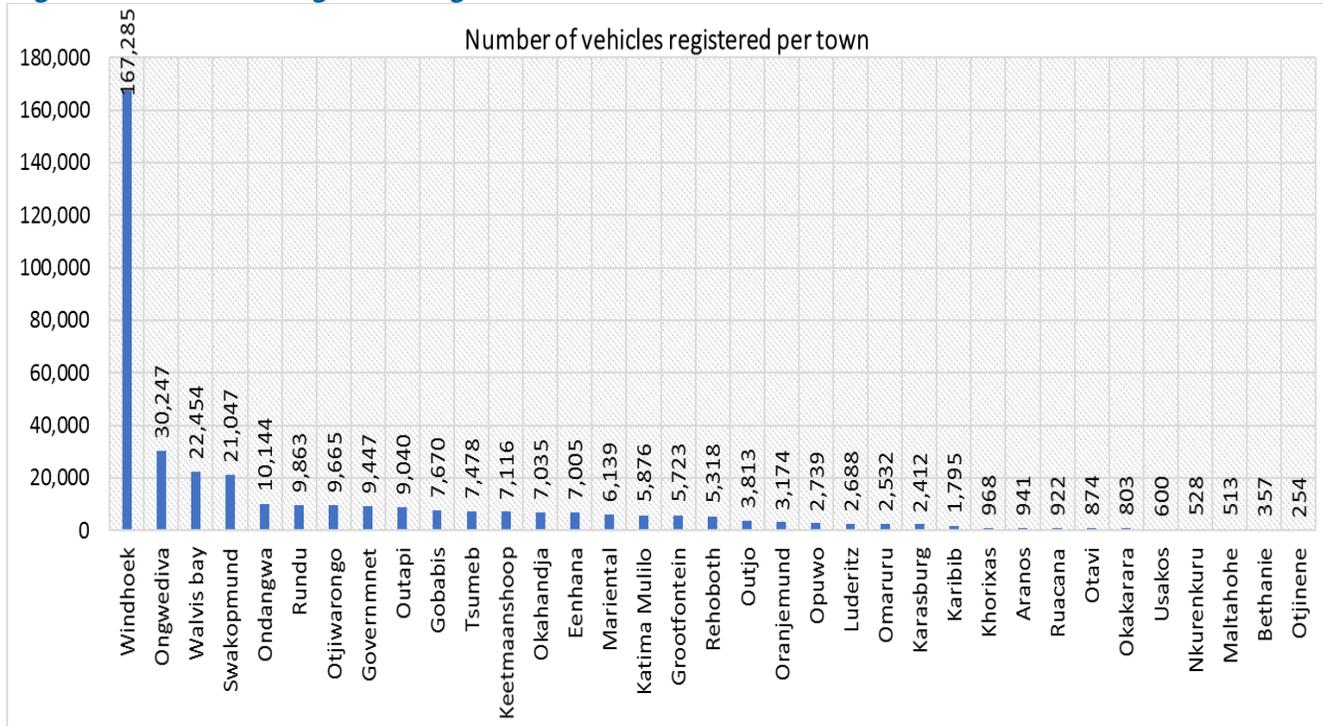
The 2017/18 Global Competitiveness report ranked Namibia's road network as one of the best on the continent. Constructions and maintenance of roads in Namibia are guided by international standards under the administration of the Roads Authority. The Namibian national road network consists of 7,122 kilometers of tarred roads; 27,262 kilometers of gravel roads; 13,966 kilometers of earth roads.

According to the Roads Authority, there are 9,863 vehicles registered in Rundu town during 2016/17. This is below the national average registered vehicles per town which stands at 10,409. Out of 34 towns registering vehicles only four towns namely: Windhoek, Ongwediva, Walvis Bay and Swakopmund have the highest number of vehicles above the national average of 10,409. Number of vehicles in Windhoek alone accounts for 45 percent of the total population of vehicles in the country. The number of vehicles in the town can be used in providing an indication of the demand for transport service activities in the town. Equally one should also consider the population differences when comparing with other towns.

6.8.3. Number of Cars registered by town

Cars in Namibia are registered with 34 towns, excluding police and government cars. It is notable that Windhoek has the most registered cars in Namibia, while Otjinene has the lowest number. Rundu ranks number 6 for the number of vehicles registered per town in Namibia.

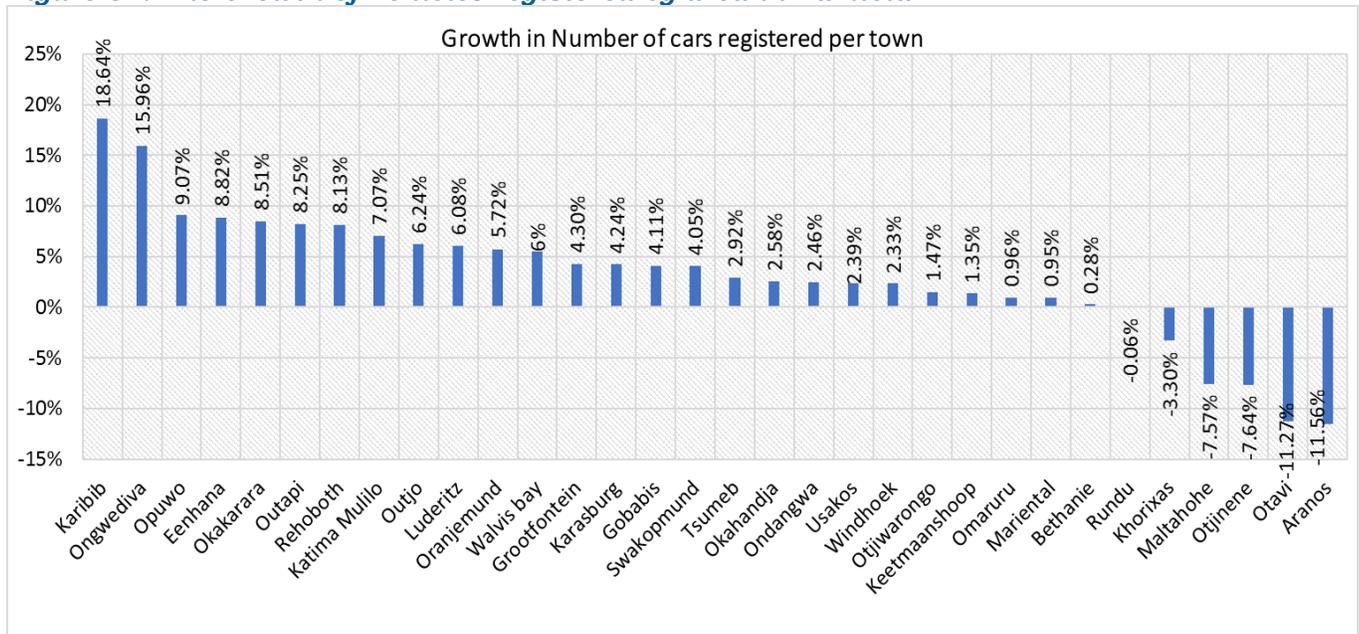
Figure 36: Vehicles registered by area in Namibia



Source: Roads Authority

Cars that are registered in Rundu has declined by 0.06 percent in 2017 compared to 2016. The national annual average vehicle population growth was 3.5 percent in 2017 (see figure 37).

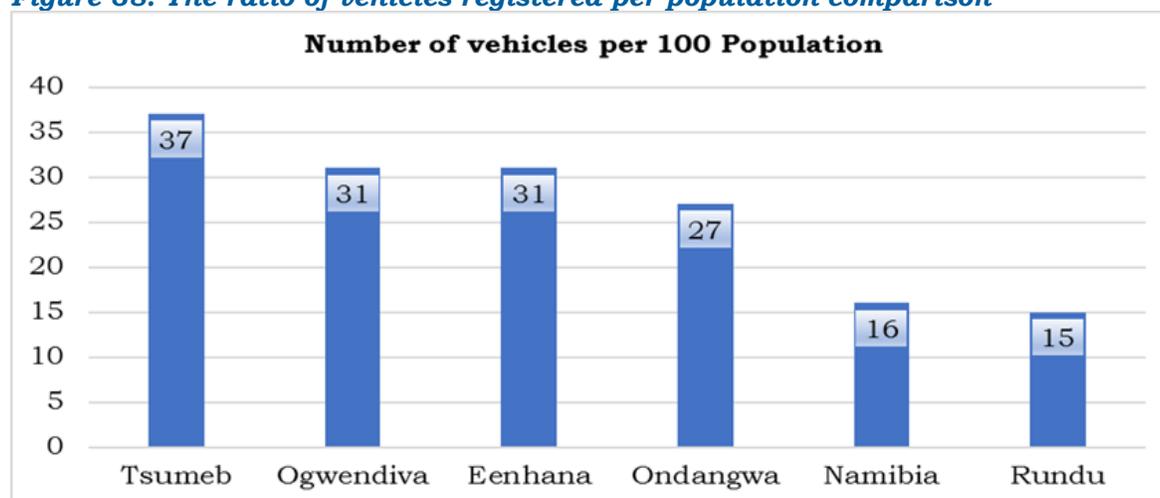
Figure 37: The Growth of Vehicles registered by area in Namibia



Source: Roads Authority

At 9,863 vehicles registered in Rundu, taking into consideration the population of the town, it stands out that vehicles owned per population ratio is below the national average. As of 2017, there are 7 vehicles registered in Rundu per 100 population compared to the national average of 16 vehicles per 100 population. However, the ratio of vehicles per population in Rundu is much lower than the ratio of vehicles to population in other towns like Tsumeb, Ogwendiva, Eenhana and Ondangwa which stands at 37, 31, 31 and 27 cars per 100 population respectively.

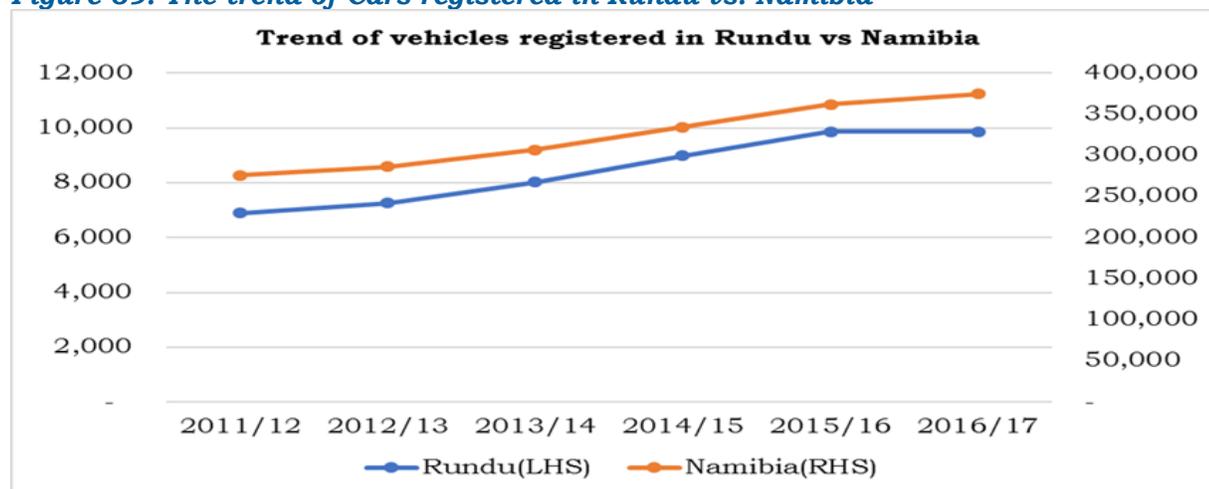
Figure 38: The ratio of vehicles registered per population comparison



Source: Roads Authority

The trend of growth in vehicles registered in Rundu has decreased by 0.06 percent compared to the positive annual national average growth of 3.5 percent in 2017. The national number of vehicles in the country registered during 2016/17 was 374,710.

Figure 39: The trend of Cars registered in Rundu vs. Namibia



Source: Roads Authority

6.8.4. Rail Infrastructure

Namibia has a rail network covering 2,750 kilometers linking towns and other countries. Rundu is connected to the railway line through the Trans-Caprivi Highway which connects Walvis Bay harbor with Lusaka, the Capital of Zambia. Rundu is also called the gateway to countries like Botswana, Angola and Zambia through Zambezi region.

6.8.5. Harbours

Namibia has only two harbours handling merchandise imports and exports situated in Walvis Bay and Luderitz. Though the landlocked town of Rundu is without a harbour, it has always utilized the country's largest Port of Walvis Bay (880 kilometers) which is situated at the west Coast of Africa and provides an easier and much faster transit route between Southern Africa, Europe and the Americas. The other Port of Lüderitz located to the Southern Coast of Namibia is 1,402 kilometers (which is almost two times longer than the distance to Walvis bay Port) and caters for Southern Namibia as well as providing access to markets in the Northern Cape of South Africa.

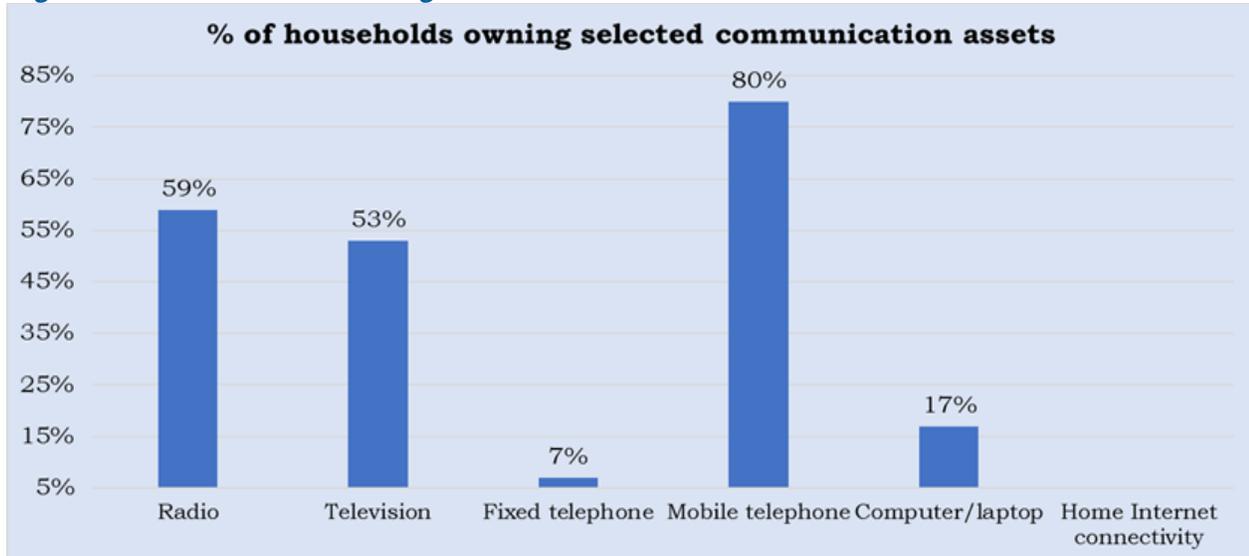
6.8.6. Air Network

Rundu airport is approximately 5 kilometers Southwest of Rundu town. This airport is mostly used for domestic transportation of individuals both business and personal purposes as well as tourism and cargo purposes.

6.9. Information and Communication Services

Access to information is made effective with the population having access to communication devices. Figure 40 below shows the proportion of households owning various communication devices. In Rundu, radio and mobile phone remains the most common forms of communication assets owned by households. About 59 percent and 80 percent of households in Rundu own radio and mobile phones respectively. About 53 percent of households owns television meaning less than half of families do not own a television. However, only 4 percent of households have connectivity to internet services which indicates that internet usage could be low though mobile phones provide access to internet as well.

Figure 40: Households Owning Communication Devices



Source: 2015/16 NHIES, 2011 National Census & First Capital Research

6.9.1. Radio and Television Access and Infrastructure

Namibia's infrastructure development in information and technology has always enabled the Rundu residents to have access to information through radios and television. In Rundu, all the 7 national radio channels in various languages of the country administered by the Namibian Broadcasting Corporation (NBC) can be accessed. Furthermore, there are 5 extra radio channels available to Rundu residents which are equally accessible to most parts of the country. As shown in *figure 40*, most families have Rundu own a radio given the low cost to own a radio as well as the wide network access of the use of radio in the country. Equally, since radio owners are not obliged to pay license fees subjected on television owners, owning a radio remains cheap for most households. Access to television in Namibia is subject to annual license fees. Equally noted from observations is that still several households own a television.

6.9.2. Telecommunication Access and Infrastructure

The Namibian telecommunication market is, compared to African standards, a well-developed market due to infrastructures put in place by both Telecommunications (Telecom) and the Namibian Mobile Telecommunications Company (MTC). Through observations and engagements with residents of Rundu, it was common that cellphones are widely owned and used as medium of communication by most of the individuals. MTC estimates that there are 2.4 million active cellphone customers in the country which could be an indication that

almost every adult individual could have a cellphone, with some owing more than one cellphone.

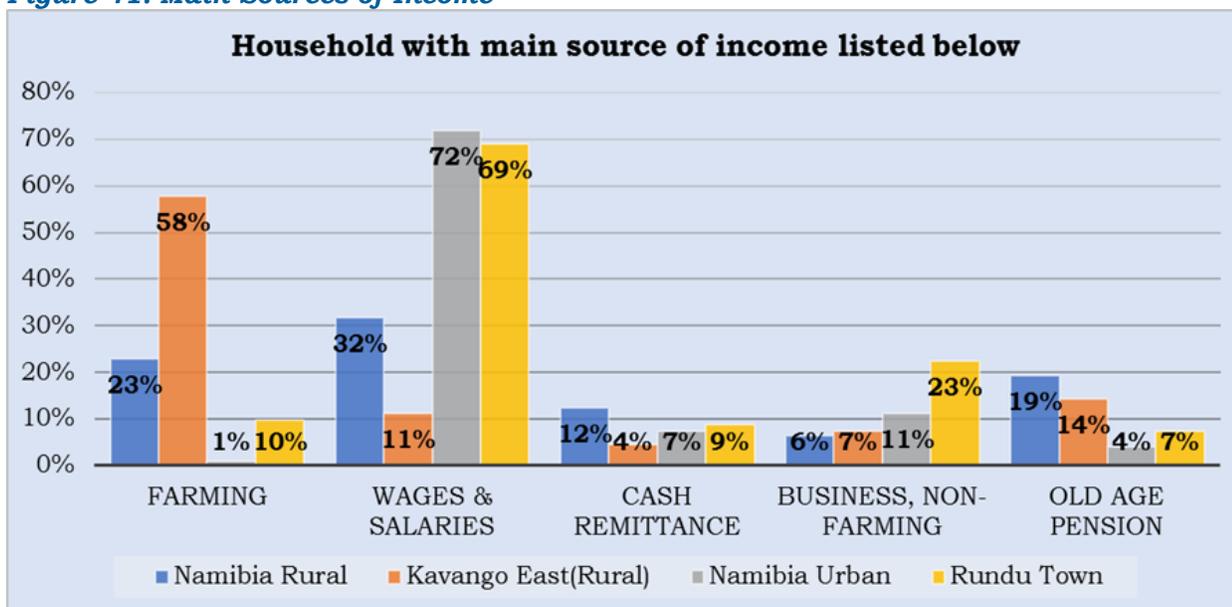
Using the list of residential telephones registered with Telecom and the household population in Rundu, we estimated the coverage of access to telephones. Our estimates indicate that about 7 in every 100 households owns a telephone. This is in line with the available statistics of the national household survey.

SECTION 3: HUMAN DEVELOPMENT

7. SOURCES OF INCOME

The source of income for individuals show how they makes a living. Figure 41 below shows sources of income for most households. The main source of income to Rundu households remain wages and salaries accounting 69 percent of families relying primarily on wages and salaries. This is slightly below the national urban population average of 72 percent households with wages and salaries as main source of income. The second main source of income is business and non-farming activities accounting for 23 percent. However, in rural areas of Kavango East region the most source of income is farming with 58 percent of households deriving their primary income from either commercial or subsistence farming. Overall, the country wide majority of households in urban areas depend on wages and salaries, which is in line with that of Rundu.

Figure 41: Main Sources of Income



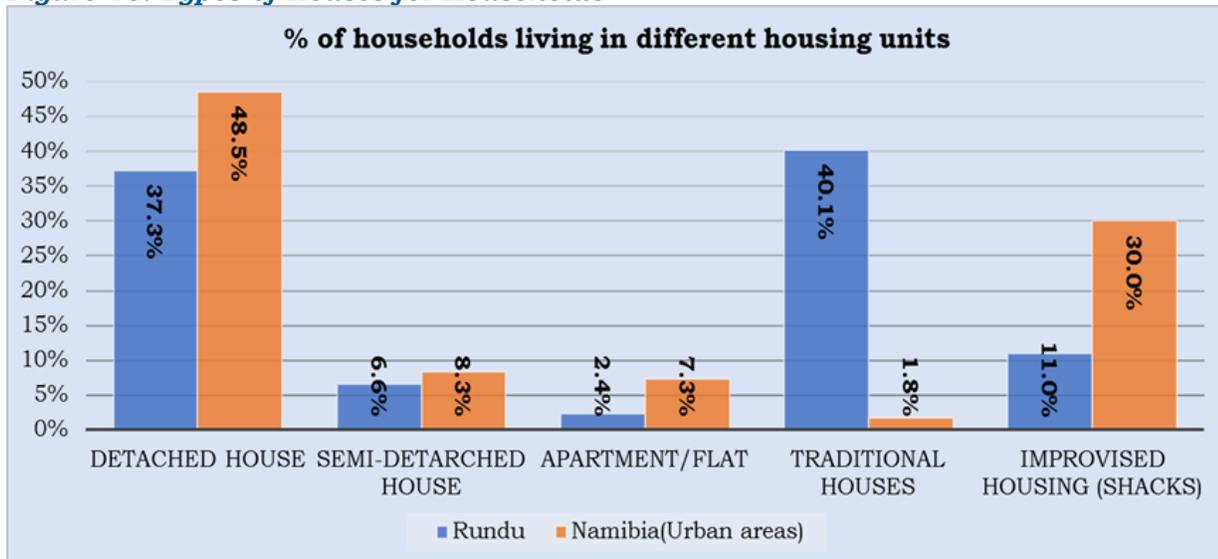
Source: 2015/16 NHIES, 2011 National Census & First Capital Research

8. POVERTY INCIDENCE

According to the 2015/16 NHIES, 17.4 percent of households in Namibia are classified as poor of which 10.7 percent are severely poor. The classification of poverty lines in the country is defined by how much a household spends on basic needs of which the poverty line for Namibia is N\$ 520.80 meaning households that spends less than N\$ 520.80 are considered poor and those spending less than N\$ 389 are considered severely poor.

detached structures (stand-alone houses). More investment required to go to agriculture and businesses to diversify sources of income for the town's population.

Figure 43: Types of Houses for Households

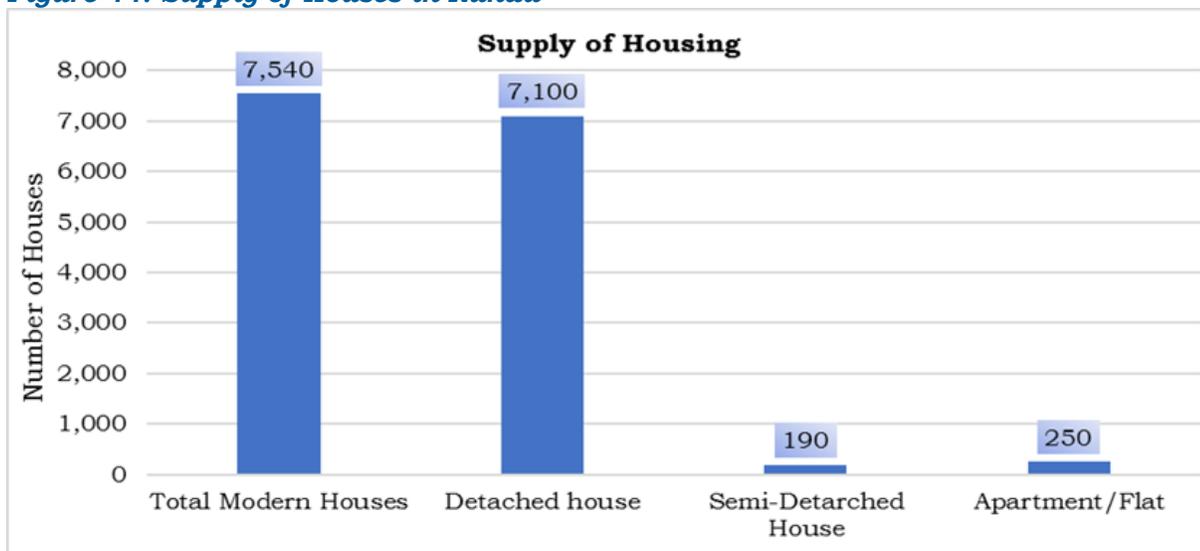


Source: 2015/16 NHIES, 2011 National Census & First Capital Research

9.1.1. Supply of Houses in Rundu

We have estimated the number of households by the type of housing units in Rundu. Figure 45 below shows that there are 7,540 modern houses in Rundu of which 7,100 or 47 percent are standalone houses while 1.3 percent are semi-detached houses (see figure 44 below).

Figure 44: Supply of Houses in Rundu

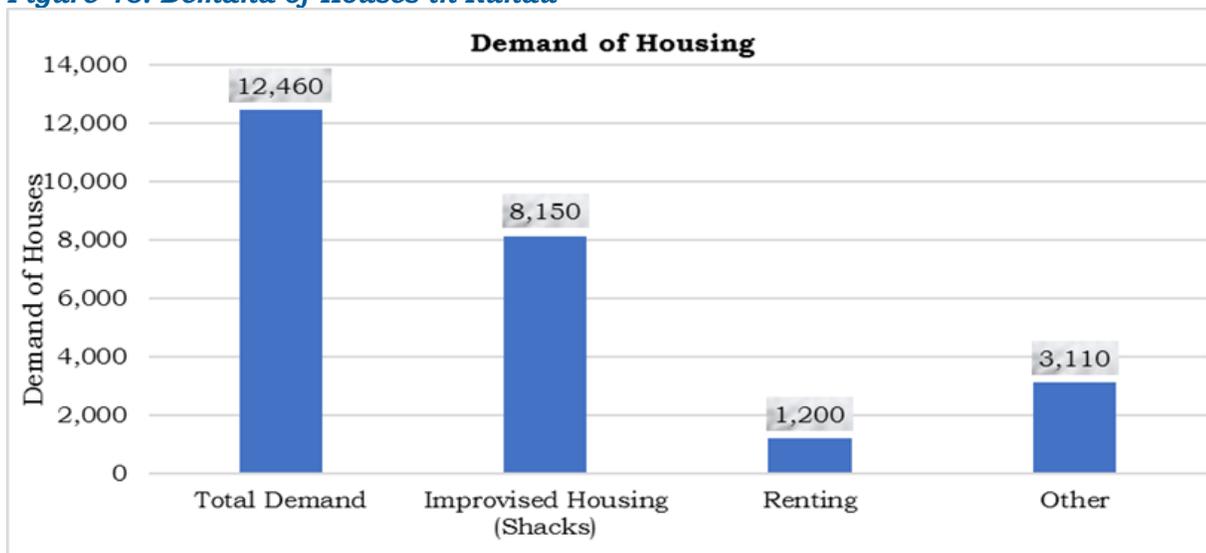


Source: First Capital Survey

9.1.2. Demand for Houses

Our estimated total demand for households that need houses is 12,460. This is comprised of a total of 8,150 families that live in impoverished houses. Also included is 1,200 families that are renting either from private landlords or employers. Furthermore, we also estimated that about 3,110 families who are either living outside the town of Rundu who needs houses. These includes individuals from Rundu who work in rural areas or happen to work in other parts of the country.

Figure 45: Demand of Houses in Rundu



Source: First Capital Survey

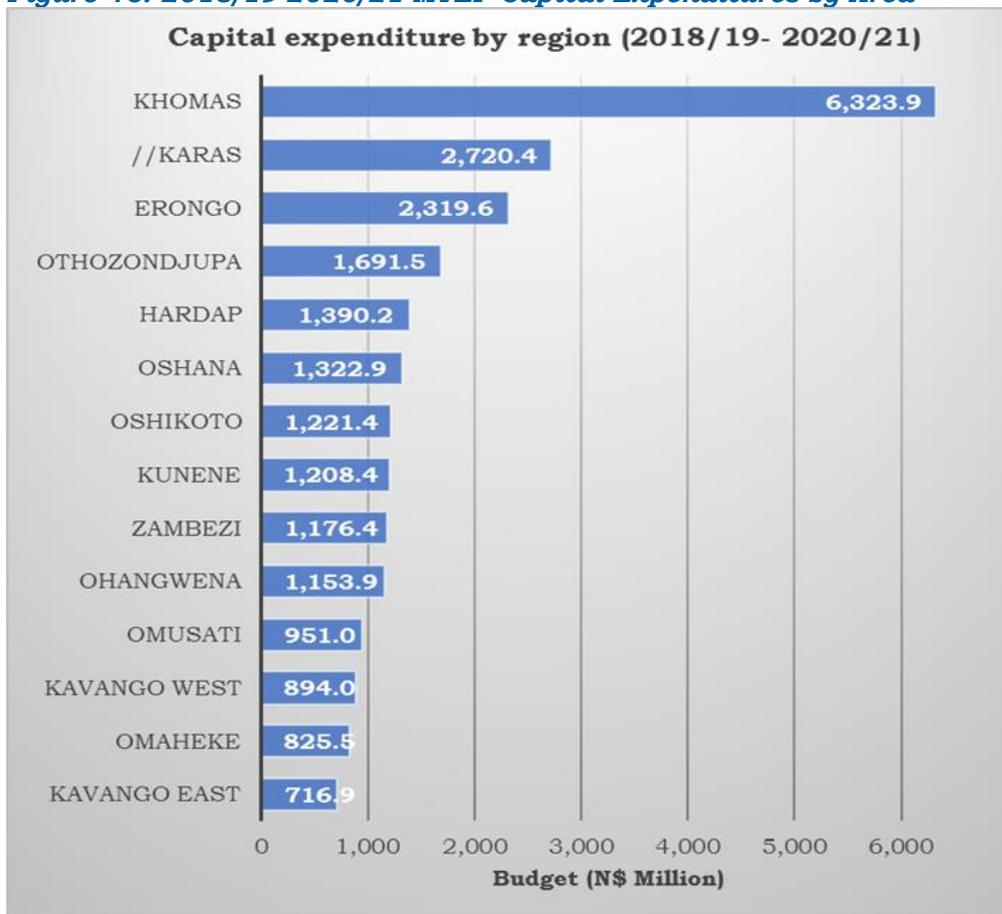
SECTION 4: NATIONAL INFRASTRUCTURE PROJECTS

10. INFRASTRUCTURE DEVELOPMENT

10.1. Government Expenditure by Region

During the period 2018/19 Government has budgeted to spend N\$7.8 billion on capital projects with new projects initiated while others will be a continuation from the previous periods. Over the medium term (2018/19- 2020/21) government budgeted to spend N\$24.3 billion on capital projects. The figure below shows the MTEF budget allocations by region for the budgeted projects. The government has budgeted to spend about N\$716.9 million on infrastructure developments in Kavango East region. The budget allocated for capital projects in Kavango East is the lowest compared to investments in other regions. However, the Kavango East region has been attracting private investments in agriculture that compensates the low government investment in the region.

Figure 46: 2018/19-2020/21 MTEF Capital Expenditures by Area

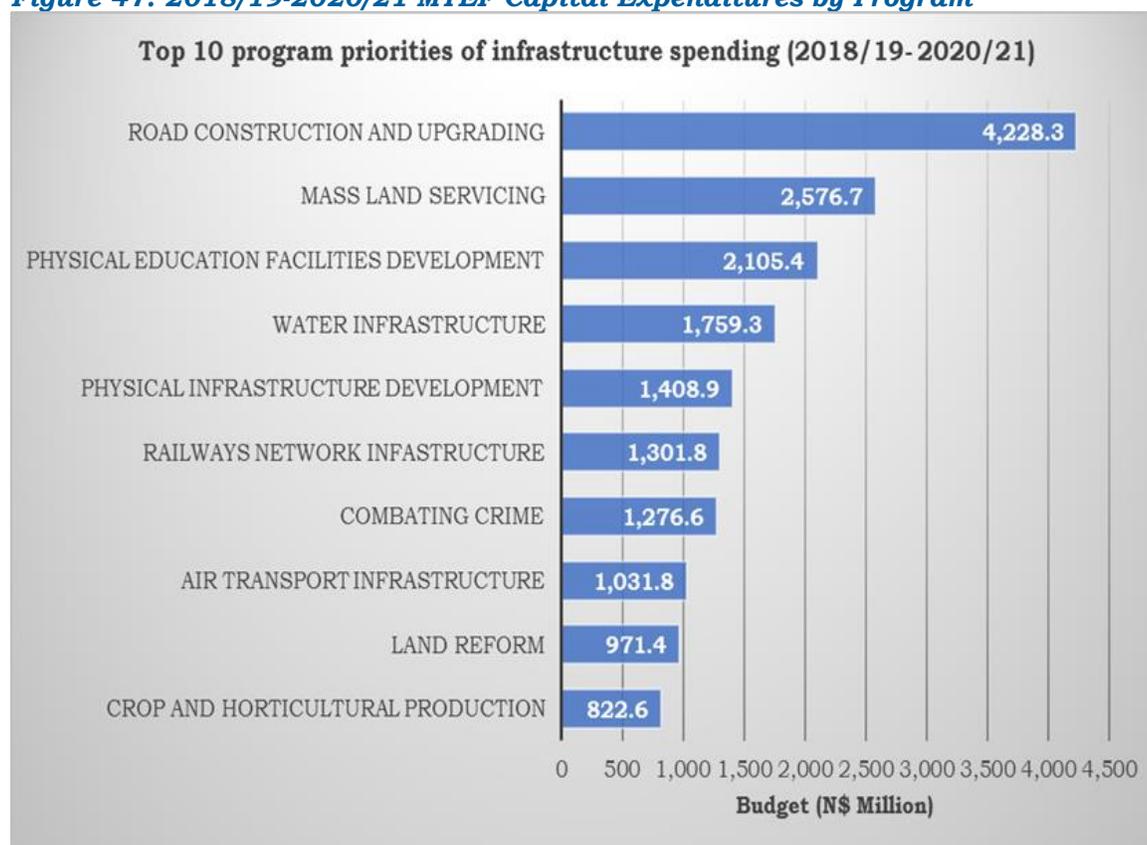


Source: Ministry of Finance

10.2. Top Programs of National Government Expenditure

Government's top 10 spending priorities on capital projects are shown in the *figure 47*. The most priority of investment for the MTEF period (2018/19- 2020/21) is the construction and upgrading of roads throughout the country which is budgeted to cost government more than N\$4.2 billion. The second spending priority is on mass land servicing within local authority areas which have a budget of N\$2.5 billion. The government has further budgeted to spend not less than N\$1.3 billion on each of the following programs: Physical education facilities, water infrastructures, Physical and railway infrastructural developments.

Figure 47: 2018/19-2020/21 MTEF Capital Expenditures by Program



Source: MoF

10.3. List of Major Government Expenditure Projects

Listed below in table 3 are major projects budgeted for the MTEF Period under review. During the MTEF period (2018/19- 2020/21) the government budgets to spend N\$776 million on the upgrading of the Windhoek-Hosea Kutako 44 kilometers dual carriageway road. About N\$653 million will be spent on the Nekatel dam in the Karas region. The upgrading of the Walvis Bay-Swakopmund 44 kilometers road received a budget of N\$617

million. The upgrading of Leopards Valley Military Base, rehabilitation of the 67 kilometers Windhoek Okahandja road and the construction of head office for the Ministry of Home Affairs and Immigration all received budgets above N\$350 million.

Table 3: List of Government's Major Capital Expenditures

No.	Project Name	Implementing Agency	Area of project implementation	2018/19- 2020/21 Budget (N\$ Million)
1	Upgrading the TR9/1: Windhoek-Hosea Kutako road to a dual carriage (44km)	Ministry of works	Khomas region	776.1
2	Construction of Large Dams, Desalination and Provision of Water to larger Settlements	Ministry of Agriculture	Karas region	653.6
3	Upgrading of the MR 44: Swakopmund- Walvis Bay Road (44KM)	Ministry of works	Erongo region	617.4
4	Upgrading of Leopards Valley Military Base	Ministry of Defence	Khomas region	444.2
5	Rehabilitation of the TR 1/16: Windhoek -Okahandja Road (67km)	Ministry of works	Khomas & Otjozondjupa region	355.4
6	Construction of Head Office for the Ministry of Home Affairs and Immigration	Ministry of Home Affairs and Immigration	Khomas region	355.3
7	Northern Railway Line Extension	Ministry of works	Northern regions	325.0
8	Building and Maintenance	Ministry of Education, Arts and Culture	Khomas region	315.8
9	Rehabilitation of Eros Airport Runway, Taxiway & Apron Extension	Ministry of works	Khomas region	278.2
10	Construction of Swakopmund- Henties Bay- Kamanjab Road (412KM)	Ministry of works	Erongo & Kunene region	275.4
11	Construction of Forensic Laboratory in Windhoek	Ministry of Safety & Security	Khomas region	213.2
12	Railway Network Upgrading	Ministry of works	Otjozondjupa region	194.4
13	Construction of gravel road: Isize - Sifuha - Malindi- Schuckmannsburg (50km)	Ministry of works	Zambezi	193.8
14	Rehabilitation of Southern Railway Line Section Sandverhaar-Buchholzbrunn	Ministry of works	// Karas region	181.1
15	Railway Network Upgrading	Ministry of works	Erongo region	166.8
16	Construction of Opuwo Aerodrome	Ministry of works	Kunene region	157.9
17	Rehabilitation of the Keetmanshoop- Mariental Road (386KM)	Ministry of works	// Karas & Hardap region	156.5
18	Construction of Sites and Premises Industrial Estates	Ministry of Industrialisation, Trade and SME Development	Khomas region	151.0
19	Widening of Tsumeb Aerodrome	Ministry of works	Oshikoto region	149.0
20	Construction of Police Accommodation	Ministry of Safety & Security	Khomas region	116.0
21	Construction of a new Area Control Tower for the Windhoek FIR	Ministry of works	Khomas region	112.9
22	Upgrading of Mpacha Airport	Ministry of works	Zambezi	112.8
23	Green Scheme	Ministry of Agriculture	Zambezi	103.1
24	Upgrading and Development of Informal Settlements & Low Income Townships in Windhoek	Ministry of Rural and Urban Development	Khomas region	98.0
25	Upgrading and Rehabilitation of Aus-Luderitz Railway Line	Ministry of works	// Karas region	81.1
26	Upgrading of the High Court	Ministry of Justice	Khomas region	73.7

Source: MoF

CONCLUSION

In this report we have presented and profiled the economy of Rundu and how it fits within the national economy. The town holds much potential in agricultural crop farming. Due to high potential of crop farming in Kavango East region, there is a strategic need for formalized agricultural training institutions offering both technical and management courses. Its high and rapid increasing population as well as improving income levels provides an opportunity of the buying power to local businesses. The local economy is private sector driven, and the rapid growth in local infrastructure developments indicates the future growth potential of the town's economy. Despite its growing agricultural farming base, access to financing especially for green schemes remains a challenge to enhance the potential further. Value addition in agricultural raw commodities is also low hence there is potential to grow the local production capacity.

ABOUT US

First Capital Namibia is a financial services company specialized in providing treasury and asset (investment) management services. Established in July 2009, First Capital have in-depth, personal knowledge of the Namibian capital markets and the resulting insight enables us to manage Namibian assets across different spectrum including cash management, equity, fixed income, specialist agriculture and property mandates. We are licensed to manage money for private investors, pension funds, insurance groups, public (government) sector, and charities. Our credibility as asset managers is tightly governed by the Namibia Financial Institutions Supervisory Authority (NAMFISA). We are a Namibian based investment team and focus exclusively on the Namibian market and we add value to portfolios through offering specialized Namibian mandates.



FIRST CAPITAL TREASURY SOLUTIONS (Pty) Limited

RESEARCH

Milner Siboleka

milner@firstcapitalnam.com

Martin Mwinga

mwinga@firstcapitalnam.com

Clarinda Kavezuva

clarak@firstcapitalnam.com

Frieda Amadhila

frieda@firstcapitalnam.com

SALES

Lizah Bezuidenhoudt

lizah@firstcapitalnam.com

Claudia Guedes

claudiag@firstcapitalnam.com

LENDING

Albertina Shoopala

albertinas@firstcapitalnam.com

Jean P Dushimire

johnp@firstcapitalnam.com

PORTFOLIO MANAGEMENT

Martin Mwinga

mwinga@firstcapitalnam.com

Tafadzwa Mashozhera

mashozhera@firstcapitalnam.com

Milner Siboleka

milner@firstcapitalnam.com

Frieda Amadhila

frieda@firstcapitalnam.com

Telephone: +264 61 446700

Fax: +26461401353

No. 124 John Meinert Street

Windhoek West

Windhoek

P.O. Box 4461

Windhoek

Namibia

www.firstcapitalnam.com

Disclaimer:

This document is issued by First Capital Namibia.

While all reasonable care has been taken in preparing this document, no responsibility or liability is accepted for errors of fact or for any opinion expressed herein. Opinions, projections, and estimates are subject to change without notice. This document is for information purposes only. It does not constitute any offer, recommendation, or solicitation to any person to enter into any transaction or adopt any hedging, trading, or investment strategy, nor does it constitute any prediction of likely future movements in rates or prices or any representation that any such future movements will not exceed those shown in any illustration. The contents of this document are not made with regards to the specific investment objectives, financial situation, or the needs of any person.

