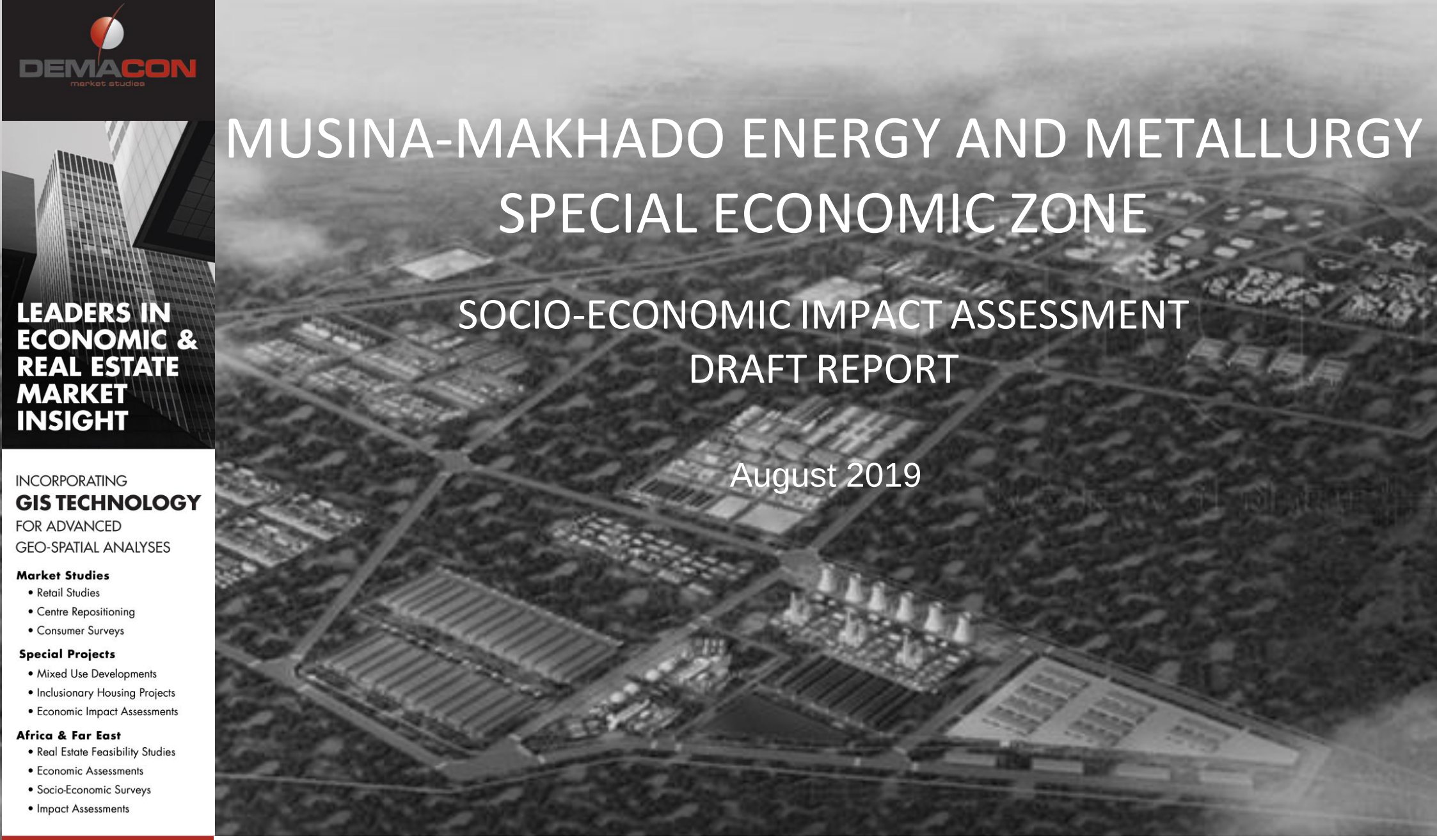


MUSINA-MAKHADO ENERGY AND METALLURGY SPECIAL ECONOMIC ZONE

SOCIO-ECONOMIC IMPACT ASSESSMENT DRAFT REPORT

August 2019

PREPARED FOR:

LEDA
LIMPOPO ECONOMIC DEVELOPMENT AGENCY

PREPARED BY:

DEMACON market studies

ENQUIRIES:

Dr. Hein du Toit

☎ +27 12 460 7009
🖷 +27 12 346 5883
▯ +27 82 8988 667
✉ hein@demacon.co.za
🔗 www.demacon.co.za

DEMACON is a member of

SOUTH AFRICAN PROPERTY OWNERS ASSOCIATION

(SAPOA)

SOUTH AFRICAN COUNCIL OF SHOPPING CENTRES

(SACSC)

The information contained in this report has been compiled with the utmost care and accuracy within the parameters specified in this document. Any decision based on the contents of this report is, however, the sole responsibility of the decision maker.

EXECUTIVE SUMMARY

DEMACON Market Studies were requested by the **Limpopo Economic Development Agency (LEDA)** to compile a **socio-economic impact assessment** as part of the **Scoping and Environmental Impact Reporting process** for the **Musina-Makhado Energy and Metallurgy Special Economic Zone (MMEMSEZ)**.

The proposed MMEMSEZ is located across the shared border between the **Musina and Makhado Local Municipalities** which fall under the Vhembe District Municipality in the Limpopo Province. The nearest towns are Makhado (located 31 km south) and Musina (located 36 km north) of the proposed SEZ site.

The MMSEZ will comprise an offering of **mixed land uses and infrastructure provision** to ensure the optimal manufacturing operations in the energy and metallurgical complex. It is envisaged that the energy and metallurgical complex shall comprise **various manufacturing plants**.

In the context of the brief, the project will be executed in terms of an **economic impact modelling framework**. The methodology applied as part of the research project is outlined in the following diagram and explained in greater detail in the following paragraphs.

STEP 1: INCEPTION AND PROJECT DEFINTION

The step will serve to refine the scope of the brief. It is imperative that the economic impact assessment to be performed, is tailored according to the project's unique requirements.

STEP 2: BASE PROFILE AND TREND ANALYSIS

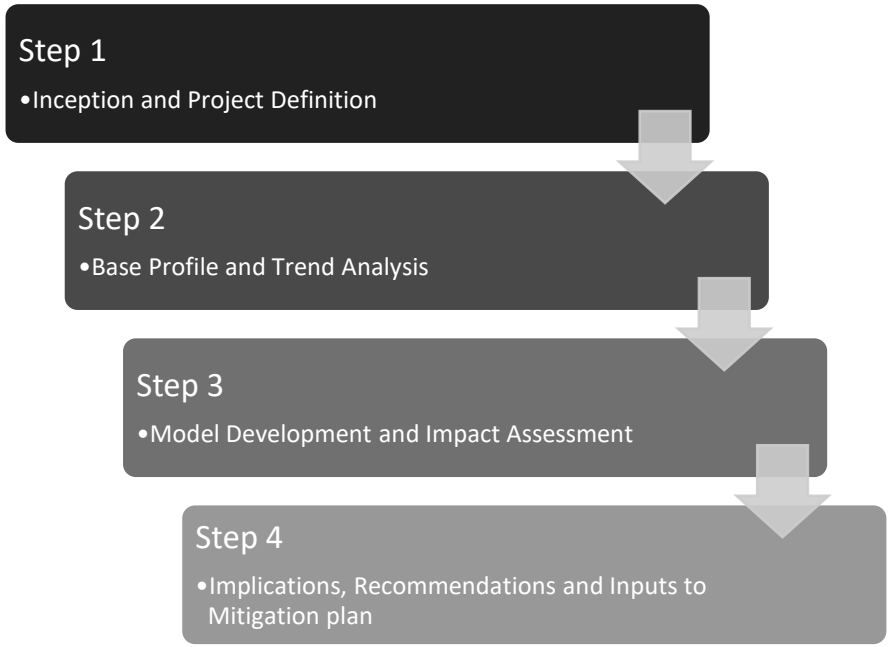
The step will seek to compile a comprehensive status quo dataset on the affected local economies, as well as pertinent land use and concise demographic / socio-economic indicators and profiles. These datasets will provide viral base information for development of the impact model for the area.

STEP 3: MODEL DEVELOPMENT AND IMPACT ASSESSMENT

The purpose of the step is to develop and calibrate an econometric impact model and simulate the economic effects of the proposed project as described in the preceding step and quantify the multiple economic impacts of the project by means of a computerised economic simulation model based on the input-output technique.

STEP 4: IMPLICATIONS, RECOMMENDATIONS AND INPUTS TO MITIGATION PLAN

The results obtained from previous steps will be interpreted to ensure sustainable development of the project. market based implementation guidelines will be formulated to guide project implementation towards maximising potential economic impacts and project sustainability.



DEFINING THE ZONE OF INFLUENCE

The locality, or zone of influence, is based on the concept of host and supporting municipalities. The host municipality refers to the geographic region (administrative demarcation) which is home to the SEZ project in question, while supporting municipalities are geographic regions that border the host municipality and are regions where labour and other resources and services are potentially sourced.

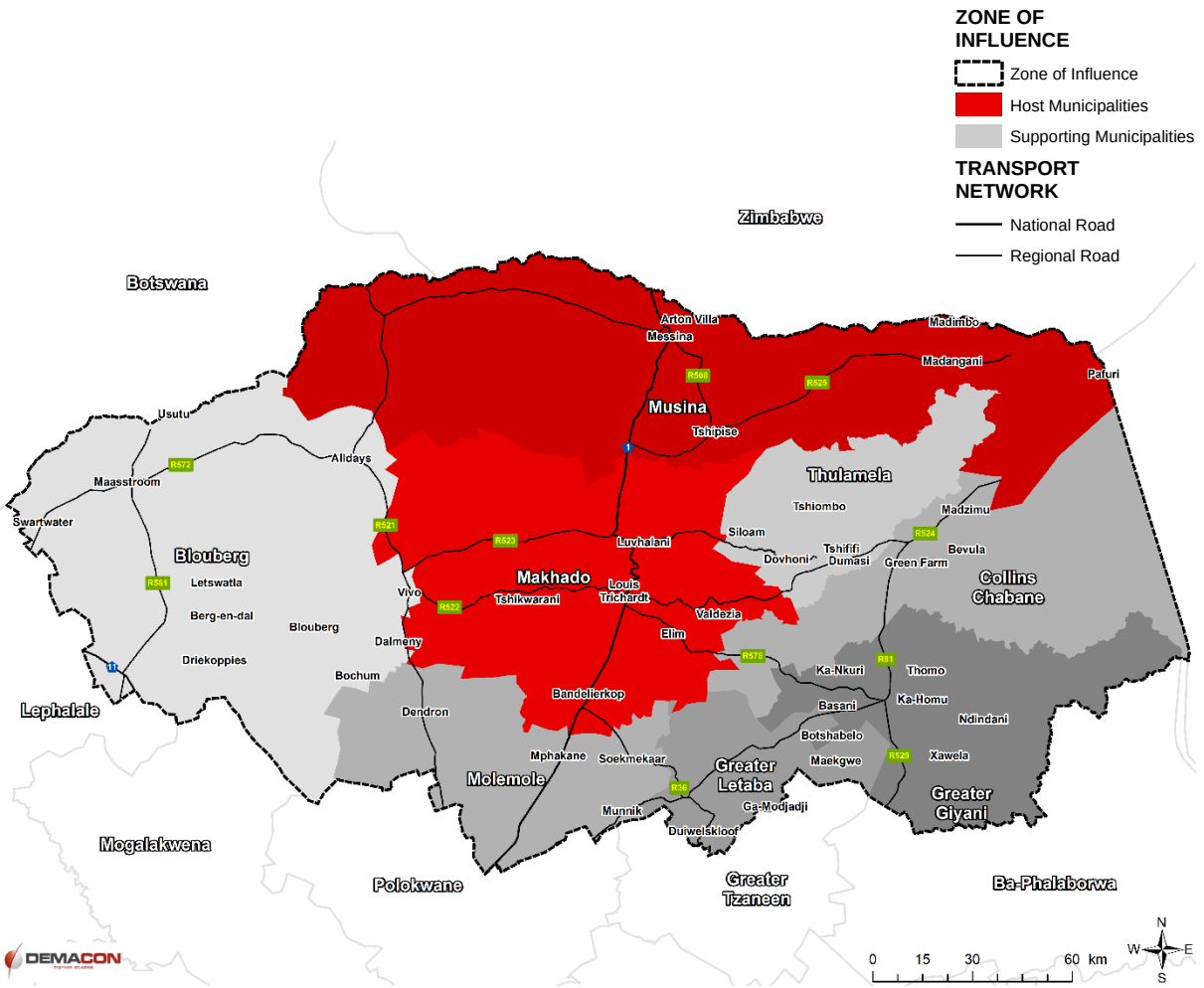
The proposed inclusion of the MMEMSEZ has a sphere of influence which extends to the following areas:

- ✓ The host municipalities:
  - Musina Local Municipality and Makhado Local Municipality which includes the towns of Musina and Louis Trichardt and contains a portion of the Venda Tribal Authority homeland.
- ✓ The supporting municipalities:
  - which include the Greater Giyani, Greater Letaba, Thulamela, Blouberg, Molemole, and Collins Chabane local municipalities.

The economic data analysed in this report focuses on the Musina and Makhado Local Municipalities as the local economy/s in which the proposed SEZ is situated.

The Musina and Makhado municipalities are situated in the Vhembe District Municipality, which in turn is situated in the Limpopo Province. Reference is also made to these economic geographies in order to fully analyse relevant economic data.

The analysis of socio-economic data is focused on the Musina and Makhado host municipalities and bordering supporting municipalities. Detailed analysis is conducted on the host municipalities, while reference is made to supporting municipalities as well.

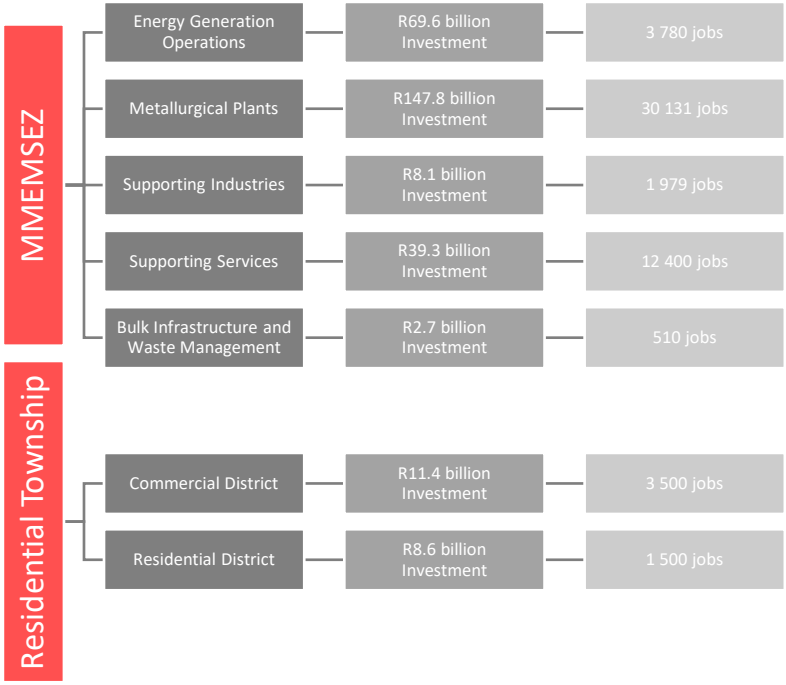


MUSINA-MAKHADO ENERGY AND METALURGY SPECIAL ECONOMIC ZONE

The MMEMSEZ is positioned between the towns of Musina and Makhado (Louis Trichardt) and extends along the western portion of the N1 highway. The proposed development site is positioned across the shared administrative border of the Musina and Makhado Local Municipalities and is positioned within the Vhembe District Municipality administrative region. The development site consists of 8 farms totalling 8 048 hectares.

The location is positioned to function as a metallurgical cluster with the aim to beneficiate metals with supporting up- and down-stream activities. The initiative strives toward creating a mixed land-use offering that comprises necessary infrastructure that will support optimal development and operational activities once complete.

CONCISE OVERVIEW OF OPERATIONS AT THE MMEMSEZ



The proposed operations in the MMEMSEZ consists of multiple plants used for energy generation, metallurgy and bulk infrastructure supply. Proposed operations also incorporate storage facilities, bonded areas, machining, logistics, administrative functions and a visitor's lodge.

In support of the MMEMSEZ a residential township establishment is proposed. The residential township's aim is to provide residential and commercial facilities to labourers employed at the SEZ. It should be noted that the proposed residential township is to be located on land separate from the SEZ and will be under ownership of the MMSOC.

LABOUR REQUIREMENT

48 800 labourers are required by operational entities within the SEZ at full operational status compared to **5 000 labourers** in the residential township. A total of **53 800 labourers** are required by the SEZ.

According to the Internal Master Plan (August 2019):

- ✓ **60% of executive positions** are to be filled from the local labour market while the remaining 40% of positions are to be filled from the Chinese labour market.
- ✓ **75% of professional positions** are to be filled from the local labour market while the remaining 25% of positions are to be filled from the Chinese labour market.
- ✓ **95% of ordinary staff positions** are to be filled from the local labour market while the remaining 5% of positions are to be filled from the Chinese labour market.

Based on the above, on average **89%** or **47 694** of potential employment opportunities created internally by the SEZ and residential township are to be occupied by labour from the South African labour force.

MUSINA-MAKHADO ENERGY AND METALURGY SPECIAL ECONOMIC ZONE

ANNUAL OUTPUT OF THE MMEMSEZ

Project Type	Total Output Value	
	USD / Million	R / Million
Total Energy Generation Output	$3 636	R51 956
Total Metallurgical Plant Output	$20 756	R296 600
Total Supporting Industries Output	$1 315	R18 791
Total Supporting Services Output	$3 200	R45 727
Total Bulk Infrastructure Output	$171	R2 444
Total Commercial District Output	$900	R12 861
Total Residential District Output	$500	R7 145
Total MMEMSEZ Output	**$29 078**	**R415 518**
Total Residential Township Output	**$1 400**	**R20 006**
Total Output Value	**$30 478**	**R435 523**

REVENUE STREAMS

The income derived from revenue streams (i.e. moneys payed by operational entities in the SEZ to the SEZ Operator for services rendered) are used by the SEZ Operator for capital, operating and maintenance purposes.

The revenue streams include:

- ✓ Potable water purification and distribution;
- ✓ Process water treatment & distribution;
- ✓ Electricity distribution;
- ✓ Environmental management fee including a rehabilitation fund;
- ✓ Municipal waste collection
- ✓ Rates (refuse) & taxes (property) payable to the municipality
- ✓ Operator levy to all investors for the maintenance of roads, storm water, security and other non-met red service utilities;
- ✓ Sanitation (sewerage) collection & treatment,
- ✓ Industrial waste management, and
- ✓ Land lease to all investors.

The revenue generated from the above revenue streams assist with the payment of service level agreements to other entities for services rendered to the SEZ. Services include:

- ✓ Municipal waste collection or fee at landfill site
- ✓ Taxes payable applicable to the municipality
- ✓ Bulk service providers e.g. water and electricity
- ✓ Land lease cost to SOC

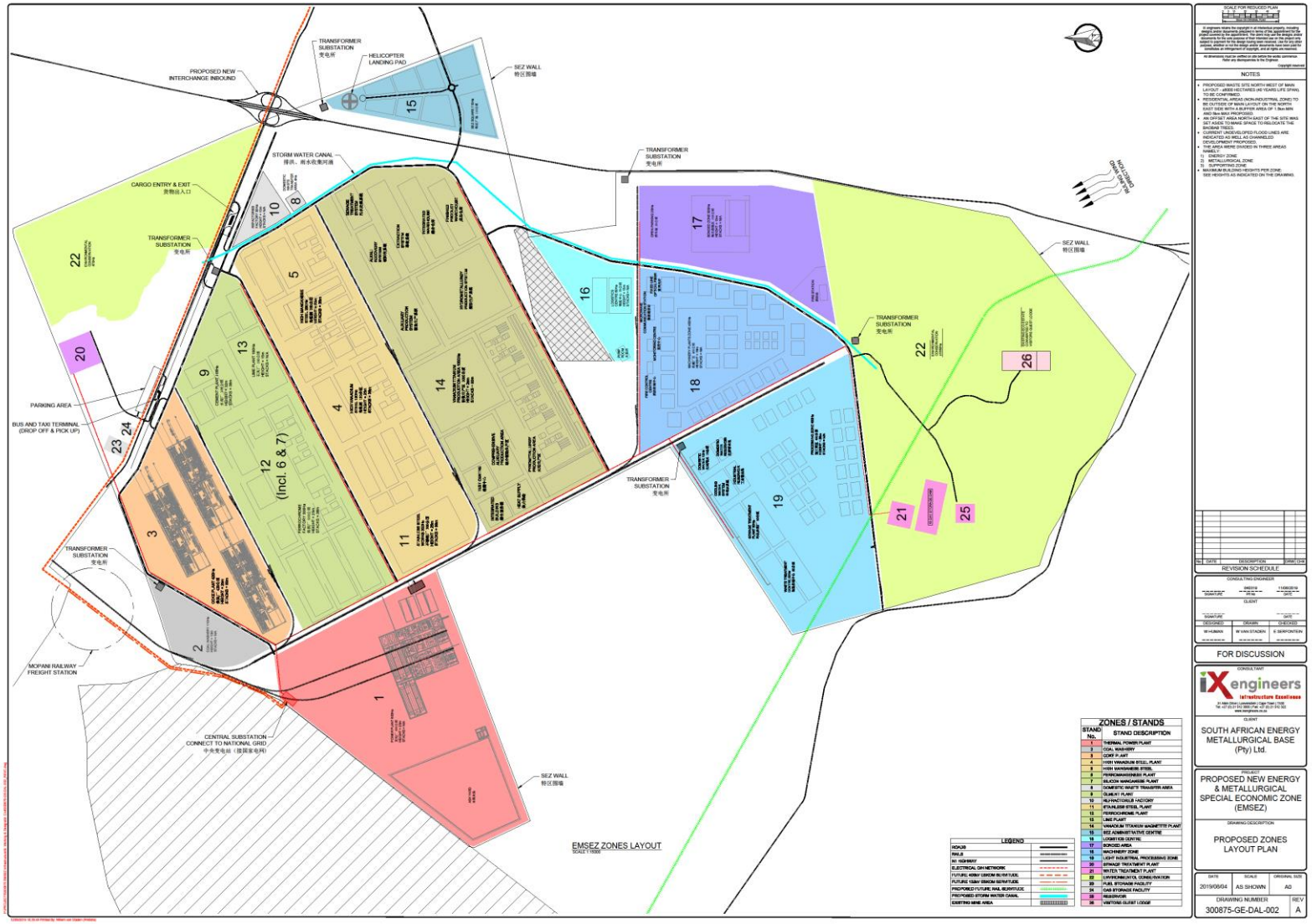
SEZ IMPLEMENTATION PHASING

According to the Internal Master Plan (August 2019) the broad phasing and operation of components of the SEZ is structured as follows:

Item	Construction Start (Year)	Construction End (Year)
Early Works and Internal Bulk Infrastructure	2020	2021
Phase 1 Construction	2022	2026
Phase 2 Construction	2026	2029
Phase 3 Construction	2029	2031

MUSINA-MAKHADO ENERGY AND METALURGY SPECIAL ECONOMIC ZONE

INTERNAL MASTER PLAN OF THE MMEMSEZ

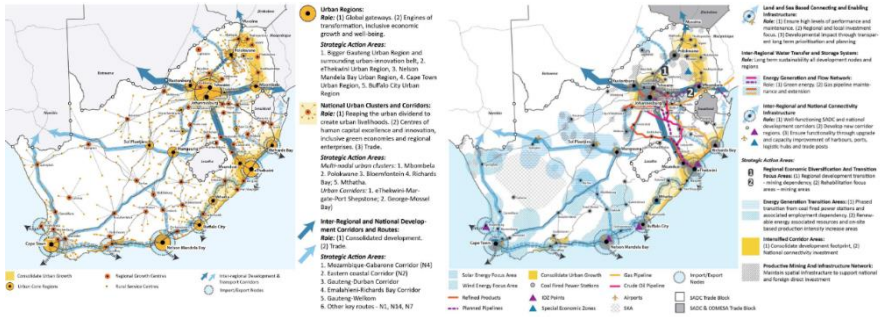


LOCATION ANALYSIS – NATIONAL, DISTRICT AND LOCAL CONTEXT

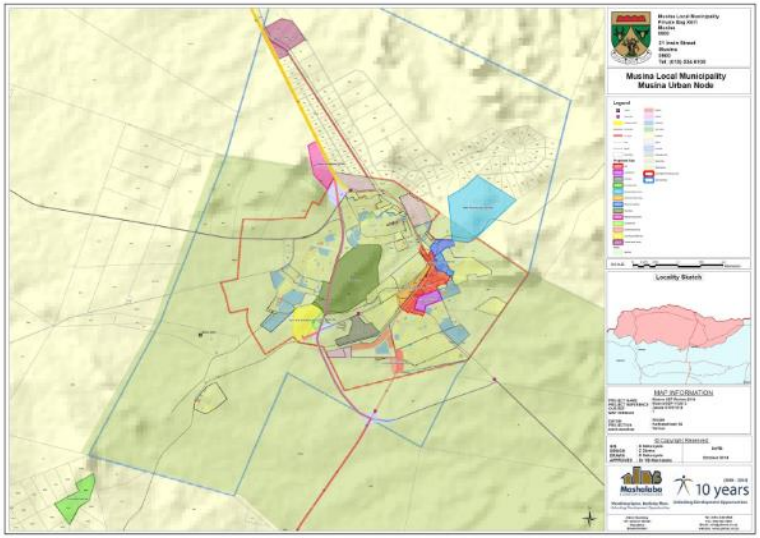
KEY ATTRIBUTES

- ✓ The Musina area has been identified as being a rural service point by the NSDF, whilst the Makhado area has been identified as an urban growth point.
- ✓ The role of the Makhado area is to be an urban-rural anchor providing essential social economic services to surrounding rural communities. Linkages should be promoted to encourage accessibility.
- ✓ The Musina and Louis Trichard towns have been identified as provincial growth points by the local and provincial spatial development frameworks.
- ✓ The N1 highway is considered the primary corridor for both host municipalities and aligns to future investment expectations related to logistics and industrial development.
- ✓ The Musina host municipality is home to the logistics section of the Musina-Makhado SEZ. The Limpopo Eco-Industrial Hub is also planned north of the Musina town in order to link logistics and international trade to the proposed hub.
- ✓ The housing backlog in the host municipalities is in excess of 16 000 households. The host municipalities are not accredited to implement subsidy housing projects thus backlogs are dependent on provincial planning, funding and implementation.

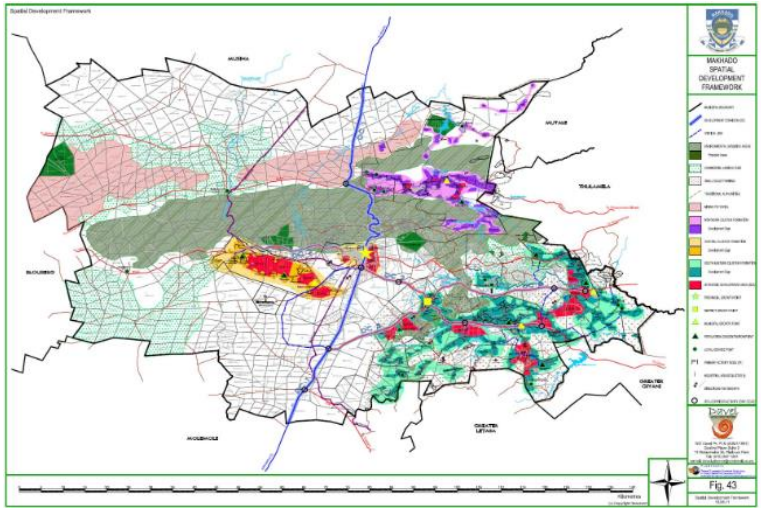
NSDF NODES AND CORRIDORS



MUSINA SPATIAL DEVELOPMENT FRAMEWORK



MAKHADO SPATIAL DEVELOPMENT FRAMEWORK

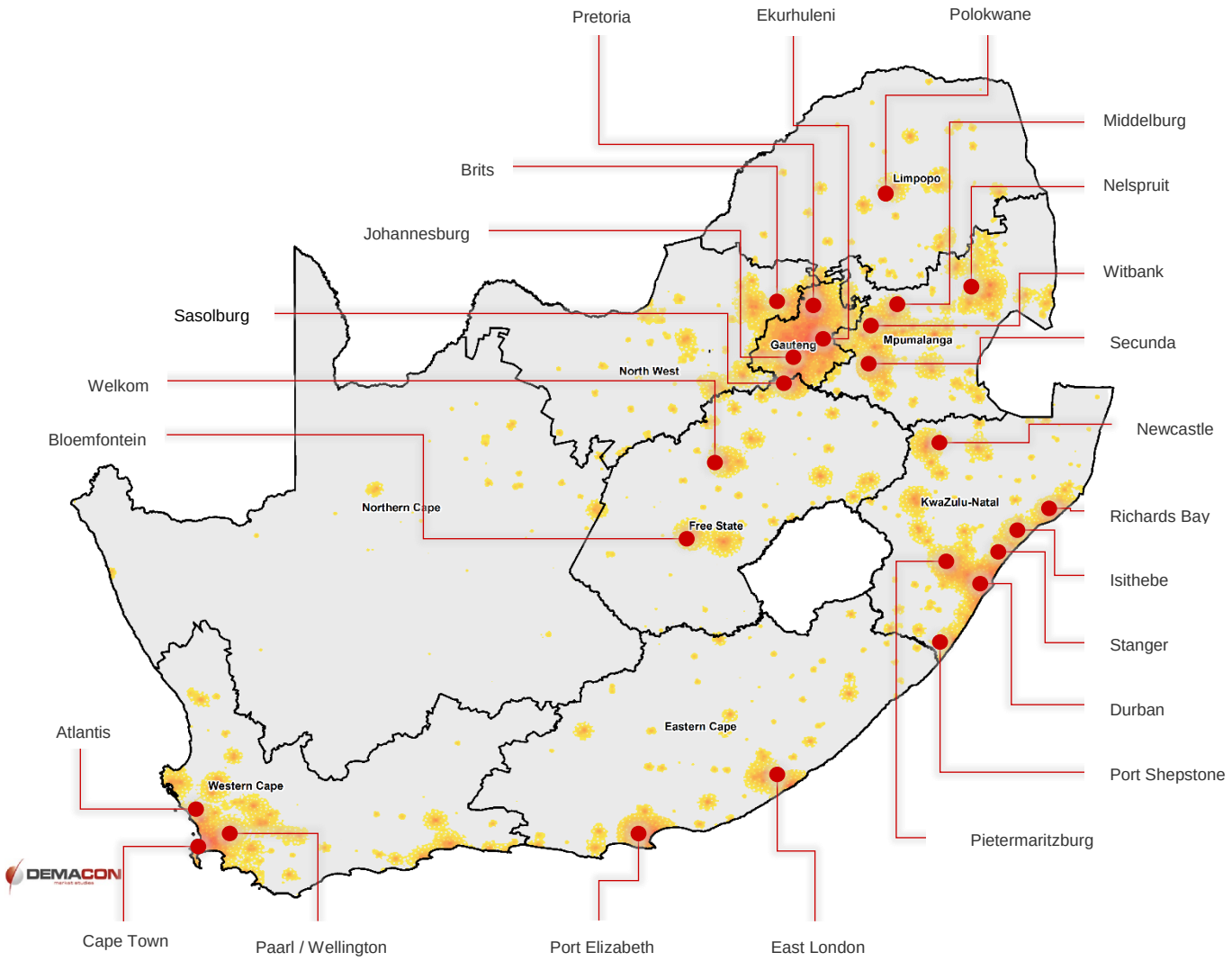


MANUFACTURING SECTOR – NATIONAL CONTEXT

Based on the primary output of operations proposed as part of the MMEMSEZ, the following section considers the manufacturing sector of the South African, Limpopo Province and Host municipalities.

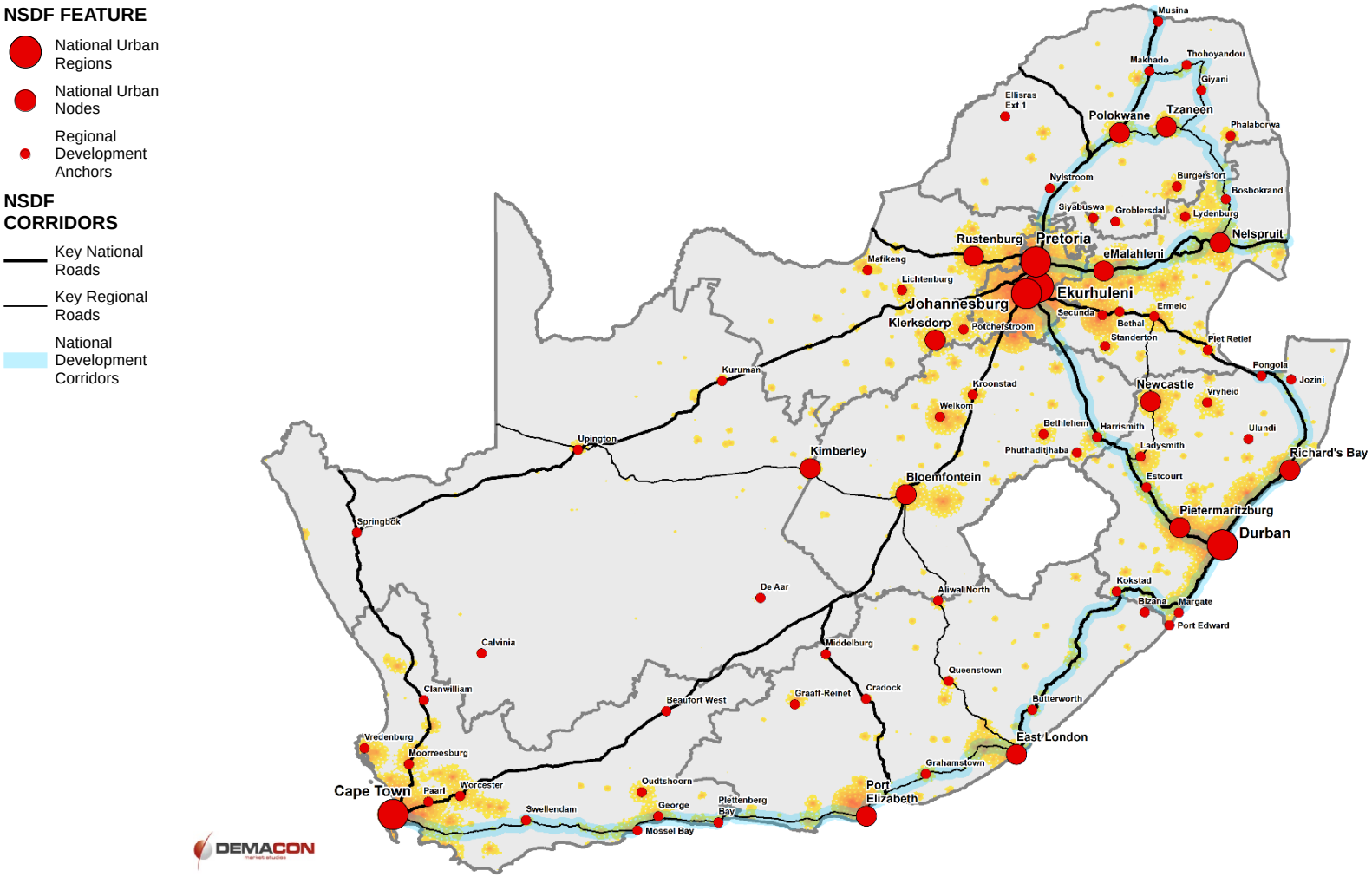
Because the metallurgical operations at the SEZ seek to produce various metal related products, it is essential to consider operations in light of the manufacturing sector so as to determine the role and function of metallurgical operations specific to the project within the manufacturing sector.

The following map provides an overview of the distribution of manufacturing activities throughout South Africa based on GVA output per Meso Zone. The map seeks to show the **concentration of manufacturing output** and assists with the identification of primary manufacturing nodes. The distribution of manufacturing nodes is used to determine the context of the Musina-Makhado SEZ in relation to major manufacturing areas.



MANUFACTURING SECTOR – NATIONAL CONTEXT

Apart from the distribution of manufacturing sector output, the relationship which the manufacturing sector has with NSDF identified national nodes and corridors provides an indication of the future direction and concentration of industrial and manufacturing activities. The NSDF has identified nodes at varying scales and importance throughout the country, these include national as well as urban regions, urban nodes of national importance and regional development anchors. The NSDF also identifies roads of national and regional importance and national development corridors.



MANUFACTURING SECTOR – NATIONAL CONTEXT

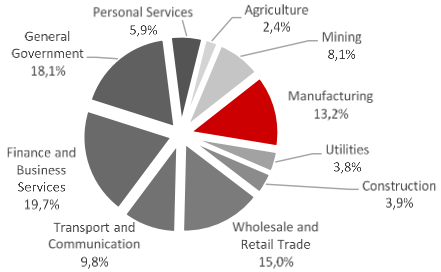
KEY ATTRIBUTES

- ✓ The manufacturing sector proportionally contributes 13.2% to national GDP and 9.3% to national employment.
- ✓ The majority of manufacturing sector GDP is produced in the Gauteng Province, whilst the Limpopo Province proportionally contributes the third lowest GDP (7.3%) of all provinces.
- ✓ Historical trends show that the manufacturing sector average annual growth has steadily been decreasing since 2008 and the proportional contribution that the sector makes to national GDP has been decreasing for the same time-period.
- ✓ In a similar fashion job creation in the sector has also steadily been decreasing since 2008 and in effect the proportional contribution by the sector has contracted.
- ✓ Exports of manufactured goods are outstripped by imports of manufactured goods.

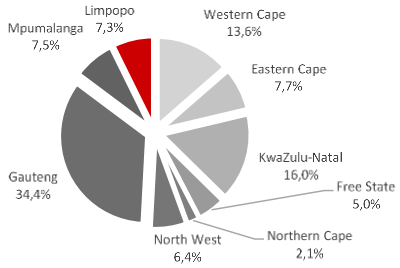
NATIONAL MANUFACTURING SECTOR

GDP	R572 936	2018 - (R/million)	13.2% Contribution
JOBS	1 497 370	2018 - jobs	9.3% Contribution
AVERAGE ANNUAL GDP GROWTH RATE			0.2% 2008 - 2018

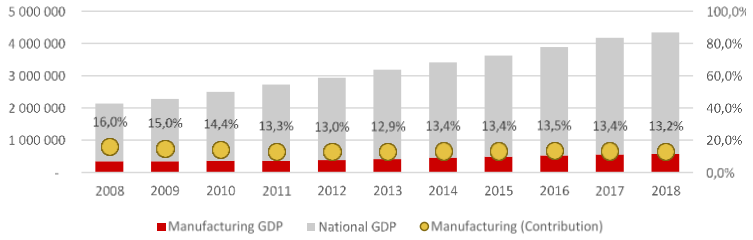
MANUFACTURING PROPORTIONAL CONTRIBUTION



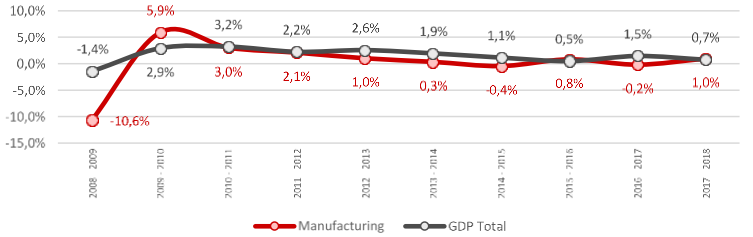
PROVINCIAL MANUFACTURING PROPORTIONAL CONTRIBUTION



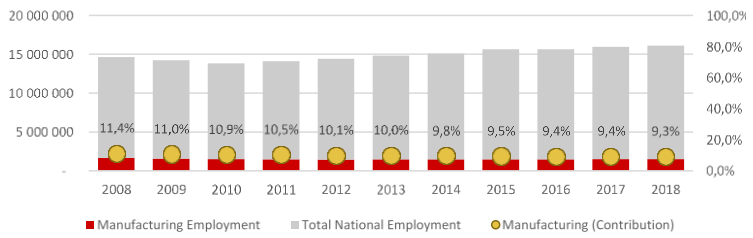
MANUFACTURING GDP PROPORTIONAL CONTRIBUTION AND GROWTH



MANUFACTURING GDP AVERAGE ANNUAL GROWTH RATE



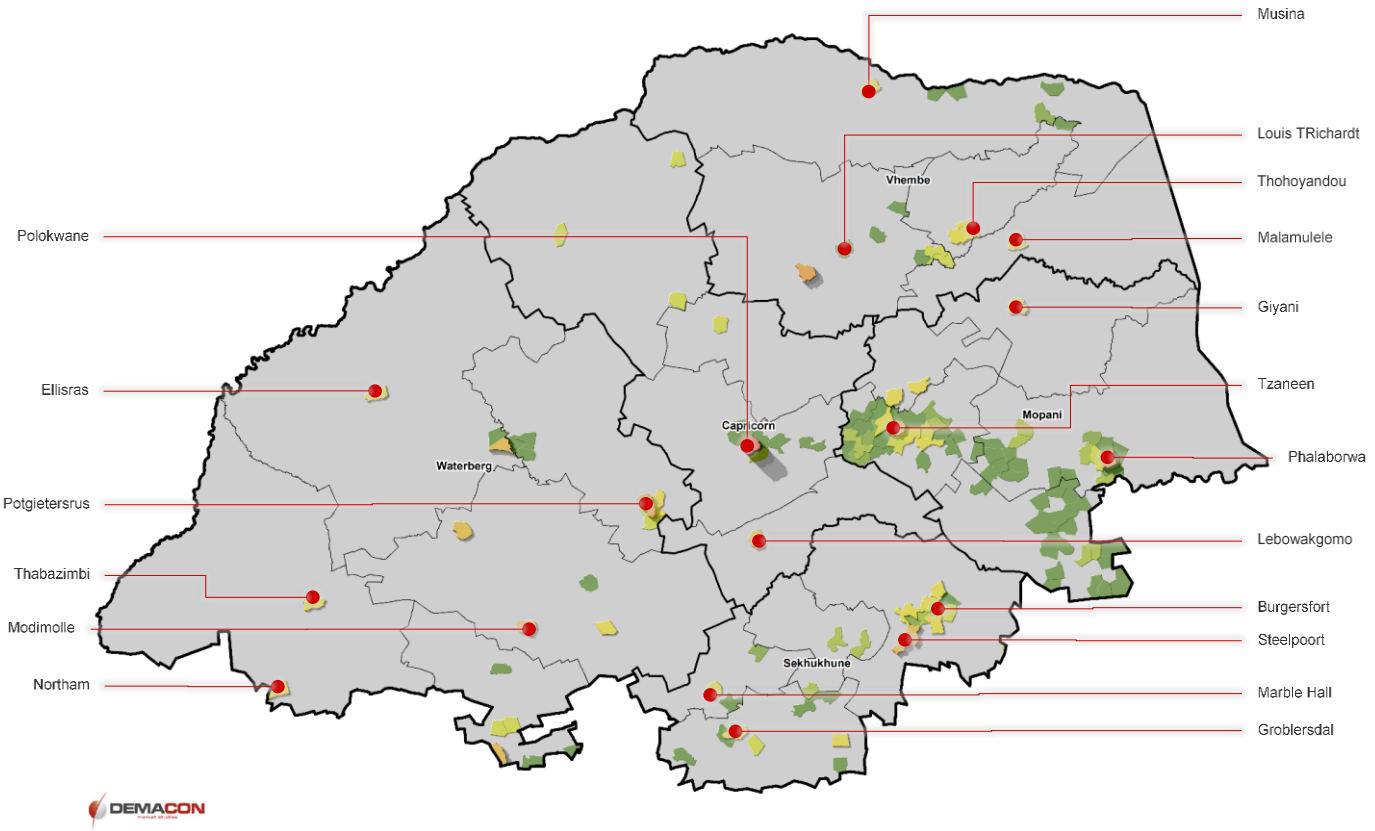
MANUFACTURING EMPLOYMENT PROPORTIONAL CONTRIBUTION AND GROWTH



MANUFACTURING SECTOR – PROVINCIAL AND LOCAL CONTEXT

KEY ATTRIBUTES

- ✓ The manufacturing sector of the Limpopo Province contributes in excess of R959 million to the national economy. Proportionally the province contributes 7.3% to the national economy. The Vhembe District is the smallest proportionally contributing district to manufacturing output for the province, contributing 12.1% or, R116 million, to total manufacturing GVA in 2018.
- ✓ The host municipalities play varying roles in regard to manufacturing GVA contribution to the district economy whereby, the Makhado host municipality contributes more than 60% to the manufacturing GVA of the district as appose to the Musina host municipality which contributes nearly 10%. In total the Makhado and Musina host municipalities contribute R703 million and R116 million respectively.
- ✓ Although the Limpopo Province and Vhembe District showed a contraction in the manufacturing sector between 2008 and 2018, the Makhado and Musina host municipality manufacturing sectors expanded during the same period.

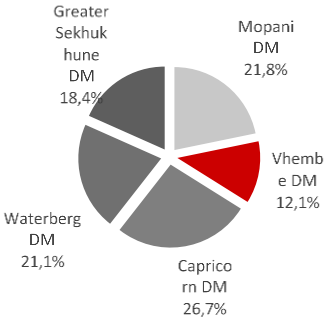


MANUFACTURING SECTOR – PROVINCIAL AND LOCAL CONTEXT

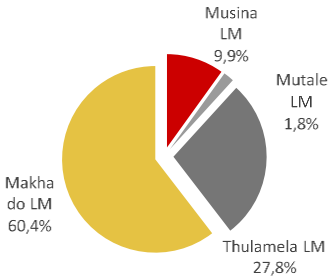
PROVINCE, DISTRICT AND LOCAL MANUFACTURING SECTOR GVA

ECONOMIC REGION	GVA (R/million)	CONTRIBUTION (%)	AVERAGE ANNUAL GROWTH RATE
Limpopo Province	R9 595	3.3% (contribution to Limpopo economy)	-0.003%
Vhembe District	R1 163	2.3% (contribution to Vhembe economy)	-0.3%
Musina Local Municipality	R116	2.2% (contribution to Musina economy)	1.9%
Makhado Local Municipality	R703	3.3% (contribution to Makhado economy)	0.5%

DISTRICT MANUFACTURING PROPORTIONAL CONTRIBUTION



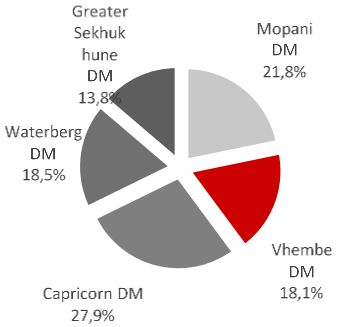
LOCAL MANUFACTURING PROPORTIONAL CONTRIBUTION



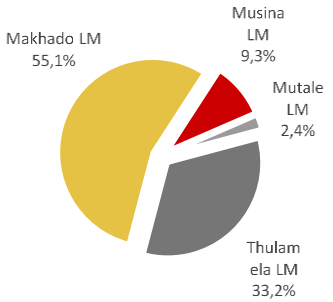
PROVINCE, DISTRICT AND LOCAL MANUFACTURING SECTOR EMPLOYMENT

ECONOMIC REGION	JOBS	CONTRIBUTION (%)	AVERAGE ANNUAL GROWTH RATE
Limpopo Province	61 667	5.7% (contribution to Limpopo jobs)	-1.1%
Vhembe District	11 143	4.7% (contribution to Vhembe jobs)	-2.2%
Musina Local Municipality	1 039	3.5% (contribution to Musina jobs)	-0.1%
Makhado Local Municipality	6 136	6.2% (contribution to Makhado jobs)	-0.9%

DISTRICT MANUFACTURING PROPORTIONAL CONTRIBUTION



LOCAL MANUFACTURING PROPORTIONAL CONTRIBUTION



METALLURGY IN SOUTH AFRICA

Due to the extensive nature of the mining industry, the country is well positioned in terms of its role in beneficiation of minerals (specifically referring to metallurgy) and the provision of semi-refined and produced products.

The historical economic and infrastructure environment of the country assisted with the establishment of the country as a global ferroalloy producer. The abundance of raw materials coupled with historically cheap and stable electricity, well developed infrastructure and relatively cheap labour has positioned the country as a leading ferrochrome producer, major manganese ore and alloys exporter and producer of vanadium products. The country also produces ferrosilicon and silicon metal ore.

The ferrochromium production industry in South Africa is by far the largest contributor in regard to ferroalloys. An abundance of ferroalloy producers currently operate within the country and export the second most (after China) ferrochromium to the world market. The ferrochromium market has been under strain recently due to major changes in the Chinese economy and the demand shown by China for steel related products.

Manganese alloy production in South Africa is a smaller role-player in the broader ferroalloys market of the country. The industry is confined to a limited number of producers and the majority of raw manganese materials are exported to major producers such as China.

Ferrosilicon production in South Africa is a limited industry whereby the majority of ferrosilicon produced in the country is utilised by domestic consumers.

The steel industry in South Africa is a major role-player in the context of local economic growth but is considered a minor global producer of crude and semi-finished steel products. Abundant raw materials do position the country as a prospective business proposition for Ghana / Germany that nevertheless have strong and exporting manufacturing sectors with a high demand for steel.

In the context of the development of the South African economy this dynamic perpetuates the challenge of beneficiation versus raw materials exports. These challenges are compounded by resource distribution, distance to port and availability of water in a largely semi-arid climate.

The distribution of production plants for ferroalloys are largely market based and therefor are concentrated in the Gauteng Province, with limited producers located in the Limpopo (Polokwane), Mpumalanga (Witbank) and KwaZulu-Natal (eThekwini) provinces (refer to the map below).

Metallurgical operations in South Africa are orientated towards markets and the proximity to natural resources as appose to agglomeration or logistical factors. The concept is further highlighted by Map 3.8 which shows the correlation of producers and proximity to markets and resources.

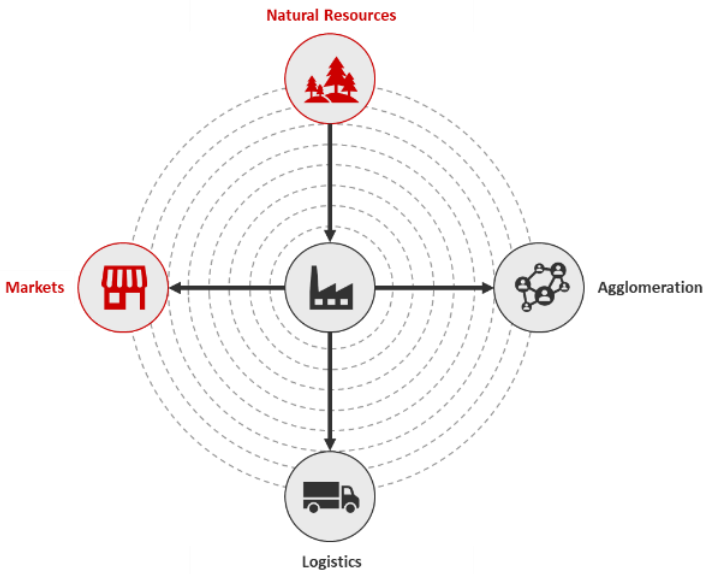
The correlation shows that metallurgical processing plants closely associate with the largest economic output province in the country – Gauteng. The proximity to the province allows for ease of access to users of products produced by metallurgical plants as construction and downstream beneficiation industries are to a large degree positioned in the province.

Additionally, metallurgical industries such as ferrochrome and ferrosilicon generally locate within a 50 km to 60 km radius of resource extraction locations compared to steel and ferromanganese producers who on average locate within a 300 km to 350 km radius of resource extraction areas.

One of the primary reasons for steel and ferromanganese industries to locate further from resource locations are because of the proximity of these industries to the Gauteng Province – thus indicating that proximity to markets are preferred as appose to economically isolated locations further from primary markets.

METALLURGY IN SOUTH AFRICA

SOUTH AFRICA METALLURGICAL OPERATIONS IN THE CONTEXT OF INDUSTRIAL LOCATION CONSIDERATIONS



The location of metallurgical industries primarily in and around the Gauteng Province also affords access to primary logistical routes and modes of transport (rail transport). The ease of access to logistical infrastructure allows for the ease of access to major exporting ports such as Durban and Richards Bay.

The following diagram provides an indication of the average "as the crow flies" distance between 1) closest resource and processing plant; 2) processing plants and closest market; and 3) processing plants and closest port (export orientation).

The information serves as an indication of the relative positioning of existing metallurgical industries relative to key industrial location considerations – as discussed previously.

ESTIMATED AVERAGE DIRECT LINE DISTANCE BETWEEN METALLURGICAL PLANTS AND MINERAL RESOURCES, MARKETS AND PORTS

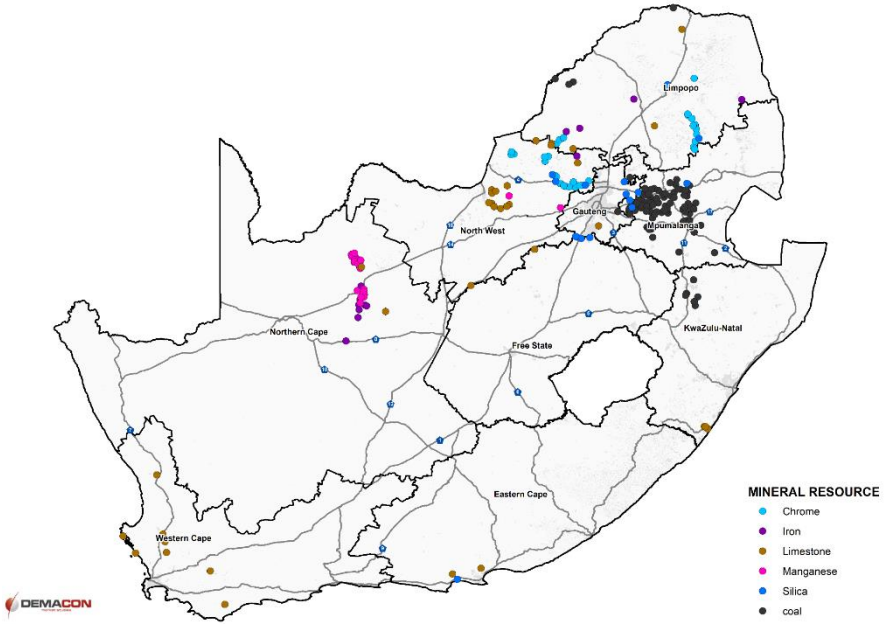
Steel Plants	Ferrosilicon Plants	Ferromanganese Plants	Ferrochrome Plants
±306 km	**±54 km**	**±342 km**	**±31 km**

Steel Plants	Ferrosilicon Plants	Ferromanganese Plants	Ferrochrome Plants
±39 km	**±64 km**	**±190 km**	**±81 km**

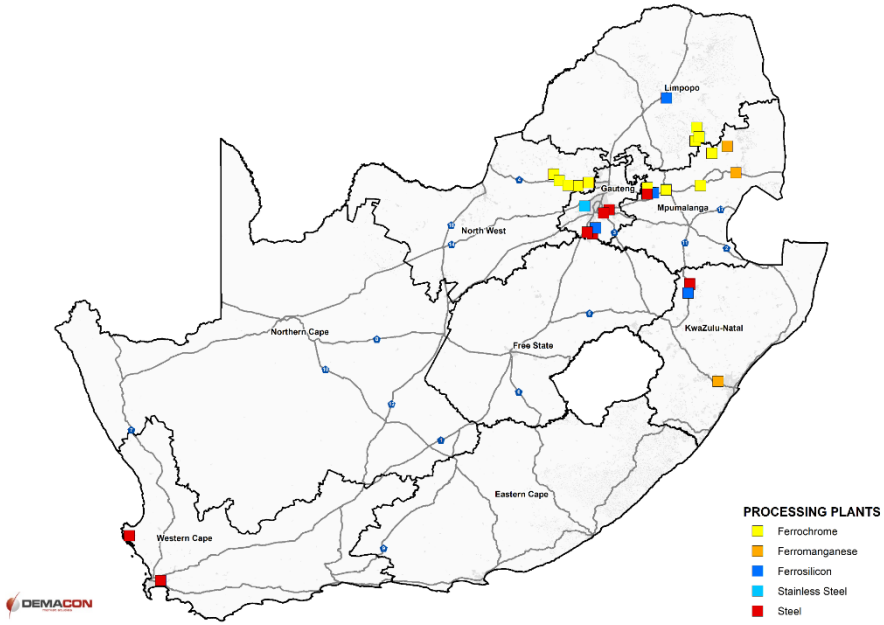
Steel Plants	Ferrosilicon Plants	Ferromanganese Plants	Ferrochrome Plants
±39 km	**±64 km**	**±190 km**	**±81 km**

DISTRIBUTION OF MINERAL RESOURCES AND METALLURGICAL PLANTS IN SOUTH AFRICA

DISTRIBUTION OF METALLURGICAL MINERALS IN SOUTH AFRICA



DISTRIBUTION OF METALLURGICAL PLANTS IN SOUTH AFRICA



METALLURGICAL PRODUCTION IN SOUTH AFRICA

KEY ATTRIBUTES

- ✓ South African ferrochrome production has been consistent since 2008.
- ✓ More than 80%of ferrochrome produced in South Africa is exported.
- ✓ The sales value of ferrochrome both domestically and internationally has been increasing since 2008.
- ✓ The production of ferrosilicon in South Africa gas decreased since 2008 and experienced a significant drop in 2017.
- ✓ Nearly 80% of ferrosilicon produced in South Africa is sold locally.
- ✓ The average export sales price of ferrosilicon has drastically increased since 2014 compared to the domestic sales rice which has marginally increased over the same period.

FERRO-CHROME
INDUSTRY OVERVIEW

GLOBAL IMPORTANCE

In 2017 global ferro-chrome production rose by 8.7% to 12.9 Mt from 2016 mainly due to increased production by Zimbabwe, Sweden and India.

2nd

LARGEST producer

3 484 kt (2017)

26.8% of total global production

1st

LARGEST exporter

2 951 kt (2017)

45.0% of total global exports

KEY NOTES

- ✓ Consumption of ferro-chrome rose to 12.1 Mt in 2017 mainly because of increased stainless steel production in China.
- ✓ Between 2016 and 2017 the price of ferro-chrome increased by 43.7%.
- ✓ the price increase correlates with global chrome ore price increases.

FERRO-SILICON
INDUSTRY OVERVIEW

GLOBAL IMPORTANCE

In 2017 global ferro-silicon production was dominated by China accounting for 66% of production. Global production has slowed due to decreased output by China.

8th

LARGEST producer

48.2 kt (2017)

0.6% of total global production

6th

LARGEST exporter

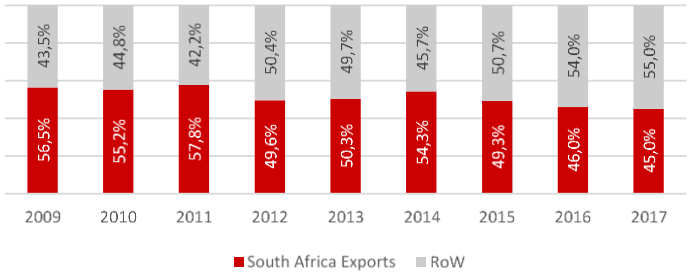
8.6 kt (2017)

3.5% of total global exports

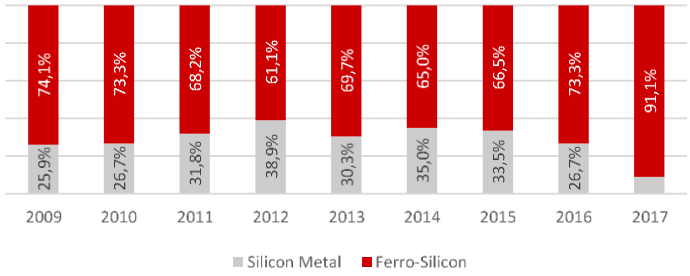
KEY NOTES

- ✓ Consumption of ferro-silicon has decreased since 2016 although world steel output grew by 20%.
- ✓ Decreased consumption is the result of lower utilisation of crude steel in China and very slow growth in world output of iron castings.

SOUTH AFRICA PROPORTIONAL CONTRIBUTION TO TOTAL GLOBAL FERROCHROME EXPORTS (%)



PROPORTIONAL CONTRIBUTION BY FERRO-SILICON AND SILICON METAL TO SOUTH AFRICAN OUTPUT (%)



METALLURGICAL PRODUCTION IN SOUTH AFRICA

KEY ATTRIBUTES

- ✓ South African Ferromanganese production has continuously decreased since 2011.
- ✓ Nearly 90% of ferromanganese produced in South Africa is exported.
- ✓ The export and local sales price of ferromanganese has maintained similar steady growth since 2008 with a significant spike since 2016.
- ✓ The average crude steel production in South Africa has steadily been decreasing since 2008.
- ✓ The domestic market marginally imports steel to the country, whilst the majority of steel produced are utilised by local consumers.
- ✓ The total sales value of steel has increased although production has decreased. The value of steel exports have remained static

FERRO-MANGANESE
INDUSTRY OVERVIEW

GLOBAL IMPORTANCE

In 2017 global high-carbon ferro-manganese production rose by 16% to 4.2 Mt from 2016 mainly from production in China and Malaysia.

7th

LARGEST producer

458 kt (2017)

11.0% of total global production

3rd

LARGEST exporter

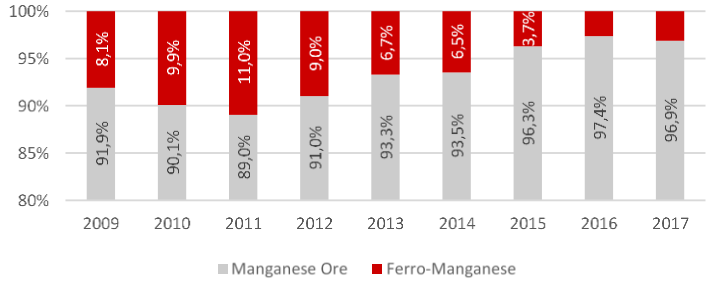
271 kt (2017)

14.2% of total global exports

KEY NOTES

- ✓ In 2017 production slightly outstripped global demand although global demand has steadily been decreasing since 2013.
- ✓ The United States, Netherlands and Germany are the highest importers of high-carbon ferro-manganese.

PROPORTIONAL CONTRIBUTION BY MANGANESE ORE AND FERRO-MANGANESE TO SOUTH AFRICAN OUTPUT (%)



STEEL PRODUCTION
INDUSTRY OVERVIEW

GLOBAL IMPORTANCE

In 2019 steel demand is estimated to reach 1 735 Mt (1.3% increase from 2018). Steel demand is expected to grow but in tandem with slowing global economic growth.

25th

LARGEST producer

3 484 kt (2017)

0.4% of total global production

31st

LARGEST exporter

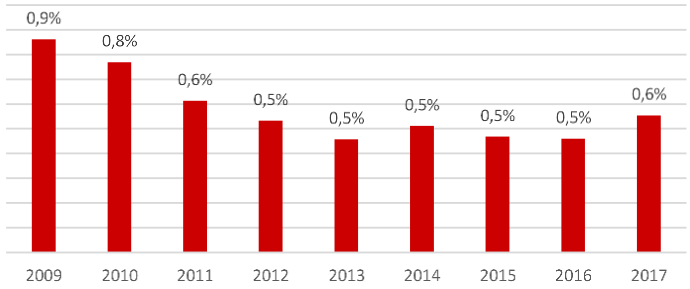
2 562 kt (2017)

0.6% of total global exports

KEY NOTES

- ✓ Demand for steel is forecast to remain positive in light of China's economic deceleration, slowing global economic growth and trade policy uncertainty.
- ✓ A slow-down in developed economies is expected to lead to decreased steel demand.
- ✓ Steel demand in developing economies is expected to remain robust.

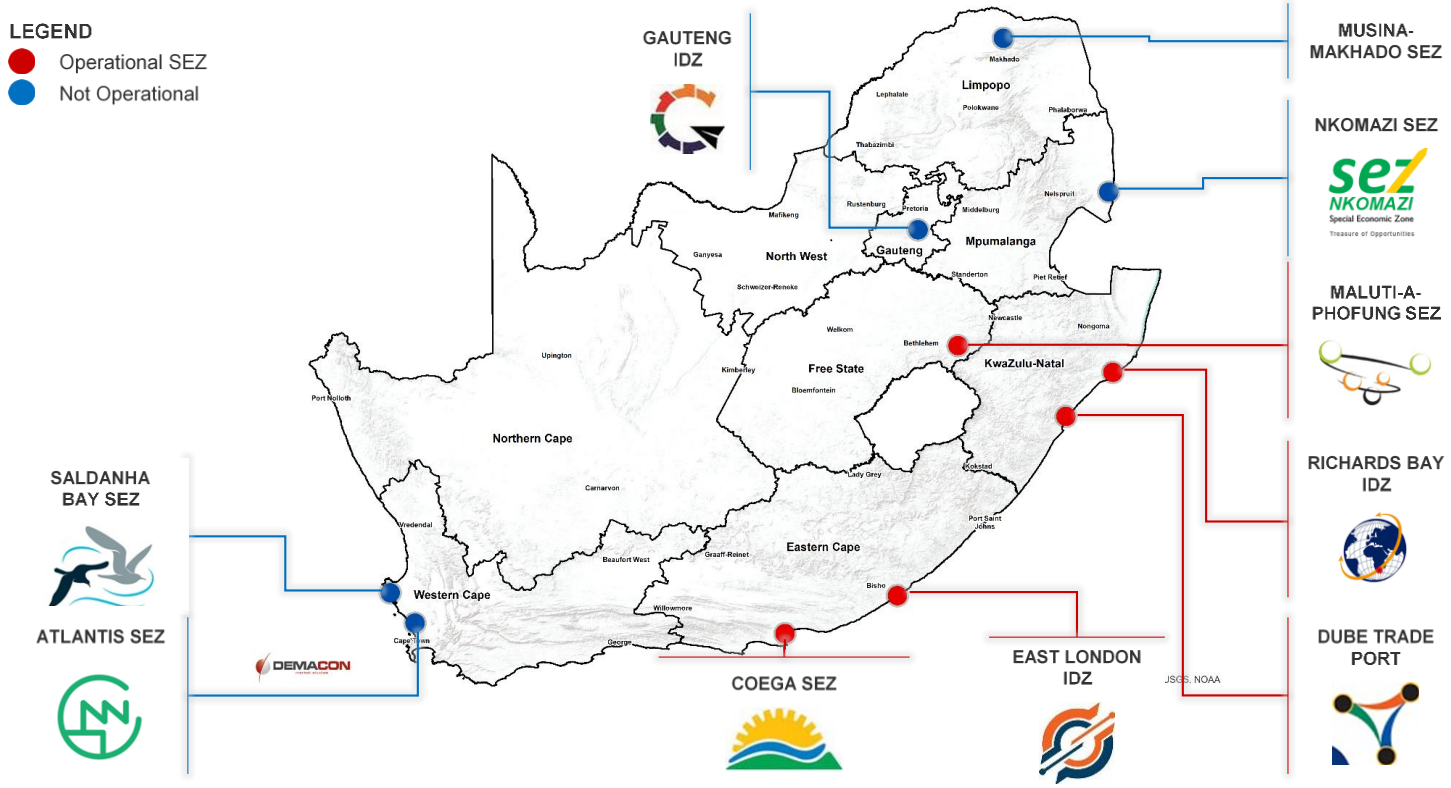
SOUTH AFRICA PROPORTIONAL CONTRIBUTION TO TOTAL GLOBAL CRUDE STEEL EXPORTS (%)



SPECIAL ECONOMIC ZONES IN SOUTH AFRICA

KEY ATTRIBUTES

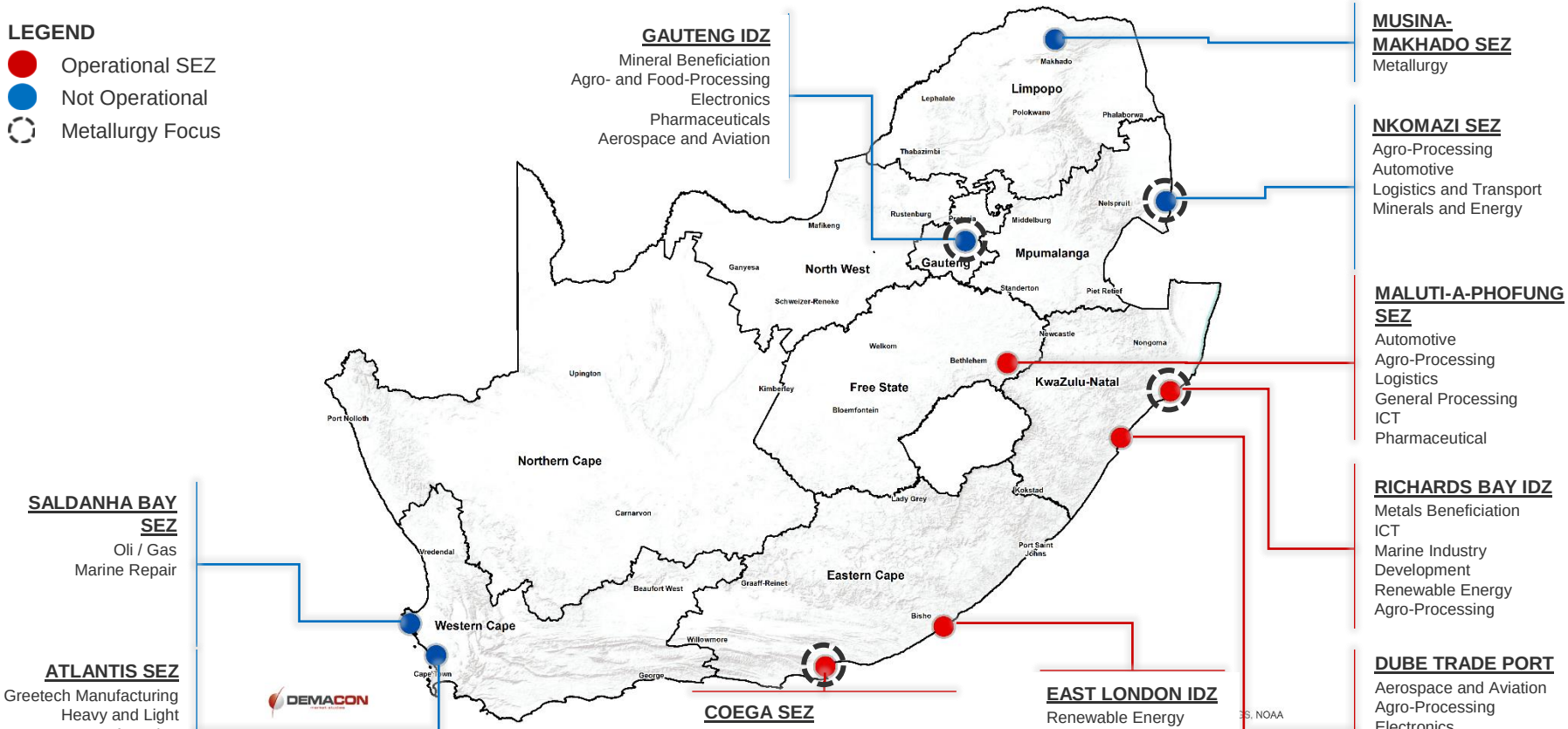
- ✓ Currently, 10 SEZ's are designated in South Africa and 5 SEZ's are operational. The majority of SEZ's are distributed along the coast of the country in and around major sea and logistics ports.
- ✓ Investment opportunities in designated SEZ's in the country primarily focus on:
  - Metals beneficiation
  - Business process outsourcing
  - Agro-processing
  - Automotive industries
  - Logistics
  - ICT
  - Renewable energy
  - General manufacturing
  - Pharmaceuticals
- ✓ Metals beneficiation and metallurgy are primary focused on ferrous and non-ferrous metals and precious and semi-precious metals.



SPECIAL ECONOMIC ZONES FUNCTIONAL DIFFERENTIATION

LEGEND

- Operational SEZ
- Not Operational
- Metallurgy Focus



GAUTENG IDZ
Mineral Beneficiation
Agro- and Food-Processing
Electronics
Pharmaceuticals
Aerospace and Aviation

MUSINA-MAKHADO SEZ
Metallurgy

NKOMAZI SEZ
Agro-Processing
Automotive
Logistics and Transport
Minerals and Energy

MALUTI-A-PHOFUNG SEZ
Automotive
Agro-Processing
Logistics
General Processing
ICT
Pharmaceutical

RICHARDS BAY IDZ
Metals Beneficiation
ICT
Marine Industry
Development
Renewable Energy
Agro-Processing

DUBE TRADE PORT
Aerospace and Aviation
Agro-Processing
Electronics
Medical and Pharmaceutical
Clothing and Textiles
Automotive

SALDANHA BAY SEZ
Oil / Gas
Marine Repair

ATLANTIS SEZ
Greetech Manufacturing
Heavy and Light Manufacturing
Large Scale user Industrial
Warehousing / Logistics

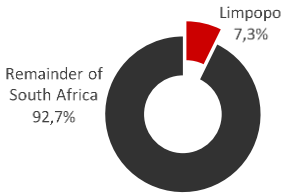
COEGA SEZ
Metals / Metallurgy
Automotive
Business Process Outsourcing
Chemicals
Agro-Processing
Logistics

EAST LONDON IDZ
Renewable Energy
Automotive
Aquaculture
ICT
Agro-Processing
Manufacturing

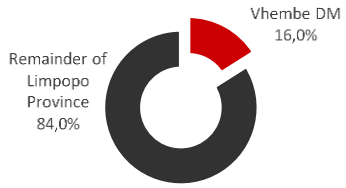
ECONOMIC PROFILE OF HOST MUNICIPALITIES

SIZE AND CONTRIBUTION BY PROVINCIAL, DISTRICT AND LOCAL MUNICIPALITIES TO ITS CONTAINING ECNOMIC GEOGRAPHY

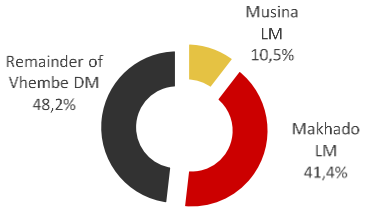
Size of the Provincial Economy



Size of the District Economy



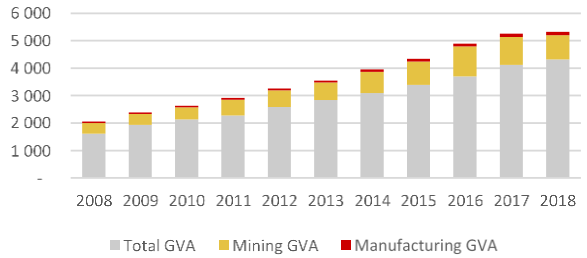
Size of the Local Economy



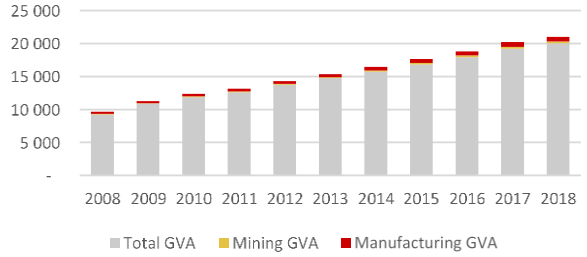
SIZE OF THE LOCAL ECONOMY AND CONTRIBUTION BY MINNG AND MANUFACTURING SECTORS

Musina Total GVA		Makhado Total GVA	
R4 313 (R/million)		R20 056 (R/million)	
Mining Contribution	20.6%	Mining Contribution	1.3%
Manufacturing Contribution	2.7%	Manufacturing Contribution	3.5%

MUSINA LOCAL MUNICIPALITY

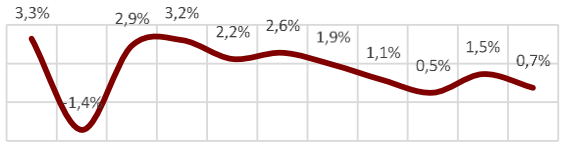


MAKHADO LOCAL MUNICIPALITY

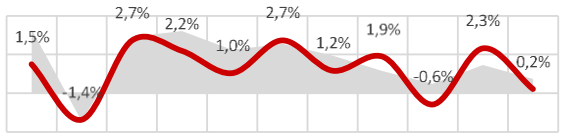


ECONOMIC GROWTH

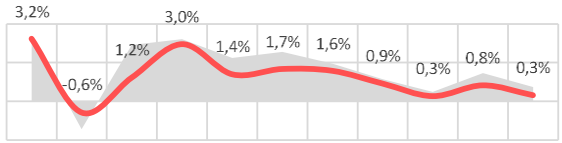
South Africa



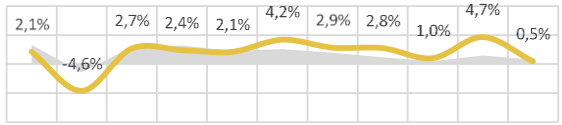
Limpopo



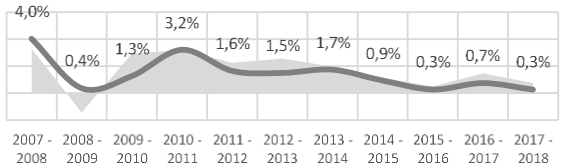
Vhembe District



Musina LM

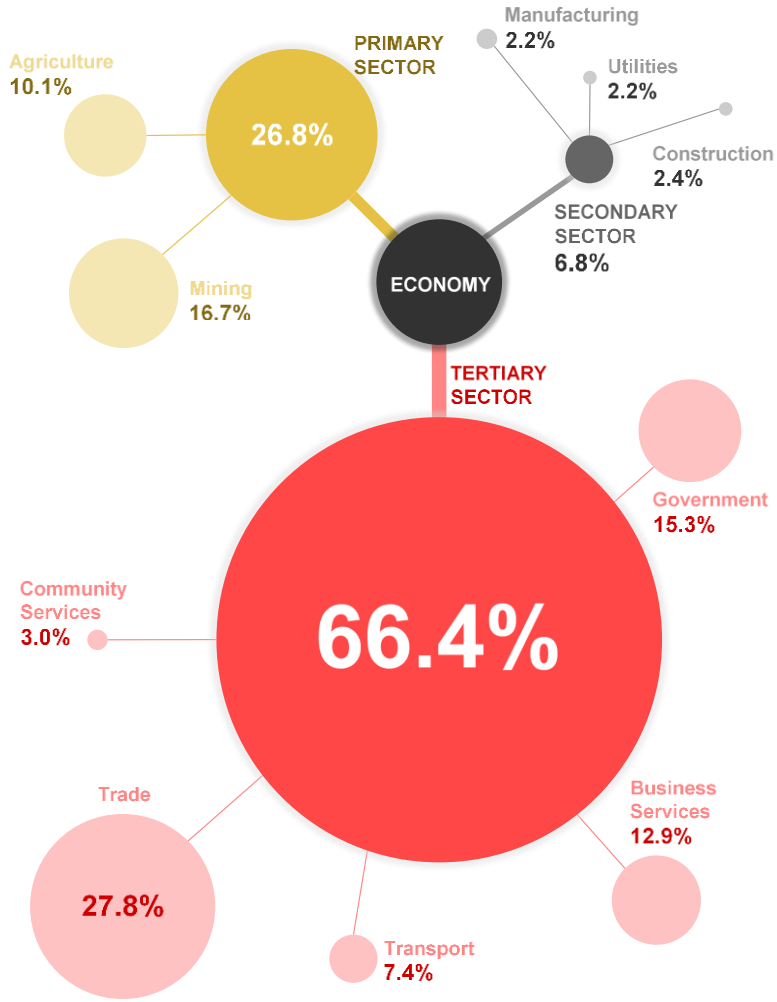


Makhado LM

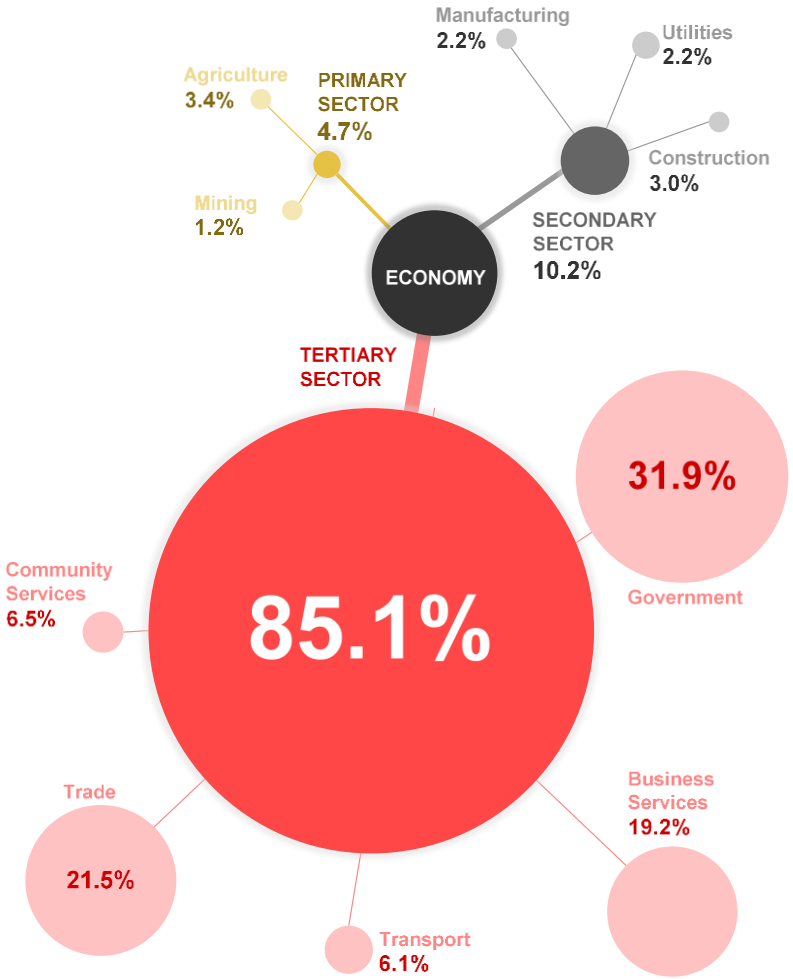


ECONOMIC PROFILE OF HOST MUNICIPALITIES

ECONOMIC SECTOR CONTRIBUTION TO TOTAL GVA OF THE MUSINA LOCAL MUNICIPALITY



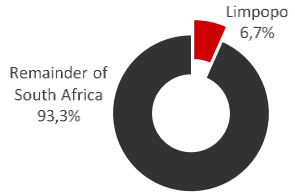
ECONOMIC SECTOR CONTRIBUTION TO TOTAL GVA OF THE MAKHADO LOCAL MUNICIPALITY



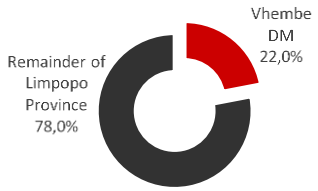
EMPLOYMENT PROFILE OF HOST MUNICIPALITIES

SIZE AND CONTRIBUTION BY PROVINCIAL, DISTRICT AND LOCAL MUNICIPALITIES TO ITS CONTAINING ECNOMIC GEOGRAPHY

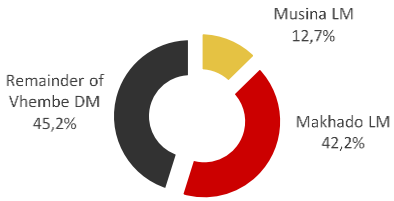
Size of the Provincial Economy



Size of the District Economy



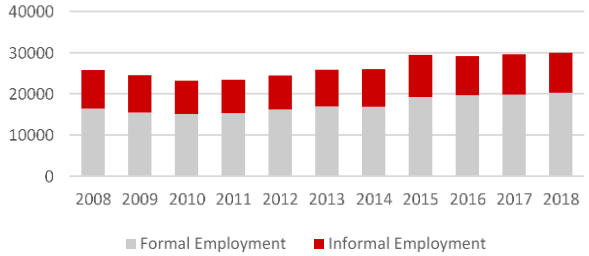
Size of the Local Economy



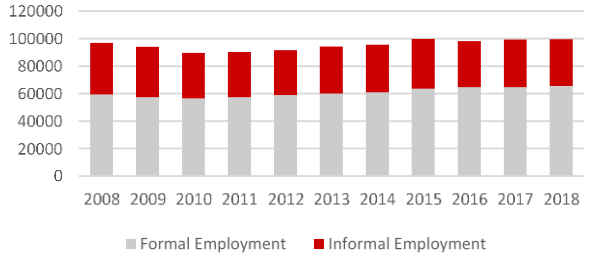
SIZE OF THE LOCAL ECONOMY EMPLOYMENT AND CONTRIBUTION BY FORMAL AND INFORMAL SECTORS

Musina Total Employment		Makhado Total Employment	
29 945 jobs		**99 629** jobs	
Formal Jobs Contribution	67.7%	Formal Jobs Contribution	65.8%
Informal Jobs Contribution	32.3%	Informal Jobs Contribution	34.2%

MUSINA LOCAL MUNICIPALITY

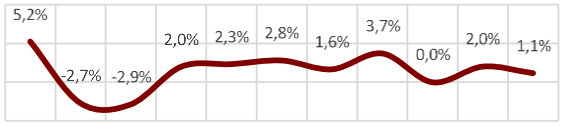


MAKHADO LOCAL MUNICIPALITY

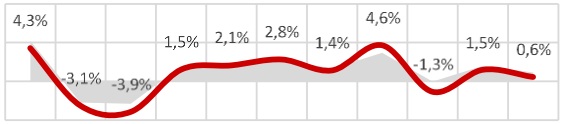


EMPLOYMENT GROWTH

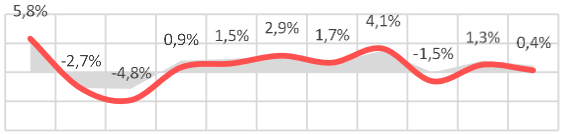
South Africa



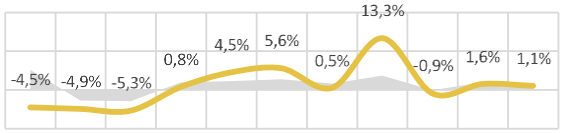
Limpopo



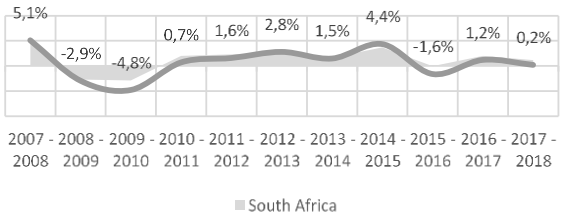
Vhembe District



Musina LM

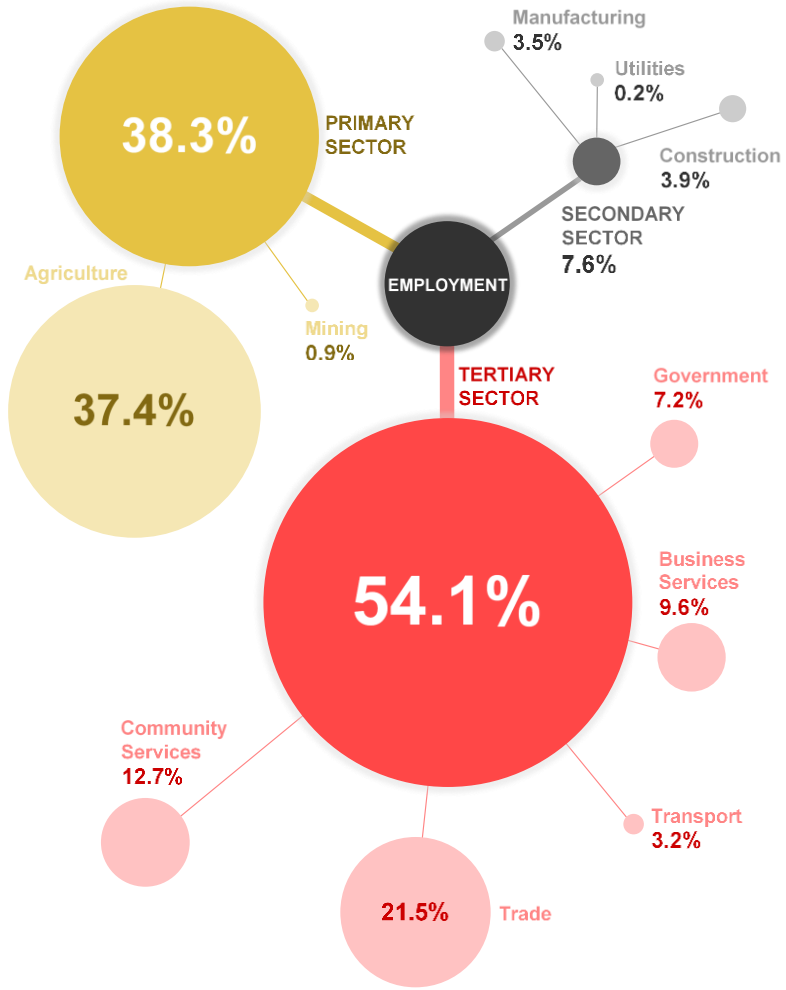


Makhado LM

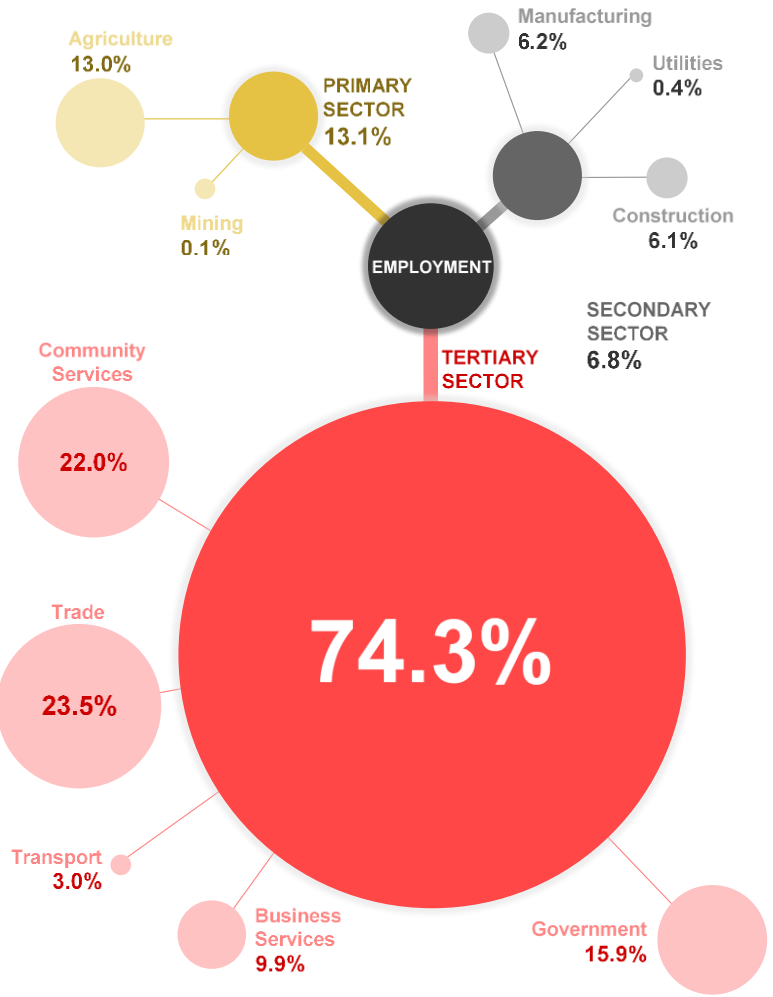


EMPLOYMENT PROFILE OF HOST MUNICIPALITIES

ECONOMIC SECTOR CONTRIBUTION TO TOTAL EMPLOYMENT OF THE MUSINA LOCAL MUNICIPALITY



ECONOMIC SECTOR CONTRIBUTION TO TOTAL EMPLOYMENT OF THE MAKHADO LOCAL MUNICIPALITY



DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – OVERVIEW

The following provides a concise breakdown of the strengths, weaknesses, opportunities and threats of the demography of the host and supporting municipalities. The purpose is to identify and refine the core problem and opportunity areas of the host and supporting municipalities in the context of the MMEMSEZ. The MMEMSEZ could influence the demography of the local municipalities but can also be influenced by the context of population and household status and capability as well as the labour force from which the SEZ is to source.

DEMOGRAPHIC STRENGHTS

- Large potential labour pool from which to source labourers for the MMEMSEZ
- Skilled labourers represent between 10% and 30% of the employed workforce
- Majority of households reside within a formal dwelling
- Majority of households have security of tenure (i.e own the property on which they reside)

DEMOGRAPHIC OPPORTUNITIES

- Large potentially econmically active population group (50% to 70% of population)
- large proportion of employed persons, employed in elemenary occupations - general labour skills required for the SEZ will be sourced from persons that have elementary occupation skills

DEMOGRAPHIC WEAKNESSES

- High dependancy rates of local communities
- Large portion of population aged 20+ years have not attained a matric certificate or higher (12% to 20%)
- Minimal labour absorption capacity by local economies
- Low average annual household income across all LSM groups (R35 000 to R60 000 average annual household income)
- On average more than 75% of households in host and supporting municipalities can be classified as LSM 1 - housheolds have very limited access to household goods, services and purchasing power

DEMOGRAPHIC THREATS

- Major population concentrations (i.e. major towns and traditional authorities) are located some distance (between 20 and 75 km) from the SEZ
- Large proportion of people aged 20+ that have no schooling (15% to 25%)
- High unemployment rate (20% to 50%)
- Extreme poverty levels in host and supporting municipalities (i.e. 50% to 70% of households fall below to food poverty line - the food poverty line indicates the capability of households to sustain each member with the minimum number of calories to support survival)

From the information above, the population of host and supporting municipalities have the capacity to supply a vast labour pool from which the SEZ could source. A sizeable skilled labour pool also exists that could support the SEZ whilst low skilled labour engaged in elementary occupations could further support general SEZ manufacturing operations. Even though the demography has a large labour pool and sizeable skilled labour force, high dependency ratios, unemployment rates, a limited number of population that have attained a matric certificate or higher, low household incomes and high poverty rates could influence the capability of the local labour force to active engage with the SEZ. The SEZ could provide a basis from which households in the area of influence could improve their current livelihood through either direct employment at the SEZ, value-chain growth or new business development.

DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – POPULATION SIZE

MUSINA
HOST MUNICIPALITY

114 690 PEOPLE IN THE **PRIMARY** TRADE AREA

44 945 HOUSEHOLDS

Population Average Annual Growth Rate	Household Average Annual Growth Rate
6.7%	10.6%

POPULATION GROWTH

HOUSEHOLD GROWTH

MAKHADO
HOST MUNICIPALITY

558 890 PEOPLE IN THE **PRIMARY** TRADE AREA

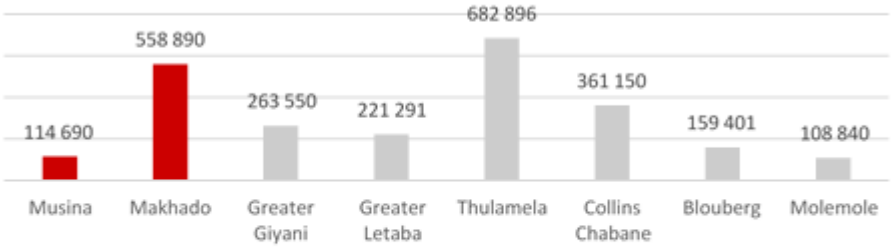
158 555 HOUSEHOLDS

Population Average Annual Growth Rate	Household Average Annual Growth Rate
1.0%	2.0%

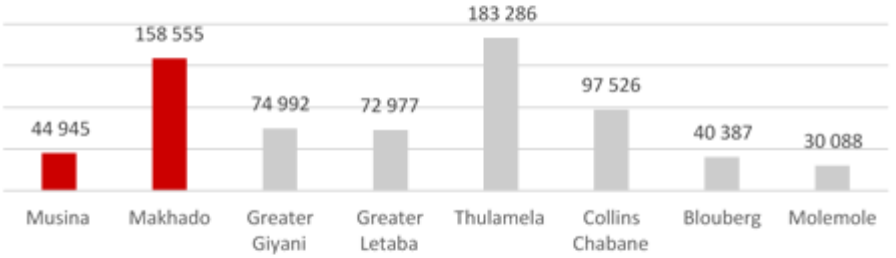
POPULATION GROWTH

HOUSEHOLD GROWTH

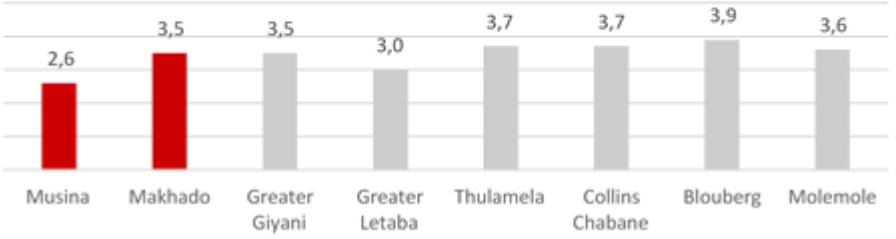
POPULATION SIZE OF THE HOST AND SUPPORTING MUNICIPALITIES



NUMBER OF HOUSEHOLDS OF THE HOST AND SUPPORTING MUNICIPALITIES

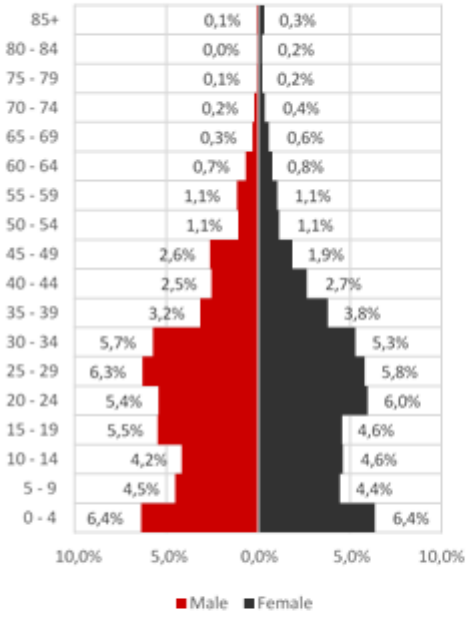


AVERAGE HOUSEHOLD SIZE OF THE HOST AND SUPPORTING MUNICIPALITIES



DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – AGE PROFILE

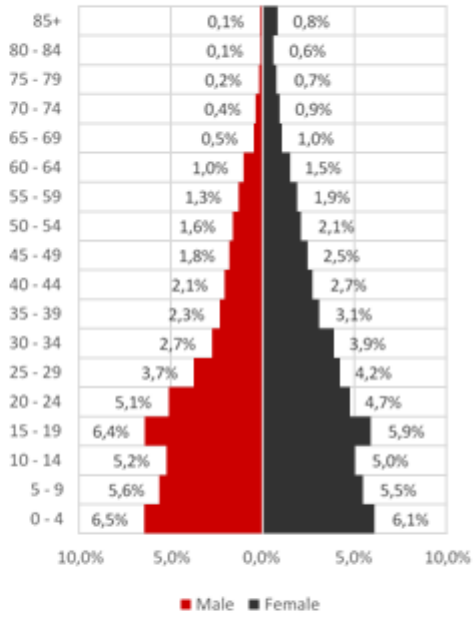
MUSINA
HOST MUNICIPALITY



49.9% of the population is **MALE**

50.1% of the population is **FEMALE**

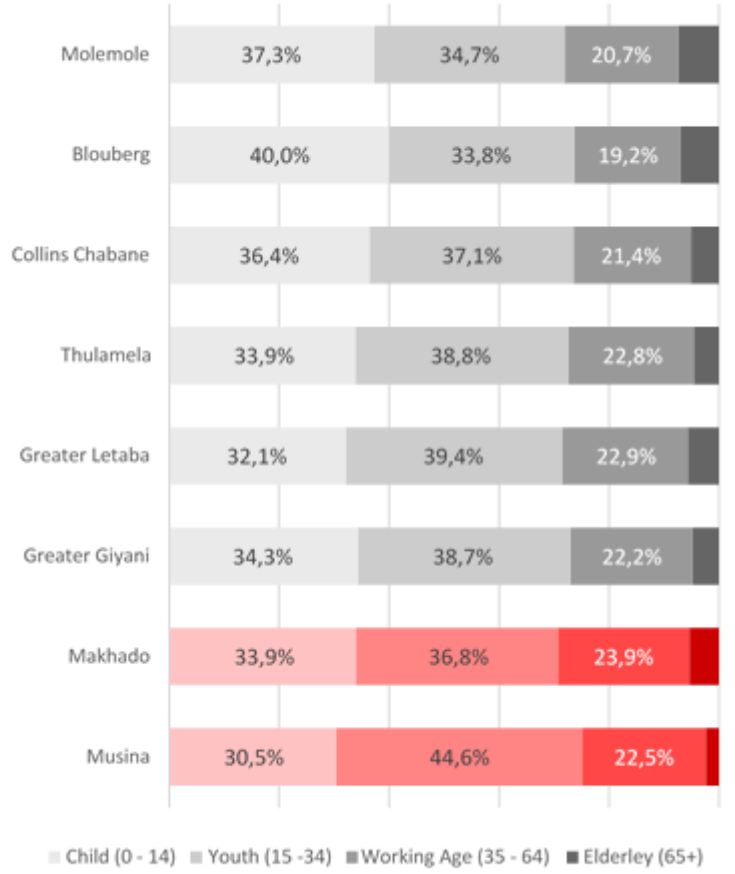
MAKHADO
HOST MUNICIPALITY



46.8% of the population is **MALE**

53.2% of the population is **FEMALE**

AGE PROFILE OF THE HOST AND SUPPORTING MUNICIPALITIES



DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – AGE PROFILE

MUSINA HOST MUNICIPALITY

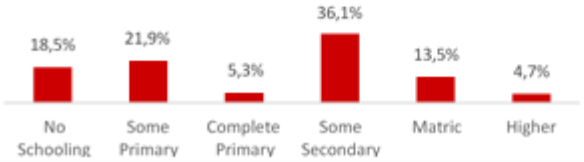
Educational Institution Attendance (20+ Years)

47.2% attend a SECONDARY SCHOOL

23.7% attend an UNIVERSITY

19.9% attend an TVET

Highest Education Level



MAKHADO HOST MUNICIPALITY

Educational Institution Attendance (20+ Years)

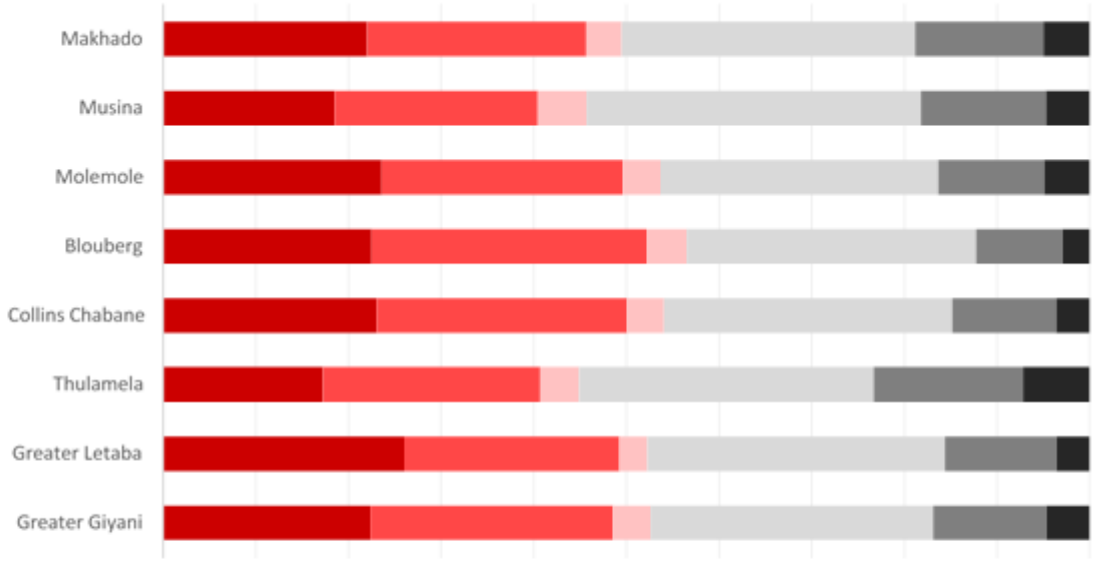
38.6% attend a SECONDARY SCHOOL

24.7% attend an TVET

22.0% attend an UNIVERSITY

Highest Education Level

HIGHEST LEVEL OF EDUCATION FOR THE HOST AND SUPPORTING MUNICIPALITIES



	Greater Giyani	Greater Letaba	Thulamela	Collins Chabane	Blouberg	Molemole	Musina	Makhado
No Schooling	22,4%	26,0%	17,2%	23,0%	22,5%	23,6%	18,5%	22,0%
Some Primary	26,2%	23,3%	23,4%	27,0%	29,7%	26,0%	21,9%	23,7%
Complete Primary	4,1%	3,0%	4,2%	4,0%	4,3%	4,1%	5,3%	3,8%
Some Secondary	30,5%	32,1%	31,8%	31,1%	31,2%	30,0%	36,1%	31,7%
Matric	12,2%	12,0%	16,1%	11,2%	9,3%	11,4%	13,5%	13,8%
Higher	4,7%	3,6%	7,2%	3,6%	2,9%	4,9%	4,7%	5,0%

DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES - OCCUPATION PROFILE

MUSINA HOST MUNICIPALITY

OCCUPATION PROFILE

Skilled Occupations **11.8%**

Semi-Skilled Occupations **45.1%**

Low-Skilled Occupations **42.3%**

ELEMENTARY OCCUPATIONS ARE MOST POPULAR **42.3%**

SERVICE WORKERS AND MARKET SALES WORKERS ARE THE SECOND MOST POPULAR **17.1%**

CRAFT AND RELATED TRADES ARE THE THIRD MOST POPULAR **11.5%**

MAKHADO HOST MUNICIPALITY

OCCUPATION PROFILE

Skilled Occupations **22.2%**

Semi-Skilled Occupations **42.5%**

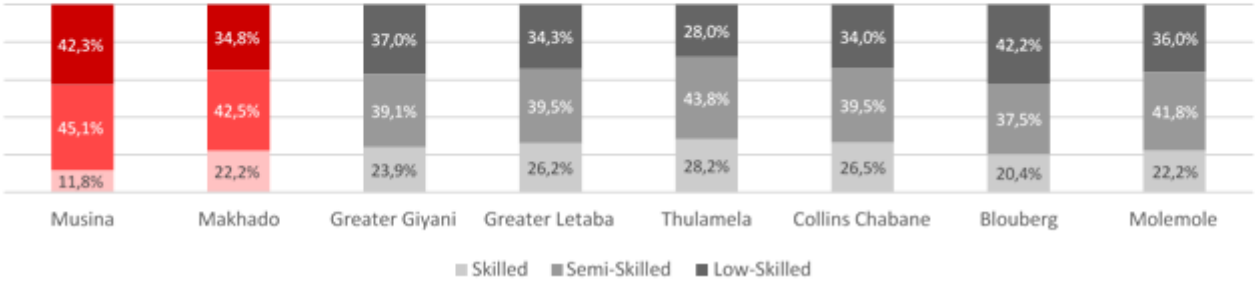
Low-Skilled Occupations **34.8%**

ELEMENTARY OCCUPATIONS ARE MOST POPULAR **34.8%**

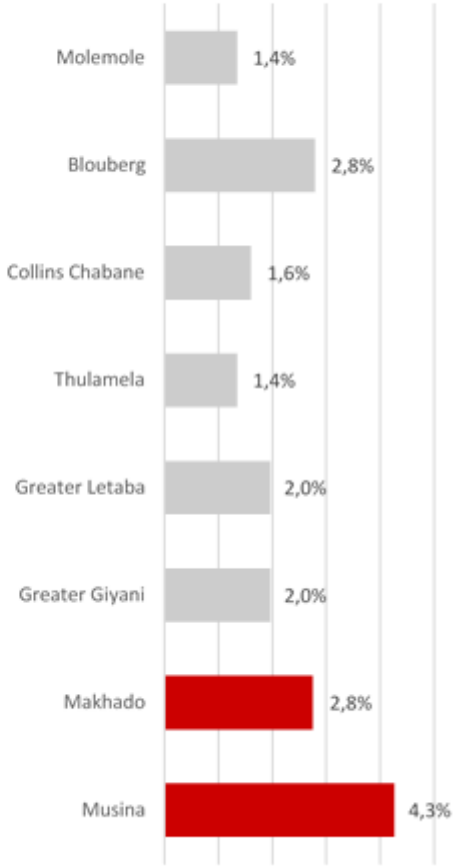
SERVICE AND MARKET SALES WORKERS ARE THE SECOND MOST POPULAR **15.7%**

CRAFT AND RELATED TRADES ARE THE THIRD MOST POPULAR **15.2%**

SKILLS PER HOST AND SENDING MUNICIPALITY



MANUFACTURING LABOURERS AS A PERCENTAGE OF ALL OCCUPATIONS IN THE HOST AND SUPPORTING MINICIPALITIES



DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – EMPLOYMENT PROFILE AND LABOUR ABSORPTION

MUSINA HOST MUNICIPALITY

ECONOMICALLY **ACTIVE** Population **67.4%**

32.4% Not-Economically Active

MAKHADO HOST MUNICIPALITY

ECONOMICALLY **ACTIVE** Population **45.3%**

54.7% Not-Economically Active

Economically active population refers to a person of working age 15 to 65 who are either employed or unemployed. Not economically active population refers to ages 0 to 14 and 65 and older, persons unable to work or persons engaged in educational activities or are home-makers.

Employed Economically Active **80.1%**

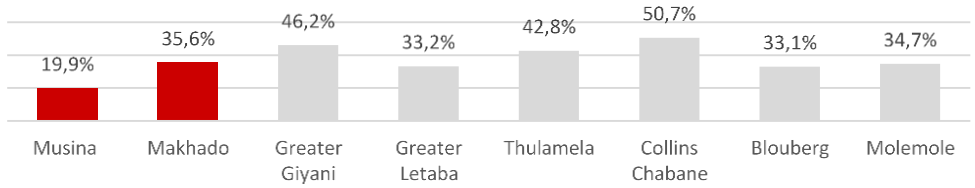
Unemployed Economically Active **19.9%**

Employed Economically Active **64.4%**

Unemployed Economically Active **35.6%**

Employed and unemployed persons are considered to be economically active and thus is a segment of the economically active percentage.

UNEMPLOYMENT RATE OF THE HOST AND SUPPORTING MUNICIPALITIES



LABOUR ABSORPTION PROFILE

	LABOUR ABSORPTION RATE	AVERAGE NUMBER OF NEW ECONOMICALLY ACTIVE POPULATION PER YEAR	AVERAGE NUMBER OF NEW JOBS CREATED PER YEAR	EFFECT
Musina	55,6	1 299	203	UNDERSUPPLY OF JOBS
Makhado	30,0	4 231	517	UNDERSUPPLY OF JOBS
Greater Giyani	20,2	1 378	108	UNDERSUPPLY OF JOBS
Greater Letaba	29,1	1 139	-92	UNDERSUPPLY OF JOBS
Thulamela	24,3	5 588	647	UNDERSUPPLY OF JOBS
Collins Chabane	18,8	801	92	UNDERSUPPLY OF JOBS
Blouberg	23,5	-285	-194	LABOUR FORCE AND JOBS DECLINING
Molemole	32,0	-101	-173	LABOUR FORCE AND JOBS DECLINING

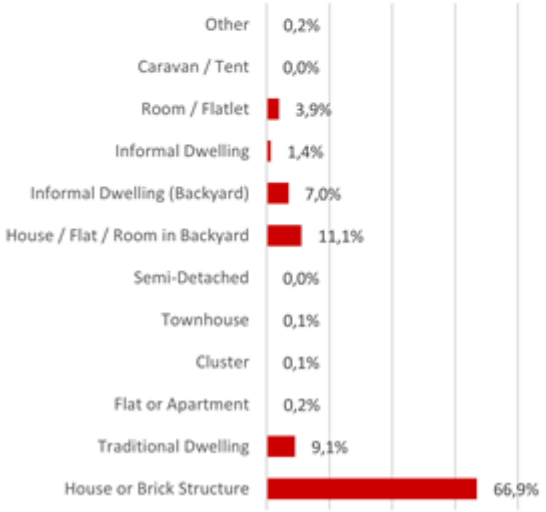
DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – DWELLING TYPOLOGIES

MUSINA HOST MUNICIPALITY

Majority of Households Reside in a **Formal Dwelling** **82.4%**

8.3% of households reside in an **informal dwelling**

9.1% of households reside in a **traditional dwelling**

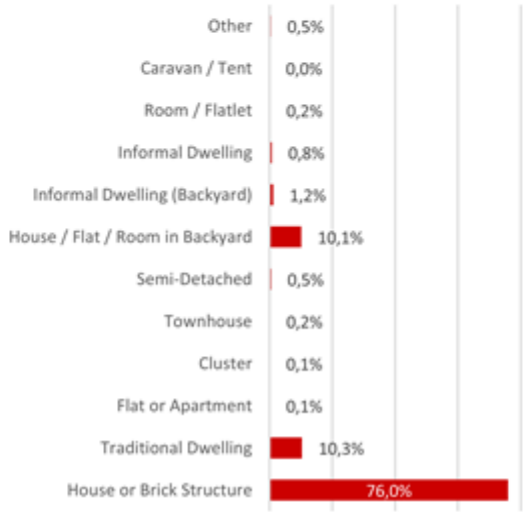


MAKHADO HOST MUNICIPALITY

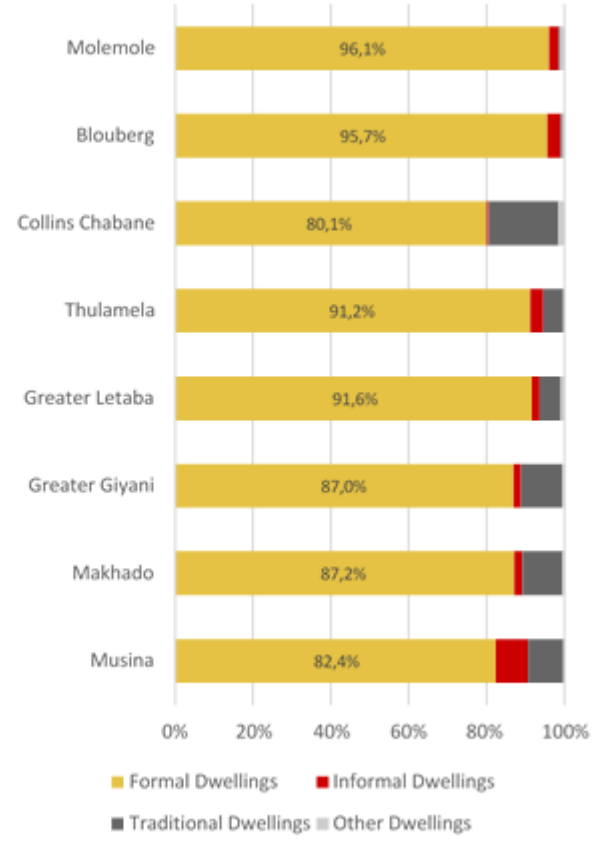
Majority of Households Reside in a **Formal Dwelling** **87.4%**

2.0% of households reside in an **informal dwelling**

10.3% of households reside in a **traditional dwelling**



DWELLING TYPES IN THE HOST AND SENDING MUNICIPALITIES



DEMOHRAPHIC PROFILE OF HOST MUNICIPALITIES – TENURE STATUS

MUSINA HOST MUNICIPALITY

33.1%
of households **own** and have **paid** for the property where they reside

10.9%
of households **own** but have **not finished paying** for the property where they reside

40.5%
of households **rent** the property where they reside

15.5%
of households **occupy** the property where they reside **rent free**

MAKHADO HOST MUNICIPALITY

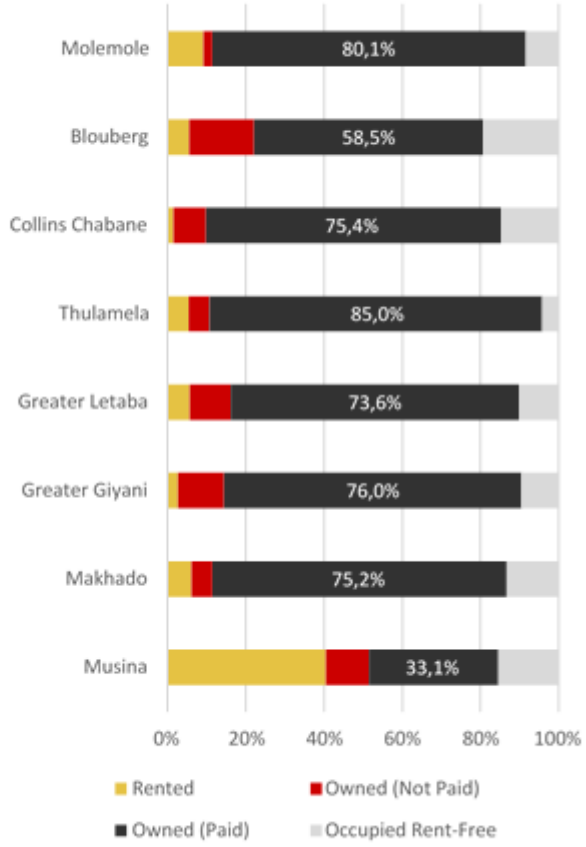
75.2%
of households **own** and have **paid** for the property where they reside

5.3%
of households **own** but have **not finished paying** for the property where they reside

6.1%
of households **rent** the property where they reside

13.4%
of households **occupy** the property where they reside **rent free**

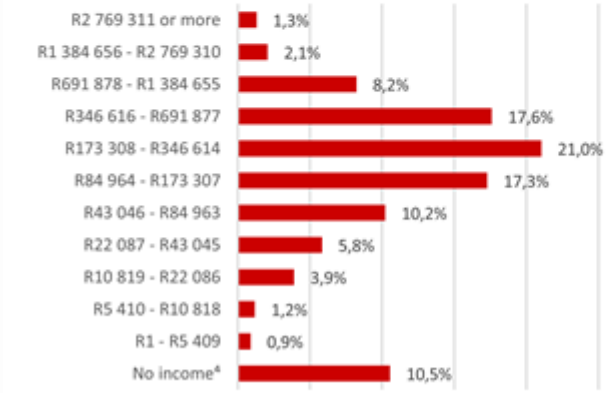
TENURE TYPOLOGY IN THE HOST AND SENDING MUNICIPALITIES



DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – AVERAGE ANNUAL HOUSEHOLD INCOME

MUSINA HOST MUNICIPALITY

Average annual household income for all LSM groups (2019)	Average annual household income for LSM Groups 4+ (2019)
R68 789	**R153 529**
Average monthly household income for all LSM groups (2019)	Average monthly household income for LSM Groups 4+ (2019)
R5 732	**R12 794**



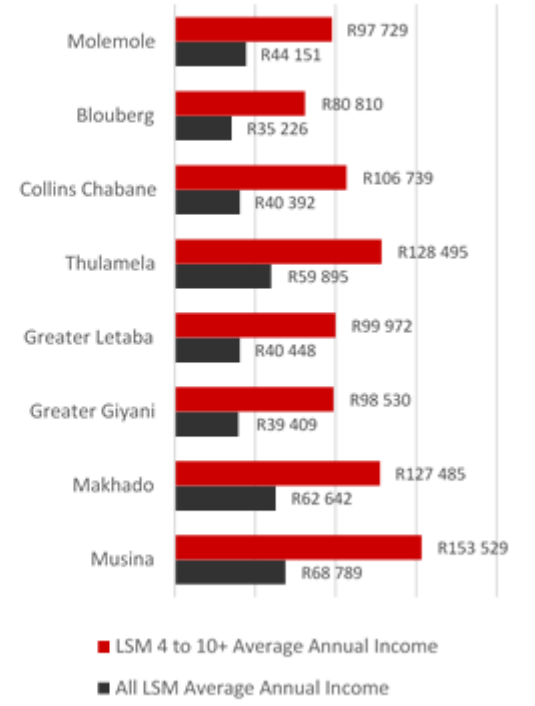
2.0% Indigent Households

MAKHADO HOST MUNICIPALITY

Average annual household income for all LSM groups (2019)	Average annual household income for LSM Groups 4+ (2019)
R62 642	**R127 485**
Average monthly household income for all LSM groups (2019)	Average monthly household income for LSM Groups 4+ (2019)
R5 220	**R10 624**

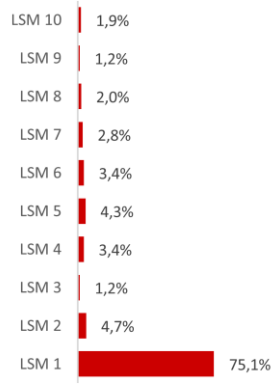
7.0% Indigent Households

AVERAGE ANNUAL HOUSEHOLD INCOME IN THE HOST AND SUPPORTING MUNICIPALITIES



DEMOGRPAHIC PROFILE OF HOST MUNICIPALITIES – LIVING STANDARD MEASUREMENT

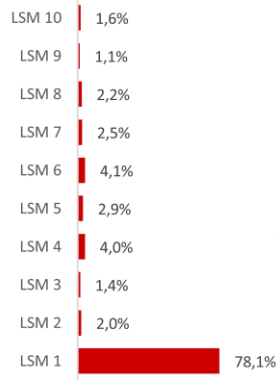
MUSINA HOST MUNICIPALITY



LSM 1 to 3 are the **most** prevalent group in the **Musina Municipality**

LSM 8 to 10 are the **least** prevalent

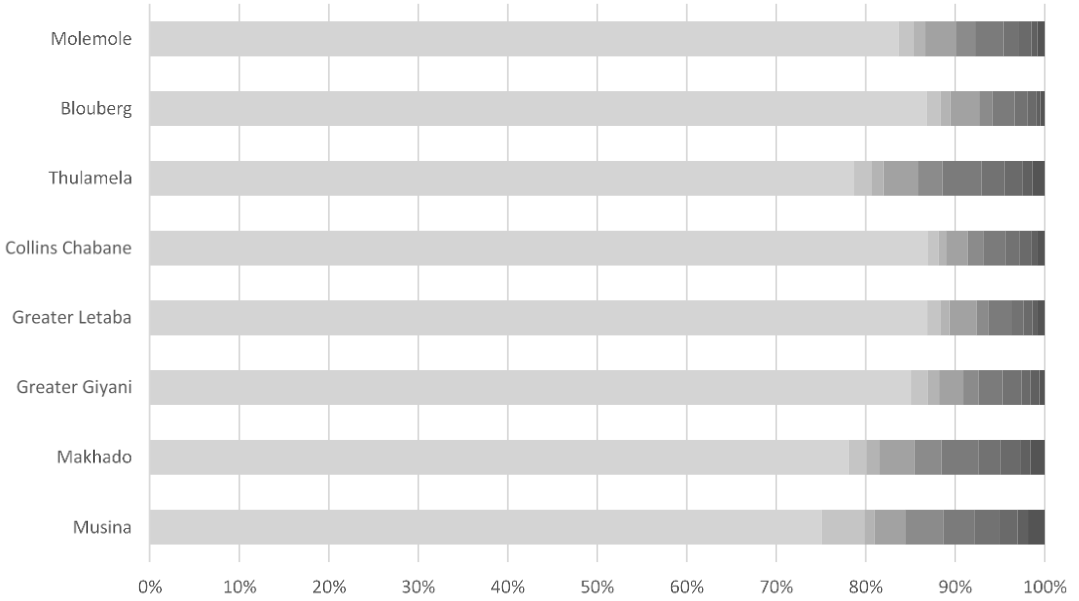
MAKHADO HOST MUNICIPALITY



LSM 1 to 3 are the **most** prevalent group in the **Makhado Municipality**

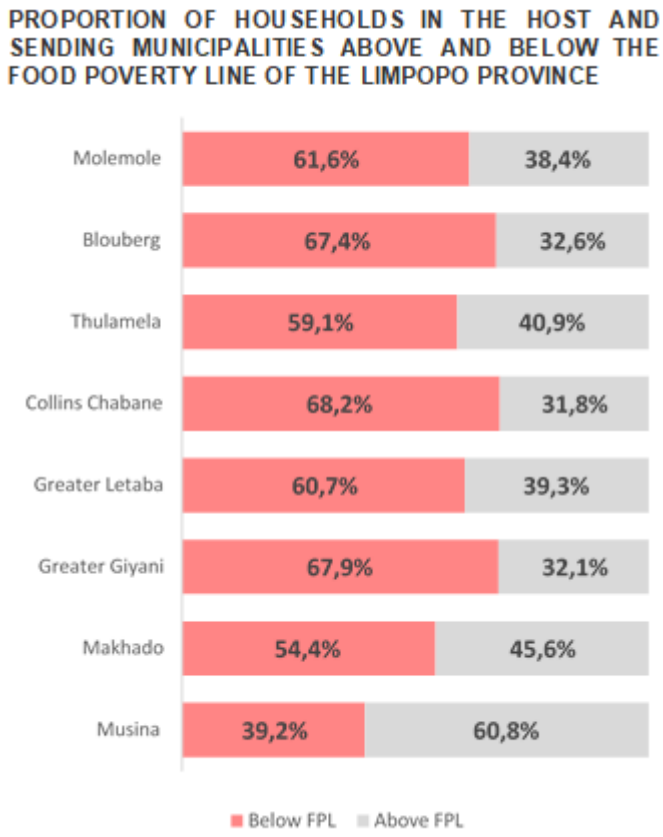
LSM 8 to 10 are the **least** prevalent

LIVING STANDARD MEASURE IN THE HOST AND SUPPORTING MUNICIPALITIES

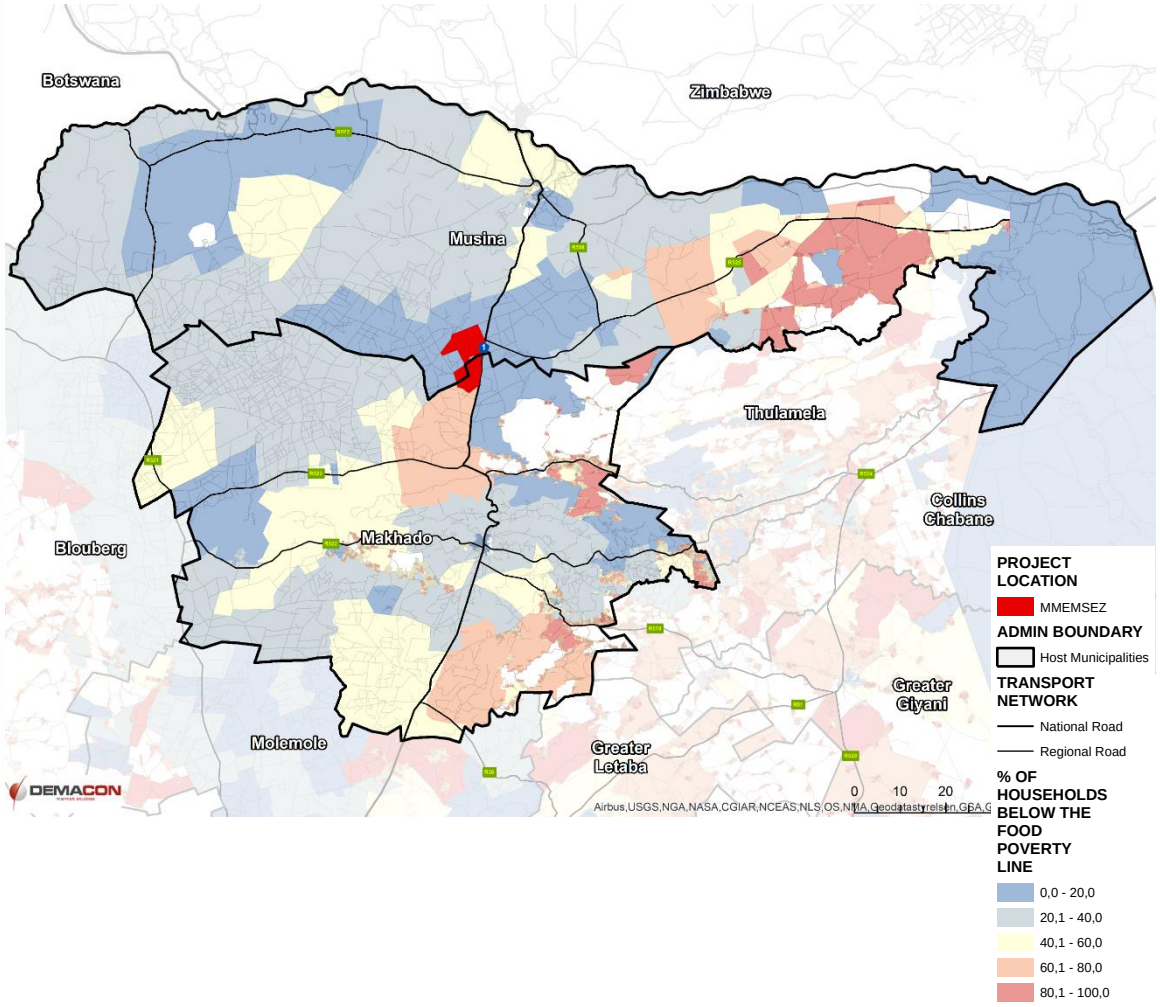


	Musina	Makhado	Greater Giyani	Greater Letaba	Collins Chabane	Thulamela	Blouberg	Molemole
LSM 1	75,1%	78,1%	85,1%	86,9%	87,0%	78,7%	86,8%	83,7%
LSM 2	4,7%	2,0%	1,8%	1,5%	1,2%	1,9%	1,6%	1,7%
LSM 3	1,2%	1,4%	1,3%	1,1%	0,8%	1,4%	1,1%	1,2%
LSM 4	3,4%	4,0%	2,7%	3,0%	2,4%	3,9%	3,2%	3,5%
LSM 5	4,3%	2,9%	1,7%	1,4%	1,8%	2,7%	1,5%	2,1%
LSM 6	3,4%	4,1%	2,7%	2,5%	2,4%	4,4%	2,5%	3,2%
LSM 7	2,8%	2,5%	2,1%	1,4%	1,5%	2,5%	1,5%	1,7%
LSM 8	2,0%	2,2%	1,0%	1,0%	1,4%	2,1%	1,0%	1,4%
LSM 9	1,2%	1,1%	1,0%	0,6%	0,6%	1,1%	0,4%	0,7%
LSM 10	1,9%	1,6%	0,6%	0,8%	0,8%	1,4%	0,5%	0,8%

DEMOGRAPHIC PROFILE OF HOST MUNICIPALITIES – POVERTY PROFILE



POVERTY PROFILE OF THE HOST MUNICIPALITIES



INDUSTRIAL LOCATION FACTORS AND BUILDING BLOCKS

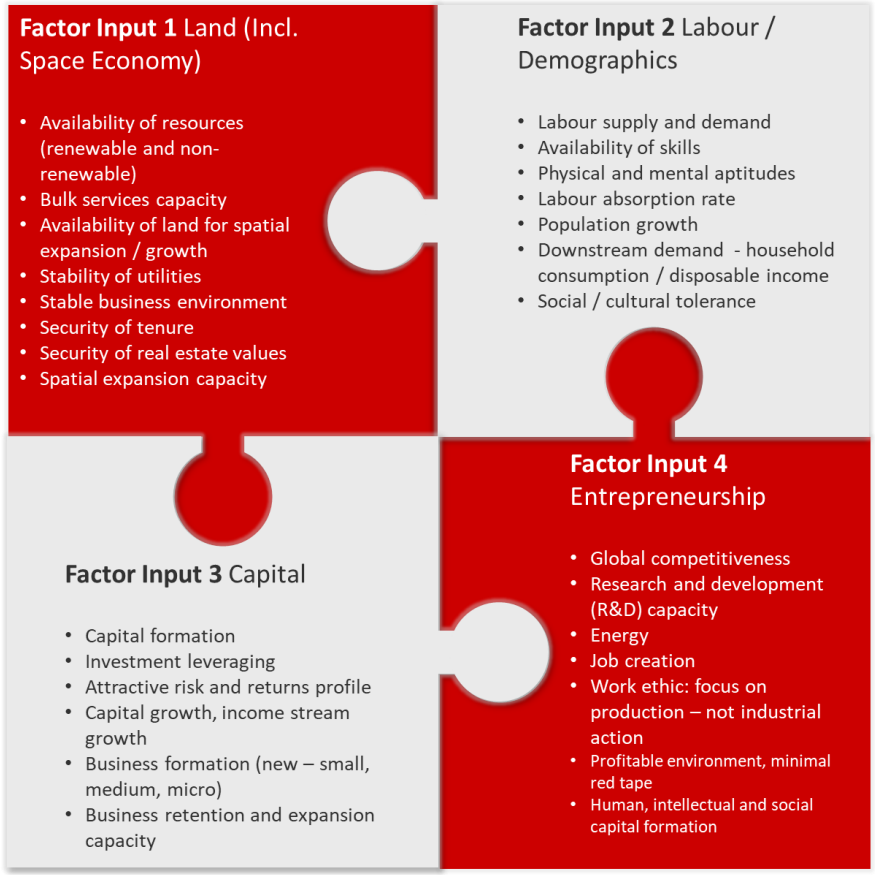
In the context of the MMEMSEZ it is necessary to consider the factors that could influence the sustainability of the development as well as locational factors that should be considered when establishing an industrial related development.

When considering the sustainability of an industrial development, four key factors are essential inputs to ensure the long-term viability of a project. The factors relate to multiple elements across hard and soft infrastructure requirements and social and economic inputs that support and grow industrial activities.

The building blocks for sustainable development include:

- ✓ **Land and the space economy**
  – considering the availability of resources and bulk infrastructure, the potential to expand proposed operations in the future, the extent and stability of not only the business environment but the supply of utilities and property markets.
- ✓ **Labour and demographic profiles**
  – considering the availability of labour and the extent to which the local labour force have sufficient skills to support proposed operations, the degree to which local demographic trends change and shape the local community profile and the livelihoods of local communities.
- ✓ **Capital investment**
  – considering the potential for capital formation through operations and the leveraging of investment, the effectiveness of operations to sustain capital growth and encourage local value chain development, and the expansion capacity of the local economy to accommodate new businesses.
- ✓ **Entrepreneurship growth**
  – considering the local and international competitiveness of the national economy and local operations, the potential to ensure job creation and labour force work ethic and the growth of human capital through social investment.

BUILDING BLOCKS TO SUSTAINABLE DEVELOPMENT



INDUSTRIAL LOCATION FACTORS AND BUILDING BLOCKS

Location factors specific to the context of industrial development are important to identify industrial activities that are located in different socio-economic and spatial localities. Industrial location factors can be considered based on two variables, the first being traditional and the second contemporary.

- ✓ **Traditional location factors** consider the positioning of an industrial development in regard to its proximity to resources, accessibility to markets, the potential to agglomerate and the availability of logistical infrastructure.
- ✓ **Contemporary location factors** consider the availability of utilities and the easy and stability of accessing these services, the proximity of industry to secondary functions, the availability and proximity of industry to labour resources and the availability of financial incentives.

SUMMARY OF INDUSTRIAL LOCATION FACTORS

Economic Base	Description
Traditional Industrial Location Factors	
Resources	Proximity to natural resources and natural resources as the primary product.
Market	Natural resources are processed (beneficiated) to create final and intermediate products.
Agglomeration	Products created as a result of input from different industries located within proximity to each other (clustering industrial activities).
Logistics	Activity located based on its demand for logistics as its primary consideration – connectivity and movement dependent.
Contemporary Location Factors	
Electricity (Utility) Orientation	Industry's location based on the accessibility of utilities such as water and electricity.
Amenity Orientation	Industry's location based on its secondary function – adding value to quality of life, research and development, etc.
Labour	Cheap, reliable or stable labour
Incentives	Financial incentives.

Based on previous information it becomes apparent that the MMEMSEZ is traditionally positioned in regard to:

- ✓ its proximity to **natural resources** whereby many of the input resources required to operate the SEZ are primarily found in the northern mining belt,
- ✓ the potential to create an **agglomerated economic node** through the development of multiple supportive metallurgical activities within the SEZ, and
- ✓ the **proximity to major logistical routes** and inland border trade areas such as the N1 highway, Beitbridge and Pont Drift Border Posts and the railway line between Beitbridge and Gauteng and Nelspruit / Matsulu.

The SEZ is also contemporarily positioned in regard to:

- ✓ its **amenity orientation** whereby the SEZ could generate significant changes to the quality of life of local communities in the Musina and Makhado area,
- ✓ the **availability of labour** is prominent but could be influenced by mis-matched labour force skills, and
- ✓ the **financial incentive** proposition of the SEZ additionally assists with the attractiveness of the SEZ.

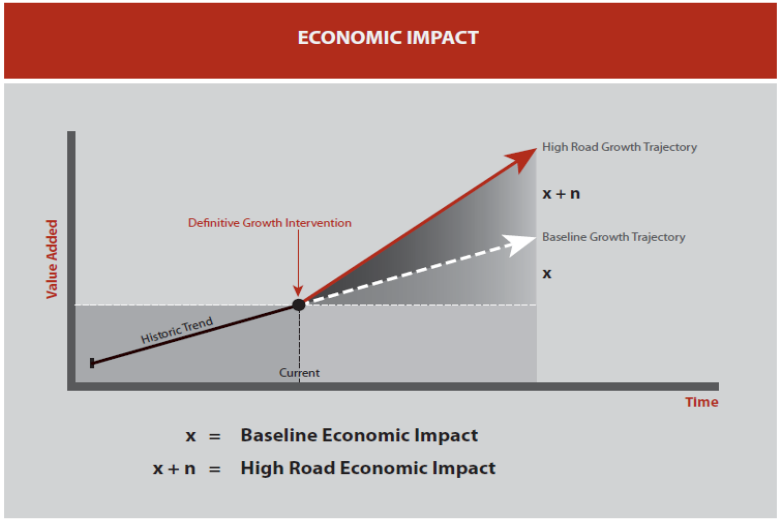
QUANTITATIVE IMPACT ANALYSIS – METHODOLOGY

The input-output model depicts economic relationships between different components of an economy by identifying monetary flows (expenditures, receipts) between various units. The relationship between the initial spending and the total effects generated by the spending is known as the multiplier effect (X + N) of a sector, or more generally as the impact of a sector on the economy as a whole.

Impacts are measured in terms of the following:

- ✓ **Business sales** refers to the value of business sales (turnover) generated in the economy as a result of the mine.
- ✓ **GGP** refers to the value of all final goods and services produced during a one-year period within the boundaries of a specific area as a result of the mine.
- ✓ **Total employment** reflects the number of additional jobs created by economic growth due to the mine. Note that the public costs of attracting these employment opportunities, as well as the quality thereof, are not necessarily reflected.

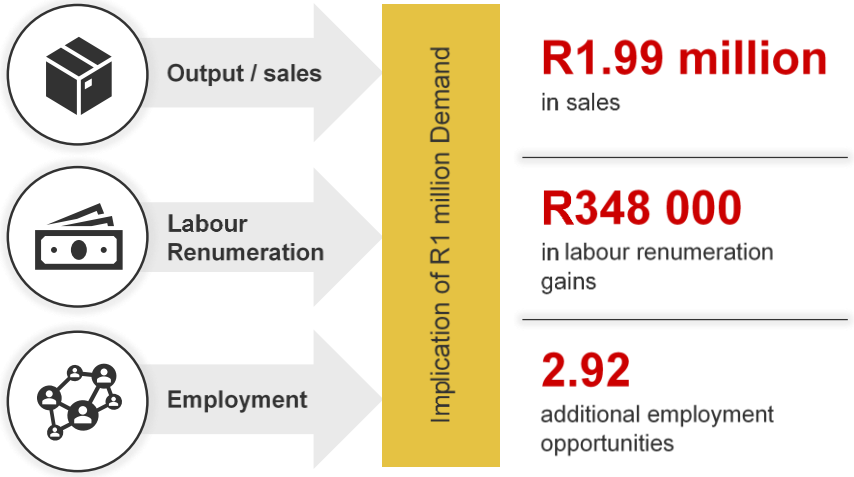
ECONOMIC IMPACT OF DEVELOPMENT



The impact result due to a change in output is measured through national multipliers. The multiplier effect refers to the increase in final income arising from any new injection of demand and the opposite is also true with a withdrawal of demand will lead to a downward multiplier effect. The following is evident for manufacturing of iron and steel products within the Limpopo Province.

- ✓ **Output/Sales:** For every R1 million in final demand from metallurgical production there is R1.99 million downstream variation in output/sales generated across the entire economy.
- ✓ **Labour Remuneration:** For every R1 million variation in final demand, labour remuneration either loses or gains R348 000.
- ✓ **Employment:** A total of 3 employment opportunities are created within the formal and informal sectors across the entire economy due to a R1 million variation in metallurgical demand.

MULTIPLIER EFFECT OF THE METALLURGICAL MANUFACTURING INDUSTRY



QUANTITATIVE IMPACT ANALYSIS – CONSTRRUCTION AND OPERATIONAL

- ✓ A **capital investment amount of R287.6 billion** could be injected to implement the MMEMSEZ.
- ✓ The annual business sales of the MMEMSEZ is could obtain **R435.5 billion** , and
- ✓ A total of **53 800 jobs** (47 694 employees sourced from the local market) could be created at full operational capacity.
- ✓ The capital investment and annual output variables have been derived from a US Dollar value (supplied in the Internal Master Plan - 2019).
- ✓ A South African Rand value is derived by making use of a R14.29 exchange rate – the exchange rate is determined by making use of the average median exchange rate between the US Dollar and South African Rand between August 2018 and August 2019.

CONSTRUCTION AND OPERATIONAL PHASE QUANTITATIVE IMPACT ANALYSIS

CONSTRUCTION PHASE IMPACTS

CAPITAL INVESTMENT

± R 287.6 billion

ADDITIONAL BUSINESS SALES

Direct Impact	Indirect Impact	Induced Impact	Total Impact
R411,4 billion	R61,9 billion	R100,4 billion	R573,7 billion

ADDITIONAL GGP

Direct Impact	Indirect Impact	Induced Impact	Total Impact
R124,0 billion	R26,8 billion	R44,6 billion	R195,4 billion

ADDITIONAL EMPLOYMENT

Direct Impact	Indirect Impact	Induced Impact	Total Impact
492 651 jobs	107 011 jobs	239 103 jobs	838 765 jobs

OPERATIONAL PHASE IMPACTS

ANNUAL BUSINESS SALES

± R 435.5 billion

ADDITIONAL BUSINESS SALES

Direct Impact	Indirect Impact	Induced Impact	Total Impact
R623,1 billion	R93,7 billion	R152,0 billion	R868,8 billion

ADDITIONAL GGP

Direct Impact	Indirect Impact	Induced Impact	Total Impact
R187,8 billion	R40,5 billion	R67,5 billion	R295,9 billion

ADDITIONAL EMPLOYMENT

Direct Impact	Indirect Impact	Induced Impact	Total Impact
746 111 jobs	162 066 jobs	362 117 jobs	1 270 294 jobs

OTHER QUANTIFIABLE IMPACT ANALYSIS

Based on the extent and size of the MMEMSEZ, the range of impacts that could be generated by the SEZ is expansive. As a result, a number of key impacts have been identified that should be considered alongside the quantitative impact of the initial investment and operation of the SEZ. Other quantifiable impacts that have been identified for analysis include:

- ✓ The impact of direct employment created by the SEZ on the tax revenue of South Africa, and
- ✓ The impact of the SEZ on the local tourism industry.

MMEMSEZ EMPLOYEES IMPACT ON INCOME TAX REVENUE

The direct employment generated by the MMEMSEZ (i.e. 53 800 jobs) could have a substantial impact on the additional revenue generated by the South African Revenue Service (SARS) through taxes on employee renumeration.

In order to determine the potential impact that could be generated, the following assumptions have been applied:

- ✓ Assumed monthly employee income per employment type:
  - Executive positions – R25 000 per month
  - Professional positions – R15 000 per month
  - General labour positions – R8 000 per month.
- ✓ The SARS taxation brackets of the 2019/20 financial year have been applied, and
- ✓ The calculation does not consider non-taxable benefits that employees may be afforded.

	Executive Positions	Professional Positions	General Labour
Employee Structure			
Number of Employees	6 994	4 842	41 964
Gross Monthly Renumeration (per Employee)	R25 000.00	R15 000.00	R8 000.00
Total Monthly Personal Income Tax (per Employee)	R4 158.05	R1 663.72	R335.00
Total Income Tax Revenue (Annual)	R348 976 820	R96 668 787	R168 695 280
Total Income Tax All Employees (Annual)			**R614 340 887**

IMPACT OF THE MMEMSEZ ON THE LOCAL TOURISM INDUSTRY

The immediate area (i.e. 30 km radius from the SEZ) is primarily rural in nature, dominated by farms and wilderness areas. The inclusion of a heavy industrial node the scale of the MMEMSEZ impacts on the natural environment and by extension tourism activities.

Assuming that tourist facilities within a ±30 km radius of the SEZ have a 100% occupancy rate per month, only domestic tourists are taken into consideration and R1 152 income is generated per night of stay, tourist facilities have the potential to generate in excess of **R56.86 million p/y**.

The tourism industry can also be reviewed in terms of the catering and accommodation sector (associated with the tourism industry)

Item	Musina	Makhado
Catering and Accommodation Sector GVA (R/million)	R74.98	R194.96
Average Annual Growth Rate	2.7%	0.6%
Contribution to Total Economic Output	1.4%	0.9%

Although leisure tourists may be negatively affected by the MMEMSEZ, business tourism may increase. Overnight business trips to the Limpopo Province is limited whilst day trips represent 3.97% of all day trips. Thus, due to the business environment of the SEZ, trips to and from the SEZ may increase from not only domestic but foreign business tourists. Revenue potential from leisure tourists would be diminished even though business tourism may supplement some of the revenue lost – business tourists typically have shorter number of bed nights as appose to leisure tourists.

QUALITATIVE IMPACT ASSESSMENT - METHODOLOGY

The evaluation of impacts is conducted in terms of a set of fixed criteria. The various socio-economic impacts and benefits of this project is discussed in terms of the status, extent, duration, probability, and magnitude of the impact. Finally, an accumulative impact and significance rating is applied to rate each identified impact in terms of its overall magnitude and significance.

In order to adequately assess and evaluate the impacts and benefits associated with the project it was necessary to develop a methodology that would scientifically achieve this and reduce the subjectivity involved in making such evaluations.

For informed decision making it is necessary to assess all legal requirements and clearly defined criteria in order to accurately determine the significance of the predicted impact or benefit on the surrounding social environment.

The nature or status of the impact is determined by the conditions of the environment prior to construction and operation. A discussion on the status of the impact will include a description of what causes the effect, what will be affected and how it will be affected. The status of the impact can be described as negative, positive or neutral.

The following provides an outline and overview of the methodological elements described above. The outline and overview forms part of the overall qualitative impact assessment and is compiled into a singular feature which outlines the identified impact, its assessment based on the methodological elements and potential mitigation measures that can be considered.

IMPACT SIGNIFICANCE ITEM						
Status of the impacts	Positive +		Neutral N		Negative —	
Extent of the impact	Site Specific 1	Local 2	Provincial / Regional 3	National 4	Internationally 5	
Duration of the impact	Immediate 1	Short-Term 2	Medium-Term 3	Long-Term 4	Permanent 5	
Magnitude of the impact	None 0	Low 1	Medium - Low 2	Medium 3	Medium - High 4	Very High / Don't Know 5
Probability of the impact	No Occurrence 0	Minor Possibility of Occurrence 1	Possible Occurrence 2	Likely Occurrence 3	Expected Occurrence 4	Will Occur 5
Impact Rating	No Impact **0**	Low **1 - 15**	Low to Medium **16 - 30**	Medium **31 - 45**	Medium to High **46 - 60**	High **60+**

QUALITATIVE IMPACT ASSESSMENT - OVERVIEW

The following provides a broad and concise overview of potential impacts that could arise from the MMEMSEZ during the construction and operational phase. The purpose is to outline the basis and extent of potential impacts so as to guide further detailed analysis.

The extent of potential impacts as a result of the construction and operation of the SEZ is diverse and across multiple core themes. The core themes under which potential qualitative impacts are identified consist of:

- ✓ Impacts on the **local and/or regional economy**,
- ✓ Impacts on **local communities**,
- ✓ Impacts on the **local labour force**,
- ✓ Impacts on the **natural environment**,
- ✓ Impacts on **local infrastructure and utility services**, and
- ✓ Impacts on the **local property market**.

QUALITATIVE IMPACT ASSESSMENT - DISCUSSION

During the construction and operational phase the local and regional economy and, the various sectors in the economy, can benefit from construction and operational activities by means of increased demand for products and services. Limitations may be found in the provision of products and services due to limited capacity in the local economy. Increased short-term and sustained long-term demand could provide an opportunity for existing businesses to expand or new businesses to be developed. The operation of the SEZ could further lead to agglomeration by means of encouraging downstream value-chain business development and the creation of a more diversified local and regional economy. Inadvertently, this may lead to increased employment opportunities for the local labour force.

The local labour force could benefit from new employment opportunities. A mismatch of local skills may exist between the local labour force and the construction and operational phases of the project thus requiring either skills development of the local area or the import of labour from outside the local labour pool.

Due to the influx of workers, prospective workers and construction operations, strain could be placed on the existing infrastructure of the local area. Increased light and heavy vehicle as well as rail movement could require that existing transportation infrastructure be maintained more periodically whilst the established normal flow of people in the local area may be changed as a result of an increased number of vehicles on local roads. In a similar fashion, the operational phase of the project could generate similar impacts due to an additional 53 800 labourers employed over the medium- to long-term at the SEZ.

The provision of basic services, i.e. water, electricity, sanitation etc, could also be influenced due to the increased number of people in the area as well as demand generated by the SEZ. Existing infrastructure, if not maintained or under existing pressure, could be overloaded due to the sudden increased demand.

Local communities could largely benefit as a result of employment opportunities. The employment of local labour, if appropriately skilled for construction or operational activities, could provide local communities with increased household incomes over the short- to medium-period. In effect, the increased buying power of local communities could benefit local businesses through increased demand for products and services.

The prospect of employment opportunities during the construction and operation of the SEZ could lead to in-migration of domestic and foreign employment seekers. The in-migration of population beyond that of the economy's capacity could lead to over population in the area and the settlement of migrants into informal settlements and other low-cost housing options. The influx of population could further lead to safety and security concerns.

The introduction of industrial activities in a predominantly rural area could negatively impact on the natural environment. The SEZ is located on more than 8 000 hectares of land and the establishment of the SEZ would lead to a permanent change in the local environment and could negatively affect local tourism businesses. The extent of the SEZ as well as the heavy industrial character of operations would further generate pollution and carbon emissions concerns. The completed SEZ would further influence the visual appeal of the local area and influence tourism activities in the immediate surroundings.

The SEZ, through its major contribution to employment in the area, could influence the immediate and surrounding property markets. The number of people employed by the SEZ as well as opportunity seekers can generate additional demand for further development of major nodes such as Musina and Makhado and nearby local communities. New developments in this regard could consider new residential properties, retail activities, supportive business activities such as offices, social services such as healthcare, schools and recreation and other industrial activities.

The development of new properties outside the SEZ would be beneficial to local government through increased property taxes and sale of utilities. New developments not within the SEZ also allow for growth in local property prices due to modern and updated property developments. Properties bordering the SEZ may experience a negative impact on the market related values due to their proximity to heavy industrial activities.

QUALITATIVE IMPACT ASSESSMENT – CONSTRUCTION PHASE

Impact	Status of Impact	Impact Significance Prior to Mitigation	Impact	Status of Impact	Impact Significance Prior to Mitigation
Increased demand for products and services from local businesses (e.g. retail, entertainment, accommodation, construction, etc)	+	35 Medium	Local construction sector value chain limitations	—	20 Medium
Opportunity to expand local businesses through production, capacity and sales (e.g. construction, manufacturing, retail, etc.) or the establishment of new businesses	+	45 Medium	Short- to medium-term employment opportunities	+	45 High
Potential mismatch between local skills and skills required during the construction phase	—	28 Low - Medium	Import of labour	—	24 Low - Medium
Increased pressure on road and rail infrastructure	—	40 Medium	Increased pressure on the provision of utilities (e.g. electricity, water, sanitation, etc.)	—	35 Medium
Disruption to normal flow of community and commercial vehicles (traffic)	—	28 Low - Medium	Temporary increase of household income	+	45 Medium
Increased demand for social services	—	28 Low - Medium	In-migration of employment seekers	—	35 Medium
Relocation of affected communities	—	35 High	Safety and security	—	18 Medium
Potential loss of area's visual appeal	—	60 Medium - High	Introduction of industrial activities to natural environment	—	60 Medium - High
Pollution and carbon emissions	—	60 Medium - High	Impact on market value growth of properties bordering the SEZ and in local communities.	—	40 Medium
Increased demand for various land uses	+	32 Medium	Potential growth of informal settlements	—	44 Medium

QUALITATIVE IMPACT ASSESSMENT – OPERATIONAL PHASE

Impact	Status of Impact	Impact Significance Prior to Mitigation	Impact	Status of Impact	Impact Significance Prior to Mitigation
Sustained demand for products and services from local businesses (e.g. retail, entertainment, accommodation, construction, etc)	+	55 Medium - High	Sustained household income growth	+	45 Medium
Limited capacity by local businesses to fulfil additional sustained demand	—	50 Medium - High	Increased demand for social services	—	28 Medium
Growth in number of local businesses and business output due to growing communities and SEZ operations.	+	45 Medium	In-migration of employment seekers	—	40 Medium
Opportunity for downstream value-chain business growth and linkages	+	33 Medium	Safety and security	—	18 Low - Medium
Diversification of the regional economy	+	52 Medium - High	Social investment by the SEZ into local communities	+	50 Medium - High
Opportunity to attract additional foreign and domestic investment to the Musina-Makhado area	+	50 Medium - High	Potential loss of area's visual appeal	—	55 Medium - High
Linkages to national SIP projects and areas	+	65 High	Potential influence on local tourism activities	—	50 Medium - High
Medium- to long-term employment opportunities	+	50 Medium - High	Pollution and carbon emissions	—	65 High
Potential mismatch between local skills and skills required during the operation phase	—	28 Low - Medium	Impact on market value growth of properties bordering the SEZ	—	50 Medium - High
Opportunity for skills development in local communities	+	40 Medium	Sustained demand over the medium- to long-term for new development (i.e. residential, retail, etc.)	+	36 Medium

QUALITATIVE IMPACT ASSESSMENT – OPERATIONAL PHASE

Impact	Status of Impact	Impact Significance Prior to Mitigation	Impact	Status of Impact	Impact Significance Prior to Mitigation
Import of labour	—	55 Medium - High	Additional municipal income generated (property taxes, services, etc.) as a result of new developments	+	44 Medium
Sustained pressure on road and rail infrastructure	—	55 Medium - High	Potential continued growth of informal settlements	—	36 Medium
Sustained pressure on the provision of utilities	—	50 Medium - High	New development activity could spur increased property prices in local markets	+	36 Medium
Disruption to normal flow of community and commercial activities	—	36 Medium			

SOCIO-ECONOMIC IMPACT ASSESMENT CONCLUSION

The relatively small size of the manufacturing sector in the Limpopo Province poses an opportunity by the Musina-Makhado SEZ to impact and influence not only the local, regional and provincial economy, but local communities as well.

The SEZ and its intended operations are positioned to play a substantial role in the growth and diversification of the Limpopo economy by introducing mineral beneficiation in the metals and ferro-alloys industries (an industry that is limited in the province). The SEZ is also set to become the first special economic zone of the province and is ideally positioned to agglomerate supportive and down-stream industries into the local, regional and international markets.

The potential of the SEZ to generate sizable economic and social impacts is substantial. The proposed operations of the SEZ could, based on the economic multiplier effect, create an additional 3 employment opportunities for every R1 million metallurgical demand generated. In addition to the 52 00 forecasted employment opportunities to be generated by the SEZ, roughly 164 000 additional employment opportunities could be generated in the construction phase and 225 000 jobs in the operational phase.

The additional business sales that could be encouraged by the SEZ during construction phase of the project amounts to more than R112 billion whilst the operational phase additional sales could account for more than R153 billion. Likewise, additional GGP during construction could amount to more than R38 billion as oppose to the operational phase where additional GGP could be more than R52 billion.

Aside from the direct impact generated by capital and operational expenditures, local socio-economic impacts in the community could also be facilitated. In essence, the construction and operation of the SEZ would lead to increased opportunities for employment creation in the local and regional community. The availability of employment also encourages increased household income and increased livelihoods of local communities.

The increased livelihoods of local communities also affect the demand for socio-economic services. The increased spending potential of local communities allow for the growth in demand for additional services and directly influences the growth of new businesses. It should be noted that although a significant number of employment opportunities could be generated, these opportunities are not instantaneous but progressive over time. It should also be noted that studies have indicated that the influence generated by SEZ's tend to fade the further away a locality is from the SEZ operation. Agglomeration of economic activities in support of the SEZ would encourage the influence generated by the SEZ.

Although increased employment in the area is beneficial, negative aspects are also apparent. Due to the attractiveness of the SEZ and the employment generated, in-migration to the area could be expected. Substantial growth of the population could place increased strain on existing infrastructure and services and would require intervention by means of upgrades, expansion and new developments. Increased traffic and the opportunity for crime could further create negative impacts in the local community.

Additionally, an influx of population to the area could lead to growing and new informal settlements. The current housing backlog in the Musina and Makhado municipalities coupled with stagnate property markets could lead to limited residential opportunities for in-migrating residents and the in effect the growth of informal dwellings (primary and backyard).

SOCIO-ECONOMIC IMPACT ASSESSMENT CONCLUSION

Local property market values could be negatively or positively impacted on. Property owners adjacent to the SEZ could experience a decrease of market value while new developments in local towns could spur property values.

The construction and operation of the SEZ could promote business development in the local economy. Due to increased demand from new employees and the increased buying power of local communities, demand could be generated for additional economic activities thus leading to development opportunities.

Procurement by the SEZ from local businesses could enhance economic growth of local firms. Where gaps in the local economy exist in the supply of services to the SEZ, new business development could be facilitated. Additionally, down-stream value adds and further beneficiation of outputs from the SEZ could be established through interventions by private and public sectors in collaboration with the SEZ.

The facilitation of skills development in the local community could be undertaken by local authorities and the SEZ. Skills development will be beneficial to local communities in the promotion and establishment of new businesses in support of the SEZ.