



REGIONAL SECTOR SKILLS PLAN

Mpumalanga-Limpopo Region

October, 2013

Regional Sector Skills Plan for Mpumalanga-Limpopo

Prepared for

Manufacturing, Engineering and Related Services SETA (merSETA)

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FOREWORD

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ABBREVIATIONS AND ACRONYMS

AATP	Accelerated Artisan Training Program
Asgi-SA	Accelerated and Shared Growth Initiative for SA
BER	Bureau of Economic Research
CETEMF	capital equipment, transport equipment, metal fabrication
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoL	Department of Labour
dti	Department of Trade and Industry
EC	Eastern Cape
FET	Further Education & Training
FS	Free State
GDP	Gross Domestic Product
GDPR	Gross Domestic Product per Region
GET	General Education & Training
GP	Gauteng Province
GVA	Gross Value Added
GWM&E	Government-Wide Monitoring and Evaluation
HET	Higher Education & Training
HRDS	Human Resources Development Strategy
IDC	Industrial Development Corporation
IDS	Industrial Development Strategy
IDZ	Industrial Development Zone
IPAP	Industrial Policy Action Plan
KZN	KwaZulu-Natal
LP	Limpopo Province
merSETA	Manufacturing, Engineering and Related Services Sector Education and Training Authority
MP	Mpumalanga Province
NAAMSA	National Automotive Association of South Africa
NC	Northern Cape Province
NIPF	National Industrial Policy Framework
NGP	New Growth Path
NMBLP	Nelson Mandela Bay Logistics Park
NSC	National School Certificate
NSDS	National Skills Development Strategy
NSF	National Skills Fund
NW	North West
OEM	Original Equipment Manufacturer
PERO	Provincial Economic Review and Outlook
PGDP	Provincial Growth and Development Plan
QLFS	Quarterly Labour Force Survey
RSSP	Regional Skills Sector Plan
SDA	Skills Development Act
SDI	Spatial Development Initiatives

SERO	Socio-Economic Review and Outlook
SETA	Sector Education & Training Agency
SEZ	Special Economic Zone
SIC	Standard Industrial Classification
SSP	Skills Sector Plan
StatsSA	Statistics South Africa
VWSA	Volkswagen South Africa
WC	Western Cape
W&RSETA	Wholesale and Retail SETA
WSPs	Workplace Skills Plans

EXECUTIVE SUMMARY

1. Introduction

The Manufacturing, Engineering and Related Services Education and Training Authority (merSETA) established through the Skills Development Act, (Act 97 of 1998). The merSETA facilitates skills development in the following five sub-sectors (or chambers); Metal, Plastics, Auto (including only the seven local assemblers of new vehicles), Motor (including automotive components manufacturers and the motor retail and service subsector) and New Tyre.

This Regional Sector Skills Plan (RSSP) is aimed at unpacking the regional specificity of the merSETA subsectors. The objectives of this RSSP is to identify and map key features, trends, forecasts and legislative initiatives at the regional level regarding skills development. This RSSP provides valuable insight into regional and local developments in the sector and links to skills development planning. To this end, the RSSP presents a regional socio-economic analysis, profiles regional companies, explores the labour supply and demand imperatives and offers regional scarce and priority skills analysis.

2. Research Methodology

The research methodology used for this Regional Sector Skills Plan (RSSP) included both primary research and secondary research which involved both quantitative and qualitative research methods. The documentary and literature review covered provincial Growth and Employment Development Strategies (GEDSs), Economic Review and Outlook (PERO), Socio-Economic Review and Outlook (SERO) and these highlight the performance of the provincial economy and the social changes occurring in each province.

Some of the main data sources are Stats SA, SARB, DHET, DoL, BER, SARB, NAAMSA, and Quantec among others. The demand projections are based on the merSETA Sector Skills Plan 2012/13 – 2017/2018 national estimations, as per the econometric modelling performed by EcoQuant.

The research study was designed to be as interactive as possible with the merSETA Regional Committees which have representatives from all chambers, labour and employers' associations. At the inception of the project the research team attended the Regional Committee meetings to introduce the project, initiate task teams and outline the objectives. The primary research aspect of the study involved in-depth interviews with employer representatives, labour union representatives, FET colleges, and provincial government representatives. Majority of interviews were conducted face-to-face and some were done telephonically.

Table 1: Stakeholder Engagements

Engagement	Number of participants
Regional Committee Introductory Meeting	10
Task Team	32
In-depth interviews	14

3. Profile of merSETA Sector in the Region

Mpumalanga is third least populous province and accounts for 7.8% of the population. The Limpopo Province had a population of 5.4 million which is 10.4% of the nation's population. The population of Mpumalanga has grown by 20% since 2001 from 3.4 million to just over 4 million whilst the population of Limpopo has grown 18% in a decade from 4.5 million in 2001 to 5.4 million in 2011. For Quarter 1 2013, Limpopo's unemployment rate was 20.3% and Mpumalanga's was 29.4%. Mpumalanga may be classified as a rural province, statistics from Stats SA, 2002 estimated that 60.9% of its people live in non-urban areas and slightly more than a third (39.1%) live in urban areas.

In 2011 Limpopo contributed 7.1% to the country GDP and was the fifth largest contributor to the country's GDP, Mpumalanga contributed 7%. The two regions combined contributed 14.1% to the nation's GDP in 2011 which is just marginally lower than the Western Cape's 14.2%. Mpumalanga is the third largest (20%) contributor to the mining and quarrying sector after North West (24.8%) and Limpopo (23.7%). Combined the Mpumalanga-Limpopo region contributed 8.6% to the nation's manufacturing GDP with the bulk of this being done in Mpumalanga. In Limpopo the biggest manufacturing subsector is the food and beverages subsector which contributed 39% to the GVA for 2011. For Mpumalanga the biggest subsectors are petroleum products (29%), food and beverages (21%) and metals and metal products (20%).

Nationally, the merSETA has 53 150 companies in their database. Its biggest subsector is motor with 18,729 companies followed by metal (18,381), unknown (13,084), plastics (2,632), auto (256) and lastly new tyre (68). The motor chamber constitutes the majority (45%) of the Mpumalanga-Limpopo companies on the merSETA database. The metal subsector is highly concentrated in Gauteng and 5.3% (967) of the metal chamber companies are in the Mpumalanga-Limpopo Region.

4. Major Policy Drivers in the Region

4.1. National Programmes

A. *New Growth Plan (NGP) and National Development Plan (NDP)*

The two documents position SA as a 'developmental state' and give the government an important role in the development of the economy, especially employment creation. The policy focus is to increase labour-absorbing activities, promote economic growth, and equity (which is to be measured by decreasing inequality and poverty). The targeted 'job-drivers' are the labour absorbing sectors such as mining, agriculture, manufacturing and services. Some of the SETA related specific targets in the NGP include:

- at least 30 000 additional engineers by 2014,
- at least 50 000 additional artisans by 2015,
- improve skills in every job and target 1,2 million workers for certified on-the-job skills improvement programmes annually from 2013;
- expand enrolment at FET colleges, targeting a million students in FET colleges by 2014; and
- Create 250 000 jobs a year in infrastructure (energy, transport, water, communications) and housing through 2015.

B. *National Industrial Policy Framework (NIPF) and Industrial Policy Action Plan (IPAP)*

National Industrial Policy Framework (NIPF), which sets out government's broad approach to industrialisation while IPAP 2 acknowledges the important role for sector-specific training programmes and skills facilitation that emerge directly from industry demands in relation to detailed Customised Sector Programmes.

C. *Metals Customised Sector Plan (CSP)*

The strategic vision of the plan is that "by 2014, SA will have a globally competitive metal sector, optimally utilising the comparative advantages of abundant mineral resources, skilled labour force and world-class technologies to produce and market high value-added products in the prioritised industries." Programmes in the plan include the promotion of local metals beneficiation, maximising local content through backward linkages, and upgrading production capabilities in downstream industries.

D. *Industrial Development Corporation (IDC) Jobs Scheme*

In 2011 the IDC launched a R10 billion scheme to tackle the country's chronic unemployment problem. The scheme was aligned with the government's New Growth Path and the Industrial Policy Action Plan (IPAP2). Funding would be available to

entrepreneurs across the IDC's mandated sectors over a five year period. The scheme aims to create an additional 40 000 to 50 000 employment opportunities.

E. National Foundry Technology Network (NFTN)

NFTN is the culmination of a significant government and industry association-led effort to develop a globally competitive South African foundry industry through appropriate skills training, technology transfer, and diffusion of state-of-the-art technologies. Its main outcome is to reduce import leakage, increase investments in key manufacturing processes and activities, employment and exportability.

F. Automotive Production and Development Programme (APDP)

The programme aims to increase local production to 1.2 million vehicles by 2020. It provides assistance to the component manufactures so that they can provide cost competitive components to the Original Equipment Manufacturers (OEMs) and to international markets via exports.

G. Special Economic Zones (SEZs) and Industrial Development Zones (IDZs)

The KwaZulu-Natal province has the Richards Bay Industrial Development Zone (RBIDZ) which was incorporated in 2002. Its aim is to attract export oriented manufacturing investment, value-adding and productivity improvements.

H. National Infrastructure Plan (NIP) and Strategic Integrated Projects (SIPs)

National Infrastructure Plan (NIP) is aimed at transforming the economic landscape, creating significant numbers of new jobs, and strengthening the delivery of basic services in South Africa. Some of this investment is earmarked for the construction of ports, roads, railway systems, electricity plants, hospitals, schools and dams with the ultimate aim of contributing to faster economic growth. Under the plan, 18 strategic integrated projects (SIPs) were identified. The total costs of the 18 SIPs is estimated at about R4-trillion over the next 15 years.

4.2.Regional Economic Growth and Development Strategies

A. Mpumalanga Provincial Growth and Development Strategy (PGDS)

The PGDS aims to promote integrated planning, which will enable development to be delivered in an efficient and co-ordinated manner in the Province. The priority areas were identified based on the social, economic and developmental needs of the Province.

B. Mpumalanga Rural Development Programme (MRDP)

The Mpumalanga Rural Development Programme (MRDP) was devised as part of government's efforts to improve livelihoods in rural areas by the implementation of development programmes aimed at attracting private capital investments. The MRDP was established in 2001 to help address the developmental needs of the province. The programme is targeted at aiding the rural populations of the province of which 70% are estimated to live below the poverty line.

C. Mpumalanga Economic Growth and Development Path (MEGDP)

The MEGDP is based by on the four Accords of the National New Growth Path Framework, which includes the Green Economy Accord. Through this accord the province aims to take advantage of the possibilities offered by the green economy. One of the key aspects of successful implementation of the MEDGP is the transition from a carbon intensive industrial development towards a low carbon economy. To achieve the 2030 Vision for the province the MEGDP stresses the importance of investing in human capital to produce the skills required for economic growth.

D. Limpopo Employment Growth and Development Plan 2009-2014

The Limpopo Employment, Growth and Development Plan for 2009-2014 (LEGDP) was developed to provide a framework for the provincial government, municipalities, the private sector and all organs of society can pursue the strategic priorities as encapsulated in the Medium Term Strategic Framework. The formation of Limpopo Business Support Agency (LIBSA) is a result of the Provincial Growth and Development Strategy exploiting opportunities in all the economic sectors for business development and promotion amongst existing and aspiring entrepreneurs in the whole Limpopo Province.

5. Regional Scarce and Critical Skills

The regional scarce skills list (below) was developed through review of the merSETA national SSP (2012/2013); current chamber projects; in-depth interviews with labour representatives, employer organisations, provincial government officials and other stakeholders; and discussed through the regional committee and regional SSP task team workshops.

Table 2: Scarce Skills for the Mpumalanga-Limpopo Region

METAL CHAMBER	AUTO CHAMBER	MOTOR CHAMBER	PLASTIC CHAMBER	NEW TYRE CHAMBER
Fitter and Turner	Mechatronics Technician	Automotive Electronics Fitter	Plastics Manufacturing Machine Setter and Minder	Chemical Engineer
Production / Operations Manager (Manufacturing)	Industrial Engineer	Automotive Motor Mechanic	Rubber, Plastic and Paper Products Machine Operators	

Welder	Mechanical Engineer	Diesel Mechanic	Rubber Products Machine Operators	
Metal Fabricator (boilermaker)	Fitter and Turner	Automotive Electrician (Qualified)	Rubber Production Machine Operator	
Electrician	Millwright	Vehicle Painter	Plastic Cabling Machine Operator	
Millwright	Chemical Engineer	Welder	Plastics Fabricator or Welder	
Engineering Production Systems Worker	Mechanical Engineering Technician	Toolmaker	Plastics Production Machine Operator (General)	
Automotive Motor Mechanic	Chemical Engineering Technician	Motorcycle Mechanic	Production / Operations Manager (Manufacturing)	
Bricklayer (refractory bricklayer)	Electrician	Panel Beater	Industrial Engineer	
Precision Instrument Maker and Repairer	Electronic Equipment Mechanician	Vehicle Body Builder	Manufacturing Machine Setter and Minder	
Metal Engineering Process Worker	Special Class Electrician	Vehicle Component Fitter and Repairer	Mechanical Engineering Technician	
Plumber		Automotive Air conditioning	Fitter and Turner	
Sheet Metal Worker				
Metal Machinist				
Rigger				
Structural Steel Erector				
Toolmaker				
Lift Mechanic				
Manufacturing Machine Setter and Minder				
Electrical engineer				
Chemical engineer				
Mechanical engineer				
Chemist				
Metallurgist				
Production Operators and Supervisors				
Metal Polisher				
Coded Welders				

6. Regional Strategic Plan

The RSSP aimed to identify interventions which the merSETA regional and national offices can implement in line with the National Skills Development Strategy III Priorities.

Recommendations and input were obtained from stakeholders in the region.

Table 3: Regional Strategic Plan Linked to merSETA Priorities

NSDS III Priorities	merSETA Priorities	Regional Strategic Plan
Priority 1: develop a labour market intelligence system and facilitate sector specific research initiatives	<ul style="list-style-type: none"> – To effect best practice in line with King III, – Establish capacity for research and skills planning, – Implement partnerships for credible skills planning, – Intermediate skills needs are identified and addressed in all merSETA sub-sectors, – High-level national scarce skills need to be identified and addressed, – Relevant R&D and innovation capacity is developed and implemented, – To implement a research programme to identify current and future interventions to support productivity improvements. 	i. Short to Medium Term Priorities <ul style="list-style-type: none"> – Develop a database of all merSETA trained artisans that is accessible to employers – Collaboration with the Department of labour to ensure the (Employment Services of South Africa) ESSA is working effectively for the sector
Priority 2: promote artisan and sector-specific priority skills	<ul style="list-style-type: none"> – A total of 20 000 artisans qualified over the five-year period 	Short to Medium Term Priorities <ul style="list-style-type: none"> – Encourage employers to: <ul style="list-style-type: none"> ○ Take up more learners for experiential learning, ○ Retain trained artisans to help them get experience. ○ Release employees to get up-skilled with artisans standing in to reduce potential production downtime – Address the legislative and financial stumbling blocks that hinder employers from taking on apprentices and providing workshop experience to FET students
Priority 3: establish and facilitate strategic partnerships	<ul style="list-style-type: none"> – To ensure sector participation in the revision and development of the relevant curricula and qualifications offered by FET colleges – Establish partnerships that result in increased capacity to meet industry needs throughout the country – To enter into partnerships with organisations involved in youth skills development. – To establish cross-sectoral partnership projects to address skills needs in support of local economic development – Develop mechanisms and models to support skills development in the community-based- and small-enterprise sector through a range of partnerships, programmes, grants and incentives, – Identify and establish partnerships with international-, 	i. Short to Medium Term Priorities <ul style="list-style-type: none"> – Encourage partnerships and collaboration between employers and FETs so that FETs can have: <ul style="list-style-type: none"> ○ Modern training equipment ○ Curriculum review, development and upgrade ○ Qualified lecturers with industry know-how, and ○ More learners being taken up by industry for experiential learning ii. Long term <ul style="list-style-type: none"> – Greater cohesion and communication in all spheres of government is necessary. This will ensure that the intake at supply institutions (HEI) is informed by priorities of the nation. – Industry should be consulted and informed during the policy formulation phase to ensure a workable strategy that can be implemented is produced.

	national- and provincial career-resources agencies	
<p>Priority 4: increase the flow of appropriately skilled new entrants into the system</p>	<ul style="list-style-type: none"> – Implement mechanisms aimed at bridging the gap between industry and academic provision – To contribute towards the support and encouragement of initiatives for young learners and educators to achieve maths, science and technology results for entry into the sector – Establish a merSETA career gateway innovation network to market and communicate career pathways and opportunities – To promote comprehensive career development to support sector growth. 	<p>i. Short to Medium Term Priorities</p> <ul style="list-style-type: none"> – Develop and strengthen partnership with GET schools to increase pass rates especially in Maths, English and Science – Intensify career guidance, orientation and awareness in schools regarding careers in the manufacturing, engineering and related services industry – Provide correct and relevant information to career advisors at schools – Forging stronger partnerships with HET institutions – Incorporate soft skills training to ensure learners and artisans develop holistically i.e. they can be able to take on supervisory and management roles – Use of trainers and facilitators who have industry experience important i.e. use qualified artisans with experience in the skilling of learners – Refresher courses and up-skilling of trainers and facilitators required to ensure learners get up to date knowledge – Concerted efforts must be made to ensure there is no creation of oversupply of particular skills in the region – Mechanisms must be established to ensure artisans who have obtained training but are currently unemployed can be upskilled to plug the skills gaps in the region – Artisans must be equipped with a core skills set which enable them to be flexible and adaptable to learning other trades in the event that there is a shortage of employment opportunities for them – Training institutions must be quick to adapt to changes in the industry requirements – Expose learners at GET level to manufacturing, engineering and related services in order to stimulate interest in the trades
<p>Priority 5: develop the skills of the existing workforce</p>	<ul style="list-style-type: none"> – To ensure sound financial accountability – Capacity building of stakeholders – To implement skills development initiatives in the workplace through the effective utilisation of the levy grants system – Intermediate skills needs are identified and addressed in all merSETA sub-sectors, – High-level national scarce skills need to be identified and addressed. – To address low levels of literacy and numeracy amongst workers 	<p>Short to Medium Term Priorities</p> <ul style="list-style-type: none"> – To address the lack of fundamental basics bridging courses for unskilled, possibly through ABET programmes must be implemented – Address the growing demand for individuals who have practical and theoretical experience to function within the supervisory roles in the sector – Constant up-skilling of employees to ensure continuous professional development and career progression

- and new entrants
- Identify and implement sector projects to address specific skills gaps and skills imbalances to contribute towards transforming the workplace

In order for the RSSP to contribute to the skills development needs of the Mpumalanga-Limpopo province, the identified regional strategic plan needs to be implemented. Although there are some specific issues raised in the Mpumalanga-Limpopo task team and interviews with regional stakeholders, most of the inputs mirror those given in other regions.

1. INTRODUCTION AND BACKGROUND

1.1. Introduction

The Manufacturing, Engineering and Related Services Education and Training Authority (merSETA) was established through the Skills Development Act, (Act 97 of 1998). The merSETA facilitates skills development in the following five sub-sectors (or chambers); Metal, Plastics, Auto (including only the seven local assemblers of new vehicles), Motor (including automotive components manufacturers and the motor retail and service subsector), and New Tyre.

The merSETA, sub-sectors are demarcated on the basis of the three-digit Standard Industrial Classification (SIC) codes that are used in capturing the data for the National Accounts, these activities cover: basic iron & steel, non-ferrous metals, and metals products manufacturing (SIC codes 351 to 355); machinery manufacture (SIC codes 356 to 357); rubber products manufacturing (SIC code 337); plastics products manufacturing (SIC code 338); motor vehicles, parts and accessories manufacturing (SIC codes 381 to 383); and sale, maintenance and repair of motor vehicles, and fuel station operations (SIC codes 631 to 635). It is important to note that revised SETA landscape associated with NSDS III (and thus applicable from 1 April 2011 to 31 March 2016) led to the transfer of petrol retail subsector from the merSETA to the Wholesale and Retail SETA (W&RSETA)¹. However, it is not possible at this stage to separate fuel station operations from the data for the rest of the group.

The merSETA National Sector Skills Plan (SSP 2012/13-2017/18) notes that geographically, the merSETA sector is clustered in four main regions: Gauteng (including sections of the North West Province, which has the most significant concentration of firms and employment); Western Cape (mostly Cape Town and surrounds); the central Eastern Cape coast including Port Elizabeth and East London; and the Durban/Pietermaritzburg region of KwaZulu-Natal. Regardless of domestic location, a key characteristic of firms in almost all of the merSETA's subsectors is their high level of global integration. This factor impacts at many levels, including the adoption of technology and growth in production volumes and, through this, on employment levels and skills needs.

This Regional Sector Skills Plan (RSSP) is aimed at unpacking the regional specificity of the merSETA subsectors. To the best of our knowledge, merSETA is the first SETA to develop region or provincial specific SSPs.

¹Dr Blade Nzimande (2010). *Press briefing the new SETA landscape for the period April 2011 till March 2016*, 09 November 2010. Online: <http://www.dhet.gov.za/portals/0/documents/SETA%20Landscape.pdf> (Accessed on 10 January 2013).

1.2. Background

SETAs are expected to facilitate the delivery of sector specific skills interventions that help achieve the goals of the NSDS III, address employer demand and deliver results. SETAs should be the authority on labour market intelligence and ensure that skills needs and strategies to address these needs are set out clearly in SSP. Thus, SETAs must be able to:

- coordinate the skills needs of the employers; both levy-paying and non-levy paying in their respective sectors,
- undertake sector-based initiatives, and
- Collaborate on cross-sector skills areas to enable collective impact.

Developing SSPs is core to the SETAs' mandate. The SSPs must:

- outline current and future learning and qualifications needs of workers and their employers,
- develop interventions that are agreed with stakeholders and can improve the match between education and training supply and demand, and
- Outline the current and projected needs of the sector and sector employers.

The SSPs are also a critical instrument for building a connected labour market information system across all the sectors, which is an important evidence base for skills development and its impact.

The objective of developing a Regional Sector Skills Plan (RSSP) is to identify and map key features, trends, forecasts and legislative initiatives at the regional level regarding skills development. This RSSP provides valuable insight into Mpumalanga and Limpopo regions and local developments in the sector and links to skills development planning. To achieve this, the RSSP undertakes a regional socio-economic analysis, profiles regional companies, explores the labour supply and demand imperatives and offers regional scarce and critical skills analysis.

1.3. Research Methodology

The research methodology used for this Regional Sector Skills Plan (RSSP) included both primary research and secondary research which involved both quantitative and qualitative research methods.

- Secondary (desktop) research was conducted on each region's economic, social and development status and strategies. The regional socio-economic analysis was done by doing a literature review of existing data and research papers. MerSETA has

done a range of research projects, these were reviewed and helped in understanding the chambers that make up merSETA.

- Research conducted by government departments, national research institutions, industry publications and the media were used extensively in the report. Provincial governments publish annual reports such as the Provincial Economic Review and Outlook (PERO) and the Socio-Economic Review and Outlook (SERO) and these highlight the performance of the provincial economy and the social changes occurring in each province.
- The merSETA workplace skills plans (WSPs) were analysed to provide data on sector employment by chamber, demographic profile of employees, occupations by province. Although the database provided was only for 8% of the companies on merSETA's database it represents 35% of levy-paying companies. The WSPs represent the majority of the employees in the sector because there is a direct relationship between levies paid and employment. The data was assumed to be a representative sample of the merSETA sector and was analysed as is.
- Regional and municipal economic data was obtained from Quantec and this was used extensively in the report. National Accounts data is not captured according to the merSETA chambers; Quantec data that most closely resembled the merSETA chambers was used.
- National data sources and a range of statistical publications by Statistics South Africa (Stats SA), the DHET, the Department of Labour and data from industry associations.
- The demand projections in Chapter 4 were based on the merSETA Sector Skills Plan 2012/13 – 2017/2018 national projections. The demand projections are based on new demand resulting from economic growth and economic creation – as well as for replacement demand that will occur because of mortality, emigration, and the retirement of employees. The employment growth figures used in the model were derived from econometric modelling performed by EcoQuant. The econometric modelling was based on the sectoral demarcations found in the National Accounts data. Based on the distribution of manufacturing employment per province for Quarter 1 of 2013 the projections in the national SSP were proportioned to give a regional outlook. In essence, 35% of manufacturing employment was from Gauteng and 35% of the projected demand was assigned to Gauteng. The customisation was limited as it assumed the distribution of manufacturing employment will remain the same in the foreseeable future.

The research study was designed to be as interactive as possible with the merSETA Regional Committees which have representatives from all chambers, labour and employers. At the

inception of the project the research team attended the Regional Committee meetings to introduce the project, initiate task teams and outline the objectives. The primary research aspect of the study involved in-depth interviews with employer representatives, labour union representatives, FET colleges, and provincial government representatives. Majority of interviews were conducted face-to-face and some were done telephonically.

Table 4: Stakeholder Engagements

Engagement	Number of participants
Regional Committee Introductory Meeting	10
Task Team	32
In-depth interviews	14

Information obtained from the primary research was used extensively to determine:

- Factors affecting the skills development in the region
- Scarce and priority skills
- Implementation strategies and recommendations to address challenges faced

A draft report was presented at the Regional Committee meeting and further discussions were done to refine the report and formulate region specific strategies. The draft report was put on the merSETA website for two weeks for stakeholder's comments and inputs.

1.3.1. Limitations and Areas for Further Research

Limitations

The research project for regional skills sector plans was initiated in the fourth quarter of 2012 with the base year being 2011. Major statistical data sources used for the report were StatsSA and Quantec. Apart from labour data which is updated quarterly, most of the data still available is up to 2011; hence some figures and tables have 2011 data instead of 2012/13.

The database which was used for the WSP analysis of company employee data for merSETA was not complete. There were 4,800 companies on the database which was provided. Although the total should be around 53,150 the companies which were on the database were said to constitute around 70% of the employment in the merSETA chambers. Analysis of the occupational breakdowns and the age, gender and race analysis must therefore be taken with the above caveat in mind.

Identification of scarce and priority skills via primary research was conducted by engaging with stakeholders from different chambers in the region. Companies within the same chamber

(sector) might have different specific skills needs which might get glossed over or overemphasised depending on respondents interviewed. Assent for the final scarce and priority skills lists are given with the need to take the aforementioned into account.

Areas of further research

Research into the readiness of FET colleges in delivering the identified skills required for the region must be conducted to ensure the region is not caught unawares when the skills are required.

This current study did not give exact numbers of the people needed to skilled in a particular areas, further research can be conducted to determine this.

1.4. Policy Context for Skills Planning

Each SETA is required to develop a SSP within the framework of the National Skills Development Strategy (NSDS) as prescribed by the Skills Development Act of 1998, Section 10 as amended (2008). Sector skills planning in South Africa must take into account a wide range of policy imperatives that seek to support inclusive sectoral growth paths that advance economic growth and the social development and transformation agenda. These policies include those that relate directly to skills development, those that focus more directly on economic growth and social development, and those that focus on monitoring and evaluation.

These policies and strategies are briefly discussed below.

1.4.1. Skills development legislation and strategies

Constitution of the Republic of South Africa

The Bill of Rights, contained in the Constitution of the Republic of South Africa (1996), stipulates that everyone has the right to basic education, including adult basic education and further education, which the State, through reasonable measures, must progressively make available and accessible. The Constitution legitimises the need for quality education and training, human resources development (HRD) and human development (HD) for all South African citizens². As a result, HRD and HD are important items on South Africa's developmental agenda to improve the quality of life for all its citizens.

² Republic of South Africa (RSA). (1996). Constitution of the Republic of South Africa Act 108 of 1996. Pretoria: Government Printer. 1996:14.

Human Resources Development Strategy for South Africa (HRDSA II)

The first Human Resource Development Strategy of South Africa (HRDSA) was approved and started to be implemented in 2001. This first National Human Resource Development Strategy (herein referred as HRDSA I) was a national strategic response to HRD challenges, led by both the National Department of Education and the Department of Labour.³

According to the Revised Human Resource Development Strategy of South Africa, 2010-2030 (herein referred to as HRDSA II), HRDSA provides an over-arching framework to improve and reinforce alignment, coordination, planning, management, monitoring, evaluation and reporting of all HRD imperatives in collaboration with all social partners, professional bodies and research communities⁴.

The HRDSA is a coordinated framework intended to combine key levers of the constituent parts of the HRD System into a coherent strategy⁵. Therefore, much of the implementation of the HRDSA's strategic priorities will be resourced and implemented by the constituent parts and national strategies such as the Occupational Learning System, which includes Sector Education and Training Authorities (SETAs), the Further Education and Training (FET) Sector the HRDS (steered by the DPSA), and the Technology and Innovation System of the public service (steered by the Department of Science and Technology)⁶.

One of the HRDSA II strategic objectives is to audit and establish a policy framework on the level of planning capacity required in the Skills Development Act (SDA) institutions, namely Department of Labour (now DHET), SETAs, NSA); GET; FET and HET for the optimal implementation of their mandates.

Skills Development Act

The Skills Development Act, 1998 (SDA) and the Skills Development Levies Act, 1999 (SDLA) created an enabling regulatory framework for the development of the skills of the South African workforce. The two Acts, together with the other regulations published in terms of them (and the amendments thereof⁷), constitute a single regulatory structure and deals with funding of skills development and the allocation of grants by SETAs.

³ Republic of South Africa (RSA). (2001). *Human Resource Development Strategy of South Africa*. Pretoria: Government Printer.

⁴ Revised HRDSA, 2009:30. Online. Available:

<http://www.info.gov.za/view/DownloadFileAction?id=117580> (Accessed: 11 January 2013)

⁵ Republic of South Africa (RSA). (2009:31-32). *Revised Human Resource Development Strategy of South Africa 2010 - 2030*. Pretoria: Government Printer.

⁶ Republic of South Africa (RSA). (2009:31-32). *Revised Human Resource Development Strategy of South Africa 2010 - 2030*. Pretoria: Government Printer.

⁷ Skills Development Amendment Act, No. 37 of 2008.

The SDA mandates the SETA to, among others:

- develop a SSP within the framework of the NSDS,
- implement its SSP,
- liaise with the provincial offices and labour centres of the Department and any education body established under any law regulating education in the Republic to improve information—
 - about [employment] placement opportunities; and
 - between education and [training] skills development providers and the labour market
- Liaise with the skills development forums established in each province in such manner and on such issues as may be prescribed;

National Skills Development Strategy (NSDS) III

The National Skills Development Strategy (NSDS) is the overarching strategic guide for skills development and provides SETAs with direction for sector skills planning and implementation that is in line with wider national goals and objectives. The new NSDS III (2011-2015) was launched in January 2011. It draws on lessons learned from NSDS I and II. The key driving force of this strategy is improving the effectiveness and efficiency of the skills development system. It represents an explicit commitment to encouraging the linking of skills development to career paths, career development and promoting sustainable employment and in-work progression. The emphasis is particularly on those who do not have relevant technical skills or adequate reading, writing and numeracy skills to enable them to find employment.

The NSDS III emphasised that developing SSP is core to the SETAs' mandate, and that the SSP must outline current and future learning and qualifications needs of workers and their employers and develop interventions that are agreed with stakeholders and can improve the match between education and training supply and demand - the current and projected needs of the sector and sector employers.⁸

1.4.2. Monitoring and evaluation strategies

The need for a monitoring and evaluation (M&E) system is a constitutional requirement as per Section 195 of the Constitution of South Africa (Act 108 of 1996)⁹, which compels government departments (and other organs of state) to promote efficient, economic and effective use of resources and directs public administration to be developmentally oriented and accountable.

⁸DHET (2011) *National Skills Development Strategy III*.

⁹ As amended: No. 61 of 2001: Constitution of the Republic of South Africa Second Amendment Act, 2001

The Policy Framework for Government-Wide Monitoring and Evaluation (GWM&E) System is the overarching policy framework for monitoring and evaluation in the South African Government. It sketches the policy context for supporting frameworks, such as National Treasury's Framework for *Managing Programme Performance Information* and Statistics South Africa's *South African Statistics Quality Assurance Framework*¹⁰.

1.5. Conclusion

The regional skills sector plan is aimed at assisting merSETA in mapping out strategies to tackle the education, training and development needs within the different provinces. All skills development related interventions have to be aligned with the Skills Development Act and within the framework of the National Skills Development Strategy. South Africa's NSDS provides guidance as to how skills development programs can be formulated and implemented in alignment with national goals and objectives.

¹⁰The Presidency (2007) Policy framework for the Government-wide Monitoring and Evaluation Systems Pretoria, South Africa.

2. ECONOMIC ANALYSIS OF THE MPUMALANGA-LIMPOPO REGION

2.1. Socio-economic profile

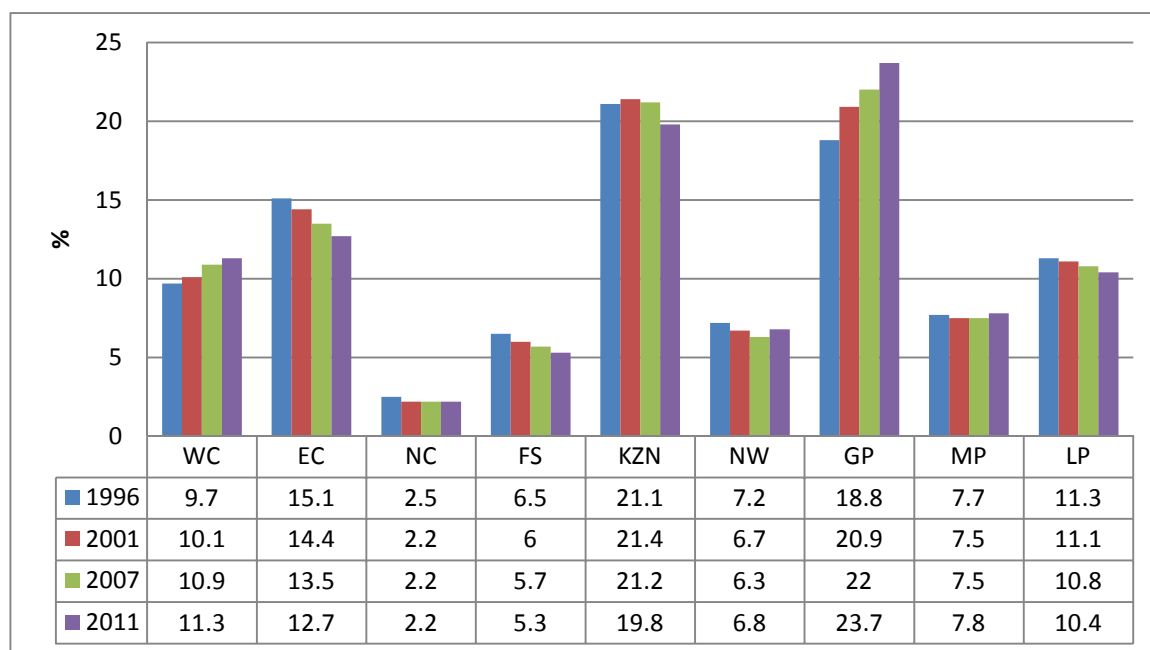
According to Census 2011 results, South Africa had a population of 51.7 million people in 2011. The provinces of Gauteng and KwaZulu-Natal account for 42% of South Africa's population. Gauteng is the most populous with 12.3 million people. The third most populous province is Eastern Cape which accounts for 12.7% of the population and the fourth is Western Cape with 11.3%. The Northern Cape Province has the largest land area (30.5%) but is the least populous with 2.2% of the population. Mpumalanga is third least populous province and accounts for 7.8% of the population. Limpopo Province had a population of 5.4 million which is 10.4% of the nation's population.

Table 5: Population by province

POPULATION BY PROVINCE 2011		
Province	Population	% of total
Eastern Cape	6 562 053	12.7%
Free State	2 745 590	5.3%
Gauteng	12 272 263	23.7%
KwaZulu-Natal	10 267 300	19.8%
Limpopo	5 404 868	10.4%
Mpumalanga	4 039 939	7.8%
Northern Cape	1 145 861	2.2%
North West	3 509 953	6.8%
Western Cape	5 822 734	11.3%
TOTAL	51 770 560	100%

Source: Stats SA

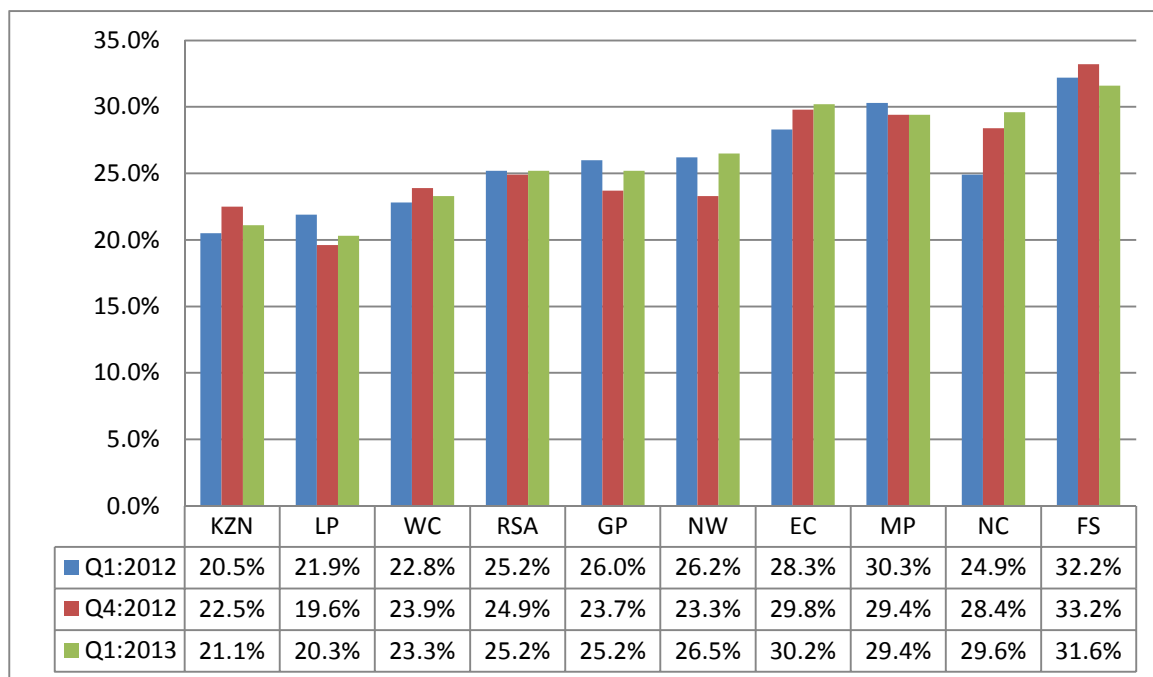
The population of Mpumalanga has grown by 20% since 2001 from 3.4 million to just over 4 million whilst the population of Limpopo has grown 18% in a decade from 4.5 million in 2001 to 5.4 million in 2011. The fastest growing province is the Western Cape, growing by 29% between 2006 and 2011. Comparing the three sets of census data, the provincial share of the total population has fallen in the Eastern Cape (from 15.1% in 1996 to 12.7% in 2011). Mpumalanga share of population has remained almost constant as shown the graph below.

Figure 1: Percentage distribution of population by province, 1996-2011

Source: Stats SA,

According to the 2011 Census results a total of 372 283 people migrated out of Limpopo province and a total of 219 426 migrated into the province. More people migrated out of Limpopo than into Limpopo and the province has the second highest out-flow migration figures after Eastern Cape. Gauteng has the highest in-flow migration patterns of all the provinces. Around 1-million people have moved to Gauteng in the past decade, highlighting the flow of people from rural to urban areas. Only 56% of people living in Gauteng in 2011 were born in Gauteng. In contrast 77% of the people staying in Mpumalanga were born there.

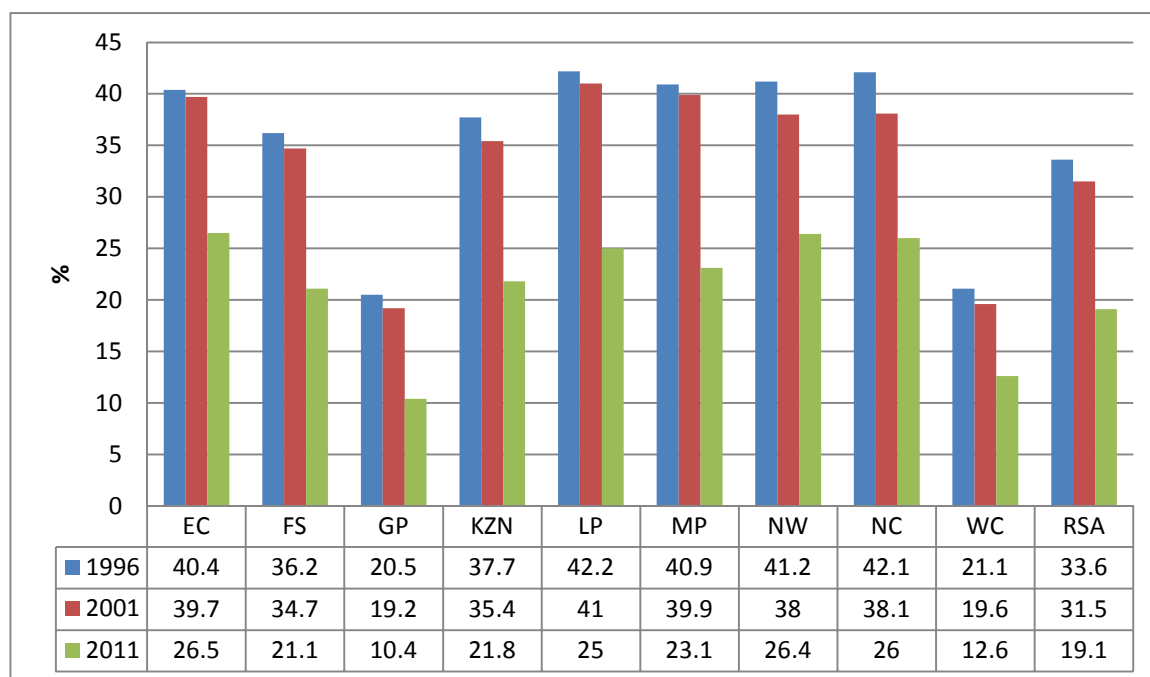
South Africa has a very high unemployment rate of 25.5% according to the Quarterly Labour force Survey, Quarter 1 2013 report. The figure below shows the unemployment rates for all the provinces and for the nation as whole.

Figure 2: Unemployment rate by province

Source: Stats SA Quarterly Labour Force Survey, Q1 2013

Limpopo has an unemployment rate of 20.3% which is lower than the national average of 25.5%. Eastern Cape, Mpumalanga, Northern Cape and the Free State province are a cause for concern because for the period under review their unemployment rates have been higher than the national average.

An analysis of those aged 15 years and above with no education or a highest level of education less than Grade 7 shows that the provinces of Eastern Cape, North West and the Northern Cape have the highest percentages.

Figure 3: Percentage of people (>15 years) with no education or less than Grade 7

Source: Stats SA, Census 2011

Only 10.4% of the population of Gauteng (aged 15 and above) had no education or had their highest level of education less than grade 7, which is lowest of all the provinces. Mpumalanga has recorded an impressive drop from 41% in 1996 to 23% in 2011. Nationally progress has been made with this percentage decreasing from 33.6% in 1996 to 19.1% in 2011.

2.2. The Mpumalanga-Limpopo Region's Economy

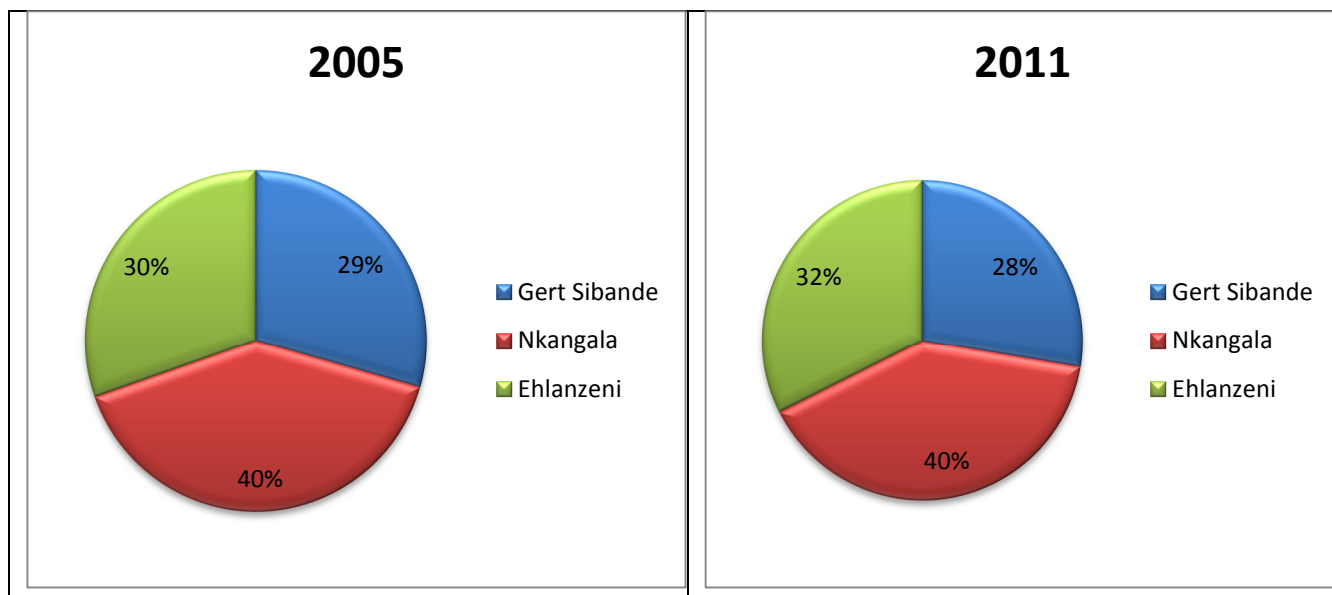
2.2.1. Mpumalanga Province

Mpumalanga is a second-smallest province after Gauteng, taking up 6.3% of South Africa's land area and has a population of just over 4-million people. Mpumalanga Province is divided into three municipal districts, which are further subdivided into 17 local municipalities. The three district municipalities are Gert Sibande, Nkangala and Ehlanzeni. Mbombela (previously Nelspruit) is the capital and the administrative and business hub of the Lowveld and falls under the Ehlanzeni district. EMalahleni (previous Witbank) is the centre local coal-mining industry and falls under the Nkangala region. Standerton in the south is known for its large dairy industry and Piet Retief in the southeast is a production area for tropical fruit and sugar.

Mpumalanga is a popular tourist destination, with sites such as the Kruger National Park and the Blyde River Canyon. Mpumalanga may be classified as a rural province, statistics from Stats SA, 2002 estimated that 60.9% of its people live in non-urban areas and slightly more than a third (39.1%) live in urban areas. The Nkangala district municipality contributes the most (40%) to

the economy of Mpumalanga. Ehlanzeni has increased its contribution slightly from 30% in 2005 to 32% in 2011.

Figure 4: Municipal contributions to GVA, Mpumalanga 2005 and 2011



Source: Quantec, 2013

The table below breaks down the sectoral composition of Mpumalanga's Gross Value Added per Region (GVAR) into the municipalities. This provides an indication of the largest and smallest contributions of the municipalities in the respective sub-sectors.

Table 6: Sectoral composition of Mpumalanga economy by municipalities, 2011

	Gert Sibande	Nkangala	Ehlanzeni	Total
Primary Sector				
Agriculture, forestry & fishing	41.5%	19.3%	39.2%	100%
Mining & quarrying	30.3 %	56.1%	13.6%	100%
Secondary Sector				
Manufacturing	30.1%	37.1%	32.9%	100%
Electricity, gas & water	27.4%	60.3%	12.3%	100%
Construction	26.0%	43.7%	30.3%	100%
Tertiary Sector				
Wholesale & retail trade	38.2%	28.4%	33.4%	100%
Transport & communication	23.2%	44.3%	32.6%	100%
Finance & business service	22.3%	34.9%	42.8%	100%
Government, social & personal service	18.6%	32.8%	48.6%	100%

Source: Quantec, 2013

The agriculture, forestry and fishing subsector is dominated by Gert Sibande Municipality, whilst Nkangala dominates the mining and quarrying, electricity gas and water, construction and transport and communication sectors. The manufacturing sector is almost evenly distributed though Nkangala has a slight edge contributing 37% compared to Gert Sibande's 30% and Ehlanzeni 33%.

2.2.2. Limpopo Province

Limpopo is fifth largest province by land size in South Africa constituting 10.3% of the total land area. The province is a typical developing area, exporting primary products and importing manufactured goods and services. It is also one of the poorest regions of South Africa, especially rural areas. The N1 route from Johannesburg, which extends the length of the province, is the busiest overland route in Africa in terms of cross-border trade in raw materials and beneficiated goods. The port of Durban, Africa's busiest, is served directly by the province, as are the ports of Richards Bay and Maputo.

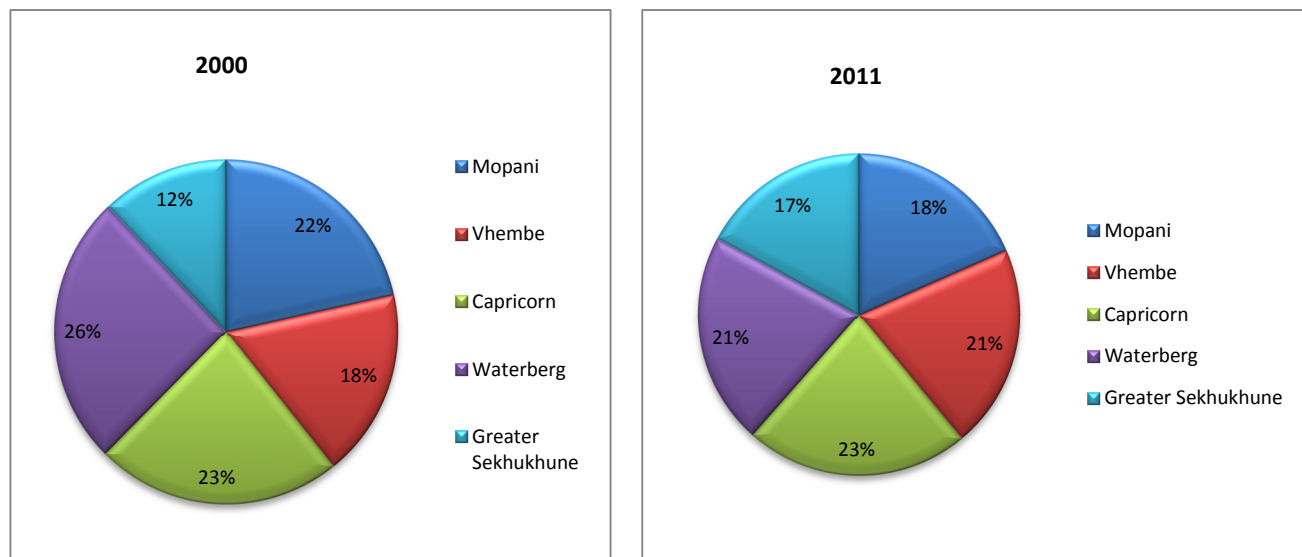
Limpopo was the fifth largest contributor (7.1%) to the country's GDP after Gauteng, Western Cape, KZN, and Eastern Cape. Of the total output from the mining and quarrying sector, 23.7% is from Limpopo which is the second largest contributor after North West (24.8%). Unlike the more advanced economies of South Africa where the finance and business services subsector dominates, Limpopo is largely driven by its mining and quarrying sector which contributes the most (24.9) to its gross domestic product per region (GDPR).

Limpopo is divided into five district municipalities: Capricorn District, Greater Sekhukune District, Mopani District, Vhembe District and the Waterberg District. Capricorn is the economic centre of Limpopo and is home to the provincial capital Polokwane contributing 13% to the GDPR of Limpopo Province. The Greater Sekhukhune district is mostly rural (94%) and has a high poverty rate of 69.9%. Agriculture makes up 25% of the local economy of the Greater Sekhukhune district. The key sectors in Mopani district are agriculture and mining. Mopani also has an established food manufacturing industry. Phalaborwa which is found in the Mopani district is South Africa's leading copper producer. The Vhembe district's major economic sector is agriculture and game farming and eco-tourism are growing sub-sectors. Vhembe district also hosts the De Beers Venetia Mine which is South Africa's largest diamond producer. The Waterberg District has a strong mining and agricultural sector.

The figure below shows municipal contributions to Limpopo's Gross Value Added (GVA) for the year 2000 and 2011. In 2000 the Waterberg District made the highest (26%) contribution to GVA but in 2011 it had been surpassed by the Capricorn District which contributed 23% to its

21%. The Greater Sekhukhune district has increased its GVA contribution from 12% in 2001 to 17% in 2011.

Figure 5: Municipal contributions to GVA, Limpopo 2000 & 2011



Source: Quantec (2013)

All sectors of the economy are generally evenly distributed throughout the province except for the mining and quarrying sector which is dominated by the Waterberg (47%) and Greater Sekhukhune (31%) districts. The Mopani and Vhembe districts contribute the most to the agricultural sector, contributing 27% and 23% respectively to the sectors GVA. For the manufacturing sector Capricorn contributes the most at 26%.

Table 7: Sectoral composition of Limpopo's economy by municipalities (GVA, 2011)

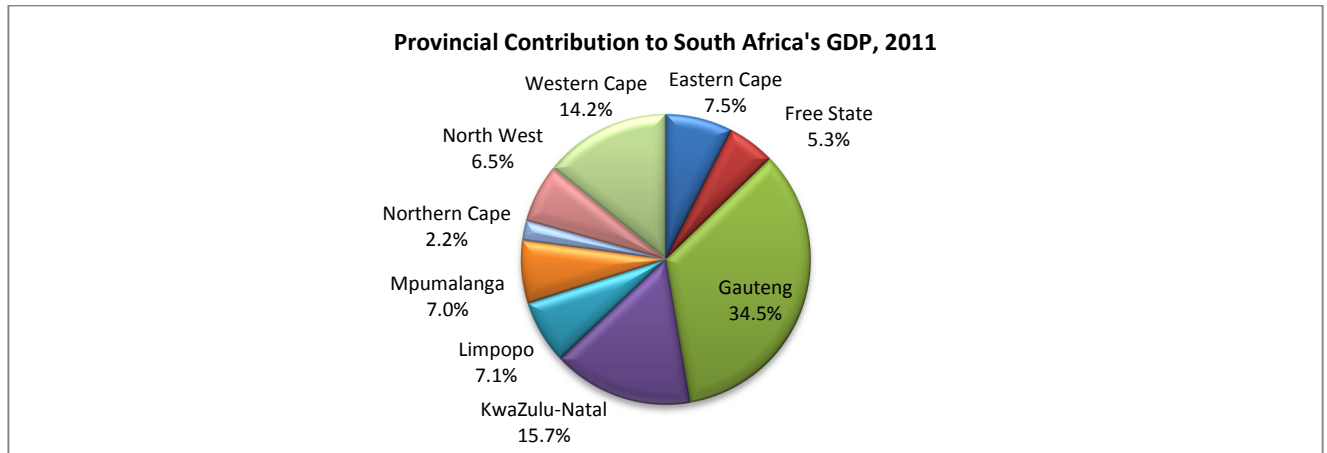
	Mopani	Vhembe	Capricorn	Waterberg	Greater Sekhukhune	Total
Primary Sector						
Agriculture, forestry & fishing	27%	23%	17%	21%	12%	100%
Mining & quarrying	13%	6%	3%	47%	31%	100%
Secondary Sector						
Manufacturing	23%	23%	26%	17%	12%	100%
Electricity, gas & water	24%	15%	34%	15%	13%	100%
Construction	17%	22%	25%	18%	17%	100%
Tertiary Sector						
Wholesale & retail trade	20%	29%	20%	15%	15%	100%
Transport & communication	19%	22%	25%	17%	18%	100%
Finance & business service	19%	22%	32%	14%	13%	100%
Government, social & personal service	20%	22%	30%	14%	15%	100%

Source: Quantec (2013)

2.3. Developments and Structure of the Economy

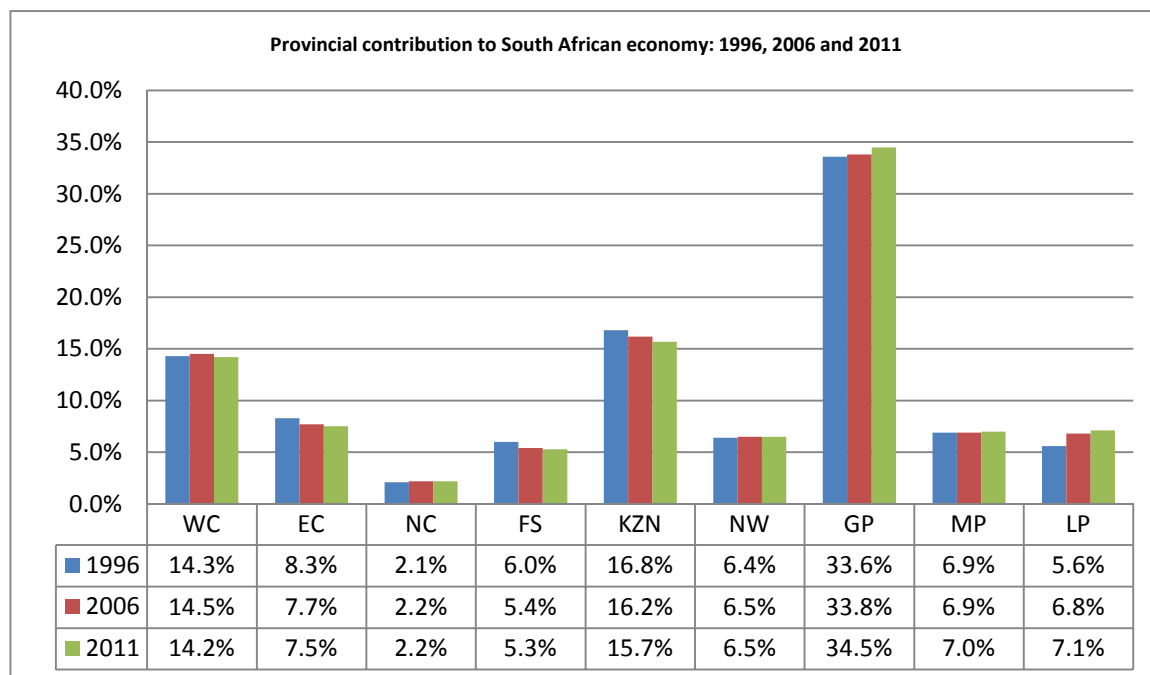
In 2011 Limpopo contributed 7.1% to the country GDP and was the fifth largest contributor to the country's GDP after Gauteng, Western Cape, KZN, and Eastern Cape. Mpumalanga is the sixth biggest contributor to GDP, contributing 7.0% to the nations GDP. Mpumalanga contributed more than North West, Free State and Northern Cape.

Figure 6: Provincial contributions to South Africa's GDP, 2011



Source: Stats SA (2012)

The contribution of Mpumalanga province to the nation's GDP has been almost constant since 1996 when it was 6.9% to 2011 when it was 7% as shown in the graph below. For the Limpopo province, its contribution has increased from 5.6% in 1996 to 7.1% in 2011. The two regions combined contributed 14.1% to the nation's GDP in 2011 which is just marginally lower than the Western Cape's 14.2%.

Figure 7: Provincial contributions to SA economy 1996, 2006, 2011

Source: Stats SA (2012)

Mpumalanga is the third largest (20%) contributor to the mining and quarrying sector after North West (24.8%) and Limpopo (23.7%). Mpumalanga is also the third largest contributor to the electricity, gas and water sector after Gauteng (33%) and KZN (15.9%). Gauteng's high contribution to the GDP figures is not surprising as it dominates every major sector except agriculture, mining and quarrying. As can be seen in table below Limpopo made 1.5% contribution to the national GDP of the manufacturing sector. Combined the Mpumalanga-Limpopo region contributed 8.6% to the nation's manufacturing GDP.

Table 8: Regional distribution of economy activity, 2011

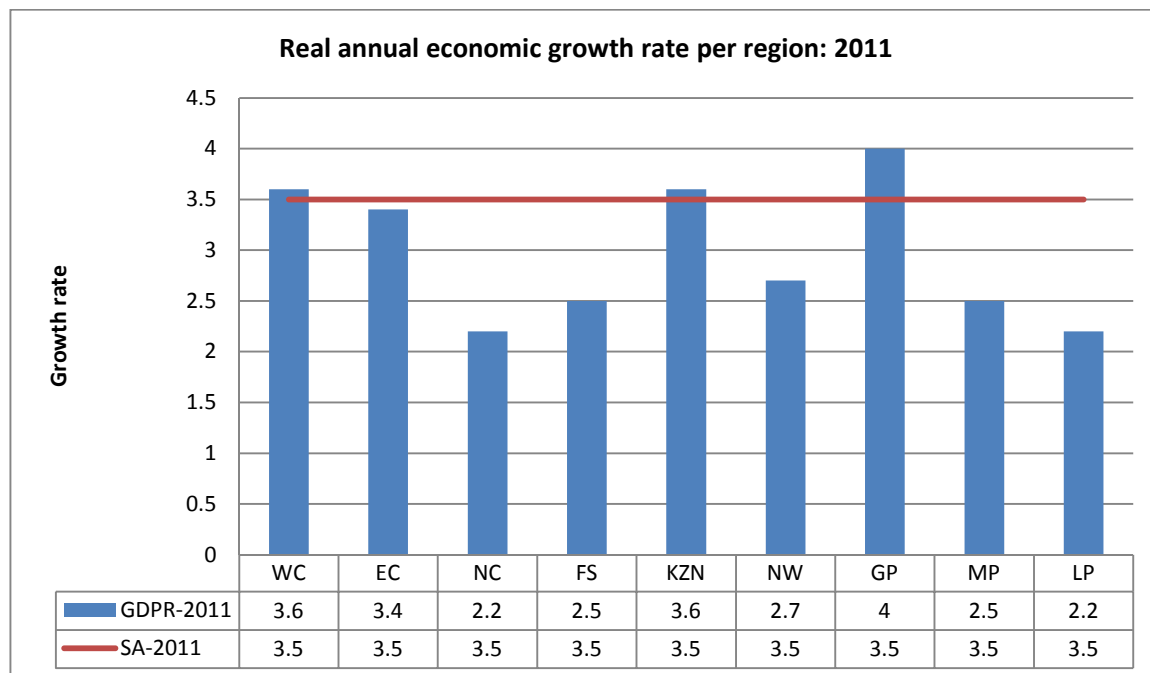
Industry	WC	EC	NC	FS	KZN	NW	GP	MP	LIM	SA
Agriculture, forestry and fishing	22.6	5	6.1	10.3	26.8	6.2	6	9	8.1	100
Mining and quarrying	0.4	0.2	6.8	7.9	3.4	24.8	12.8	20	23.7	100
Manufacturing	14.6	8	0.4	3.9	21.6	2.5	40.5	7.1	1.5	100
Electricity, gas and water	11.2	4.1	2.7	6.4	15.9	3.6	33	15	8.1	100
Construction	17.9	4.7	1.1	3.1	13	4.8	43.3	6.8	5.1	100
Wholesale ,retail and motor trade; catering and accommodation	17.4	8	1.6	4.7	17.6	4.4	35.5	5.2	5.5	100
Transport storage and communication	15.4	7.1	2.1	4.5	22.4	4.8	34.2	4.9	4.6	100
Finance, real estate and business services and business services	19.7	7.3	1.4	3.9	13.6	3.8	41.1	4	5.2	100
Personal services	13.7	12,9	3.4	10.	17.	8.5	23.5	5.7	5	100

General government services	9.8	11.2	1.9	5.2	14.2	5.3	39.7	5	7.7	100
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Source: Stats SA (2012)

Limpopo's real annual economic growth rate of 2.2% was below the national growth rate of 3.5% for 2011. Gauteng had the highest real annual growth rate per region as measured by the gross domestic product per region (GDPR) at 4% which was higher than the real annual economic growth rate for South Africa which was 3.5%.

Figure 8: Real annual economic growth rate per region, 2011



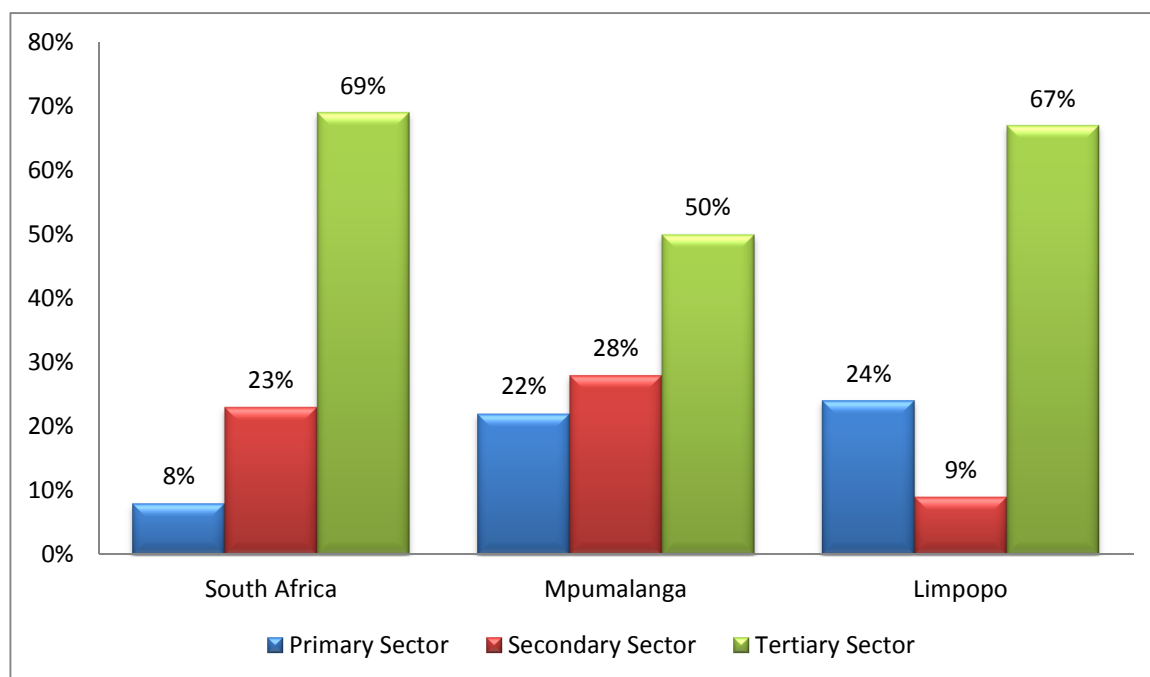
Source: Stats SA (2012)

For the period 2001 to 2011 the South African economy recorded an average growth rate of 4.0%, Gauteng and Western Cape were the only two provinces which were above this national average recording growth rates of 4.6% and 4.1% respectively. Mpumalanga's average real annual economic growth rate per region for the decade 2001 to 2011 was 3.2%, same as Limpopo.

2.3.1. Economic Sector Performance

The primary sector in Mpumalanga makes a considerable (22%) contribution to the local economy as compared to the nation (8%) as a whole. The tertiary sector in Mpumalanga contributed 50% to the provinces GVA for 2011. Limpopo's economy is commodity driven therefore its structure is markedly different from the national economy. The secondary sector, which includes manufacturing, only contributed 9% to the 2011 GVA.

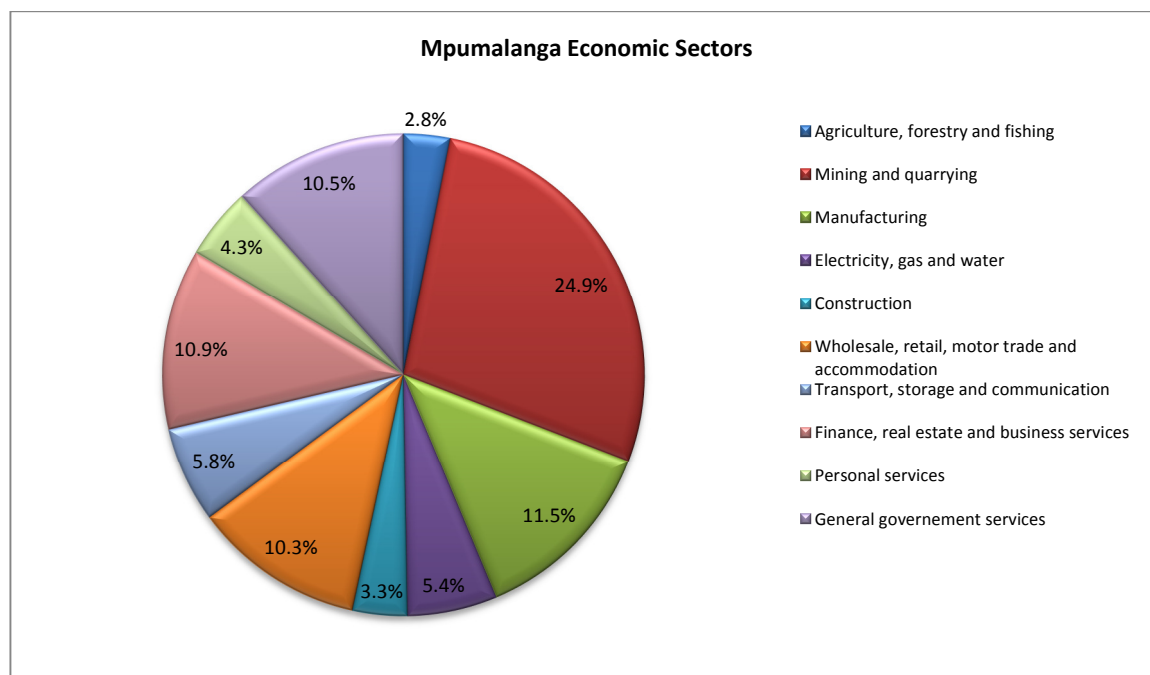
Figure 9: Broad sector composition, based on GVA 2011



Source: Stats SA (2012)

The mining and quarrying subsector contributed the most (24.9%) to the GDP of Mpumalanga in 2011. Manufacturing was the second biggest contributor at 11.5%.

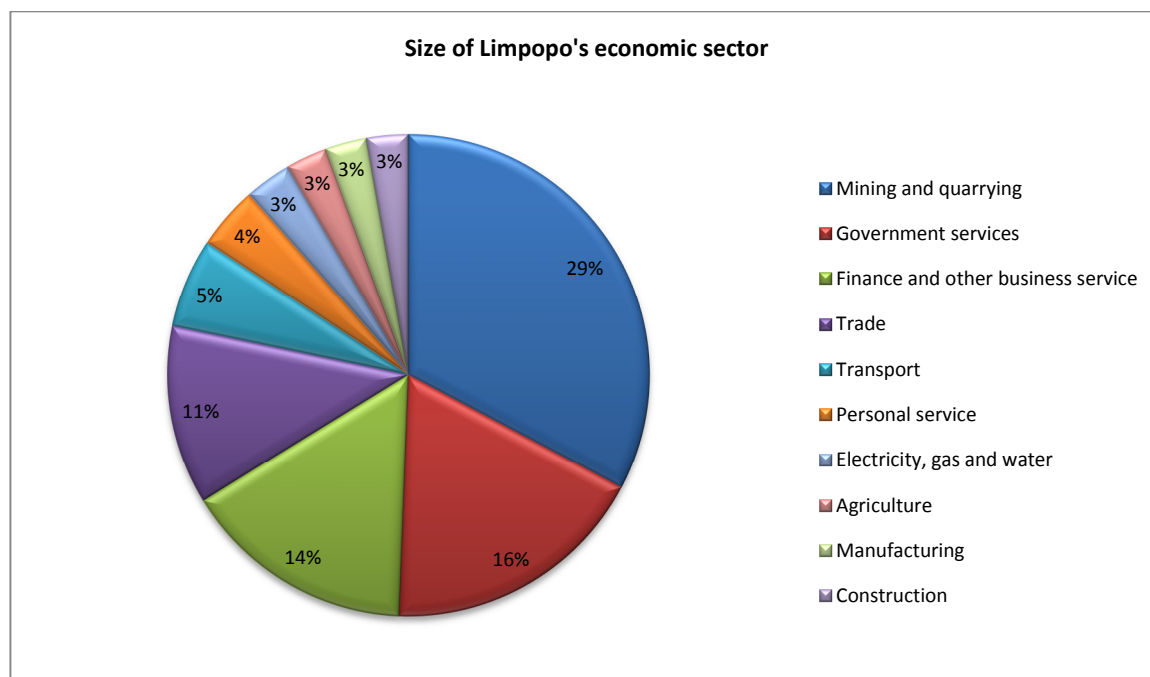
Figure 10: Mpumalanga's Economic sectors, GDP 2011 at current prices



Source: Stats SA (2012)

The mining and quarrying sector also anchors Limpopo's economy contributing 29% to the GDP of the province in 2011. Government services contributed 16%, finance and other business service, 16% and the wholesale and retail trade sector contributed 11%. The manufacturing sector only contributed 3% to the regions GDP.

Figure 11: Limpopo's Economic Sectors GDP 2011



Source: Stats SA (2012)

The table below shows the sectors which drive of the Mpumalanga economy from 2002-2011. This sectoral analysis also identifies the sub-sectors that are growing and those that are shrinking in terms of their economic contribution.

Table 9: Sectoral Composition of the Economy GDP figures, Mpumalanga 2002-2011

Industry	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Primary Industries	27.5	22.9	21.9	23.0	24.4	25.3	27.3	26.1	26.6	27.8
Agriculture, forestry and fishing	5.8	4.5	3.9	3.3	3.6	3.6	3.5	3.4	3.0	2.8
Mining and quarrying	21.7	18.4	18.0	19.8	20.8	21.7	23.9	22.7	23.5	24.9
Secondary Industries	24.1	25.4	25.1	24.1	23.3	22.5	22.1	21.9	20.8	20.2
Manufacturing	18.2	19.0	18.9	18.0	16.8	16.0	15.4	13.8	13.0	11.5
Electricity, gas and water	4.5	4.9	4.7	4.5	4.5	4.4	4.3	5.4	5.2	5.4
Construction	1.4	1.4	1.5	1.7	1.9	2.1	2.3	2.7	2.6	3.3
Tertiary industries	39.4	42.5	42.9	42.2	41.6	41.2	40.7	42.5	43.2	41.7
Wholesale, retail and motor trade, catering accommodation	9.4	9.8	9.2	9.7	9.3	9.1	9.1	9.5	10.3	10.3
Transport, storage and communication	7.7	8.4	8.1	8.0	7.7	7.2	7.2	7.0	7.0	5.8

Finance, real estate and business services	9.1	10.5	11.3	10.4	11.1	11.7	11.3	11.6	11.2	10.9
Personal services	4.7	5.0	5.1	5.1	4.8	4.7	4.5	4.8	4.7	4.3
General government services	9.0	9.2	10.2	10.7	10.7	11.0	9.9	9.5	9.5	10.3

Source: Stats SA (2012)

As shown in the Table 9, the contribution of the tertiary industry to the GDP has increased from 39.4% in 2002 to 41.7% in 2011. The manufacturing sector which dominates the secondary industries has seen its contribution to the GDP declining from 18.2% in 2002 to 11.5% in 2011. The mining sector's contribution to the province has increased since 2007 from 21.7% to 24.9% in 2011.

An analysis of the sector composition of Limpopo's economy from 2002 shows that the manufacturing sectors contribution to the GDP has decreased from 3.5% in 2002 to 2.5% in 2011.

Table 10: Sector Composition of the Economy GDP figures, Limpopo 2002-2011

Industry	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Primary Industries	28.5	26.1	24.9	25.8	28.9	31.3	29.6	29.8	29.8	31.9
Agriculture, forestry and fishing	2.4	3.7	3.2	2.6	2.8	2.9	3.0	2.9	2.7	2.5
Mining and quarrying	26.0	22.4	21.7	23.2	25.0	28.3	26.7	26.7	27.1	29.4
Secondary Industries	7.7	8.0	7.8	7.7	7.4	7.1	7.8	8.1	7.8	7.7
Manufacturing	3.5	3.6	3.6	3.4	3.1	2.7	3.3	2.8	2.7	2.5
Electricity, gas and water	2.5	2.9	2.6	2.7	2.5	2.5	2.4	2.9	2.8	2.8
Construction	1.7	1.4	1.5	1.6	1.7	1.9	2.0	2.4	2.3	2.5
Tertiary industries	54.8	56.6	57.0	55.8	54.0	53.0	51.3	52.7	52.8	50.0
Wholesale, retail and motor trade, catering accommodation	11.2	11.4	11.7	11.1	10.6	10.2	10.5	10.1	10.7	10.8
Transport, storage and communication	7.5	7.8	8.5	8.4	7.5	6.9	6.7	6.6	6.3	5.4
Finance, real estate and business services	14.2	15.1	14.4	14.9	15.2	15.2	14.5	14.8	14.1	14.0
Personal services	4.5	4.7	4.7	4.7	4.4	4.4	4.1	4.4	4.0	3.8
General government services	17.3	17.5	17.7	16.6	16.3	16.3	15.6	16.8	17.6	16.0

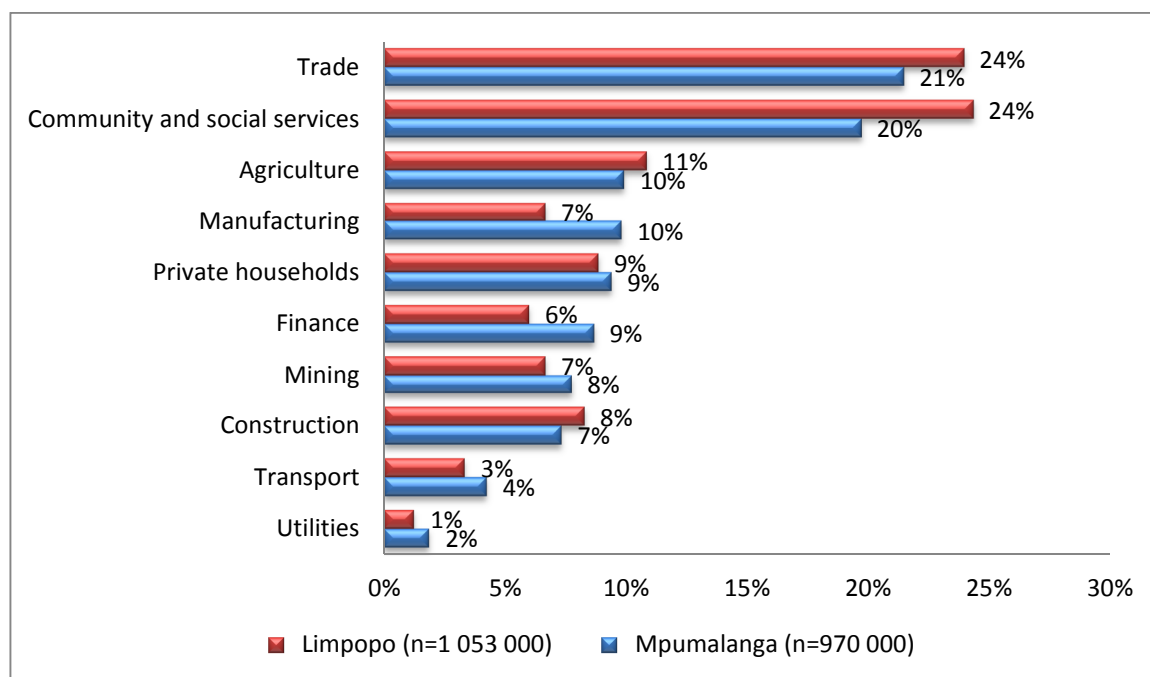
Source: Stats SA (2012)

The mining sector in Limpopo has experienced phenomenal growth in recent years and this has seen the sector increasing its contribution to GDP from 18% in 1995 to 29% in 2011. Table 10 illustrates how the mining sector has grown and continued to dominate the province in the past decade. The second most dominant sector is finance and business services followed by the wholesale and retail trade.

2.3.2. Employment Share

As the commercial hub of the country Gauteng also has the largest share of national employment at 31% followed by KZN (19%) and Western Cape (13%). Mpumalanga has 7% of the South Africa's total employment share. Limpopo's workforce is 8% of the total workforce of South Africa and in absolute figures this is just above 1 million employees.

Figure 12: Employment share by industry, 2013



Source: Stats SA, Quarterly Labour Force Survey Q1 2013

The wholesale and retail trade sector employs 21% of Mpumalanga's labour force and manufacturing accounts for 10% of the labour force. Although the manufacturing sector contributes only 2.5% to GDP it employs 7% of Limpopo's workforce. The biggest employer in Limpopo province is the wholesale and retail trade sector (24%) and the community and social service sector which includes government service (20%).

2.4. Economic Outlook – Opportunities and Challenges

The Mpumalanga PGDS mentions that the scattered distribution of population in the Province makes the delivery of services very difficult and expensive. The rural nature of the province also poses a challenge. Mpumalanga has a very youthful population with 69.4% of the population is less than 35 years of age and they contribute to the high unemployment rate. The poverty rate is very high at 41.6% and income distribution remains highly unequal. Mpumalanga also has a higher than national average HIV prevalence rate (35.1%).

As mentioned in the previous sector Mpumalanga's economy has been growing at slower rate than the South African economy but the province has enormous potential. Economic growth is expected to be lower than the national growth with an expected average growth rate of 3.5 per cent per annum between 2011 and 2016. The province is too reliant on the primary sector and should pursue more diversified secondary and tertiary sectors through the attraction of gross domestic fixed investment¹¹.

Limpopo has a number of socio-economic challenges and at the same time a lot of economic potential based on its abundance of mineral resources and rich fertile soil. The Poverty Profile of South Africa 2008/2009 (Stats SA) found that Limpopo is the poorest province followed by Eastern Cape then KwaZulu-Natal. Recently Limpopo has benefitted from a number of infrastructure projects such as the electricity generation project in Lephalale.

Recent data released by the Bureau for Economic Research (BER), national GDP growth in 2013Q1 moderated significantly to 0.9% quarter-on-quarter q-o-q (annualised) compared to the 2.1% recorded in 2012Q4¹². Analysts had expected the national economy to lose momentum but the extent was more severe than expected. Year-on-year GDP growth was 1.9% for 2013Q1 compared 2.3% during 2012Q4. A weak performance from the secondary sector was the major reason for the minimal GDP growth observed. The value added in the manufacturing sector declined by almost 8% q-o-q and this decline shaved 1.2 percentage points of overall Q1 growth. The manufacturing sector was affected by a fire at ArcelorMittal's Vanderbijlpark plant and outages at Cape Town fuel refinery.

The economic challenges impacting the nation will also impact the region. The South African Reserve Bank (SARB) has raised concerns on the cost of labour per unit of output in the economy i.e. unit labour costs which have grown by 10% per year from 2008 and 2010. Unit labour costs then slowed to growth of 5.9 % in 2011 and 6.3 % in 2012. However, over the course of 2012, unit labour costs accelerated from 5.55% in the final quarter of 2011 to 7.4 % in the third quarter of 2012.

The SARB has reduced its economic growth forecast for the year 2013 from 2.7% to 2.4%. The 0.9% growth recorded in the economy for the first quarter of 2013 is the lowest experienced since the 2009 recession. South Africa also faced labour unrest 2012/2013 that has negatively affected business confidence.

¹¹ Mpumalanga's Provincial Economic Review & Outlook 2012/13

¹² Bureau for Economic Research; Economic Snapshot June 2013

2.4.1. Opportunities

The province of Mpumalanga has an established business sector, well developed infrastructure of roads, railways and telecoms, plentiful semi-skilled labour and a sophisticated commercial and financial business structure. Mpumalanga has several comparative advantages that are likely to attract investment and ensure its economy continues to propel forward and these include:

Maputo Development Corridor and the infrastructure of the province

The four lane highway running across the Province and linking it to the Mozambique Port of Maputo provides a wide variety of joint venture opportunities. As the first international toll road in Africa the corridor is bound to attract investment and release the local economic potential of the landlocked parts of the country. The Maputo Corridor also passes through vast industrial and primary production areas such as those in the Nkangala District Municipality, comprising amongst others of the cities and towns of Delmas, Witbank and Middelburg, important centres for South Africa's coal vanadium and stainless steel mining and production as well as being principal areas of maize production in the province agriculture sector.¹³

Mining and Industry

The increasing demand for coal has led to a number of existing miners to invest in new shafts and to increase capacity, and the mining sector as a whole is attracting new investors. The province's mineral resources are varied and several of the biggest diversified mining companies have multiple operations in Mpumalanga. Coal, platinum, gold and nickel are the province's major mineral resources and all are in demand. The province has a number of major industrial cities, namely Witbank, Middelburg and Secunda that host some of the major industrial complexes of South Africa. The mining industry provides an opportunity for water treatment for the industry. Investment opportunities arise in the provision of practical and sustainable water treatment solutions, including the treatment of ARD (acid rock drainage) and heavy metal contaminated wastewaters.

Agriculture and Tourism

The climate in Mpumalanga is conducive for a vibrant agricultural sector. Food sub-sector produces cash crops such as maize and sunflower seeds, in addition to a wide variety of citrus, tropical and sub-tropical fruits and vegetables. The non-food sub-sector production of cotton, wool and tobacco in the Province. Mpumalanga has a vibrant tourism sector and the Kruger National Park is its most famous destination.

¹³ www.portmaputo.com

The economy of Limpopo has a lot of unexploited potential. The table below summarises the opportunities available in the province.

Figure 13: Economic opportunities in Limpopo

Sector	Opportunities
Manufacturing	<p>With its wealth of mineral and agricultural resources, sophisticated infrastructure and proximity to growing consumer markets in southern Africa, Limpopo offers a number of excellent manufacturing opportunities.</p> <p>These include tanning, fruit, vegetable and meat processing, brick, jewellery and furniture making, and industrial chemicals and light to medium engineering.</p> <p>Companies already successfully established in Limpopo include Samancor (silicon smelting), Eskom (electricity generation), GranorPassi (fruit juices), Bonanza (furniture making), Kanhym (meat processing) and Mittal Steel</p>
Mining	<p>Limpopo diverse mining activities include diamonds, iron ore, coal, copper and phosphates. The world's largest reserves of platinum group metals are to be found in the centre of the province, which also has rich deposits of chrome, vanadium, nickel and titanium. Large coal reserves occur in most of the western part of the province and are associated with significant quantities of natural gas or coal bed methane.</p>
Agriculture	<p>Agriculture offers attractive opportunities for investment, with the Polokwane International Airport offering potential for direct export. Limpopo produces key crops of mangoes, papayas, citrus, avocado, tomatoes and potatoes, while more than 700 000 tons of timber is produced every year from 170 plantations, with equal quantities of hard and soft woods. The climate is well suited for cut rose, peach and almond production</p>
Tourism	<p>Limpopo offers a great variety of scenic contrasts. With abundant wildlife, wide open spaces, and the northern half of the Kruger National Park in its eastern region the province has the potential to become a major tourist destination.</p> <p>There is a significant demand for game farms in the province, particularly from foreign investors. Game farming has become a lucrative business and has surpassed cattle farming in several areas. This is an area where tourism and agricultural activities overlap, resulting in increased returns on investment.</p> <p>Three key areas have been targeted for development as tourist regions: the Golden Horseshoe, the African Ivory Route, provincial nature reserves, and the Waterberg biosphere</p>

The department of trade and industry (the dti) provisionally approved in 2012, the establishment of special economic zones (SEZ) at the Greater Tubatse Municipality in the Sekhukhune region and in Musina. The SEZ in Musina which is the main land entry port to the rest of Africa would focus on logistics and the beneficiation of coal. The SEZ in the Greater Tubatse Municipality would explore beneficiation of platinum group metals. The purpose is to establish a hydrogen-fuel cell industry which will change the manufacturing industry in Sekhukhune. It is hoped the planned SEZ will accelerate industrial development and lead to the realisation of the country's industrial action plan and the new growth path.

2.5. Manufacturing Sector

Manufacturing is known as an advanced industry and an engine for growth and industrial development. The manufacturing sector is very vital to economic development because of its immense linkages with other sectors of the economy. It is with this background that most of the sectors identified in IPA2 are mostly from manufacturing and are regarded as having significant potential to change Mpumalanga's growth path.

According to McKinsey Global Institute (2012), over the past decade the global manufacturing sector has undergone a tumultuous decade: large developing economies leaped into the first tier of manufacturing nations, a severe recession choked off demand and manufacturing employment fell at an accelerated rate in advanced economies.¹⁴ The manufacturing sector is critical to the economic health of both developing and advanced economies. In advanced economies manufacturing is a source of innovation and competitiveness which contributes to research and development, exports, and productivity growth.

Globally manufacturing continues to grow by about 2.7% annually in advanced economies and 7.4% in large developing economies (2007-2008) and it accounts for approximately 16% of global GDP and 14% of employment¹⁵. Studies have shown that the manufacturing sector's relative size in an economy varies with its stage of development. When economies industrialise, manufacturing employment and output both rise rapidly but once manufacturing share of GDP peaks at 20 to 35% it falls along with its share of employment.

Table 11: Manufacturing percentage contribution to GDP: 2002-2011

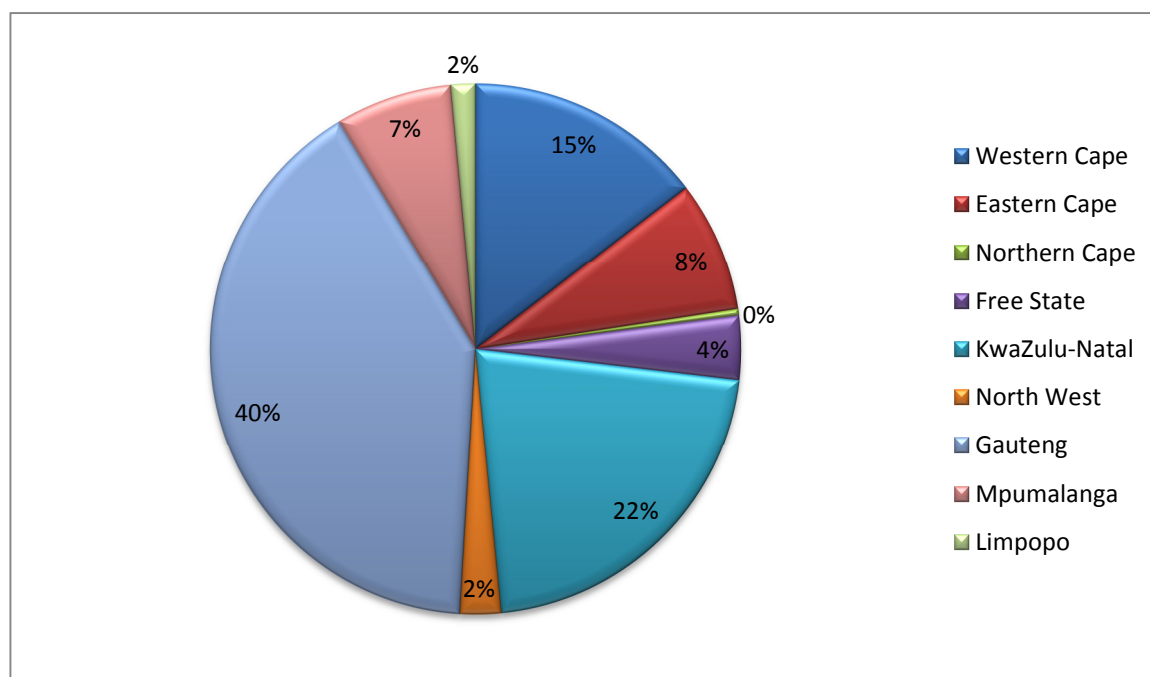
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
South Africa	19,1%	18,3%	18,3%	18,5%	18,7%	18,6%	18,4%	16,8%	17,2%	17,2%
Mpumalanga	18.2%	19.0%	18.9%	18.0%	16.8%	16.0%	15.4%	13.8%	13.0%	11.5%
Limpopo	3.5%	3.6%	3.6%	3.4%	3.1%	2.7%	3.3%	2.8%	2.7%	2.5%

Source: Stats SA, PO441 Q3 2012.

The contribution of the manufacturing sector to the GVA has been declining over the past decade in South Africa. For Limpopo the manufacturing sector's contribution to regional GVA has remained stagnant and this is a worrying trend. The province is rich in natural resources and these can be harnessed to develop the manufacturing base.

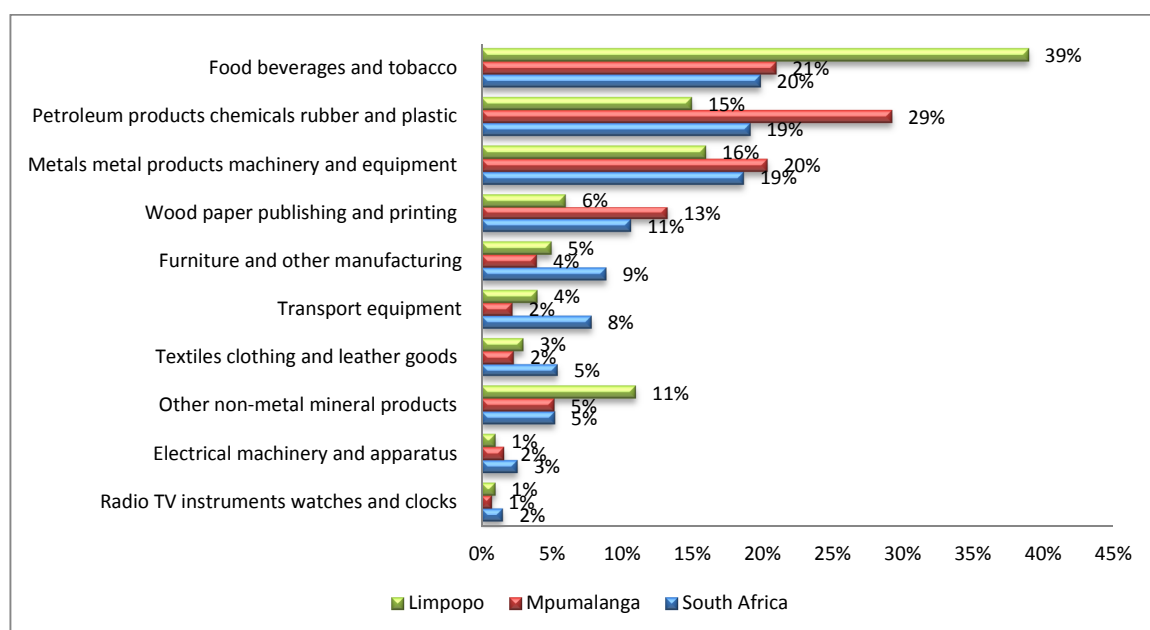
¹⁴ McKinsey Global Institute (2012); *Manufacturing the future: The next era of global growth and innovation*. Online: http://www.mckinsey.com/insights/manufacturing/the_future_of_manufacturing

¹⁵ Same as above

Figure 14: Regional distribution of Manufacturing Sector activity, South Africa 2011

Source: Stats SA (2012)

The graph below illustrates the contributions to the GVA by manufacturing industries in 2011 at both national and regional level. Petroleum & chemicals, and metals, machinery & equipment subsectors contributed the most to Mpumalanga manufacturing GVA, 29% and 25% respectively. Both these two sectors have companies that fall under the merSETA sector.

Figure 15: GVA for Manufacturing Industries, 2011

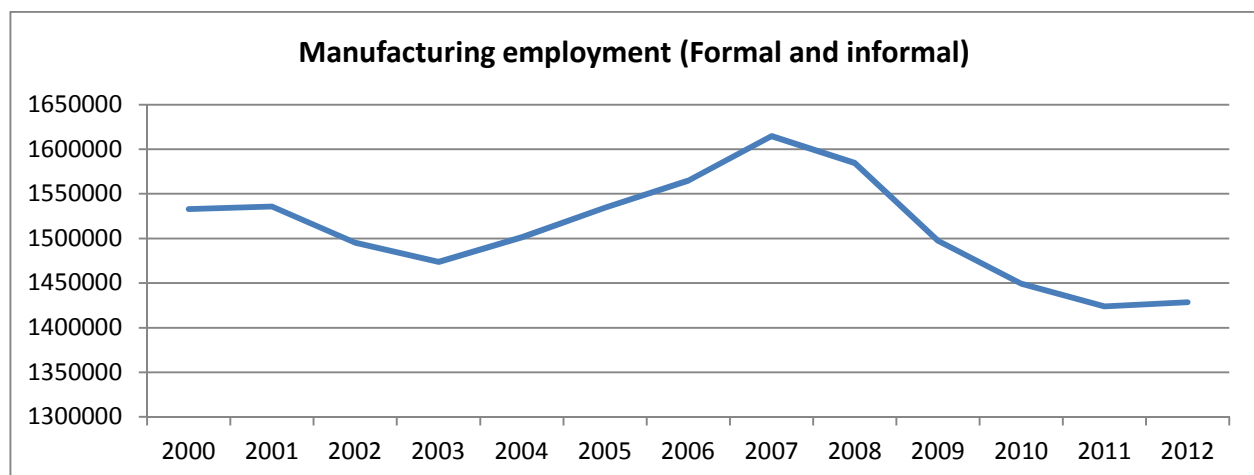
Source: Quantec (2013)

As illustrated in Figure 15 the Food and beverages sector contributes the most (39%) to Limpopo's manufacturing sector. Because of its vibrant agricultural sector Limpopo's has a well-established food and beverages manufacturing sector that involves fruit, vegetable and meat processing. The metals and the petroleum products sector also make notable contributions at 16% and 15% respectively.

2.5.1. Employment in the manufacturing sector

According to Stats SA quarterly labour force survey (QLFS) for the first quarter of 2013, a total of 1.753 million people were employed in the manufacturing sector. The manufacturing sector is the fourth largest employer nationally. The employment figures from South Africa's manufacturing sector have been declining over the 2000-2011 period and this trend is similar to other advanced economies. In advanced economies this decline in manufacturing's share of employment is due to on-going productivity improvements, continued growth of services as a share of the economy and the force of global competition, which pushes advanced economies to specialise in more high-skill activities.¹⁶

Figure 16: Employment levels for the manufacturing sector in SA, 2000-2011



Source: Quantec (2013)

As shown in the figure above the 2008/2009 recession led to job losses in the manufacturing sector and these figures are yet to return to their pre-recession levels. The QLFS Q12013 indicates formal employment job losses of 48 000 and an increase in informal employment of 41 000 jobs created during the quarter.

¹⁶ McKinsey Global Institute; Manufacturing the future: The next era of global growth and innovation

2.6. Overview of the merSETA Sectors

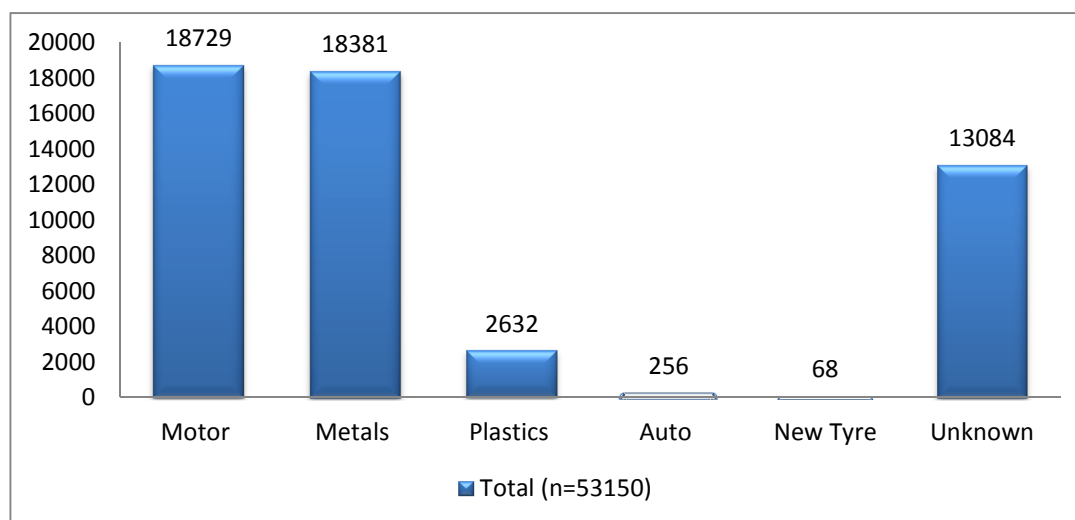
The definition of the manufacturing sector from the National Accounts includes sub-sectors that do not fall under the merSETA jurisdiction. MerSETA companies are grouped into five chambers. The table below is a conceptual map of the sub-sectors and their relation to merSETA chambers.

Figure 17: merSETA Sector Classification

		merSETA				SECTORS / INDUSTRIES
SERVICES		MANUFACTURING				
OTHER	RETAIL	AUTOMOTIVE	METAL	PLASTICS	OTHER	
		Automotive Assembly	Capital Equipment	Polymer Producer		SUBSECTORS
		New Tyre	Transport Equipment	Plastics Convertors		
	Motor Retail Motor Repair	Components	Metal Fabrication	Plastic Fabrication		
			Other	Other		
Colour Key	merSETA Chambers					
	Metal Chamber					
	Plastics Chamber					
	Auto Chamber					
	New Tyre Chamber					
	Motor Chamber					

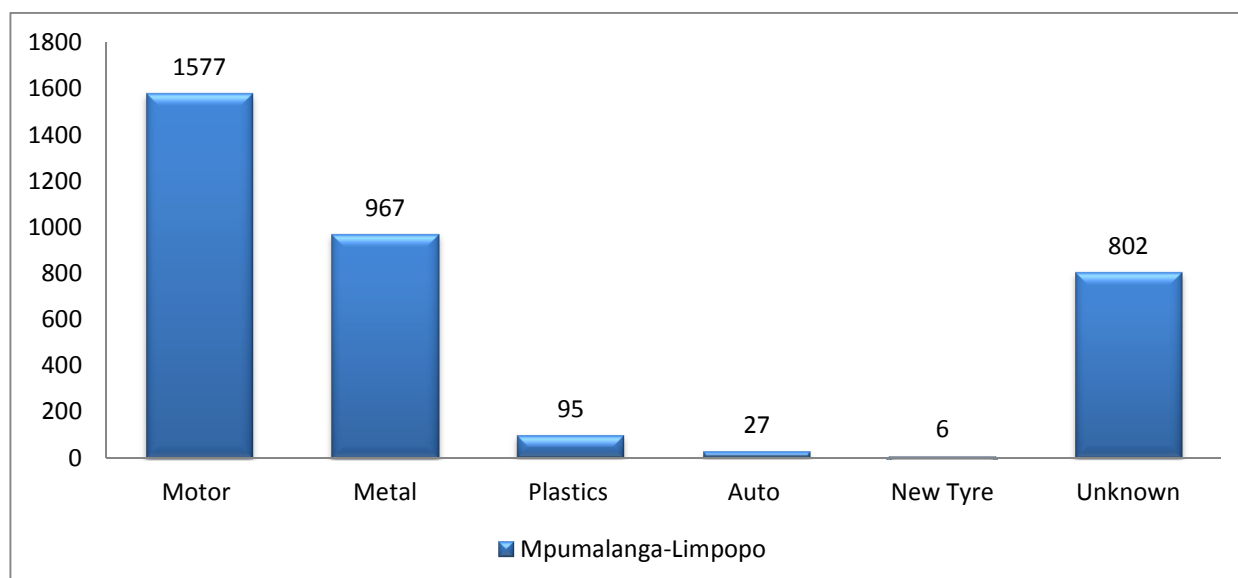
Source: merSETA SSP Update 2012/13-2016/2017

The merSETA Metal Chamber is the largest in respect of both the number of firms and the number of employees. All chambers, with the exception of the Auto Chamber contain a cross section both large and small firms. The merSETA database used provides had a total of 53 150 companies and the majority of these were from the metal and motor chambers as shown in the graph.

Figure 18: Distribution of merSETA companies by chamber

Source: merSETA Database 2013

Companies in the Mpumalanga-Limpopo region constitute 7% (3 474) of the companies of the merSETA database. The majority (67%; 2344) of the companies are in Mpumalanga and 33% (1130) are in Limpopo. An analysis of the merSETA companies in the Mpumalanga-Limpopo region show that the majority are in the Motor and Metal chambers.

Figure 19: Chamber distribution of merSETA companies in Mpumalanga-Limpopo

Source: merSETA Database 2013

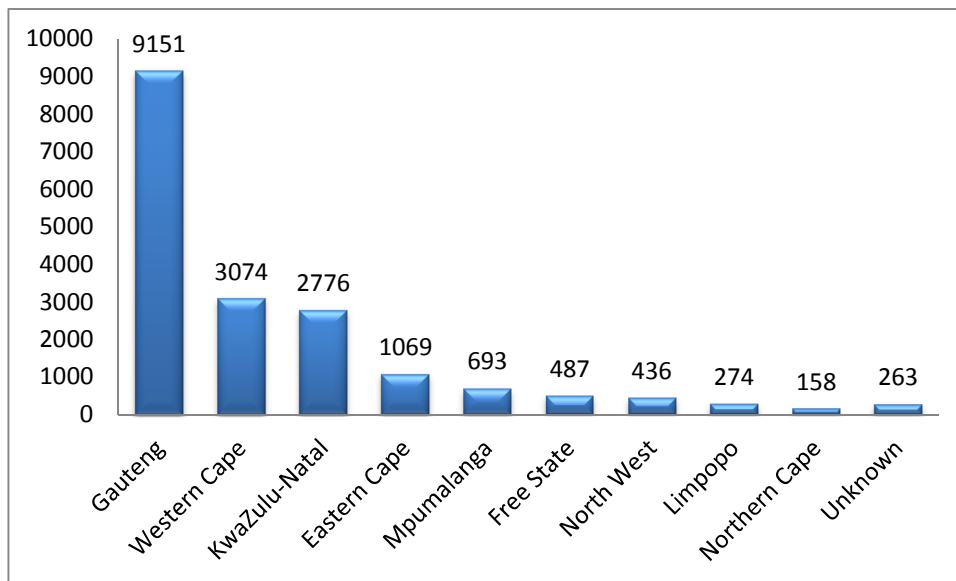
2.6.1. The Metal sector

The Metal Chamber comprises firms involved in the manufacturing and servicing of capital equipment including transport equipment. The Metal sector, including the capital equipment,

transport equipment, metal fabrication (CETEMF) and related subsectors, forms a substantial part of SA's manufacturing.

This sector is at the centre of economic development, as what they produce is used across the entire economy: infrastructure programmes, construction, general engineering, mining, automotive production, furniture manufacture, transport, home appliance manufacture, defence and packaging¹⁷.

Figure 20: Regional Distribution of the merSETA Metal Chamber



Source: merSETA Database 2013

The majority of the metal companies on the merSETA database are domiciled in Gauteng which is expected as the province contributes the most the manufacturing GDP of the country. Mpumalanga is home to some of the major players in the metal sector including Highveld Steel and Columbus Stainless Steel. Other plants in the area include Middelburg Ferrochrome and Ferrometals which is part of Samancor Chrome.

The Mpumalanga Stainless Initiatives (MSI)'s was established in 2001 and is stainless steel business incubator that is based in Middelburg, Mpumalanga. Its strategic mandate is to develop entrepreneurs in the stainless steel fabrication industry through the structured provision of resources, infrastructure, marketing and administrative support to ensure sustainable growth of SMMEs¹⁸.

¹⁷ MerSETA SSP 2010/2011-2015/2016

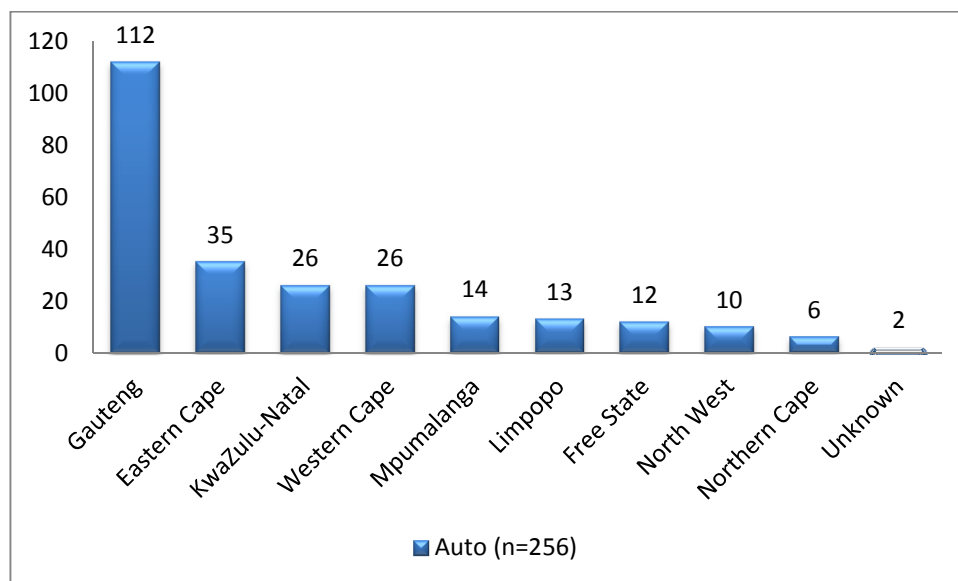
¹⁸ www.mpstainless.co.za

2.6.2. The automotive sector

The automotive industry, broadly defined includes vehicle retail, distribution and servicing, auto parts production and vehicle production. The automotive sector covers South Africa's seven large automotive assemblers, also known as original equipment manufacturers (OEMs); a number of smaller, specialist medium and heavy commercial vehicle assemblers and approximately 400 automotive components manufacturers which are then tiered according to their position in relation to OEM supply.

Of the seven locally based (multinationals) vehicle assembly operations (OEMs), three are located in northern Gauteng namely BMW South Africa, Nissan South Africa and Ford Motor Company South Africa. General Motors South Africa and Volkswagen South Africa are based in Port Elizabeth; the Mercedes-Benz South Africa plant is in East London, while Toyota South Africa is situated in Durban. merSETA's Auto Chamber comprises the seven OEMs.

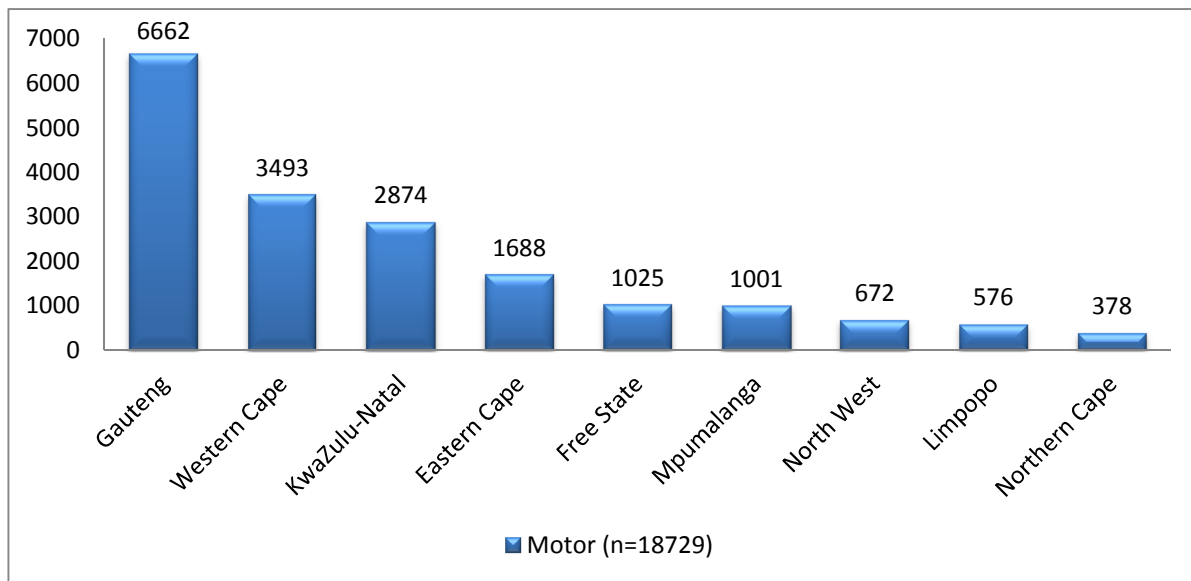
Figure 21: Regional Distribution of the merSETA Auto Chamber



Source: merSETA Database 2013

2.6.3. The motor sector

The Motor Chamber includes firms involved in the motor retail and service industries, as well as in the manufacture of automotive components. The motor retail and components sector is closely linked to the automotive sector, since the supply of components for motor vehicle assembly and after sales market is a prime source of trade.

Figure 22: Regional Distribution of the merSETA Motor Chamber

Source: merSETA Database 2013

2.6.4. The tyre manufacturing sector

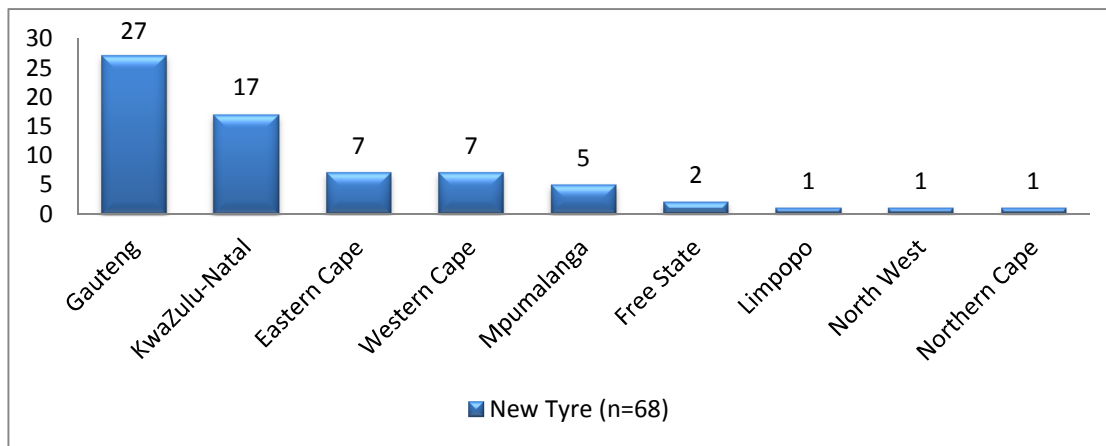
The New Tyre Chamber consists of firms involved in the manufacture of new tyres for OEMs and aftermarket supply. The SA pneumatic tyre manufacturing industry comprises four companies¹⁹, operating six factories, all of which are controlled by international groups. Many hundreds of companies also import other international brands of tyres into SA.

The industry manufactures new pneumatic tyres of rubber of a kind used on passenger, commercial, agricultural, mining, construction and industrial vehicles and implements. The total SA market for tyres is approximately 12 million units per year. The SA tyre manufacturing capability equates to just over 1% of world tyre manufacturing capacity albeit at a very high technical level.

The sector directly employs about 6,000 people. Five of the factories are situated in areas with higher than average unemployment levels, namely Port Elizabeth, Uitenhage, Ladysmith and Brits²⁰.

¹⁹The four tyre manufacturing companies in SA are Bridgestone South Africa, Continental Tyre South Africa, Dunlop Tyres International and Goodyear Tyre & Rubber Holdings. The South African Tyre Manufacturers Conference (SATMC) is the united face of the four SA tyre manufacturers to government, the motor industry and the public.

²⁰<http://www.rubbersa.com/facts.html>

Figure 23: Regional Distribution of the merSETA New Tyre Chamber

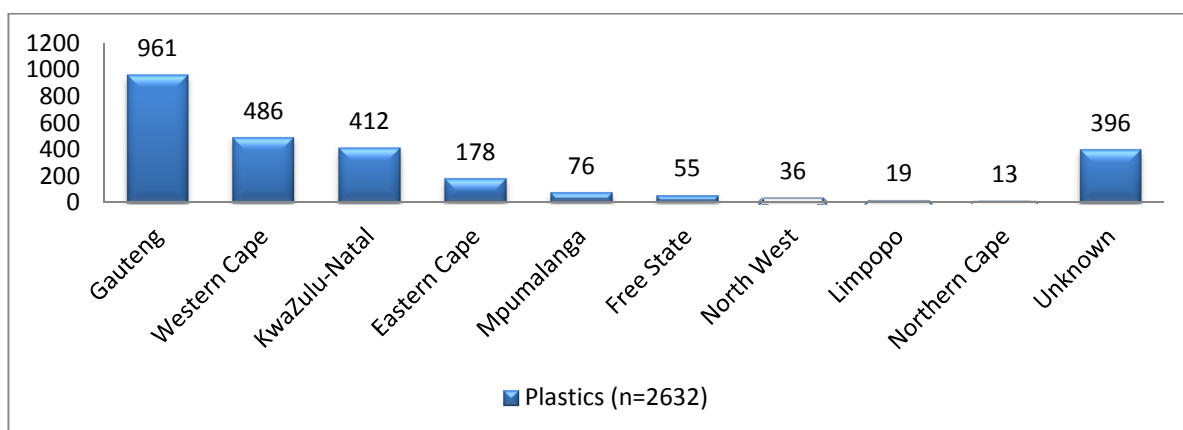
Source: merSETA Database 2013

As shown in the figure above the New Tyre Chamber as of 2013 had 68 companies and the majority (40%) of these are in Gauteng and only 6 are in the Mpumalanga-Limpopo region.

2.6.5. The plastics sector

The Plastics Chamber includes firms involved in the manufacture of plastics products from locally manufactured and imported polymers. The plastics manufacturing sub-sector is part of a supply chain from the polymer manufacturing industry (chemical companies) through to a variety of end-use markets, and is characterised by ease of entry because of its low economies of scale and high degree of mechanisation. This means the sector is characterised by the following:

- Many micro and small companies and a few medium sized plants,
- Is not a large scale employer, and
- Plastics manufacturing cells can be found within manufacturing plants of other manufacturing industries.

Figure 24: Regional Distribution of the merSETA Plastics chamber

Source: merSETA Database 2013

According to the merSETA database the plastics chamber has 2632 companies and 76 are from Mpumalanga which is 3% of the total. The plastics chamber research stated that from anecdotal evidence from players in the industry, the numbers of companies in the industry is around 1700.

2.7. Conclusion

The provinces of Mpumalanga and Limpopo account for a combined 18.2% of the population of South Africa. The population of Mpumalanga has grown by 20% since 2001 from 3.4 million to just over 4 million whilst the population of Limpopo has grown 18% in a decade from 4.5 million in 2001 to 5.4 million in 2011. Both provinces are classified as rural in nature and characterised by high unemployment rates.

Judging by the two provinces' contribution to the national GDP, the provincial economies are equal in size as Limpopo contributed 7.1% and Mpumalanga contributed 7.0% to national GDP for 2011. Both Limpopo and Mpumalanga have very vibrant and growing mining and quarrying sectors with this sector being the biggest in both provinces. In Mpumalanga the Nkangala district contributes the most (40%) to the economy of Mpumalanga. In Limpopo the economy is somewhat more evenly distributed amongst the five district municipalities, with the biggest (23%) contribution in 2011 coming from Capricon district.

Mpumalanga manufacturing sector makes a more notable contribution to national manufacturing GDP, contributing 7.1% compared to Limpopo's 1.5% in 2011. Food and beverages subsector make the biggest contribution to Limpopo's manufacturing output. In Mpumalanga the biggest subsector is the petroleum products and chemicals category (29%) followed by the metals, metal products machinery and equipment sector (20%). The majority of companies in the region belong to the Motor and Metal chamber.

Although the regions face a number of challenges the economies look set to grow due to the national and regional strategies elaborated in the next chapter.

3. POLICIES AND STRATEGIES THAT IMPACT ON SKILLS DEVELOPMENT IN THE REGION

3.1. National Economic Growth and Development Strategies

3.1.1. The New Growth Path and National Development Plan

The New Growth Plan (2010) is the SA government's latest macro-economic policy. Together with the National Development Plan (2011), the two documents position SA as a 'developmental state' and give the government an important role in the development of the economy, especially employment creation. The policy focus is to increase labour-absorbing activities, promote economic growth, and equity (which is to be measured by decreasing inequality and poverty). The targeted 'job-drivers' are the labour absorbing sectors such as mining, agriculture, manufacturing and services.

New Growth Path (NGP) emphasised that improvements in education and skill levels are a fundamental prerequisite for achieving many of its goals. It noted that NGP requires a radical review of the training system to address shortfalls in artisanal and technical skills. Overall, NGP aims to create 5 million jobs over the next 10 years. Some of the SETA related specific targets include:

- at least 30 000 additional engineers by 2014,
- at least 50 000 additional artisans by 2015,
- improve skills in every job and target 1,2 million workers for certified on-the-job skills improvement programmes annually from 2013;
- expand enrolment at FET colleges, targeting a million students in FET colleges by 2014; and
- Create 250 000 jobs a year in infrastructure (energy, transport, water, communications) and housing through 2015.

3.1.2. Industrial Policy Action Plan

In January 2007, Cabinet adopted the National Industrial Policy Framework (NIPF), which sets out government's broad approach to industrialisation. Guided by the NIPF, the implementation of industrial policy was set out in an Industrial Policy Action Plan (IPAP), and in August 2007, Cabinet approved the first IPAP. The current IPAP, IPAP 2011/12 – 2013/14 (IPAP 2) constitutes a consolidation of plans and programmes outlined in the previous iteration of IPAP 2.

The IPAP 2 notes that the SETAs and National Skills Fund (NSF) system have an extremely important role for sector-specific training programmes and skills facilitation that emerge directly

from industry demands in relation to detailed Customised Sector Programmes. The DTI therefore committed to working with the Department of Higher Education and Training (DHET) to introduce the necessary window within the SETA and NSF system for new Skills Centres based on the needs of IPAP sector strategies²¹.

3.1.3. Metals Customised Sector Plan (CSP)

The CSP for the priority sector metals was published by the dti in 2005. The strategic vision of the plan is that “by 2014, SA will have a globally competitive Metal sector, optimally utilising the comparative advantages of abundant mineral resources, skilled labour force and world-class technologies to produce and market high value-added products in the prioritised industries.” Programmes in the plan include the promotion of local metals beneficiation, maximising local content through backward linkages, and upgrading production capabilities in downstream industries.²²

3.1.4. Industrial Development Corporation (IDC) Jobs Scheme

In 2011 the IDC launched a R10 billion scheme to tackle the country’s chronic unemployment problem. The scheme was aligned with the government’s New Growth Path and the Industrial Policy Action Plan (IPAP2). Funding would be available to entrepreneurs across the IDC’s mandated sectors over a five year period. The scheme aims to create an additional 40 000 to 50 000 employment opportunities. The sectors geared to benefit include the green economy, manufacturing, the mining value chain, agriculture and infrastructure.

3.1.5. National Foundry Technology Network (NFTN)

NFTN is the culmination of a significant government and industry association-led effort to develop a globally competitive South African foundry industry through appropriate skills training, technology transfer, and diffusion of state-of-the-art technologies. Its main outcome is to reduce import leakage, increase investments in key manufacturing processes and activities, employment and exportability.

3.1.6. Automotive Production and Development Programme (APDP)

The APDP replaced the Motor Industry Development Programme and is in line with World Trade Organisation (WTO) regulations. The APDP design has evolved from an export based incentive to a local manufacturing incentive, regardless of whether the motor vehicles are sold locally or

²¹DTI (2011). *Industrial Policy Action Plan (IPAP 2011/12-2013-/14)*. Department of Trade and Industry. Pretoria, South Africa.

²²dti (2006) Metals Sector Development Strategy: Trade and Investment South Africa – Customised Sector Programme – Metals.

abroad.²³ The programme aims to increase local production to 1.2 million vehicles by 2020. The APDP will extend support to the South African automotive industry until 2020. The objectives of the APDP include:

- improving the international competitiveness of the South African automotive industry
- stabilize and potentially increase employment levels
- and encourage the rationalization of platforms to achieve economies of scale in assembly
- Continue to encourage growth, particularly through exports and thereby improve industry's current trade balance

The focus under the APDP is to provide assistance to the component manufactures so that they can provide cost competitive components to the Original Equipment Manufacturers (OEMs) and to international markets via exports. The APDP offers an incentive to up-skill employees and to invest technology, research and development.

3.1.7. Special Economic Zones

South Africa's drive to encourage regional industrial development dates back to the 1960's and has been part of government policy initiative. "In the early 1990s, industrial policy was markedly less focused on location. However more recently the Spatial Development Initiatives (SDI) and Industrial Development Zone (IDZ) programmes have both involved the identification of industrial locations and used incentives to encourage firms to locate in these areas"²⁴. IDZs are aimed at stimulating the local economy of the region in which they are located, by attracting investment, increase exports and the competitiveness of South African products.

There are four designated IDZs in South Africa: East London Industrial Development Zone (ELIDZ) and COEGA Industrial Development Zone (COEGAIDZ) in Eastern Cape Province, Richards Bay Industrial Development Zone (RBIDZ) in KwaZulu-Natal (KZN) and OR Tambo International Airport IDZ (in Gauteng Province). Only 3 are currently functional namely, Coega, East London and Richards Bay²⁵, while Saldanha Bay IDZ (in Western Cape Province) is still at feasibility stage. A Special Economic Zones (SEZs) Bill was gazetted in January 2012 by the Minister of Trade and Industry Dr Rob Davies. Under this Bill, IDZs will no longer be classified as a separate entity but will be classified as SEZs²⁶. Previously, a key requirement for a region to

²³http://www.automotiveonline.co.za/site/files/6860/APDP_Deloitte.pdf

²⁴Trudi, H. (2001). *South African regional industrial policy: from border industries to spatial development initiatives*. Journal of International Development, 2001, vol. 13, issue 6, pages 767-777

²⁵ The DTI (2013) *Special Economic Zones Bill, 2013*; Presentation to Portfolio Committee On Trade And Industry, 26 April 2013. Available at:

<http://www.thedti.gov.za/parliament/SEZ-Bill.pdf> (Accessed 11 July 2013).

²⁶ The DTI (2013) *10 Potential Special Economic Zones Have Been Identified*, Media Statement. Available at: <http://www.thedti.gov.za/editmedia.jsp?id=2685> (Accessed 11 July 2013)

qualify as an IDZ was proximity to either an international sea or airport. The Bill is expected to facilitate spatial development of other regions previously side-lined by the IDZ framework.

The DTI (2013) argues that the IDZ programme has delivered good results, particularly the ELIDZ whose private sector investment rose from R600-million in 2009 to R4-billion in 2012/13. The RBIDZ was incorporated in 2002 with the aim of attracting export oriented manufacturing investment, value-adding and productivity improvements. Its goal is to accelerate economic growth through industrialisation, create new permanent employment opportunities, sustain existing employment and improve the socio-economic status of the region.

The department of trade and industry (the dti) provisionally approved in 2012, the establishment of special economic zones (SEZ) at the Greater Tubatse Municipality in the Sekhukhune region and in Musina. The SEZ in Musina which is the main land entry port to the rest of Africa would focus on logistics and the beneficiation of coal. The SEZ in the Greater Tubatse Municipality would explore beneficiation of platinum group metals. The purpose is to establish a hydrogen-fuel cell industry which will change the manufacturing industry in Sekhukhune. It is hoped the planned SEZ will accelerate industrial development and lead to the realisation of the country's industrial action plan and the new growth path.

3.1.8. National Infrastructure Plan

The Government adopted a National Infrastructure Plan (NIP) in 2012, which is aimed at transforming the economic landscape, creating significant numbers of new jobs, and strengthen the delivery of basic services in South Africa. The plan also supports the integration of African economies. The costs of the 18 strategic projects identified are estimated at about R4-trillion over the next 15 years²⁷. The government pledged to invest R827 billion in building new and upgrading existing infrastructure over the three years from 2013/14 financial year²⁸. State owned enterprises (SOEs) such as Eskom, Transnet and others are also expected to fund a further R400 billion in projects in the next three years, supported by National Treasury guarantees²⁹. Some of this investment is earmarked for the construction of ports, roads, railway systems, electricity plants, hospitals, schools and dams with the ultimate aim of contributing to faster economic growth.

In order to coordinate, integrate and accelerate the implementation of this massive infrastructure development drive, Cabinet established the Presidential Infrastructure

²⁷ Business Day (2012) *Infrastructure projects will 'not come cheap'*. Available at: <http://www.bdlive.co.za/economy/2012/10/21/infrastructure-projects-will-not-come-cheap> (Accessed 11 July 2013)

²⁸ National Treasury (2013) *2013 Budget Speech* by Minister of Finance.

²⁹ National Treasury (2013) *2013 Budget Speech* by Minister of Finance.

Coordinating Committee (PICC). The PICC has already identified, developed and approved¹⁸ strategic integrated projects (SIPs), which covering 150 social and economic infrastructure across all nine provinces (with an emphasis on lagging regions). Each SIP comprises a large number of specific infrastructure components and programmes³⁰. The SIPs comprise of:

- Five geographically-focussed SIPs
- Three spatial SIPs
- Three energy SIPs
- Three social infrastructure SIPs
- Two knowledge SIPs
- One regional integration SIP
- One water and sanitation SIP

Though it might be too early to review the impact of the NIP to date, the Draft Infrastructure Development Bill (2013) estimate that around R24 billion spent to date creating 145 000 jobs³¹.

One of the SIPs that will have a great impact on the region is **SIP 1: Unlocking the northern mineral belt with Waterberg as a catalyst**. The project will benefit both provinces Mpumalanga and Limpopo. The SIP aims to achieve the following:

- Unlocking minerals resources
- Rail, water pipelines, energy generation and transmission infrastructure
- Thousands of direct jobs across the areas unlocked
- Urban development in Waterberg – first major post-apartheid new urban centre will be a “green” development project.
- Rail capacity to Mpumalanga and Richards Bay
- Shift from road to rail in Mpumalanga.
- Logistics corridor to connect Mpumalanga and Gauteng.

SIP 9: Electricity generation to support socio-economic development has already had considerable effect on the two provinces with the construction of two power stations; Kusile in the Nkangala District of Mpumalanga and Medupi in Lephalale, Limpopo. The SIP aims to accelerate the construction of the new electricity generation capacity in accordance with the IRP2010 to meet the needs of the economy and address historical imbalances³². The construction of the Kusile Power Station will have a major impact on the lives and the economy of the community of Nkangala District. Job creation is expected to peak at an estimated 12 000

³⁰Presidential Infrastructure Coordinating Commission (PICC) (2012) *A Summary of the South African National Infrastructure Plan*. Pretoria, South Africa.

³¹Department of Economic Development (2013) *Draft Infrastructure Development Bill (2013)*

³² <http://www.info.gov.za/issues/national-infrastructure-plan/>

direct jobs during construction³³. Medupi Power Station will be the fourth largest coal plant in the world and job creation has peaked at 17 000 direct jobs during construction³⁴.

3.2. Regional Economic Growth and Development Strategies

3.2.1. Mpumalanga Provincial Growth and Development Strategy (PGDS)

The PGDS aims to promote integrated planning, which will enable development to be delivered in an efficient and co-ordinated manner in the Province. The priority areas were identified based on the social, economic and developmental needs of the Province. The PGDS focuses on economic development, social development infrastructure, social development, sustainable environmental development, good governance and human resource development. The PDGS is a strategy framework which enables the coordinated implementation by various departments and social partners of programmes aligned to the PDGS.

3.2.2. Mpumalanga Rural Development Programme (MRDP)

The Mpumalanga Rural Development Programme (MRDP) was devised as part of government's efforts to improve livelihoods in rural areas by the implementation of development programmes aimed at attracting private capital investments. The MRDP was established in 2001 to help address the developmental needs of the province. The programme is targeted at aiding the rural populations of the province of which 70% are estimated to live below the poverty line.

3.2.3. Mpumalanga Economic Growth Agency (MEGA)³⁵

MEGA is responsible for facilitating the economic, investment and trade promotion of the province. MEGA was recently refocused to drive increased SMME activity within the Province and to develop a sustainable SMME sector within Mpumalanga over the long term. MEGA aims to be the first point of contact for entrepreneurs and investors who need access to unlocking value in Mpumalanga. The agency's mandate is, 'to implement and promote the economic development initiatives of the Mpumalanga Provincial Government in the areas of enterprise development, investment and trade, Industrial/Commercial/Residential infrastructure development and management, agricultural development, and the provision of human settlements.

3.2.4. Mpumalanga Economic Growth and Development Path (MEGDP)

The MEGDP is based by on the four Accords of the National New Growth Path Framework, which includes the Green Economy Accord. Through this accord the province aims to take advantage

³³ www.eskom.co.za/c/artcile/58/kusile-power-station/

³⁴ <http://www.eskom.co.za/c/359/medupi/>

³⁵ www.mega.gov.za

of the possibilities offered by the green economy. One of the key aspects of successful implementation of the MEDGP is the transition from a carbon intensive industrial development towards a low carbon economy. To achieve the 2030 Vision for the province the MEGDP stresses the importance of investing in human capital to produce the skills required for economic growth.

3.2.5. Mpumalanga Provincial Human Resource Development Strategy

The strategy was devised as a response to the skill shortage challenges confronting the Mpumalanga region. The strategy is expected to provide the required skills for a competitive, labour absorbing and inclusive economy that must benefit all the people of Mpumalanga. The focus is on improving the provision of Early Childhood Education (ECD), the re-alignment of curriculum with the needs of industry, teacher quality and development and strengthening of Adult Basic Education (ABET) and Adult Education and Training to improve basic literacy and the acquisition of required skills.

3.2.6. Limpopo Employment Growth and Development Plan 2009-2014

The Limpopo Employment, Growth and Development Plan for 2009-2014 (LEGDP) was developed to provide a framework for the provincial government, municipalities, the private sector and all organs of society can pursue the strategic priorities as encapsulated in the Medium Term Strategic Framework.

The main strategic priority of the LEGDP is to '*Ensure more inclusive economic growth, decent work and sustainable livelihoods*'. The main objective with regard to this priority is to respond appropriately, promptly and effectively so that growth in decent employment and improvements in income security are reinforced, and investment sustained to build up provincial economic capability and improve industrial competitiveness. This has to be conducted in an environment of a stable macro-economy which provides conditions for higher rates of investment and creation of decent jobs. The most pressing problem facing Limpopo Province is the absence of sustained economic growth and job creation, which are essential to reduce poverty and improve living conditions.

The formation of Limpopo Business Support Agency (LIBSA) is a result of the Provincial Growth and Development Strategy exploiting opportunities in all the economic sectors for business development and promotion amongst existing and aspiring entrepreneurs in the whole Limpopo Province. Although the mandate of LIBSA is to focus mainly on the growth sectors, the scope of services to the business community is far beyond the scope given the dynamic environment within which LIBSA operates.

3.3. Conclusion

The South African government has a number of strategies and policies in place to stimulate growth and address challenges faced by the nation. The strategies and policies are geared to ensure global competitiveness of industry and also employment creation. The National Infrastructure Plan aims to create a significant number of new jobs and also strengthen the delivery of basic services in South Africa. One of the SIPs that will have a great impact on the region is **SIP 1: Unlocking the northern mineral belt with Waterberg as catalyst**. The project will benefit both provinces; Mpumalanga and Limpopo.

Both provinces have a number of strategies and policies in place to address the social, economic and development needs of the region. The Mpumalanga Rural development Programme (MRDP) was devised as part of government's efforts to improve livelihoods in rural areas by the implementation of development programmes aimed at attracting private capital investments. Mpumalanga Economic Growth Agency (MEGA) is focussing on increasing SMME activity within the Province and to develop a sustainable SMME sector over the long term.

Limpopo Employment Growth and Development Plan (LEDGP)'s strategic priority is to '*Ensure more inclusive economic growth, decent work and sustainable livelihoods*'. The formation of Limpopo Business Support Agency (LIBSA) is a result of the Provincial Growth and Development Strategy exploiting opportunities in all the economic sectors for business development and promotion amongst existing and aspiring entrepreneurs in the whole Limpopo Province.

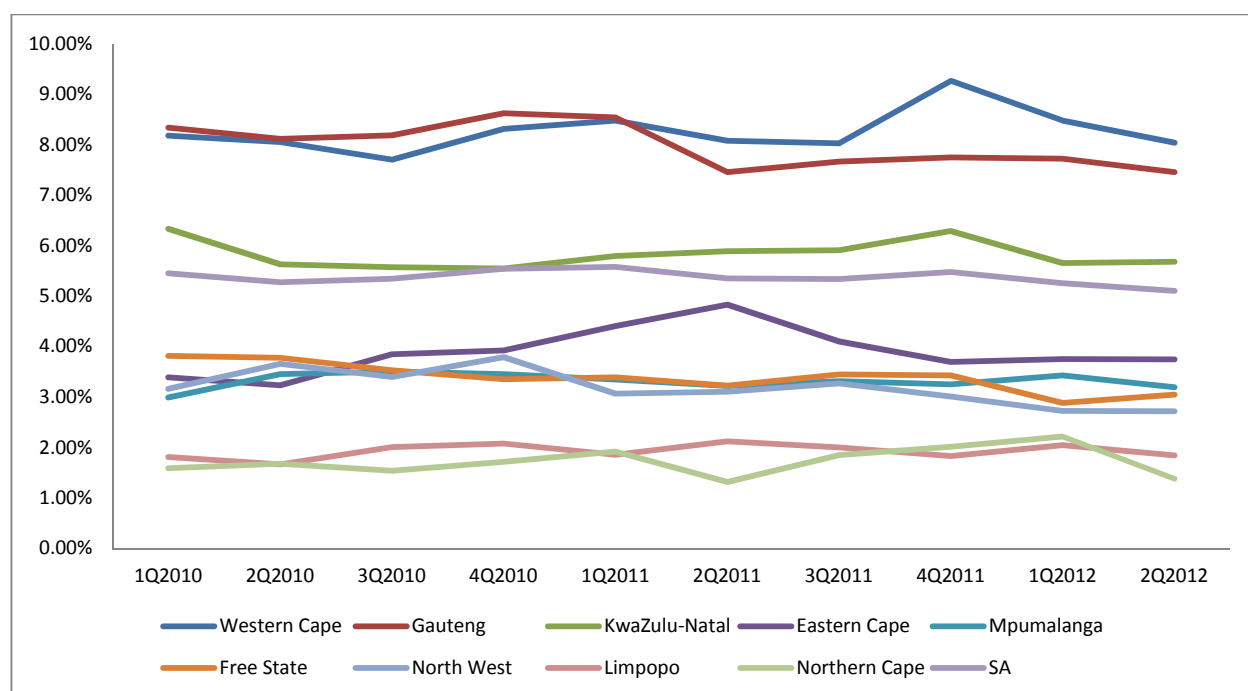
4. THE DEMAND FOR LABOUR

4.1. Introduction

The manufacturing sector is the fourth largest (13%) employer in the country with a total employment figure just above 1.7 million according to the QLFS Q4 2012. Distribution of the total manufacturing workforce shows a bias similar to the economic contribution of the provinces with the bulk of the workforce being found in Gauteng followed by KwaZulu-Natal and Western Cape.

The manufacturing sectors contribution to provincial employment is shown in the graph below, which shows that the sector makes significant contributions in the economies of Western Cape, Gauteng and KwaZulu-Natal.

Figure 25: Manufacturing sector's contribution to provincial employment



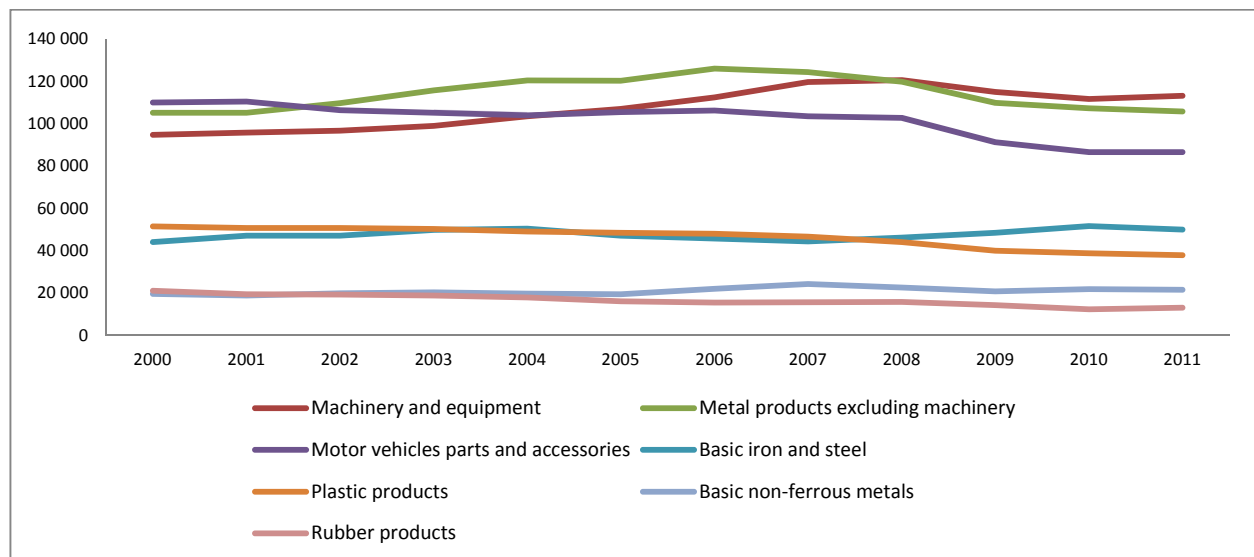
Source: own calculations from Stats SA Labour Force Survey

The metals, metal products, machinery and equipment [SIC: 351-359] is the subsector with the highest employment figures in the manufacturing sector.

An analysis of the employment trends (at a national level) of the subsectors that make-up the merSETA cluster show that employment numbers have gradually decreased over the period 2000-2011. The graph below shows the subsectors that fall under Manufacturing in the

National Accounts and does not include the subsector: Sale, maintenance and repair of motor vehicles and motor cycles; retail trade in automotive fuel which falls under the Wholesale and Retail sector.

Figure 26: Employment figures by subsectors, South Africa



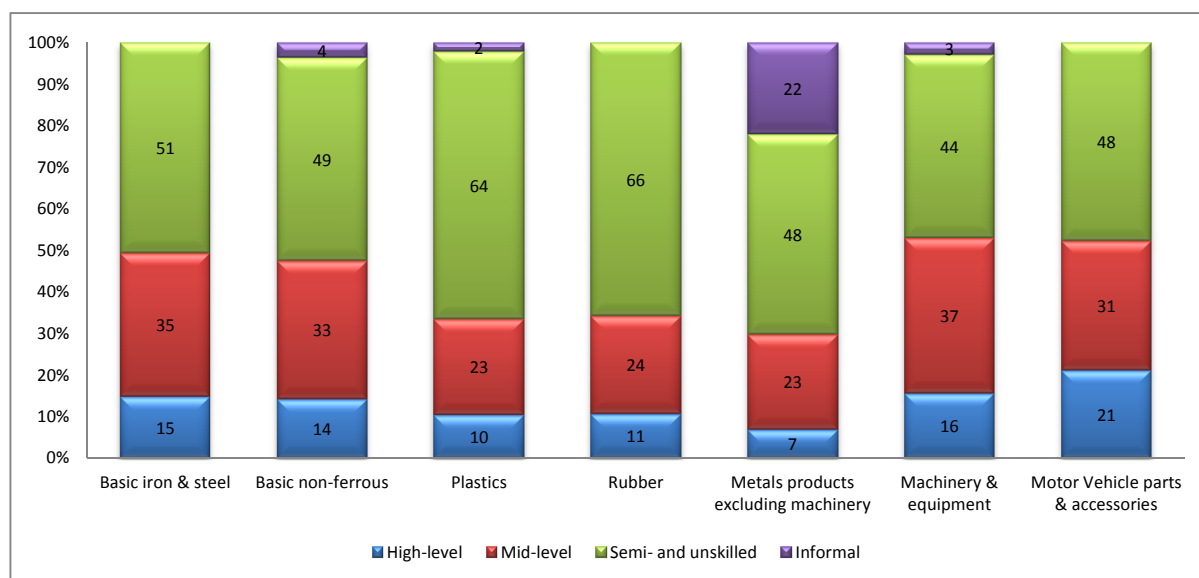
Source: Quantec (2013)

The machinery & equipment and metal products excluding machinery have the highest employee figures for 2011. For the machinery & equipment sector there has shown an increasing trend over the years, from 94.5 thousand employees in 2000 to 113 thousand in 2011. The motor vehicle parts & accessories sector lost the greatest number of employees since 2000, declining from 109 222 to 86 391 employees in 2011. The plastics products subsector also recorded a decrease in number of employees from 51 437 in 2000 to 37 708 in 2011. Slight increases were recorded in the remaining subsectors.

4.1.1. Employment Profile

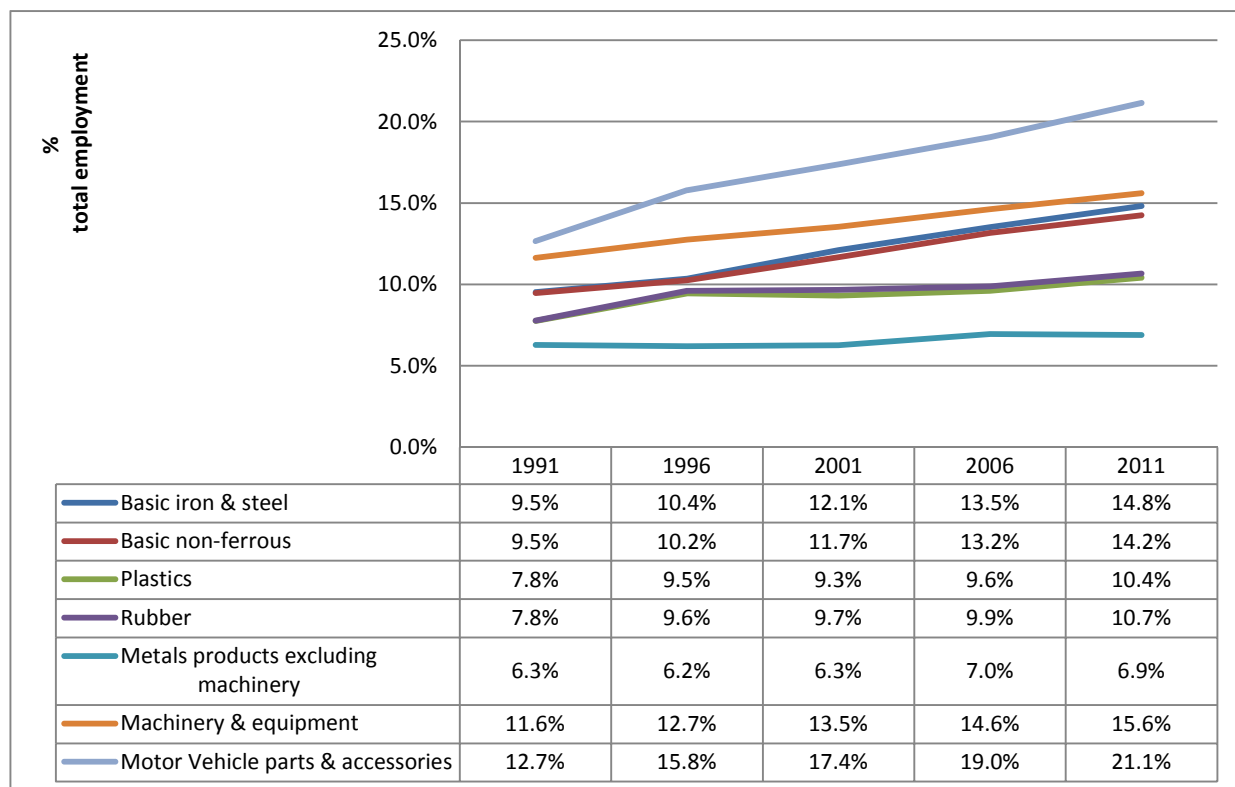
4.1.1.1. Skill levels and Occupational Profile

The sectors that have the greatest proportions of unskilled and semi-skilled workers are the plastics and rubber products sectors according to 2011 statistics. The motor vehicle parts & accessories subsector had the highest proportion of skilled workers of all the subsectors.

Figure 27: Skill level of workers per sub-sectors, 2011

Source: Quantec (2013)

An analysis of the trends in the high-level skills per subsector shows an increase in the portion of skilled workers who make the workforce of the merSETA cluster. The portion of high-level skills has been increasing for the decade 1991 to 2011 but still constitute a minority in the profile of employees as shown in Figure 28 below. Semi-skilled, unskilled and mid-level skilled employees still constitute the majority of employees in all subsectors of the merSETA clusters.

Figure 28: Trends in high-level skills per subsector

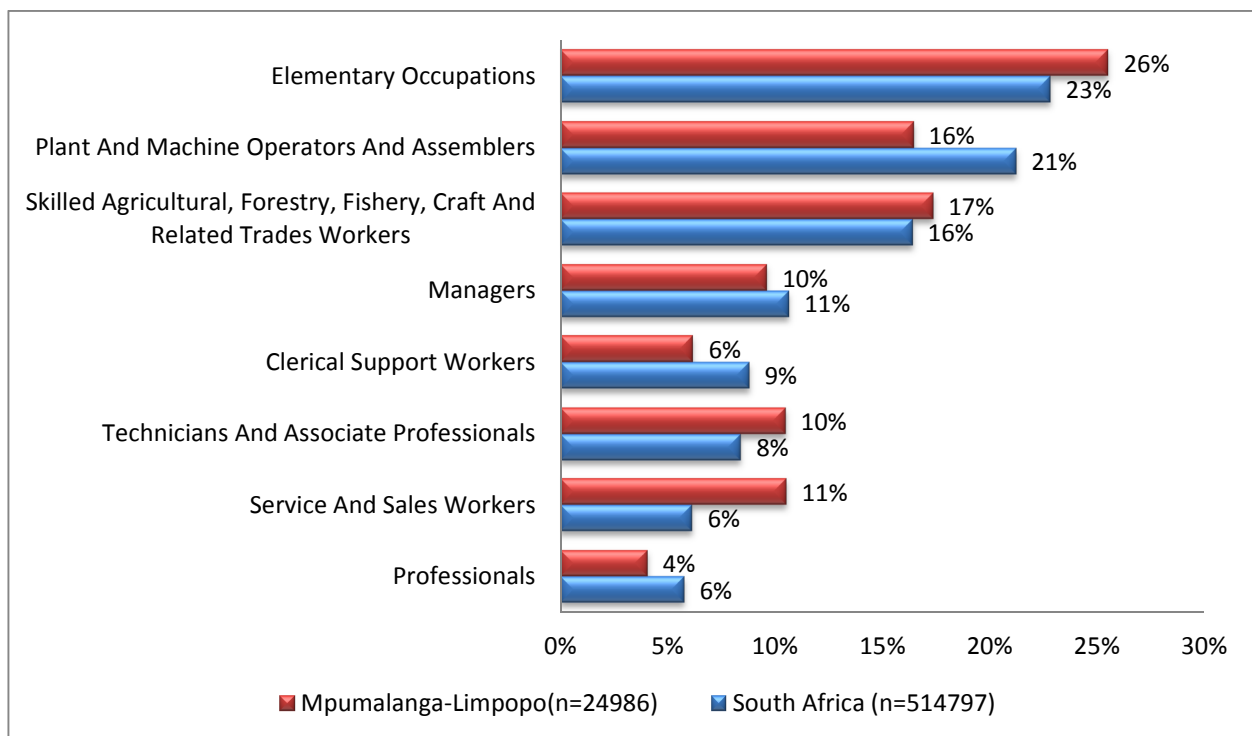
Source: Quantec (2013)

The portion of high-level skills has been increasing for the decade 1991 to 2011 but still constitute a minority in the profile of employees. Semi-skilled, unskilled and mid-level skilled employees still constitute the majority of employees in all subsectors of the merSETA clusters. High-level skills comprise of managers, professionals, and technicians and associate professionals in terms of occupational categories. The mid-level skills comprises of craft and related trades workers, services and sales workers and clerical support workers. Semi-skilled workers constitute the plant and machine operators and assembler's category and unskilled workers are the elementary workers.

Employees in the Mpumalanga-Limpopo region constituted 5% of the companies on the merSETA database. An analysis of the merSETA database showed the occupational profile shown in the graph below. The occupational distribution of employees in the region is similar to that of the nation as whole. Elementary occupations constituted the largest group (26%) followed by plant and machine operators and assemblers (16%). The occupational profile and the skill level profile may also be used to infer the educational profile of the merSETA cluster employee. Elementary workers (26%) generally have only entry-level qualifications. Managers (10%) and professionals (4%) are likely to have high levels of formal education. The majority of technicians and associate professionals (10%) and the skilled agricultural, forestry, fishery, craft and related trade workers (17%) are likely to have trade-related qualifications.

The Plastics Chamber Report (April, 2012) found that the majority (48.8%) of the plastics sector employees had Grade 12 (Matric) and 32% ABET 2-4 (Grade 1-9) as their highest qualifications. The findings from the New Tyre Chamber Report showed that the majority of employees categorised as artisans/craft workers have a Grade 12 or equivalent as their highest qualification. They found very few artisans/craft employees with N4-6 (8%), or National Diplomas (7%) as their highest qualifications. Similar findings were found in the other occupational categories namely; professionals, associate professionals and even executives/senior management. The chamber report concluded that the tyre industry has relatively low-level qualifications relative to the positions they hold

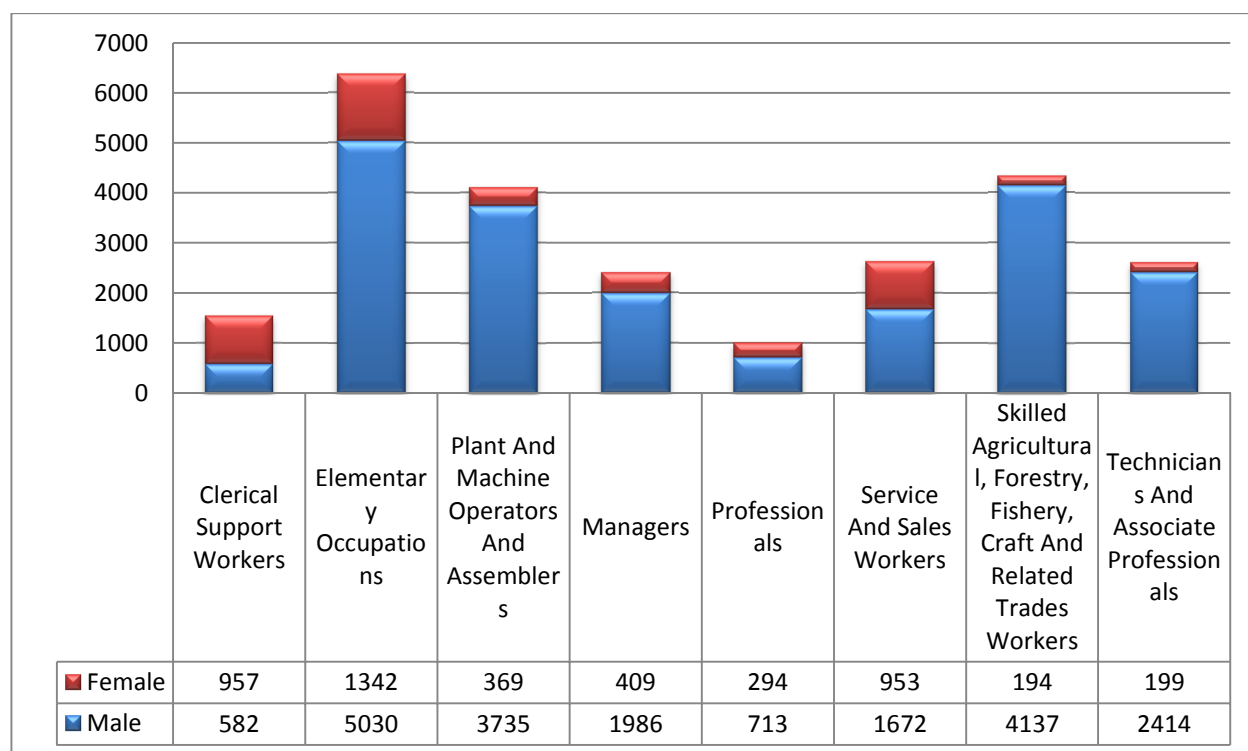
Figure 29: merSETA employment by major occupational groups



Source: merSETA database (2013)

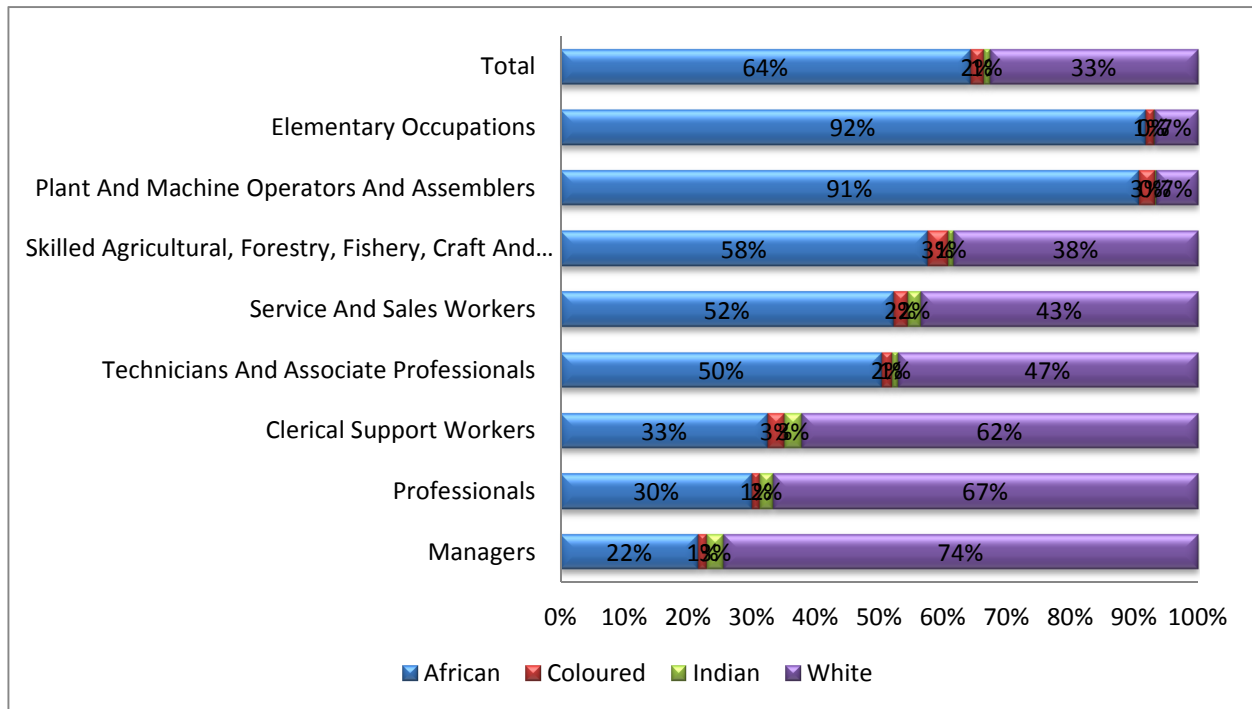
4.1.1.2. Race and gender distribution of employees

The merSETA sector is dominated by male employees; the national database shows that 80% of employees are male and 20% are female. The situation for the region is also similar with males being 81% of the total employees. The only occupational group where the female numbers (62%) exceed men is the clerical support workers category. Females also constitute a considerable portion (36%) of the sales and service workers category. As shown in the graph below the proportion of women is generally very low in the rest of the occupations.

Figure 30: Gender distribution of Mpumalanga-Limpopo employees in the sector according to occupational group

Source: merSETA database (2013)

The racial profile indicates that 64% of Mpumalanga-Limpopo merSETA employees are African and 33% are white. The proportion of African workers in Mpumalanga-Limpopo is higher than the national figure which is 55%.

Figure 31: Racial distribution of Mpumalanga-Limpopo employees in the sector

Source: merSETA database (2013)

The occupations with the greatest proportion of African employees are the elementary occupations (92%) and the plan and machine operators and assemblers (91%) categories. Nationally Africans make up 79% of elementary occupations and 77% of plant and machine operators and assemblers. Whites make up the majority of managers (74%) and professionals (67%) in the Mpumalanga-Limpopo region.

4.1.1.3. Age distribution of employees

According to the merSETA data system, 44% of Mpumalanga employees are younger than 35 years whilst 47% are between 35 and 49 years and 9% are between 49 and 64 years. As expected only a minority (23%) of managers are less than 35 years because of the experience and expertise the positions require. 47% of skilled agricultural, forestry, fishery, craft and related trades workers are in the 35-49 age group and a considerable portion (46%) is younger than 35 years. Since the majority of technicians and associate professionals (50%) and skilled agricultural, forestry, fishery, craft and related trades works (47%) are in the 35-49 age group it means a considerable portion are looking at retirement in 15 to 20 years or promotion to managerial positions. Views gathered from our in-depth interviews show a concern for the lack of interest amongst young people to join the manufacturing industry as blue collar jobs are negatively perceived.

Table 12: Age distribution of merSETA Mpumalanga-Limpopo employees by major occupational category

Occupational Group	Age group		
	<35	35-49	50-64
Managers	22,7%	63,7%	13,6%
Professionals	41,4%	50,5%	8,0%
Plant And Machine Operators And Assemblers	42,0%	46,7%	11,3%
Technicians And Associate Professionals	43,4%	50,1%	6,5%
Clerical Support Workers	45,5%	46,4%	8,1%
Service And Sales Workers	45,9%	46,7%	7,4%
Skilled Agricultural, Forestry, Fishery, Craft And Related Trades Workers	46,1%	46,7%	7,2%
Elementary Occupations	51,6%	39,8%	8,6%
Total	44,1%	47,1%	8,9%

Source: merSETA database (2013)

The age distribution amongst chamber employees is shown in the table below. The plastic sector has the largest portion (42%) of employees younger than 35 years. The recent Plastics Chamber report found that 62% of the employees from the companies profiled were between 18 and 39 years which indicate a relatively young workforce.

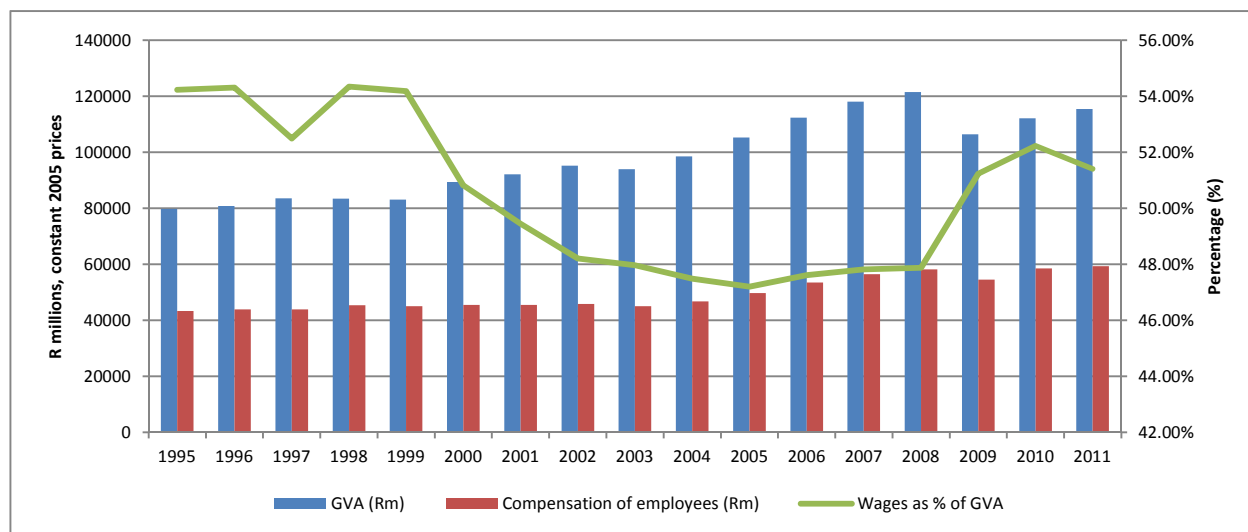
Table 13: Age distribution of merSETA employees by chamber category

Chamber	Age group		
	<35	35-49	50-64
Metal	38%	50%	11%
Auto	36%	53%	11%
Motor	34%	55%	11%
New Tyre	37%	54%	10%
Plastics	42%	48%	9%
Unknown	43%	47%	9%
Total	40%	49%	10%

Source: merSETA database (2013)

4.1.2. Remuneration Trends

The gross earning of the employees within the manufacturing sector has increased steadily despite a sustained contraction of the workforce. A review of previous SSPs indicated that employees in the manufacturing sector are likely to be permanently employed with employers who contribute to their pension fund and makes UIF contributions.

Figure 32: Employee remuneration as percentage of GVA

Source: Quantec (2013)

The increase in employee remuneration might be due to the changing skills profiles in the sector, with more highly skilled workers commanding higher wages and the impact of the highly unionised nature of the workforce.

4.2. Future Demand

To determine the future demand required for the merSETA sector in the Mpumalanga-Limpopo it is important to consider the current economic conditions as well as economic growth forecasts. Replacement demand due to mortality, emigration, and emigration of employees should also be factored in.

The previous section detailed the profile of the current merSETA workforce in the region, highlighting the occupational figures and the age profile of the employees. The manufacturing sector has been characterised, on the one hand by declining employment due to the use of labour saving technology and economic challenges whilst on the other hand creating an increased demand for skilled employees who can operate increasingly sophisticated machinery.

Estimates of demand are usually derived from econometric forecasting models which use historical data along with assumptions about the future to predict how output and employment patterns over time. The researchers used the data and findings found in the merSETA SSP Update for 2012/2013 – 2016/2017. The data from that study was then disintegrated to give a regional outlook based on the current employment figures and distribution of manufacturing activity.

The economic growth rates, the associated employment growth rates, and the final employment growth rates used in the merSETA's labour demand model can be seen in the table below.

Table 14: Average GVA and employment growth figures

Subsector	Low growth		Baseline		High Growth	
	GVA growth (%)	Employment growth (%)	GVA growth (%)	Employment growth (%)	GVA growth (%)	Employment growth (%)
Rubber products	-0.2	-1.0	1.5	-0.6	3.5	0.7
Plastic products	2.0	2.6	2.5	3.2	3.0	3.8
Basic iron & steel	-3.6	-0.9	4.0	0.6	10.4	2.6
Basic non-ferrous metals	1.1	0.6	3.5	2.1	6.3	3.7
Machinery & equipment	1.5	0.9	3.2	1.9	5.1	3.0
Motor vehicles, parts & accessories	-1.1	-0.7	3.3	2.2	8.7	5.2
Sales & repair of vehicles; fuel stations	2.6	0.9	5.4	1.9	8.5	2.9
Total economy	1.9	0.8	3.8	1.7	6.2	2.6

Source: merSETA SSP Update 2012/13-2017/18

Table 15: Employment growth figure used in the merSETA's labour demand projection

merSETA sectors	Low growth %	Baseline %	High growth %
Auto	0.5	2.0	3.5
Metal	0.4	1.6	3.0
Motor	0.5	2.0	3.5
New Tyre	-1.0	-0.6	0.7
Plastics	2.6	3.2	3.8
Unknown	0.4	1.6	3.0

Source: merSETA SSP Update 2012/13-2017/18

Based on the analysis and the projections of the merSETA SSP Update 2012/2013-2017/18 the demand projections for the Mpumalanga-Limpopo region for the baseline, negative and positive scenarios would be as follows:

Table 16: Demand projections 2014 to 2018: baseline scenario for Mpumalanga-Limpopo

New Positions to be Created in Period					
Occupational Group	2014	2015	2016	2017	2018
Managers	105	107	109	111	114
Professionals	74	76	78	79	81
Technicians and Associate Professionals	147	150	153	156	159
Clerical Support Workers	49	50	50	51	52

Service and Sales Workers	117	118	121	123	126
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	35	36	36	37	38
Plant and Machine Operators and Assemblers	257	262	267	273	278
Elementary Occupations	214	219	223	228	232
Total	998	1 019	1 037	1 058	1 079
Replacement Demand					
Occupational Group	2014	2015	2016	2017	2018
Managers	147	150	152	155	158
Professionals	88	90	91	93	94
Technicians and Associate Professionals	136	138	140	143	146
Clerical Support Workers	44	45	46	47	48
Service and Sales Workers	101	103	105	106	108
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	31	32	33	33	34
Plant and Machine Operators and Assemblers	229	233	237	241	246
Elementary Occupations	172	175	178	182	185
Total	947	966	983	1 000	1 018
Total Positions That Need to be Filled					
Occupational Group	2014	2015	2016	2017	2018
Managers	252	257	261	266	272
Professionals	163	122	124	126	128
Technicians and Associate Professionals	283	208	212	216	220
Clerical Support Workers	93	68	70	71	72
Service and Sales Workers	218	159	162	165	168
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	67	49	50	51	52
Plant and Machine Operators and Assemblers	485	356	363	370	377
Elementary Occupations	386	282	287	292	298
Total	1946	1983	2019	2057	2096

Source: merSETA SSP Update 2012/13-2017/18

According to demand projections for the baseline scenario shown in the above table, the region would require 998 to fill new positions and 947 to meet replacement demand needs which results in a total demand of new skills of 1946 people in 2014. The total demand for the four year period (2014-2018) would be 10 102 new skills.

Table 17: Demand Projections 2014 to 2018: negative scenario Mpumalanga-Limpopo

New Positions to be Created in Period					
Occupational Group	2014	2015	2016	2017	2018
Managers	35	36	36	37	37
Professionals	23	23	24	24	24
Technicians and Associate Professionals	50	50	50	50	51
Clerical Support Workers	15	15	15	15	15

Service and Sales Workers	34	34	35	35	35
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	11	11	11	12	12
Plant and Machine Operators and Assemblers	96	98	100	101	103
Elementary Occupations	77	78	79	80	81
Total	342	346	351	355	358
Replacement Demand					
Occupational Group	2014	2015	2016	2017	2018
Managers	211	212	213	214	216
Professionals	126	127	128	128	129
Technicians and Associate Professionals	194	195	196	198	199
Clerical Support Workers	64	64	64	65	65
Service and Sales Workers	145	145	146	147	148
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	45	45	46	46	46
Plant and Machine Operators and Assemblers	328	330	332	334	337
Elementary Occupations	247	248	249	251	252
Total	1359	1366	1374	1382	1391
Total Positions That Need to be Filled					
Occupational Group	2014	2015	2016	2017	2018
Managers	246	248	249	251	253
Professionals	149	150	152	152	153
Technicians and Associate Professionals	244	245	247	248	250
Clerical Support Workers	79	79	79	80	80
Service and Sales Workers	179	179	181	182	183
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	56	56	57	58	58
Plant and Machine Operators and Assemblers	424	428	432	435	439
Elementary Occupations	324	326	329	331	333
Total	1701	1712	1725	1737	1749

Source: merSETA SSP Update 2012/13-2017/18

According to the demand projections for the negative scenario, the region will need 342 new skills to fill new positions and 1359 for replacement demand positions in 2014. The total demand for the four year period 8624 and most of these would be from replacement demand and not new positions.

Table 18: Demand Projections 2014 to 2018: positive scenario Mpumalanga-Limpopo

New Positions to be Created in Period					
Occupational Group	2014	2015	2016	2017	2018
Managers	416	430	443	457	473
Professionals	302	311	321	331	342
Technicians and Associate Professionals	585	604	623	643	664
Clerical Support Workers	193	200	205	212	219
Service and Sales Workers	474	488	504	521	536

Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	141	145	150	155	160
Plant and Machine Operators and Assemblers	997	1 030	1 063	1 097	1 133
Elementary Occupations	840	866	895	923	954
Total	3 949	4 073	4 204	4 340	4 482
Replacement Demand					
Occupational Group	2014	2015	2016	2017	2018
Managers	436	450	466	480	495
Professionals	260	269	278	286	295
Technicians and Associate Professionals	402	416	428	442	455
Clerical Support Workers	131	136	140	145	150
Service and Sales Workers	300	309	319	329	340
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	93	97	100	102	105
Plant and Machine Operators and Assemblers	678	699	721	743	768
Elementary Occupations	509	526	542	559	578
Total	2 810	2 901	2 993	3 086	3 186
Total Positions That Need to be Filled					
Occupational Group	2014	2015	2016	2017	2018
Managers	852	880	909	937	968
Professionals	562	580	599	618	637
Technicians and Associate Professionals	987	1 019	1 051	1 085	1 120
Clerical Support Workers	324	336	345	357	369
Service and Sales Workers	775	797	823	850	876
Skilled Agricultural, Forestry, Fishery, Craft and related Trades Workers	235	242	250	257	266
Plant and Machine Operators and Assemblers	1 675	1 728	1 784	1 841	1 901
Elementary Occupations	1 349	1 392	1 437	1 482	1 532
Total	6 759	6 974	7 197	7 426	7 668

Source: merSETA SSP Update 2012/13-2017/18

According to the demand projections for the positive scenario the Mpumalanga-Limpopo province would need 2 060 new people for newly created positions and 1 466 new skills for replacement demand in 2014. In the positive scenario the demand from newly created positions outweighs those from replacement demand. For the four year period total projected demand is 18 795 people.

Analysing the figures for the baseline scenario; the majority of demand will be for plant and machine operators and assemblers (24%) occupation followed by the elementary workers category (19%). Managers will constitute 16%, technicians and associate professionals (14%) which point to a considerable need to up-skill the current workforce and an increased supply of professional qualifications from universities and universities of technology.

4.3. Conclusion

The manufacturing sector is the fourth largest employer in the nation and its continued growth would contribute to lowering the unemployment rate. Employees in the Mpumalanga-Limpopo region constituted 5% of the companies on the merSETA database. The decade 1991-2011 has seen an increase in the portion of high-level skills in the industry and this is likely to continue as technological innovations are implemented in the coming years. This means the current workforce has to be up-skilled to meet the demands of the industry and new entrants also need the adequate skills to meet the changes in the industry.

The merSETA database shows that currently the majority of employees in the sector are elementary workers (26%) plant and machine operators and assemblers (16%) for the Mpumalanga-Limpopo region. The sector is dominated by male employees (81%) and the racial profiles shows that 64% of employees are African. 44% of Mpumalanga-Limpopo employees are younger than 35 years whilst 47% are between 35 and 49 years and 8% are between 49 and 64 years. It is vital that enough young people with the requisite enter the work force to replace those that might retire in the next decade.

Demand forecasting based on the merSETA SSP Update 2012/13-2017/18 showed the numbers required from new positions and from replacement demand for the period 2014-2018. For the baseline scenario, 24% of these positions are from the plant and machine operators and assemblers category and 14% are from the technicians and associate professionals category. The region should therefore ensure that it prepares for the projected demand by collaborating with supply-side institutions, companies and the merSETA for adequate training and planning to be done.

5. LABOUR SUPPLY

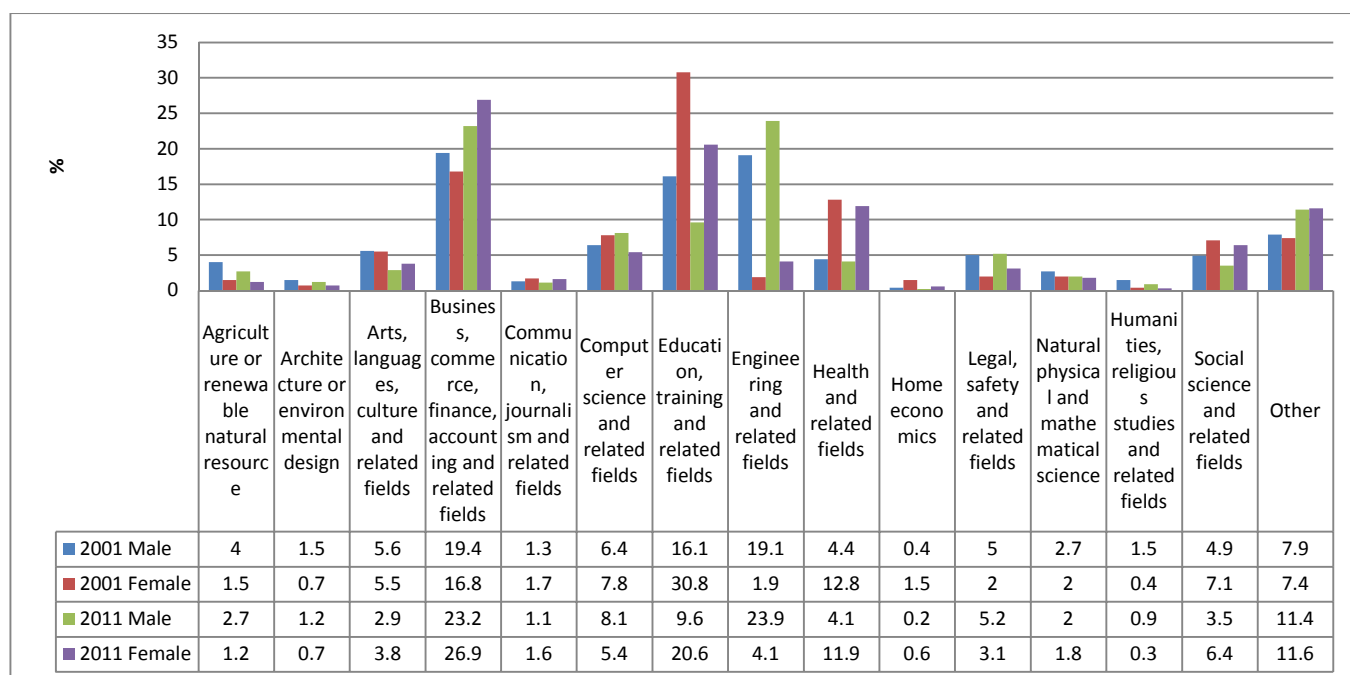
5.1. Introduction

The future growth prospects of a sector are dependent on the availability of appropriate and affordable skills and an analysis of the supply-side is necessary. This chapter analyses the supply of skills to the merSETA sector both within a national context and regional context. Trends from both the secondary and tertiary education sectors are analysed.

The current supply of skills to the sector should also include those that are currently unemployed but where previously employed in the sector. The Q1 LFS of 2013 states that 230 000 people who were unemployed previously worked in the manufacturing sector. The Q1 LFS of 2013 show of the total 1 879 000 who are now unemployed but have worked in the past 5 years; 307 000 worked as craft and related tradesmen; 158 000 as plant and machine operators and 94 000 as technicians.

Data from the 2011 census shows that for those aged 20 years and above the most common field of education is business and commerce field as shown in the graph below. It is however interesting to note that the portion of males holding educational qualifications in engineering and related fields has increased from 19.1% to 23.9%. There has also been an increase in women holding engineering and related fields' qualifications from 1.9% to 4.1%.

Figure 33: Field of education for persons aged 20 years and above by sex, 2001 and 2011



Source: Stats SA, Census 2011

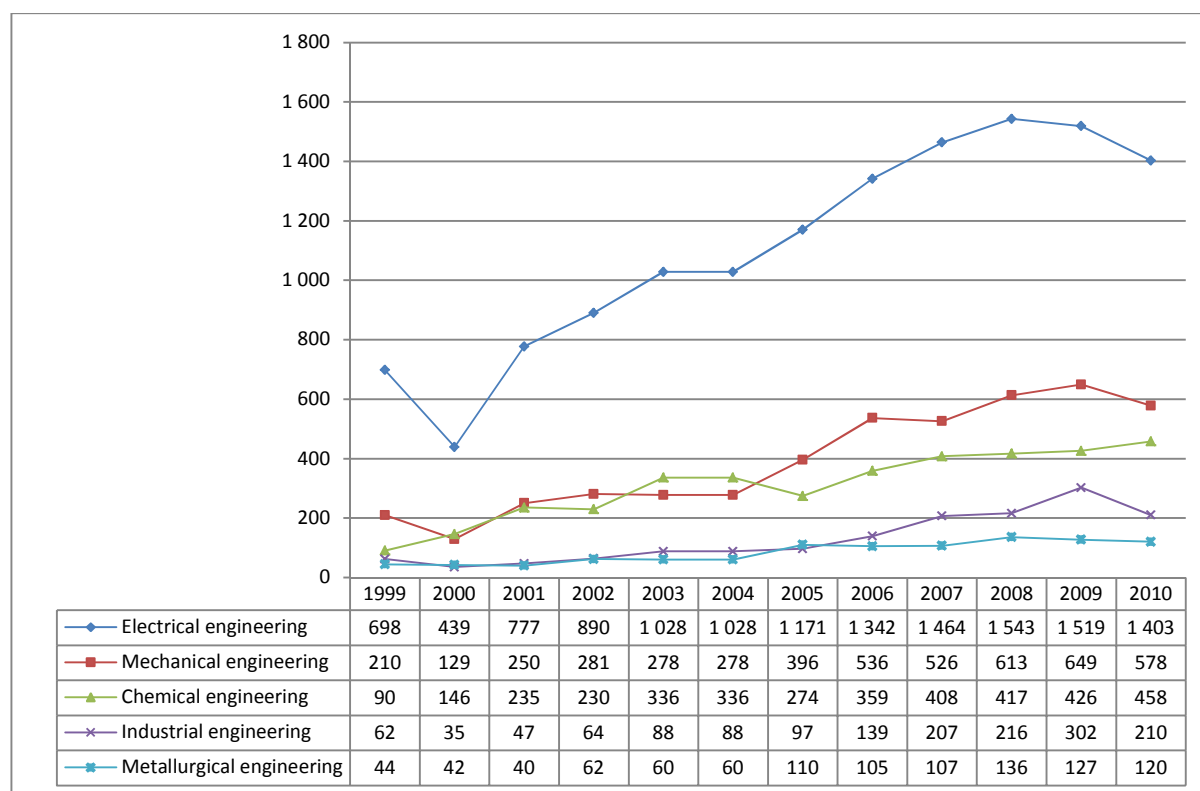
As shown in the graph above the majority of women have business, commerce and related fields (27%) and in education, training and related fields (21%). In contrast to the females, the engineering and related fields qualifications are the most (24%) common amongst men followed by business, commerce and related fields.

5.2. Supply of new skills to the sector

5.2.1. Higher education and training

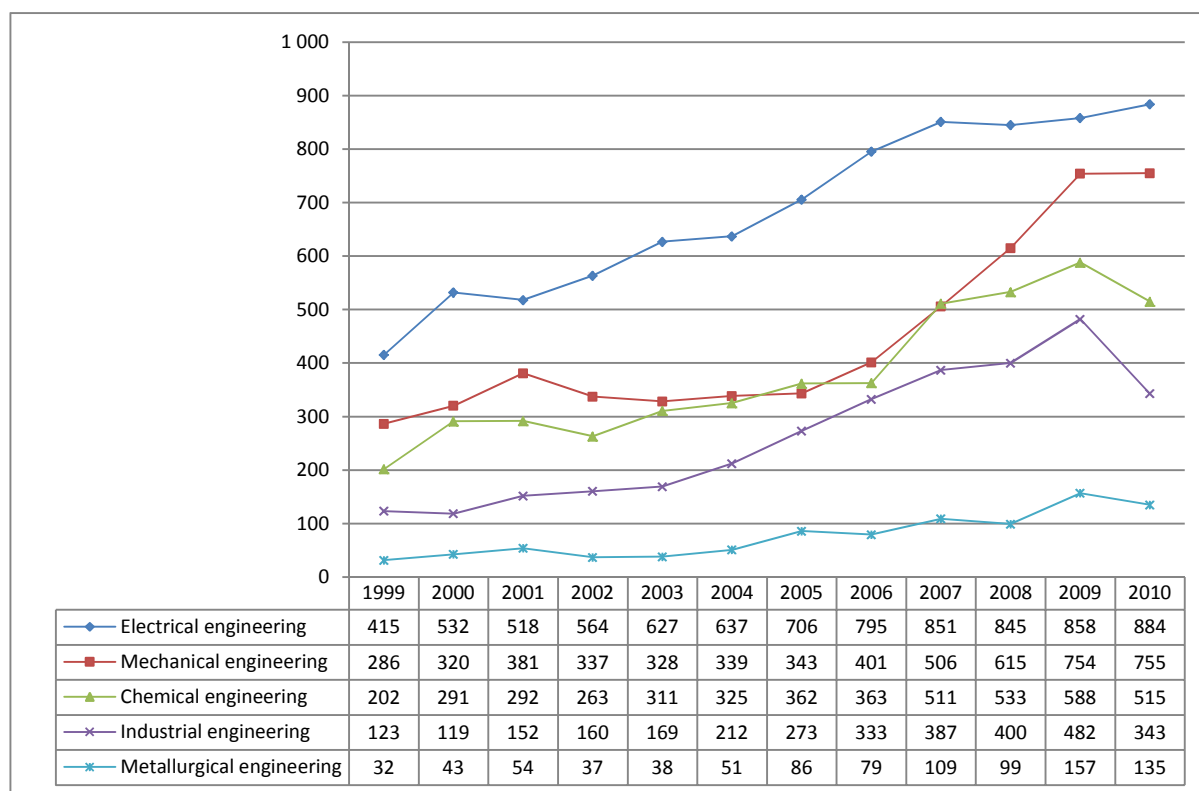
Qualifications and output figures of most relevance to the merSETA cluster is the output of engineers and, in particular, electrical engineers, mechanical engineers, chemical engineers, industrial engineers, and metallurgical engineers. The merSETA sector also benefits and utilises skills from other areas like finance, accounting and human resources but of most importance are the engineering skills that sustain the sector.

The graph below shows the graduations with national diplomas in selected engineering fields between 1999 and 2010. These graduates become available to the national economy as engineering technicians in the relevant engineering disciplines. Electrical engineering has the highest output (1 403 in 2010), followed by mechanical engineering (578 in 2010) and chemical engineering (458 in 2010). Output from all fields has increased substantially over the eleven-year period, although a slight drop in output was reported in all fields except chemical engineering in 2010.

Figure 34: Number of national diplomas awarded in selected engineering fields: 1999-2010, South Africa

Source: merSETA SSP Update 2012/13-2016/2017

The graph below shows the number of first degrees awarded in the same selected engineering fields. These graduates become available to the national economy as engineers or engineering technologists and can, after a minimum of three years' work experience (during which certain criteria must be met), register as professional engineers or engineering technologists in their respective fields. In 2010 a slight drop in output (7% in total) was reported in the fields of chemical-, industrial- and metallurgical engineering. Output in 2010 was the greatest in electrical engineering (884), followed by mechanical engineering (755), and chemical engineering (515).

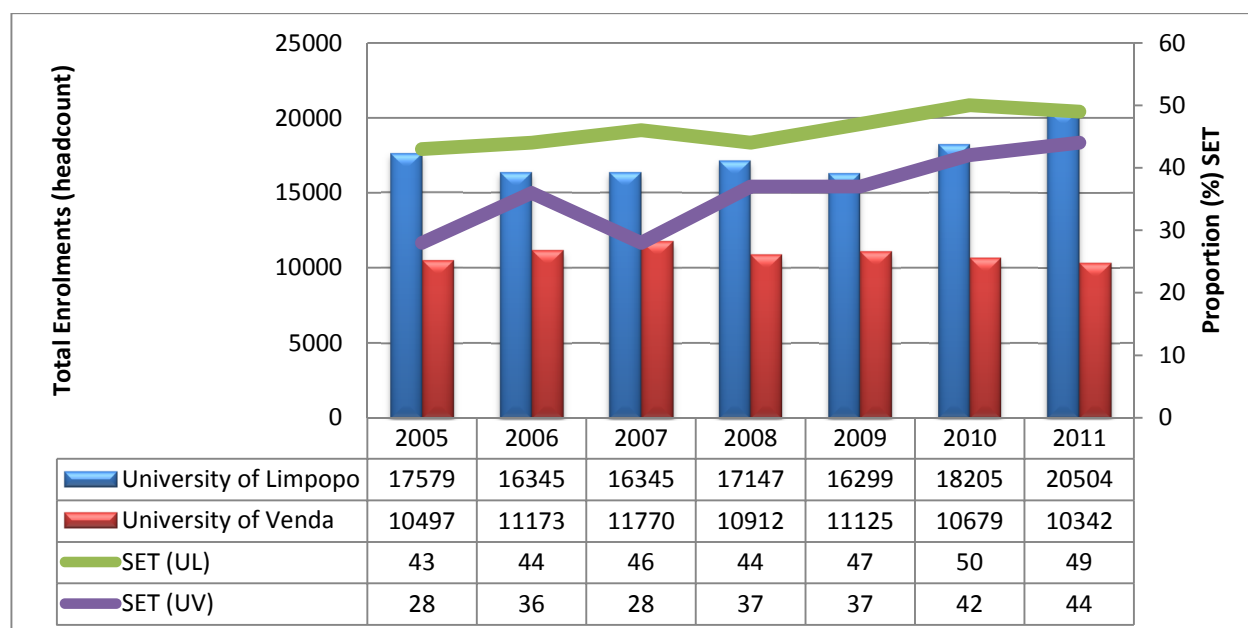
Figure 35: First degrees awarded in selected engineering fields: 1999-2010, South Africa

Source: merSETA SSP Update 2012/13-2016/2017

One of the respondents mentioned that the output from universities is not meeting their requirements. For metallurgy graduates it was mentioned that the quality of theory being taught is not in-depth enough i.e. more emphasis is placed on the extractive theory than the physical theory. It was recommended that a more practical approach should be done at University level to ensure that students are more familiar with the theory they are studying.

At a regional level Mpumalanga does not have a University but plans are currently in place to open one in Nelspruit in 2014. Minister Nzimande said 10.3 billion has been budgeted for the comprehensive university to spend on a 10-year development plan and is expected to fully functional by year 2024. The new university is expected to be admitting at least 15 000 students by 2024. The university will offer qualifications from the certificate up until the doctorate degree level. It is planned that the university will have satellite campuses in the province and the main campus will at the Lowveld College of Agriculture.

Limpopo has two universities, University of Limpopo and University of Venda in Thoyandou. University of Limpopo has larger enrolment figures than University of Limpopo and this figure surpassed the 20 000 mark in 2011. A large portion of University of Limpopo's enrolment is for the science, engineering and technology fields as shown in the graph below.

Figure 36: University enrolment figures and percentage science, engineering and technology enrolment

Source: Quantec and EMIS database (2013)

Although University of Venda enrolls smaller figures than the University of Limpopo a considerable portion of these are in the science, engineering and technology (SET) fields. 44% of its enrolment in 2011 was SET fields which was an increase from its 2005 proportion of 28%.

5.2.2. FET colleges

FET colleges form a critical component of the current training capacity of artisans. FET colleges offer training for the NQF Level 4 National Certificate Vocational (NCV). One of the four routes to becoming an artisan is by doing an internship or skills programme on top of having a relevant NCV. The Minister of Higher Education and Training Minister Blade Nzimande stated in 2012 that enrolments in FET colleges had risen substantially in recent years and were exceeding projected demand³⁶. Over 600 000 students enrolled in SA's 50 FET colleges in 2012³⁷. The department has set an enrolment target of one million by 2014 and has launched some urgent interventions into the sector. The department aims to have 4 million enrolments in FET colleges and other no-university post school institutions by 2030. According to the National Skills Accord between industry and government, SETAs will have to facilitate the placement of FET and university students in industry. The region has a total of 10 FET colleges, 3 in Mpumalanga and 7 in Limpopo. The FET colleges and they offerings are listed in Appendix A.

³⁶<http://www.citypress.co.za/news/young-jobless-and-desperate-will-fet-colleges-fix-our-future-20120623/>

³⁷ <http://www.fm.co.za/economy/2013/02/01/departement-on-track-to-improve-fet-colleges>

Table 19 gives the regional enrolment figures for FET colleges for 2013. 16.4% of the N1-N3 enrolment was in the Mpumalanga-Limpopo FETs and 26.4% of the N4-N6 enrolment was from the region.

Table 19: FET enrolment figures by region, 2013

Row Labels	Sum of NCV	Sum of Eng_N1_N3	Sum of Eng_N4_N6	Sum of Bus_N4_N6	Sum of Total
Eastern Cape	19656	4016	1454	9742	34868
Free State	7074	5896	1695	12405	27070
Gauteng	31671	17700	9804	22487	81662
Kwa-Zulu Natal	31487	9800	5435	23213	69935
Limpopo	22684	4157	5517	10149	42507
Mpumalanga	10079	5384	2049	3433	20945
North West	10044	4906	1087	5003	21040
Northern Cape	2950	1156	114	3356	7576
Western Cape	16872	5002	1502	10776	34152
Grand Total	152517	58017	28657	100564	339755

Source: DHET, The State of FET Colleges in South Africa

The targeted national certification rate for N1-N3 part-qualifications in Engineering Studies was 33% for the 2012 academic year. Twenty public FET Colleges and 12 private FET Colleges achieved the targeted certification rate of 33% and higher on N1, 18 public FET Colleges, 32 public FET Colleges on N3³⁸. The targeted national certification rate for N4-N6 part-qualifications in Engineering Studies was 40% for the 2012 academic year. Twenty-five public FET Colleges achieved a certification rate of 40% and higher on N4, 12 public FET on N5 and 13 public FET Colleges on N6. The table below shows the national certification rates for FET colleges for the November 2012 examinations cycle.

Table 20: Certification rate of FET colleges, 2012

Qualification/Programme	Certification Rate
1. Report 190/1 Engineering Studies	
National N3 Certificate	37.5%
National N6 Certificate	36.2%
2. Report 190/1 Business Studies	
National N6 Certificate	31.9%
3. National Certificate (Vocational)	
Level 4	39.3%

Source: DHET, The State of FET Colleges in South Africa

³⁸ DHET, The State of FET Colleges in South Africa; Presentation at HRD FET College Indaba; 7 March 2013

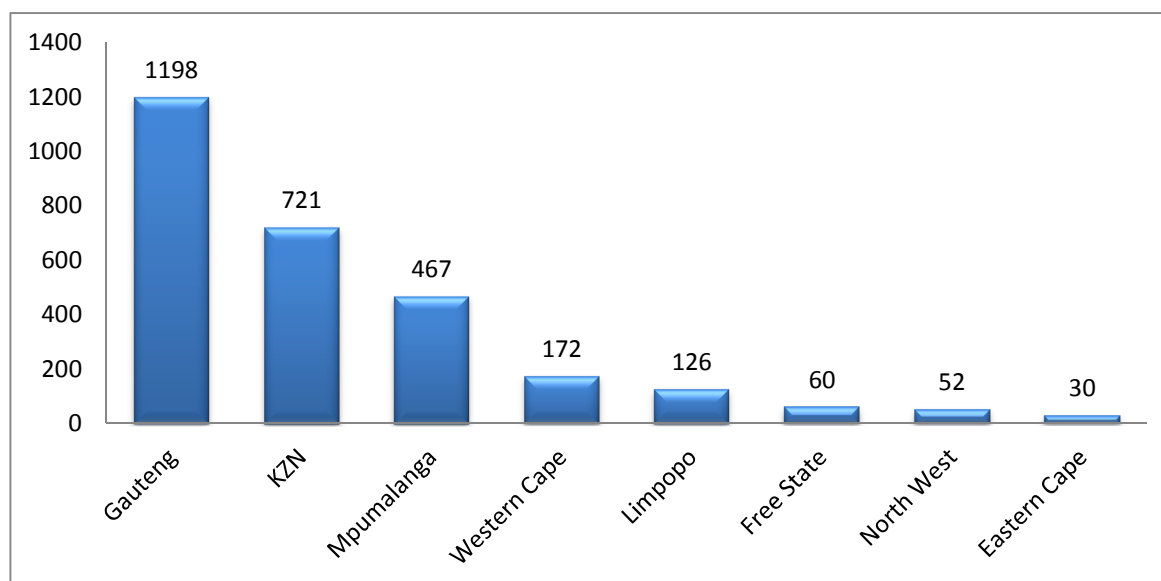
From our in-depth interviews with employer representatives regarding FET colleges, industry seems to be willing to work with FETs to ensure more rounded and capable students are produced. Some employers did mention that FET colleges are strong on the theory but do not adequately equip the students practically. Focus on FET should therefore not be on the numbers but rather on the quality of students coming through, to ensure their employability and acceptance by industry. Employers interviewed also mentioned that quality of FET students might not be up to their standards because of the quality of lecturers used specifically using non-tradesmen to teach trades. Greater cooperation between industry and FETs is required to help feedback into the curriculum and also to provide workplace exposure to both the lecturers and students. Some employers interviewed e.g. Highveld indicated they have already made inroads in forging FET partnerships and have opened their plants to allow learners to get workplace exposure.

5.2.3. Learnerships and apprenticeships

Since its inception in November 2001 the merSETA has registered 69 000 apprentices on apprenticeships and more than 45 000 learners on learnerships. In the same period a total of 43 000 apprentices qualified as artisans in the sector and another 24 000 learners successfully completed their learnerships.

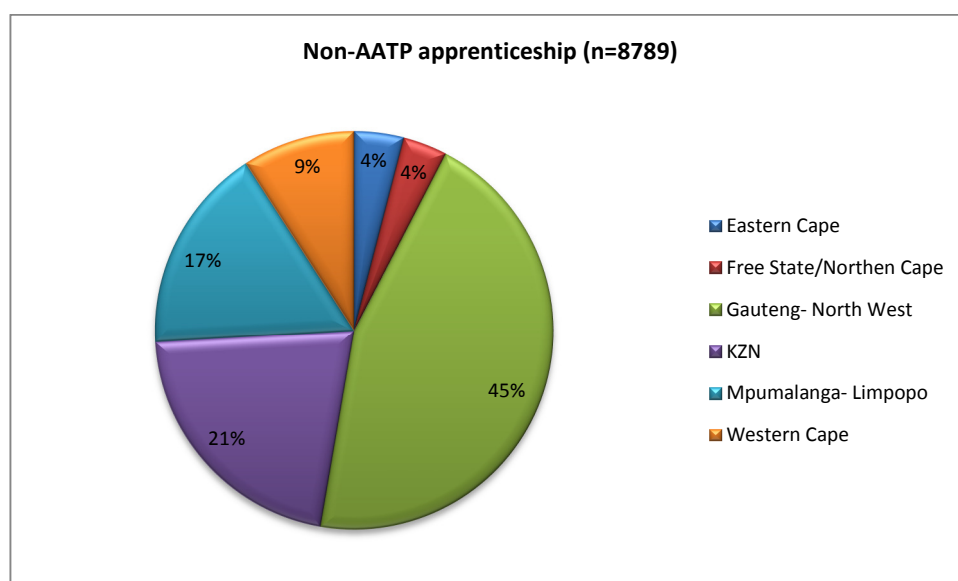
According to the merSETA's 2011/12 Annual report, 3775 learnerships and 2559 skills programme were completed and the organisation exceeded its targets. 6051 Learnerships and 5808 learners entered into skills programmes in the 2011/12 financial year. 5168 apprenticeship contracts were registered in the 2011/12 period.

The Accelerated Artisan Training Programme (AATP) is about pacing and structuring the development of competent apprentices over a period of two to three years. The programme was initiated to address the scarce skills needs of the merSETA sector. The structure and exposure to the curriculum is highly regulated, structured and monitored. An analysis of the merSETA (database accessed in August 2012) for phases 1 to 4 of the programme indicates the majority of the recipients are from Gauteng, KZN and Mpumalanga.

Figure 37: Distribution of registered AATP candidates for Phase 1 to 4, 2012

Source: merSETA Database, August 2012

The non-AATP apprenticeship training is also heavily skewed towards Gauteng and KZN and this is not surprising as the merSETA companies are similarly geographically represented.

Figure 38: Distribution of non-AATP apprenticeship by region, 2012

Source: merSETA Database, August 2012

As shown in Figure 38 above 45% of non-AATP apprentices were from the Gauteng-North West region and 21% were from the KZN region. The Mpumalanga-Limpopo region is the third biggest beneficiary of non-AATP training. The apprenticeship programmes implemented by the merSETA have helped the sector and provided employment opportunities to the previously unemployed.

5.2.4. General education and training

The output of the general education and training (GET) sector is important to the supply of skills to merSETA sector because the number of learners graduating with maths and physical science at grades that support entry and success at higher education level in qualifications such as engineering has a direct impact on the ultimate availability of these high-level skills for the national economy and the merSETA sector.

Table 21: Candidates' Performance in Mathematics by province and level of achievement 2010-2012

Province	Total Wrote			Total achieved at 30% and above			% achieved at 30% & above			Total achieved at 40% and above			% achieved at 40% & above		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
Eastern Cape	38 801	38 067	37 038	14 457	12 752	14 114	37,3	33,5	38,1	8 280	7 469	8 124	21,3	19,6	21,9
Free State	11 003	10 001	9 512	5 321	5 395	6 167	48,4	53,9	64,8	3 422	3 462	4 114	31,1	34,6	43,3
Gauteng	40 024	32 665	33 682	23 839	20 027	23 899	59,6	61,3	71	17 465	14 706	17 638	43,6	45	52,4
Kwazulu-Natal	65 973	61 483	63 168	31 407	24 284	30 408	47,6	39,5	48,1	19 425	14 235	18 676	29,4	23,2	29,6
Limpopo	49 192	35 118	35 044	19 469	15 618	18 346	39,6	44,5	52,4	11 757	9 580	11 926	23,9	27,3	34
Mpumalanga	24 167	19 899	18 835	10 007	9 199	9 998	41,4	46,2	53	6 429	5 947	6 539	26,6	29,9	34,7
North West	12 703	9 818	10 344	6 782	5 282	6 160	53,4	53,8	59,6	4 458	3 361	3 901	35,1	34,2	37,7
Northern Cape	3 627	3 280	2 864	1 896	1 656	1 572	52,3	50,5	54,9	1 259	1 022	1 045	34,7	31,2	36,5
Western Cape	17 544	14 304	15 387	11 571	9 820	11 306	66	68,7	73,5	8 879	7 759	8 753	50,6	54,2	56,9
National	263 034	224 635	225 874	124 749	104 033	121 970	47,4	46,3	54	81 374	67 541	80 716	30,9	30,1	35,7

Source: Department of Basic Education, NSCE School Subject Report

The table above shows that the number of students sitting for mathematics at NSC level in Mpumalanga decreased by 22% from 24 167 in 2010 to 18 835 in 2012. It however pleasing to note that the proportion of those who achieved at least 30% pass rate increased 41.4% in 2010 to 53% in 2012 and those with at least 40% increased from 26.6% in 2010 to 34.7% in 2012. In absolute terms, a total 6 539 students graduated with a 40% or better in mathematics in Mpumalanga Province. The number of students sitting for Mathematics at NSC Level in Limpopo decreased by 28.7% from 49 192 in 2010 to 35 044 in 2012. The proportion of those passing with 30% and above has increased from 39.6% in 2010 to 52.4% in 2012.

In physical sciences, the other subject which allows students to enter into the SET field at university, the number of students who sat for the subject in Mpumalanga decreased from 20 139 to 16 493 between 2010 and 2012. However, just like mathematics, the pass rates have

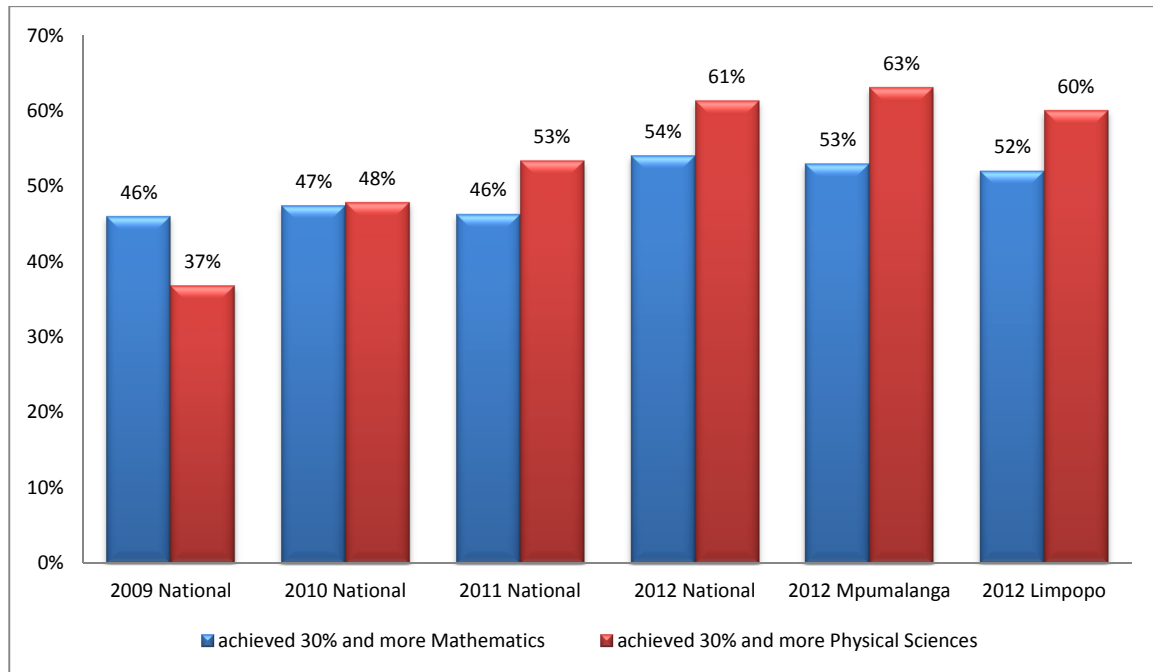
been increasing from 41.5% in 2010 to 63.1% in 2012 for Mpumalanga. The table below shows that Limpopo had the second highest (30 975) number of students sitting for the Physical Science exam after KwaZulu-Natal (45 951).

Table 22: Number of candidates who achieved in Physical Sciences by province and level of achievement, 2010-2012

PHYSICAL SCIENCES															
Province	Total Wrote			Total achieved at 30% and above			% achieved at 30% & above			Total achieved at 40% and above			% achieved at 40% & above		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
Eastern Cape	27 163	26 367	25 603	11 753	12 123	12 911	43,3	46	50,4	6 371	6 831	6 922	23,5	25,9	27
Free State	10 592	9 901	8 487	4 656	5 466	5 820	44	55,2	68,6	2 853	3 467	3 748	26,9	35	44,2
Gauteng	33 763	28 605	29 001	18 777	17 069	20 335	55,6	59,7	70,1	12 969	12 142	14 649	38,4	42,4	50,5
Kwazulu- Natal	47 323	45 340	45 951	23 856	23 516	26 783	50,4	51,9	58,3	14 322	13 965	16 163	30,3	30,8	35,2
Limpopo	39 523	30 874	30 975	16 328	16 079	18 566	41,3	52,1	59,9	9 417	9 569	11 194	23,8	31	36,1
Mpumalanga	20 139	17 280	16 493	8 352	9 025	10 426	41,5	52,2	63,1	4 980	5 747	6 842	24,7	33,3	41,4
North West	11 270	8 624	9 225	5 662	4 853	5 769	50,2	56,3	62,5	3 481	3 103	3 593	30,9	36	38,9
Northern Cape	2 965	2 667	2 202	1 352	1 173	1 324	45,6	44	60,1	827	736	840	27,9	27,6	38,1
Western Cape	12 626	10 927	11 257	7 524	7 524	7 984	59,6	68,3	70,9	5 697	5 549	6 125	45,1	50,8	54,4
National	205 364	180 585	179 194	98 260	96 441	109 918	47,8	53,4	61,3	60 917	61 109	70 076	29,7	33,8	39,1

Source: Department of Basic Education, NSCE School Subject Report

A comparison of Mpumalanga and South Africa shows that Mpumalanga is at par with the nation and has a slight edge in the physical science subject for the 2012 Matric results. Limpopo proportion of students who achieve 30% or more in mathematics at 52% is less than the national average of 54%.

Figure 39: Percentage of students who achieved 30% and more in selected subjects 2009-2012

Source: Department of Basic Education, NSCE School Subject Report

Although the number of students qualifying with mathematics and science has gone up at GET level, some employers we spoke to said they still struggle to get students who are competent enough based on their own internal aptitude tests.

Employees we spoke to also raised concerns in the lack of career orientation happening at GET level. Not enough is being done to ensure young people are made aware of the career paths that are available in the manufacturing sector. The perception of blue collar jobs amongst young people was also a concern as they are negatively perceived. This has the effect of employees only joining the sector out of desperation and not genuine interest which leads to an unmotivated workforce.

The merSETA has a Mathematics and Science Project that provides weekend and holiday classes in Mathematics, Science and English. The project aims to address problems experienced in the learner pipeline that results in shortages of appropriate candidates for entry into merSETA learning programmes³⁹. The 2011 results for the 300 students in the project were good as 99% of the learners passed, 219 with university entrance and 69 with university of technology entrance. The merSETA has entered into agreement with five FET Colleges and two universities in seven provinces for pre- and post-matric Maths, Science and Technology interventions, targeting 1440 learners and more than 20 schools.

³⁹ MerSETA Annual Report 2011/12

Companies in the region also have their own initiatives to ensure competency in the Mathematics and Physical Science for learners. MMC one of the employers interviewed is involved in the Penn Ridge project providing weekend lesson to mathematics and science students and also capacitating the teachers.

5.3. Training and Development of the Current Workforce

Companies in the merSETA sector are involved in a range of training and development initiatives that focus on developing the skills of their employees. Such initiatives supplement, but also build on, the training that supplies new skills to the sector. This training and development of the current workforce forms a critical source of skills supply.

Companies with more than 50 employees are recommended to have training committees with representatives from both labour and management to ensure that relevant and adequate training is being planned. The workplace skills plans (WSPs) require signature from a labour representative to ensure that the input of labour has been considered. Skills audits are necessary to determine the training needs of a company.

Some of the companies interviewed in this study mentioned that they are training in adequate numbers to meet the future needs and for their succession planning. As a result of the current economic climate it is unlikely that companies would be training over and above their needs. Interviews with some players in the motor industry showed that there is fear that the numbers that are currently being trained and supplied are not enough to meet the industry needs in the coming years.

For the metal industry a lot of their demand is project based. An employer in the industry mentioned that once a big project is implemented there are never enough boilermakers and welders. The work in their industry is very cyclical and highly dependent on strategic integrated projects (SIPs).

From the labour unions point of view not enough is being done to train and up-skill the current workforce. Labour union representatives expressed the view that training should impart transferable skills to employees and should ensure that employees become multi-skilled. It was emphasised that employers be made aware of the importance and rational of training their own employees. Labour unions also pointed out that merSETA should be cognisant of the challenges faced by SMEs with regards to training their employees.

Employers also face a number of challenges in training the current workforce. As stated in earlier the highest education level of some employees is less than Grade 12 or Grade 12. This presents a challenge to some employees. The merSETA through the allocation of Discretionary grants is heavily involved in efforts to train and develop the current workforce. For the financial period 2011/12 the merSETA implemented Memoranda of Agreement (MoAs) for⁴⁰:

- 6 937 apprentices
- 9 537 learners on learnerships
- 10 650 skills programmes
- 3 136 ABET learners
- 1 474 sector specialists
- 772 interns; and
- 3 028 experiential learners.

The merSETA through the regional offices has projects where they give guidance and support on the implementation of various skills interventions to Small Micro Enterprises (SMEs).

5.4. merSETA Initiatives in the Region

Project Name	Project Description
Mpumalanga PSDF Vulamatjuba Artisan Training Project	The actual intake is 200, and 60 apprentices have already started. The project is funded by the Mpumalanga Premier's Office. The aim is to create a pool of artisans in the Province. merSETA companies are hosting the apprentices and candidates should meet the AATP entry criteria.
NSF Funded Initiative – AATP Project	To structure and pace the development of high quality competence of the apprentice over a period of 2 to 3 years ending in a Trade Test.
The Training Layoff Scheme (TLS) –merSETA, CCMA, NSF	A training layoff is a temporary suspension of the obligation to work of a worker or group of workers that is used for training purposes. Workers remain employed during the training layoff period but forego their normal wage for a training allowance. Participation in a training layoff is voluntary and must be by agreement while it is voluntary. Training is flexible but linked to skills needs of the employer.
merSETA/UIF Development Project	Artisan Qualifying candidates who meet the requirements are to be sourced from the Department of Labour's Employment Service of South Africa (ESSA) database.

⁴⁰ MerSETA Annual Report 2011/12

Public Works Artisan Training - Limpopo Province	24 apprentices have already started the programme and will be hosted at merSETA companies
Sekhukhune Municipality and Capricorn FET College	Sekhukhune Municipality and Capricorn FET College will be embarking on training of 100 artisans. Funding is done by Development Bank of Southern Africa (DBSA). merSETA will assist with host companies
Phalaborwa Artisan Training	Phalaborwa has been identified as an area to train artisans in the Province. A partnership will be looked at with the Provincial Government, the training Centre and merSETA

5.5. Conclusion

The region currently has two operational universities, University of Limpopo and University of Venda. Plans are underway for the University of Mpumalanga to be established in Nelspruit.

The total enrolment figures for the Science Engineering and Technology (SET) fields for these two institutions have increased from 10 498 in 2005 to 14597 in 2011. Graduates from universities find employment countrywide with some finding employment in other provinces and not staying in the province. There is competition for engineering amongst various sectors e.g. mining and the energy sectors and it important that the output from HEI meets the requirements of all these sectors.

There are 3 FET colleges in Mpumalanga and 7 in Limpopo offering a variety of engineering programmes under the Nated and NCV offerings. In Limpopo at the General Education and Training level the number sitting for Maths decreased by 28% from 49 192 in 2010 to 35 044 in 2012. The situation is similar in Mpumalanga with students sitting for Maths decreasing by 22% from 24 167 to in 2010 11835 in 2012. In 2011 only 34.7% achieved more than 40% in Mathematics in Mpumalanga and this is major concern as the minimum entry requirement for most engineering studies is a 50% pass mark

6. SKILLS NEEDS OF THE MERSETA SECTOR

6.1. Introduction

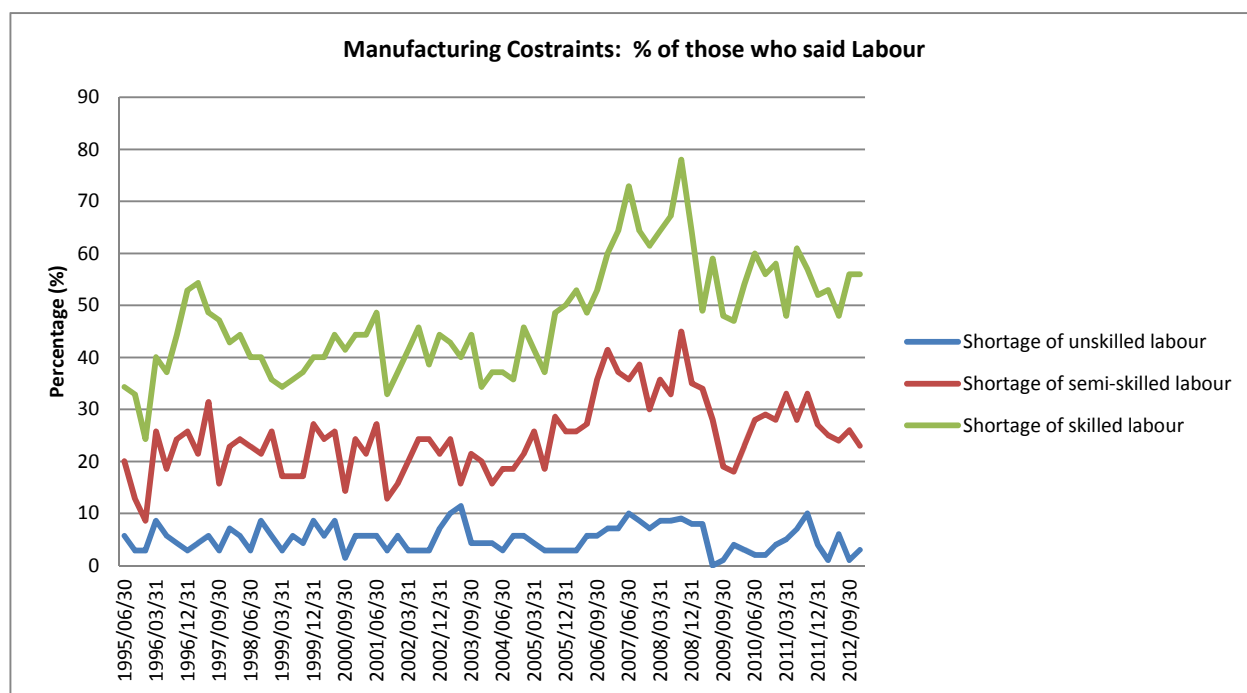
Demand for skills in the merSETA sectors is dependent on the economic growth prospects in the country. The motor, auto, metal, plastics and tyre chambers have different skills needs but some of the occupations are common across the chambers. People with transferable skills are therefore at an advantage as they are not tied down to one particular sector.

The South African economy is moving towards being more of a knowledge based economy in line with global trends. South Africa's tertiary sector contributes more than 65% toward the country's GDP. The high level of unemployment can be attributed to (amongst other reasons) this economic structure, which is geared towards provision of 'knowledge economy jobs'.

Increasing mechanisation is one of the factors contributing to decline in employment levels. Certain jobs or activities which might have required a lot of people are being done by machines which make some roles redundant. There is an attendant need to start formulating and implementing training programs which are geared toward the development of human capital able to align with the structural changes in the country's economy.

South Africa is currently faced with a shortage of skilled labour. Different interventions aimed at increasing the provision of skills have yielded varying results. Programs such as learnerships and apprenticeships are targeted at providing opportunities for development of skills.

The graph below shows the percentage of Limpopo employers who felt that labour was a constraint on their operations for the period 1995-2012. The graph shows that the level of concern cited for semi-skilled and unskilled labour was lower than for skilled labour.

Figure 40: Manufacturing Constraints: Percentage who said Labour in Limpopo

Source: Quantec and BER (2013)

As of September 2011 more than 50% of employers identified shortage of skilled labour as a manufacturing constraint. Less than 10% of employers consider unskilled labour a constraint.

6.2. Factors affecting Skills Development Needs in the region

6.2.1. No accredited /reputable training provider for the Nelspruit area

Metal chamber companies based in the Nelspruit area are forced to send their apprentices to the Middleburg or Witbank area as there is no reputable training provider in the Nelspruit area. Training costs become very prohibitive because of the transport and accommodation costs that have to be included. The Nelspruit area doesn't have a big training centre for artisans and this should be rectified as soon as possible.

6.2.2. Lack of plastic related trades training in institutions

There is a critical shortage of Setters in the plastics industry. This shortage is exacerbated by the fact that there are no FET colleges that train for plastic related trades. There are also no universities or universities of technology that offer undergraduates studies in plastics.

As an industry the sector has relied on skills programmes and learnerships to build up their current employees. The skills shortages experienced by the industry are largely due to the nature of the industry in that it is SME dominated. These are mostly (about 80%) small business and if

they don't get funding from merSETA they will not train their people. In recent years there has been more and more focus on apprenticeships. They will much rather poach someone that is already skilled, that another company has spent money on than developing the people from within. For the plastics industry they only have learnership and skills programmes available to them for skills unique to their industry.

Recommendation: The plastics sector should be treated differently from the other manufacturing sectors that already have apprenticeships running in their sectors. The funding should be cognisant of the fact that the skills required and critical to the sector are made available through skills programmes and learnerships and not apprenticeships.

From the primary interviews, it was also pointed out to the researchers that in some cases its competent and skilled people that are lacking i.e. qualified people are there but competent and skilled are scarce. This has led to a lot of poaching in the industry of the few skilled and competent employees

6.2.3. Lack of interest among young people for engineering related trades

It was noted amongst the respondents that there seems to be a lack of interest and awareness amongst young people for manufacturing related career paths. There was some fear amongst respondents that there are not enough young people coming into the industry in the face of a perceived aging workforce.

- One employer interviewed said his most worrying concern is finding people who are interested in the field of panel beating and spray painting
- They are recruiting from a pool of people who view apprenticeship as a last resort and they have no other options as they might not have made good enough marks for university. This creates a problem in terms of employee motivation and commitment

Recommendation: It is important that career guidance, orientation and awareness be done in schools regarding careers in the manufacturing industry. merSETA, industry and FET colleges should do more to raise awareness at high school level about the trades.

6.2.4. Curriculum and Training

To ensure that the industry has the correct skills in it is imperative that curriculum and training meets the needs of industry. The quality of training and the curriculum determines the quality of artisans. A respondent from the metal industry made mention of the fact that when it come

to training institutions and employers have different motivations stating that training for production purposes and training for academic purposes are worlds apart.

It is vital that institutional training be kept up to date with technological innovations in the industry.

The perspective for some employers is that FET colleges and training centres are not capacitated enough to train learners up to competence level. Some students will have N6 qualifications and appear to be the best candidates on paper but their practical knowledge is very minimal. *"The difference between qualified and capable is huge"*. The industry perspective was that FET colleges have not got the machinery, equipment and expertise to produce the calibre required on the practical side.

In terms of higher level skills, a metal company struggled to get metallurgy graduates 10 years ago but since partnering with a local university they no longer struggle thereby strengthening the need for industry-institutional partnerships.

Recommendation: It is important that industry and educational institutions work closely together to ensure that the quality of learning meets industry standards.

6.2.5. Legislative requirement for training apprentices in the Motor Trades

- The current merSETA regulations that limits the intake of two (2) apprentices per qualified artisan is prohibitive as it reduces the number of artisans the system can produce.

Recommendation: The ratio should be revised to at least four (4) apprentices per qualified artisans. This would mean companies can take more apprentices and eventually more artisans will come through

6.2.6. Recruiting for support functions positions is also difficult

A Motor chamber employer based in Limpopo highlighted the difficulty of filling some support functions because of the following reasons:

- Finance and Insurance positions are hard to fill largely due to the motor industry specific experience and related qualifications they need for these positions
- Management positions are hard to fill because applicants lack experience. Level of expertise in the region is very low. "All good people are stolen by Gauteng and are not willing to stay in the region"

- Poaching on all positions is rampant in the industry not just for artisans and technicians but even support positions

The rampant poaching in the industry led to the 9 approved (authorised by brand company) panel beaters in the region to form a forum where they have agreed to stop poaching each other's employees

An employer said for the apprenticeship position it is difficult for them to get the candidates with the minimum pass marks they require i.e. more than 50% in Maths and Physical Science. Another employer said they have lowered their recruitment criteria and will even take someone with Standard 8/ Grade 10 as long they are willing to learn and are interested in the field. *"I don't have a problem with the aptitude of the learners coming through from high schools as long as they have a desire and an interest in the field they will do well in the industry"*

Recommendation: merSETA should consider prioritising funding for support skills in Limpopo's manufacturing sector

6.2.7. Nature of Limpopo's economy

- The economy is small and unfortunately there are not enough companies to absorb all the students coming from the FETs. Thus the learners lack workplace exposure which is pre-requisite for them to graduate.
- Limpopo is growing fast because of the mines coming into the area. The irony is the FETs are not offering any mining related programmes.

6.3. Specific Scarce and Priority Skills

Scarce skills are defined as 'those occupations in which there is a shortage of qualified and experienced people, currently or anticipated in the future'. During the Task Team discussions with employer and training provider representative a number of reasons were given as to why certain skills are considered scarce. The most common reason was *"It is a hard to fill vacancy- more than 3 months to find suitable candidate"*. A reason given for this difficulty by an employer was the lack of capability amongst applicants *"It takes very long to fill a space, great CV's, but are not capable of doing the job"*

Table 23: National Scarce skills in the Metal chamber, 2012

Occupation	Organising Framework of Occupations (OFO) Code
Production / Operations Manager (Manufacturing)	132102

Bricklayer	641201
Plumber	642601
Welder	651202
Sheet Metal Worker	651301
Metal Fabricator	651401
Structural Steel Erector	651402
Toolmaker	652201
Metal Machinist	652301
Fitter and Turner	652302
Metal Polisher	652401
Automotive Motor Mechanic	653101
Precision Instrument Maker and Repairer	661101
Electrician	671101
Millwright	671202
Lift Mechanic	671204
Manufacturing Machine Setter and Minder	712102
Engineering Production Systems Worker	718905
Metal Engineering Process Worker	832901

Source: merSETA National SSP- Scarce & Priority Skills 2012/13

These 3 occupations comprised 77% of the skills needs in the sector in the 2009/2010 period. Other occupational categories which are on demand for the sector are engineering production system workers, welders, toolmakers and metal engineering process workers.

Table 24: National Scarce skills in the Auto sector, 2012

Occupation	Organising Framework of Occupations (OFO) Code
Personnel / Human Resource Manager	121201
Supply and Distribution Manager	132401
Industrial Engineer	214101
Mechanical Engineer	214401
Chemical Engineer	214501
Electrical Engineer	215101
Accountant (General	241101
Marketing Practitioner	243103
ICT Systems Analyst	251101
Mechanical Engineering Technician	311501
Chemical Engineering Technician	311601
Retail Buyer	332301
Purchasing Officer	332302

Toolmaker	652201
Metal Machinist	652301
Fitter and Turner	652302
Electrician	671101
Millwright	671202
Mechatronics Technician	671203
Electronic Equipment Mechanician	672104
Special Class Electrician	672107
Machinery Assembler	721101

Source: merSETA National SSP- Scarce & Priority Skills 2012/13

According to merSETA, the Auto Chamber's skills needs by OFO category indicates considerable demand in the Technicians and Trades Workers category, followed by Professionals and then Managers.

Table 25: National Scarce skills in the Motor sector, 2012

Occupation	Organising Framework of Occupations (OFO) Code
Industrial Engineer	214101
Industrial Engineering Technologist	214102
Mechanical Engineer	214401
Mechanical Engineering Technician	311501
Motor Vehicle Licence Examiner	335401
Vehicle Painter	643202
Welder	651202
Toolmaker	652201
Metal Machinist	652301
Automotive Motor Mechanic	653101
Motorcycle Mechanic	653103
Diesel Mechanic	653306
Panel Beater	684904
Vehicle Body Builder	684905
Technical Customer Liaison Agent	+
Automotive Electronics Fitter	+
Vehicle Component Fitter and Repairer	+

Source: merSETA National SSP- Scarce & Priority Skills 2012/13

NB: +No codes for OFO 2012 CODE even OFO 9 CODE

There is dominance for demand of management skills within the Motor chamber. Sector specific technical skills include panel beaters, automotive auto mechanic and motor cycle/scooter mechanics.

Table 26: National Scarce skills in the New Tyre sector, 2012

Occupation	Organising Framework of Occupations (OFO) Code
Quality Systems Manager	121908
Production / Operations Manager (Manufacturing)	132102
Production / Operations Manager (Mining)	132201
Supply and Distribution Manager	132401
Operations Manager (Non Manufacturing)	134915
Industrial Engineer	214101
Industrial Engineering Technologist	214102
Mechanical Engineer	214401
Mechanical Engineering Technologist	214402
Chemical Engineer	214501
Chemical Engineering Technologist	214502
Electronics Engineer	215201
Organisation and Methods Analyst	242102
Training and Development Professional	242401
Occupational Instructor / Trainer	242402
Assessment Practitioner	242403
Sales Representative / Salesman (Industrial Products)	243301
ICT Systems Analyst	251101
Manufacturing Technician	311904
Integrated Manufacturing Line Technician	313904
Purchasing Officer	332302
Office Administrator	334102
Fitter and Turner	652302
Electrician	671101
Rubber Production Machine Operator	714101
Plastics, Composites and Rubber Factory Worker	832902

Source: merSETA National SSP- Scarce & Priority Skills 2012/13

The rubber production machine operator occupation is the main category of scarce skills on demand in the new tyre sector. Skills which are in high demand within this occupation are tyre builders, steel & fabric calendaring and rubber moulding machine operators. Other important occupations in the sector are; fitters, electricians, product examiners, sales representatives and mechanical engineering technologists in plastics.

Table 27: National Scarce skills in the Plastics sector, 2012

Occupation	Organising Framework of Occupations (OFO) Code
Quality Systems Manager	121908
Production / Operations Manager (Manufacturing)	132102
Industrial Engineer	214101
Technical Director	265405
Mechanical Engineering Technician	311501
Manufacturing Technician	311904
Vehicle Painter	643202
Fitter and Turner	652302
Boatbuilder and Repairer	684907
Plastic Cablemaking Machine Operator	714201
Plastics Fabricator or Welder	714203
Production Machine Operator (General	714204
Rotational Moulding Operator (Plastics)	714206
Thermoforming Machine Operator	714207
Plastics Manufacturing Machine Minder	714208
Reinforced Plastics and Composite Trades Worker	714209
Product Assembler	721901

Source: merSETA National SSP- Scarce & Priority Skills 2012/13

Demand for operators of plastics production machinery surpasses other occupational categories in the sector.

6.4. Scarce and Priority Skills by Chamber

6.4.1. Metal Sector

The demand for skills in the metal sector is highly dependent on the economic climate as the industry is very cyclical. The current big projects specifically Khusile and Medupi has increased the demand for boiler making and welding. An employer in the industry stated that the outlook for the industry looks good up to 2017 as they are major infrastructure projects lasting till then. Big infrastructure projects should be put in place to sustain the industry after 2017. The metal industry was affected by the recent recession. The companies we visited had managed to avoid retrenchment but had to restructure and cut costs to do so

The increase in training in recent years by the merSETA has helped to address the skills shortages that were plaguing the sector.

Table 28: Metal sector Research Findings

Chamber	Scarce Skills	Priority Skills
Metal Sector	Welders	Riggers
	Moulders	Production Superintended
	Boilermakers	Improvement and Reliability Managers
	Patternmakers	Coded Welders
	Riggers	Industrial Engineers
	Professionals	Chemistry and laboratories
	Draftsperson	
	Stores, Logistics and purchasing	
	Metallurgy Graduates	
	Electrical Engineering	

Findings from in the Metal sector interviews

- **Retention of and sourcing talent**

- Poaching is rife in the sector especially at senior management and professional levels. BEE requirements have made competent black professionals highly sought after and because of their scarcity they move jobs easily. *"Some skills are not scarce per se, they are available in the market but as a company we can't afford them."*
- Recruiting for positions is difficult because applicants lack the required experience and qualifications. *"The Production Superintendent position is difficult to fill because it requires both managerial and technical experience and exposure in the production environment."*
- Some trades are difficult to recruit for e.g. Patternmaking because they are not adequately advertised in the skills development arena and in schools. The draftsperson trade is also scarce because of lack of awareness amongst learners and not enough training providers training the trade. The coded welders are also scarce because not many companies use the skill and there are not many institutions offering it.
- The number of graduates coming from the Universities is not a problem the issue is the calibre with some applicants not being adequately equipped both theoretically and practically, *"being in the industry you get to know which university is strong on which*

training area. UKZN produces exceptional students but to get them to Mpumalanga, they won't stay long as they would want to be close to their families in KZN."

- The prevailing trend in the workforce now is that young professionals only stay with a company for 3-5 years and then leave the company to grow. This creates additional stress on succession planning, retirement planning and talent management.
- For apprenticeship positions, applicants are not aware of the scope of the job. A lot of learners are studying for qualifications without being entirely sure what the job entails. *"You have someone coming for an interview and they have long manicured nails, and you can already tell they will be a problem because the work environment for their trade doesn't allow that. Some only find out they came to the wrong trade after studying from N1 to N6."*
- The mining industry in Mpumalanga is growing and can offer higher salaries than most manufacturing companies. Companies are losing their employees to the mining companies coming into the region.

- **Quality of training and training providers**

- Mechanical and Electrical trades are now oversupplied with learners. Students should be made aware of the other trades in the industry so that there is a balance supply
- Quality of secondary education with regards to mathematics is very poor.
- Quality of training from both private and FET colleges is problematic. Institutional training needs to be aligned with technological innovations in industry. Learners are not competent enough practically when they are recruited from FET colleges and companies have to spend additional money to train them. *"They use lecturers who have never been exposed to the plant to train students."*
- Universities and technikons train them up in theory but they don't actually emphasise that they need to apply and recall the theory.
- The training that is being implemented by companies is not addressing the skills needs and priorities of the nation. *"The training some companies are doing does not improve productivity or the competence of the employees. A lot of the training being done is not essential but just window dressing e.g. Sexual Harassment awareness"*
- Lack of production related qualifications is a cause of concern. The focus should not only be on engineering but also on production

Recommendation: Prioritise skills development of professional skills and not just artisans and technicians. Ensure practical implementation of programmes geared towards up-skilling current employees for career progression

6.4.2. Plastics Sector

The industry is characterised by small to medium enterprises of which most do not have the capacity or resources to prioritise training and development of the workforce. This has led to a lot of poaching in the industry and all the good skills just rotate the companies that can afford them. The table below lists the scarce and priority skills for the sector.

Table 29: Plastic Sector Research Findings

Chamber	Scarce Skills	Priority Skills
Plastics Sector	Plastics Manufacturing Machine Setter and Minder	Plastics Manufacturing Machine Setter and Minder
	Rubber, Plastic and Paper Products Machine Operators	
	Rubber Products Machine Operators	
	Rubber Production Machine Operator	
	Plastic Cable making Machine Operator	
	Plastics Fabricator or Welder	
	Plastics Production Machine Operator (General)	

Plastics welders/fabricators will now also be required in the construction industry due to the changes in the industry of replacing steel with plastics. It is therefore important that the nation prioritises the training of this skill.

Challenges in the Plastics Sector

- No FET colleges offering plastic related trades
- No universities offering undergraduate programmes in plastics.
- The recent mandatory grant regulations changes might greatly reduce the amount of training occurring in the sector as the industry is SME dominated.
- The merSETA's/government's emphasis on apprenticeship greatly disadvantages their sector. For the plastics sector skills development is primarily achieved through skills development and learnerships but accessing funding for that is difficult since apprenticeships are given priority.
- Lack of urgency in implementing the Setter trade which would immediately address the most pressing concern for the plastic sector

6.4.3. FET Colleges

There are 10 FET colleges in the regions and most have campuses in the rural areas. Five of these were interviewed and all stated that there has been an increase in the number of young people studying engineering related trades over the last few years. It was also mentioned that

the number of women studying engineering courses has also increased and in some classes women outnumber the males. Some of the challenges the colleges face wide ranging from high drop-out rates and curriculum issues.

6.4.3.1. High drop-out and absenteeism rates

There is a high drop-out and absenteeism rate at the FET and the reasons for this in their view are as follows:

- **Poverty.** *"Some students are forced to study in 'instalments' i.e. only study when they have funds to study".* Poverty means money has to be rationed and if there are other pressing concerns at home then the students will drop out. Another issue is that the students themselves could be breadwinners or the pressure at home forces them to drop out and try and earn an income. *"Students are coming from poor backgrounds and sometimes don't have money for bus fare"*
- **Lack of adequate career counselling at a high school level.** Students loose or lack interest of fields that they have initially chosen. Students choose studies they do not fully understand due to peer pressure or apathy. FETs are institutions of higher education meaning the foundation and basics including career awareness/orientation should have been adequately covered at high school.
- **FETs are negatively perceived.** FET colleges are used as a time-stopper or incubation whilst waiting for better opportunities to come along. FETs were looked down upon but this perception is slowly changing.
- **Length of the NCV courses.** A student can come in to do NCV but when they realise the N1, N2, N3 courses are each only three months long they will drop out of the NCV which is a yearlong at each level opting to do the Nated courses. NCV is viewed as taking too long and these students because of the poverty back home have to earn an income quickly.

6.4.3.2. Industry unreceptive to FETs

Workplace experience is crucial for FET college students to graduate. FET colleges are required to place students in industry for them to get workplace experience and qualify in their studies. It is therefore imperative that industry and FET work closely together. Some of the challenges faced in forging this partnership are as follows:

- **NCV courses are not understood by industry.** At the implementation of NCV, industry showed reluctance to accept it which was surprising to FETs as industry had made input into the curriculum. NCV is more practical and is designed to produce a more rounded student. There is still pessimism in the industry but progress has been

made. For NCV to be more effective workplace experience is essential and industry needs to be more engaging in this regard.

- **Perception that quality of training at FETs is poor.** The only way this can be remedied is if industry would open its doors so that not only the students get workplace exposure but the lectures as well. They have accepted the criticism that “non-trades men teaching trades” and have moved to ensure their lecturers have trades certificates or industry experience. They are however sceptical about this criticism as the same lectures who teach N-courses are the same as those teaching NCV but industry has been recruiting and accepting students with N-courses over the years
- **Insurance and legislation hindering FET and college partnerships.** In their view industry is reluctant to take learners for workplace experience because the “insurance issue” regarding learners has yet to be properly clarified. *“If government could step-in and set up a National Insurance Fund for the youth. Sending students who are not insured to industry is the first stumbling block. The company will not want to bear the cost if they get injured/die”* (FET Respondent). Some employers also mentioned the risk involved in taking on learners with no insurance. *“We still have some teething problems because of safety issues that are of paramount concern. The students are not workers so who will cover them? The issue has to be put down on paper and a proper policy put in place to deal with the issue”*

6.4.3.3. Quality of students from Basic Education and Curriculum Issues

- Some students come in with National Certificate (Matric) intending to do the NCV which is equivalent to a qualification they already have. FETs said they explain explicitly to the students to make them aware they are doing a repetition. The main aim of despite the duplication of qualification is to acquire skills that would make them more employable
- The theory component of NCV was mentioned as being too long and the syllabus as being too big to be well implemented.
- The structure of learning and assessments should also be reviewed. *“We should change the way of offering it, we can say it is compulsory for the FET to finish their theories by June. We should do a theoretical exam early and the last months we do intensive practical training.”*
- The quality of students they get from Basic Education is mixed bag. Some students are quite good and are ready for tertiary education but you find some that don’t have the basic essentials.

6.4.3.4. Lack of adequate resources

- One FET College visited does not have a proper workshop yet the core of FET college education is that it equips learners with practical/vocational experience. *"It is difficult to offer practical's if you don't have necessary infrastructure you cannot carry out practical tasks"*. The curriculum requires that 60% of learning be practical either in workshop or simulated environment and 40% be theory.
- Their practical component for the trades can be enhanced once there is more coordination between FET and industry to ensure their practical training is more relevant.
- There should be subjects specialists in the FET sectors who set the exam paper and also monitor the practical assessment to ascertain how FETs are running their practical training
- Better management of FETs is necessary. *"Technical High Schools are producing better students than FET, main reason being is there is no proper planning at FETs yet they are better resourced and well-funded."*

6.5. Conclusion

A number of structural constraints were identified from the primary interviews and discussions with industry players regarding skills development in the merSETA sector. The lack of a reputable training centre in the Nelspruit area for metal company was a major concern. Motor company in the Limpopo province also incur additional costs for training as they have to send apprentices to Gauteng for trade tests.

Across chambers, employers interviewed are of the view that not enough young people are interested in trades and this can become a concern in future years as the current workforce ages. It is important that career guidance, orientation and awareness be done in schools regarding careers in the manufacturing industry.

It was also emphasised that the curriculum and training be kept up to date with technological innovations to ensure competent artisans and employees are produced. It is important that industry and educational institutions work closely together to ensure that quality of learning meets industry standards

List of References

Business Day (2012). *Infrastructure projects will 'not come cheap'*. Available at: <http://www.bdlive.co.za/economy/2012/10/21/infrastructure-projects-will-not-come-cheap> [Accessed 11 July 2013]

Department of Economic Development (2013). Draft Infrastructure Development Bill (2013). Pretoria: EDD

Department of Higher Education and Training (2011). National Skills Development Strategy III. Pretoria: DHET.

Dr Blade Nzimande (2010). Press briefing: The new SETA landscape for the period April 2011 till March 2016, 09 November 2010. Online: <http://www.dhet.gov.za/portals/0/documents/SETA%20Landscape.pdf> [Accessed on 10 January 2013].

Department of Trade and Industry (2006). Metals Sector Development Strategy: Trade and Investment South Africa - Customised Sector Programme - Metals. Pretoria: the dti

Department of Trade and Industry (2011). Industrial Policy Action Plan (IPAP 2011/12-2013-/14). Pretoria: the dti

http://www.automotiveonline.co.za/site/files/6860/APDP_Deloitte.pdf

McKinsey and Company (2012). McKinsey Global Institute & McKinsey Operations Practice: Manufacturing the future: The next era of global growth and innovation. New York: McKinsey & Company

merSETA Database 2013

MerSETA. Sector Skills Plan 2010/2011-2015/2016. Johannesburg: merSETA

Pravin Gordhan (2013). 2013 Budget Speech by Minister of Finance Pravin Gordhan, 27 February 2013. Online: <http://www.info.gov.za/speech/DynamicAction?pageid=461&tid=99785> [Accessed on 20 March 2013]

Presidential Infrastructure Coordinating Commission (PICC) (2012). *A Summary of the South African National Infrastructure Plan*. Pretoria, South Africa.

Quantec

Republic of South Africa (RSA)(1996). *Constitution of the Republic of South Africa Act 108 of 1996*. Pretoria: Government Printer. 1996:14.

Republic of South Africa (RSA) (2001). *Human Resource Development Strategy of South Africa*. Pretoria: Government Printer. Revised HRDSA, 2009:30. Online. Available: <http://www.info.gov.za/view/DownloadFileAction?id=117580> [Accessed: 11 January 2013]

Skills Development Amendment Act, No. 37 of 2008. South Africa.

Statistics South Africa (2013). Quarterly Labour Force Survey P0221 Quarter 1 2013. Pretoria: Statistics South Africa

Statistics South Africa (2012). Census 2011. Pretoria: Statistics South Africa

The DTI (2013). Media Statement: *10 Potential Special Economic Zones Have Been Identified*. Available at: <http://www.thedti.gov.za/editmedia.jsp?id=2685> [Accessed 11 July 2013]

The DTI (2013). Special Economic Zones Bill, 2013; Presentation to Portfolio Committee on Trade And Industry, 26 April 2013. Available at: <http://www.thedti.gov.za/parliament/SEZ-Bill.pdf> [Accessed 11 July 2013].

The Presidency (2007). Policy framework for the Government-wide Monitoring and Evaluation Systems. Pretoria: The Presidency

Trudi, H. (2001). South African regional industrial policy: from border industries to spatial development initiatives. *Journal of International Development*, 2001, vol. 13, issue 6, pages 767-777

www.portmaputo.com [Accessed 13 August 2013]

APPENDIX 1**FET Colleges in Mpumalanga-Limpopo**

	FET College	Engineering programmes offered
MPUMALANGA	Ehlanzeni FET	<ul style="list-style-type: none"> • Civil Engineering and Building Construction – NCV • Electrical Infrastructure Construction – NCV • Engineering and Related Design: Automotive – NCV • Information Technology and Computer Science – NCV • Electrical Engineering
	Gert Sibande FET	<ul style="list-style-type: none"> • Electrical Infrastructure Construction NCV • Civil Engineering and Building Construction NCV • Information Technology and Computer Science NCV • Engineering Studies Nated
	Nkangala FET	<ul style="list-style-type: none"> • Civil Engineering and Building Construction NCV • Electrical Infrastructure Construction NCV • Engineering and Related Design NCV • Information Technology and Computer Science NCV • Mechanical Engineering • Electrical Engineering • Civil Engineering
LIMPOPO	Capricorn FET College	<ul style="list-style-type: none"> • Electrical Infrastructure Construction - NCV • Civil Engineering & Building Construction - NCV • Engineering and Related Design - NCV • Information Technology and Computer Science - NCV • Mechatronics - NCV • Process Plant Operations - NCV
	Lephalale FET College	<ul style="list-style-type: none"> • Electrical Infrastructure Construction NCV • Engineering and Related Design NCV • Manufacturing and Assembly NCV • Electrical Engineering NATED • Mechanical Engineering NATED • Information Technology and Computer Science NCV
	Waterberg FET College	<ul style="list-style-type: none"> • Civil Engineering Construction - NCV • Electrical Infrastructure Construction - NCV • Engineering and Related Design - NCV • Information Technology - NCV • Mechanical Skills - Skills Programme • Electrical Skills - Skills Programme • Manufacturing Processes - Skills Programme • International Computer - Skills Programme
	Letaba FET College	<ul style="list-style-type: none"> • Civil Engineering and Building Construction - NCV • Engineering and Related Design - NCV • Electrical Infrastructure Construction - NCV • Electrical Engineering - NATED • Mechanical Engineering - NATED

	Mopani South East FET College	<ul style="list-style-type: none"> • Electrical Infrastructure Construction - NCV • Engineering and Related Design - NCV • Civil Engineering and Building Construction - NCV • Information Technology and Computer Science - NCV • Electrical Engineering NATED • Civil Engineering NATED • Mechanical Engineering NATED
	Sekhukhune FET College	<ul style="list-style-type: none"> • Civil Engineering and Building Construction - NCV • Electrical Infrastructure Construction - NCV • Engineering and Related Design - NCV • Information Technology and Computer Science - NCV • Electrical Engineering - NATED • Civil Engineering - NATED • Mechanical Engineering - NATED
	Vhembe	<ul style="list-style-type: none"> • Civil Engineering and Building Construction- NCV • Engineering and Related Construction- NCV • Electrical Infrastructure Construction- NCV • Information Technology and Computer Science- NCV

METAL CHAMBER	OFO CODES
Fitter and Turner	652302
Production / Operations Manager (Manufacturing)	132102
Welder	651202
Metal Fabricator (boilermaker)	651401
Electrician	671101
Millwright	671202
Engineering Production Systems Worker	718905
Automotive Motor Mechanic	653101
Bricklayer (refractory bricklayer)	641201
Precision Instrument Maker and Repairer	661101
Metal Engineering Process Worker	832901
Plumber	642601
Sheet Metal Worker	651301
Metal Machinist	652301
Rigger	
Structural Steel Erector	651402
Toolmaker	652201
Lift Mechanic	671204
Manufacturing Machine Setter and Minder	712102
Electrical engineer	
Chemical engineer	
Mechanical engineer	
Chemist	
Metallurgist	

Production Operators and Supervisors	
Metal Polisher	652401
Coded Welders	
AUTO CHAMBER	
Mechatronics Technician	671203
Industrial Engineer	214101
Mechanical Engineer	214401
Fitter and Turner	652302
Millwright	671202
Chemical Engineer	214501
Mechanical Engineering Technician	311501
Chemical Engineering Technician	311601
Electrician	671101
Electronic Equipment Mechanician	672104
Special Class Electrician	672107
MOTOR CHAMBER	
+Automotive Electronics Fitter	
Automotive Motor Mechanic	653101
Diesel Mechanic	653306
Automotive Electrician (Qualified)	
Vehicle Painter	643202
Welder	651202
Toolmaker	652201
Motorcycle Mechanic	653103
Panel Beater	684904
Vehicle Body Builder	684905
+Vehicle Component Fitter and Repairer	
Automotive Air conditioning	
PLASTIC CHAMBER	
Plastics Manufacturing Machine Setter and Minder	714208
Rubber, Plastic and Paper Products Machine Operators	714
Rubber Products Machine Operators	7141
Rubber Production Machine Operator	714101
Plastic Cabling Machine Operator	714201
Plastics Fabricator or Welder	714203
Plastics Production Machine Operator (General)	714204
Production / Operations Manager (Manufacturing)	132101
Industrial Engineer	214101
Manufacturing Machine Setter and Minder	712102
Mechanical Engineering Technician	311501
Fitter and Turner	652302
NEW TYRE CHAMBER	
Chemical Engineer	214501

List of participants in research

Name	Role/Designation	Organisation/Area of specialisation	Nature of contact
Enock Sebesho	Human Resources	Middelburg Ferrochrome	Primary interview
Carlien van Der Merwe	Training Manager	Columbus Stainless Steel	Primary interview and Task Team
Desmond Majola	Electric Department	Ehlanzeni FET College	Primary interview
Collen Mokoena	Organised Labour -MMC	NUMSA (Labour Union)	Primary interview
Jeanette Relling	HR	MMC	Primary interview
Nthabiseng Mkwana	Head of Training	Highveld Stainless Steel	Primary Interview
Gerald Mokwana	Project Manager	MRTT	Primary interview
Matshediso	Student Support	Nkangala FET College	Primary Interview
Cliff Putsoane	Training Manager	Witbank Ferrochrome	Primary Interview
Monica Swart	Student Support	Gert Sibande FET	Telephonic Interview
Johannes Pheiffer	Brand Service Manager	Mercurious Motors	Telephonic Interview
Gerrit Pierterse		NMS Autobody	Primary Interview
LG Malatjie	Engineering and Skills Training Center	Waterberg FET College Lebowakgomo	Primary Interview
L Selowa	HOD: Engineering. Seshego Campus	Capricorn FET College	Primary Interview

TASK TEAM ATTENDENTS

Name	Company Name
Estie Maree	Sebeen Contracting Services
Lynette Claase	Universal Suppliers
J. Lues	MMC
Nish Singh	FL Smith Buffalo
Magda Bosma	Ermelo Truck & Tractor Centre
Nadia Stoltz	Auto Elec & Air Spec
Cornelia Veldman	Futurent Academy
Daleen V Niekerk	Vanchem
Kittie Wiese	Ermelo Toyota

Leon Growse	XXSD
Edna van der walt	Steinmiller Africa
Bea Coetzee	Columbus
Leon Mackenzie	Futurent Academy
Sam Shabangu	Thos Begbie & Co
Riaan Olwagen	TUBULAR
Enock Sebesho	MFC
Carlien van der Merwe	Columbus Stainless Steel
Cheri Coetzee	DCM Line Baring
Arno Kotze	Sebcon
Moses Mahlangu	Sebcon
Godfrey Mathebula	Ferrometals
Peet Pieterse	MMC
J Relling	MMC
Cliff Putsoane	Ferrometals
Eugene Stoltz	Auto Electrical & Aircon Specialist
Fatima Mans	TUBULAR
Dawie Rossouw	Sebcon
J Steyn	ASA METALS
Nomcebo Ndlovu	Assmang Chrome
Stephen Mkhawane	Powers PNP
Fireda Senekal	Better Best
M Rademeyer	