An investigation into the state of affairs and sustainability of the Emfuleni economy

by

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To my parents, Frank & Chris Slabbert

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VANDERBIJLPARK
APRIL 2004

Declaration

I declare that

AN INVESTIGATION INTO THE STATE OF AFFAIRS AND SUSTAINABILITY OF THE EMFULENI ECONOMY

is my own work and that all the sources used or quoted have been indicated and acknowledged by means of complete references, and that the thesis was not previously submitted by me for a degree at another university

Tielman J. C. Slabbert

Summary

AN INVESTIGATION INTO THE STATE OF AFFAIRS AND SUSTAINABILITY OF THE EMFULENI ECONOMY

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In this study, the sustainability of the Emfuleni economy is measured in terms of its ability to reduce the levels of unemployment and poverty over a period of time. An input-output model was used to determine the impact of several proposed projects on the level of household income and employment in Emfuleni. An economic impact assessment model was developed and used to measure the impact of a change in household income on the level of poverty. A sectoral analysis of the economy and a household analysis were used to portray the state of affairs and trends in unemployment and poverty.

Taking into account both the positive impact of proposed projects and some negative impacts (e.g. the collapse of the Krion Financial scheme), projections were made for Emfuleni in terms of GGP growth, population growth, unemployment and poverty until 2015. Assuming that the two proposed projects in Emfuleni, namely, the Vaal Inland Waterfront Project and a 5% expansion of the Manufacturing sector should materialise, the analysis shows that the unemployment rate will be 53.1% in 2015 and the percentage of households below their respective poverty lines 46.6%. Without the projects the unemployment rate will increase from 51.3% in 2000 to 60.6% in 2015 and the percentage of households below their respective poverty lines will increase from 46.1% in 2000 to 60.6% by 2015. The impact of the projects will be that the unemployment and poverty rates are kept at about the same levels as in 2000. However, the analysis shows that the *numb*er of unemployed persons is expected to increase from 155,988 in 2000 to 243,660 in 2015 and the number of poor households is expected to increase

from 84,549 in 2000 to 114,227 in 2015. More interventions are therefore required to put the Emfuleni economy on the road towards sustainability.

An Inward Industrialisation Process (IIP) aimed at employment creation and poverty alleviation is proposed for intervention. A preliminary analysis indicates that an IIP, focussed on the townships of Emfuleni, may reduce the unemployment and poverty levels substantially and thus increase the sustainability of the economy over a period of time.

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Abbreviations

BAC -   Business Advice Centre

CPS -   Current Population Survey

CSA -   Customs Secured Area

CSIR -   Council for Scientific and Industrial Research

DANIDA - Danish International Development Aid

DPLG -   Department of Provincial and Local Government

DTI -   Department of Trade and Industry

EAP -   Economically Active Population

ELM -   Emfuleni Local Municipality

ERU -   Employment Research Unit

EVMS -   Eastern Vaal Metropolitan Substructure

FBT -   Former Black Townships

FWT -   Former White Towns

GGP -   Gross Geographic Product

GNP -   Gross National Product

GSEZP - Gauteng Special Economic Zone Programme

HEL -   Household Effective Level

HSD -   Human Scale Development

HSL -   Household Subsistence Level

IDP -   Integrated Development Plan

IDZ -   Industrial Development Zone

IIP -   Inward Industrialisation Process

ILO -   International Labour Organisation

ISA -   Industries and Services Area

ISCOR -   Iron and Steel Corporation of South Africa

LBSC -   Local Business Service Centres

LED -   Local Economic Development

MAC -   Manufacturing Advisory Centre

MHSL -   Minimum Humane Standard of Living

MLL -   Minimum Living Level

NGO -   Non-Governmental Organisation

NPI -   National Productivity Institute

OHS -   October Household Survey

PDL -   Poverty Datum Line

PPP -   Public Private Partnerships

PSLSD -   Project for Statistics on Living Standards and Development

PWV -   Pretoria, Witwatersrand and Vereeniging

RDP -   Reconstruction and Development Programme

RSA -   Republic of South Africa

SDI -   Spatial Development Initiative

SDM -   Sedibeng District Municipality

SEZ -   Special Economic Zones

SLL -   Supplementary Living Level

SMME -   Small, Medium and Micro Enterprise

Ur -   Unemployment rate

VERB -   Vaal Economic Regeneration Board

VRG -   Vaal Research Group

WEFA-   Wharton Economic Forecasting Associates

WVMS -   Western Vaal Metropolitan Substructure

Introduction

1.1   Prologue

The task for local government in South Africa requires a radical change in past outlooks and policy formulation processes. Until the last years of apartheid, local government in South Africa was not strongly concerned with issues of economic development and even less so with the question of poverty or the sustainability of communities. New local government in South Africa needs to be innovative in promoting both the economic and social development of localities, including poverty alleviation (Department of Constitutional Affairs 1998).

Both international and national experiences suggest that there are relatively few instances in the developing world of explicit local economic development interventions which are geared towards poverty alleviation or improving the sustainability of households and communities (Zaaijer & Sara 1993; Rogerson 1995). This international experience is sadly confirmed by the overall conclusion of a study of ten local municipalities within eight provinces of South Africa (Department of Constitutional Affairs 1998). From this study it could be concluded that at local government level there were few functioning programmes or interventions which were directly targeted at poor communities. Indeed, the essential policy direction appeared to be relying on market forces to allow the benefits of trickle-down to poor communities.

1.2   The research problem

The population residing in Emfuleni was estimated at 658,422 for the year 2001, which was about 7.5% of the Gauteng population (Stats SA 2003a).

Population growth in the absence of substantial economic growth poses a serious threat to the Emfuleni society in general.

South Africa's manufacturing sector has undergone a profound restructuring since the election of the first democratic government in 1994. As part of a new trade regime and with a new industrial policy aimed at catalysing and promoting higher levels of competitiveness through supply-side support measures, manufacturing firms had to respond to the global manufacturing system. The socio-economic and physical effects of this restructuring have been felt in the country's manufacturing centres, especially in the Vaal region which is formed by Emfuleni and Metsimaholo Municipal Areas (Bloch & Dorfling 2000:4).

The market-oriented economic policy transformation implemented in South Africa towards the end of the 1990s had serious consequences for the steel industries, which plays a critical role in Emfuleni's manufacturing sector (Bloch & Dorfling 2000:4).

The turbulence in steel markets globally resulted in restructuring operations in the steel industry towards the end of the 1990s. These restructuring operations impacted negatively on the Emfuleni economy in terms of job and income losses. As a result of this, both the unemployment and poverty rates increased substantially in Emfuleni during the 1990s. In the former black townships of Emfuleni, where about 70% of Emfuleni's population resides, the unemployment rate (expanded definition) increased from 35.0% in 1991 to 54.5% in 2000 (Slabbert & Slabbert 2002b:8). The percentage of poor households in the former black townships of Emfuleni increased from 30% in 1991 to 53% in the year 2000 (Slabbert & Slabbert 2002b:18). These trends give an indication of the non-sustainability of the Emfuleni economy.

The failure of the Krion Financial Services Scheme and Equilibrium/Futura International Investment Scheme in 2002 added to this negative trend. In an effort to curb the downward trend in the local economy, Emfuleni Local Municipality and the Vaal Economic Regeneration Board (VERB) proposed several developmental projects that may enhance the sustainability of the

local economy. The question however remains: *how sustainable will the Emfuleni economy be in the years to come, taking into account the negative impacts, the population growth and the downward trend in manufacturing activities experienced by Emfuleni since the beginning of the 1990s?*

1.3   Objective of the study

The objective of the study is to measure the sustainability of the Emfuleni economy in terms of its potential to generate income and employment opportunities (reduce unemployment) that will result in the alleviation of poverty, taking into account the status of the economy before and after the recent (positive and negative) developments and proposals.

This study endeavours to find answers for the following questions:

- Assuming that no intervention in the economy takes place, what will be the state of affairs and trends in the Emfuleni economy towards the year 2015?

- Taking into account the failure or collapse of the Krion Financial Services Scheme and the Equilibrium/Futura International Investment Scheme, what will be the impact thereof on the local economy towards the year 2015?

- Assuming that the proposed projects to intervene in the local economy materialise, what will be the impact of these projects on the state of affairs and trends in the Emfuleni economy towards the year 2015?

- How should Local Economic Development (LED) in Emfuleni be approached to address the lack of sustainability in the economy?

1.4   Hypothesis

Taking into account the state of the Emfuleni economy, trends in the economy, the impact of negative factors and proposed (positive) projects, the Emfuleni economy will still not be sustainable. Poverty and unemployment will still be on the increase. More serious intervention measures will be required to reach a state of sustainability in the Emfuleni economy.

1.5   Research methodology

Sustainability for the purpose of this thesis is defined as *the ability of a local economy to provide employment and income generating opportunities for the local population to such a degree that the extent of poverty is reduced over a period of time.*

In a sustainable economy, poverty will be reduced over a period of time. The degree of sustainability will be determined by the growth rate at which the percentage, as well as the number of households living in poverty, is reduced over a period of time. In a non-sustainable economy, poverty will increase over a period of time. The degree of non-sustainability will be determined by the growth rate at which the percentage, as well as the number of households living in poverty, was increased over a period of time.

To measure the sustainability of the Emfuleni economy, the *status quo* of poverty in the area was measured at a specific point in time (2003). Trends in the headcount index (extent of poverty) and poverty gap (depth of poverty) were determined by comparing the 2003 analysis with earlier (1991, 1994 & 1999) studies of the same area.

The local economy was analysed to determine the *status quo* as well as growth trends in the Gross Geographical Product (GGP), labour force and population. A sectoral analysis, as well as an input-output analysis of the local economy, was used to determine the impact of development projects (positive) and negative factors on household income and employment in Emfuleni. The change in household income was related to the extent and

depth of poverty by means of a model developed by the candidate for measuring such impacts.

The study on the sustainability of the Emfuleni economy was conducted in four phases:

Phase 1 of the study provides a theoretical basis for:

- Measuring poverty at micro-level. This part of the study gives an overview of poverty research internationally and nationally, emphasising the move from a macro-analysis towards a micro-analysis of poverty.

- Measuring the extent and depth of poverty in Emfuleni. The methods used for conducting a micro-analysis of poverty in Emfuleni are discussed.

- The input-output model as a tool to measure the impact of development projects (positive) and negative factors on employment and household income in Emfuleni.

- Measuring the impact of a change in household income on the extent and depth of poverty by means of a model developed by the candidate.

In Phase 2 the *status quo* and trends in terms of Emfuleni's population (numbers and growth), the workforce (employment and unemployment), poverty and the structure of the economy is determined. This part of the study entails the following:

- An analysis of the population of Emfuleni: Areas of residence; Growth and growth-trends; Household size; Dependency ratios and changes in the dependency ratios; Home ownership; Literacy. Data obtained from several Household Surveys (1991, 1994, 1999, 2003) will be used, as well as data available from the 2001 Census.

- An analysis of the labour force of Emfuleni: Formal employment; Unemployment and trends in unemployment; Profile of employed and unemployed; Remuneration per sector of the economy; Sources of household income and Expenditure profiles. Data obtained from several Household Surveys (1991, 1994, 1999, 2003) will be used, as well as data available from the 2001 Census.

- An analysis of poverty in Emfuleni: Headcount index and trends in the headcount index; Poverty gap analyses; Profiles of the poor; Employment preferences of the poor unemployed. Data obtained from four Household Surveys (1991, 1994, 1999 & 2003) will be used.

- Structural composition of the economy: GGP contribution of the economic sectors; Industrial activities; Regional contribution of the Emfuleni economy; Growth-trends; Functional specialisation. Mostly statistics by Wharton Economic Forecasting Associates (WEFA 1999) are used.

In Phase 3 of the study, the impact of change on the level of employment, income, poverty and economic growth in the sectors of the economy is measured. The input-output model for the Vaal economy is used to measure the impact of change on the local economy in terms of employment and household income. The model developed by the candidate specifically for this thesis, is used to measure the impact of a change in household income on the level of poverty (headcount index) and the depth of poverty (poverty gap). This phase entails the following:

- An analysis of the positive and negative impacts of changes in the economy on the levels of employment, unemployment, income, poverty and economic growth in Emfuleni.

- Projections as to unemployment, poverty and the GGP growth of the Emfuleni economy. Taking into account the impact of the proposed projects, the extent in which poverty decreases or

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increases over a period of time will determine the sustainability or non-sustainability of the Emfuleni economy.

Phase 4 of the study entails a discussion of Emfuleni's Local Economic Development (LED) strategy and how it can be adapted towards an inward industrialization process to enhance sustainability in the Emfuleni economy. Several LED strategies are discussed and an evaluation is given of how these strategies are implemented in Emfuleni. This phase entails the following:

- A discussion of common LED strategies, and an evaluation of Emfuleni's LED approach and initiatives.

- A proposal for altering Emfuleni's LED strategy to attain economic sustainability, with special reference to the initiation of an Inward Industrialisation Process.

- The impact of job creation on poverty levels in Emfuleni.

1.6   Geographical area of the study

Emfuleni Municipality, as indicated in Figure 1.1, is located in the southern part of the Gauteng province.

FIGURE 1.1   MAP OF THE EMFULENI MUNICIPAL AREA
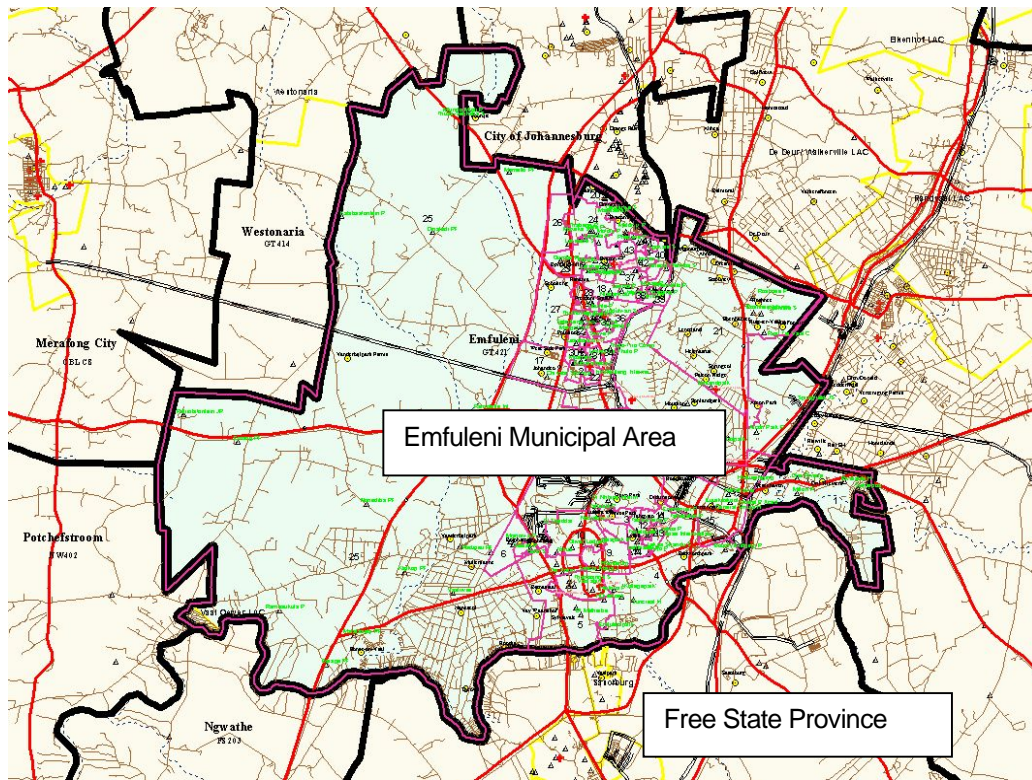
- Source: Municipal Demarcation Board 2001.

Together with Lesedi and Midvaal municipalities, it forms the Sedibeng district municipality in the southern part of the Gauteng province. Emfuleni comprises the following suburbs and areas: Boipatong, Boitumelo, Bophelong, Evaton, Loch Vaal and North Vaal rural areas, Sebokeng, Sharpeville, Tshepiso, Vaal Oewer, Vanderbijlpark and suburbs, Vereeniging and suburbs.

1.7   Historical development of the area

Unlike the towns of the Witwatersrand which owe their development to the discovery of gold, the towns that now form Emfuleni owe their establishment to the discovery of coal deposits in the region.

In 1878, George William Stow discovered deposits of coal, extending 100 kilometres north of Vereeniging and 32 kilometres south, across the Vaal River, totalling an area of approximately 500 square kilometres. At the current rate of mining, it is expected that these deposits will only be exhausted in 400 years time. At the request of Stow, Senator Samuel Marks (a millionaire entrepreneur), Isaac Lewis and Stow formed a company, known as 'De Zuid Afrikaansche en Oranje Vrijstaatsche Kolen en Mineralen Mijn Vereeniging'. They purchased some coal bearing farms in 1880, and started to operate coal mines in the area (Urban Econ 1998:31).

By 1882, there was a large enough population and sufficient development in the area of the coal mines to justify the establishment of a town. The town Vereeniging (after the last word in the company's title) was established in 1889 (Urban Econ 1998:31).

The discovery of gold in the Witwatersrand in 1888, and the accompanied increase in mining and commercial activities, as well as the increase in population, resulted in an increased demand for coal and steel. This placed a greater significance on the coal mines at Vereeniging. The first South African steel company to melt scrap metals, the Union Steel Corporation of South Africa (USCO), was established by Samuel Marks and Horace Write in 1911, making Vereeniging South Africa's major centre for steel and engineering industries (Urban Econ 1998:31).

The next major impact on the area was experienced during the Second World War. South Africa's contribution to the Allied Forces resulted in a great demand for flat steel products. In 1941, the management team of the Iron and Steel Corporation of South Africa (Iscor) decided to erect a new iron and steel works 16 kilometres west of Vereeniging, which was completed in 1943. A large number of people were employed and provision had to be made to house them. This led to the development of the town of Vanderbijlpark. Full municipal status was granted to Vanderbijlpark in 1952 (Urban Econ 1998:31).

Economic development associated with coal mining and the iron and steel

industries originally dictated the urban development pattern in the area. The spatial structure is characterised by a complex of small- to medium-sized urban areas surrounded by a comparatively large agricultural hinterland. These urban areas are linked by well-developed road and rail infrastructures which are, in turn, interlinked with the national roads infrastructure such as the N1 and R53 freeways, and provide very good access to the large metropolitan areas such as the Witwatersrand and the East Rand. The rail service provides commuter, freight and long-distance passenger services (Urban Econ 1998:31, 32).

As a result of past (apartheid) policies, urban and economic development is manifested in a geographically dualistic manner. The spatial economy is characterised by areas of economic activity closely surrounded by medium- to high-income areas, each with comparatively adequate urban facilities and economic centres. Low-income areas are located on these urban fringes and, in some cases, isolated in rural areas where limited or no economic development exists (Bloch & Dorfling 2000:26).

The low-income areas are economically almost totally dependent on the economic activities in the medium- and high-income areas. It is not only the workplaces that are located in the high- and medium-income areas, but also the trade centres. Between 80 and 90 percent of groceries and clothing are bought in the middle- and high-income areas (Slabbert *et al.* 1994b:19, 20). As a result, there is a high frequency of commuting between the low-income areas and the high-income areas. There is also a high frequency of commuting between Vanderbijlpark and Vereeniging. People commute daily between the different centres for work and trade. A well developed road and transport system therefore exists in Emfuleni, linking the areas of economic activity with its sources of labour, inputs and markets (Bloch & Dorfling 2000:26).

1.8   Layout of the study

The thesis is divided into the following sections:

Chapter 1 *(Introduction)* describes the research problem, the objective of the study, the hypothesis and the research methodology, as well as the geographical area and historical background of the study area.

Chapter 2 (*Theoretical background to the study*) gives an overview of poverty research internationally and nationally and details the shift in emphasis from a macro-analysis of poverty towards a micro-analysis of poverty.

Chapter 3 (*Methodology for measuring the impact of changes in the economy on poverty)* describes the methods used for measuring poverty at a micro-level; the methods used for measuring the impact of change on the level of employment and income in the local economy; and the methodology developed to measure the impact of a change in the level of income on the level of poverty in the area.

Chapter 4 (*Emfuleni population and labour force)* gives a profile of the local population in terms of size, growth patterns, household size, dependency ratio, home ownership, literacy, unemployment, employment, sectors of employment, occupational profile, remuneration, income and expenditure patterns and sources of household income.

Chapter 5 (*An analysis of poverty in Emfuleni*) describes poverty in terms of the headcount index and the poverty gap. The depth of poverty in Emfuleni is also discussed. A profile of the poor in the area is portrayed. The needs and preferences of this group of people, as well as their accessibility to the various sectors of the local economy, are discussed.

Chapter 6 (*The Emfuleni economy*) offers an analysis of all sectors of the Emfuleni economy, including GGP contribution and a more detailed description of the existing industrial activities. Trends over the last 10 years are analysed. The Emfuleni economy is also analysed in terms of its role in the Gauteng province.

Chapter 7 (*A sectoral analysis of the Emfuleni economy and identification of key economic sectors*) presents an input output analysis of the Vaal economy. The income and employment multipliers of the different economic sectors are determined in order to identify the key sectors of the economy.

Chapter 8 *(The impact of changes in the economy on existing trends in terms of employment and unemployment, income, poverty and economic growth in Emfuleni)* projects the population, employment and unemployment, poverty and economic growth in Emfuleni until the year 2015. The impact of several possible (positive) projects as well as negative events (like the failures of the Krion Financial Services Scheme and the Equilibrium/Futura International Investment Scheme in 2002) on these projected levels of employment and unemployment, income, poverty and economic growth is investigated and portrayed. The sustainability of the Emfuleni economy is thus determined.

Chapter 9 *(An adjustment of Emfuleni's Local Economic Development Strategy towards economic sustainability)* discusses Emfuleni's approach to Local Economic Development and makes proposals of how it can be adjusted towards an inward industrialisation process (IIP) to enhance economic sustainability.

Chapter 10 (*Summary and Conclusion*) summarises and concludes the study, highlighting the recommendations for enhancing economic sustainability in Emfuleni.

Chapter
2

Theoretical background to the study

An overview of poverty research

2.1   Introduction

In this chapter, international and national poverty studies and their contributions to an understanding of the poverty problem are analysed. Firstly, a global categorisation of poverty is given with the aim of placing South Africa within the global context. The different theories of poverty used in different parts of the world are discussed. The philosophy of poverty studies around the world is then questioned in the light of developments in recent years.

There has been a change in emphasis from macro-analysis with a single poverty line for a whole country, towards micro-analysis, where a poverty line is determined for individual urban and rural areas. With regard to different approaches to alleviate poverty, there was a shift away from the top-down approach towards the human scale development approach (Max-Neef *et al.* 1989; Max-Neef 1991). This approach ascribes to government the role of facilitator of development processes from the bottom up, in contrast to its traditional role as unilateral supplier of commodities to satisfy community needs.

In this chapter, several aspects of the recent urban poverty debate (Amis 1989; Wratten 1995; Mitlin 1995) are used to emphasise the importance of the micro-analysis of poverty. Poverty studies in South Africa are analysed in the light of these arguments for their contribution to the alleviation of material poverty. It should, however, be noted that the purpose of this study is not to determine whether the urban poverty debate has substantial grounds for what it stands for.

It would appear if any attempt to alleviate poverty in South Africa is destined to be futile if it is not accompanied by proper micro-analyses at sub-regional and urban levels. Once poverty is analysed at micro-level, national strategies can be formulated. National strategies should be supportive of local strategies, taking into account local circumstances and needs. The local needs in rural areas, for example, are totally different from those in urban areas. Urban areas also differ from one another, depending on the economic base of the area. It is in this context that Øyen (1996:16) argues that the future challenge of poverty research lies in linking the universal with the particular. The micro-perspective must be tied to the macro-perspective.

2.2 A global categorisation of poverty

From a macro-perspective or global perspective, poverty can be categorised in several ways. Firstly, there is the categorisation of poverty according to the type of political economy; secondly, according to the Gross National Product (GNP) *per capita* of a country; and thirdly, according to a First World-Third World classification. The last category is especially important where poverty is viewed as a central component in the development debate (Wilson 1996a:18-20).

2.2.1 Categorisation of poverty according to the type of political economy

Concerning the type of political economy, Wilson (1996a:18) recognises five categories of political economies in which poverty exists. Serious poverty does not necessarily exist in all of these economies.

The first category is a kind where there are inadequate internal resources for the vast majority to sustain life above a basis poverty line. Examples of this category include the mountain parts of China, rural India and Rwanda.

The second category is where poverty seems to be a result of a particular pattern of growth or where it seems that a reshaping of the path of growth might enable significant reductions in poverty to take place. Examples include Malaysia, South Africa and Latin America.

The third category is where poverty is caused by manifest failure of the state. Examples of this are Eastern Europe, Nigeria and a number of other African countries. Poverty in these countries is forcing governments to rethink new strategies from scratch.

The fourth category is where there is a rediscovery of poverty combined with serious attempts to modify the welfare state. Some people, living in countries classified in this category, are finding themselves marginalised and excluded from the mainstream of the political economy in their countries. Examples are Canada and much of Western Europe.

The fifth and last category is where there is a renewed assault on the poor. This assault is combined with active steps to dismantle social measures originally designed to protect citizens from the worst ravages of poverty. Examples include the United States, the United Kingdom and New Zealand.

2.2.2   Categorisation of poverty in terms of GNP *per capita*

Countries of the world can also be categorised in terms of their GNP *per capita*. This criterion, however, does not reveal anything about the distribution of income, and should therefore be supplemented by the degree of inequality as measured by the Gini-coefficient (Todaro 1994:131-142).

2.2.3   First World-Third World classification

Concerning the First World-Third World classification, Wratten (1995:12) argues that poverty in the North is less problematic than in the South and is in general a minority problem. In the North, the Nordic approach to living conditions represents a special contribution to the stock of knowledge on poverty (Novak 1996:51). According to this approach, poverty must be visible and poverty is not about how people feel, but how they live. The approach therefore combines the ideas of income-related measurement and living con-ditions. Ringen (1988:352) argues in this context that the observation of income offers only indirect evidence to poverty. An additional criterion is the actual inability to reach the minimum standard of living owing to a lack of resources. Data are therefore required on income, assets and other material

means and on actual well-being in terms of housing, health, education and work involvement.

Wratten (1995:12) argues that in the South, however, the majority fails to achieve a minimum acceptable standard of living. Moreover, society in many cases lacks the capacity to supply the means to reach an acceptable standard of living. This is observed particularly in Asia and Africa, where the malnutrition or lack of food approach to poverty is applied (Novak 1996:51). The stage of national development also has a significant impact on poverty. Subsistence concepts, focusing on the lack of resources, play a major part in poverty investigations in Africa. Although poor living conditions are not ignored, the prime focus is on food and malnutrition.

Another way of classifying poverty is according to the kind of poverty prevailing. This way of classifying poverty depends to a great extent on the way development and poverty are defined (see Section 3.2). Max-Neef *et al*. (1989:21) are of the opinion that poverty should be classified according to kinds of poverties; for example, the poverty of subsistence, protection, affection, understanding, participation and identity. According to them, the traditional concept of poverty is restricted since it refers exclusively to the poverty of subsistence of people classified below a certain income threshold.

2.3   Theories of poverty used in different parts of the world

Wilson (1996a: 24) states that poverty itself is a highly political issue, where power and interest groups have had a significant influence on patterns of distribution. Indirectly, these powers and interest groups influence the existence of poverty. The analysis of poverty, therefore, is contested territorially. Social scientists cannot be completely unaffected by or neutral about the factors causing poverty. There is a need for all social scientists to be open to critical attacks on their most cherished theories. They should also recognise the corrective value of a diversity of hypotheses in the search for an understanding of poverty (Wilson 1996a:24).

The debate on poverty, especially in the Third World, is part of a wider debate on development and underdevelopment. The definition of *development* is crucial here. The people-centred approach suggests that development is about people and not about objects (Van Zyl 1995:14; ANC 1994:18). This has major implications for strategies to alleviate poverty.

Understanding the causes of poverty, and devising strategies to reduce it, is therefore a central component of the development debate. Recognition thereof reinforces appreciation of the difficulties of the problem and serves as a reminder that the search for strategies and understanding of poverty must draw on the wider body of knowledge accumulated in the general field of development. Insights from development theory can be useful when considering specific instances of poverty. The possibility of reducing poverty through an effective redistribution policy is a good example.

According to Petmesidou (1994:20), both the populist model of development and the technocratic model, when trying to speed up development, generate their own vicious circle in Third World countries. With the populist model, growing public expenditure limits economic growth and increases social conflicts as more groups participate in the political game. In their effort to share a stagnant or slowly growing pie, social and political instability is the result. With the technocratic model, a high rate of growth can be achieved, but only at the expense of social justice and political participation. This, in itself, increases polarisation and social unrest. The complex relationships among development, participation and equality will provide the key to policy formulation. This does not imply that a substantial reduction of poverty is impossible. However, it serves as a reminder of the political context and constraints within which particular policies unfold.

Wilson (1996a:25) identifies several theories of poverty in use in different parts of the world. These theories show where the emphasis lies concerning the understanding of poverty in these different parts of the world.

In Europe, poverty is viewed from two research traditions. Firstly, it is viewed from the Anglo-Saxon tradition, which is primarily concerned with

distributional issues. It concentrates on the lack of resources at the disposal of the household or individual. Secondly, it is viewed from the continental or intellectual tradition, which looks at relational issues such as inadequate social participation and the problem of integrating the poor into the larger society. This focus on "poverty as social exclusion" is reinforced in the Nordic countries where the theory of marginalisation and underclass is mostly used (Wilson 1996a:26).

In the United States of America, the causes of poverty are classified by Miller (1994:19-24) according to:

(a)   demographic causes;

(b)   neighbourhood effects;

(c)   cultural causes; and

(d)   labour market causes such as human capital, mechanisation, macro or Keynesian explanations, immigration ebbs and flows, and welfare disincentives.

Miller's demographic model is a very important analysis of the causes of continuing poverty, if not impoverishment.

 In South Asia, four theoretical frameworks can be identified:

(a)   the neo-classical approach, with market-led development;

(b)   the political economy approach, focusing on the history and on the creation of poverty through conflict of interests;

(c)   the culture of poverty approach, which tends to blame the victim and to reinforce the *status quo*; and

(d)   the participatory approach, whereby the energies of the poor themselves are harnessed to alleviate their plight.

Silva and Athukorala (1996:65-66) pinpoint the impact of steady population growth in the South Asian rural areas. In these areas, agrarian reform has failed and the concentration of people on rural land remains high. The steady decline in the asset base of the rural population seems to be one of the primary factors leading to increases in the number of the poor. This analysis is also true for South Africa where it concerns people living in rural areas, especially the former "homelands" (Wilson 1996a:26).

There is also the debate on urban poverty which emphasises the increase in urban poverty: it is so large that the numbers of urban poor are likely to grow at a faster rate than those of the rural poor (Wratten 1995:11-19). This in itself calls for a fresh approach when considering poverty in the African and South African contexts.

2.4 The philosophy of poverty research

The philosophy of poverty research around the world is well documented by Øyen (1996:8-16). She challenges the used-to-be dogma of research, namely that the production of knowledge had its own value, independent of the use to which such knowledge was put and asks the simple question: Why are people actually doing research on poverty?

In answering the question, Øyen states that poverty research thus far has predominantly concentrated on measuring the extent of poverty in a belief that it is of great importance to know the exact numbers of the poor as well as how poor they are. This tradition stems from the World Bank's involvement in poverty studies in the late 1970s, with the aim of making well-supported statements about poverty around the world. For this reason, the World Bank started with the measurement of living standards known as its Living Standards Measurement Studies in 1979. The aim of these studies was to improve the World Bank's ability to monitor standards of living, poverty levels and inequality in developing countries. These studies permitted useful comparisons between countries (Deaton 1994:33-34). For this purpose, a range of different measures was developed, mainly based on the income

and/or expenditure of the individual and the household.

Complementary to this, Øyen (1996:8) argues that a great deal of poverty research is concerned with criticising the different measures and highlighting their shortcomings. Much effort is made to overcome faults and to increase the validity and reliability of the different measures. In this context, Wilson (1996a:20) states that poverty research globally provided an important window into the economic realities of our time. However, it has been "long on measurements, but short on explanations and theories" and maybe almost silent on action. Fact-finding and the collection of basic information is, of course, fundamental to any analysis of the causes of poverty. Any attempt to reduce or eliminate the problem cannot bypass the basic process of mapping the terrain of poverty and of attempting to measure changes over time. But it seems that there is a search for yet more facts to formulate an ever more precise definition of poverty. Wilson adds that poverty research thus far has paid relatively little attention to the causes of poverty and strategies to overcome it.

In their search for a definition of poverty that makes precise measurement and comparison over time and space possible, all countries undertaking serious poverty research find themselves treading the well-worn path of researchers in India. Much of their efforts went into the defining of a poverty line that would permit an examination of trends over time and would allow for informed discussions about the impact of government policies, designed to alleviate poverty (Wilson 1996a:21). However, beyond the collection of data there must be an analysis of the causes. Beyond that, there must also be strategies for action to solve the problem.

Samad (1994:35) is of a similar opinion. He writes that poverty research up to now has been dominated by defining concepts and designing measurements, headcounts in particular. However, the causes, consequences and expla- nations of poverty have not been adequately addressed. The labour market, capital market, wages and incomes have not been studied in the context of poverty. Furthermore, the current theories lack the necessary rigour and scientificity to explain the phenomenon of poverty adequately. Many

hypotheses cannot stand the test of reality.

Øyen (1996:8-9) asks the following questions concerning the measurements of exact numbers: *For whom is it important to know what impact these exercises had on poverty alleviation? Is the information always used for the benefit of the poor and who are the actual users of these headcount numbers?* Øyen is of the opinion that among those actively using these numbers are firstly the social movements, benevolent societies, pressure groups, political parties and other individuals. They use the data for the purpose of putting pressure on authorities to obtain better living conditions for the poor. Then there are also the national governments which, in their efforts to obtain or to increase foreign aid from international organisations and donor countries, need to present statistics on high poverty rates in their countries. It is therefore not uncommon that unacceptably high numbers of poor are portrayed.

According to Øyen (1996:9), the most ready users are the policy-makers and bureaucrats who are obliged to reduce the complex issue of poverty to a few manageable variables. For this purpose, the poor that deserve help have to be defined in terms of the entire population in order to set a cut-off point between deserving and non-deserving people. A part of poverty research efforts has gone into identifying such cut-off points. Another part of the efforts has gone into determining the extent of transfers in cash or kind to the poor. When the cut-off points become institutionalised and accepted by political authorities as official poverty lines, poverty alleviation becomes visible (Øyen 1996:10).

To what extent the poor are actually helped and poverty is resolved, is another question. There can be grounds for using these cut-off points for comparing countries with one another, or to convince a government or a donor country of the merits of poverty alleviation. However, single poverty lines, dividing the "poor" and the "non-poor", are often highly inaccurate, because they simplify and standardise what is complex and varied (Chambers 1995:173-174). Knowledge about the distribution and depth of po-verty requires far more disaggregated data if poverty is to be solved.

The urban poverty debate (Amis 1989:375-391) reveals a great deal of the absurdity of using a single poverty line for both rural and urban areas. The debate contends that not only is the scale of urban poverty greatly underestimated, but its nature is also misunderstood (Mitlin 1995:3-4). The purpose of the urban poverty debate, however, is not to downplay the scale and seriousness of rural poverty, but to rather emphasise the fact that single poverty lines for both rural and urban areas and other generalisations are ridiculous. Where policies in countries have been based on single poverty lines, it has stimulated structural adjustment policies resulting in increased urban poverty (Mitlin 1995:7).

2.5   Towards a micro-analysis of poverty

Development literature has historically focused on inequalities between the poor rural and better-off urban populations (Wratten 1995:19-21). In the colonial period, it was widely assumed that poverty in developing countries could be solved through urbanisation and the transfer of labour from low-productivity subsistence agriculture to the high-productivity modern manufacturing industry.

However, development planners started to question the assumptions of this two-sector growth model during the 1970s. After decades of modernisation policies, the benefits of growth had not trickled down to the rural areas where the majority of the population still lived. Lipton (1988) blamed biased government taxation and expenditure policies that favoured city elites for this. Rather than solving the problem of rural poverty, urban centres were depriving rural areas of infrastructure and resources. Lipton's hypothesis became the mainstream view among development agencies in the 1970s and 1980s. As a result, many Third World countries' poverty alleviation strategies were reoriented to improve living conditions in rural areas. From the mid-1980s, structural adjustment policies reinforced these efforts by removing subsidies given to urban consumers. Food prices were, for instance, raised to market levels to favour rural producers.

Research in the 1980s and 1990s revealed a great diversity in the extent and depth of poverty within the urban populations in the Third World. Some writers argued that the depth of poverty was worse in deprived city slums than in rural communities. Disaggregated data on urban poverty, together with the recognition that urban growth is inescapable, finally put urban poverty high on the development agenda. The World Bank's policy paper for the urban sector acknowledges that "... by the late 1980s, urban *per capita* incomes in some countries had reverted to 1970-levels and in some countries to 1960-levels." (World Bank 1991:34-35.)

African data indicate a real decline in urban wages since the early 1970s. In many cases, real income levels have declined by 50 per cent since 1970 (Amis 1989:377). Together with this, a general deterioration of urban employment security and benefits, such as employer housing, has occurred. The urban-rural income differential has decreased sharply. In some countries, such as Tanzania, Uganda and Ghana, the income differential has actually been reversed (Wratten 1995:20).

When comparing international and even national estimates of poverty with specific studies of urban centres, wide discrepancies are found (Mitlin 1995:4). The reason for this can be that nationally set poverty lines are unrealistically low when applied to urban centres. The cost of living differs widely between rural and urban areas and even between different urban areas, and this in itself necessitates micro-analysis to define specific poverty lines for different locations. A study of poverty in Latin America (Feres & Arturo in Mitlin 1995:4) finds that urban poverty is much higher than what the conventional measures of the World Bank indicate when allowances are made for the higher cost of living (survival) in urban areas. The differences in the cost of living between urban and rural locations are discussed below.

Mitlin (1995:4) argues that in rural areas food can, in many cases, be obtained from common lands, forests, rivers, lakes or coastal waters. In cities there are different working patterns, together with higher female participation, reinforcing the need for prepared foods from outside. Ravallion (in Wratten

1995:14) estimates that urban food cost is 10 to 15 per cent higher than that in rural areas.

Housing, for instance, has a high cost in cities and is a major expense for urban households (Wratten 1995:14). While basic items like fuel, fresh water and building materials have to be purchased in urban areas, it can be obtained either free or much cheaper in many rural areas. Mitlin (1995:4) states that many of the low-income groups in urban areas live in "life and health-threatening" homes and neighbourhoods because of the very poor housing and living conditions. Factors like the inadequate provision of safe and sufficient water supplies and sanitation, drainage, removal of garbage and health care largely contribute to these conditions. The lack of income makes it impossible for the low-income groups in urban areas to afford better quality housing and basic services. This in itself greatly increases the scale of urban poverty. A study of Mumbai (Swaminathan 1995:133-143) shows how a large proportion of the inhabitants whose incomes are above the official poverty line, actually live in very poor quality, overcrowded dwellings. There is no provision for water supply, sanitation, garbage collection and health care.

Transport costs are particularly high for inhabitants of large cities who work in the central areas, but live on the periphery (Mitlin 1995:4). In South Africa, in particular, poor people live in townships long distances from urban areas. A large proportion of the workers from the townships have to travel these long distances to their workplaces. In the Vaal area, transport expenditure comprised 8.4 per cent of the total expenditure of black households in 1994 (Slabbert *et al.* 1994b:22). In 2003 this amounted to 7.1% (Slabbert 2003). Compared to this, transport expenditure in a more rural setting like Port Alfred (in the Eastern Cape) was insignificant as 87 per cent of the workers walked to their workplaces (Slabbert 1986:49).

The asset base of people in different locations also differs widely. Amis (1995:149, 153-154) writes that the relative lack of communal assets to fall back upon makes the urban dweller more vulnerable to shocks. 'Shocks' are defined as short-term incidents that push a previously self-sufficient household into poverty. The loss of a major income earner is an example of

such a shock. In rural areas, cattle and crops can also serve as assets which reduce the vulnerability of a household. The only asset, in the case of many city dwellers, is their labour or the number of household members who are able to work. In the absence of job opportunities, however, this asset becomes a liability in the city.

The abovementioned differences between urban and rural areas make it obligatory not only to use separate cut-off levels in respect of poverty (Wratten 1995:14), but also to define specific thresholds for different urban and rural locations. It is in this context that the argument of Akeredola-Ale (1994) applies. He maintains that the stereotyped general-purpose surveys do not fulfil the requirements of focused poverty research.

Apart from acknowledging the inadequacies of mainstream poverty research, the emergence of *new economics,* and particularly their human scale development (HSD) approach (Max-Neef *et al*. 1989; Max-Neef 1991), have not been adequately dealt with, especially not in South Africa. Except for Van Zyl's (1995) paper, very little of the major shifts in development paradigms have filtered to mainstream poverty theory. The HSD approach draws a clear distinction between fundamental human needs and satisfiers of such needs (Van Zyl, 1995:4). Any fundamental need that is not adequately satisfied reveals a human poverty. Van Zyl (1995:4) argues that communities are not homogeneous but diverse. They have different interests and hence prefer to adopt different *satisfiers* to address their fundamental needs. For this reason, development geared to the satisfaction of fundamental needs cannot be structured from the top down. It can only emanate directly from the actions, expectations and the critical awareness of the protagonists themselves, with government providing the required support.

The HSD approach to poverty alleviation therefore ascribes to government the role of "stimulator of processes from the bottom up", in contrast to its traditional role of "starter of satisfiers" (Van Zyl 1995:9). The incorporation of these shifts in development paradigms into poverty research dictates, at least as a starting point, a micro-analysis of poverty at local level. Dealing with poverty in terms of this approach will entail a more dramatic departure from

the traditional mainstream approach than finding a common starting point.

2.6 Poverty research in South Africa and its contribution to the alleviation of poverty in South Africa

Wilson (1996b:229) divides poverty research in South Africa into four time zones:

- before 1980;

- 1980 - 1990, the decade when the shift in the balance of political power became manifest;

- 1990 - 1994, the period of fundamental political change; and

- 1994 onward, or the period of democratic government.

As far back as 1906 a government commission was appointed in the Transvaal to look into the matter of "indigency" or poverty. The aim of the Commission was to prevent the growth of poverty in the Transvaal. For this reason, they regarded the methodology that deals with general, social and economic causes of poverty as important. However, in their terms of reference, the commission was limited in outlook and considered only the "indigency" of whites. Very little attention was paid to black poverty (Wilson 1996b:228). Poverty research that followed also focused primarily on whites. The First Carnegie Commission, established in 1928 to investigate the so-called "Poor White Problem", is an example. Although it broke new ground on the methodology of poverty research, and set the scene for the development of a range of political strategies to alleviate poverty, the Commission focused exclusively on white poverty and totally neglected poverty amongst blacks. The result was that the anti-poverty programmes incorporated in their strategies benefitted some poor people at the expense of others who were poorer and more vulnerable (Wilson 1996b:229).

Wilson (1996b:232) maintains that the earliest definitions of poverty in South Africa can be regarded as highly subjective. The definition at the time of the

First Carnegie Commission was essentially based on individual and personal opinions of what constituted a "decent" standard of living for whites.

A more inclusive picture of poverty in South Africa was portrayed by Macmillan in 1930. He analysed both black and white poverty in South Africa. Between the two World Wars, government commissions also reported on the cost of living, focusing the attention on the relationship between incomes and the cost of basic needs, including housing (Wilson 1996b:232).

During the Second World War, a number of papers, including the calculation of a Poverty Datum Line (PDL), were published by Batson of the University of Cape Town (Wilson & Ramphele 1991:16). These papers explicitly examined the nutritional basis of a PDL. Following this pioneering work, the PDL was re-fined and modified during the 1970s. Finally, it evolved into a Minimum Living Level and Supplementary Living Level (MLL and SLL), as published by the Bureau for Market Research and the Household Subsistence Level (HSL) and the Household Effective Level (HEL), as published by the University of Port Elizabeth (Potgieter 1980:12).

The Second Carnegie Inquiry into poverty gave a major thrust to poverty research in South Africa in the 1980s. According to Wilson (1996b:230), three important aspects were included in the study. Firstly, the study of poverty could only be meaningful if those communities enduring poverty had a thorough understanding of the problem and participated in finding solutions. Secondly, the inquiry was designed as an open-ended, ongoing process rather than a once-off operation. Thirdly, some action was needed to alleviate poverty.

Researchers involved in the Second Carnegie Inquiry were not provided with a clear definition of poverty. This was, however, criticism against the inquiry. The inquiry was viewed as an untidy process and was condemned by an economist of the World Bank as an inquiry that produced mere anecdotal evidence. Wilson responded to this by arguing that statistical analysis is essential and that statistics of a high quality are important. But he asked: *What is measured and what not?*

The Second Carnegie Inquiry into poverty in South Africa therefore emerged with a concept of poverty that had many different facets (Wilson 1996b:233). The concept of poverty research in the 1980s therefore expanded into a three-staged process, namely, facts, causes and strategies. It was no longer acceptable to confine poverty research to collecting data and analysing the causes. Research had to focus on finding ways of preventing and alleviating poverty. In order to do so, the facts of the matter and the analysis of causes of poverty were vital (Wilson 1996b:233).

In 1994, the Project for Statistics on Living Standards and Development (PSLSD) gave another major thrust to (material) poverty research in South Africa. The purpose of the survey was to collect statistical data about the conditions under which South Africans live in order to provide policy-makers with information required for planning strategies. Such data are of primary importance for the implementation of such goals as outlined in the Reconstruction and Development Programme (Wilson 1996b:230). With this in mind, several publications based on the PSLSD data followed, for example, the publications by Whiteford *et al.* (1995), the World Bank (1995) and May *et al*. (1995).

A common characteristic of these publications is that they follow the more absolute approach in studying poverty in the country as a whole. All of them aspire to inform the new government who the poor are and where they are living in terms of the new provinces, urban and rural locations, race groups and gender. The new government regards the alleviation of poverty as a priority. This is, for example, stipulated in the Reconstruction and Development Programme (ANC 1994:14). The data provided by these publications are therefore essential for the formulation of macro-economic government policy.

From a national and non-racial perspective, poverty studies in South Africa have thus far not contributed much to the alleviation of poverty in practice. The First Carnegie Commission of 1928 into the "Poor White Problem" focused exclusively on white poverty, with the result that poor whites benefited, at the expense of poor blacks (Wilson 1996b:229). Studies that

followed, e.g. the Second Carnegie Inquiry of the 1980s, were done from a political viewpoint (Wilson & Ramphele 1991:4). Research on poverty therefore focused on drawing the attention to the malpractice of the Apartheid government to impoverish blacks and enrich whites. The alleviation of poverty was viewed as impossible within the Apartheid government. For this reason, the aim of poverty research was to supply factual information to stir up action locally and internationally against the Apartheid government (Wilson & Ramphele 1991:4).

With a new democratically-elected government in power, poverty studies in South Africa became less politically inclined. They now follow more or less the same pattern as international poverty studies, for instance those conducted by the World Bank (Slabbert 1997:34).

Poverty studies in South Africa have made a major contribution in creating the right environment for poverty to be addressed at national or macro-level. Without the necessary national data on poverty, it would have been difficult for government to budget and plan on macro-level. However, poverty research has reached a stage where far more disaggregated data on urban and rural poverty must be produced if meaningful solutions are to be found for the alleviation of poverty in practice (Slabbert 1997:35).

There are wide differences in the causes and reasons underlying poverty in rural and urban areas. The same applies to different urban areas, as explained in Section 2.5. The incorporation of the human scale development approach into poverty research in South Africa necessitates a micro-analysis of poverty at local level. Poverty research will then also conform to the policy and programme for Local Economic Development (LED) of the government of South Africa. In this manner, poverty research can make an essential contribution to poverty alleviation by giving guidance to the local economic development forums which have been established.

2.7   Conclusion

The involvement of the World Bank in poverty studies contributed to a great extent to the development of national poverty lines in different countries. These national poverty lines allowed measurements, making it possible to compare the state of poverty in different countries of the world. Following the trend of the World Bank, poverty studies in different countries concentrated on producing statistics on poverty. Despite how well-measured poverty was, there were shortcomings in that the causes of poverty were not adequately analysed in different countries. There were also further shortcomings in that - viable strategies to alleviate poverty were not formulated in those countries.

The search of explanations for and solutions to poverty in different countries over the world finally led poverty research in a new direction, away from a national to a more micro-perspective. It was found that there cannot be a single national poverty line. The cost of living varies widely between different areas, for example rural and urban areas. The underlying reasons for poverty also vary widely between different areas within a single country.

From an international perspective, the future challenge of poverty research lies in studying poverty at local or micro-level. Incorporating the human scale development approach into poverty studies, poverty amongst households and individuals are to be studied in the context of their local circumstances and environments. The ability of local economies should be studied to determine the extent to which they are able to sustain their own populations. This micro-perspective should then be tied into a macro-perspective. Local or micro-policies must be aligned with national or macro-strategies and *vice versa*. National poverty studies are therefore not less important, but they should take into account the needs of the poor at micro-level.

Poverty studies in South Africa initially followed a more political approach in that poverty in South Africa was studied from a racial (white) perspective. Later poverty studies supported the anti-apartheid struggle as they endeavoured to cast light on the policies of the Apartheid government which

caused poverty among blacks. When the 1994 government came to power, poverty studies in South Africa began following international trends by studying poverty at a national level.

Attempts to alleviate poverty in South Africa should, however, follow the recent, less conspicuous international trend of focusing on solutions at the micro (local) level. It is in this context that poverty in Emfuleni is studied for the purposes of this thesis.

Chapter

3

Methodology for measuring the impact of changes in the economy on poverty

The micro-analysis model; the input-output model; poverty impact model

3.1 Introduction

A combination of three models is used for measuring the impact of development projects (positive) or negative factors on the extent and depth of poverty in Emfuleni. In the first part of this chapter, the model of measuring poverty on a micro-level at different periods of time is discussed. In the second part of this chapter, the compilation of an input-output table of the local economy is discussed. This model is then used to measure the impact of any positive or negative factor on the level of employment and household income in Emfuleni. In the third part of the third chapter, the model for measuring the impact of a change in the level of household income on the level and depth of poverty in Emfuleni is discussed.

3.2 A micro-analysis of poverty

A micro-analysis of poverty needs to describe the measuring of poverty at a household level by using different income-related criteria. Poverty is defined in absolute terms. However, the aim is not only to calculate the number of the poor, in other words, the extent of poverty, but also to determine how the poor are distributed below the minimum subsistence level, in other words, the magnitude of poverty.

The method of measuring poverty used in this chapter is similar to methods used by the World Bank and other institutions with research credibility. In Chapter 2, it was pointed out that a great deal of poverty research in the past

focused on criticising the different methods of measurement and describing their inadequacies at length. At the same time, little was done to trace the underlying causes of poverty and to design strategies to alleviate it. Although fact-finding, with the collection of basic information being fundamental to an analysis of the causes of poverty and for attempts to formulate solutions and to measure changes over time, it serves no purpose to carry on the debate on the different tools for measuring poverty *ad infinitum*. More emphasis should rather be placed on tracing the underlying causes of poverty and designing means and strategies to alleviate it (Wilson 1996a:20).

In this chapter, household incomes as well as a poverty line are defined. Income indicators of poverty such as the headcount index, poverty gap index, dependency ratio and the concept of dominance in conjunction with the distribution of household income are defined and adapted for the purpose of a micro-analysis of poverty.

3.2.1   A definition of poverty at household level

Conventional literature on poverty divides the foundations of the definitions of poverty into two approaches, namely, the relative approach and the absolute approach.

The <u>relative approach to poverty</u> is based on the idea that people are poor in relation to the community or society in which they live. This means that their income is consistently below the level that would allow them to attain a specific average standard of living. This is judged against the standard of living of the society they are part of. This approach is normally followed in the North where poverty is less problematic and generally a minority problem (Wratten 1995:12). Alcock (1993:59) sees the relative approach as a more subjective (normative) approach than the absolute approach. He explains that the relative definition of poverty is based upon a comparison between the standard of living of the poor and the standard of living of other members of society who are not poor. This usually involves some measure of the average living standard of the society in which poverty is being studied.

The <u>absolute approach to poverty</u> looks at it from the viewpoint of deprivation or the lack of sufficient income to satisfy basic needs. Unsatisfied needs, especially of a physiological nature, are seen as absolute poverty. Holman (1978:2) refers to such poverty as subsistence poverty or poverty below the subsistence level. He refers to the poor as those who have regular, though sparse income. The very poor are those whose income, for whatever reason, falls far below the subsistence level. The operative word in this approach is *income*. Income that consistently falls short of supporting the bare basic necessities of life is viewed as causing poverty.

The unconventional *human scale development (HSD) approach* defines poverty in far broader, holistic terms (Max-Neef *et al*. 1989:17-46). This approach makes a clear distinction between *needs* and *satisfiers* of those needs. Human needs are viewed as interrelated and interactive, and are classified into two categories: existential and axiological. By classifying needs into these categories, the interaction of the needs of being, having, doing, and interacting on the one hand, and the needs of subsistence, protection, affection, understanding, participation, idleness, creation, identity and freedom on the other hand, is demonstrated.

Food and shelter are not seen as needs, but as *satisfiers* of the need for subsistence. Education, either formal or informal, study, investigation and meditation are viewed as *satisfiers* of the need for understanding. The curative systems, preventative systems and health schemes in general are satisfiers of the need for protection.

A satisfier may contribute simultaneously to the satisfaction of different needs, or conversely, a need may require various satisfiers in order to be met. For example, a mother breast-feeding her baby is simultaneously satisfying the infant's need for subsistence and protection, affection and identity.

By drawing a distinction between the concepts of needs and satisfiers, Max-Neef *et al*. (1989:20) argue that fundamental human needs are finite, few and classifiable. Furthermore, fundamental human needs are the same in all cultures and in all historical periods. What changes is the way or the means to

satisfy these needs. Every social or political system adopts different methods to satisfy similar fundamental needs. In every system, fundamental human needs are satisfied (or not satisfied) through the generation (or non-generation) of different types of satisfiers.

Max-Neef *et al*. (1989:21) further argue that the traditional concept of poverty is limited and restricted, since it refers exclusively to the predicaments of people who may be classified below a certain income threshold. According to them, *any* fundamental human need that is not adequately satisfied reveals a human poverty. For example, the poverty of subsistence could be due to insufficient income, food, and shelter; the poverty of protection to bad health systems and violence; the poverty of affection to authoritarianism and oppression; the poverty of understanding to poor quality education; the poverty of participation to the marginalisation and discrimination of women, children and minorities; and the poverty of identity to the imposition of alien values upon local and regional cultures, forced migration and political exile.

Defining poverty in this context, Max-Neef *et al*. (1989:21) suggest that one should speak of *poverties* instead of *poverty*. Poverties, however, are not only just that, but much more in that each poverty generates pathologies. For example, extended unemployment generates pathologies that will totally upset a person's fundamental need system. Owing to subsistence problems, the person will feel increasingly unprotected; crises in the family and guilt feelings may destroy affections; lack of participation will give way to feelings of isolation and marginalisation; and, declining self-esteem may generate an identity crisis. In the same way, violence directly upsets the need for protection, thus inducing intense anxiety. Max-Neef *et al*. (1989:21) argue that pathologies may no longer be thought of as affecting individuals. The existence of collective pathologies of frustration, for which traditional treatments are simply inefficient, must be recognised.

In Africa, the majority of people actually fail to achieve a minimum acceptable material standard of living because of a lack of income (Wratten 1995:12). They actually fail in all *poverties*. This also applies to Southern Africa. The highest poverty rate is found in sub-Saharan Africa (Todaro 1994:145). For

this reason, the absolute approach, which focuses on subsistence concepts, plays a significant role in poverty investigations in Africa (Novak 1996:51).

It is for this reason that, at least as a start, this study follows the absolute approach in studying the poverty of subsistence in Emfuleni. By following this approach, people living in severe poverty can be identified. The extent of absolute poverty is then defined as the number of people living below a specified minimum level of income (Todaro 1994:145). This minimum level of income is normally expressed in terms of the amount of money needed to attain a certain minimum level of material subsistence. The minimum subsistence level in this argument is not viewed as a cut-off point to divide poor and non-poor households, but rather as a yardstick to measure different degrees of poverty. This, in addition, includes different degrees of urgency of the matter.

For the purpose of this study, poverty is defined as *the inability to attain a minimal material standard of living* (World Bank 1990a:26). To make this definition useful, three questions must be answered, namely:

- How do we measure the standard of living?

- What do we mean by a minimal standard of living?

- Having identified the poor, how do we express the overall severity of poverty in a single measure or index? (World Bank 1990a:26.)

The standard of living is usually expressed in terms of household income and expenditure which is an adequate yardstick. Because this measure does not capture dimensions of welfare such as health, life expectancy, literacy and access to public goods or common property resources, consumption-based poverty measures are usually supplemented with other non-income measures such as unemployment, education, urbanisation, housing, services, health, etc. These measures, however, are beyond the scope of this study.

The minimal standard of living is normally referred to as a poverty line. It is determined by the income necessary to buy a minimum standard of nutrition

and other basic necessities (World Bank 1990a:26). The cost of minimum adequate caloric intake and other necessities can be calculated by looking at prices of the food that make up the diet of the poor. A poverty line can therefore be calculated for a specific geographical area.

By comparing the total income or expenditure of a household with the calculated cost of the minimum adequate caloric intake and other necessities of the household, poor households can be distinguished from non-poor households. The simplest way to measure poverty is to express the number of poor as a proportion of the population. This is called the *headcount index* (World Bank 1990a:27).

Following the guidelines of the World Bank, a poor household can be defined *as a household of which the combined income of all its members is less than the calculated cost of the minimum adequate caloric intake and other necessities of the household.* In order to measure poverty at household level in Emfuleni according to this definition, household income and the poverty line is defined in the next two sections.

3.2.2   A definition of household income

Most of the quantitative measurements of poverty are based on income levels. This is evident in most works on the subject (Ringen 1985:99-111; Lewis & Ulph in Mokoena 1994:18). Beeghley (1984:325) argues that the value of "in-kind or cash benefits" should also be included in what is regarded as income. Omission of this would understate income and may have adverse effects on the measurements of poverty based on income.

The Central Economic Advisory Services (1986:16) included the following in its definition of income: Firstly, salaries, wages, overtime and commissions prior to the deduction of pensions and taxes; secondly, net profit from business, farming or professional practice; thirdly, estimated cash value of fringe benefits such as a company car and housing subsidy, food, clothing and accommodation provided by employers; and fourthly, any other regular income (pensions, interest, dividends, rent from boarders/lodgers).

Following roughly the same approach in this study, <u>income for the purpose of measuring poverty in Emfuleni </u>is defined as:

- *Salaries, wages, overtime and commissions after the deduction of pensions and taxes, in other words "take home pay";*

- *Net income from business, professional and informal activities;*

- *Estimated value of fringe benefits such as housing subsidy, food, clothing and accommodation provided by the employer;*

- *Any other regular income (pensions, interest, dividends, rent from boarders/lodgers, remittances etc).*

3.2.3   A definition of a poverty line

The poverty line shows the income level needed to provide a minimum subsistence level. Until 1973, the term Poverty Datum Line (PDL) was generally used to describe a theoretical minimum cost of living in South Africa. It was based on a calculation of the lowest possible cost of maintaining a person (household) in good health and decency by Western standards, but in the short run only (Potgieter 1980:11). Since 1973, in addition to the PDL, several other poverty lines were developed by different institutions. They are the Minimum Living Level (MLL) and the Minimum Humane Standard of Living (MHSL), by the Bureau of Market Research (Nel *et al*. 1973), the Household Subsistence Level (HSL) and the Household Effective Level (HEL) by Potgieter of the University of Port Elizabeth (Potgieter 1980).

 The PDL is used widely by sociologists, as well as by labour unions and employers in the determination of minimum wage levels. Lowest-cost, calorie-adequate and nutritionally-balanced food as well as such necessities as shelter, transport, clothing, fuel and lighting and cleaning materials are commonly used in such measures. The PDL is used mainly to measure absolute poverty, based on the ability of a person to afford basic needs with available income. The PDL was first introduced to South Africa during the Second World War to measure the extent of poverty in the growing townships and slums of the Western Cape (Wilson & Ramphele 1991:16). The PDL in

South Africa today encompasses different measurements, depending on different researchers and circumstances.

The Minimum Living Level (MLL) and the Minimum Humane Standard of Living (MHSL) are used by the Bureau of Market Research (Nel *et al*. 1973). The MLL is the minimum level at which "a Non-White family would be able to maintain the health of its members and conform with Western standards of decency". It includes the cost of items such as tax, medical expenses, education and household equipment in addition to the items included in the PDL (Wilson & Ramphele 1991:17). The MHS is a modest low-level standard of living index.

The Household Subsistence Level (HSL) and the Household Effective Level (HEL) were developed by Potgieter (1980). Potgieter (1980:4) defines the HSL as an estimate of the theoretical income needed by an individual household to maintain a defined minimum level of health and decency in the short term. The HSL is calculated at the lowest retail cost of a basket of necessities of adequate quality. This comprises the total food, clothing, fuel, lighting, and washing and cleaning materials required for each person, together with fuel, lighting and cleaning materials needed by the household as a whole, and the cost of rent and transport. A comparable calculation can thus be made for any household of any given size and composition.

The two most widely used poverty lines in South Africa today are the HSL and the MLL. The first reason for selecting the HSL as a poverty line for this study is because it is the only measure available for all the major centers in South Africa. Unlike the HSL, the MLL does not specify separate poverty lines for the urban and rural populations (May *et al*. 1995:7). The HSL is therefore the only poverty line with specific data regarding households of Emfuleni. (This data is also available for several years.)

The second reason is that the HSL has been the most frequently used measure in recent years (Whiteford *et al*. 1995:2; World Bank 1995:7; May *et al*. 1995; Carter & Posel 1995:7). This allows for meaningful comparisons.

The third reason is that the method of calculating the HSL as employed by Potgieter (1994:63), and the publication of the details, makes it possible to calculate a unique HSL for individual households. Potgieter gives a breakdown of the subsistence cost for different age groups of the different genders, as well as certain costs for a household as a whole (see Table 3.1). By calculating the HSL for an individual household, and comparing this figure with the combined income of the different members of the same household, the degree of poverty can be measured at micro-level or household level.

Table 3.1 below lists Potgieter's (2003:69) HSL calculations for households in Emfuleni for August 2003.

TABLE 3.1   CALCULATION OF THE MONTHLY HOUSEHOLD SUBSISTENCE LEVEL (HSL) FOR HOUSEHOLDS IN EMFULENI: AUGUST 2003

Household Subsistence Level (Rand)				
	Food	**Clothing**	**Fuel, Light, Washing & Cleansing**	**Total**
Children				
1-3 years	122.72	13.81	6.28	142.81
4-7 years	145.73	27.62	6.28	179.63
8-10 years	175.62	27.62	6.28	209.52
Boys & men				
11-14 years	206.16	41.42	6.28	253.86
15-18 years	232.49	55.82	6.28	294.59
19 + years	232.49	55.82	6.28	294.59
Girls & women				
11-14 years	199.43	41.42	6.28	247.13
15-18 years	199.43	55.23	6.28	260.94
19 + years	199.43	55.23	6.28	260.94
Housing			126.54	126.54
Household Fuel, Light, Washing & Cleaning materials:			295.74	295.74
Transport:			173.20	173.20

- SOURCE: Potgieter 2003:69.

The components of the HSL are limited to the short-term satisfaction of basic needs and make no provision for such essential requirements for decent living such as medical expenses, education, savings, hire purchases, holidays, reading materials, entertainment, recreation, insurance, purchases and replacements of household equipment, and incidental transport. This implies that there are other poverties as well - not only the "**material poverty of subsistence**" as argued by Max-Neef *et al*. (1989:21). The Max-Neef approach may be very helpful here in identifying and categorising the "other" poverties.

Potgieter (1980:7) maintains that although the HSL indicates the cost of a theoretical budget of necessities, it does not suggest an adequate income. In practice, one third of a total income equivalent to an HSL budget will be diverted from the specified items to other immediate essentials. In the case of the HSL, the income is not effective in enabling the household to maintain the standards of long-term health and decency. Potgieter (1980:7) therefore defines the Household Effective Level (HEL) of income, which is 150 per cent of the HSL.

3.2.4 The measurement of poverty

With the income of households and the poverty line (HSL) for households defined, the definition of a poor household (see Section 3.2.1) can now be adapted to read as follows: *A poor household is one in which the combined income of all its members is less than the HSL as determined for the specific household.* With a poor household defined, the number of poor households in Emfuleni can be calculated.

The candidate conducted several household surveys in Emfuleni, the last one being in July 2003. The questionnaire used in these surveys (see Annexure A) was constructed in a manner that income and expenditure information for both the household and the individual members of the household could be obtained.

The survey data gives the combined income of each individual household, as well as the age and gender of all household members. By allocating the

amounts suggested by the HSL to the different members, the HSL for each individual household can be determined. Comparing the combined income of a specific household with the HSL of the household, it can be determined whether the household is poor or not. Once the number of poor households has been determined, the different income indicators of poverty can be applied to analyse poverty in Emfuleni. The income indicators used in this study are the headcount index in conjunction with the poverty gap index, the dependency ratio and the concept of dominance in conjunction with the distribution of household income. All of these are adapted for the purpose of a micro-analysis in Emfuleni.

3.2.5   The headcount index and the poverty gap

The headcount index is defined as the *fraction of the population below the poverty line* (Deaton 1994:122). The purpose of the headcount index is therefore to quantify the number of those individuals or households that fall below the poverty line. If the distribution of incomes is represented by *y* and the poverty line by *z,* a poverty measure may be expressed by the function *P(y;z)*.

Suppose that in a population of *N* income units with incomes *y_i (i=1...N)* ranked in ascending order by subscript, *M* units have incomes equal to or less than *z,* then the headcount ratio (*H*) may be defined as follows (Borooah & McGregor 1991:359):

Headcount index:

$$H(y;z) = M / N$$

The headcount index, however, is a limited measure of poverty. It does not take into account the degree of poverty. In order to capture the degree (or magnitude) of poverty, the poverty gap measure is used in conjunction with the headcount index. The poverty gap measures the average shortfall of the income of the poor from the poverty line. Both the headcount index and the poverty gap measures were introduced by Sen (1981:24-34).

The headcount index is concerned with the number of the poor people or households whose incomes fall below a given poverty line as a ratio of the whole population. The poverty gap index is concerned with the depth of poverty (its magnitude) and therefore measures the extent of the shortfall of incomes below the poverty line.

The poverty gap ratio (*R*) can be described by the following equation from Borooah and McGregor (1991:359):

$$R(y;z) = \sum_{i=1}^{M}(z - y_i)/z$$

Where:

R = the mean income shortfall of the poor expressed as a proportion of the poverty line;

z = the poverty line;

y = the income of a household; and

M = the number of households with incomes below or equal to the poverty line (z).

However, measuring poverty amongst households where not all members are earning an income and where all members have to live from the combined income, makes the adaptation of this measure compulsory.

The size and composition of different households are totally different. This means that the income of households cannot be compared to an average poverty line. To overcome this to some extent, the total household income is divided by the number of household members to arrive at a household per capita income. The shortcoming of this method is that it does not take into account that children cost less to feed and clothe than adults. A poverty line for each household should be determined, based on the size and composition of the household. Some researchers, therefore, make use of Adult equivalent scales, as suggested by Deaton (in Whiteford & McGrath 1995:4). With this method the number of adult equivalents in each household

can be calculated. Total household income divided by the number of adult equivalents gives the household per adult equivalent income. Adult equivalent scales are calculated by the formula:

$$E = (A + \alpha K)^{\beta}$$

Where:

E =   number of adult equivalents;

A =   the number of adults;

α =   the "child fraction of adults";

K =   the number of children; and

β =   the economies of scale coefficient.

Whiteford and McGrath (1995:4), in their explanation of adult equivalents for households, use a generalised scale for developing countries as suggested by Deaton, where the value of 0.5 is attributed to α and 0.9 to β.

Although this method is an improvement when compared to *household per capita income*, a more accurate and simpler method can be applied by allocating the calculated amounts for different kinds of members of a household as determined by Potgieter (1994:63), as listed in Table 3.1.

Instead of only making a distinction between adults and children by using adult equivalent scales, Potgieter's method allocates appropriate amounts for men and women and boys and girls of different ages. The requirements for a child between 1 and 3 years are quite different from those for a child between 8 and 10 years (R142.81 versus R209.52 in Table 3.1). There are also differences between the different genders and ages. The HSL for an individual household can thus be calculated by allocating amounts for the different members of the household.

For example, a household consists of four members: A father, 34 years of age and working; a mother 30 years of age at home; a son aged 16 at school; a daughter aged 11 at school. The HSL calculated for the household from the information in Table 3.1 is as follows: R294.59 (father) + R260.94 (mother) +

R294.59 (boy) + 247.13 (girl) + R295.74 (fuel, light, washing & cleaning materials) + R126.59 (housing) + R173.2 (transport for working member) = R1,692.73.

The HSL for a household can be calculated and compared with its own total income with the information regarding the total income of a household, as well as the age and gender of its members available. The HSL not only determines whether the household is below the poverty line or not, but also how far below (or above) the household is with regard to its own poverty line. In this way, the poverty gap of an individual household is calculated. By calculating the same for all households of the survey sample, the total number of households below and above the poverty line and their distribution below and above the poverty line is determined.

3.2.6   The measurement of the poverty gap

Normally the poverty gap measures the average shortfall of the incomes of the poor from the poverty line. The poverty gap index measures the extent of the shortfall of incomes below the poverty line, that is, the difference between the poverty line and the mean income of the poor, expressed as a ratio of the poverty line (World Bank 1993a:15). The larger the value, the larger the gap between the poverty line and the mean income of the poor, indicating a larger depth in poverty. Instead of taking the difference between the poverty line and the mean income of the poor, a more accurate measure would be to calculate the poverty gap for each household individually. This is done by measuring the difference between a household's income and its own poverty line. To calculate the poverty gap ratio, the difference between the income and the poverty line of each household is expressed as a ratio of its own poverty line. The formula for calculating the poverty gap index for a specific household will then be:

$$R_i(y;z) = (z_i - y_i)/z_i$$

Where:

R_i = The income shortfall of a household expressed as a proportion of the households' poverty line;

y_i = the income of a specific household; and

z_i = the poverty line of a specific household.

The mean of all households' poverty gaps can be taken as the mean poverty gap for the population concerned. The mean poverty gap ratio of all households then gives the poverty gap ratio for the population concerned, expressed by the equation:

$$ R_{i..n}(y;z) = \sum_{i=1}^{M} (z_{i..n} - y_{i..n})/z_{i..n} $$

Where:

$R_{i..n}$ = the mean of the poverty gap ratios of individual households;

$z_{i..n}$ = the individual poverty lines of households;

$y_{i..n}$ = the incomes of individual households; and

$M_{i..n}$ = the number of households with incomes below or equal to their poverty lines.

The mean of all individual poverty gap indexes will be the poverty gap index for the population concerned.

3.3   The input-output model

The model discussed in this section will be implemented to measure the impact of positive (e.g. the establishment of new industries) and negative (e.g. disinvestment) changes in the Emfuleni economy on employment and household income. Input-output modelling is based on internationally recognised econometric techniques. The result of an input-output modelling exercise is presented in the format of input-output tables. These tables are based on the national accounting system of a country. In South Africa, the main source for providing this information is Statistics South Africa (Stats SA).

3.3.1   Description of an input-output model

The input-output framework of analysis was developed by Leontief in the late 1920s and early 1930s. In the beginning, it was designed for application at a national level; subsequent developments have extended it to the regional level (Miller 1998:42). The first official input-output table in South Africa was compiled in 1956-1957 to serve as a basis for the Economic Development Plan (CSS 1978:18).

The input-output model depicts economic linkages that exist within and between different components of an economy. This approach identifies monetary flows (expenditures and receipts) between various units (Khun & Jansen 1997), and focuses on the interdependence of different sectors of economic activities.

The fundamental notion of an input-output table is that the production of any output requires inputs. These inputs may take the form of raw materials or semi-manufactured goods, or inputs of services supplied by households or the government (Armstrong & Taylor 2000).

There are four quadrants in an input-output table, shown in Table 3.2.

TABLE 3.2   FEATURES OF AN INPUT-OUTPUT TABLE

QUADRANT 1 Intermediate Inputs	QUADRANT 2 Final Demand
QUADRANT 3 Primary inputs	QUADRANT 4 Primary Inputs directly to Final Demand

- Source: CSS 1978:15 (simplified).

The contents of each quadrant, as discussed in Central Statistical Services (CSS 1978:12, 13) is explained below.

Quadrant 1 is referred to as the transactions table, which contains the transfer of goods and services between different sectors for production purposes. They are referred to as "intermediate inputs".

Quadrant 2 shows the different "final demand" components: private consumption expenditure, government consumption expenditure, gross domestic fixed investment, change in inventories and total exports.

Quadrant 3 represents the demand for "primary inputs" by the productive sector: imports, remuneration (salaries and wages which can also be divided into categories or social classes depending on the analyst's objectives on income distribution analysis), gross operating surplus (savings and depreciation), as well as net indirect taxes (subsidies are subtracted).

Quadrant 4 shows the portion of "receipts by primary inputs", which is part of final demand. For example, part of income can be dispatched as dividend and interest, salaries to households for private consumption, investment expenditure, government transfer (e.g. pension) and transfer to the rest of the world.

Input-output tables show the production function of a specific geographic area in terms of the value of transactions that have taken place between different sectors and sub-sectors in the economy. It also takes into account imports and exports to and from the specific geographic area. The classical input-output model therefore provides a framework that illustrates inter-industrial linkages and economic interdependencies (Urban Econ 1998:117).

The input-output technique provides a snapshot of economic production at a given point in time and, as such, has numerous application possibilities. An application of this technique includes determining the impact of changing production functions on the general economic equilibrium. It is imperative that the results of the model be interpreted in the correct context and that cognisance be taken of its constraints, as is the case with almost any

modelling exercise. The most important constraints and assumptions of this technique are briefly outlined below (Urban Econ 1998:77,78).

- Classical input-output modelling provides a view of the economy in equilibrium at a specific instant in time and it therefore assumes fixed output production and pricing.

- Calculations are linear in two respects, firstly in terms of pricing and secondly in terms of production. Therefore, input-output modelling assumes that the output price will be directly proportional to demand, allowing for no economics of scale and other externalities. Similarly, production functions (the mix of inputs relative to outputs) are fixed for all output ranges.

- Input-output tables are sophisticated, costly and have extensive data requirements. The results are therefore dependent on data availability and quality.

- The model does not anticipate structural economic changes such as, for example, the impact of substitute products and technological innovation.

In spite of the limitations of input-output modelling, it is an empirical, internationally recognised econometric technique that has been widely applied in South Africa (Urban Econ 1998:117). The construction of an input-output transactions table for a regional economy is not confined to describing the input-output flows only. Once the interdependencies between sectors have been quantified, it is possible to estimate the effect of any change in the final demand on the entire system (Miller 1998:42). In this thesis, it will primarily be used to describe different economic transactions (intra-industry or inter-industry) which take place within the region; between Emfuleni and other regions (in and outside the RSA); and to provide a model to measure the (direct and indirect) impact of any change in the final demand for Emfuleni's outputs on the level of household income and employment in Emfuleni.

3.3.2   Methodology

An input-output table of a region is a very useful instrument to indicate the degree of interdependence of local industries, the dependence of the local economy on imports and the role played by exports. It depicts the flow of goods within, out of and into the economy and it has the potential to do so on a highly aggregated basis, by type of industry (Slabbert & Slabbert 1983:5).

As discussed in Slabbert and Slabbert (1983:5), the input-output table divides the economy into production sectors. For each of these sectors, the table lists the inputs by their source and the outputs by their destination. Each sector appears twice, as a column with its input pattern (purchases from other sectors) and as a row with its output pattern (sales to other sectors). More precisely, a row in the regional input-output table shows the distribution of the output (in Rand value at producer prices) of a particular local industrial sector listed at the left side of the row, in relation to:

- Every other sector in the same region or to local intermediate demand (part of the inter-sectoral matrix);

- Exports of the region;

- Direct domestic consumption and investment demand, i.e. to final demand.

Reading down a column in a regional input-output table yields the material inputs (in Rand values at producer prices) into the local industrial sector listed at the head of the column:

- For every sector in the same region (part of the inter-sectoral matrix);

- From outside the region as imports, as well as the labour, capital and other value-added inputs.

An input-output table identifies in Quadrant 1 the inter-sectoral matrix which is indicative of the degree of local industrial interdependence; in Quadrant 2 the consumption pattern of the locally-produced goods and services as well as

the export pattern of the region; and in Quadrant 3, the income accruing to the local factors of production (e.g. the households for their labour) for their participation in the local productive activity, as well as the import pattern of the region (Slabbert & Slabbert 1983:5).

It is clear that the input-output table is an excellent device for describing the flow of goods in the regional economy. However, in addition to its descriptive function, it also offers analytical qualities and can serve as an economic model for the region. The cornerstone for such a model is the technological relationship that the sales of any sector to any other sector depend, via an assumed linear and constant production function, on the level of output of the purchasing sector. A skeletal input-output table (Table 3.3) will illustrate this technical relationship (Slabbert & Slabbert 1983:5).

TABLE 3.3   A SKELETAL INPUT-OUTPUT TABLE

Output / Input	1	2	3	Final Demand minus export	Export	Gross output
1	X_{11}	X_{12}	X_{13}	Y_1	E_1	X_1
2	X_{21}	X_{22}	X_{23}	Y_2	E_2	X_2
3	X_{31}	X_{32}	X_{33}	Y_3	E_3	X_3
Value added	V_1	V_2	V_3			
Import	I_1	I_2	I_3			
Gross outlay	X_1	X_2	X_3			

- Source: Slabbert & Slabbert 1983:6.

Where:

X_i = the gross output or outlay of sector i;

X_{ij} = the intermediate sales of sector i to sector j from sector i;

Y_i = the sales of sector i to final demand (direct consumption and investment);

E_i = the sales of sector i to export;

V_i = value added in sector i by the local factors of production which in this

context stands mainly for household income;

I_i = purchases of sector i from import.

The following equations can be drawn up from the skeletal input-output table:

$$
\begin{aligned}
X_1 &= \boxed{X_{11} + X_{12} + X_{13}} + Y_1 + E_1 \\
X_2 &= \boxed{X_{21} + X_{22} + X_{23}} + Y_2 + E_2 \\
X_3 &= \boxed{X_{31} + X_{32} + X_{33}} + Y_3 + E_3
\end{aligned}
$$

Intermediate sales or inter-industry

What sector 1 sells to sectors 1,2, and 3 depends on the level of output of the purchasing sectors 1,2 and 3 (Slabbert & Slabbert 1983:7):

$$X_{11} = a_{11}\, x_1$$
$$X_{12} = a_{12}\, x_2$$
$$X_{13} = a_{13}\, x_3$$

Where: $a_{11} = \dfrac{x_{11}}{x_1}$; $a_{12} = \dfrac{x_{12}}{x_2}$; $a_{13} = \dfrac{x_{13}}{x_3}$

In the above equation a_{11}, a_{12} and a_{13} or more generally a_{ij} are called the direct input coefficients. In a *n* sector model of a region they represent the direct requirements of the product of any local sector i per unit of output of any other local purchasing sector j and they form the direct input coefficient matrix or technical matrix, as illustrated in Table 3.4 below (Slabbert & Slabbert 1983:7).

TABLE 3.4   DIRECT INPUT COEFFICIENT MATRIX

Output / Input	1	2	3
1	a_{11}	a_{12}	a_{13}
2	a_{21}	a_{22}	a_{23}
3	a_{31}	a_{32}	a_{33}

- Source: Slabbert & Slabbert 1983:7.

One of the important analytical uses of a regional input-output table is to measure the effect or impact of a change in the final demand for a locally produced good, or a change in the output of a local sector on the total output of the region (Miller 1998:42). The direct input coefficients enable measurement of the direct or first effect: how much additional output is

needed from all the local sectors as a result of an increase of R1.00 in the output of a particular sector. The direct input coefficients measure the effect on the industries delivering direct inputs to the expanding sector.

Referring to the skeleton input-output table and its technical coefficients matrix (Table 3.3 and Table 3.4): If the output of sector 2 increases by R1.00, then a_{12} indicates the direct input needed by sector 2 from sector 1, a_{22} the direct input needed from sector 2 and a_{32} the direct input needed from sector 3. An increase of R1.00 in the output of a local sector also produces an indirect effect: the industries delivering direct inputs to the expanding sector experience in turn an increase in their output and thus require additional inputs.

Measuring the direct and indirect effect of a change in the final demand for a locally-produced good or a change in the output of a local sector on the total output of a region can be done by calculating the Leontief-inverse of the matrix of direct input coefficients a_{ij} (Richardson 1972:26-30). Each direct and indirect input coefficient b_{ij} of the Leontief-inverse matrix measures the direct and indirect requirements of products from each local sector listed at the left hand side per Rand additional output of the local sector at the top.

TABLE 3.5   LEONTIEF INVERSE MATRIX

Output / Input	1	2	3
1 2 3	b_{11} b_{21} b_{31}	b_{12} b_{22} b_{32}	b_{13} b_{23} b_{33}
Sectoral Output Multiplier	$\sum_{j=1}^{3} bj1$	$\sum_{j=1}^{3} bj2$	$\sum_{j=1}^{3} bj3$

- Source: Slabbert & Slabbert 1983:8.

By summing all entries in the Leontief-inverse, in the column of a particular sector, the output multiplier of this particular sector can be derived. It measures the direct and indirect input requirements needed from all the sectors in the local economy by a particular local sector due to an increase of R1.00 in the output of that local sector.

From the input-output table and its technical matrices also employment, remuneration, GGP income, etc. multipliers can be derived, which indicate the effect of a change in final demand on the level of employment, remuneration (household income), GGP income, etc.

3.3.3   The Vaal Triangle input-output table

As outlined in Section 3.3.1, the input-output model is considered as a suitable technique to conduct a sectoral analysis of the economy and identify the key economic sectors. Money-values that were given to economic variables are based on the information available up to the time of publication. The utmost care has been taken to use the most relevant up-to-date information. A regional input-output table (1993 figures) was constructed for the Vaal region by VAALMET Consortium (1995). In 2002 this table was updated to 2000 figures (Slabbert 2002a:104-109).

Different sources of information have been consulted to estimate and update the information. These sources include VAALMET estimates, Vaal Research Group reports, as well as Gross Geographic Product figures for the Vaal Triangle. These sources have some limitations, which may impact on the accuracy of the figures. One of the main shortcomings is the lack of reconciliation of data between different sources for the same variable or economic activity. As the economies of Emfuleni and Metsimaholo, which together form the Vaal region or Vaal Triangle, are interwoven, it is not possible, nor desirable, to construct an input-output table for Emfuleni alone. Apart from that, no data is available to construct a separate input-output table for Emfuleni. From this updated input-output table for the Vaal region, the different multipliers are derived, which indicate the effect of a change in local final demand on the local level of employment, remuneration (household income), GGP income, etc. (see Table 7.8).

3.4   The poverty impact model

The poverty impact model described in this section was developed by the candidate. It is based on the assumption that a change in final demand for the

output of a region will, via the multiplier process, have an impact on the level of income of all households in the region. An increase in the demand for steel will, for example, increase the number of inputs required to produce the steel. Depending on the forward and backward linkages to the different sectors of the economy, other sectors of the economy will be influenced in such a way that employment and household income will increase until the multiplier is worked out. An increase in the final demand for steel will thus increase the household income in the economy by a certain percentage.

The increase of household income in a region by a certain percentage will impact both on the magnitude and extent of poverty. Some households, of which their respective incomes were less than their respective poverty lines, will, by the increase of their household income, now receive an income above their poverty line. These households will no longer be reckoned as poor, and this will effect the headcount index. Other households' income will still be less than their respective poverty lines, but the increase of their income will have the effect that their respective poverty gaps are decreased, and this will affect the poverty gap measure.

The model

Following the guidelines of the World Bank (as described in section 3.2.1), a poor household is defined as a household of which the combined income of all its members is less than the HSL as determined for the specific household. If the combined income of a household is described by y_i and the poverty line (HSL) of the same household is described by z_i, the extent of poverty, P_i, of this household is described by $P_i (y_i; z_i)$.

The headcount index is defined as the fraction of the population below the poverty line (Section 3.2.5). In this thesis, the headcount index was adapted to indicate the fraction of households that fall below their individual poverty lines, and is described by means of the equation:

$$H(y;z) = M / N$$

Where: $H =$ the fraction of households below the poverty line;

$y =$ household income;

$z =$ the poverty line of households;

$M =$ the number of households with incomes less than z;

$N =$ the total number of households.

It was previously mentioned that the poverty gap measures the average shortfall of the incomes of the poor from the poverty line while the poverty gap index measures the extent of the shortfall of incomes below the poverty line. In Section 3.2.6 the poverty gap index was adapted to be a measure of a specific household, described by the equation:

$$R_i(y;z) = (z_i - y_i)/z_i$$

Where: $R_i =$ the income shortfall of a household expressed as a proportion of the household's poverty line;

$y_i =$ the income of a specific household; and

$z_i =$ the poverty line of a specific household.

The poverty gap of an individual household (in monetary terms) can therefore be expressed by the equation:

$$G_i(y;z) = z_i - y_i$$

Where: $G_i =$ the income shortfall of a specific household;

$y_i =$ the income of a specific household; and

$z_i =$ the poverty line of a specific household.

From the three equations above, it is clear that the poverty gap will be influenced by an increase or decrease in household income.

An increase or decrease in the final demand for a region's output will influence the level of household income in a region by a certain percentage (or fraction) via the multiplier process. Projects initiated in the region will thus affect the level of employment and household income, which in turn will supplement the existing income of households to such an extent that the

headcount index for the population is decreased. On the other hand, disinvestments or closures of firms will increase the headcount index as well as the poverty gap.

If the income of a household is described by y_i and the poverty line (HSL) of a household by z_i and the fraction by which the average household income level is increased or decreased (e.g. 10% = 1.1 or -20% = 0.8) by f, then the poverty gap of the household will be influenced by a change in the final demand for a region's output as follows:

$$G_i(y;z) = z_i - (y_i.f)$$

Where:	$G_i=$	the poverty gap of a single household;
	$z_i=$	the poverty line of the household;
	$y_i=$	the income of the household; and
	$f=$	the factor by which household income is increased or decreased

The condition for reducing the headcount index is that the poverty gap of a household or households becomes zero or negative. This condition is described by the following equation:

$$G_i(y;z) = z_i - (y_i.f) \leq 0$$

Where:	$G_i=$	the poverty gap of a single household;
	$z_i=$	the poverty line of the household;
	$y_i=$	the income of the household; and
	$f=$	the factor by which household income is increased or decreased

The larger the number of households satisfying this condition because of the change in final demand, the smaller the headcount index becomes.

Projects implemented in the region (or disinvestment / closure of firms) resulting in an increase (or decrease) in the final demand for the region's

output will affect the extent of poverty, because it will increase (or decrease) the poverty gap. However, for sustainable development, the summation of all effects should reduce the headcount index as well as the poverty gap. The extent to which the headcount index is reduced, as well as the extent to which the poverty gap is reduced, will determine the degree of sustainability of the economy, taking into account all positive and negative factors.

3.5   Summary and conclusion

Three different models were developed and employed to finally measure the impact of change in the Emfuleni economy on its sustainability as defined above.

The first model measured both the extent and depth of poverty. Poverty is measured at a household level by calculating an individual poverty line (Household Subsistence Level) for each household. The amounts allocated for each member of the household depend on the age and gender of a household member. Once the poverty line for a household has been determined, the total household income for a household can be calculated and compared to the poverty line for the household. The headcount index, which was defined as the *fraction of the population below the poverty line,* is then calculated. The purpose of the headcount index is to quantify the number of those individuals or households that fall below the poverty line.

The depth of poverty is measured by the poverty gap measure, in conjunction with the headcount index. The poverty gap measures the average shortfall of the income of the poor from the poverty line. Whereas the headcount index is concerned with the number of the poor people or households whose incomes fall below a given poverty line as a ratio of the whole population, the poverty gap measures the average shortfall of the incomes of the poor from the poverty line.

The poverty gap index measures the extent of the shortfall of incomes below the poverty line, that is, the difference between the poverty line and the mean income of the poor, expressed as a ratio of the poverty line. The larger the va-

lue, the larger the gap between the poverty line and the mean income of the poor, indicating a larger depth in poverty.

Instead of taking the difference between the poverty line and the mean income of the poor, a more accurate measure is followed by calculating the poverty gap for each household individually. This is done by measuring the difference between a household's income and its own poverty line. To calculate the poverty gap ratio, the difference between the income and the poverty line of each household is expressed as a ratio of its own poverty line. The mean of all households' poverty gaps can be taken as the mean poverty gap for the population concerned.

The second model, an input-output model of the Vaal economy, measures the effect of endogenous and exogenous changes in the economy on the level of household income and employment. The input-output model depicts economic linkages that exist within and between different components of the economy. This approach identifies monetary flows (expenditures and receipts) between various units and focuses on the interdependence of different sectors of economic activities.

Input-output tables show the production function of a specific geographic area in terms of the value of transactions that have taken place between different sectors and sub-sectors in the economy. It also takes into account imports and exports to and from the specific geographic area. The classical input-output model therefore provides a framework that illustrates inter-industrial linkages and economic interdependencies.

The input-output technique provides a snapshot of economic production at a given point in time and, as such, has numerous application possibilities. An application of this technique includes determining the impact of changing production functions on the general economic equilibrium. In order to do this, sectoral linkages and sectoral multipliers for the Vaal economy were calculated, which are used to identify the key economic sectors. These are sectors which, if stimulated, have the greatest impact on the level of

household income and employment in the region – and consequently also on poverty.

The last model measures the impact of a change in household income on the extent and depth of poverty. The degree in which proposed local economic development projects decrease the magnitude and extent of poverty determines the degree of sustainability of the economy.

The impact of employment creation or an increase in household income on poverty levels can be measured with the aid of a model that incorporates the headcount index method and the poverty gap methods. Employment creation may, for example, supplement the existing income of households to such an extent that the headcount index for the population is decreased significantly.

An employment creation scheme aimed at the unemployed poor will have an immediate effect on the extent of poverty, because it reduces the poverty gap. However, to have a significant effect, it should also reduce the headcount index. The extent to which the headcount index is reduced will indicate the success of an employment creation programme. The condition for reducing the headcount index is that the poverty gap of a household or households becomes zero or negative. The larger the number of households satisfying this condition, the smaller the headcount index becomes.

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Chapter
4

Emfuleni population and labour force

Current status and trends

4.1 Introduction

In this chapter, Emfuleni is analysed in terms of its demographics (such as population size, historical growth patterns, household size, dependency ratios, home ownership and literacy) and its labour force. The methods used for the measurement of unemployment are discussed and several profiles are portrayed (employment and unemployment, trends in employed and unemployed, occupational profiles, income and expenditure profiles).

4.2 Demographic profile

Any change in the economy of a region will have an effect on its population in terms of employment opportunities, income (remuneration), expenditure patterns, the level of poverty and social services. The demographic, educational, employment, income and expenditure profiles of Emfuleni are analysed and portrayed in the following paragraphs.

Population size

In the past there were various estimates regarding the size of the population in Emfuleni. WEFA (2000) estimated the 1999 population for the former Eastern Vaal Metropolitan Substructure (EVMS) and Western Vaal Metropolitan Substructure (WVMS), which together form Emfuleni, at 924,314 persons. The figure of 950,657 for the year 2000, based on the WEFA estimates, was commonly used in Emfuleni in the absence of anything else. However, it appears that this was an overestimation and that the new municipal boundaries for Emfuleni, as determined by the Municipal Demarcation Board, also resulted in a change of the population numbers. Based on the 1996

Census, the Municipal Demarcation Board estimated the population for Emfuleni at 597,948 for the year 1996 (Municipal Demarcation Board 2001). Statistics South Africa, in its latest release, estimates the population within the new municipal boundaries at 658,422 for October 2001 (Stats SA 2003a). The figures released by Statistics South Africa will be used throughout this thesis and population estimates will be based on this figure. The Emfuleni suburbs and population numbers are given in Table 4.1 below.

TABLE 4.1   THE EMFULENI SUBURBS AND POPULATION (2001)

Boipatong………………..…	16,868	Sebokeng………………..	222,044
Bophelong…………………...	37,779	Sharpeville………………	41,031
Evaton…………….…….…...143,152		Tshepiso……………….…	22,952
Rural areas………………....	4,378	Vanderbijlpark ………….	80,201
Orange Farm (Stretford).......	16,727	Vereeniging ……………..	73,288

- Source: Stats SA 2003a.

Historic growth patterns

The general view seems to be that Emfuleni has experienced a rather high average annual population growth rate in the 1990s when compared to the national growth rate. The reason for this was that there was a high immigration into the area from the rural areas of people seeking employment in an urban and industrial environment. According to population figures supplied by WEFA (1996), the population of the former WVMS grew at about 2.6 percent per annum from 1990 to 1996; the population of the former EVMS grew at about 3.3 percent in the same period of time, which means an average growth rate for the whole area of about 2.85 percent per annum. The national rate (1991 – 1996) was calculated at 2.2 percent, which was regarded as the natural population growth rate (Stats SA 2000:6).

Based on the population estimates of Stats SA (2003a) for Emfuleni, the population of Emfuleni grew at an average annual growth rate of 1.95% between 1996 and 2001, compared to 2.0% nationally (Calculated from Stats SA 2003b:6). The relatively lower rate between 1996 and 2001 when compared to 1991 – 1996 could possibly be explained as follows: between

1991 and 1996, as a result of the scrapping of the Group Areas Act and other restrictive Apartheid laws, many people moved from the former homelands to the urban areas. The economic decline in Emfuleni and the high unemployment rate probably made it a less attractive area to settle after 1996. The growth rate for Gauteng was estimated at 3.75% for the period between 1996 and 2001 (calculated from Stats SA 2003b:6), implying that people would rather move to other areas of the Gauteng province, or even move from Emfuleni to other parts of the province.

Household size

The total number of households in Emfuleni is 187,044 (Stats SA 2003a). The average household size in Emfuleni is calculated at 3.52, compared to the national figure of 3.8 persons per household. Gauteng has the lowest average household size of all the provinces, with 3.2 persons per household (calculated from Stats SA 2003a).

The national average size of a black household is 3.9 persons, compared to 2.8 for an average white household. The average size of a household in the Former Black Townships (FBT) of Emfuleni is 3.6, compared to 3.2 in the Former White Towns (FWT).

Dependency ratio

Dependency ratios are calculated by dividing the total number of non-income earners by the total number of income earners. Based on the household survey by Slabbert and Mokoena (1999), the dependency ratio in Emfuleni was determined at 3.41. Based on the data provided by Stats SA (2003a), the dependency ratio for Emfuleni is determined at 3.29 for 2001. The dependency ratio in Emfuleni increased from about 2.77 in 1994 to 3.41 in 1999 as a result of the increase in unemployment (Slabbert & Slabbert 2002a:20). This means that in 1999 more persons on average depended economically on each earning person. This is a 35.9% increase over a 9 year period and it means that in 1999, the income earners had to sustain 35.9% more dependents than in 1991. It seems that the dependency ratio declined slightly towards 2001.

Home ownership

By 1993, most of the people living in Emfuleni, especially those located in the former townships, were renting the structure in which they stayed. The type of dwellings in the township areas then ranged from formal dwellings (44.7 percent), to informal dwellings (49.7 percent) and outbuildings (5.6 percent) (Urban Econ 1998:47). This situation, however, changed drastically with the options opened up to buy houses, as well as the construction of the RDP houses. By 2001, 70.5% of the houses in Emfuleni were made of brick and situated on a separate stand. Flats and cluster houses comprised 10.3%. The rest (2.8%) are other kinds of structures (caravans, traditional huts, etc.). Informal housing comprised 16.4% in 2001, compared to 23.3% in 1996 (calculated from data supplied by the Municipal Demarcation Board 2001, 2003). This implies that the number of households staying in informal houses declined from 49.7% to 16.4% since 1993.

About 56.5% of the households in Emfuleni own their houses or flats and 23.9% rent their houses or flats (calculated from data provided by the Municipal Demarcation Board 2003).

The construction of middle- and higher-income houses, however, declined to a low level as a result of an increased supply of houses, resulting from especially White, Asian and Coloured home owners leaving Emfuleni. In the period 1991-1996, the growth rate for the White population group was -3.5 percent. The growth rate for Asians was -8.0 percent and that of the Coloured population group -5.7 percent (Bloch & Dorfling 2000:12). Most of these left from middle- and higher-income areas. Between 1996 and 2001, the trend changed to such an extent that the growth rates were as follows: Blacks, 2.6%; Coloured, 3%; Asian 4.5% and Whites -1.5% (calculated from data provided by the Municipal Demarcation Board 2001 & Stats SA 2003a).

Literacy

By the year 1999, 19.8 percent of the Emfuleni population (including the population below 5 years of age) had no education (Slabbert & Mokoena 1999). According to the Municipal Demarcation Board (2001), this figure was

22.5% for the year 1996. The comparable figure for 1991 was 23 percent. The national figure for 1991 was 30.6 percent. By the year 2000, 67.7 percent of the population in Emfuleni had an educational level of grade 3 or higher. A total of 22.8 percent of Emfuleni population had grade 10 or a higher qualification by the year 2000. The figure for those with a grade 10 or higher qualification in 1991 was about 19 percent (while it was 16 percent for the country as a whole in 1991) (Slabbert & Slabbert 2002b:5). On the whole it can be concluded that the level of literacy in Emfuleni is slighter higher than in the whole of South Africa.

Levin & Sofisa (1993:32) use standard 3 (Grade 5, i.e. 5 years of schooling) as the cut-off point for literacy levels. If this measure is used (only out-of-school population is considered, i.e. excluding children), then 10.6% of the poor population is illiterate (having qualifications less than Grade 5).

4.3   The labour force

4.3.1   Profile of the unemployed

Methods for the measurement of unemployment

Various methods are used to measure unemployment. The following three are more or less standard methods (Slabbert & Levin 1997).

a. The census method

This method is used for measuring the economic status of the entire population. However, censuses take place only periodically and even then only a limited number of questions pertaining to employment can be included.

b. Registration method

This method provides for the unemployed to register at placement offices - in South Africa, these are offices of the Department of Labour. Registration is compulsory to qualify for unemployment benefits. In South Africa, some categories of civil servants, domestic workers, farm workers, casual and seasonal workers, those earning more than the ceiling income and those whose period of benefit (6 months) has run out, are excluded from the fund.

Many persons, therefore, have no reason to register. Registered unemployment figures published by the Department of Labour in South Africa consequently do not show the level of unemployment accurately, particularly not for Blacks.

c. Sample surveys

Surveys are undertaken on a sample basis to obtain the data required to calculate unemployment rates for specific groups of people. In earlier years, the Central Statistical Services conducted surveys on a monthly basis for Blacks, Coloureds and Asians. It was called the Current Population Survey (CPS). However, since the figures obtained for Blacks were found to be inaccurate, their results have not been published since April 1990 (Barker 1992:83). In 1994, the CPS was terminated and the October Household Survey was introduced. Statistics South Africa (Stats SA) has conducted October Household Surveys (OHS) since 1996. It is an annual survey, based on a probability sample of a large number of households. It covers a range of development and poverty indicators, including unemployment (official and expanded), according to the definitions of the International Labour Organisation (ILO).

Because of the lack of reliable sources of information on a regional basis, surveys were conducted in the Vaal by the Employment Research Unit (ERU) and the Vaal Research Group (VRG) in the years 1988, 1991, 1994, 1999 and 2003 to determine the unemployment and poverty rate (Levin & Slabbert 1988, 1989; Slabbert & Levin 1990, 1992a, 1992b, 1992c, 1992d; Slabbert *et al.* 1994a, 1994b, 1994c; Slabbert, van Wyk, Coetzee & Levin 1995; Slabbert, Coetzee & Levin 1995; Slabbert 1997, 1999, 2001a, 2001b, 2001c; Slabbert & Dorfling 2001; Slabbert & Slabbert 2002a, 2002b; Slabbert & Mokoena 1999; Slabbert 2003). The method used to determine the unemployment rate in Emfuleni is explained below.

Definition of unemployment

Statistics South Africa uses the following definition of unemployment as its official definition (Stats SA 2000:10):

The unemployed are those people within the economically active population who:

a)   did not work during the seven days prior to the interview;

b)   want to work and are available to start within a week of the interview; and

c)   have taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview.

These general criteria are translated into statistically meaningful criteria, namely:

- the population of potential working age (i.e. 15 years and older);

- the economically non-active (i.e. those who prefer not to or who cannot work – for instance housewives, persons 65 years and older, the disabled etc);

- the economically active population (all those who are fit to work, wish to work, have no employment and are ready for and actively looking for work, plus the employed and self-employed).

The unemployment rate (Ur) then, is calculated according to the standard equation:

$$\frac{number\ of\ unemployed}{Economically\ active\ population\ (EAP)}\ x\ \frac{100}{1} = Ur$$

In developed countries, this definition is relatively simple to apply. The criteria for measuring unemployment are clear and definite, i.e. a person is out of work, and is actively looking for a job by means of a listing at a placement or other government office. However, in developing countries circumstances are very different, and it is not always clear whether or not a person is seeking employment. In South Africa, some unemployed persons become discouraged and therefore refrain from taking active steps to seek employment.

In the surveys conducted by the Employment Research Unit (ERU) and the Vaal Research Group (VRG), only one criterion was taken as an indication of

seeking work, namely if a person "has the desire to work and to take up employment or self-employment". The question asked was simply: "Do you want to work?" When the standard Stats SA definition is used, but its strict criteria are relaxed - as was done in the surveys - it is referred to as an expanded definition of unemployment. The expanded definition includes (a) and (b) but not (c) in the definition listed on the previous page (Stats SA, 2000: xv).

Stats SA's definition for employment which defines 'employed' as those who performed work for pay, profit or family gain in the seven days prior to the Household Survey interview, or who were absent from work during these seven days, but had some form of paid work to which they can return (Stats SA 2000:xv) was also simplified. The question was simply asked: "Do you work for a business, for yourself or for your family?" Working for a business was regarded as formal employment. Self-employment and family employment were taken as working in the informal sector.

The labour force

Table 4.2 shows the population data for Emfuleni as derived from data provided by the Municipal Demarcation Board (2003).

TABLE 4.2   LABOUR FORCE OF EMFULENI

Activity	Numbers 2001	Comparison of Percentages		
		Survey data 1999	Census 2001	Survey data 2003
POPULATION	658,422	100.0%	100.0%	100.0%
Less: **PERSONS 0-14 YEARS & 65+ YEARS OF AGE & THE DISABLED & ECONOMICALLY NON-ACTIVE POPULATION**	344,732	53.4%	52.4%	54.2%
ECONOMICALLY ACTIVE	313,690	46.6%	47.6%	45.8%
Employed	153,655	22.7%	23.3%	21.0%
Unemployed	160,035	23.9%	24.3%	24.8%

- Source: Calculated from Municipal Demarcation Board 2003; Slabbert & Mokoena 1999; Slabbert 2003.

The unemployment rate in Emfuleni is determined at 51.0 percent for 2001.

The 1999 and 2003 calculations from survey data (Slabbert & Mokoena 1999; Slabbert 2003) are compared in Table 4.2.

Using the standard equation as defined above, the **unemployment rate** (Ur) (expanded definition) is calculated at **51%** from the 2001 Census data (Municipal Demarcation Board 2003) as follows:

$$\frac{number\ of\ unemployed}{Economically\ active\ population\ (EAP)} \, x \, \frac{100}{1} = Ur$$

$$\frac{160,035}{313,790} \, x \, \frac{100}{1} = 51.0\%$$

The unemployment rate for Emfuleni is higher than that of all municipalities in Gauteng, as well as the Northern Free State (Stats SA 2003a). The national figure for the year 2001 was estimated at 41.5% for 2001 (BER 2001).

The rate determined for Emfuleni from the 1999 survey data was 51.3% and 54.1% from the 2003 survey data.

A problem affecting the accuracy of the unemployment rate is the _multiplying effect_. This is the effect of high levels of unemployment on involuntary unemployment. For instance: a mother and grown-up daughter from the same family are unemployed and both express a desire to take up employment. However, if one of them is successful in obtaining employment, the other will no longer be available for employment. It is not possible to correct or adjust the results for the impact of this multiplying effect (Slabbert 2001c:5).

Since 1991, the Emfuleni economy has registered only a marginal employment growth in certain sectors, and a negative growth in other sectors. The net effect has been a loss of employment opportunities. This corresponds with the national labour scenario which also experienced a decline in job opportunities in this period (BER 2001).

Table 4.3 and Figure 4.1 show the trends in unemployment in the Vaal's Former Black Townships (FBT) from 1991 until 2003. As the majority of the unemployed (about 90%) reside in the Former Black Townships, it is assumed that the trends for Emfuleni as a whole will follow the same pattern (though the actual figures for Emfuleni as a whole will be lower).

TABLE 4.3   TRENDS IN UNEMPLOYMENT (PERCENTAGE OF POPULATION AND UNEMPLOYMENT RATES), VAAL, FORMER BLACK TOWNSHIPS

	1991	1994	1999	2003
Unemployed as % of population	14.5	20.0	24.5	28.0
Unemployment rate	35.0	48.7	54.5	60.7

- Source: Slabbert 1997:75; Slabbert & Mokoena 1999; Slabbert 2003.

The unemployment rate increased especially in the years 1991 – 1994 (after the abolition of the Group Areas Act). From 1991 to 2000, a 56% increase in the unemployment rate was experienced.

FIGURE 4.1   TRENDS IN THE UNEMPLOYMENT RATE, VAAL, FBT
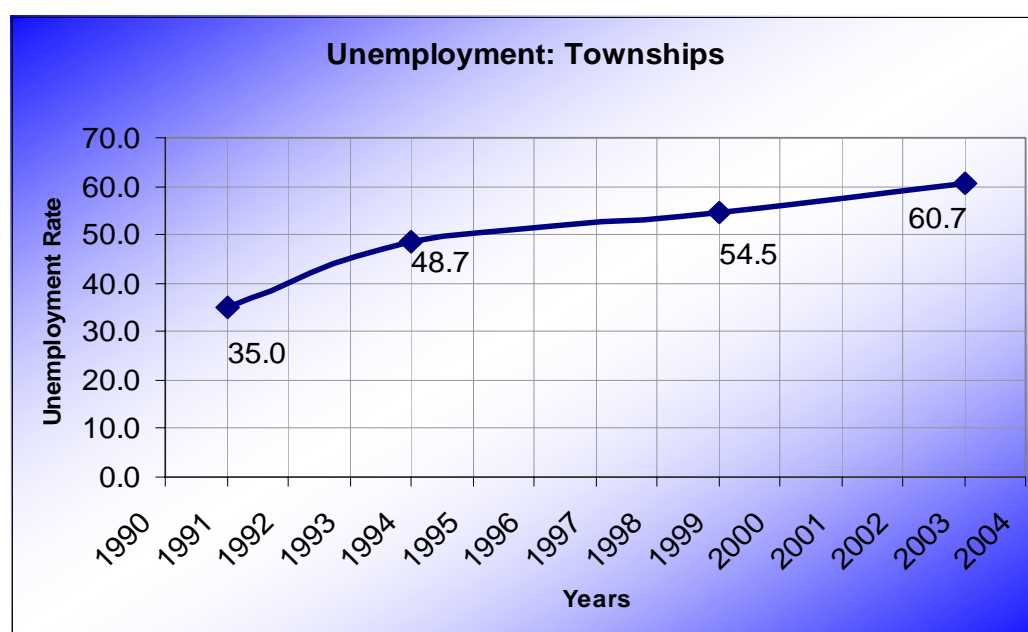
- Source: Slabbert 1997:75; Slabbert & Mokoena 1999; Slabbert 2003.

Up to 1996, household and employment surveys were only conducted in the Former Black Townships (FBTs) of the Vaal. Only from 1999 and onwards these surveys were also conducted in the Former White Towns (FWTs) of the Vaal. For the earlier years, the data is only available for the Vaal as a whole. From 1999 and onwards, segregated data is available for Emfuleni and Metsimaholo. For this reason, the trends in the unemployment rate are depicted for the FBTs of the Vaal as a whole. As Emfuleni comprises 85% of the population of the Vaal (Municipal Demarcation Board 2003), and about 90% of all unemployed persons in Emfuleni reside in the FBTs (calculated from data by Municipal Demarcation Board 2003; Slabbert 2003), the unemployment trends in the Vaal as a whole will give a good indication of the trends in Emfuleni.

Surveys conducted by the Employment Research Unit in the Former Black Townships indicate that since 1990, younger people without jobs have been moving into higher age categories, still unable to find employment. About 26 percent of the unemployed have less than five years of formal schooling (Slabbert & Slabbert 2002b:7).

Profile of the employed

The potential labour force, or economically active population (persons in the age between 15 and 64 years, minus the economically non-active population which includes housewives, the disabled and those who prefer not to work) of Emfuleni for the year 2001 is in the order of 47.6 percent of the total population of Emfuleni, or 313,690 persons.

Of the total labour force, 45.9% is employed (2003): 39.9% is employed in the formal sector and 9% is informally employed (Slabbert 2003).

The employment profile in Emfuleni is largely influenced by the economic structure of the area. The area is characterised by specialisation in certain sectors, namely:

- The manufacturing of basic metals and metal products: these activities are responsible for almost 66.4 percent of all

manufacturing employment opportunities (Slabbert & Slabbert 2002b:9), and

- Trade and services activities: the wholesale and retail, community and personal services and other activities, are responsible for about 61.4 percent of tertiary employment (see Table 4.4). (The tertiary sector involves trade, transport, financial services, community and personal services and other services, including private households).

Table 4.4 and Figure 4.2 show the employment profile of Emfuleni. The figure shows a high occurrence of labour involved in manufacturing (32.5 percent), trade (8.9 percent) and service oriented and other activities (34.8 percent). In Annexure B, a detailed explanation is given as to what each economic sector includes.

TABLE 4.4   EMPLOYMENT PROFILE OF EMFULENI (2003)

Economic sector	Employment (number)	Per cent
Agriculture	2,904	1.9
Mining	1,230	0.8
Manufacturing	34,122	22.2
Electricity / Gas / Water	2,367	1.5
Construction	7,812	5.1
Trade	25,717	16.7
Transport	7,277	4.7
Financing	13,228	8.6
Services & Other	29,105	18.9
Tourism & Entertainment	2,176	1.4
Private households	17,124	11.1
Undetermined	10,580	6.9
TOTAL	153,657	100.0

- Source: Municipal Demarcation Board 2003 and Slabbert & Slabbert 2002a:106 for calculations of estimates for Tourism & Entertainment.
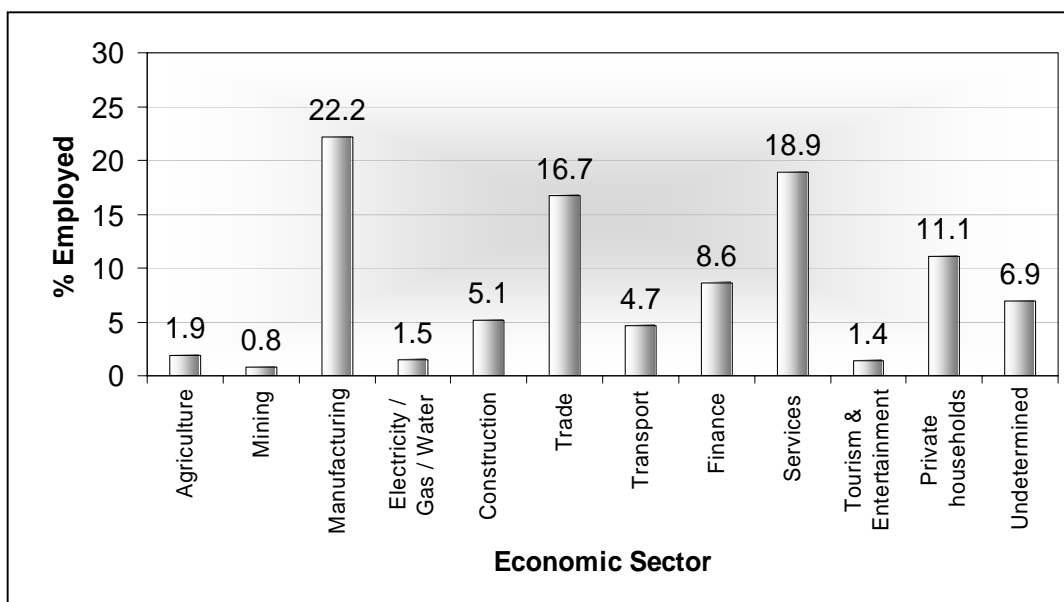
FIGURE 4.2   EMPLOYMENT PROFILE OF EMFULENI (2003)

- Source: Municipal Demarcation Board 2003 and Slabbert & Slabbert 2002a:106 for calculations of estimates for Tourism & Entertainment.

Occupational profile

The occupational profile of Emfuleni is portrayed in Table 4.4 and Figure 4.5 below.

TABLE 4.5   OCCUPATIONAL PROFILE OF THE ECONOMICALLY ACTIVE POPULATION (2001)

OCCUPATION	Percentage	Number
Legislators, senior officials, managers	**5.1**	**7,791**
Professionals	**6.4**	**9,817**
Technicians & associate professionals	**9.6**	**14,804**
Clerks	**11.9**	**18,284**
Service workers, shop and market sales workers	**11.2**	**17,275**
Skilled agricultural workers	**0.7**	**1,079**
Craft and related trade workers	**14.3**	**21,923**
Plant and machine operators & assemblers	**11.7**	**18,021**
Elementary occupations	**24.1**	**36,990**

Undermined	5.0	7,673
TOTAL	**100.0**	**153,654**

- Source: Municipal Demarcation Board 2003.

FIGURE 4.3   OCCUPATIONAL PROFILE OF THE ECONOMICALLY ACTIVE
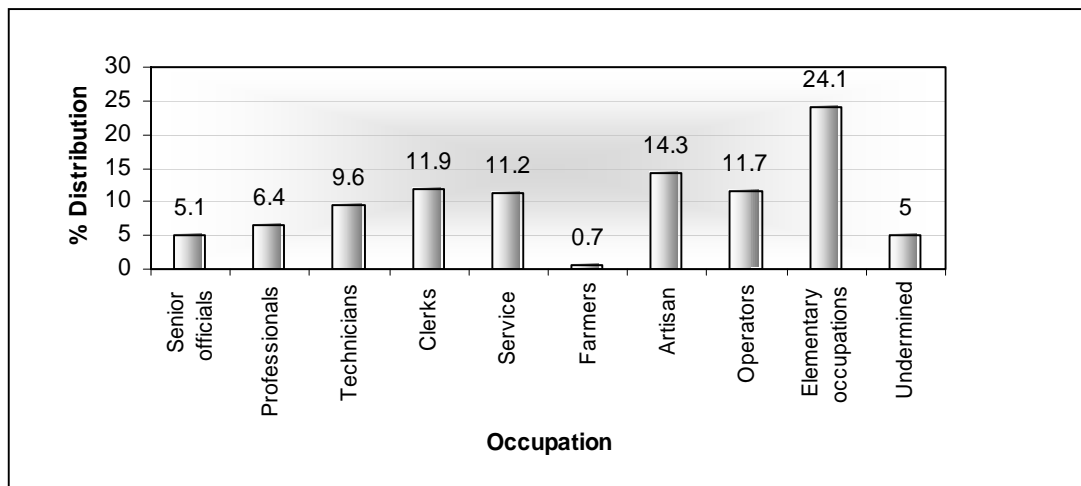
POPULATION (2001)

- Source: Municipal Demarcation Board 2003.

Most (68.5 percent) of the economically active population in Emfuleni are involved in artisan, services, production, elementary and clerically-related occupations. These occupations are typical for a region with a strong industrial base such as the economy of Emfuleni. Almost 11.5 percent are involved in professional, managerial and senior official occupations.

4.4   Income and expenditure

4.4.1   Income

Sources of income per economic sector

Table 4.6 and Figure 4.4 show the monetary and percentage contribution of the different sectors of Emfuleni economy to the total remuneration in Emfuleni for the year 2000.

The largest percentage (40.5 percent) of remuneration is paid by the manufacturing sector, while the second largest (28.6 percent) is paid by the

services and other sector; and the third largest (8.9 percent) is paid by the trade sector. The highest average monthly wages are paid by the transport and electricity, gas and water sector, and the third highest by the manufacturing sector.

TABLE 4.6   TOTAL REMUNERATION PER SECTOR FOR EMFULENI (2000)

Sector of the economy	Total annual remuneration R'000	Percentage	Average wage per worker per month (R)
Agriculture	48,544	0.6	833
Mining	15,587	0.2	4,190
Manufacturing	3,097,875	40.5	5,126
Electricity/ Gas/Water	258,875	3.4	6,049
Construction	277,456	3.6	2,713
Trade	681,741	8.9	4,103
Transport	445,061	5.8	6,137
Financing	536,875	7.0	3,955
Services & Other	2,186,839	28.6	3,383
Other, not Defined	102,593	1.3	3,929
TOTAL	7,652,295	100.0	4,115

- Source : WEFA 1999 (updated & adapted with survey data, Slabbert & Mokoena 1999).

FIGURE 4.4   TOTAL REMUNERATION PER SECTOR FOR EMFULENI (2000)
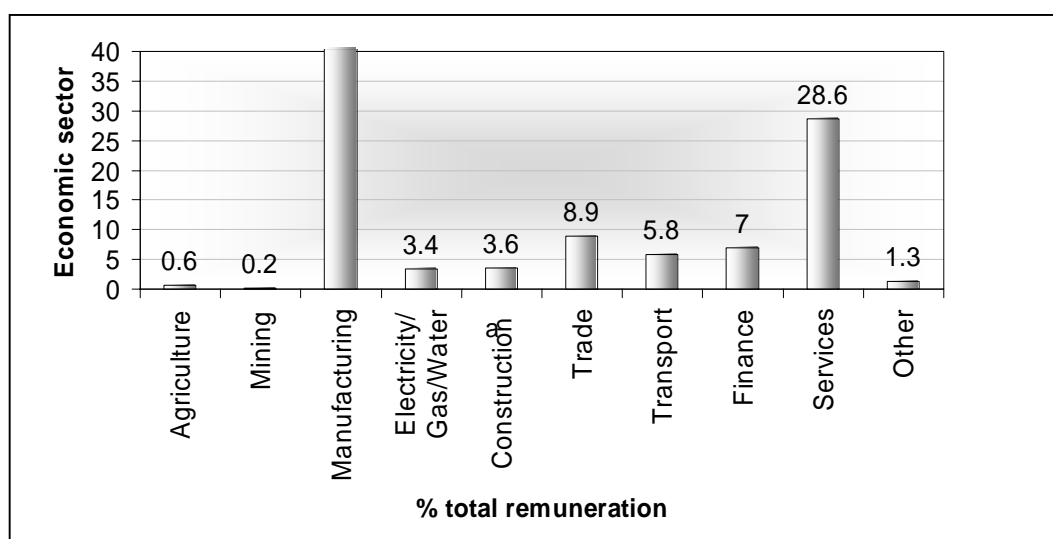
- Source : WEFA 1999 (updated & adapted with survey data, Slabbert & Mokoena 1999).

Average monthly income

The average household income for 2003 in Emfuleni was estimated at R3,400 per household per month (Slabbert 2003). For 1999, this figure was estimated at R3,083 per month (Slabbert & Mokoena 1999). The average formal wage per worker was R4,115 per worker per month for 2000 (Table 4.4). The average wage per formal sector worker increased substantially during the 1990s. The reduced number of workers in Emfuleni therefore earn higher nominal wages on average. A reason for this higher average wage per worker can be labour union actions, resulting in higher wages for their members. However, as firms are cutting back on labour, fewer workers have employment in Emfuleni. The result of this is that a rather skewed distribution in personal income exists in Emfuleni, showing that a relatively large group of the community earned a relatively small portion of the total income in 2000 (Slabbert & Mokoena 1999 updated):

- About 80 percent of the less-affluent households earn 40 percent of the total income in Emfuleni;

- About 20 percent of the more affluent households earn 60 percent of the total income in Emfuleni.

Sources of household income

Table 4.7 and Figure 4.5 show the sources of household income in Emfuleni. Salaries and wages contribute 72.2 percent to the average household income; informal activities 7.4 percent; pensions 12.0 percent; remittances 2.3 percent and other incomes, including grants, gifts from family, subsidies and income from interest, 6.1 percent. The percentage income from salaries and wages (formal income) decreased from 75.4% in 1999 (Slabbert & Mokoena 1999) to 72.2% in 2003, indicating a greater dependence for the average household on other sources of income.

TABLE 4.7   SOURCES OF HOUSEHOLD INCOME IN EMFULENI (2003)

Source of household income	Percentage
Salaries and wages	72.2%
Informal / Self-employed	7.4%
Pensions	12.0%
Remittances	2.3%
Other	6.1%
TOTAL	100.0%

- Source: Slabbert 2003.

FIGURE 4.5   SOURCES OF HOUSEHOLD INCOME IN EMFULENI (2003)
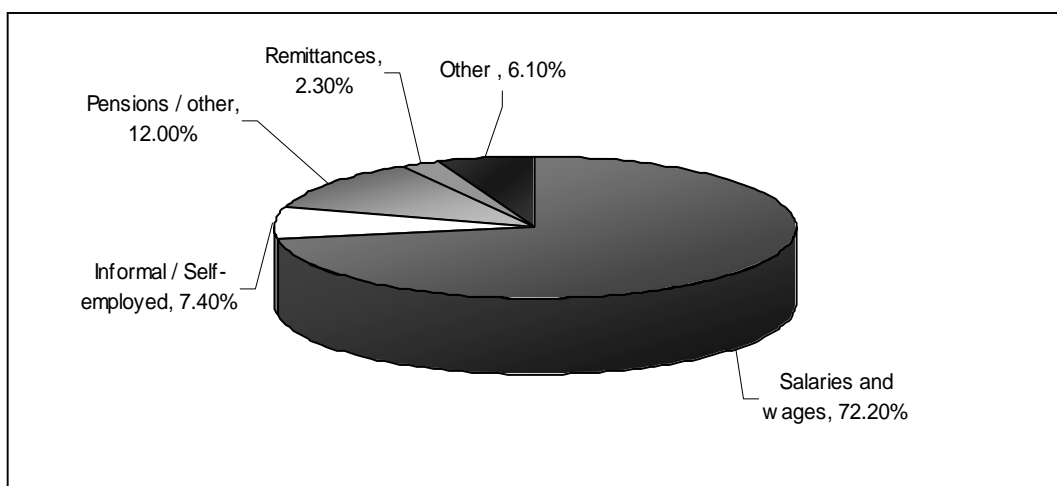
- Source: Slabbert 2003.

4.4.2   Expenditure

The expenditure profile for households living in Emfuleni is shown in Table 4.8 and Figure 4.6. An estimated 32.1 per cent of household expenditure is on average allocated for food, including cleaning materials and other groceries; thus this is the most important expenditure item. Other important expenditure items are housing (8.7 percent), transport (7.1 percent), water and electricity (6.1 percent), clothing (3.9 percent), and car and loan repayments (5.3 percent).

In 1994, the average expenditure on food and cleaning materials was 26.1% for the FBTs (Slabbert 1997:118). As the households in the FBTs are usually poorer than those in the FWTs, this figure would have been even lower for Emfuleni as a whole in 1994.

Ghai (1977:32) states that in most poor countries expenditure on food is dominant and a large percentage of a poor household's income is spent on food. Therefore, the increasing percentage of an average household's expenditure on food and cleaning materials points to an increasing degree of poverty.

FIGURE 4.6   EXPENDITURE PROFILE OF HOUSEHOLDS IN EMFULENI (2003)
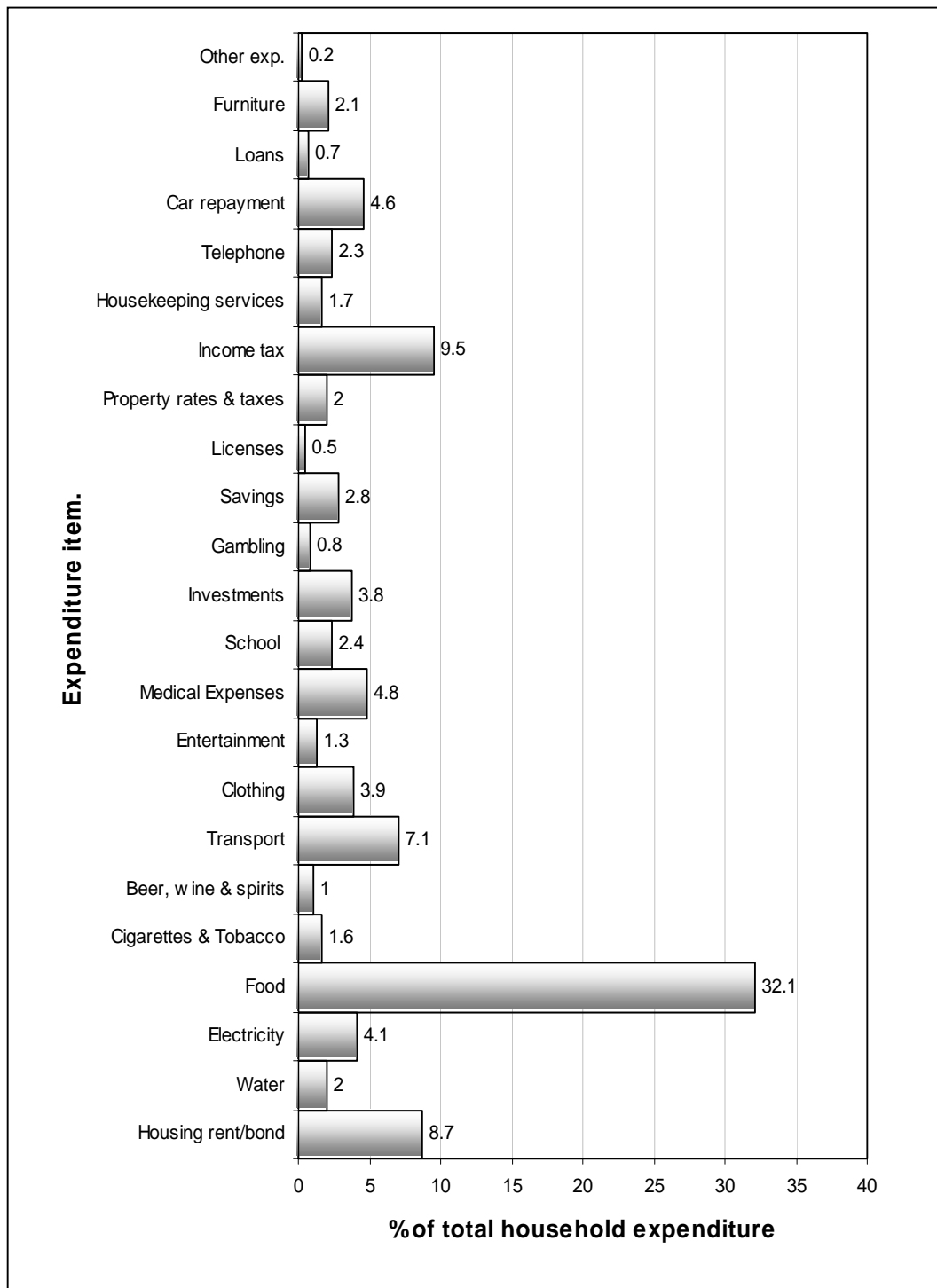
- Source: Slabbert 2003.

TABLE 4.8   EXPENDITURE PROFILE OF HOUSEHOLDS IN EMFULENI (2003)

Expenditure item	% of total household expenditure
Housing rent/bond	8.7
Water	2.0
Electricity	4.1
Food & cleaning materials	32.1
Cigarettes & Tobacco	1.6
Beer, wine & spirits	1.0
Transport	7.1
Clothing	3.9
Entertainment	1.3
Medical Expenses	4.8
School	2.4
Investments	3.8
Gambling	0.8
Savings	2.8
Licenses	0.5
Property rates & taxes	2.0
Income tax	9.5
Housekeeping services	1.7
Telephone	2.3
Car repayment	4.6
Loans	0.7
Furniture	2.1
Other exp.	0.2
TOTAL	100.0

- Source: Slabbert 2003.

4.5   Summary and conclusion

The current status and trends in terms of Emfuleni's population (numbers and growth), the labour force (employment and unemployment), and income and expenditure were determined in order to provide base figures and percentages for the calculation of future projections.

The population of Emfuleni was determined to be 658,422 for 2001. Of this number, 23.3% reside in the Former White Towns and 76.7% in the Former Black Townships. From 1990 to 1996, Emfuleni experienced a relatively high

population growth rate at 2.85% per annum. This relatively high rate can be attributed to the influx of people from the rural areas after the scrapping of the Group Areas Act and other restrictive Apartheid legislation. However, the rate slowed down to 1.95% per annum in the period 1995 – 2001. This was slightly lower than the national average growth rate of 2.0% per annum.

The average household size in Emfuleni was determined at 3.52 persons per household, compared to the national average of 3.8. The average for Gauteng was 3.2 persons per household.

The dependency ratio which indicates the average number of persons which are dependent on the income of one earner was determined at 3.29 in 2001 for Emfuleni. In 1994, the dependency ratio for Emfuleni was determined at 2.77. This is a clear indication that in 2001 more persons were, on average, economically dependent on each earner. This tendency also gives an indication of the increase in unemployment in Emfuleni.

The literacy level in Emfuleni is slightly higher than in the rest of South Africa.

The unemployment rate in Emfuleni was determined at 51.0% in 2001 and 54.1% in 2003. This rate is higher than that of all other municipalities in Gauteng, as well as those in the Northern Free State. Since 1991, the Emfuleni economy has registered only a marginal growth in employment in certain sectors of the economy, and a negative growth in other sectors. The net effect, however, has been a loss of employment opportunities. This effect, combined with an above average population growth in the 1991-1996 period, has resulted in an increase in the unemployment rate. In the Former Black Townships, the unemployment rate has increased by 73.4% from 1991 to 2003.

The largest percentage of remuneration is derived from the manufacturing sector; the second largest by the services & other sector and the third largest by the trade sector. This corresponds with the employment percentages in these sectors.

The average household income in Emfuleni for 2003 was determined to be R3,400, compared to R3,083 in 1999. The average monthly wage per formal sector worker in 1999 was determined to be R4,115. Salaries and wages on average contributed 72.2% to household income in Emfuleni in 2003. This percentage decreased slightly from 75.4% in 1999, indicating a greater dependence on other sources of income for the average household. In 2003 32.1% of household income on average was spent on food, cleaning materials and other groceries. In 1994 the expenditures was 26.1% on similar items for households in the townships. The increased expenditure towards 2003, therefore, clearly indicates an increase in poverty in Emfuleni.

Chapter

5

An analysis of poverty in Emfuleni

Current status and trends

5.1   Introduction

Sustainability for the purpose of this thesis was defined as *the ability of a local economy to provide employment and income generating opportunities for the local population to such a degree that the extent of poverty is reduced over a period of time* (see Section 1.5). In this chapter, both the extent and depth of poverty in Emfuleni is measured. The methodology for the measurement of the extent and depth of poverty was discussed in Chapter 3. In addition, a profile of the poor in Emfuleni is constructed for the purpose of formulating strategies to alleviate poverty and thus enhance sustainability in the Emfuleni economy at a later stage in the thesis (see Chapter 9).

5.2   Measurement of poverty in Emfuleni

The headcount index

The simplest method of measuring poverty is to express the number of poor as a proportion of the population. This is called the *headcount index* (World Bank 1990:27). The headcount index is defined as the *fraction of the population below the poverty line* (Deaton 1994:122). The purpose of the headcount index is therefore to quantify the number of those individuals or households that fall below the poverty line.

The headcount index for Emfuleni for the year 2003 is 0.516: this implies that 51.6 percent of the households' income was below their respective poverty lines (Slabbert 2003). For 1999, this figure was 0.461 (Slabbert & Mokoena 1999), indicating an increase in the extent of poverty over the past 4 years.

No earlier data are available for Emfuleni as a whole, but for the Former Black Townships (FBTs) data are available for the years 1991, 1994 and 2000. In 1991 the headcount index for the FBTs was 0.30, for the year 1994 this was 0.42 (Slabbert 1997:54) and for the year 2000 it was 0.53 (Mokoena 2001). This means that in 1991 30% al all households in the FBTs were poor, compared to 53% in 2000. This is an increase of 77% over a 9 year period. As the population in the FBTs is much more than in the FWTs and rural areas combined (70% of the population lived in the FBTs in 1998 (Urban Econ 1998)), it can be assumed that this trend gives an indication for Emfuleni as a whole.

By calculating each household's poverty line (called the household's HSL) and comparing that with its own income, the distribution of households below (and above) their poverty lines can be determined. The results are listed in Table 5.1.

As discussed in Section 3.2.3 of this thesis, the Household Subsistence Level (HSL) only covers the basic items like food, clothing, rent, transport, fuel, lighting and cleaning materials. However, it is estimated that on average households spend two-thirds of their income on these basic items, while one-third is spent on other necessary items like, for instance, medicine and school fees. If this is included, one speaks of the Household Effective Level (HEL), which is one and a half times the HSL.

Table 5.1 gives the distribution of households in different income/HSL categories for the entire sample population. Household incomes are expressed as a percentage of their specific HSL. If a household's income is greater than its HSL, the household falls in the income/HSL categories above 100 per cent. Rows A and B in Table 5.1 indicate the percentage of households earning an income below or equal to the HSL (i.e. households living in poverty). Row C indicates the percentage of households earning an income above the HSL, but below or equal to the HEL threshold. Rows D to I indicate the percentage of households earning an income above the HEL threshold. The Table also shows the distribution for all households. Table 5.1 illustrates that:

- The percentage of households receiving an income less than their respective HSLs (households living in poverty) is 51.6 (row B);

- The percentage of households receiving an income above their respective HSLs, but less than their HEL is 12.5 (row C); and

- The percentage of households receiving an income above the HEL-level is 37.9.

TABLE 5.1   PERCENTAGE OF HOUSEHOLDS IN DIFFERENT INCOME CATEGORIES EXPRESSED AS PERCENTAGE OF THEIR HSL: EMFULENI (2003)

	Household income as Percentage of the HSL	Percentage households	Cumulative percentage
A	0 – 50	23.8	23.8
B	51 – 100	27.8	51.6
C	101 – 150	12.5	64.1
D	151 – 200	11.2	75.3
E	201 – 300	10.2	85.5
F	301 – 400	4.8	90.3
G	401 – 500	3.3	93.6
H	501 – 600	4.1	97.7
I	601 +	2.3	100.0
	TOTAL	100.0	

- Source: Slabbert 2003.

Table 5.2 and Figure 5.1 show a more detailed analysis of households whose incomes were less than their specific HSL (poverty line).

The severity of the poverty problem depends on how the poor are distributed below the poverty line. Clustering of the poor just below the poverty line is less serious than a distribution where large numbers have incomes far below the poverty threshold. In Table 5.2 and Figure 5.1, the clustering of the poor is where the household income is between 30 and 60 per cent and between 70 and 90 per cent of its specific HSL.

In 2003, 17.7% of all poor households received incomes less than 30% of their HSLs, while in 1999 (Slabbert & Mokoena 1999), 26.3% of all poor households received incomes less than 30% of their HSLs. This indicates that some of the most severe poverty decreased in this period. The reason for this is most likely the allocation of additional grants by the government and a better payment of pensions.

TABLE 5.2   PERCENTAGE OF HOUSEHOLDS BELOW THEIR POVERTY LINES IN DIFFERENT INCOME CATEGORIES EXPRESSED AS PERCENTAGE OF THEIR HSL: EMFULENI (2003)

Household income as percentage of the HSL		Percentage households	Cumulative percentage
1	0 – 10	5.0	4.8
2	11 – 20	4.5	9.3
3	21 – 30	8.4	17.7
4	31 – 40	14.4	32.1
5	41 – 50	13.9	46.0
6	51 – 60	13.9	59.1
7	61 – 70	9.4	69.3
8	71 – 80	10.9	80.2
9	81 – 90	12.4	92.6
10	91 – 100	7.4	100.0
	TOTAL	100.0	

- Source: Slabbert 2003.

FIGURE 5.1   POOR HOUSEHOLDS' INCOME AS PERCENTAGE OF THEIR HSL: EMFULENI (2003)
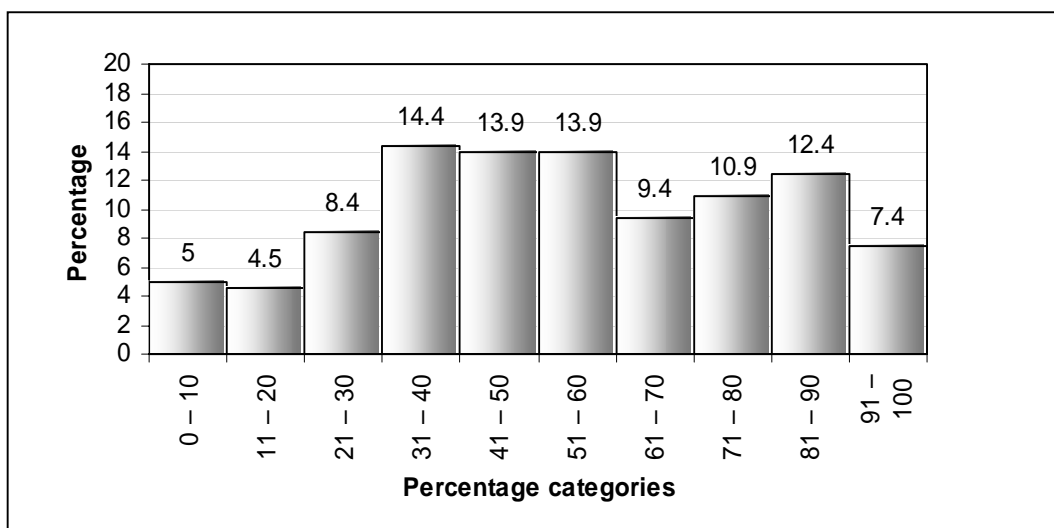
- Source: Slabbert 2003.

5.3   Measurement of the depth of poverty in Emfuleni

The poverty gap of poor households in Emfuleni

The headcount index alone is a limited measure of poverty. It does not take into account the degree of poverty. In order to capture the degree (or magnitude) of poverty, the poverty gap measure is used in conjunction with the headcount index. The poverty gap measures the average shortfall of the income of the poor from the poverty line.

The poverty gap index for Emfuleni was calculated at 0.460 (Slabbert 2003). This means that on average the poor households have an income shortage equal to 46.0 per cent of their specific poverty lines. For example: If a household's own poverty line is R1,000, and the total income of the household is only R540, then the income shortfall is R460 (a poverty gap ratio of 0.460). The poverty gap index has increased since 1999, when it was 0.414 (Slabbert & Mokoena 1999), which indicates an increase in the depth of poverty.

Table 5.3 shows the poverty gap calculated for the total population of Emfuleni. The number of households below their respective poverty lines is estimated at 100,414 for the year 2003. That is 51.6 per cent of all the households in Emfuleni. The combined monthly shortfall of income (poverty gap) of these households amounts to R80.23 million per month (R962.77 million per year). The average shortfall per poor household in Emfuleni amounts to R799 per month (R9,588 per year).

TABLE 5.3   POVERTY GAP ANALYSIS OF POOR HOUSEHOLDS IN EMFULENI (2003)

Number of poor households	100,414
Monthly poverty gap amount of poor households	R 80.23 million
Yearly poverty gap amount of poor households	R 962.77 million
Average poverty gap per household per month	R 799
Average poverty gap per household per year	R 9,588

- Source: Slabbert 2003.

5.4   Profile of the poor in Emfuleni

This section deals with the profile of poor households in Emfuleni. In Section 5.2, the headcount index rate was determined at 0.516 for the year 2003. The unemployment rate was determined at 54.1% for 2003 (Section 4.3). These rates show an increase over the rates for 1999 (Slabbert & Mokoena 1999), which showed a headcount index of 0.461, while the unemployment rate was calculated at 51.3%.

This section will profile the poor and the unemployed mostly based on two household surveys: One conducted in 2003 (Slabbert 2003) and one conducted in 2001 (Mokoena 2001b) among poor households in Emfuleni. The second sample represented households in Emfuleni that were identified as poor in the 1999 survey among households in the Vaal (Slabbert & Mokoena 1999). This section utilises a number of indicators to profile the poor in Emfuleni and they include: demographic indicators, literacy, employment, income and expenditure.

5.4.1   Demographic profile of the poor population

Average household size

Average household sizes are significant in poverty studies. The average size of a household in Emfuleni is 3.52 members for the year 2003 (Stats SA 2003a). The average size of households in the former black townships (FBT) is 3.62 (calculated from Stats SA 2003a). Slabbert, Coetzee & Levin (1995:10) estimated it at 5.5 in 1994. There appears to have been a decrease in this figure over the period 1994-2003. One of the reasons for this phenomenon may lie in the breaking-up of households as members moved out to shacks and to RDP houses. This can be seen in a larger number of 1 and 2 person households in the sample population (Slabbert 2003). Poor households in 2001 had an average size of 4.7 members and non-poor households had one of 4.3, with an average for all households of 4.5 members. The higher household size for poor households is also a contributing factor to poverty. Incomes tend to be overstretched in larger

households where there are more "mouths-to-feed" than in smaller households (Mokoena 2001a:71).

Members of poor households

This section describes the composition of the households in respect of members constituting such households in Emfuleni. Table 5.4 shows heads of households in Emfuleni.

TABLE 5.4   HEADS OF POOR HOUSEHOLDS, FBT (1999)

Head of household	% of Households: Former black townships
Father	72.1
Mother	24.8
Other	3.1
TOTAL	100.0

- Source: Slabbert & Mokoena 1999.

As the majority of the poor live in the former black townships (FBT), figures for the FBTs are more indicative for the poor than figures for Emfuleni as a whole. Table 5.4 indicates the heads of poor households. It shows that about 72.1% of poor households in the FBTs of Emfuleni were headed by a father. The percentage of households headed by mothers is 24.8%. Only a small percentage of households is headed by neither a mother nor a father.

Table 5.5 indicates all the members of poor households. It shows that in poor households there are less fathers than mothers, concomitant to Slabbert (1997:94). The spread of sons and daughters for poor households is 42.7%, with slightly more sons than daughters.

TABLE 5.5   STATUS OF MEMBERS OF POOR HOUSEHOLDS (2003)

Status of household member	%
Father/Husband	11.3
Mother/Wife	16.5
Son	22.1
Daughter	20.6
Grandmother	2.0
Uncle	0.2
Other	27.3
TOTAL	100.0

- Source: Slabbert 2003.

Marital status of members in poor households

This section analyses the marital status of the poor. Table 5.6 shows that only 18.3% of the respondents for poor households answered "yes" with regard to the question on married status. In 2000, 19.2% of the respondents of poor households in the survey were married, compared to 36.6% of the non-poor (Mokoena 2001b). According to Mokoena (2001a:72), there is a higher proportion of divorced/widowed and separated members in poor households than in non-poor households. The same trend holds true for the "never married" category. This points to the fact that there is probably a high dependency level in poor households. It also means that the incidence of single-parent families is more prominent in poor households than in non-poor households.

TABLE 5.6   MARITAL STATUS OF MEMBERS OF POOR HOUSEHOLDS (2003)

Marital status	Percentage
Never married	66.4
Married	18.3
Divorced	1.4
Separated	4.1
Living together	2.9
Widow/Widower	6.9
TOTAL	100.0

- Source: Slabbert 2003.

Age and gender of poor household members

May (1995:4) contends that poverty in South Africa has a strong gender and age dimension, pointing out that over 45% of the poor in South Africa are children below 16 years of age. Table 5.7 and Figure 5.2 show the age distribution of the survey sample for the poor households (Slabbert 2003).

It is clear from the Table that children, teenagers and young adults are proportionally the highest group in poor households. In poor households, children and teenagers up to 24 years account for about 50.8% of the sample. That means more than half of the population falls in this category. According to Mokoena (2001a:73) in non-poor households there were 8.3% less persons in this age category than in poor households. The poor population falls therefore in younger age categories, compared to the non-poor. A larger percentage of the population in the age categories up to 24 years means that there are more non-earners in an average household, while a larger percentage in the age categories between 24 and 65 years means that there are potentially more earners in an average household.

TABLE 5.7   PERCENTAGE OF THE POOR POPULATION IN DIFFERENT AGE
CATEGORIES (2003)

	Age	Percentage
1	0 – 4	8.1
2	5 – 9	9.8
3	10 – 14	11.3
4	15 – 19	10.9
5	20 - 24	10.7
6	25 – 29	8.8
7	30 - 34	7.7
8	35 - 39	4.9
9	40 - 44	6.0
10	45 - 49	4.4
11	50 - 54	4.9
12	55 - 59	3.6
13	60 - 64	3.1
14	65 - 69	1.7
15	70 - 74	1.5
16	75 +	2.6
	TOTAL	100.0

- Source: Slabbert 2003.

FIGURE 5.2   PERCENTAGE OF THE POOR POPULATION IN DIFFERENT AGE
CATEGORIES (2003)
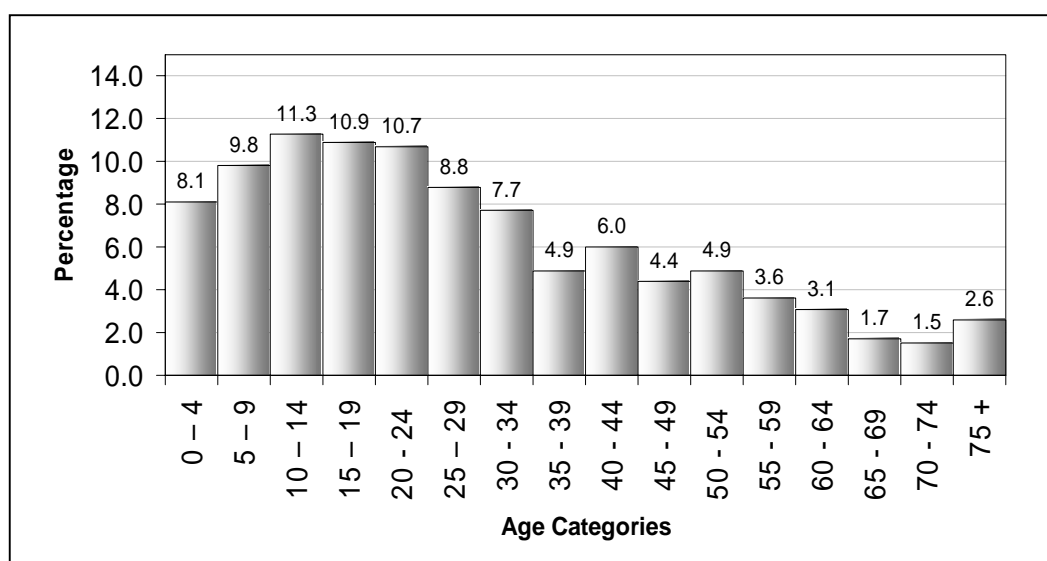
- Source: Slabbert 2003.

Age dependency (ages 0-14 and 65+) is also skewed towards the poor population: In 2001 were 32.6% of the persons in poor households in the ages 0-14 and 65+, compared to 28.4% in non-poor households (Mokoena 2001a:74). There is therefore a relatively high age dependency incidence in poor households. Slabbert (1997:97) refers to the age group 30-54 as the most productive age group. This age group represented 27.6% of the poor households in 2001, compared to 32.5% in non-poor households (Mokoena 2001a:74). *There is therefore a lower productive capacity in poor households.* These factors serve to perpetuate poverty in Emfuleni.

Table 5.8 shows the percentage heads of poor households in different age categories along gender lines. It shows that the male household heads in poor households fall mainly within the most productive categories. Over 62% of male household heads in poor households fall within this category. The female-headed households seem to exhibit a much older mode. Over 49% of poor female households are near to or at retirement. There is therefore less likelihood of female household heads finding employment than there is for their male counterparts.

TABLE 5.8   PERCENTAGE AGE DISTRIBUTION OF HEADS OF POOR HOUSEHOLDS (2001)

Age Category	Male	Female
less than 20	0.7	1.6
21 - 30	12.1	9.5
31 - 40	31.4	17.5
41 - 50	30.7	22.2
51 - 60	12.1	22.2
61 +	12.9	27.0
TOTAL	100.0	100.0

- Source: Mokoena 2001b.

TABLE 5.9   DISTRIBUTION OF POOR POPULATION BY GENDER (2003)

Gender	Percentage
Male	46.8
Female	53.2
TOTAL	100.0

- Source: Slabbert 2003.

Table 5.9 shows the spread of the population between male and female for poor households. It is noteworthy that the number of females exceeds the number of males. The percentage males for South Africa as a whole was 47.8% in 2001 (52.2% for females), while for Gauteng the percentage males in 2001 was 50.3% (49.7% for females) (Stats SA 2003b:8). It can, therefore, be concluded that poverty in Emfuleni is slightly gender biased.

Literacy of the poor

This section evaluates literacy levels of the Emfuleni population by looking at the population of school-going age and the post-school population using the survey data gathered for this thesis (Slabbert 2003). Thomas *et al*. (2000:4) refer to flow variables and stock variables when reflecting on education, where flow variables refer to enrolment ratios for different levels of schooling and stock variables refer to attainment measured by average years of schooling. These factors are shown in the next two sections which deal with current enrolments and completed schooling in Emfuleni.

School-going population and children

Table 5.10 shows school enrolments in Emfuleni by the school-going population and children in the 2003 sample (Slabbert 2003). It shows that primary school enrolments (up to grade 7) account for the highest school enrolments. This figure is about 59.2 percent for the poor population. Senior Secondary (grades 10 to 12) enrolments account for 24.7%. Mokoena (2001a:75) concluded that in 2000 there was a fairly equitable spread in school enrolment for the poor and non-poor, except for the Senior Secondary level (Grade 10 to 12), where 23.8% of the poor were enrolled, but 32.5% of the non-poor.

TABLE 5.10   QUALIFICATIONS OF POOR PUPILS IN SCHOOL (2003)

Grade	Percentage
Up to Grade 3	29.9
Grade 4	8.3
Grade 5	6.8
Grade 6	6.8
Grade 7	7.4
Grade 8	9.2
Grade 9	7.1
Grade 10	11.0
Grade 11	10.1
Grade 12	3.6
TOTAL	100.0

- Source: Slabbert 2003.

Out of school population

According to Deaton (1999:6), years of education can serve as a measure of poverty, and comparing education across different groups can do much. Table 5.11 shows the educational levels of the post-school poor population in the survey (Slabbert 2003). The table shows that about 23.7% of the poor population had only attained Grade 7 or lower educational levels (compared to 22.4% for the poor and non-poor combined). Furthermore, about 89.4% of the poor population only had school educational levels up to Grade 12 (poor and non-poor combined: 83.5%).

TABLE 5.11   QUALIFICATIONS OF POST-SCHOOL POOR POPULATION
(2003)

Grade	Percentage
up to Grade 3	5.0
Grade 4	3.5
Grade 5	4.4
Grade 6	4.0
Grade 7	6.8
Grade 8	15.8
Grade 9	4.6
Grade 10	14.1
Grade 11	14.3
Grade 12	16.9
Diploma	2.0
Degree	0.0
Post-graduate	0.2
Other	1.5
TOTAL	100.0

- Source: Slabbert 2003.

Only 2.2% had tertiary education with 0.2% having post-graduate studies (compared to 8.8% and 0.9% respectively for the poor and non-poor combined). It would seem that poverty therefore has an educational dimension in Emfuleni. Oduro (1999:1-2) points out that in Sub-Saharan Africa, part of the nature of poverty is that the poor have low educational attainment. This appears to be true in the survey population.

5.4.2   Economic status of the poor population

Table 5.12 compares the employment status of the poor survey population in order to build up the Emfuleni economic profile. May *et al.*(1995:4) state that poverty in South Africa has a strong employment dimension, contending that unemployment rates among the poor stand at 50%, compared to only 4% among the more affluent 20%. Table 5.12 shows that in Emfuleni only 8.6% of the poor are employed in the formal sector.

TABLE 5.12   ECONOMIC STATUS OF THE POOR POPULATION (2003)

Economic status	Percentage
Formally employed	8.6
Informally Employed	3.8
Unemployed	31.8
Economically non-active + children younger than 15 years	55.8
Total	100.0
Unemployment rate	71.8

- Source: Slabbert 2003.

The employed population in the formal and informal sector amounts to 12.4% of the poor (compared to 21.0% of poor and the non-poor combined). Poverty in Emfuleni does therefore have a strong employment dimension. 31.8% of the poor were unemployed in 2003 (compared to 24.8% for the poor and non-poor combined). Of the poor, 55.8% were also part of the dependent population (compared to 54.2% for the poor and non-poor combined). If the definition of dependency is taken (as in Sen 1997:165) as the ratio of dependent people to those having work (employed), then the problem becomes acute. This ratio for the poor is 7:1 while for the poor and non-poor combined it is 3:7. This means that within the poor population in Emfuleni, over 7 persons rely on the income of one person. It is also worth noting that the unemployment rate among the poor population is 71.8% (poor and non-poor combined: 54.1%). There is therefore a very strong correlation between poverty and unemployment in Emfuleni.

Table 5.13 further analyses the economic status from a gender point of view. It shows that within the poor population, more males are employed in the formal sector than females. There are more females employed in the informal sector than males. More females fall in the economically non-active and children category than males, which is the same for the non-poor. Therefore, as the RDP (1995:4) concurs, poverty in South Africa (and in Emfuleni) has a strong gender dimension. Females seem to be more affected by poverty than males, because of the reasons outlined in the preceding pages.

TABLE 5.13   ECONOMIC STATUS AND GENDER OF THE POOR POPULATION

(2003)

Economic status	Female %	Male %	Total
Formally employed	43	57	100.0
Informally Employed	66	34	100.0
Unemployed	50	50	100.0
Economically non-active + children younger than 15 years	47	53	100.0

- Source: Slabbert 2003.

Employment by economic activity

Table 5.14 indicates the percentage of the poor population employed in each sector of the economy.

TABLE 5.14   EMPLOYMENT BY SECTOR FOR THE POOR (2003)

Economic sector	Percentage
Agriculture	2.7
Mining	0.0
Manufacturing	3.6
Electricity, Gas & Water	6.4
Construction	10.0
Trade	25.5
Transport	5.5
Financing	0.9
Services & Other	22.7
Not specified	22.7
TOTAL	100.0

- Source: Slabbert 2003.

The table shows that the most popular sectors for the working poor are in the construction, trade and services categories, as well as in the not-specified. This means that the poor are mostly construction workers, domestic workers, shop attendants and pavement vendors. Slabbert (1997:109) makes the point that most non-poor workers are in industries with organised labour and therefore tend to earn higher wages, while most poor workers are in non-unionised industries with subsequent lower wages. The other reason for the spread is that the poor are normally also unskilled and will therefore be found

in low-skill jobs whilst the skilled workers will be found in manufacturing, education and training due to the skill levels required (Slabbert 1997:110).

Table 5.15 shows the mean monthly wages of the employed for the Emfuleni population. If compared with Table 4.6 (remuneration figures for the poor and non-poor combined) it shows that for all sectors, the mean wages of the poor are much lower than for the non-poor. The mean monthly wage in construction for example, is only R817 for the poor, while it is R2,713 for the poor and non-poor combined.

Low wages are, *ceteris paribus*, a function of skill level and employment opportunities. These two are therefore contributing factors to poverty levels in Emfuleni.

TABLE 5.15   MEAN MONTHLY WAGE OF THE POOR EMPLOYED IN THE MAIN SECTORS OF THE ECONOMY (2000)

Economic sector	Rand
Agriculture	533
Mining, quarry	950
Manufacturing	1,100
Electricity, Gas & Water	960
Construction	817
Trade	967
Transport	523
Financing	-
Services	875
Not Specified	548
No information	637

- Source: Mokoena 2001a:80)

Sections of the households affected by poverty

Table 5.16 shows the impact of poverty on different household members. The table shows that in 2003, 51.6% of the households in Emfuleni and 54.8% of the population were classified as poor, compared to 42.8% and 45.3% respectively in 1999 (Slabbert & Mokoena 1999). A deeper analysis of this table shows the sections of the households most affected by poverty. Pre-

school children and school children seem to be the most vulnerable and affected household members.

Levin & Sofisa (1993:24) state that unemployment among the poor communities is a major cause of poverty. This is evident in the table hereafter which shows that 70.2% of the unemployed were poor and only 32.5% of the employed population were poor. The RDP office (1995:4) also affirmed that children were among the most affected by poverty. It stated that in 1995, over 45% of the poor were children below 16 years. The table shows that in 2003, 55.2% of pre-school children were growing up in poverty while 60.5% of children in school were living in poverty. In Emfuleni, as in South Africa in general, poverty has a strong age dimension.

TABLE 5.16   SECTIONS OF POOR HOUSEHOLDS AFFECTED BY POVERTY (2003)

Section of population	Percentage
Households	51.6
Population	54.8
Children in school	60.5
Pre-school children	55.2
Post-school adults	51.5
Economically non-active	56.3
Pensioners	50.9
Employed	32.5
Unemployed	70.2
Male population	54.6
Female population	54.9

- Source: Slabbert 2003.

5.4.3   Income and expenditure patterns of poor households

This section deals with the expenditure patterns of the poor sample population (Slabbert 2003). Table 5.17 shows the sources of income of an average poor household in Emfuleni.

TABLE 5.17   SOURCES OF INCOME FOR POOR HOUSEHOLDS (2003)

Type of income	Percentage
Formal	39.9
Informal	20.1
Other	40.0
TOTAL	100.0

- Source: Slabbert 2003.

Calculations from survey data (Slabbert & Mokoena 1999) show that in 1999, an average non-poor household's income from formal employment was about 18 times higher than for an average poor household. The total income of a poor household was on average about 7.2 times less than that of an average non-poor household. As previously indicated, a number of factors may account for this difference. Two of these factors are the low skill levels of the poor and the high rate of unemployment amongst the poor.

Of the wages of the poor and non-poor combined, 72.2% were earned in the formal sector (see Section 4.4.1) while only 39.9% of the poor earnings were in the formal sector. Of an average poor household's income, 40% is derived from other sources, compared to only 20.4% for the average (poor and non-poor combined) household. A poor household has therefore, on average, to rely more on an income stemming from non-employment related sources, like gifts, subsidies, pensions, grants, and the like. On average, a poor household in 1999 had R658 per month at its disposal, while a non-poor household on average had R4,764 per month.

Table 5.18 shows the percentage expenditure of poor households in Emfuleni on various items. It shows that food and cleaning materials is by far the highest expenditure item for the poor. These households spend 70.1% of their income on food and cleaning materials (compared to 32.1% for poor and non-poor households combined).

TABLE 5.18   AVERAGE MONTHLY EXPENDITURE OF POOR HOUSEHOLDS ON DIFFERENT ITEMS (2003)

Items	Percentage
Household rent/ bond	3.7
Water & electricity	4.2
Food & cleaning materials	70.1
Cigarettes & Beer	1.4
Transport	6.5
Clothing	1.9
School	2.1
Savings & investments	2.0
Gambling	0.3
Licences, rates and taxes	3.0
Telephone	0.9
Housekeeping services	0.2
Car repayments	0.0
Loans	0.4
Furniture	2.1
Other	1.2
TOTAL	100.0

- Source: Slabbert 2003.

When compared to Table 4.8, it shows that the percentage expenditure of the poor households on basic items (food, water and electricity, housing and clothing) adds up to 79.9%, compared to 50.8% for an average (poor and non-poor combined) household. When transport is added, these figures rise to 86.4% and 57.9% respectively. This means that 86.4% of the income of the poor households is spent just on survival items. The most telling figure is the figure for savings and investments. The poor households save or invest only 2.0% of their income, while the average (poor and non-poor combined) household saves and invest 6.6%. Savings and investments are indicative of levels of disposable incomes. According to Mokoena (2001a:82), the non-poor saved or invested 10.6% of their incomes in 1999.

5.4.4   Profile of the poor in relation to employment creation

Employment and unemployment

Table 5.19 depicts the employment status of the poor in Emfuleni. The table shows that 71.8% of the economically active poor population was unemployed, while 19.6% was formally and 8.6% informally employed.

TABLE 5.19   EMPLOYMENT STATUS OF THE POOR (2003)

	%
Formally employed	**19.6**
Informally employed	**8.6**
Unemployed	**71.8**
Total	**100.0**

- Source: Slabbert 2003.

Table 5.20 shows the period of unemployment for the unemployed in Emfuleni. The table shows that 40.6% were unemployed for more than 5 years. About 17.1% have been unemployed for 10 or more years. This serves to emphasise the problem of formal employment creation. Employment opportunities are not being created at a sufficient rate to absorb idle human resource capacity in Emfuleni.

TABLE 5.20   NUMBER OF YEARS UNEMPLOYED, POOR (2003)

Year categories	% of the unemployed	Cumulative %
0 – 1	**19.4**	**19.4**
2 – 3	**21.9**	**41.3**
4 – 5	**18.0**	**59.4**
6 – 7	**10.2**	**69.5**
8 – 9	**7.2**	**76.7**
10 – 11	**6.2**	**82.9**
12 – 13	**5.8**	**88.7**
14 – 15	**2.8**	**91.5**
16 – 17	**2.1**	**93.5**
18 – 19	**1.2**	**94.7**
20 +	**5.3**	**100.0**
TOTAL	**100.0**	

- Source: Slabbert 2003.

Number of years in Emfuleni

Table 5.21 shows the number of years that the unemployed poor respondents of the 2003 survey have stayed in Emfuleni. It shows that over 71.3% of the respondents have been staying in Emfuleni for over 25 years. Most of the respondents indicated that they were born in Emfuleni. Only 4% had moved into Emfuleni in the past 5 years, mostly from other areas within Gauteng.

TABLE 5.21   NUMBER OF YEARS IN EMFULENI, UNEMPLOYED POOR (2003)

Year categories	% of the unemployed	Cumulative %
0 - 5	4.0	4.0
6 - 10	4.0	8.0
11 - 15	4.5	12.5
16 - 20	4.0	16.4
21 - 25	12.2	28.7
26 +	71.3	100.0
TOTAL	100.0	

- Source: Slabbert 2003.

Table 5.22 traces the origin of the unemployed poor in Emfuleni. It shows that 67.4% of the respondents do not come from outside the Vaal area. (The Vaal area, also known as the Vaal Triangle, consists of Emfuleni in the southern part of Gauteng and Metsimaholo in the northern part of the Free State. Although separated by the provincial boundary, the two municipalities form one integrated economic entity.) The table also shows that over 73% of the respondents do not originate from outside Gauteng. Most of the respondents originating from outside Gauteng were from the Free State.

In the 1999 survey (Slabbert & Mokoena 1999), however, it was determined that only 47.7 per cent of the general population of the Vaal (poor and non-poor) were born in the Vaal area. The rest (52.3%) came from outside the Vaal. 46.4 per cent of the population had stayed less than 10 years in the Vaal. When comparing these data to those of the poor, it appears that relatively more of the poor are residents who were born in the Vaal. It therefore appears that those coming into Emfuleni from outside the Vaal get

the available jobs. A reason may be that those coming from outside are prepared to work for lower wages rather than being without a job at all - and therefore a smaller percentage of them are poor.

TABLE 5.22   PLACE OF ORIGIN BEFORE MOVING TO EMFULENI:
             UNEMPLOYED POOR (2001)

Area	% of the unemployed
Vaal Triangle Area	67.4
Gauteng Province	6.4
Free State	17.2
Other Province	6.9
Outside SA	2.1
Other	0.0
TOTAL	100.0

- Source: Mokoena 2001b.

The 2001 survey (Mokoena 2001b) also included a satisfaction survey of life in Emfuleni. Respondents were asked to state if they were satisfied with life in Emfuleni. Table 5.23 shows the responses to this question. It shows that 84.3% said that they were satisfied with life in Emfuleni, while 15.7% said they were not. This shows that even with the conditions of poverty and unemployment, most of the respondents still prefer to stay in Emfuleni.

TABLE 5.23   SATISFACTION SURVEY RESULTS ON LIFE IN EMFULENI: POOR
             (2001)

	Percentage Responses
Satisfied	84.3
Not satisfied	15.7
TOTAL	100.0

- Source: Mokoena 2001b.

Skills and aspirations

The 2001 survey (Mokoena 2001b) sought to determine the types of skills as well as the employment and business aspirations of the unemployed poor in Emfuleni. Table 5.24 shows the most frequently stated skills or experience

compared to the type of small businesses that respondents indicated they would start if they were to be given start-up capital.

TABLE 5.24   SKILLS POSSESSED AND DESIRED SMALL BUSINESS
OPPORTUNITIES: UNEMPLOYED POOR (2001)

Skill and business type	Desired Business %	Skill possessed %
Tuck shop	19.5	0.0
Catering	12.8	4.0
Selling	12.8	5.0
Sewing	8.8	17.5
Fruit & vegetables	8.8	0.0
Bakery	6.2	8.5
Tavern	4.9	0.0
Carpentry	6.2	8.0
Hairdressing	3.5	7.0
Knitting	3.1	7.5
Hair salon	3.1	0.0
Welding	2.7	7.5
Building construction	3.5	0.5
Butchery	2.2	0.0
Farming	1.3	1.5
Cooking	0.4	16.0
Gardening	0.0	17.0
TOTAL	100.0	100.0

- Source: Mokoena 2001b.

The table shows that by far most respondents indicated that they would like to start a tuck shop business, even though none have had experience in this regard. A considerable number of respondents have sewing skills (17.5%) but only 8.8% are interested in opening businesses related to sewing. When Tuck shop, Catering, Selling and Fruit & Vegetables are combined (all related to direct selling), they add up to 54% of all businesses desired. The percentage of people with skills in these categories adds up to only 9%. It therefore appears that there is a mismatch of skills and desired businesses. There appears to be very low interest in agriculture-related enterprises. This may point to a need for a change of focus (vision) of what people believe is viable,

to areas that are actually viable. This may also be an indicator of a need for training.

In a formal setting, the 2001 survey (Mokoena 2001b) sought to establish which sectors people had been involved in before and which sectors they would like to find employment in. Table 5.25 shows these results.

TABLE 5.25   FORMAL SECTORS OF EMPLOYMENT FOR THE UNEMPLOYED POOR (2001)

Sector of employment	Original sector %	Desired sector %
Agriculture	8.8	5.6
Mining	1.8	4.9
Manufacturing	2.7	4.9
Electricity, Gas & Water	0.9	7.4
Construction	6.2	6.8
Trade	13.3	21.6
Transport	5.3	8.6
Financing	0.0	1.9
Services	0.9	19.8
Other, not defined	14.2	18.5
Unemployed before	46.0	-
TOTAL	100.0	100.0

- Source: Mokoena 2001b.

The table shows that although only 13.3% of the respondents had been involved in the Trade sector, 21.6% would like to be involved in this sector. Services is also a category that a number of respondents indicated they would like to be employed in. These categories are low-wage categories with high business volatility and labour turnover. The percentage of respondents who have worked in the agricultural sector before is higher than that of those who desire employment in this sector. There appears to be a low interest in the agricultural sector as a source of employment. This correlates with Table 5.24, where only very few indicated they would like to be involved in gardening or farming. There are even fewer respondents who would like to be involved in manufacturing than in agriculture.

The foregoing table also shows that over 46% of respondents have been unemployed for a long period or that they have actually never worked in the formal sector (see "Unemployed before"). This implies that strategies aimed at employment creation need to take this lack of experience into account.

A further analysis of the desired fields of employment is shown in Figure 5.3 below. Based on the survey conducted in 2001 (Mokoena 2001b), the numbers of unemployed poor persons with different skills and the desired fields of activities in Emfuleni's FBTs were estimated for 2003.

FIGURE 5.3   NUMBERS OF UNEMPLOYED POOR: SKILLS (2003)
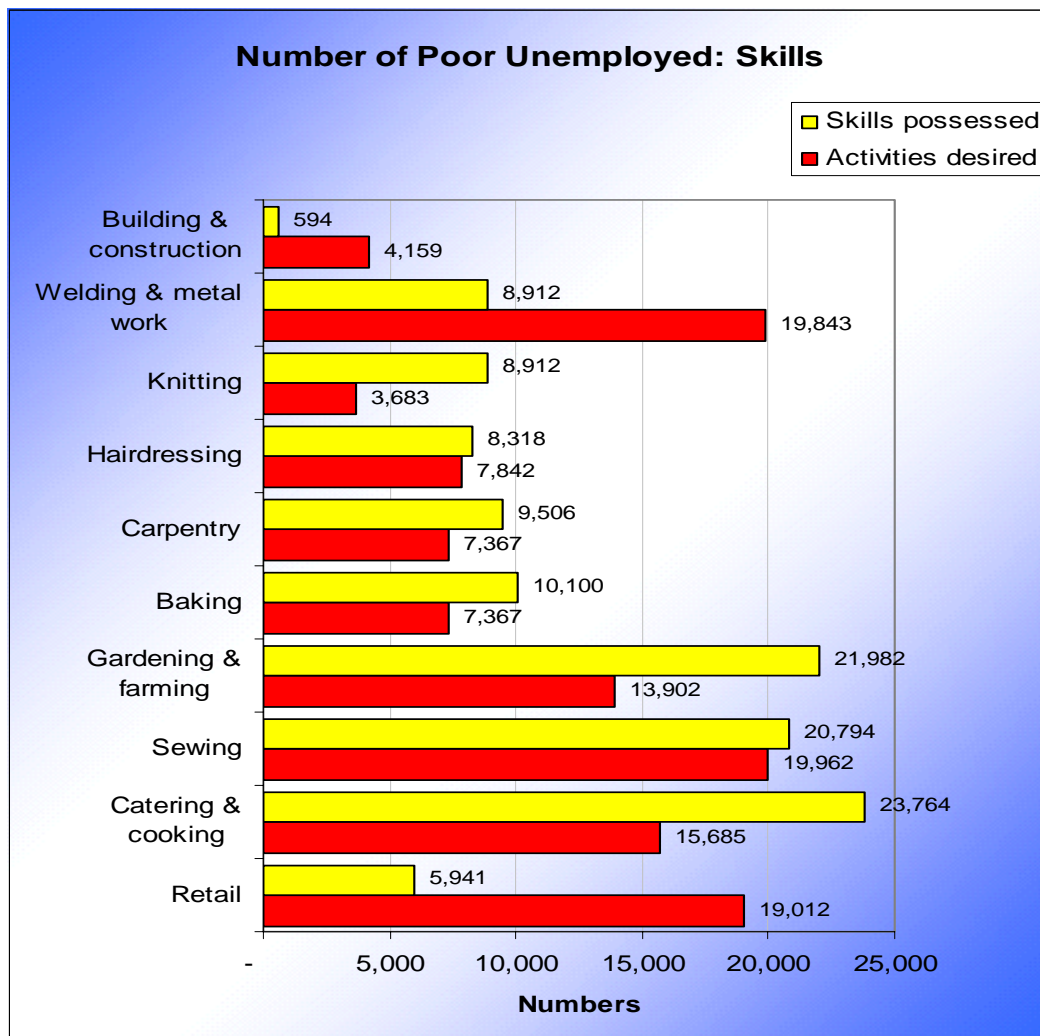
- Source: Mokoena 2001b, Slabbert 2003.

There are an estimated 8,912 persons currently with skills in metal work and welding. There are also 19,843 poor unemployed persons who would like to be involved in metal work and welding activities. There are an estimated 21,982 persons with skills in gardening/farming; 20,794 in sewing; 23,746 in catering. The figure shows that the majority of unemployed poor has skills related to catering and cooking, gardening and farming, and sewing. However, the majority of people would like to be engaged in sewing, welding and metal work and retail trade.

Table 5.26 shows the minimum salaries that the unemployed indicated would attract them into employment. It shows that almost 61.7% of the respondents would accept R1500 per month and less. This figure rises to almost 81% when this minimum is raised to R2000. A percentage of 6.3 indicated salaries exceeding R3000 as minimum. In 2001 (Mokoena 2001b), only 50% of the unemployed poor were willing to work for a monthly wage of less than R1,500. It appears that an increasing level of poverty makes people willing to accept employment for lower wages.

TABLE 5.26   DESIRED MINIMUM SALARY EXPECTED BY THE UNEMPLOYED POOR (2003)

Salary Categories	% of the unemployed	Cumulative %
0 - 500	2.3	2.3
501 - 1000	31.4	33.7
1001 - 1500	28.1	61.7
1501 - 2000	19.1	80.9
2001 - 2500	5.6	86.5
2501 - 3000	7.3	93.7
3000 +	6.3	100.0
TOTAL	100.0	

- Source: Slabbert 2003.

5.5   Summary and conclusion

This chapter gave a profile of the poor in Emfuleni. The most important facts elicited and highlighted in this chapter were the following:

- 51.6% percent of all households and 53.6% of the total population in Emfuleni live in poverty, with an average shortfall of 46.0% (i.e. on average a poor household receives only 54.0% of the income needed to be on its poverty line).

- The average household size for the poor is 3.62 persons, compared to 3.52 persons for the non-poor.

- Poor households have a smaller percentage of fathers than mothers, and, on the whole, single parent families are more prominent for the poor.

- The poor fall into younger age categories than the non-poor. 55.2% of pre-school children and 60.5% of all school children are in poor households.

- The males in male-headed households are mostly in the productive age categories (30-50 years), while almost 50% of the females in female-headed households are close to or of retirement age, indicating that there is less likelihood for female household heads to find employment than there is for male household heads.

- On the whole, the poor have less schooling and qualifications than the non-poor.

- The employed poor are in most cases employed in the construction, trade, services and other sectors – i.e. they are mostly construction workers, domestic workers, shop attendants, and the like.

- In the formal sector, the poor earn much less than the non-poor on

average. The average household income for the poor is R658 p.m., while it is R4,764 p.m. for the non-poor households (1999-figures).

■ The poor spend 86.4% of their income on survival items like food, water and electricity, housing, clothing and transport, and save only 2.0% on average (compared to 10.6% of the non-poor).

■ 12.4% of the poor population is employed, while 21.0% of the total Emfuleni population is employed. 31.8% of the poor are unemployed (24.8% of the total population). The dependent population (economically non-active plus children younger than 15) makes up 55.8% of the poor and 54.2% of the total population.

■ The unemployment rate for the poor is 71.8%, and for the total population 54.1%.

■ The dependency ratio for the poor is 7.1, while it is only 3.7 for the total population.

■ Just over 40% of the poor have been unemployed for more than 5 years and 17.1% have been unemployed for 10 or more years.

Almost 52% of the total population of the Vaal was born outside the Vaal, whereas only 32.6% of the unemployed poor population in Emfuleni was born outside the Vaal. It appears that a greater percentage of those stemming from outside the region get jobs compared to those born in the region. The reason may be that those from 'outside' are prepared to work for lower wages. The minimum wages that the poor unemployed are prepared to accept for employment appears to be high (for a wage of R1,000 per month, only 33.7% of the unemployed poor are prepared to take up employment*.) It should be noted that at a monthly wage of R800 for all unemployed poor, the poverty rate could be reduced from 51.6% to 15%.*

There seems to be a mismatch between skills and desired businesses and jobs. For instance, direct selling (tuck shops, catering, selling of fruit and

vegetables) forms 54% of the desired businesses, while only 9% of the respondents have skills in trade.

The skills that the poor unemployed have are mostly in trade and agriculture. In spite of this, it appears that there is not much interest in agriculture, but much more interest for the occupations in the services sector and trade. Previously 28.5% of the unemployed poor were employed in the agricultural sector (including gardening). Significantly, only 11.7% of the poor unemployed desire to be employed in this sector.

The agricultural sector was identified as one of the key sectors for employment creation aimed especially at the poor. To make a success of this type of initiative, more than just the provision of agricultural land will be required. First of all, the benefits of, for example, involvement in the agricultural sector should be demonstrated to the poor unemployed. In addition, proper training and a 'change of mind' will be required.

Chapter

6

The Emfuleni economy

Current status and trends

6.1   Introduction

This chapter discusses the structural composition of the Emfuleni economy. The different economic sectors are discussed in terms of its importance in the economy of Emfuleni. The role of the Emfuleni economy and its contribution to the Gauteng economy is also analysed.

The Vaal Triangle, of which Emfuleni forms a major part, was identified as one of the focus areas of the Gauteng Special Economic Zone Programme, which is part of Gauteng's *Blue IQ* Programme. Although *Blue IQ* projects are absent in Emfuleni, several initiatives, aimed at the industrial regeneration of Emfuleni, have emerged in recent times. The most important of these initiatives are discussed in this chapter.

6.2   Structural composition of the economy

In the following exposition the economic base of Emfuleni is analysed. The structural composition of Emfuleni economy will be described in terms of the main economic sectors (primary, secondary and tertiary) and the trends experienced by these sectors, focussing on the different sectors of the Emfuleni economy in order to comprehend the economy's composition, function and development trends.

The basic economic structure of Emfuleni (in terms of GGP contribution) for 2000 is set out in Table 6.1 and Figure 6.1. From this, it is evident that the manufacturing sector is the single largest economic activity in Emfuleni.

TABLE 6.1   ECONOMIC STRUCTURE OF EMFULENI: GGP CONTRIBUTION (R-

MILLION)

ECONOMIC SECTOR	1990	%	2000	%	% Growth per annum
Agriculture	180	1.6	243	1.4	3.0
Mining	54	0.5	39	0.2	- 3.2
Manufacturing	5,486	50.0	6,980	41.3	2.4
Electricity/Gas/Water	526	4.8	303	1.8	- 5.2
Construction	330	3.0	457	2.7	3.5
Trade	1,020	9.3	1,367	8.1	3.8
Transport	359	3.3	1,482	8.8	15.2
Financing	1,407	12.8	2,094	12.4	4.0
Services & Other	1,611	14.7	3,485	20.6	9.0
Tourism & Entertainment *	--	--	448	2.7	--
TOTAL	10,973	100.0%	16,898	100.0%	4.5

- Source: Calculated from statistics by WEFA 1999 (updated).
- Figures only estimated for 2000

6.2.1   Primary sector

The primary economic sector consists of two sub-sectors, namely Agriculture and Mining. Agriculture's relative contribution to the GGP of Emfuleni decreased from 1.6 per cent in 1990 to 1.4 per cent in 2000. The average annual growth rate for the sector from 1990 to 2000 was 3.0%. The agricultural sector offers a relatively small degree of economic activity in Emfuleni. Mining contributes only 0.2 percent to GGP of Emfuleni. The contribution of the mining sector to the GGP of Emfuleni declined from 0.5 per cent in 1990 to 0.2 per cent in 2000. The average growth rate from 1990 to 2000 was -3.2% per annum.

FIGURE 6.1   ECONOMIC STRUCTURE OF EMFULENI: GGP CONTRIBUTION, R-MILLION (2000)
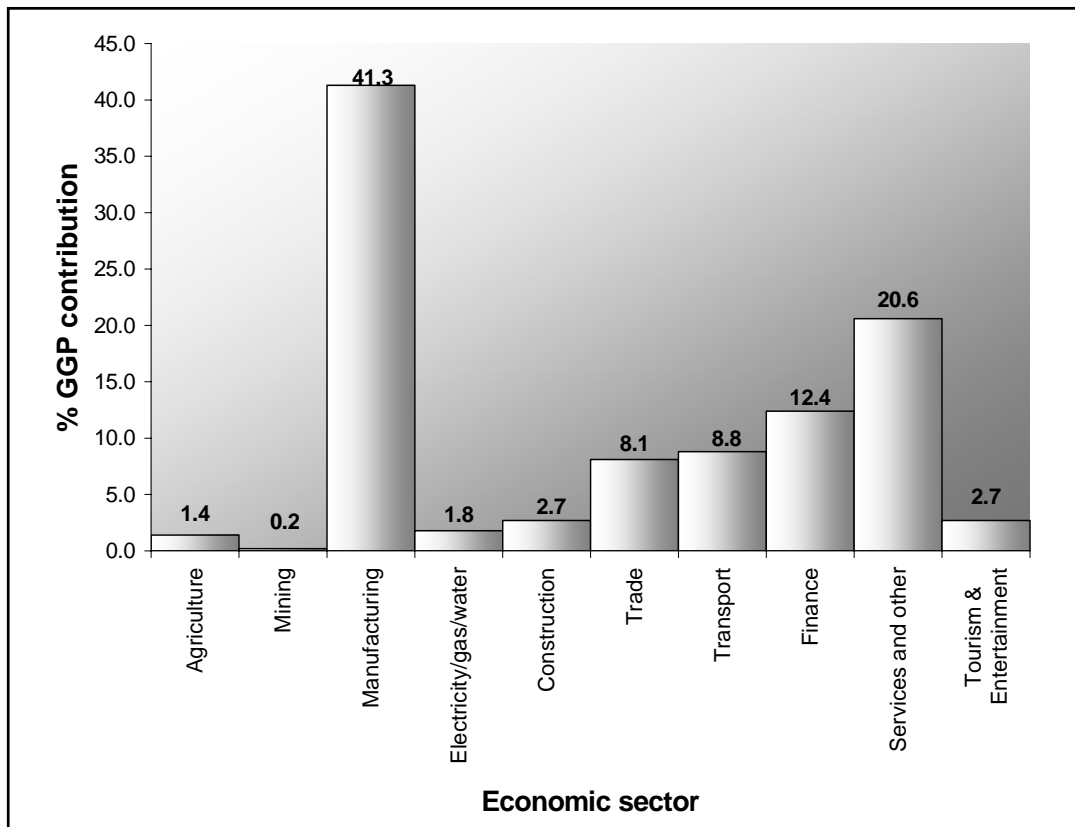
6.2.2 Secondary sector

Secondary economic activities in Emfuleni consist of three sub-sectors, namely Manufacturing, Electricity/Gas/Water and Construction. Their contributions, growth rates and constituents will be discussed and displayed hereafter.

Manufacturing

The relative contribution of Manufacturing towards the GGP of Emfuleni decreased from 50.0 per cent in 1990 to 41.3 per cent in 2000. However, the manufacturing sector can still be regarded as the dominant economic activity in Emfuleni. The average annual growth rate from 1990 to 2000 was 2.4%.

Emfuleni has a wide range of industrial activities. The industrial activities are recorded in Table 6.2 and Figure 6.2, with their share in the manufacturing sector's GGP contribution.

TABLE 6.2   INDUSTRIAL ACTIVITIES, EMFULENI (2000)

Activity	Percentage share in Manufacturing's GGP contribution
Food, drink and tobacco	3.5
Textiles, clothing and footwear	1.8
Fuel, petroleum and rubber products	3.1
Other non-metallic mineral products	5.9
Metal, metal products and machinery	80.6
Electrical machinery & electronic appliances	2.8
Transport equipment	1.3
Furniture	1.0
TOTAL	100.0

- Source: WEFA 1999 (updated).

FIGURE 6.2   INDUSTRIAL ACTIVITIES AND THEIR SHARE OF MANUFACTURING'S GGP CONTRIBUTION (2000)
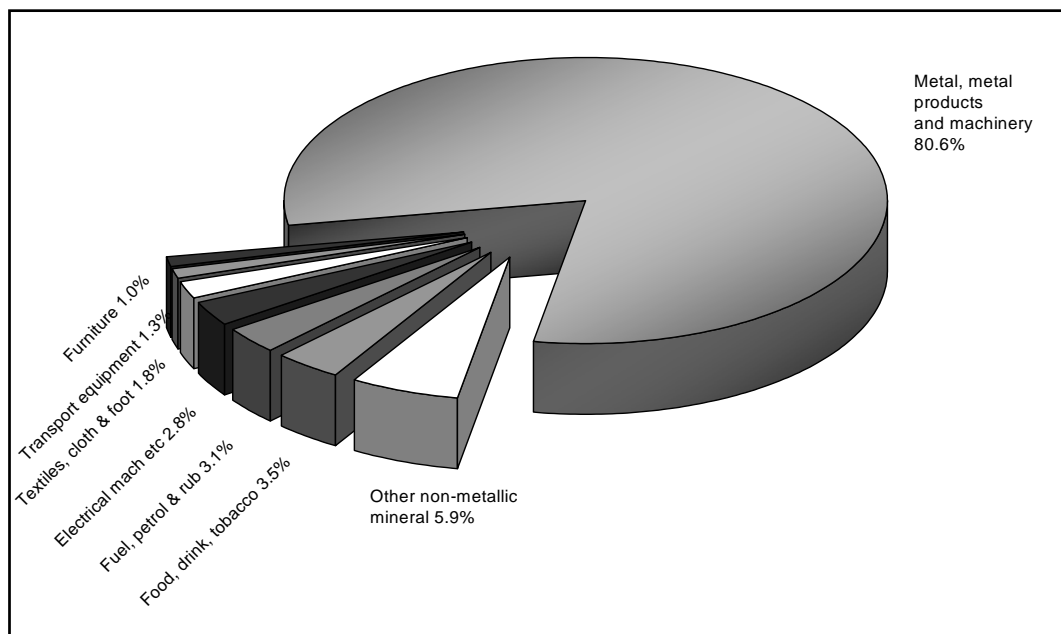
- Source: WEFA 1999 (updated).

From both Table 6.2 and Figure 6.2, it is evident that the manufacturing of metal, metal products and machinery dominates the manufacturing sector in Emfuleni. The industrial base of Emfuleni therefore lies in the manufacturing of metal (basic iron and steel) as well as the manufacturing of a wide range of metal products and machinery. The metal and metal products industries

(mainly iron/steel industries) are responsible for 80.6 per cent of the manufacturing activities in Emfuleni. This shows the strong dependence of Emfuleni economy on these industries.

Construction, Electricity/Gas/Water

The GGP contribution of construction activities to Emfuleni during 1990 was 3.0%. This figure declined to 2.7% in 2000. Electricity/Gas/Water contributed 1.8 % to the GGP of Emfuleni in 2000. The average annual growth rate from 1990 to 2000 was -5.2%.

6.2.3   Tertiary sector

Tertiary sector activities consist of a number of sectors such as Trade, Transport, Financing, Services (including government services) and Tourism and Entertainment. Combined, this sector registered a GGP contribution of 40.1% in 1990 to Emfuleni. By 2000, the figure was 52.6%, indicating a relative growth of 31.2% in the contribution of the tertiary sector between 1990 and 2000. The Transport and Services sectors experienced an above average annual growth between 1990 and 2000 of 15.2% and 9.0% respectively. The average annual growth for the whole Emfuleni economy was 4.5%. For Tourism and Entertainment only the 2000 figure was estimated. This sector presently contributes only a relatively small amount to the GGP of Emfuleni.

6.3   Functional specialisation

The functional specialisation in Emfuleni refers to those urban functions and economic activities in which the area specialises. As shown in Table 6.3, the Emfuleni economy is considerably dependent on the basic iron and steel industry.

TABLE 6.3   FUNCTIONAL SPECIALISATION OF EMFULENI'S URBAN AREAS

Area	Functional specialisation	Economic base
Emfuleni: Vanderbijlpark	**Basic iron and steel, heavy metal, engineering workshops, tertiary education, recreation/tourism, regional shopping.**	**Large, but smaller than Ver-eeniging. The economic base is less diversified and specialises in basic iron and steel manufacturing**
Emfuleni: Vereeniging	**Heavy metal, ceramics, engineering workshops, water-based recreation/ tourism, government services and higher order regional shopping centre.**	**Large, relatively more diversified but specialised in manufacturing**

- Source: Slabbert 2001c:16.

6.4   Sub-regional contribution towards the Gauteng province

The Gauteng Province represents the largest economic sub-region in South Africa: it accommodates 19.7 per cent of the total population of the country (Stats SA 2003b:6) and accounts for about 40 per cent of the national product (Blue IQ 2000:11). The Emfuleni economy forms an integral part of this economic sub-region. It is characterised by a high degree of interdependence with the other sub-systems housed by the Gauteng metropolitan complex.

Table 6.4 and Figure 6.3 show the sub-regional contribution of different regions in Gauteng as a percentage of the total GGP of Gauteng. For the years 1970 –2000, Metsimaholo was included as part of the Vaal.

TABLE 6.4   SUB-REGIONAL PERCENTAGE CONTRIBUTION TOWARDS THE GGP OF GAUTENG PROVINCE, VAAL (1970-2000)

SUBREGION	1970	1975	1980	1985	1990	1995	2000	2000
								Emfu-leni*
Vaal	6.7	8.5	9.1	7.6	8.3	8.4	7.8	6.0
Pretoria	6.6	18.0	17.3	19.6	21.0	21.6	22.3	22.7
Johannesburg	43.3	36.6	33.0	33.1	32.5	32.9	35.9	36.7
Rest of Gauteng	33.4	36.9	40.6	39.7	38.2	37.1	34.0	34.6
TOTAL	100	100.0	100.0	100.0	100.0	100.0	100.0	100.0

- Source: Calculated from statistics by WEFA 1996 & 1999 (updated).

  * Emfuleni Municipal Area (EMA) in relation to other areas in Gauteng.

FIGURE 6.3   SUB-REGIONAL PERCENTAGE CONTRIBUTION OF EMFULENI TOWARDS THE GGP OF GAUTENG PROVINCE (2000)
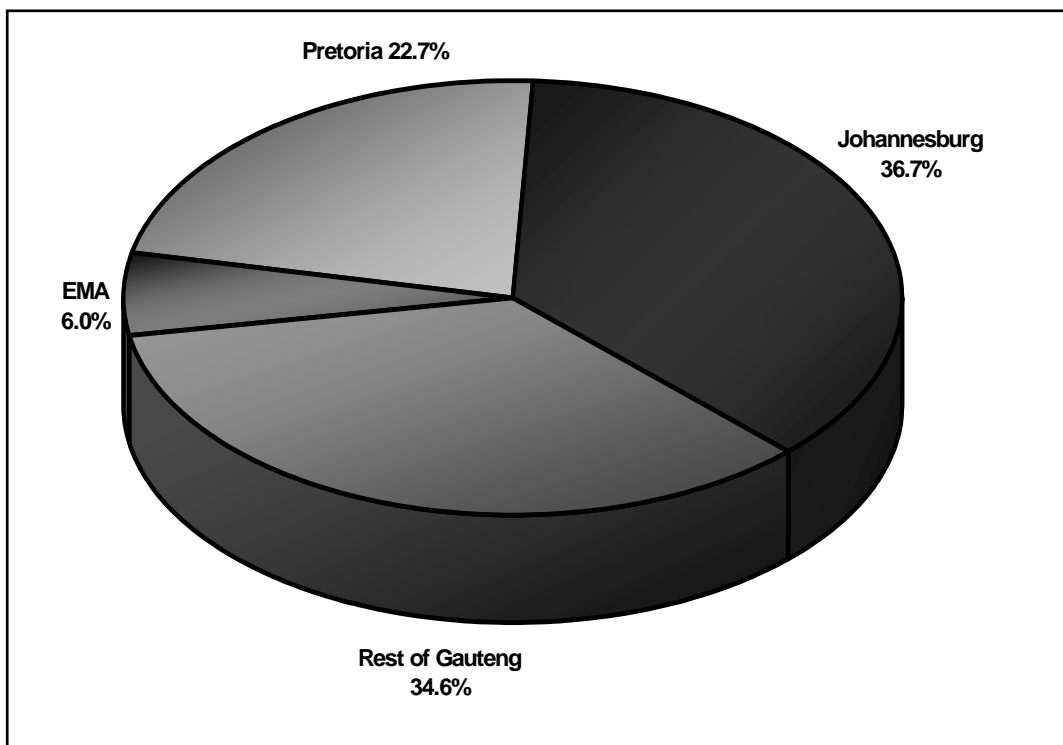
- Source: Calculated from statistics by WEFA 1999 (updated).

According to the information in Table 6.4, the economy of Emfuleni contributed 6.0% to the GGP of the Gauteng province in 2000. This figure is lower than the 1995 figure of 8.4%, because the GGP of Metsimaholo is excluded. From the analysis in Figure 6.4 and Table 6.3 it is evident that:

- The Vaal experienced an increase of 25.4 percent (between 1970 and 1995) in its contribution to the economy of the Gauteng

province. The reason is partly due to the decrease in mining activities on the Witwatersrand which resulted in a relative increase in importance of the Vaal economy (Slabbert & Dorfling 2001:21);

- The importance of the Johannesburg area declined by 24 percent between 1970 and 1995. This decline is attributed to a decline in mining activities as well as industries that are forwardly linked with the mining sector (Slabbert & Dorfling 2001:22);

- The contribution of Pretoria increased by 30.1 percent between 1970 and 1995, mainly because of an increase in manufacturing activities (Slabbert & Dorfling 2001:22);

- Although Emfuleni's 6 percent GGP contribution to Gauteng is lower than before (8.4 percent) when Metsimaholo was included in the Vaal, the Emfuleni economy still makes a considerable contribution to the GGP of Gauteng.

6.5   Sectoral contribution of the Emfuleni economy to Gauteng

Table 6.5 and Figure 6.4 show the contribution by sector of Emfuleni to Gauteng's GGP, compared to those of Pretoria, Johannesburg and the rest of Gauteng. Although Emfuleni contributes only 6 percent to the total GGP of Gauteng, it contributes 15.5 percent of the total agricultural production in the province and 12.7 percent of the total manufacturing production. No separate data was available for the tourism and entertainment sector. This sector was included in the trade and services sectors.

The shaded area in Table 6.5 shows the area of specialisation of Emfuleni, namely Manufacturing. Taking into account that the manufacturing sector of Gauteng contributes 26.4 per cent (the largest contributing sector) to the GGP of Gauteng (GEDA 1998:57), it is evident that the manufacturing sector of Emfuleni, as a supplier of intermediate inputs, has a significant role to play in the Gauteng economy.

TABLE 6.5   PERCENTAGE CONTRIBUTION OF THE EMFULENI ECONOMY TO

THE GGP OF GAUTENG (2000)

Economic sector	Emfuleni	Pretoria	Johannes-burg	Rest of Gauteng	TOTAL
Agriculture	15.5	18.3	7.4	58.7	100.0
Mining	0.3	1.7	5.2	92.7	100.0
Manufacturing	12.7	16.4	31.7	39.2	100.0
Electricity/Gas/Water	5.2	15.6	33.1	46.1	100.0
Construction	5.4	22.1	39.9	32.6	100.0
Trade	3.9	22.5	44.8	28.8	100.0
Transport	4.4	25.4	35.7	34.5	100.0
Financing	2.9	21.8	50.6	24.7	100.0
Services & Other	6.9	35.2	26.5	31.3	100.0
% Contribution of the region to GGP of Gauteng	6.0	22.7	36.7	34.6	100.0

- Source: Calculated from statistics by WEFA 1999 (updated).

FIGURE 6.4   PERCENTAGE CONTRIBUTION OF THE EMFULENI ECONOMY TO THE GGP OF GAUTENG (2000)
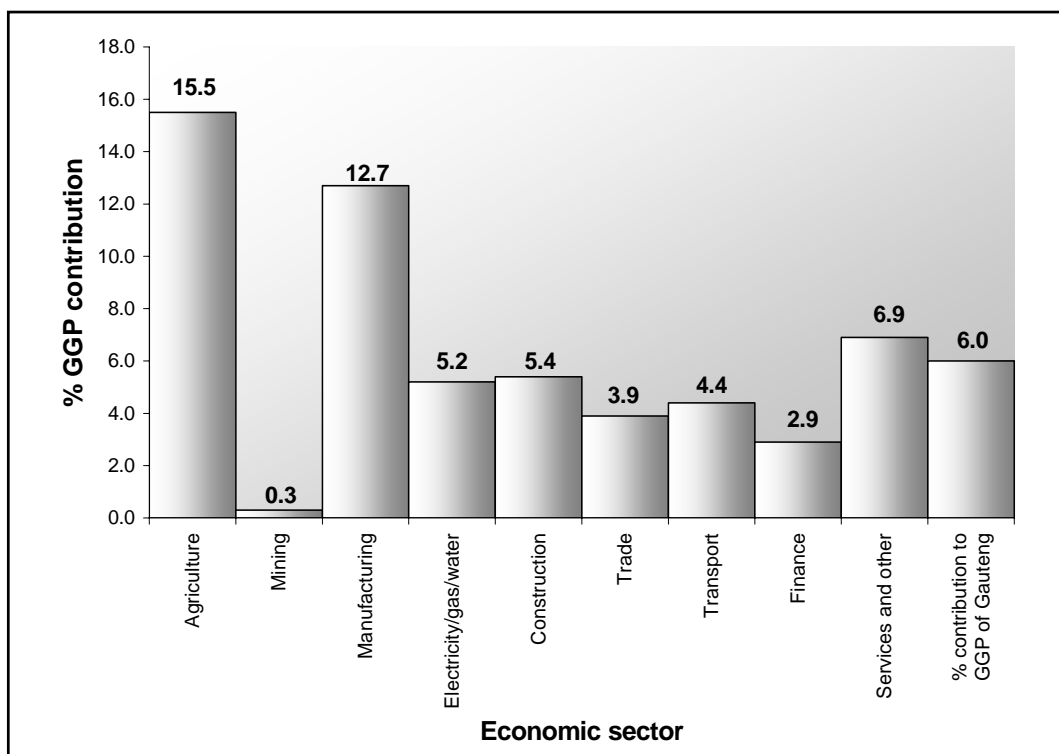
- Source: Calculated from statistics by WEFA 1999 (updated).

Emfuleni's contribution to the total agricultural production of Gauteng is 15.5 percent. Agriculture in Gauteng, however, contributes only 0.6 percent to the

GGP of the province as a whole (GEDA 1998:57). Agriculture also has a relatively modest role in the Emfuleni economy. It contributes only 1.4 percent to the GGP of Emfuleni, whereas manufacturing contributes 41.3 percent (Table 6.1).

6.6   Potential of developing the Emfuleni economy in a provincial context

The Gauteng Provincial Government has initiated a R1.7-billion programme known as *Blue IQ* (Blue IQ 2001). The primary objective of this programme is to invest in economic infrastructure development in ten mega-projects in the areas of tourism, technology, transport and high value-added manufacturing, to create a truly "smart" province. By acting as a dynamic catalyst, the programme is expected to attract some R100-billion in foreign direct investment in the next ten years to the province, thus creating an environment in which local and foreign businesses can prosper and boost job creation opportunities for all South Africans.

FIGURE 6.5   LOCATION OF BLUE IQ PROJECTS IN GAUTENG

Dinokeng

NI

Gauteng Automotive Cluster

N4

The Innovation Hub

Cradle of
Humankind

Gautrain rapid rail link

NI

NI4

Johannesburg
International
Airport

NI

Constitution Hill

N3

Newtown Cultural Precinct

NI2

City Deep

Wadeville –
Alrode Corridor

NI7

NI2

NI

N3

B L U E I Q

The plan for a smart province - Gauteng
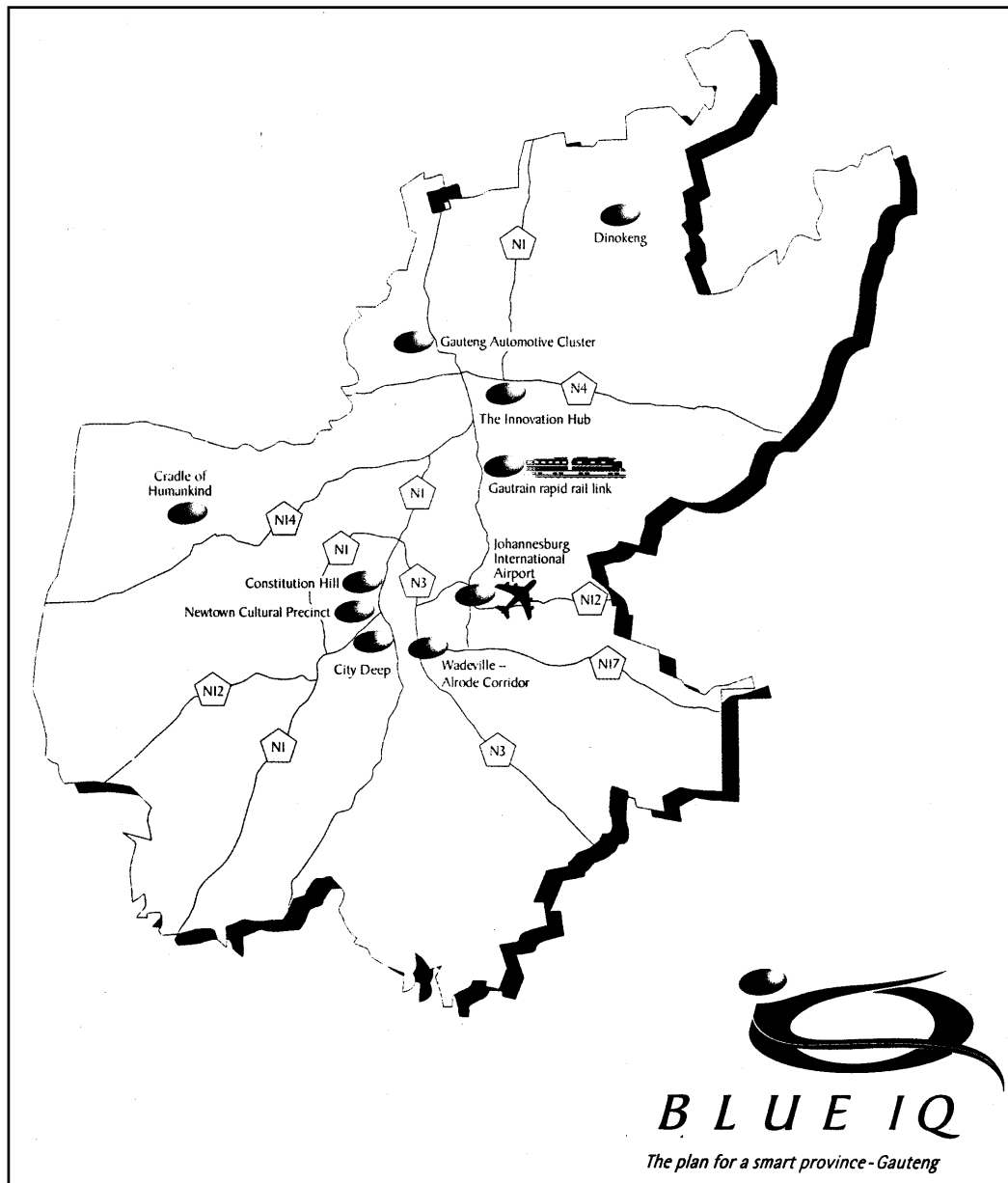
• Source: Blue IQ 2000: I.

The ten mega-projects that have been identified to have the potential to make a significant impact on the economy are those in Table 6.6. The *Blue IQ* taskforce is accountable to the provincial Government for delivering specific results on these projects by 2004. Figure 6.5 shows the location of each of these projects in the Province.

TABLE 6.6   TEN MEGA-PROJECTS SPEARHEADED BY *BLUE IQ* (2000)

Technology	Transport	High value-added Manufacturing	Tourism
1 The creation of the Innovation Hub will attract "smart" industries to Gauteng	2 Gautrain Rapid Rail Link 3 The upgrade of Johannesburg International Airport and the establishment of an IDZ 4 The upgrade of the City Deep Container Depot and IDZ	5 The expansion of the Gauteng Automotive Cluster 6 The regeneration of the Wadeville-Alrode Corridor	7 The marketing of the Cradle of Humankind 8 The marketing of the Dinokeng Big Five Reserve 9 The upgrade of Newtown Cultural Precinct 10 The creation of Constitution Hill

- Source: Blue IQ 2000:22-52.

Blue IQ works in partnership with business, government departments and other organisations. It is an initiative that is based on a well-researched trade and industrial strategy, taking a three-pronged approach to developing Gauteng into the 'smart' province of South Africa (Blue IQ 2000:5), i.e. (1) creating a sophisticated high value-added manufacturing sector; (2) enabling Gauteng to be the 'smart' province of South Africa; and (3) developing Gauteng's finance and business service sector.

Although the Emfuleni economy plays an important role in the province, it has the highest unemployment rates in the province (Section 4.3). The headcount ratio of Emfuleni is also the highest of the industrialised centres of Gauteng (Hirschowitz 2000:38). Despite this, *Blue IQ* projects are absent in the whole district of Emfuleni, as well as in the Sedibeng District Municipality of which Emfuleni forms an integral part. Although the *Blue IQ* project does not currently run any projects in Emfuleni, the study on the potential for industrial regeneration commissioned by the Department of Trade and Industry (Bloch & Dorfling 2000) has been taken further by the Department of Development Planning and Local Government of Gauteng Province. This Department has commissioned further studies, in three phases, on economic regeneration in

the area - it is hoped that these studies will have the outcome of tabling implementable projects (Morolo 2001).

Furthermore, local stakeholders believe that an entertainment/tourism project could have a substantial impact on the economy and could offer a service to the whole of the Gauteng Province (Bloch & Dorfling 2000:65).

6.7   Industrial regeneration

The Vaal Triangle was identified as one of the focus areas of the Gauteng Special Economic Zone Programme (GSEZP). The programme, which forms part of Gauteng's *Blue IQ* Programme, involved a strategic intervention that was aligned with the Spatial Development Initiative (SDI) criterion for opening up the economic potential in areas with under-utilised industrial or infrastructural capacity by targeting strategic industrial assets that are important to the growth of the regional economy. More particularly, the intervention involved the design and implementation of industrial regeneration projects (Bloch & Dorfling 2000:4).

In the year 2000, the Department of Trade and Industry commissioned a preliminary investigation into the industrial regeneration potential of the industrial sector in the Vaal (Bloch & Dorfling 2000:71,72). The report recommended that:

- Stakeholders be shown the advantages of industrial regeneration in the Vaal region, as it is important for them to understand the gravity of the current economic situation and the need for the development of a strategy with goals common to each role player;

- The region be marketed to potentially interested industrialists;

- A regional incentives package be worked out for the Vaal region;

- The existing businesses be supported, especially in terms of their need for marketing, access to finance, and technical support; and

- New small businesses and manufacturing businesses should be stimulated.

In recent times, several important initiatives have emerged. These initiatives together with the marketing of Emfuleni, and general collaborative research efforts, can make considerable inroads in terms of developing the economy in a more general way. With an integrating working spirit, there will be a chance to achieve the following (Bloch & Dorfling 2000:4):

- enhancement in terms of the expected delivery of services and goods from the local government;

- improvement of manufacturing business environments to meet the needs of existing firms within a global economy;

- implementation of such improvements in such a way as to make industrial environments more attractive for new investment or for re-investment; and

- provision of well co-ordinated and effective in-place competitiveness enhancement to existing companies and start-up support to new entrepreneurs, drawing on government supply-side support measures, and the institutional capacity of local public and private sectors.

The most important initiatives will be discussed in the sections below:

Establishment of a manufacturing advisory centre (Gaumac Vaal)

The establishment of manufacturing advisory centres (MACs) is an initiative of the Department of Trade and Industry. This initiative has as goal the expansion of South Africa's small manufacturing sector and the improvement in the competitiveness and growth of existing small- and medium-sized manufacturing firms. The MACs will draw on resources and expertise of relevant service providers to assist manufacturers to become locally and internationally competitive. The South African MAC model is unique and perhaps the most advanced in the world. It was developed by NAMAC (the

national body for the establishment of MACs) through drawing on the experience and expertise of the CSIR, Ntsika, the National Productivity Institute (NPI) and Danish International Development Aid (DANIDA), by studying similar programmes in various countries abroad. The final model was tailored and refined to suit local conditions using all available inputs. The MAC programme has some of the best trained industrial advisers who rely on the most cutting-edge diagnostic technology in the country. They carry out diagnostic assessments and also provide training, development, business links and information to SMMEs (*Blue IQ* 2001).

A total of three MACs were established in Gauteng, namely in the East Rand, West Rand and the Vaal (office in Vanderbijlpark) (Mhlongo 2001).

The establishment of a Gaumac office in Emfuleni is currently the sole concrete initiative of the provincial government in the regeneration of the Vaal economy. The Gauteng provincial government was instrumental in the setting up of Gaumac (the provincial body), and is working closely with NAMAC (Mhlongo 2001).

Upgrading of the Vereeniging Airport to international status

The main purpose of the proposed upgrading programme is to develop and upgrade the airport so that it can be strategically positioned as a major player in the freight handling sector. It is envisaged that the airport will serve both the national and international arena with a special emphasis on flying cargo to other parts of Africa. It is also envisaged that the airport will be in a position to accommodate planes with an 80-ton loading capacity (LAAC 2001). Various factors have contributed to the investigation into the potential development of an international airport in the Vaal (LAAC 2001), including:

- the concept of a niche airport to serve medium-heavy and heavy aircraft to and from Sub-Saharan Africa;

- the local demand for mainly cargo facilities;

- the lack of specific facilities at Johannesburg International Airport; and

- the expensive price structures at Johannesburg International Airport.

During the 1989-1991 period, studies were conducted to test the feasibility of developing the Vereeniging Airport into an international facility. The last study, finalised in September 1991, showed that sufficient demand for this expansion would only realise during 1998-1999 (LAAC 2001).

In February 1998, Sky Freedom Aviation Consultants were approached by the Mayor of the then Lekoa Vaal Metropolitan Council to investigate the feasibility of expanding one of the airfields in its region into a bigger national and international airport. In the following year, the preliminary findings were presented to the Greater Metropolitan Council. The study concluded that the Vereeniging Airport should be developed (LAAC 2001).

Factors contributing towards this decision (LAAC 2000) were:

- geographical position (central in the Vaal Triangle);

- existing road and rail infrastructure at this airport;

- relatively under-developed urban area in the proposed approach and take-off slope;

- availability of industrial land around the airport;

- ease of radar control under the Johannesburg Terminal Movement Area;

- establishment of the K11, K77, PWV20 route (East-West); and

- support demonstrated by the Local Council in this effort.

Establishment of an Industrial Development Zone (IDZ)

One of the measures offered by the South African Department of Trade and Industry that is specifically aimed at encouraging the international competitiveness of the domestic manufacturing sector is the Industrial

Development Zone (IDZ) programme. IDZs are planned as purpose-built industrial estates linked to an international port or airport in which quality infrastructure and expedited customs procedures are coupled with unique duty-free operating environments suited to export-oriented production. It is envisaged that the private sector will build and operate IDZs. Government will license operators to develop and run the IDZs, provide enterprise support measures, minimise red tape and provide efficient services to enterprises within an IDZ (The Enterprise Organisation 2001: 4).

There are two zones of operation planned for IDZs, namely a Customs Secured Area (CSA), and an Industries and Services Area (ISA). The former is a delimited area with entrance and exit points controlled by customs personnel (RSA 2000:27), while the latter involves leading-edge industrial and office park environments adjacent to CSAs, typically occupied by service providers to CSA enterprises or industries beneficiating local raw materials (The Enterprise Organisation 2001:2,3). An IDZ is thus aimed at export-oriented manufacturing and processing and incorporates the following features:

- a duty-free status for imported raw materials/components;

- national and local government incentives;

- is located adjacent to an airport or port to facilitate easy import and exports of goods;

- provides the latest information technology for global communications;

- provides human resource development services, an industrial relations environment, world-class infrastructure, and adherence to environmental standards; and

- is managed by an IDZ company to streamline administration.

The plan is for Government to first designate areas suitable for IDZs. Prospective IDZ operator companies will then be able to apply for permits to

develop and to operate an IDZ. Government-sponsored feasibility studies have already been conducted on a number of potential port and airport locations at which IDZs may be established. This preparatory phase, combined with the newly-approved legal framework, has laid the foundation for business and investors to use the programme to develop IDZs as platforms for improved global competitiveness (The Enterprise Organisation 2001:6).

Local stakeholders believe that the main purpose of the establishment and development of an IDZ in the Vaal would be to regenerate the local economy by offering local and international firms the possibility of investing in the area. It is envisaged that a Vaal IDZ would be supportive both to the local industries, organic agricultural programmes and the airport. There is also some speculation that this zone could accommodate other projects related to the Tax Recapitalisation Programme and its consequent downstream secondary initiatives (Slabbert & Dorfling 2001:37).

One of the most serious constraints in regard to the establishment of an Industrial Development Zone in the Vaal, however, is that the area first needs to be identified and designated by National Government as an Industrial Development Zone. This has not happened as yet, although Vaal stakeholders hold the view that an IDZ should be established, and are themselves investigating the viability of such a project. It is therefore merely a proposal at this stage that an IDZ could "kick start" the economy as long as downstream industry could be attracted (Slabbert & Dorfling 2001:37).

Tourism, entertainment and culture

Thus far, the development of tourism and entertainment attractions (riverfront, hotels and casino) has not managed to attract the large numbers of customers from outside the region required in order to significantly stimulate local income and employment. Only a limited number of day-visitors from Johannesburg are attracted, while most of the customers thus far have been drawn from within the Vaal itself (Slabbert & Dorfling 2001:38). Some factors

hindering the development of the sector mentioned by stakeholders (Slabbert & Dorfling 2001:38, 39) are:

- A lack of an integrated marketing strategy;

- The entrance routes to tourism and entertainment attractions are not indicated properly (signage);

- Entrance routes are littered, dirty and untidy (for example the old Golden Highway, which is one of the major access routes to the Emerald Safari Resort & Casino and the Riverside Sun hotel); and

- Pollution of the Vaal River.

Although the tourism and entertainment sector currently forms a relatively small part of the local economy, the sector has particularly high employment and income multipliers. The sector has the potential to create job opportunities for a large number of unemployed in Emfuleni. The sector is also more accessible for the poor and relatively unskilled, who form a large part of the Emfuleni population (Slabbert & Slabbert 2002b:85). It therefore makes sense to try to attract both overseas tourists, as well as daily and weekend visitors from nearby Greater Johannesburg and Pretoria.

With regard to overseas visitors, market research (Brand Scan and Visual Volcano Advertising 2000) shows that there is an interest in experiencing 'the best Africa has to offer' - wildlife and culture - within a 60 minute driving distance from Johannesburg International Airport. Furthermore, families in the Sandton, Midrand and Pretoria areas have a real need for quality, varied and outdoor family recreation, especially over weekends. It has thus been suggested that the Vaal position itself as "Africa's Inland Waterfront". An entertainment centre could be located on prime commercial land along the banks of the Vaal River, featuring "world-class African attractions".

The attractions could include game drives, safaris, bird sanctuaries, township tours, various water-based activities, African curios and arts and crafts, theme

parks, cultural villages and African fashion. In this way, the needs of visitors could be met, such as

- quality family entertainment;
- a 'real' African experience;
- convenient accessible venues;
- clean, secure facilities and parking;
- affordable and value-for-money attractions;
- varied and diverse entertainment offerings; and
- aspirational venues 'where my type hang out' (Brand Scan and Visual Volcano Advertising 2000).

Linked to the Sharpeville Memorial Initiative and the signing of the Constitution and the Peace Treaty of 1902, it is believed that this sector may have the potential to attract day visitors and tourists from Greater Johannesburg and overseas. Emphasis should therefore be placed on the development of a historical museum where these events are properly exhibited and marketed in such a manner that will draw day visitors and overseas tourists (Slabbert & Slabbert 2002b:85).

A high priority should be the cleaning up of the environment, especially access routes and the Vaal River. This will prevent the deterioration of the existing entertainment facilities and tourist attractions. With this in place, an integrated, well-designed development of the tourism and entertainment sector in Emfuleni may have a large multiplier effect on the local economy in terms of employment creation and income generation (Slabbert & Slabbert 2002b:85). This sector may also contribute to changing the negative image of the Vaal.

6.8   Summary and conclusion

The most important sector of the Emfuleni economy is Manufacturing with a 41.3% contribution to the local GGP. Although it declined from 50.0% in 1990, it still remains the most important economic sector. In the

manufacturing sector, the metal and metal products industries (mainly iron/steel) are responsible for 80.6% of all manufacturing production.

The Emfuleni economy plays an important role within the Gauteng Province, especially the manufacturing sector. Although the Emfuleni economy plays an important role in the province, it has the highest unemployment rates in the province (Section 4.3). The headcount ratio of Emfuleni is also the highest of the industrialised centres of Gauteng. Local stakeholders believe that the area has strong development potential, particularly in terms of the entertainment and tourism sector, and it is hoped that some kind of project of this nature could be kick-started by being included in the provincial government's future *Blue IQ* Programme.

The number of initiatives that are aimed at regenerating Emfuleni's economy indicate that there is a significant degree of thought and effort being expended at the local level. Each of the initiatives described in this chapter contribute elements towards the attraction and support of business, as well as improving the general business climate. Considering that the manufacturing sector remains the most dominant economic sector in the area, the industrial regeneration initiative is a critical component in influencing the health of the economy more generally.

In a similar vein, the establishment of an Industrial Development Zone and the already established Gaumac Vaal could also add to the support and growth of the manufacturing sector. The initiatives aimed at encouraging the growth of the agricultural and tourism and entertainment sectors are important in terms of aiming at diversifying the economy. Furthermore, the upgrading of the Vereeniging Airport to international status, the marketing of Emfuleni, and general collaborative research efforts, can make considerable inroads in terms of developing the economy in a more general way.

Chapter

7

A sectoral analysis of the Emfuleni economy and identification of the key economic sectors

7.1   Introduction

The underlying theory for an input-output analysis was discussed in Chapter Three (Section 3.3). In this chapter, the input-output model for the Vaal region is discussed, as well as the method used for the updating of the 1993 input-output table to 2000-figures. The potentialities of each economic sector of the Emfuleni economy are described. The tourism and entertainment sector usually forms part of the trade and service sectors, but as Emfuleni has a high potential in the tourism and entertainment field, this sector and its potentialities are discussed as a separate sector.

By considering the sectoral linkages that exist in the Vaal economy, as well as the multipliers of the different economic sectors, the key sectors for stimulating the Emfuleni economy were determined.

7.2   Input-output model of the Vaal

As the economies of Emfuleni and Metsimaholo (together forming the Vaal region) are interwoven, it is not possible, nor desirable, to construct an input-output table for Emfuleni alone. The Emfuleni economy forms 69.3% of the Vaal economy in terms of GGP contribution (Slabbert 1999:9), and the Emfuleni population forms 85% of the Vaal population (Stats SA 2003a).

7.2.1   Updating the input – output table

The updating of the 1993 input-output table was done by the candidate in 2001 (Slabbert & Slabbert 2002a). The updated figures for the 2000 input-output table were the results of a combination of the 1993 input-output model

of the Vaal (VAALMET 1994) and growth rates for each economic sector as estimated through statistical methods. Table 7.1 shows the average annual growth rates of the sectoral GGP for the Vaal over a 10-year period (from 1990 to 2000). Inputs were also weighted under the assumption that in constant returns to scale, the intermediate output increases in the same proportions as the inputs.

The 1993 input-output table did not have a separate tourism and entertainment sector. However, as Emfuleni is considered to have a great potential for economic development in this sector, the tourism and entertainment sector is treated as a separate sector (formed as the result of the sum of 7% and 9% of the trade sector and services sector respectively) in the 2000 input-output table.

Other columns were adjusted on a simple proportionality principle in order to create equality of sums of total inputs and total outputs.

TABLE 7.1 GGP-CONTRIBUTION AND SECTORAL GROWTH RATES, VAAL

ECONOMIC SECTOR	1990 (in Rm)	2000 (in Rm)	Annual growth rate (%)
Agriculture	293	314	0.74
Mining	563	265	-5.62
Manufacturing	7,758	9,857	2.64
Electricity/Gas and Water	1,557	1,085	-3.12
Construction	363	551	4.97
Trade	1,165	1,584	4.44
Transport	416	2,023	30.32
Financing	1,621	2,717	6.40
Services & Other	1,800	4,087	13.35
Tourism & Entertainment	_	523	_

- Source: calculated from statistics by WEFA 1999 (updated).

Table 7.2 represents the updated input-output table of the Vaal economy for the year 2000. From this table, technical and inter-dependence (Leontief inverse) coefficients tables (Table 7.3 & Table 7.4) were derived by Dr.

Hendrik Nel (2001), on the basis whereof he then calculated the sectoral multipliers (Table 7.8).

The main uses of the input-output table, as well as other derived tables, are to evaluate the capability of each sector to create a process that increases the production of other sectors and creates employment opportunities within the region (Miller 1998:42). Sectoral linkages and multiplier effects are studied for this purpose.

Sectoral linkages refer to the interaction between different economic sectors in the economy of the study area. For example: the agricultural sector supplies inputs to the manufacturing sector. The degree of linkages has a direct bearing on multiplier effects and provides an indication of agglomeration advantages that point to existing and potential development opportunities or constraints. Two types of linkages can be distinguished, namely the backward linkage effects and the forward linkage effects (VAALMET 1994:35).

Backward linkage of a sector is the effect of a change in the demand for production of that sector, on its demand for intermediate inputs derived from other sectors. The higher/lower the backward linkage of a sector with other sectors is, the higher/smaller is the impact of change in economic activity within that sector on the economic activity (VAALMET 1994:35). For example: an increase in production by an iron and steel industry will inescapably lead to an increase in the demand by that industry for inputs like coal, labour, electricity and machinery. The increase in demand for coal will have the effect that the coal mines will also have to increase their output. This, in turn, will lead to an increase in demand for inputs in the coal mines (labour, machinery, electricity and the like).

Forward linkages illustrate the extent to which the rest of the sectors in the study area are dependent on the sector concerned for inputs (VAALMET 1994:35). For example: the closure of a basic iron and steel industry will have several effects. The factories using basic iron and steel for inputs, should then get their inputs from other locations at a higher cost because of higher

transport costs. This could lead to the closure or departure of these factories. Many employees (from the basic iron and steel factory, as well as from the factory using iron and steel as input) will lose their jobs, which will lead to a decrease in household income, and this in turn will lead to a decline in trade, taxes, payment of services, and the like.

Input-output models are also constructed with the objective of providing a detailed industry-by-industry breakdown of the predicted effects of changes in demand (VAALMET 1994:36). With the input-output table as basis, sectoral output multipliers, household income multipliers and employment multipliers are constructed. The higher the multiplier, the larger is the impact of an exogenous change on the economy (i.e. a change in exports or an increase in tourists flowing into the region).

The multiplier analysis assesses the effect on an economy of changes in the elements that are exogenous to that economy (VAALMET 1994:36). An increase in final demand (exogenous change, which is consumption of final goods and services, exports, fixed investments in Emfuleni, and/or a change in inventories) leads to an increase in production, followed by an increase in turnover, household income and employment. The higher the multiplier, the larger is the impact of a change on the economy. The effect of such changes is measured most frequently in terms of:

- output gain of the sectors of the economy;

- income gain by households because of an increase in final output;

- employment (in physical terms) that is expected to be created (VAALMET 1994:36).

TABLE 7.2   INPUT-OUTPUT TABLE OF THE VAAL ECONOMY (2000)

	SECTOR	1	2	3	4	5	6	7	8	9	10	INTERME-DIATE OUTPUT	PRIVATE CONSUMP-TION EXPEN-DITURE	PUBLIC EXPEN-DITURE	FIXED INVEST-MENT	CHANGE IN INVEST-MENT	EXPORT	FINAL DEMAND	TOTAL OUTPUT
1	AGRICULTURE	5.8	0.2	545	0	0	3	0.2	0.2	1.8	0.4	**556.6**	191.6	6.2	0	5.9	163.7	**367.4**	**924**
2	MINING	0.3	0.2	797.7	9.8	27.1	0.2	0.8	1.5	0.6	0	**838.2**	5.8	0.4	0	-5.8	277.4	**277.8**	**1116**
3	MANUFACTURING	64.7	50.5	7940.1	30	561	389.9	60.2	58.8	409.5	69.4	**9634.1**	1759.3	182	1641.7	55.1	15527	**19165.1**	**28799.2**
4	ELEC,GAS,WATER	1.5	9.5	560.4	26.6	1.8	42.9	11.3	17	46.3	7.7	**725**	108.1	100.2	10	-6.5	301	**512.8**	**1237.8**
5	CONSTRUCTION	0.8	0.8	25.1	1.9	319.6	49.2	4.7	18.2	7.8	5.5	**433.6**	1.3	14.6	2604.8	-13.4	795.3	**3402.6**	**3836.2**
6	TRADE	6.2	3.7	154.7	2.5	25.4	153.8	12.2	16	52.9	19.2	**446.6**	1254	43.5	8.3	-25.6	191.2	**1471.4**	**1918**
7	TRANSPORT	5.9	4	115.8	5	38.7	128.7	15.9	31.5	57.2	17	**419.7**	1414.8	132.4	40.6	9.7	1964.9	**3562.4**	**3982.1**
8	FINANCING	0.4	0.4	318.4	0.9	25.1	134.8	3.5	78.5	113.6	21.8	**697.4**	1108	74.2	142	-26.8	2229.5	**3526.9**	**4224.3**
9	SERVICES	2	141.4	468.6	1.3	377.1	68.5	3.3	43.9	514.2	45.3	**1665.6**	745	34	0	-0.2	242.8	**1021.6**	**2687.2**
10	TOURISM & ENTERT.	0.7	11	50.6	0.4	30.9	20.4	1.4	4.9	43.8	0	**164.1**	180.1	6.9	0.8	-2.5	35.9	**221.2**	**385.3**
	TOTAL INTERME-DIATE INPUTS	88.3	221.7	10976.4	78.4	1406.7	991.4	113.5	270.5	1247.7	186.3	**15580.9**	**6768**	**594.4**	**4448.2**	**-10.1**	**21728.7**	**33529.2**	**49110.1**
	REMUNERATION	63.2	26.8	3154.2	376.1	482	603.7	498.6	442.1	576.4	149.5	**6372.6**	132.4	683.8	217.7	0	896.2	**1930.1**	**8302.7**
	GROSS	78.8	86.4	2050	359.1	100.2	247	283.5	474.8	423.3	35.1	**4138.2**	0	19.2	0	0	0	**19.2**	**4157.4**
	NET	11.5	7.9	40.6	15.4	87.4	20.6	93.3	136	263.4	2.9	**679**	394.8	31.3	173.1	11.1	-44.2	**566.1**	**1245.1**
	TOT PRIM. INPUT	153.5	121.1	5244.8	750.6	669.6	871.3	875.4	1052.9	1263.1	187.5	**11189.8**	**527.2**	**734.3**	**390.8**	**11.1**	**852**	**2515.4**	**13705.2**
	IMPORTS	682.2	773.2	12578	408.8	1759.9	55.3	2993.2	2900.9	176.4	11.5	**22339.4**	219.9					**219.9**	**22559.3**
	TOTAL INPUT	924	1116	28799.2	1237.8	3836.2	1918	3982.1	4224.3	2687.2	385.3	**49110.1**	**7515.1**	**1328.7**	**4839**	**1**	**22580.7**	**36264.5**	**85374.6**

- Source: Vaalmet 1994, adapted & upgraded by the Vaal Reseach Group for 2000.

*Note: The horizontal numbers 1-10 indicate the same 10 economic sectors as listed column 1

TABLE 7.3   TECHNICAL COEFFICIENTS OF THE VAAL ECONOMY (2000)

Sector*	1	2	3	4	5	6	7	8	9	10
1 Agriculture	0.0063	0.0002	0.0189	0.0000	0.0000	0.0016	0.0001	0.0000	0.0007	0.0010
2 Mining	0.0003	0.0002	0.0277	0.0079	0.0071	0.0001	0.0002	0.0004	0.0002	0.0000
3 Manufacturing	0.0700	0.0453	0.2757	0.0242	0.1462	0.2033	0.0151	0.0139	0.1524	0.1801
4 Elect. Gas & Water	0.0016	0.0085	0.0195	0.0215	0.0004	0.0224	0.0028	0.0040	0.0172	0.0200
5 Construction	0.0009	0.0007	0.0009	0.0015	0.0853	0.0257	0.0012	0.0043	0.0029	0.0143
6 Wholesale, Retail	0.0067	0.0033	0.0054	0.0020	0.0066	0.0802	0.0031	0.0038	0.0197	0.0498
7 Transport	0.0064	0.0036	0.0040	0.0040	0.0101	0.0671	0.0040	0.0075	0.0213	0.0441
8 Financing	0.0004	0.0004	0.0110	0.0007	0.0065	0.0703	0.0008	0.0186	0.0422	0.0565
9 Services	0.0022	0.0004	0.0163	0.0011	0.0983	0.0357	0.0008	0.0104	0.1914	0.1176
10 Tourism & Entertainment	0.0008	0.1267	0.0018	0.0003	0.0081	0.0106	0.0004	0.0012	0.0163	0.0000
Labour	0.0683	0.0240	0.1095	0.3038	0.1256	0.3146	0.1252	0.1047	0.2145	0.3867

- Source: Nel 2001.

*Note: The horizontal numbers 1-10 indicate the same 10 economic sectors as listed column 1

TABLE 7.4   LEONTIEF INVERSE MATRIX OF THE VAAL ECONOMY (2000)

	Leontief Inverse	Direct +Indirect+induced									
	SECTOR	1	2	3	4	5	6	7	8	9	10	11
1	Agriculture	1.012	0.005	0.151	0.008	0.002	0.030	0.031	0.023	0.023	0.005	0.113
2	Mining	0.006	1.005	0.151	0.018	0.003	0.029	0.032	0.029	0.178	0.016	0.110
3	Manufacturing	0.035	0.042	1.499	0.037	0.004	0.054	0.057	0.060	0.071	0.011	0.233
4	Elec, Gas, Water	0.015	0.015	0.214	1.036	0.005	0.081	0.091	0.074	0.066	0.013	0.411
5	Construction	0.015	0.019	0.378	0.018	1.094	0.066	0.075	0.067	0.184	0.020	0.275
6	Trade	0.027	0.017	0.577	0.052	0.036	1.199	0.196	0.185	0.148	0.030	0.560
7	Transport	0.006	0.003	0.096	0.009	0.003	0.036	1.040	0.032	0.028	0.006	0.170
8	Financing	0.006	0.003	0.092	0.010	0.006	0.034	0.041	1.047	0.038	0.006	0.153
9	Services	0.021	0.014	0.469	0.043	0.009	0.113	0.123	0.138	1.315	0.034	0.436
10	Tourism & Entertainment	0.029	0.018	0.589	0.052	0.024	0.185	0.191	0.188	0.257	1.023	0.651
11	Households	0.044	0.017	0.556	0.042	0.010	0.246	0.271	0.229	0.194	0.038	1.293
	Total	1.2	1.2	4.8	1.3	1.2	2.1	2.1	2.1	2.5	1.2	4.4

- Source: Nel 2001.

*Note: The horizontal numbers 1-10 indicate the same 10 economic sectors as listed column 1

Output multipliers are expressed in terms of the total change in the economic output of the study area as a result of an increase in output of a specific sector. Household income multipliers are expressed in terms of the total change in household income as a result of a change in a sector's labour expenditure. Employment multipliers are expressed in terms of total change in employment as a result of a change in the final demand for a specific sector (VAALMET 1994:36). The sections hereafter will provide a broader discussion of the sectoral linkages and multiplier effects of the Emfuleni economy.

7.2.2   Potentialities of each sector of the Emfuleni economy

For the purpose of this thesis, the Vaal economy was aggregated into 10 main economic activities which, in turn, were grouped in 3 sectors, namely, the primary sector, secondary sector and the tertiary sector. The activities included in each sector are detailed in Annexure B. As stated earlier, it was only possible to update the input-output table for the Vaal as a whole. All multipliers and linkages therefore could only be calculated for the Vaal as a whole. As the Emfuleni economy is considerably larger than the Metsimaholo economy (more than twice in terms of GGP contribution (Slabbert 1999:9), and because the initial increase or decrease affects Emfuleni's economic sectors, the final effects of an increase or decrease in final demand will mostly affect Emfuleni.

The backward and forward linkages are calculated from the input-output table (Table 7.2) and summarised in Table 7.6 and Table 7.7 respectively. From the Technical Coefficients table (Table 7.3) and Leontief Inverse matrix (Table 7.4) the sectoral multipliers were calculated by Dr Hendrik Nel, an expert in input-output analysis (Nel 2001). These sectoral multipliers are summarised in Table 7.8.

In the paragraphs below, the 10 main economic activities in Emfuleni are discussed. Where possible, data for Emfuleni and not for the Vaal as a whole was given. However, all estimates derived from the input-output table, i.e. linkages and multipliers, are given for the Vaal as a whole.

Primary sector

The primary sector comprises agricultural and mining activities.

Agriculture

Agriculture is responsible for 2,904 employment opportunities or 1.9% of the total formal employment in Emfuleni (Table 4.4). The agricultural land is found mainly in the northern and eastern parts of Emfuleni (VAALMET 1994:36).

There is a steady decline in agricultural activities in the study area as farmers relocate outside Emfuleni and more land gets distributed for new urban residential areas.

Both reasons mentioned above might explain why the sector's GGP-contribution to the region, which is already as small as 1.4% of the total regional GGP, only grew by 3.0% p.a. in average over the decade from 1990 to 2000 (Table 6.1). The relative contribution of this sector to the GGP of Emfuleni declined from 1.6% in 1990 to 1.4% in 2000.

Linkages

The backward linkages of the agricultural sector show weak industrial connections. This implies that the sector depends on local raw materials for only 9.6%. Even when labour is included, the agricultural sector only depends for 16.4% on local inputs. 73.8% of its inputs are imported from either other South African provinces or the rest of the world.

With regard to the forward linkages, 60.2% of the agricultural output is sold to the local economic sectors. Local manufacturing enterprises take up 97.9% of the agriculture intermediate output (calculated from Table 7.2). This shows a high potential for further development and diversification. An effort to improve agricultural output would cause a reduction in imports of agricultural products and stimulate the manufacturing sector, provided problems with climatic conditions could be overcome through improved technological and agricultural practices.

Besides the purchase by the manufacturing enterprises, agricultural production goes largely to private consumption (52.2% of final demand) and to exports (44.6% of final demand) (calculated from Table 7.2).

Multiplier effect

Incentives to expand the agricultural sector may be less effective in boosting income earned by households, employment creation and output. An increase of R1,000,000 in the formal agricultural sector's final demand would increase

- income earned by households by R111,000;

- the contribution to the GGP by R240,000;

- an outflow of capital because of imports by R861,000;

- job opportunities by an additional 8 throughout the Vaal economy.

Based on the above, the formal agricultural sector is not regarded as an economic activity that can contribute substantially to growth in Emfuleni. This sector has, however, the ability to improve household income and to stimulate some growth in the manufacturing sector.

Informal (subsistence) agriculture may provide an outcome to the poor households in Emfuleni, but will not necessarily stimulate the economy to a noticeable extent.

Mining and quarrying

The study area's most important mineral resources are the Vereeniging coalfields. The discovery of coal and its exploitation has significantly influenced the spatial-economic structure in the Vaal. It has played a major role in the decision to establish Vanderbijlpark as a planned industrial city in the earlier PWV Complex. However, local coal reserves are not expected to influence export markets substantially (VAALMET 1994:38).

The mining sector's relative GGP-contribution to that of the Emfuleni economy declined from 0.5% in 1990 to 0.2% in 2000, showing a decline of -3.2% per annum of its contribution to the Emfuleni GGP over the last decade (Table 6.1).

Present employment in the sector is estimated at about 1,230 or 0.8% of the total employment in the Emfuleni economy (Table 4.4).

Linkages

The backward linkages of the mining sector are weak. Of all the inputs needed in this sector, only 22.3% (labour included) is provided by the local economy. It purchases most of its inputs from the manufacturing and services sectors. These sectors are also influenced by the downward trend in the mining activities in the Vaal.

Mining activities have historically developed strong forward linkages with manufacturing activities in the Vaal. Most of the output (75.1%) is taken up by local economic sectors. The most important buyer of mining products remains the manufacturing sector with 95.2% of the total intermediate output (calculated from Table 7.2). But most mining activities in the Vaal are located in Metsimaholo. For this reason, this sector has a relatively small effect on the Emfuleni economy.

Multiplier effects

An increase in the final demand of the mining sector of, for example, R1,000,000 per annum would have the following effects:

- An increase in household income throughout the economy of approximately R108,000;

- A creation of 5 job opportunities, of which most will be in the mining sector itself and in the manufacturing activities. The opposite will apply to a closure of a mine which will undoubtedly result in a loss in the mining sector and in the rest of the economy;

- An increase in GGP-contribution of about R268,000; and

- An outflow of capital out of Emfuleni through imports of R831,000.

A major constraining factor in the mining industry is the high capital cost required to develop new mines and only a few organisations in the country can raise the necessary capital in this respect. Therefore, because there is no anticipation of new large-scale mining development in the medium term, this sector should not be regarded as a major growth stimulus for the future economic development in Emfuleni.

Secondary sector

Secondary economic activities consist of three sub-sectors, namely Manufacturing, Electricity/ Gas/ Water and Construction.

Manufacturing

Manufacturing is the single economic activity which is responsible for most employment opportunities in Emfuleni. The formal employment profile of manufacturing in 2003 is 34,122 or 22.2% of all Emfuleni employment opportunities. In this sector, the basic metals and metal products manufacturing sectors themselves are responsible for almost 66.4% of all the manufacturing employment opportunities (Slabbert & Slabbert 2002b:9). A loss of employment opportunities in the manufacturing sector will also lead to the loss of employment opportunities in other sectors of the Emfuleni economy, especially those activities which are linked with industrial activities.

The relative contribution of Manufacturing towards the GGP of Emfuleni decreased from 50.0% in 1990 to 41.3% in 2000 (Table 6.1). Table 7.5 shows the share of each industrial activity in the manufacturing sector's GGP.

The manufacturing of metal, metal products and machinery dominates the manufacturing in Emfuleni with a 80.6% contribution to the Manufacturing's GGP. There is, therefore, a strong dependence of the Emfuleni economy on the metal, metal products and machinery industries.

TABLE 7.5 INDUSTRIAL ACTIVITIES, EMFULENI (2000)

Activity	Percentage share in Manufacturing's GGP contribution
Food, drink and tobacco	3.5
Textiles, clothing and footwear	1.8
Fuel, petroleum and rubber products	3.1
Other non-metallic mineral products	5.9
Metal, metal products and machinery	80.6
Electrical machinery & electronic appliances	2.8
Transport equipment	1.3
Furniture	1.0

TOTAL	100.0

- Source: WEFA 1999 (updated).

Linkages

Due to its size in the Vaal economy, the manufacturing sector's backward linkages are significant to the Vaal economy. Of the total inputs (labour included), 49.1% comes from within the Vaal. This implies that a decrease in manufacturing activities would lead to a significant decrease in the demand for the output of other economic activities in the Vaal. These economic activities are, for example:

- Agriculture

- Mining

- Other manufacturing activities

- Electricity/ gas and water

- Services

- Labour

The development of inter-industrial linkages, especially with the above-mentioned activities, has led to agglomeration advantages and high turnover multipliers in the industry. The turnover multiplier in the Vaal as a whole is the highest of all the economic activities (Table 7.8).

There are, however, relatively weaker forward linkages in the region. The industry sells 33.5% of its total output to other economic sectors within the region. Buying sectors of intermediate output are mostly other manufacturing industries (82.4%), construction (5.8%), trade (4.0%) and services (4.2%) sectors (calculated from Table 7.2). However, 53.9% of the total output goes outside the region as exports.

The rather high (72.3% of the total intermediate inputs) inter-industrial linkages (calculated from Table 7.2) experienced by the manufacturing sector are

regarded as an opportunity for further diversification in this sector. This implies a high potential for the development of new industrial sectors linked to existing industries, which are important markets for suppliers of intermediate products. However, a decline in certain manufacturing activities will have a strong negative impact and multiplier effect on industries using intermediate inputs from manufacturing activities that decline.

Multiplier effects

It is estimated that an increase in final demand of an industrial enterprise in Emfuleni of R1,000,000 per annum, would have the following effects on the region as a whole:

- GGP income would increase by R396,000 per annum;

- Household income would increase by about R229,000 per annum;

- Imports would also increase by R813,000; and

- 5.1 employment opportunities would be created in all sectors of the Vaal economy.

Electricity/ gas and water

Emfuleni is an important source of water. This sector is presently responsible for 2,367 employment opportunities or 1.5% of all employment in the Emfuleni economy (Table 4.4).

The relative GGP-contribution of the sector decreased from 4.8% in 1990 to 1.8% in 2000. The sector's contribution to Emfuleni GGP had an annual growth rate of -5.2% over the past years (Table 6.1).

Linkages

A decrease in the consumption of water and electricity in the Vaal will not only lead to a decrease in employment opportunities to provide and maintain these services, but will also lead to a decrease in employment opportunities in all

sectors of the economy. This is because of the other sector's linkages to electricity and water provision.

Backward linkages are weak with only 36.7% of inputs (labour included) purchased from within the Vaal. Contrary to backward linkages, forward linkages show that 75.7% of output is consumed within the region with 45.3% of the total output being used by the manufacturing sector and 24.3% being exported (calculated from Table 7.2).

Multiplier effects

An increase, for example, in the total consumption of water and electricity of R1,000,000 per annum can have the following implications:

- GGP would increase by R785,000;

- About 6.2 new employment opportunities would be created;

- Household income earned throughout the economy would increase by R404,000.

Although Emfuleni exports water, there is only a limited supply. Electricity is only generated in Metsimaholo. There is, therefore, not much scope for development in this sector in Emfuleni.

Construction

The construction sector is responsible for 7,812 jobs or 5.1% of the total Emfuleni employment opportunities (Table 4.4). Most of enterprises in this sector specialise in civil engineering contracts and building.

The relative GGP-contribution of construction activities to that of Emfuleni decreased from 3.0% in 1990 to 2.7% in 2000. The sector's contribution to the GGP grew with 3.5% per annum from R330 million in 1990 to R457 million in 2000 (Table 6.1).

The role of the construction sector in the economy is much the same as that of electricity, gas and water in the sense that its growth is dependent on the performance of other economic activities. Factors that impact on the economic performance of construction are:

- Overall economic growth and stability;

- Demand for capital investment in property and urban development, including transportation infrastructure;

- Household investment in housing; and

- The availability of capital at affordable interest rates (VAALMET 1994:45).

A lack of the above will lead to low or zero capital investment in construction projects, a decrease in the demand for output of the building and construction sector and declining employment.

Linkages

This sector has relatively strong backward linkages as 49.2% of its total inputs (labour included) come from the local economy. Improved building activities will therefore require substantial inputs from other existing sectors in the Vaal. Some of these sectors are:

- Manufacturing of bricks, tiles, roof sheets, pipes, paint, board, etc.;

- Other construction activities (subcontractors);

- Financing and business services (bonds, loans, professional services);

- Households (as labour force) (VAALMET 1994:45).

The forward linkages are much weaker with only 11.3% of the total output being consumed by other local economic sectors. Of the 88.7% of output that constitutes the final demand for construction activities, 76.6% goes to fixed investment, whereas 23.4% of the final demand is contracted outside the study area (calculated from Table 7.2).

Multiplier effects

Construction activities have strong household income and employment multiplier-effects. An increase in final demand of R1,000,000 can generate an additional household income of about R270,000; an increase in GGP of R434,000 and can generate about 7.2 jobs throughout the Vaal economy.

It is worth mentioning that the construction sector has limited potential to form the basis for sustained growth in Emfuleni as it is dependent on productive investment which is influenced by factors exogenous to the building industry (VAALMET 1994:46).

Tertiary sector

Tertiary activities consist of a number of sub-sectors such as Trade, Transport, Financing, Services and Other and Tourism and Entertainment.

Trade

This sector's relative contribution towards the aggregate GGP decreased from 9.3% in 1990 to 8.1% in 2000. The sector's contribution to the GGP of Emfuleni grew with 3.8% per annum (Table 6.1). The sector is responsible for 25,717 employment opportunities or 16.7% of total employment in Emfuleni (Table 4.4).

The trade sector has a relatively well-developed trade structure and finds itself in the midst of growing local consumer markets, but it is constrained by the comparatively low affordability levels of communities that are further enhanced by high unemployment (VAALMET 1994:50).

Linkages

This sector has developed strong linkages, both forward and backward, with other sectors in the Vaal economy. This implies that the sector is dependent on the local economy for 83.2% of its inputs (labour included) and provides 88.7% of its output to other sectors of the economy (households included)(calculated from Table 7.2).

An increase in the output of trade activities will increase the input requirements of the sectors with which they are 'backwardly' linked. These sectors are for example (calculated from Table 7.2):

- Manufacturing (20.3%);

- Other trade activities (8.0%);

- Financing and business services (7.0%);

- Households (31.5%).

Multiplier effects

An injection of R1,000,000 in the final demand of trade business would cause the following effects:

- About R867,000 increase in the GGP of the Vaal;

- About R551,000 increase in income earned by households mostly throughout Emfuleni economy;

- About 14.3 additional employment opportunities;

- About R637,000 flowing outside the Vaal for imports of food, clothing, furniture, motor vehicles, tools, etc.

Transport

The Vaal economy is built upon massive industrial activities for which transport and telecommunication infrastructure is considered to be one of the pillars of the regional economy. For this reason, the need has been expressed to assess the impact of an international cargo airport in Vereeniging (LAAC 2001).

There are two airports in Emfuleni, the Vanderbijlpark Airport and the Vereeniging Airport (Aerovaal). Plans to upgrade the latter into a freight-based international airport are under discussion due its proximity to local industries and also due to the fact that Johannesburg International Airport would not be able to respond to a high demand for especially fresh produce cargo-transport (LAAC 2001) .

The sector's relative GGP-contribution increased from 3.3% in 1990 to 8.8% in 2000, with a growth in GGP contribution of 15.2% per annum (Table 6.1). It is responsible for 7,277 employment opportunities (4.7%) in the Emfuleni economy (Table 4.4).

Linkages

This sector has relative weak backward linkages (15.4% with labour included) - these linkages are mainly with households for labour (12.5%) and manufacturing (1.5%) (calculated from Table 7.2). Forward linkages are also weak with only 10.5% of the total output taken up by the local economic sectors. Of this sector's total output, 35.5% is taken up by households (private transport) (calculated from Table 7.2) and 49.3% is exported (*i.e.* 49.3% of the transport services are used by enterprises and people outside the region, bringing in 'new' money into the region).

Multiplier effects

An injection of R1,000,000 in the final demand of transport services would cause the following effects:

- A small household income multiplier effect of R167,000;
- A GGP multiplier effect of R293,000 which is just above that of agriculture and mining;
- About 2.8 additional job opportunities.

Financing

This sector consists of financial intermediation, insurance, real estate and business services such as computer and related activities, legal, accounting, auditing activities, architectural, advertising, engineering and related technical activities (VAALMET 1994:53). Its current employment capacity is 13,228 jobs (Table 4.4) and its relative GGP-contribution decreased slightly from 12.8% in 1990 to 12.4% in 2000 (Table 6.1). This sector grew over the last decade at an annual growth rate of 4.0%. Most of these services are located within the central business areas of Vereeniging and Vanderbijlpark, while agencies or relative small activities occur in the suburbs or decentralised shopping centres.

Linkages

This sector has comparatively strong inter-industrial forward linkages with especially the manufacturing sector (45.7% of total intermediate output), trade sector (19.3%) and services sector (16.3%) in the Vaal (calculated from Table 7.2), while 52.8% of its total output is exported. Its backward linkages (16.9% of its total input comes from the local economy – labour included) are comparatively small, which implies that the provision of inputs in this sector is only to a limited extent dependent on the other sectors.

Multiplier effects

The employment and household income multipliers are very low compared to sectors such as manufacturing, trade and services.

Services

This sector includes public and personal services, which in turn include regional and local authorities, education and health services (VAALMET 1994:54). The sector experienced an increase in its contribution towards the aggregate GGP of the study area from about 14.7% in 1990 to 20.6% in 2000 (Table 6.1). This sector experienced an annual growth rate of 9.0% (contribution to the GGP). It is responsible for 29,105 employment opportunities (Table 4.4).

Linkages

This sector has strong linkages with almost all other sectors of the Vaal economy, of which manufacturing is the most prominent. About 67.9% of inputs required by this sector (labour included) is provided by local economic activities, whilst more than 91 per cent of this sector's output is taken up by the local economy of the Vaal (calculated from Table 7.2).

Multiplier effects

An increase in final demand of this sector of R1,000,000 can generate the following effects:

- An additional household income of about R428,000 in the region;

- An increase in the Vaal's GGP of about R866,000 per annum;

- Creation of 20 additional employment opportunities throughout the Vaal economy.

Tourism and Entertainment

Traditionally, the tourism and entertainment industry is not interpreted as a separate economic sector, but rather as an economic activity which falls mainly under tertiary activities such as the Trade and Services sectors. It is estimated that the Tourism and Entertainment sector employs 2,176 people (Table 4.4) and contributes 2.7% to the GGP of Emfuleni (Table 6.1).

There are, however, a few issues to be considered as regards this sector as they impact positively or negatively on the tourism potential of Emfuleni (VAALMET 1994:57):

- Positive factors are those like the water resources, vacant land along water courses, nature conservation areas, national accessibility, and proximity to Greater Johannesburg and Pretoria;

- Negative factors are those like environmental pollution, quarries and mine dumps.

Linkages

Although the tourism and entertainment sector at the moment is still one of the smaller sectors of the Emfuleni economy, it has great development and expansion potential. Labour expenses comprise almost 40% of its inputs, indicating that growth in this sector will have a considerable effect on employment in Emfuleni. This sector has strong backward linkages with the manufacturing sector (37.3% of its total intermediate inputs) and the services sector (29.3%). Local households receive 46.7% of the total outputs of this sector (calculated from Table 7.2).

Multiplier effects

The sector shows strong multiplier effects. An increase in the final demand of

R1,000,000 will cause the following effects:

- 14 new employment opportunities would be created throughout the Vaal economy;

- The Vaal's GGP would increase by R942,000;

- Household income would increase by R640,000.

7.2.3 Classification of key economic activities

Summary of linkages

Table 7.6 gives a summary of the backward linkages of the different sectors of the Vaal economy and Table 7.7 gives a summary of the forward linkages of the different sectors of the Vaal economy.

As shown in Table 7.6, the sectors with the highest backward linkages (i.e. these sectors which are the most dependent on other local economic sectors for inputs) are:

- **Tourism & entertainment**   **87.2%**

- Trade   83.2%

- Services   67.9%

- Construction   49.2%

- **Manufacturing**   **49.1%**

TABLE 7.6   BACKWARD LINKAGES OF THE DIFFERENT SECTORS OF THE VAAL ECONOMY (PERCENTAGES) (2000)

Sector	1	2	3	4	5	6	7	8	9	10
Linkage	Agriculture	Mining	Manufacturing	Electricity gas & water	Construction	Trade	Transport	Financing	Services	Tourism
Backward linkage (labour included)	16.4	22.3	49.1	36.7	49.2	83.2	15.4	16.9	67.9	87.2

Backward linkage (labour excluded)	9.6	19.9	38.1	6.3	36.7	51.7	2.9	6.4	46.4	48.4
Labour / Total input	6.8	2.4	11.0	30.4	12.6	31.5	12.5	10.5	21.4	38.8
Import / Total input	73.8	69.3	43.7	33.0	45.9	2.9	75.2	68.7	6.6	3.0

- Source: Calculated from input-output table 2000.

TABLE 7.7   FORWARD LINKAGES OF THE DIFFERENT SECTORS OF THE VAAL ECONOMY (PERCENTAGES) (2000)

Sector / Linkage	1 Agriculture	2 Mining	3 Manufacturing	4 Electricity gas & water	5 Construction	6 Trade	7 Transport	8 Financing	9 Services	10 Tourism
Forward linkage	60.2	75.1	33.5	58.6	11.3	23.3	10.5	16.5	62.0	42.6
Export/ Total output	17.7	24.9	53.9	24.3	20.7	10.0	49.3	52.8	9.0	9.3

- Source: Calculated from input-output table 2000.

An increase in the demand for tourist and entertainment services would also mean a higher increase in demand for the products of the economic sectors supplying inputs to the tourism and entertainment sector. Although the trade, services and construction sectors also have high backward linkages, these sectors should not be considered as key sectors to stimulate the economy as their growth is mainly dependent on the growth of the local economy. If the economy of Emfuleni grows as the result of an increase of money flowing into the region, then there will automatically be an increased demand for services, trade and construction. As the main purpose of these sectors is to 'serve' the local economy, and as they have little potential to become more export orientated, these sectors cannot be used to stimulate the local economy. Only 10.0% (trade), 9.0% (services) and 20.7% (construction) of these sectors' output is exported.

Although the manufacturing sector does not have such a high backward linkage as the tourism & entertainment, trade, services and construction sectors, it has

the potential to concentrate more on export and in this way to increase its final demand, which in turn will lead to a growth of the local economy. It should also be noted that manufacturing imports 43.7% of its total input. Attention should be given to the possibility of import-substitution, in order to reduce the outflow of money out of the region.

The sectors with the highest forward linkages (most of their output is taken up in the local economic sectors) are (Table 7.7):

- Mining   75.1%

- Services   62.0%

- **Agriculture**   **60.2%**

- Electricity, gas & water   58.6%

- **Tourism**   **42.6%**

- **Manufacturing**   **33.5%**

An increase in the production of all of these sectors will mean an increase in the production of the forward linked sectors, provided there is sufficient demand for their products.

When it concerns the mining and electricity, gas and water sectors, it should be kept in mind that the input-output table covers the Vaal, and these sectors mainly operate in Metsimaholo, as most of the mining activities as well as the power stations are located there. The water section is located in Emfuleni, but as this sector is dependent on an increase in demand of other sectors or on an increase in demand for water from outside the region, this sector cannot be considered as having the potential to stimulate the local economy.

Agriculture has high forward linkages and it can be safely assumed that an increase in production in this sector could easily be taken up by the forward linked sectors. However, the constraining factor here is the limited availability of commercial farmland. Although this sector may not have many possibilities for expansion in commercial agriculture, it has great scope for expansion in the informal sector. If, for example, unemployed persons could make use of open

spaces around houses, open spaces along roads and idle land or land made available by the government for small-scale agriculture (vegetable gardens, etc.), this sector may to a great extent assist in alleviating poverty and reducing crime in Emfuleni (Slabbert & Slabbert 2002b:50).

Summary of multipliers

In Table 7.8 the sectoral multipliers of the Vaal economy are indicated. It states the effect that a R1 change in the final demand of a specific sector has on the economy of the Vaal. In the case of the labour multiplier, it states the effect of a R1,000,000 change in the final demand of a specific sector on the economy of the Vaal.

TABLE 7.8   SECTORAL MULTIPLIERS OF THE VAAL ECONOMY (2000)

Economic sector	Turnover	Income (GGP)	Imports	Labour (per R'million)	Remune-ration
Agriculture	1.217	0.240	0.861	7.925	0.111
Mining	1.157	0.268	0.831	4.817	0.108
Manufacturing	4.772	0.396	0.813	5.120	0.229
Electricity/Gas/Water	1.325	0.785	0.586	6.191	0.404
Construction	1.198	0.434	0.813	7.172	0.270
Trade	2.073	0.867	0.637	14.296	0.551
Transport	2.147	0.293	0.860	2.818	0.167
Financing	2.072	0.331	0.806	4.206	0.150
Services & Other	2.500	0.866	0.527	20.110	0.428
Tourism and Entertainment	1.202	0.942	0.645	14.033	0.640

- Source: Nel 2001.

    Note: Turnover, Income (GGP), Imports, and Remuneration per R1 change in final demand.

    Employment per R1 million change in final demand

The sectors with the highest labour (employment) multipliers are:

- Services   20.1

- Trade   14.3

- **Tourism and Entertainment   14.0**

- **Agriculture   7.9**

- Construction   7.2

- Electricity, gas & water   6.2

- **Manufacturing**   **5.1**

If the final demand for the products of, for instance, the tourism and entertainment sector increases by R1 million, it will lead to the creation of 14.0 additional employment opportunities.

The sectors with the highest remuneration (or household income) multipliers are:

- **Tourism and Entertainment**   **0.640**

- Trade   0.551

- Services   0.428

- Electricity, gas & water   0.404

- Construction   0.270

- **Manufacturing**   **0.229**

In increase of R1 in the final demand for the products of these sectors will increase household income in the region by the amounts mentioned.

The sectors with the highest income (GGP) multipliers are:

- **Tourism and Entertainment**   **0.942**

- Trade   0.867

- Services   0.866

- Electricity, gas & water   0.785

- Construction   0.434

- **Manufacturing**   **0.396**

An increase of R1 in the final demand for the products of these sectors will increase the GGP in the region by the amounts mentioned.

The tourism and entertainment, trade and services sectors have the highest employment, remuneration and GGP-income multipliers. As discussed before, the trade and services sectors' growth is dependent on the overall growth of Emfuleni economy, but the tourism and entertainment sector has a great potential for attracting people (and therefore money) from outside the region.

The manufacturing sector has moderate multipliers, but they are not low. Because the manufacturing sector is the largest economic sector in Emfuleni, a small percentage increase in the demand for the products of this sector will have a considerable effect on the economy of Emfuleni as a whole.

7.3   Summary and conclusion

In this chapter, an input-output analysis of the Vaal provided tools for the identification of the key economic sectors of the Emfuleni economy. The 1993 input-output table for the area was updated to be relevant for the year 2000. As the Emfuleni economy forms an integral part of the Vaal economy (85% of the Vaal's population resides in Emfuleni, and Emfuleni contributes 69.3% to the GGP of the Vaal), it was neither possible nor desirable to construct an input-output table for Emfuleni alone. The input-output table was used as an instrument to measure the impact of changes within an economic sector on the economy.

As all the different sectors of the economy are linked to one another, forward and backward linkages are formed. Forward linkages show the extent to which the rest of the sectors in the Vaal are dependent on the sector concerned for inputs. Backward linkages illustrate the effect of a change in demand for the products of a specific sector on its demand for intermediate inputs derived from other sectors. The stronger the linkages of a sector with other sectors, the stronger the impact of a change in economic activity. It is axiomatic that sectors with strong linkages are therefore better suited for stimulating the economy on a whole than sectors with weak linkages. The effect of a change where weak linkages are present will be weak on the rest of the economy.

The sectors with strong backward linkages in Emfuleni and the Vaal are the tourism and entertainment sector, as well as the services and the manufacturing

sectors. However, although the services sector has strong sectoral linkages, this sector is not considered as a key sector for stimulating the economy, as its growth is dependent on the growth of the local economy. If the Emfuleni economy grows as a result of an increase in demand for products produced in the region (money flowing into the region from outside), there will be an increase in the demand for services. But when there is not an increase in the demand for products, this sector will not easily expand, as it is not very export oriented - therefore it is not considered as a sector to be used to stimulate the local economy.

As a result of the linkages between all the sectors of the local economy, a change in the final demand for products from a specific sector will lead to a change in production, turnover, household income and employment, not only in the sectors concerned, but also in the other sectors of the economy. This is called the multiplier effect. Mostly GGP income multipliers, household income multipliers and employment multipliers are used. Briefly, GGP income multipliers measure the change in the local economy's GGP income as a result of a change in output in a specific sector. Household income (remuneration) multipliers measure the change in household income and employment multipliers the change in employment in the area.

The sectors with the highest employment, remuneration and GGP income multipliers are the tourism and entertainment, as well as the trade and services sectors. Just as with the services sector, the trade sector is also dependent on the overall growth of the Emfuleni economy and has therefore little potential for attracting money from outside the region. The tourism and entertainment sector has a great potential for attracting people and therefore money from outside the region. *This sector can therefore be regarded as a key sector to be stimulated for income generation and employment creation in Emfuleni.*

The manufacturing sector has moderate multipliers. As the manufacturing sector is the largest economic sector in Emfuleni and because it has a large potential for attracting money from outside the region through an increase in exports, this sector can also be regarded as a key sector for income generation and employment creation.

It is evident that if the key sectors of the economy could be stimulated sufficiently, it would result in an increase in employment and household income. This, in turn, would lead to a decrease in the extent and depth of poverty. These sectors are the main sectors with a large potential to increase exports and therefore bring 'new' money into the region. This will, in turn, automatically stimulate the other sectors ('service'-providing sectors) like trade, services, financing and construction.

Although the formal (commercial) agricultural sector does not have much expansion potential (because of limited land available) and therefore does not have much scope for stimulating the whole economy in terms of GGP growth, informal and intensive agricultural activities have a high employment potential as well as the potential to alleviate poverty. Informal agriculture has a low cost input for creating employment opportunities (much lower than, for example, in the manufacturing sector). *With this in mind, the agricultural sector may also be regarded as one of the key sectors to be stimulated in Emfuleni.*

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Chapter 8

The impact of changes in the economy on existing trends in terms of employment and unemployment, income, poverty and economic growth in Emfuleni

8.1   Introduction

In this chapter, different trends in the local economy are described and projected until the year 2015. These trends (population growth, GGP growth, employment, unemployment and poverty) are firstly described for the economy of Emfuleni without the impact of possible (positive) projects or negative 'happenings' (like the collapse of the Krion Financial Services scheme and Equilibrium/Futura International).

Secondly, the impact of some possible (positive) projects (such as an Inland Waterfront, the stimulating of the Manufacturing sector, the establishment of an IDZ and the upgrading of Vereeniging Airport to an international cargo airport) as well as the above-mentioned negative "happenings" on these trends until 2015 will receive attention, in order to determine the sustainability of the Emfuleni economy.

8.2   Current trends (without the impact of change)

Trends in population growth, GGP (economic) growth, employment and unemployment, as well as poverty are discussed in the context of the Emfuleni economy. The underlying assumptions for making projections towards 2015 are also discussed below

.

Population

In the past, Emfuleni experienced a relatively high population growth rate (2.85% p.a.) because of high inward immigration, especially in the years after the abolition of the Group Areas Act – This lasted until 1996 and then this rate decreased towards the year 2001 to just under the national growth rate. From 1996 to 2001, the growth rate for Emfuleni was 1.95% per annum (see Section 4.2).

Assuming that immigration into the region will in the future also be discouraged by the high levels of unemployment, the annual population growth rate for Emfuleni, taking into account the impact of HIV/AIDS, is estimated at 1.95 percent per annum for the period 2000 to 2015. The estimated growth rate, without taking the impact of HIV/AIDS into account, is about 0.14% per annum higher (Stats SA 2002). The estimated population for the years 2000 to 2015 is indicated in Table 8.1 and Figure 8.1.

TABLE 8.1 POPULATION ESTIMATES, EMFULENI (2000 - 2015)

Year	Estimated population
2000	645,583
2005	711,301
2010	783,410
2015	862,831

- Source: Calculations based on the 2001 Census data, Stats SA 2003.

FIGURE 8.1 ESTIMATED POPULATION, EMFULENI (2000 - 2015)
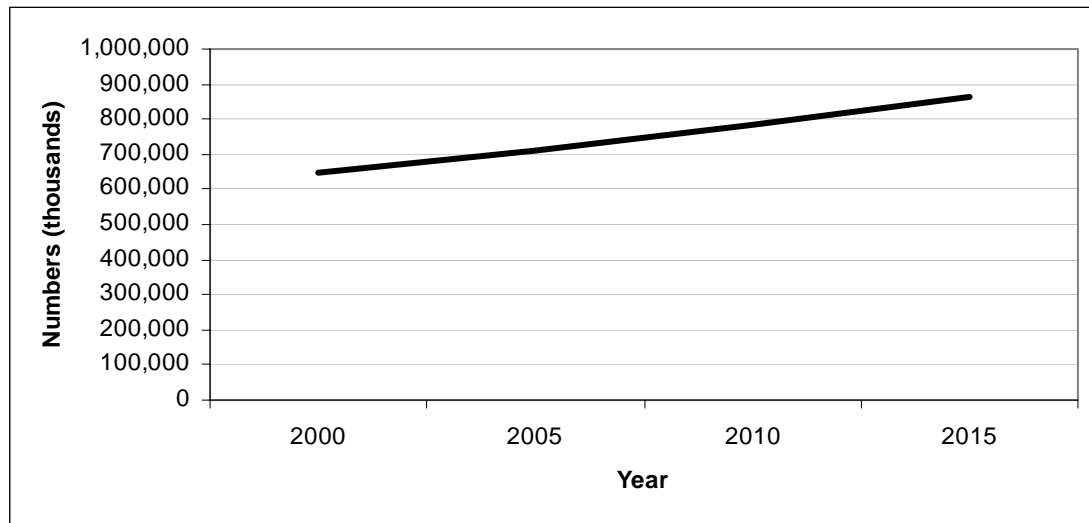
- Source: Calculations based on the 2001 Census data, Stats SA 2003.

GGP – growth

The Emfuleni economy experienced a nominal (at current prices) growth rate of 4.5% per annum from 1990 to 2000 (see Section 6.2). However, at real prices, where the effect of inflation is eliminated, the Emfuleni economy actually experienced a negative growth. Between 1996 and 2000, this amounted to an average of -3.4% per annum. From 1999 – 2000, this growth rate was estimated at -2.4% (WEFA 2001), and for the year 2000 – 2001 it was estimated at -0.2% (WEFA 2002).

The economy of the Sedibeng District Municipality (of which Emfuleni comprises the greatest part) is characterised by a considerable decline from 1996 to 1999. In the period 1999 to 2001, the economy recovered to an extent, but on the whole, not enough to recover to the 1996 levels (Sedibeng 2003:7). Sedibeng District experienced a high economic growth cycle during 1999 to 2001, but it declined sharply towards 2003 (Sedibeng, 2003: 8). As Emfuleni forms the greatest part of Sedibeng (84.3% of the labour force of Sedibeng resides in Emfuleni (Stats SA 2003a)), it is very likely that these trends also apply to Emfuleni.

It is expected that the overall economic situation in Emfuleni will become slightly better from 2005 onwards (Sedibeng 2003:8). The estimated growth rates for the Emfuleni economy (based on data from WEFA 2002), are indicated in Table 8.2.

TABLE 8.2   GGP GROWTH PROJECTIONS FOR EMFULENI (2000 – 2015) – CONSTANT PRICES

Year	Estimated average growth rate
Up to 2000	-2.40
Up to 2005	0.14
Up to 2010	1.00
Up to 2015	1.25

- Source: Calculations based on estimates from WEFA 2002.

Employment and unemployment

Not only Emfuleni, but the whole country experienced a decline in job opportunities in the period 1990 to 2002 (BER 2001:90; Stats SA 2000). Data from surveys conducted by the VRG in the townships of the Vaal showed that unemployment escalated at an increasing rate from 1991 to 1994 (Slabbert *et al.* 1994a:7). From 1994 to 1999, unemployment increased at a lower rate than in the preceding period (see Figure 4.1). This can be explained by the fact that larger numbers of people moved into Emfuleni from rural areas in the first period, adding to the numbers of the unemployed. In addition, many firms were retrenching people, due to the decline in the global demand for steel and the resulting downswing in the local economy.

The economically active population (EAP) of Emfuleni, expressed as a percentage of the whole population, increased from 41.1% in 1994 (Slabbert *et al.* 1994a:8) to 46.6% in 1999 (Slabbert & Mokoena 1999). This can be explained by the fact that more people (normally not part of the labour market) enter the labour force in more difficult times. For the year 2001, the EAP was 47.6% and for 2003, a figure of 45.8% was recorded (see Table 4.2). However, for the purpose of this thesis and taking into account that it is estimated that the economy of Emfuleni will show some growth in the future (Sedibeng 2003:8), it is assumed that the economically active population will remain at 46.6% up to 2015.

As stated above, the economy of Emfuleni had a negative real growth (GGP) for the years 1996 to 1999. It then sharply recovered in 2000 and 2001; then declined again in 2002; and it was finally showing an increase again in 2003. The overall trend in the economy shows a slight growth from 2005 onwards.

Assuming that major restructurings in the economy, coupled with retrenchments, are finalised by the year 2005, it can be expected that employment will then increase with a corresponding increase in the GGP. The expected number of employed, the expected number of unemployed and the expected unemployment rates for the years 2000 to 2015 are projected in Table 8.3 and Figure 8.2.

TABLE 8.3   ESTIMATED UNEMPLOYMENT RATE, NUMBER OF   EMPLOYED AND UNEMPLOYED, EMFULENI (2000 – 2015)

Year	Unemployment rate %	Number of unemployed	Number of employed
2000	51.3%	155,988	148,082
2005	57.1%	189,267	142,199
2010	59.1%	215,756	149,313
2015	60.6%	243,660	158,419

- Source: Projections based on the 2001 Census data, Stats SA 2003c & Slabbert 2003.

FIGURE 8.2   EMPLOYMENT AND UNEMPLOYMENT IN EMFULENI (2000 – 2015)
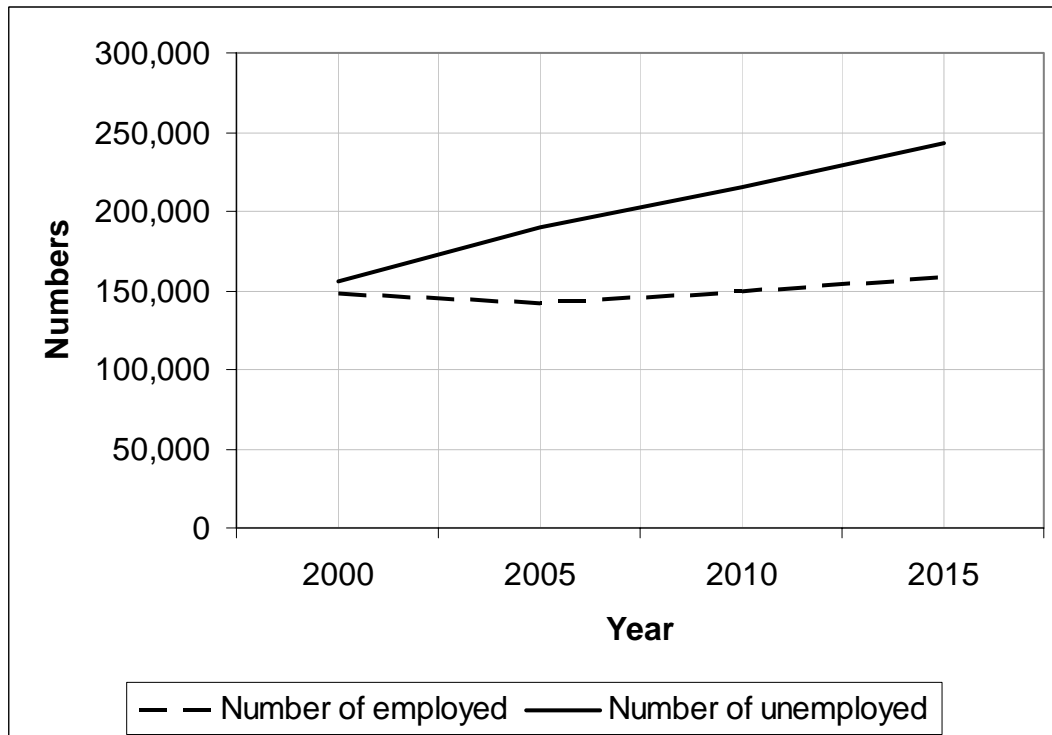
- Source: Projections based on the 2001 Census data, Stats SA 2003c & Slabbert 2003.

It should be noted that the above projections do not show the short term recovery of the economy in the years 1999 to 2001, as the projections are based on the

longer term expected performance of the economy. This explains why the 2001 Census figures for the employed population (Stats SA 2003a) are higher than the 2005 estimate (153,655 employed in 2001, versus the estimate of 142,199 in 2005 in Table 8.3).

Total formal employment in South Africa as a whole decreased with an average of 2.2% per annum in the period 1995 – 2000 (Calculated from BER 2001:90). The same trends were observed In Emfuleni. It is expected that this trend will continue till 2005, from where the formal employment will increase together with an expected positive real growth of the economy.

The estimated formal employment for Emfuleni is projected in Table 8.4 and Figure 8.3.

TABLE 8.4   ESTIMATED FORMAL, INFORMAL AND TOTAL EMPLOYMENT, WITH PERCENTAGES OF LABOUR FORCE, EMFULENI (2000 – 2015)

Year	Formal employed		Informal employed		Total	
		%		%		%
2000	106,424	35.0	41,658	13.7	148,082	48.7
2005	94,024	28.3	48,175	14.6	142,199	42.8
2010	97,108	26.6	52,205	14.4	149,313	40.9
2015	101,324	25.2	57,095	14.1	158,419	39.4

- Source : Projections based on the 2001 Census data, Stats SA 2003a; Slabbert & Mokoena 1999.

FIGURE 8.3   ESTIMATED EMPLOYMENT IN EMFULENI (2000 - 2015)
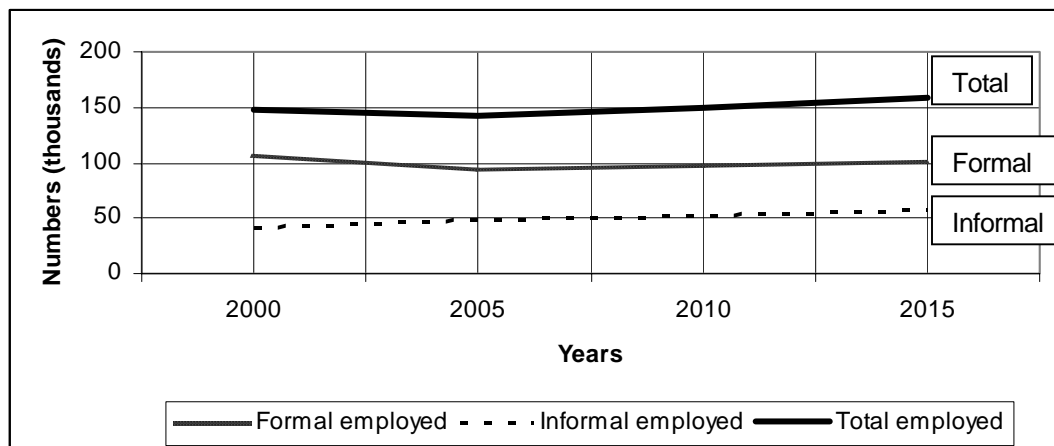
- Source: Projections based on the 2001 Census data, Stats SA 2003a; Slabbert & Mokoena 1999.

The informal and total employment is also indicated in the Table. As formal employment decreases, it is very likely that informal employment will increase. However, the income earned from informal employment on the whole is much lower than that of formal employment. Higher informal, but lower formal employment, may have a negative effect on the poverty gap ratio.

Poverty

In Table 8.5 and Figure 8.4, the poverty rate (percentage of the households which are poor), the poverty gap ratio and the unemployment rate for former black townships (FBTs), as well as for Emfuleni as a whole are estimated. For the years 1991 and 1994, only the figures for the former black townships are available, therefore these are the figures used to determine the trends in poverty and to find correlations between poverty and unemployment.

TABLE 8.5   POVERTY RATE, POVERTY GAP RATIO AND UNEMPLOYMENT RATIO FOR FORMER BLACK TOWNSHIPS AND EMFULENI (1991, 1994 AND 2000)

Year	Poverty rate		Poverty gap ratio		Unemployment rate	
	FBT	Total EMA	FBT	Total EMA	FBT	Total EMA
1991	30%		0.58		35.0%	
1994	42%		0.60		48.4%	
2000	53%	46.1%	0.47	0.41	54.5%	51.3%
2003	62%	51.5%	0.47	0.46	61.7%	54.2%

- Source: Slabbert 1997:54,56,75; Slabbert & Slabbert 2002b:6,18, 21.

Slabbert (1997:77) determined that there is a strong link between poverty and unemployment in the Vaal Triangle. As shown in Figure 8.4, up to 1994 the poverty rate and unemployment rate (Ur) increased at about the same rate. However, from 1994 the poverty rate increased faster than the unemployment rate. It would appear that the reason for this is that many people, formerly employed in the formal sector, were now, after the retrenchments, absorbed as 'employed' in the informal sector, leading to an increase in the percentage of people employed in the informal sector. As the take-home pay in the informal sector is usually very low (Slabbert 1997:117), this resulted in an increase in the poverty rate. In 1994, 16.8% of all the employed worked in the informal sector

(Slabbert 1997:103), while in 2000, 28% of all the employed worked in the informal sector (Slabbert & Slabbert 2002b:6).

FIGURE 8.4   POVERTY AND UNEMPLOYMENT RATES: TRENDS
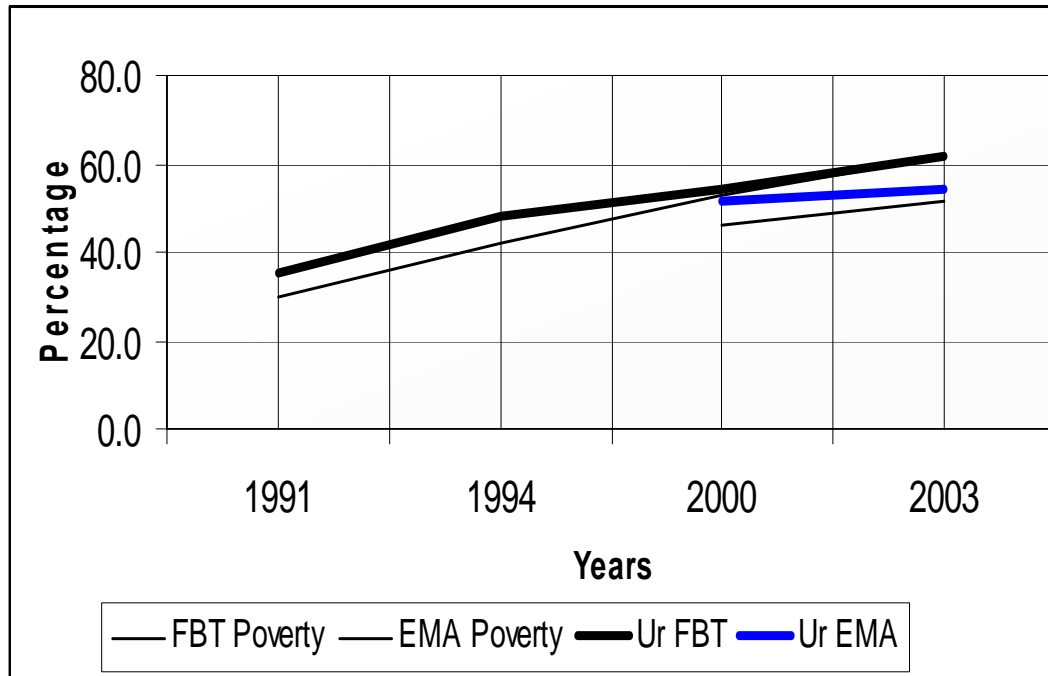
- • Source: Slabbert 1997:54, 56, 75; Slabbert & Slabbert 2002b:6,18,21.

As shown in Figure 8.4, the poverty rate was increasing more than the unemployment rate. In 2003, the poverty rate for the FBTs was more than their unemployment rate. For Emfuleni as a whole, the poverty rate also increased more than the unemployment rate. If the same trend continues, the poverty rate will be about 55.0% in 2005. From 2006 and upwards, it can be assumed that the poverty rate will stay the same as the unemployment rate for Emfuleni, as it is expected that the Emfuleni economy will show an increase in GGP growth.

TABLE 8.6   ESTIMATED UNEMPLOYMENT AND POVERTY RATES, EMFULENI (2000 – 2015)

Year	Poverty rate	Unemployment rate
2000	46.1	51.3
2005	55.0	57.1
2010	59.1	59.1
2015	60.6	60.6

- • Source: Projections based on Slabbert 1997:54, 56, 75; Slabbert & Slabbert 2002b:6,18,21.

The percentage of the total poor population in the FBTs that were unemployed in 1994 was 26.6% (Slabbert 1994). In 2000 this figure was 28.2% for the whole of Emfuleni (Mokoena 2001b) and, in 2003, it was 31.8% for the whole of Emfuleni (Slabbert 2003).

As shown in Table 8.5, the poverty rate for Emfuleni was 46.1% in 2000 and 51.5% in 2003. It would seem that there is a correlation between the percentage of the total poor population that are unemployed, and the percentage of the population that are poor at different time periods. This confirms the finding by Slabbert (1997:77) that there is a correlation between unemployment and poverty. The percentage of the poor population that was unemployed in 2000 was 61.2% of the total poor population in 2000 (Slabbert & Mokoena 1999). In 2003, it was at 61.7% (Slabbert 2003), while in 1994 it was 63.3% for the FBTs.

FIGURE 8.5   ESTIMATED UNEMPLOYMENT AND POVERTY RATES IN EMFULENI (2000 – 2015)
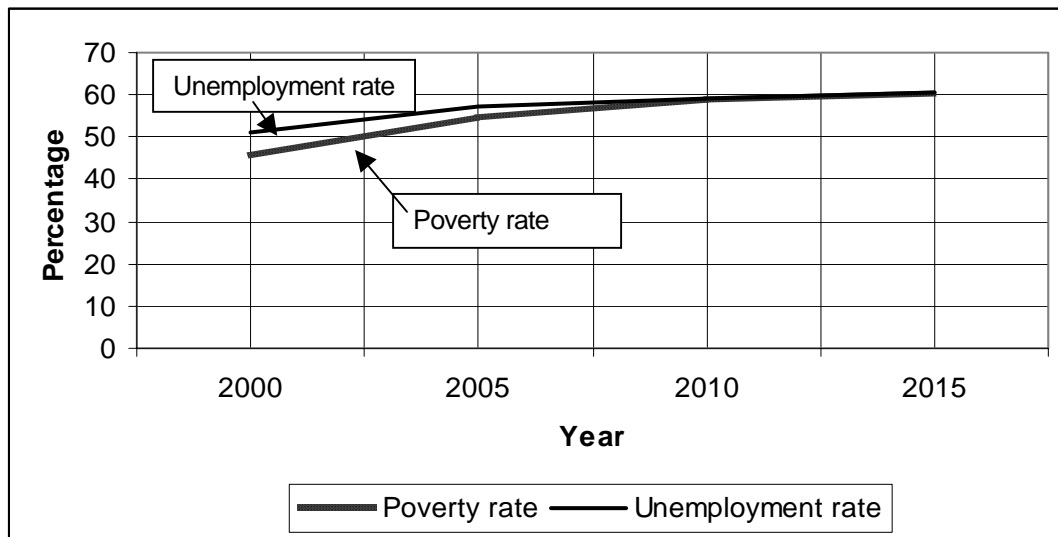
- Source: Projections based on Slabbert 1997:54, 56, 75; Slabbert & Slabbert, 2002b:6, 18, 21.

As it is expected that the Emfuleni economy will show no further decline, it is assumed for the purpose of this thesis that the percentage of the total poor population that will be unemployed will remain at 61.7% of the total estimated poor population. The estimated number of unemployed poor will then be as projected in Table 8.7.

TABLE 8.7   ESTIMATED NUMBER OF UNEMPLOYED POOR AND NON-POOR, EMFULENI (2000 – 2015)

Year	Unemployed poor	Unemployed non-poor	Total unemployed
2000	83,927	72,061	155,988

2005	132,622	56,645	189,267
2010	168,993	46,763	215,756
2015	195,556	48,104	243,660

- Source: Calculations based on data from Tables 8.1 & 8.6.

8.3   Impact of proposed projects on Emfuleni

There are several projects under investigation for the Emfuleni area. The most important of these projects were discussed in Section 6.7 of this thesis. Each of these projects will have an impact on the economy in their construction phases, but as this will only be a temporary short-term impact, this impact will not be described in this thesis. Each of the projects will also have a long-term impact on the economy of Emfuleni. Making use of the input-output model for the area (as discussed in Chapter 7 of this thesis), the expected impacts (direct and indirect) of the different projects were calculated. Table 8.8 lists the estimated impact of the three discussed projects (an Inland Waterfront, the establishment of an Industrial Development Zone and the upgrading of the Vereeniging Airport to an international cargo airport) on the Emfuleni economy, as well as the impact of a 5% increase in the total manufacturing output of Emfuleni (taking into account that Local Economic Development is high on the agenda of the Emfuleni Local Municipality (PDG 2003:4)).

Two of the proposed projects (namely the Industrial Development Zone and the upgrading of the Vereeniging Airport to an international cargo airport), as discussed in Section 6.7, are not likely to be implemented. According to Emfuleni senior municipal management, the International Airport in Vereeniging is no longer under serious consideration, especially after directives from the Gauteng Government that all provincial energies would be focused on Johannesburg International Airport. The other project, the Industrial Development Zone (IDZ), seems to be on the ice, as a decision was made at Gauteng Provincial Government level to promote an IDZ in Johannesburg (near to Johannesburg International Airport) instead. If a cargo airport would become a reality at Vereeniging, then an IDZ would become a more realistic concept also (PDG 2003:3,4). These two projects are, however, included in the impact assessment

to show the impact that projects of such a magnitude could have on the economy of Emfuleni.

Slabbert & Slabbert (2002b:94) estimated that by 2005 only 16% of the impact of the proposed projects (if implemented) would be felt in the economy. By 2010, this figure would rise to an estimated 73%. The full impact would be reached by 2015. The estimated impacts of the proposed projects on different aspects of the Emfuleni economy are shown below.

TABLE 8.8 IMPACT OF DIFFERENT PROPOSED PROJECTS ON EMFULENI

	Industrial Development Zone	Airport at Vereeniging	Inland Waterfront	Stimulating Manufac- turing by 5%
Job creation (direct and indirect)	45,244	1,210	26,838	7,551
Labour remuneration (annual) - Rmillion	R2,528.7m	R49.9m	R1,224.0m	R337.7m
Increased spending on food and cleaning materials (annual) - Rmillion	R811.7m	R16.0m	R393.0m	R108.4m
Increased spending on property rates and taxes (annual) - Rmillion	R50.6m	R1.0m	R24.5m	R6.8m
Increased spending on water/electricity (annual) - Rmillion	R154.3m	R3.0m	R74.7m	R20.6m
Increase in total output (annual) - Rmillion	R13,288.3m	R105.9m	R2,298.8m	R1,440.0m
Increase in GGP (annual) - Rmillion	R3,499.3m	R36.7m	R1,801.6m	R379.5m

Source: Calculation based on the input-output model and data from Slabbert & Slabbert 2002a:295; The Enterprise Organisation 2001; LAAC 2001.

As all the impacts presented are only estimations, the figures in Table 8.8 are only indications of what scale of impact a project of that dimension could have on the Emfuleni economy.

Impact on employment and unemployment

The estimated (direct and indirect) impact of the two projects that are considered to be more feasible, namely the Inland Waterfront and the stimulating of the Manufacturing sector by 5%, on employment, unemployment and the unemploy- ment rate, is as indicated in Table 8.9, Figures 8.6 and 8.7. As it is not likely that

the Airport and the IDZ will materialise as viable projects in the foreseeable future, the impact thereof is only estimated for the year 2015.

By the year 2015, the presumed impact of the Inland Waterfront and the stimulation of manufacturing activities will reduce the number of unemployed by 34,389 from 243,660 to 209,271. The unemployment rate will be reduced by 8.6 percentage points from 60.6% to 52.0%.

With projects

TABLE 8.9   ESTIMATED IMPACT OF TWO PROPOSED PROJECTS ON EMPLOYMENT AND UNEMPLOYMENT IN EMFULENI (2000 – 2015)

Year	WITH Projects: Unemployment rate %	Without Projects: Unemployment rate %	WITH Projects: Number of unemployed	WITH Projects: Number of employed	Without Projects: Number of unemployed	Without Projects: Number of employed
2000	51.3%	51.3	155,988	148,082	155,988	148,082
2005	55.4%	57.1	183,764	147,702	189,267	142,199
2010	52.2%	59.1	190,651	174,418	215,756	149,313
2015	52.0%	60.6	209,271	192,808	243,660	158,419
4 projects 2015	40.5%	60.6	162,817	239,262	243,660	158,419

- Source: Calculated from data by Slabbert & Slabbert 2002b:96, 97; Slabbert 2003.

FIGURE

Without projects

With projects

AN INV 175
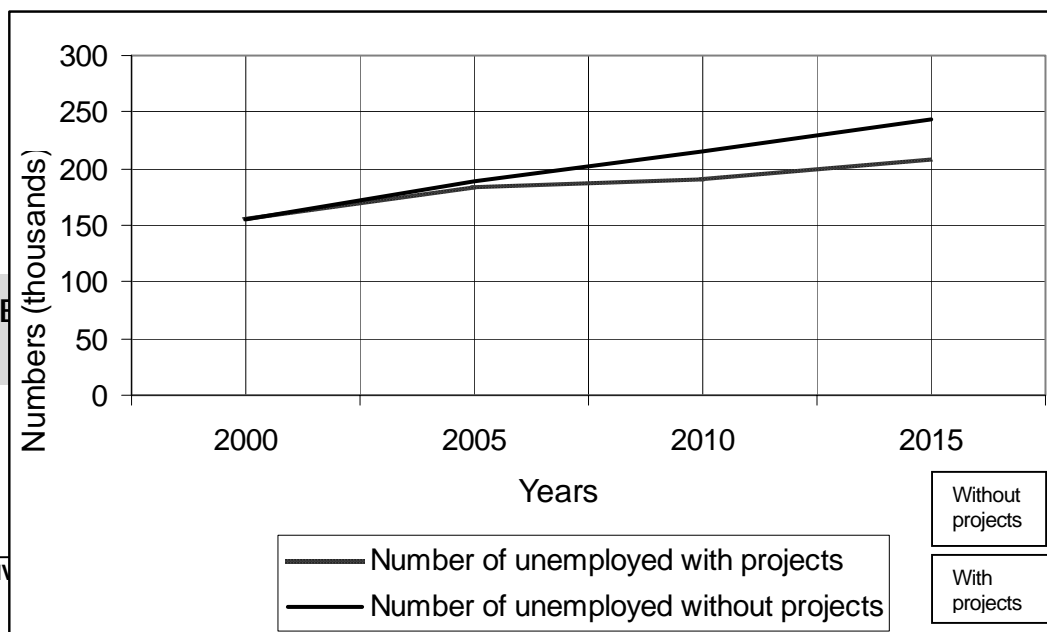
- Source: Calculated from data by Slabbert & Slabbert 2002b:96, 97; Slabbert 2003.

FIGURE 8.7   ESTIMATED IMPACT OF TWO PROPOSED PROJECTS ON EMPLOYMENT IN EMFULENI (2000 – 2015)
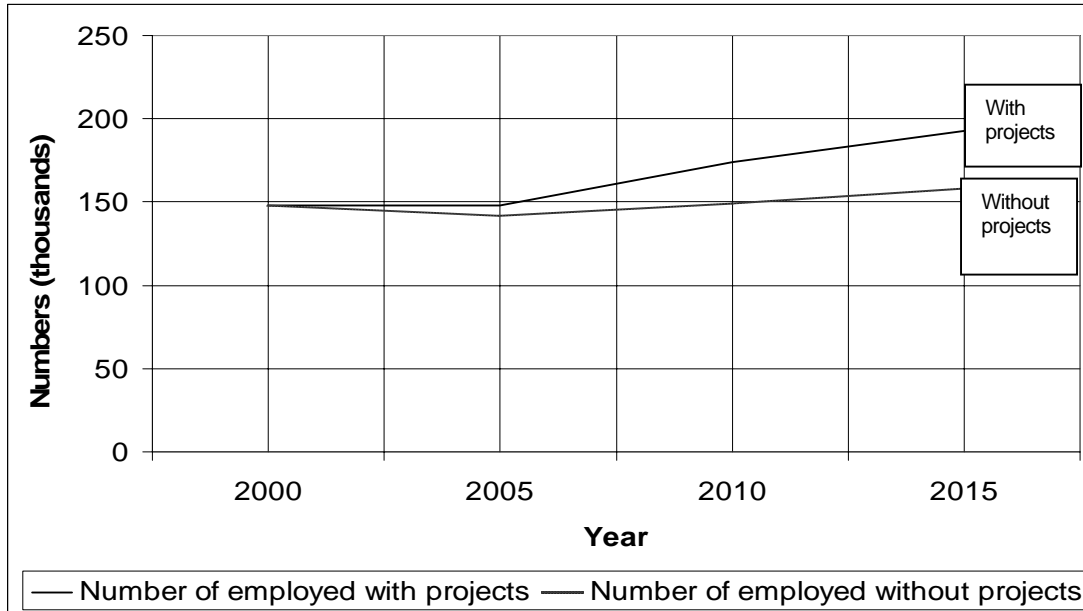
- Source: Calculated from data by Slabbert & Slabbert 2002b:96, 97; Slabbert 2003.

From the estimates, it is clear that the two proposed projects will only reduce unemployment with 14.1% by the year 2015. If the other two projects (IDZ and the Airport) would materialise, the combined impact would be that the unemployment rate would decrease to 40.5% in 2015.

As indicated in Table 8.7, most of the unemployed in 2015 will also be poor. The number of unemployed poor people in 2015 is estimated at 195,556 and the unemployed non-poor at 48,104 (without any projects being implemented). The unemployed poor are also amongst the lowest skilled in the region (Slabbert 2003). Emphasis should therefore be placed on skills training, as well as on labour-intensive projects that can absorb especially the low-skilled unemployed poor.

Impact on GGP

The total annual increase in GGP from the two projects (Inland Waterfront and stimulating of Manufacturing) is calculated at R2,181.1 million (constant prices) when full production is reached in 2015 (Table 8.8). The increase for the four

projects combined would be R5,717.1 million per annum. Assuming that the projects will only have a measurable effect on the GGP by the year 2005, then it is estimated that the materialisation of the projects will increase the GGP growth rate with 0.94% by 2015 for the two projects, and 2.23% if all four projects would materialise.

Impact on household income

Making use of the remuneration multiplier (previously discussed in Chapter 7), the estimated increase in household income, if the two projects (Inland Waterfront and stimulating of manufacturing activities) do materialise, will be about R1,561.7 million per annum by the year 2015 (at 2000 constant prices). If the four projects should materialise, the impact will be R4,410.3 million per year by the year 2015 (see Table 8.8). This will be a 20.4% and 54.1% increase in total household income respectively. Based on the expenditure profile (Figure 4.6), it is estimated that this could lead to an increase in annual spending (constant prices) on rates and taxes of R31.3 million (R82.9 million for the four projects) by the year 2015, and an increased annual spending on food and cleaning materials of R501.4 million (R1,329.1 million for the four projects).

Impact on poverty

If the Inland Waterfront and stimulation of Manufacturing are fully developed and assuming that the additional household income because of the projects would be evenly distributed over all households in Emfuleni (directly and indirectly via the multiplier process, this would mean that each household would have an additional household income of R530.93 per month by 2015 (constant prices). If this additional amount is added to the incomes of households in the 2003 sample (Slabbert 2003), the new headcount index and poverty rate (headcount index x 100) can be determined with the impact assessment model (see Section 3.4). With an additional R530.93 per month for each household, the poverty rate would decrease from 60.6% to 34.2% in 2015. In the case of the four projects, an additional income for each household of R1,408.00 can be allocated to each household in the sample and the poverty rate would decrease from 60.6% to 6.4%.

These results would be correct if all unemployed poor would get jobs because of the projects. This, however, is impossible, as the additional employment created

in the best scenario (four projects) by 2015 is only 80,843 (see Table 8.8) while the estimated number of unemployed poor is 195,556 (see Table 8.7). One should also keep in mind that it is very unlikely that two of the four projects would ever materialise,

Table 8.5 and Figure 8.4 show the correlation between the poverty rates and the unemployment rate. When the unemployment rate increases (because of a worsening economic situation and retrenchments), the poverty rate moves closer to the unemployment rate (Figure 8.4). Based on the finding by Slabbert (1997:77) that there is a good correlation between poverty and unemployment, it can be assumed that the opposite will also be true. If unemployment decreases because of a growth in the economy, the poverty rate will become less than the unemployment rate. In 1991 and 1994, this difference was 5% and 6.4% (for the FBTs of Emfuleni).

As indicated in Table 8.9, the estimated impact of the Inland Waterfront and the 5% expansion of Manufacturing will be a decrease in the unemployment rate from 60.6% to 52% by 2015. The estimated impact on the poverty rate is estimated to be a decrease from 60.6% to 45% by 2015. In the case of the four projects scenario, the impact on poverty is estimated at a decrease from 60.6% to 35.5%.

8.4   Negative impacts on the Emfuleni economy

The impact of the failure of the Krion Scheme (Krion Financial Services Ltd.) as well as the failure of Equilibrium/Futura International investment scheme is assessed in this section. Both schemes are still under police and legal investigation and were not finalised at the time of the assessment (August 2002). Although the best available data was obtained, it should be kept in mind that the data available for the impact assessment was not the final data. Figures such as the final amounts to be recovered from the directors, properties, assets, other sources and the like, had to be estimated and may differ from the final amounts involved.

Making use of the telephone numbers and postal codes of investors, the number of people from Emfuleni that invested in the Krion scheme was estimated at

4,400 (Edeling 2002). The total money drain from Emfuleni as a result of the collapsed Krion scheme (taking into account the redistribution of recovered funds) was estimated at R275 million (Edeling 2002). Assuming that the same percentage of investors from Emfuleni invested in the Equilibrium/Futura scheme as in the case of the Krion scheme and that no money can be recovered from the latter scheme, the money drain from the Emfuleni region (because of the failure of Equilibrium/Futura) was estimated at R40 million.

Making use of the input-output model for the Vaal region, the impact is portrayed in terms of the effect on the Gross Geographical Product (GGP), unemployment figures, household income and poverty in Emfuleni. The impact is estimated against the normal expected economic and demographic situation, not taking into account the impact of proposed projects for the region as described in Section 8.3 of this thesis. It was estimated that the greatest impact of the failure of the two schemes would be felt in 2002 and 2003. In 2004, the additional impact should decrease sharply and then from 2005 on, decrease slowly to almost zero around 2014.

Impact on the GGP

The estimated negative impact of the failure of the Krion Scheme and Equilibrium/Futura International on the GGP of Emfuleni is indicated in Table 8.10. It is estimated that the Krion scheme will impact on the 2002 and 2003 GGP of Emfuleni to the extent that it will lower the expected annual GGP growth rates with 0.35% in 2002 and 0.29% in 2003. The combined impact of Krion and Equilibrium/ Futura scheme will be lower than the expected annual GGP growth rates by an estimated 0.40% in 2002 and 0.34% in 2003.

TABLE 8.10   ESTIMATED IMPACT OF KRION SCHEME AND EQUILIBRIUM/ FUTURA INTERNATIONAL ON THE GGP GROWTH RATES IN EMFULENI (2002 – 2015) - PERCENTAGE DECREASE OF GGP

Year	Krion and Equilibrium/Futura International
2002	- 0.40%
2005	- 0.09%
2010	- 0.05%
2015	0%

- Source: Slabbert & Slabbert 2002b:101.

The annual negative impact of Krion scheme on the GGP for the years 2004 to 2015 will slowly decrease from 0.083% in 2004 to 0% in 2015. The combined detrimental effect of the two schemes is estimated at 0.095% in 2004, decreasing to 0% in 2015. For the years 2002 and 2003, the impact of the two schemes pushed the already low GGP growth rates of -0.2% down to -0.6% (2002) and from 0.3% to -0.04% (2003). From 2005 on, it is expected that the GGP growth rate will increase, and that the effect of the two schemes will be much lower than in the first two years, so that the final impact of the two schemes on the GGP growth rate in these years will be very small (Slabbert & Slabbert 2002b:100).

Impact on unemployment

The estimated impact of the failure of the Krion scheme and Equilibrium/Futura International on unemployment is shown in Table 8.11. The unemployment figures indicated in the table mean either a direct loss of employment (where people who have a job, lose it), or it means that people who otherwise would have got jobs (without the collapse of the two schemes), do not get those jobs. As the two schemes were investment schemes and provided therefore almost no employment opportunities, the loss in employment is an induced loss. Many of the people who invested in the schemes wanted to use the interest paid as a monthly income. Many pensioners or retrenched steel workers, for instance, invested their money in the schemes and used the monthly paid-out interest to live on. As a result of the failure of the two schemes, people had less money to their disposal. This resulted in less money spent on food and other trade articles, and finally, to a loss of employment opportunities in the trade sector and other sectors linked to the trade sector.

TABLE 8.11   ESTIMATED IMPACT OF KRION SCHEME AND EQUILIBRIUM/FUTURA INTERNATIONAL ON UNEMPLOYMENT IN EMFULENI (2002 – 2015)

Year	Unemployment (cumulative) Krion & Equilibrium	Percentage increase in unemployment (both schemes)	Unemployment rate	
			Old (without projects or negative impacts)	New (with negative impacts, but without projects)
2002	1,113	0.45	53.7	54.0
2005	2,563	0.91	57.1	57.7
2010	3,479	1.09	59.1	59.7

| 2015 | 3,805 | 1.05 | 60.6 | 61.2 |

- Source: Slabbert & Slabbert 2002b:102 (adapted).

It should be kept in mind that the unemployment figures are cumulative. It is clear that the greatest impact will be experienced in the first two years, where a loss of 2,054 job opportunities is expected. The total loss in job opportunities is estimated at 3,805 towards 2015. In 2005, it will have the impact that the unemployment rate will be increased by 0.6% to 57.7%, and in 2015 it is estimated that the unemployment rate will be increased by 0.6% to 61.2%.

Impact on household income

The estimated annual impact of the two schemes on total household income in Emfuleni is indicated in Table 8.12.

The impact of the failure of the two schemes on household income is the greatest in the first two years. The impact will be an estimated loss of 1.4% of total household income in 2002, 1.15% in 2003 and thereafter a diminishing impact up till 2015.

TABLE 8.12   ESTIMATED IMPACT OF KRION SCHEME AND EQUILIBRIUM/FUTURA INTERNATIONAL ON HOUSEHOLD INCOME IN EMFULENI (2002 – 2015)

Year	Loss of household income (Krion & Equilibrium/F) R-million
2002	120.8
2005	32.1
2010	18.7
2015	-

- Source: Slabbert & Slabbert 2002b:102.

Impact on poverty

The collapse of the two schemes affected many pensioners who invested all their pension money in the schemes, which had a direct impact on the poverty rate. The greatest impact was felt in 2002 and 2003. As the collapse of the two schemes also has the effect of a loss in employment opportunities and household income, it will also have an indirect impact on poverty. (Less earners in Emfuleni resulted in less spending, less buying, less production, less hiring of

labourers (gardeners, cleaners etc) by former earners, resulting in less income trickling down to the lowest income earners.)

The estimated impact on the poverty rate for the years 2002 and 2015 is indicated in Table 8.13. The greatest impact was actually in 2002 and 2003, whereafter the additional annual impact decreased sharply. However, the cumulative result is an increase in the poverty rate towards 2015. It is estimated that the poverty rate will increase by 0.4% in 2002, and an additional 0.3% in 2003. By 2012, the total cumulative impact will be 1.5% and by 2015 a 1.6% increase in the poverty rate.

TABLE 8.13   ESTIMATED IMPACT OF KRION SCHEME AND EQUILIBRIUM/ FUTURA INTERNATIONAL ON POVERTY IN EMFULENI (2002, 2015)

Year	Poverty rate with collapsed schemes	Poverty rate without collapsed schemes
2002	50.1	49.7
2015	62.2	60.6

- Source: Slabbert & Slabbert 2002b:103 (adapted).

The total effect of the Krion Scheme and Equilibrium/Futura International for the years 2002 to 2015 is indicated in Table 8.14.

TABLE 8.14   ESTIMATED IMPACT OF KRION SCHEME AND EQUILIBRIUM/FUTURA INTERNATIONAL, EMFULENI (2002, 2015)

Year	% decrease in GGP growth	% increase in unemployment	% loss in annual household income	% increase in poverty rate
2002	0.40%	0.45%	1.4%	0.4%
2015	0.0%	1.05%	0.0%	1.6%

- Source: Slabbert & Slabbert 2002b:10.

The estimated impact of the collapse of the two schemes was the greatest in 2002 and 2003. The impact could be expected to decrease sharply in 2004 and then to have a lesser and lesser effect until 2014. The final cumulative impact is estimated at a 1.05% increase in unemployment and 1.6% increase in the poverty rate by the year 2015.

8.5 Summary and conclusion

The impact of change in the level of employment and household income is measured in Emfuleni by making use of the input-output model for the Vaal economy. The poverty impact model was used to measure the impact of a change in household income on the level of poverty (headcount index) and the depth of poverty (poverty gap). Projections of the population growth, GGP growth, growth in employment and unemployment and poverty were made until 2015.

The effect of the proposed Inland Waterfront in Emfuleni, as well as the effect of a 5% increase in Manufacturing activities, balanced by the negative impact of the failure of Krion Financial Services and Equilibrium/Futura International Investment schemes were calculated and projected until the year 2015. As the proposed International Cargo Airport and Industrial Development Zone are not likely to materialise, partly because the Emfuleni Local Municipality (ELM) believes that the provincial government will not support them, the impact of these projects are only calculated for the year 2015.

In the years 2002 and 2003, the years in which the greatest impact of the failed financial schemes were felt, none of the proposed projects were implemented. It is assumed that the proposed development projects will be implemented and reach their full capacity by the year 2015. The cumulative effect of the failure of the two financial schemes will be a 1.05% increase in the unemployment rate, while the impact of the two projects will be a decrease in the unemployment rate of 8.6 percentage points from 60.6% to 52.0% in 2015. Adding the negative impact of the two failed financial schemes, the unemployment rate will be 53.1% in the year 2015. The final impact is portrayed in Table 8.15. With the impact of the proposed positive projects and the impact of the negative influences, which have already taken place, the unemployment rate will decrease from 56.3% in 2005 to 53.1% in 2015 in the case of the two projects and to 42.0% in the case of the four projects.

Although the unemployment rate will decrease considerably in the case of the four projects (which are very unlikely to occur), the number of unemployed persons will increase from 2000 to 2015. This means that even if the four

projects would occur, the economy will not be able to create enough employment opportunities for the growing labour force.

TABLE 8.15   ESTIMATED IMPACT OF TWO PROPOSED PROJECTS AND THE FAILURE OF THE FINANCIAL SCHEMES ON EMPLOYMENT AND UNEMPLOYMENT IN EMFULENI (2000 – 2015)

Year	Unemploy-ment rate: with projects & failure of financial schemes	Unemploy-ment rate: without projects	With projects and failure of financial schemes:		Without projects and failure of financial schemes:	
			Number of unem-ployed	Number of em-ployed	Number of unem-ployed	Number of employed
2000	51.3%	51.3%	155,988	148,082	155,988	148,082
2005	56.3%	57.1%	186,615	144,851	189,267	142,199
2010	53.3%	59.1%	194,582	170,487	215,756	149,313
2015	53.1%	60.6%	213,504	188,575	243,660	158,419
4 projects 2015	42.0%	60.6%	166,622	235,457	243,660	158,419

- Source: Calculated from Tables 8.9 & Table 8.11.

The total effect of the failure of the two mentioned financial schemes on the poverty rate (percentage of households below their poverty lines) will be a 1.6% increase, while the impact of the two proposed projects on the poverty rate is estimated at a decrease of 15.6 percentage points from 60.6 % to 45.0% in 2015 (Combined effect: 45.0% + 1.6% = 46.6%). The impact of the proposed positive projects and the impact of the negative influences on the poverty rate will be that it will increase from 46.1% in 2000 to 46.6% in 2015 in the case of the two projects. In the case of the four projects it will decrease from 46.1% in 2000 to 37.1% in 2015. The final impact on the poverty rate and the number of poor households is portrayed in Table 8.16.

TABLE 8.16   ESTIMATED IMPACT OF TWO PROPOSED PROJECTS AND THE FAILURE OF THE FINANCIAL SCHEMES ON POOR HOUSEHOLDS IN EMFULENI (2000 – 2015)

Year	Poverty rates	Number of poor households

	Without impacts	With negative impacts only	With negative and positive impacts	Without impacts	With negative impacts only	With negative and positive impacts
2000	46.1	46.1	46.1	84,549	82,549	84,549
2005	55.0	---	---	111,141	---	---
2010	59.1	---	---	131533	---	---
2015	60.6	62.2	46.6	148,544	152,466	114,227
4 projects 2015	60.6	62.2	37.1	148,544	152,466	90,940

- Source: Calculated from Tables 8.6 & 8.11.

Sustainability in this thesis was defined as *the ability of a local economy to provide employment and income generating opportunities for the local population to such a degree that the extent of poverty is reduced over a period of time.* Taking into account the state of the Emfuleni economy, trends in the economy, and the impact of negative factors and proposed (positive) projects, the Emfuleni economy will still not be sustainable by 2015. Although the poverty rate will increase only slightly by 0.5 percentage points from 46.1% to 46.6% (if the Inland Waterfront project and the 5% increase in Manufacturing activities materialise), the *number* of poor households will increase from 84,549 in 2000 to 114,227 in 2015. (The number of unemployed persons will increase from 155,988 to 213,504).

Even in the case of all four initiatives being implemented (which is very unlikely) the number of poor households will *increase* from 84,549 in 2000 to 90,940 in 2015, although the poverty rate will decrease from 46.1% to 37.1%. The hypothesis that poverty and unemployment will still be on the increase is therefore confirmed by the analysis. More serious intervention measures will be required to reach a state of sustainability in the Emfuleni economy.

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Chapter
9

An adjustment of Emfuleni's Local Economic Development strategy towards economic sustainability

9.1   Introduction

In this chapter, the importance of Local Economic Development (LED) is discussed. Municipalities can develop a wide range of strategies to promote the development of their local economy. The most common LED strategies, as well as how they are implemented in Emfuleni, are discussed. Emfuleni's LED approach and initiatives are also evaluated, with special reference to the municipality's financial position.

Some proposals are given for altering Emfuleni's LED strategy to enhance economic sustainability. In this regard, the stimulating of an Inward Industrialisation Process (IIP), which could provide many jobs at lower wages, is discussed. Finally, the impact of large-scale, low-wage job creation on poverty is described.

9.2   The importance of LED

Local Economic Development (LED) in South Africa was mandated to local governments by the Republic of South Africa Constitution, Act 1996, and the White Paper on Local Government (1998). The aim of this mandate was to involve local governments in economic development to address poverty, unemployment and redistribution in their local areas. Local governments were also required to participate in various economic development programmes of the provincial and national government.

LED is a process and a strategy in which locally-based individuals or organisations use resources to modify or expand local economic activity to the benefit of the majority in the local community (Nel & Humphrys 1999:277). Local initiatives may either be self-generated by community members or stimulated by external agencies like a provincial government or development agency.

The Department of Provincial and Local Government (DPLG 2000c:1), however, defines LED as an outcome-based, local initiative that should be driven by local stakeholders. It involves identifying and using primarily local resources, ideas and skills to stimulate economic growth and development. The aim of LED, according to the DPLG, is to create employment opportunities to the benefit of all local residents. It should encompass all stakeholders in a local community who are involved in different initiatives aimed at addressing the socio-economic needs in that community.

According to Blakely (1989:58), LED is essentially a process by which local government and/or community-based groups manage their existing resources and enter into new partnership arrangements to create new jobs and to stimulate economic activity. The emphasis in locally-oriented economic development is on "endogenous development" policies using the potential of local human, institutional and physical resources.

The Local Economic Development Policy Paper (CASE 2001) stated that there is no single approach to Local Economic Development. Each municipality, therefore, needs to develop its own approach, best suited to the local situation in order to meet particular targets. Taking into account the employment and poverty profile of Emfuleni as described in Chapters 4 and 5 of this thesis, *an appropriate LED strategy for Emfuleni should ideally aim to stimulate economic development with the highest returns in terms of job creation, income generation and poverty alleviation.*

According to the International Republican Institute and National Business Initiative (IRI & NBI 1998:2,3) and Nel (1998:153,154), it is important that local governments promote LED in their municipal areas for the following reasons:

- LED is one of the logical ways in which to address the apartheid legacy by addressing socio-economic inequalities and promoting urban integration, job creation and service provision.

- LED can contribute to local employment, empowerment and wealth generation.

- LED can directly, or indirectly, promote economic development and empowerment of community groupings.

- LED increases income levels and enables people to pay for services. It broadens the tax base and the revenue base of the local authority.

- LED enables the local authority to provide more and better services and facilities to the local citizens.

- Local government councillors were elected on a mandate to undertake development. The local government is a dominant player in a local economy and is well-positioned to embark on development.

- LED builds new institutions for sustainable economic development and promotes linkages between developed and under-developed areas.

- There are not enough resources in South Africa to allow a welfare solution. Increasing local economic initiatives have to be undertaken because fiscal constraints on national and provincial government encourage and oblige local level action.

- LED can be a key component of, and a supplement to, a broader process of regional and national development and it can assist with the attainment of macro-economic policy objectives. LED can be a "grass roots" complement to "top-down" national development.

9.3   LED in Emfuleni

According to the Department of Provincial and Local Government (DPLG), municipalities can develop a wide range of strategies to promote the development of their local economy. Common strategies are, for example,

industrial recruitment and place marketing, SMME promotion and support, community economic development, export promotion and international trade, as well as business retention and expansion (DPLG 2000a:3-8). These strategies are discussed below.

9.3.1   Place marketing

Place marketing, according to the DPLG (2000a:3-8), means promoting and advertising the local area, so that people, businesses and industries see that area as a desirable place to visit, live in and work in. Industrial recruitment means attracting new industries to the local area. This creates new job opportunities for local residents and increases the local tax base.

Industrial recruitment and place marketing are sometimes separated as two different strategies. However, these strategies are closely linked. For example, a municipality may offer tax incentives as part of its industrial recruitment strategy, to attract new firms and industries to locate in the area. It is likely that the local municipality will not only advertise these incentives, but will also advertise the other attractions of the area, such as good infrastructure, a pool of labour skills, available amenities and entertainment. In other words, the municipality's industrial recruitment strategy will be coupled to its place marketing strategy.

Industrial recruitment strategies assume that businesses and industry locate in areas where production costs are lower. Companies will also consider factors such as whether there is a local market for their products and whether the area offers good infrastructure and services. These factors also affect the total cost of producing and selling a product.

Place marketing has therefore become an important way of distinguishing between local areas, and ensuring that companies and individuals are aware of the positive aspects and attributes of a city, town or rural area. For example, place marketing strategies could emphasise the benefits of a rural lifestyle in a healthy environment, or focus on the educational, cultural and entertainment opportunities offered by a city's schools, university, art galleries, exhibition spaces, clubs and music venues.

Local authorities can use a range of instruments to implement their industrial recruitment and place marketing strategies. Place marketing campaigns can include web sites on the internet, brochures, information desks and advertising on radio and television. Hosting sporting and cultural events is also a way of drawing attention to the location.

In the regeneration of the Vaal Triangle industries report commissioned by the Department of Trade and Industry (Bloch & Dorfling 2000:59), significant emphasis was placed on the marketing of the Vaal as a 'Clean and Safe Prime Business location in Gauteng with high-income housing, entertainment and tourism along the Vaal River to increase attractiveness.' The Vaal Research Group (VRG) made an effort to market the Vaal with its report "Prospects for Trade and Investment in South Africa's Largest Industrial Hub" (VRG 2000).

Internationally, municipalities have developed and marketed a range of incentives which aim to attract new businesses and industries to their areas. These include tax incentives, loan incentives, shared equity in projects, traditional land incentives (e.g. land acquisition, clearing and sale), land support (e.g. water and sewerage infrastructure), transportation (e.g. improved streets and improved parking), and services (e.g. improved public safety). However, in the case of Emfuleni there are serious backlogs in most technical services (PDG 2003:21).

In South Africa, the tax incentives offered by local authorities focus on land rates and taxes rebates, as the law does not allow municipalities to provide any other tax incentives. However, national government offers a wide range of financial tax incentives, which are provided and administered through the Department of Trade and Industry (DTI). Municipalities can benefit by linking with these national programmes which offer special incentives to business and industry. For example, DTI has initiated a number of Spatial Development Incentives (SDI's) and Special Economic Zones (SEZ's). These aim to concentrate and revitalise economic activity in particular areas through the provision of incentives such as cheap facilities and public utilities, access to labour, raw materials and mineral reserves and proximity to markets and transport facilities (DTI Group Communications 2001).

9.3.2　SMME promotion and support

Many LED initiatives focus on providing support to small, medium and micro enterprises (SMMEs). This strategy is often used to create employment opportunities. There has been a global decline in the number of jobs created by large manufacturing industries, with the result that municipalities have focused on developing small businesses as a way of creating new job opportunities (DPLG 2000a:5). The Emfuleni Local Municipality (ELM) currently manages 4 SMME projects in the Former Black Townships (FBTs), with a total employment of 90 persons (PDG 2003:8).

The potential for job creation through SMME development is receiving considerable attention in South Africa. National government, through the DTI, has adopted a range of policies to promote the development of SMMEs. Several programmes have been put in place to support small business by facilitating access to finance, training and development, research and information, markets and linkages, incentives and new technology (DPLG 2000a:5).

Whilst these national programmes provide a valuable support base for SMME assistance, local authorities can help ensure that local businesses have access to these resources and are supported by an enabling local policy environment. Local authorities can achieve these objectives by using their resources to provide information, establish Local Business Service Centres (LBSCs), create a regulatory environment suitable for SMME development, reform tender processes and provide public facilities for small business incubators and other support projects. By pursuing these initiatives, local authorities can make a contribution to job creation in their communities (IRI & NBI 1998:8).

Local businesses constantly need information and action from local authorities on a wide range of issues including licensing, tendering, rates, permits, zoning and building approvals. Long delays and confusing procedures associated with these processes can create difficult barriers. One of the most effective ways that local authorities can support both small and big businesses is to establish a central information centre that is the key contact point between all types of businesses and the local authority. One-stop shops or centres simplify the contacts that businesses need to have with government by streamlining and expediting approval processes and other procedures (IRI & NBI 1998:9).

One of the best ways that local authorities can assist SMMEs is by working with stakeholders to establish LBSCs. The failure rate among new and small firms is substantial. The need, therefore, for management and business training, counselling, research and other forms of support, is critical. LBSCs are community resource centres which provide these services to help small businesses get on their feet and eventually graduate into formal business enterprises. Since it first opened in 1986, the Empangeni Business Advice Centre (BAC), for instance, has played a pioneering role in the development of emerging businesses and is one of the first LBSCs to become fully accredited by the Department of Trade and Industry (DTI) (IRI & NBI 1998:10).

In Emfuleni, Vaalgro could have been considered to be a LBSC until recently. Vaalgro, however, is presently involved in a process of being integrated as a part of Vesco (Vanderbijlpark Estate Company). According to Dr. Edwin Basson (2004), the incorporated Vaalgro will continue to support small businesses, especially downstream manufacturing enterprises, and enterprises providing services to Iscor.

9.3.3 Community economic development

Community economic development is based on the concept of developing community self-reliance, through human resource development and skills enhancement. The central objective of this strategy is to alleviate poverty by improving the capabilities of disadvantaged communities to create sustainable livelihoods for themselves.

Community economic development focuses on combining employment training, human services and enterprise development to enhance access to and creation of jobs, careers and self-sufficiency for disadvantaged communities. In other words, this strategy aims to equip people in disadvantaged communities to be able to take advantage of existing job opportunities and to create new job opportunities by opening small businesses (DPLG 2000a:5).

Instruments that are often used to implement community economic development strategies include:

- employment brokering – which means connecting people who need jobs with available job opportunities;

- sectoral interventions aimed at identifying niches in the local economy that offer access to low and moderate-income people; in other words, a focus on supporting those industries and sectors which are most likely to provide job opportunities for poor households and individuals; and

- the identification of enterprises that can be established under community control. Municipalities can assist community groups to establish their own enterprises and businesses which will generate livelihoods for local people. (DPLG 2000a:5,6.)

The ELM has identified the tourism and entertainment industry as a potentially high growth sector that could provide considerable employment to low- and moderate income people. A proposed tourism and entertainment project, the Vaal Inland Waterfront, is in an early stage of development at present (PDG 2003:6).

9.3.4   Export promotion and international trade

Local authorities, particularly those in urban areas, increasingly base their LED strategies on export promotion and international trade. This is an era of globalisation and international competition and this means that companies will have to compete with another on a global basis. For example, if someone goes shopping for a television set at a local shop, he/she is faced with a choice between televisions made in ten different countries. South African companies that make televisions must therefore compete against a range of international companies producing the same product (DPLG 2000a:6).

In Emfuleni, most of the export-oriented industries are related to the iron and steel sector. In order to compete on the global market, large-scale restructuring needed to take place which resulted in large-scale retrenchments. Iscor alone retrenched 6,000 people between 1994 and 1998 (Urban Econ 1998:74).

To be able to compete internationally, local companies need to be able to develop products more cheaply than they can be developed elsewhere, or to develop better products, or to offer products which cannot be sourced from

anywhere else. Local companies also need to establish a presence in international markets – they need to make sure that consumers in other countries have the option of buying their product at their local shop.

Municipalities can help to make local companies more competitive by targeting sectors in which they have comparative and competitive advantages, and providing support to these sectors so that they can compete internationally. In other words, municipalities can assess the global market and see where there are opportunities to export products and services that can be produced locally at a competitive price. Municipalities can then provide targeted support to local businesses to help them produce competitive products and services, and 'export' them to South African and foreign markets (DPLG 2000a:6).

Export promotion strategies often involve higher level services and products, e.g. financial and communication services, and high-technology services and products. These sectors offer the most opportunities for export-led growth because South Africa is a world-leader in these areas.

A typical way in which municipalities can promote exports is the development of research and science parks. Research and science parks bring companies that offer similar services and are developing similar products together in a single space. This allows for the cross-fertilisation of ideas, as well as enabling the sharing of skills and technology, between companies.

For example, the Capricorn Park in the Cape Town metropolitan area aims to create a network of linkages to support innovation research and development. The brochure promoting Capricorn Park states that "the innovative and interactive cluster will give companies the opportunity to network extensively and thus develop a cutting edge on global competitiveness". Although Capricorn Park is promoted as part of a regional economic development strategy by the Western Cape Trade and Investment Promotion Agency, it is indicative of the type of initiatives municipalities interact with, or may want to facilitate themselves more directly as part of an LED strategy (DPLG 2000a:7).

This idea of linking companies that provide similar products and services, is characteristic of export-promotion strategies. Many cities are attempting to create "islands of innovation", where "SMART" firms (or firms that produce hi-tech

products and services) locate in close proximity to one another, and produce new export products. This strategy is most common in sectors such as the aerospace-, electronics-, pharmaceutical-, chemical-, instrument-, software- and business services industries. An example of this is ChemCity in Metsimaholo, which concentrates on chemical-related industries. Sedibeng District Municipality initiated a similar development (Sedichem) to be implemented in Emfuleni. The conceptual plan is that chemical SMMEs be developed in collaboration with the Vaal University of Technology. The DPLG donated R50 million for the development of Sedichem (Skosanna 2004).

Municipalities can also promote local products for export by attending trade fairs and marketing local products and services. In less than 30 years, Richards Bay has been transformed from a sleepy, holiday fishing village into one of the most dynamic commercial centres on the African continent. It has a massive deep-water harbour and exports coal, aluminium and other bulk products. The local municipality utilised strategies such as an investor-friendly approach, customer service, negotiation skills, marketing and post-investment service, to develop competitive advantages and economies of scale (DPLG 2000b). No such initiatives are at present under consideration in Emfuleni (PDG 2003:1-8).

9.3.5   Business retention, expansion and attraction

Business retention and expansion strategies (DPLG 2000a:7) refer to the measures that municipalities can take to ensure that firms within their area do not leave for a seemingly more attractive location. Business retention and expansion is similar to industrial recruitment in that the same measures that ensure existing firms do not need to seek premises elsewhere, will also help to attract new firms to the area. Business retention, expansion and attraction is a very important strategy in obtaining and keeping economic sustainability.

One of the most important ways in which local authorities can ensure that an existing business is retained is by the provision of adequate infrastructure and services. Where the municipality does not provide adequate infrastructure, businesses may be tempted to locate to other areas which offer better infrastructure and services. The streamlining of internal municipal functions, such as building-plan approvals, facilitated services linkages and the like, is also important. The efficiency of the municipality in a particular location often

influences decisions about where to locate a business. In extreme cases, an inefficient municipality may even drive existing businesses away.

By helping to attract new businesses, local authorities help to create jobs and increase their rates base. One of the most common mechanisms used by cities/towns all over the world to attract investment or encourage business expansion, is to give concessions, including substantial tax incentives to potential investors. Currently, South African local authorities are allowed to give incentives but must first receive approval from the provincial Premier.

The ELM has drafted an incentives policy, but awaits inputs from some senior management as well as formal Council approval (PDG 2003:6). There are some serious backlogs concerning the provision of technical services and infrastructure. The ELM has recognised that this problem needs to be addressed, and has put some initiatives in place. However, there is a need for a more strategic approach in this regard (PDG 2003:21).

9.3.6   Other LED strategies

The five categories of strategies outlined above (9.3.1 – 9.3.5) are not mutually exclusive. In practice, there is tremendous overlap between the various strategies and instruments. For example, SMME development can be promoted within the framework of the export promotion strategy. Alternatively, municipalities could choose to target support to SMMEs which are able to develop products for export purposes. Similarly, community economic development strategies can be enhanced by industrial recruitment and place marketing instruments. It is also important to remember that within each category of LED strategy, there are a wide range of LED instruments and tools (IRI & NBI 1998:7).

The IRI & NBI (1998:7-37) refer to nine LED tools and strategies that local authorities use or can use in South Africa. SMME development and business retention, expansion and attraction have already been discussed above. The other seven tools and strategies which are related to some of the strategies already mentioned are as follows:

- Development of creative and effective regulations and by-laws.

- Local authorities can play an active role in encouraging growth and development by creatively utilising the land, buildings and other assets owned by them. Many local authorities can, for example, transform disused warehouses or other buildings into small business incubators or "hives".

- Municipalities in South Africa, like many municipalities around the world, are faced with increasing demands for improved services, ever-tightening fiscal constraints and strong competition for scarce resources. Many successful local authorities respond to this challenge by exploring and utilising Public Private Partnerships (PPPs) as a way to improve the delivery of services. The main approaches to PPPs include service and management contracts, leasing, concessions and privatisation.

- Human resource development is pivotal to economic success. Efforts to develop the human resource base of a community are designed to provide citizens with the skills they need and information they require to find and secure employment. The establishment of the eThekwini Business Development Centre in 1997 in the Durban area is an example of an institution helping city residents to build skills. This can lead to sustainable small businesses.

- Local authorities can work with local promotion groups and development agencies to establish an effective marketing strategy. They can also appoint marketing consultants or utilise the services of local publicity associations and tourism boards.

- Creating regional linkages by developing co-ordinated initiatives, such as marketing strategies, tourism development or infrastructure plans with neighbouring localities, local authorities can often magnify the impact of their own efforts while reducing costs. The 'Midlands Meander' in KwaZulu-Natal is a good example of this LED strategy.

- Local authorities can help to limit money outflow that creates economic leakage in a region. "Buying locally" campaigns could have a significant impact in a community at no additional cost. Action steps

for plugging the leaks in a local economy can include the determination of local buying patterns, increased public awareness and periodic markets. For instance: once a month on 'pension day', a market is held in the villages of Mgwali and Wartburg near Stutterheim in the Eastern Cape. It is funded by the Independent Development Trust and promoted by the Stutterheim Development Foundation. Entertainment and cultural events are held at the same time, thus making marketing days important social occasions in the life of those communities (IRI & NBI 1998:7-37).

Municipalities can promote local economic development in their areas in a number of ways. They may assume different roles at different times and they may play a more direct role in some LED initiatives than in others. Nearly every effort to develop a local economy will require some input, participation and support from local government. In Table 9.1 the different roles or combinations of roles that municipalities can play in LED is given.

TABLE 9.1   ROLES MUNICIPALITIES CAN PLAY IN LOCAL ECONOMIC DEVELOPMENT

Municipal role	Explanation of municipal role
Co-ordinator	In this role, the municipality acts as a co-ordinating body. An important tool for co-ordination is the Integrated Development plan (IDP), which draws together the developmental objectives, priorities, strategies and programmes of a municipality. The IDP can be used to ensure that LED initiatives are co-ordinated with other municipal programmes and appropriately linked to national and provincial initiatives.
Facilitator	In this role, the municipality improves the investment environment in the area. For example, the municipality may streamline the development process, or improve planning procedures and zoning regulations.
Stimulator	In this role, municipalities stimulate business creation or expansion. For example, the municipality may provide premises at low rent to SMMEs, or compile brochures on local investment opportunities, or promote a particular tourism theme or activity in a key venue.
Entrepreneur or Developer	In this role, the municipality takes on the full responsibility of operating a business enterprise. A municipality can also enter into a joint venture partnership with the private sector or a NGO.

- Source: DPLG 2000b:2 (adapted).

9.3.7 Evaluation of Emfuleni's LED approach and initiatives

Taking into account the different approaches to LED as outlined above, it appears that Emfuleni at present has a fairly weak approach towards LED. Although Emfuleni's LED strategy was completed in March 2002, it has been implemented only partially. Key personnel appear to be unaware of the detail of the LED. There is a lack of prioritising performance targets, a lack of integration of initiatives and no integration of strategies by other levels of government. In general, there is a poor understanding of LED by municipal management and LED is under-resourced overall. (PDG 2003:5).

Although Emfuleni has developed a draft incentive policy, there is a lack of prioritising job creation as a primary reason for offering incentives. There is also a lack of targeting to attract particular industries and a definite lack in using existing competitive strengths and comparative advantages. There is also a distinct lack of ways to make local incentives complementary to those incentives offered by other spheres of government and also a lack of resourcing implications with a clear delegation of responsibility. Although the Inland Waterfront proposal could have a major impact on the Emfuleni economy, there has been only very limited market research on the viability of the recreation industry in the area. Also, no attention has been given to gaps in current infrastructure and services (PDG 2003:6).

Emfuleni's SMME promotion is limited to an industrial hive in one of the 'townships' (Bophelong), with a job creation potential of 45 persons. The hive consists of 9 workshops, where sewing, welding, baking and catering small businesses are housed. Ownership is vested in a co-operative. A pilot program with 3 projects for hydroponic cultivation of tomatoes and cucumbers is currently managed by the Council and employs 45 people (PDG 2003:7).

Recognising the need for intervention in the local economy to reverse long term economic decline, Emfuleni Council and local stakeholders formed the Vaal Economic Regeneration Board (VERB) in 2001. VERB was an independent business forum initiated by the Vice-Chancellor of North West University (Vaal Campus) and the Vaal Research Group. Key players in VERB were the managing directors of the larger manufacturing industries like

ISCOR, Sasol, Cape Gate, Samancor, Dorbyl, the mayors of Emfuleni, Midvaal, Sedibeng and Metsimaholo. The key advantage of this body was that it encompassed all key local government players and therefore had capacity to deliver broader, 'regional' business support and investment attraction initiatives. However, industry soon lost interest in VERB because of political manoeuvring by Sedibeng District Council.

VERB identified several projects (see Section 6.7) that could have served as a stimulus to the local economy. However, in its strategic review, PDG (2003:2-8) discovered that most of these initiatives and projects were no longer under serious consideration by Emfuleni Local Municipality. Both the international cargo airport and the Industrial Development Zone were considered not to be feasible as a decision had already been made at provincial level to promote an IDZ near to Johannesburg International Airport instead. A body like VERB could have played an important role as a well-connected, high-powered lobby group in promoting the interest of the area (PDG 2003:18).

Emfuleni has recently put out tenders for the formulation of a marketing strategy. Specific strategies for place marketing, industrial recruitment, SMME promotion and support, community economic development, export promotion and business retention, expansion and attraction should be incorporated into this marketing strategy.

9.3.8   Financing of LED in Emfuleni

In its strategic review of Emfuleni Local Municipality (ELM), done in 2003, Palmer Development Group (PDG) in association with Organisation Development Africa (ODA) (PDG 2003:12), found Emfuleni Local Municipality to be in an unsustainable financial position. Expenditure exceeded revenue, while debt levels prevented any building-up of reserves or performance of adequate maintenance. Contributing factors to this situation is the fact that ELM currently provides services that many of its communities cannot afford, to such an extent that ELM's income is under threat. Lack of proper maintenance (which is, in effect, a form of asset stripping) has not been reviewed by the ELM and has the potential to cause long-term financial distress.

Service payment levels are currently 78% of billed amounts which is significantly lower than in many other municipalities, and far below the National Treasury's target of 97%. This has a major impact on the sustainability of the municipality, more than any other issue. Emfuleni is recorded as having the highest average service access of all major municipalities after Sol Plaatjie Municipality. This is largely the result of large-scale RDP housing delivery and upgrading that has occurred within the municipal boundary since 1994. These housing units typically have ESCOM-supplied electricity with water-borne sanitation, on-site water and weekly refuse removal supplied by the municipality. This has resulted in increased operating and maintenance costs for the municipality, without the related income stream due to the indigent nature of the majority of the beneficiaries. Payment levels of RDP houses are only 4% - 5% of billed amounts (PDG 2003:4).

The 2002/2003 capital budget of Emfuleni was R39 million, or 3,6% of the operating budget. Due to cash-flow constraints, this is far below the municipal norm of 8% - 12% (ELM 2003:12).

The bad debt provision in Emfuleni has a direct relationship to payment levels. Due to Emfuleni's extremely high cumulative debt burden, this element of planning takes on a pivotal role. Outstanding consumer- and other debts increased by 14.9% between June 2001 and June 2002 to R1 083,3 million. After writing-off some of these debts in late 2002, the ELM still assumes that Emfuleni will have to provide an estimated R108 – R219 million (varying according to the payment levels achieved) towards bad debt in 2003/04 (ELM 2003:13).

Due to a lack of preventative maintenance expenditure, Emfuleni nearly lost its electricity reticulation licence and is faced with major water and electricity losses. Water losses are estimated at 26% of purchased bulk, and are significantly bigger than an acceptable municipal norm of 15%. Electricity losses are unknown, but they are estimated to be in the order of 13% of purchased bulk, whereas the municipal norm is at about 7% with lows in the region of 4%. An increase in maintenance expenditure levels from below 5% to the norm of around 10% is a crucial intervention required to secure service delivery integrity.

This growth will require provision for an additional R50 million on the Operating Budget for 2003/04 (ELM 2003:13).

With the abovementioned as a background, the chance that ELM (without assistance from local stakeholders) will be able to finance LED projects to stimulate the economy appears to be extremely low. Large projects, such as those proposed by VERB, seem to be beyond the capacity of the ELM.

9.4   Proposal for altering Emfuleni's LED strategy to enhance economic sustainability

In the preceding section, Emfuleni's dilemma in facing increasing demands for improved services, fiscal constraints and competition for resources was described. It is clear that Emfuleni on its own will not meet the sustainability challenge. It will be therefore to the benefit of the local community to explore Public Private Partnerships (PPPs) to seek solutions for the sustainability of the economy. Sedibeng District Municipality recently embarked on the formation of a development agency together with local industry and local business. This development agency could be of great importance in the search for solutions for the sustainability problems of Emfuleni. It is proposed that the ELM gives this initiative its full support.

Through the development agency, the ELM should seek support to bring the Inland Waterfront project towards the implementation phase. Apart from the Inland Waterfront project, the other viable initiative (mentioned earlier) was to stimulate and expand the manufacturing sector. Even if these two projects do fully materialise, it still would not be sufficient to create enough employment opportunities for the growing number of unemployed people. Even if an additional two large-scale projects could be brought to fruition, then the number of unemployed people and poor households would still not decrease. Therefore it is important that ELM should seek additional, as well as alternative initiatives in order to alleviate poverty. The abovementioned projects are aimed at increasing income and employment in the whole of Emfuleni, but despite this, the poor households will not benefit sufficiently in order to halt the growth in poverty.

In the light of Emfuleni's financial dilemma, it is proposed that the ELM should develop partnerships with local industry to embark on an Inward Industrialisation Process (IIP), where certain products that are consumed in the local community can be produced locally by labour-intensive methods on the one hand, and where, on the other hand, value-adding downstream products can be produced by the unemployed pool of labour with appropriate skills. By aiming specifically at the unemployed poor, most of the severe poverty could be alleviated in this way.

9.4.1 Inward Industrialisation to enhance sustainability in Emfuleni's economy

In Section 4.3, the unemployment rate for Emfuleni was determined at 54.1% for 2003. The unemployment rate amongst the poor is 71.8%. The greater majority of the poor (97.4%) live in the townships (Slabbert 2003). Job creation could have a major impact on the level of poverty, especially if it could be aimed at the unemployed poor.

In a survey conducted for this thesis in September 2003 (Slabbert 2003), it became evident that ample opportunities exist for the production of products that are consumed by the community. This is dependent, of course, on whether those interested could receive skills training, practical advice and financial support to initiate and start such activities.

Figure 9.1 below shows the total monthly expenditure on some products in the Emfuleni FBTs.

FIGURE 9.1   EXPENDITURE IN THE FBTS OF EMFULENI (2003)

Emfuleni: Total expenditure per month in Rand million
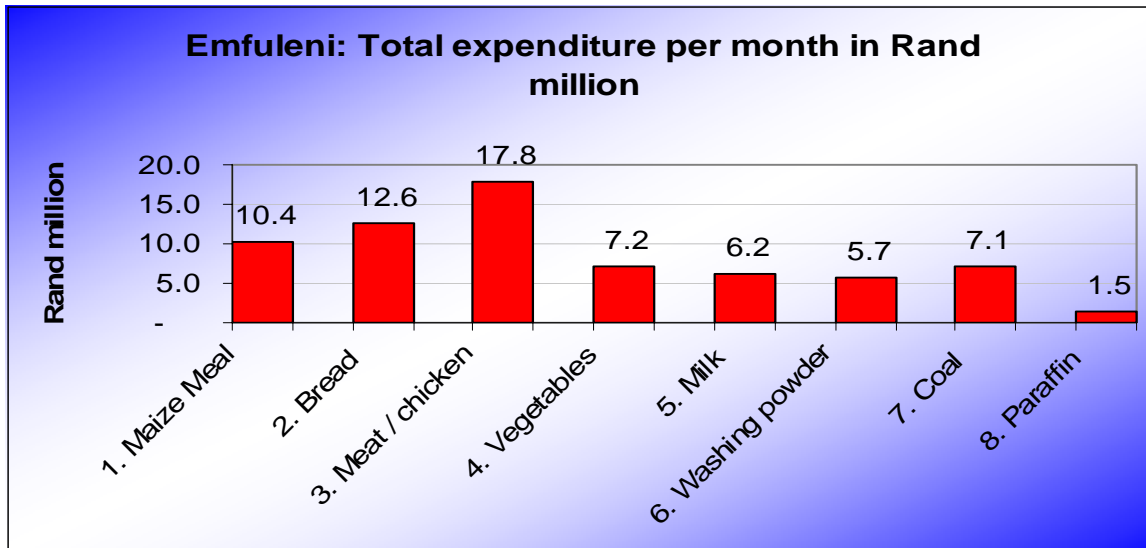
- Source: Slabbert 2003.

Five of these products (maize meal, bread, meat, vegetables and washing powder) lend themselves ideally to an Inward Industrialisation Process where they could be produced by co-operatives or SMMEs with labour-intensive methods. The combined expenditure in just the Emfuleni FBTs on the 5 products amounts to R53.7 million per month.

Assuming that unemployed poor residents could be assisted to form co-operatives or enterprises to produce all the mealie meal, bread, meat/chicken, vegetables and washing powder consumed in the Emfuleni FBTs coupled to the fact that 30% of the turnover would be in income to members/workers, the injection into the townships (where 97.4% of the poor reside) would be R16.1 million per month (R193.3 million per year). The impact of the production of these products in terms of job creation and household income is portrayed in Table 9.2 below.

TABLE 9.2 IMPACT OF AN INWARD INDUSTRIALISATION PROCESS: EMFULENI FBTS (2003)

Product	Number of jobs	Monthly income
Maize meal	5,150	R 3.1 million
Bread	6,350	R 3.8 million
Washing powder	2,850	R 1.7 million
Vegetables	3,650	R 2.2 million
Meat	8,850	R 5.3 million

Total	26,850	R16.1 million

- Source: Slabbert 2003.

This means that at an average income of R600 per month, 26,850 unemployed poor persons could be assisted in the townships of Emfuleni (which is 20.2% of the total unemployed poor population).

In Section 5.4 an estimate of the number of unemployed poor persons with different skills in Emfuleni's FBTs is shown. There are an estimated 8,912 persons currently with skills in metal work and welding. There are also 19,843 unemployed poor persons who would like to be involved in metal work and welding activities. There are an estimated 21,982 persons with skills in gardening/farming; 20,794 in sewing; 23,746 in catering. If the unemployed poor persons who desire to be involved in a certain field (with relevant skills) could be assisted by means of co-operatives to produce products in the fields in which they have some skills, it would have a substantial impact on job creation and poverty alleviation in Emfuleni.

9.4.2   Impact of job creation on poverty levels

Assuming that jobs for all unemployed poor persons in Emfuleni could be created by the formal regeneration projects, an IIP, or individual employment opportunities such as domestic workers, welders, gardeners, textile workers and the like, at an average income of R600 per month, the impact on Emfuleni will be that the headcount index will be reduced from 0.51 to 0.23 and the poverty gap index from 0.46 to 0.26 as per the model discussed in Section 3.4. This implies that the percentage of households below their individual poverty lines would be reduced from the present 51% to only 23% and the average shortfall in income of the poor households would be reduced from 46% to 26% (without taking the multiplier effect into account).

The impact of job creation at different income levels on the level of poverty in Emfuleni is illustrated in Figure 9.2. At a level of R600 per unemployed person, the percentage of households below their individual poverty lines could be reduced to 23%. If all the unemployed poor could receive incomes of R1,000 per month, the poverty rate would decrease to about 10.5%.

FIGURE 9.2   IMPACT OF JOB CREATION ON LEVELS OF POVERTY IN EMFULENI
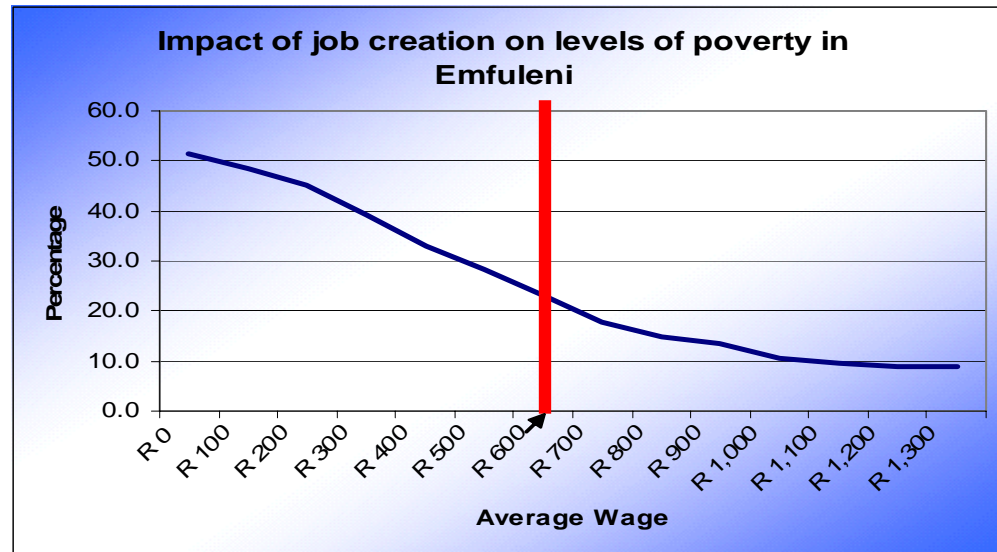
- Source: calculated from data by Slabbert 2003.

9.5   Conclusion

The projections and estimates made in the previous chapter were based on ambitious assumptions that at least the Inland Waterfront Project and the stimulation of the manufacturing sector would be a high priority for the ELM. However, a strategic review and analysis of the ELM's approach towards Local Economic Development (LED) showed that there is a lack of enthusiasm and commitment on the side of the ELM. Local Economic Development is seemingly not understood properly and therefore not taken too seriously. Taking into account Emfuleni's financial constraints, it is clear that Emfuleni on its own will not meet the sustainability challenge, and it will become less sustainable in the future. It will therefore be in the interest of the local community to explore Public Private Partnerships (PPPs) and to seek solutions for the sustainability of the economy. It is proposed that ELM seeks to revive the VERB initiative in the region.

Together with the large industries, ELM should seek support to bring the Inland Waterfront project and the stimulation of the Manufacturing sector towards an implementation phase. In addition to these projects, an Inward Industrialisation Process where certain products consumed in the local community are produced locally, should be further investigated and exploited. The preliminary analysis of

the products consumed in the townships shows that a large number of jobs could be created by producing these products. Establishing co-operatives to produce these products will be less capital-intensive and will therefore require less capital compared to, for example, an IDZ. Taking into account Emfuleni's financial constraints, this may be a more appropriate route to take towards sustainability for the Emfuleni economy.

The analysis of the skills of the unemployed poor revealed that there are vast pools of labour with certain skills in Emfuleni, for example metal workers. The production of downstream steel products, making use of the unemployed pool of labour with appropriate skills, should be further investigated. An in-depth study of possible steel products that can be produced in the region still needs to be made. An investigation into the formation of manufacturing co-operatives where the unemployed poor can be absorbed should form part of the study mentioned.

An Inward Industrialisation Process will undoubtedly have a major impact on employment creation and poverty alleviation in Emfuleni. This process should be initiated without neglecting the further development of the more formal projects. All possible ways should be explored to put Emfuleni on the sustainability track. Although an IIP and a programme stimulating employment for the unskilled poor as gardeners, domestic workers and the like, would not necessarily have a great effect on the GGP of Emfuleni, it could have a great impact on poverty.

If jobs for all the unemployed poor (estimated at 132,622 in 2005 and 195,556 in 2015 without implementation of the regeneration projects) could be created at a minimum wage of R600 per month, it would decrease the headcount index of households from 0.51 to 0.23 and the poverty gap index from 0.46 to 0.26. With an average monthly income of R1,000 the poverty rate would decrease to about 10.5%. It is therefore evident that even with relatively low monthly wages poverty could be alleviated.

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Chapter
10

Summary and conclusion

10.1   Introduction

The objective of this thesis was to measure and describe the sustainability of the Emfuleni economy in terms of its potential to generate income and employment opportunities (to reduce unemployment) that will result in the alleviation of poverty, taking into account the status of the economy before and after the recent (positive and negative) developments and proposals. Sustainability was defined for the purpose of this thesis as *the ability of a local economy to provide employment and income generating opportunities for the local population to such a degree that the extent of poverty is reduced over a period of time.*

The search of explanations for and solutions to poverty in different countries over the world has led poverty research away from a national focus to a more micro-perspective. From this micro-approach, it was clear that a single national poverty line cannot be applied in general as the cost of living varies widely between diffe-rent areas, for example rural and urban areas. The cost of living in Emfuleni, for example, differs widely from the cost of living in the city of Tswane. The underlying causes of poverty also vary widely between different areas within a single country and thus the micro-perspective becomes increasingly more important as the focus sharpens.

The future challenge of poverty research therefore lies in studying poverty at local or micro-level. The ability of local economies needs to be studied to determine the extent to which they are able to sustain their own populations. This micro-perspective should then be tied into a macro-perspective. Local or micro-policies can then be aligned with national or macro-strategies and *vice versa*. National poverty studies are therefore not less important, but they should take into account the needs of the poor at micro-level because this is where the real poverty is.

Attempts to alleviate poverty in South Africa should therefore follow the recent, less conspicuous international trend of focusing on solutions at the micro- (local) level. It was for this very reason that poverty in Emfuleni was studied at a micro-level because it was imperative to build a reliable model to measure sustainability for the purposes of this thesis. This model and the methodology lend itself ideally to measure both the extent and depth of poverty.

The second model, an input-output model of the Vaal economy, was used to measure the effect of endogenous and exogenous changes in the Emfuleni economy on the level of household income and employment. The input-output model depicts economic linkages that exist within and between different components of an economy. This approach also identifies monetary flows (expenditures and receipts) between various units and focuses on the interdependence of different sectors of economic activities within the Vaal area.

A third model was developed to measure the impact of a change in household income on the extent and depth of poverty. The degree to which proposed local economic development projects decrease the extent of poverty determines the degree of sustainability of the economy.

10.2   *Status quo* and trends in Emfuleni

The *status quo* and trends of Emfuleni's population (numbers and growth), the workforce (employment and unemployment), poverty and the structure of the economy were analysed, in order to make meaningful projections.

The population of Emfuleni was determined at 658,422 for 2001. 23.3% of the population resides in the former white towns and 76.7% in the former black townships. From 1990 to 1996, Emfuleni experienced a relatively high population growth rate of 2.85% per annum. This relatively high rate was attributed to the influx of people from the rural areas after the scrapping of the Group Areas Act and other apartheid-based legislation. However, the rate decreased to 1.95% per annum in the period 1996 – 2001 because people moved to other areas with better economic and employment prospects than Emfuleni, where the economy declined in the period 1996 - 2001. The 2001 population growth rate of Emfuleni is slightly lower than the national average growth rate of 2.0% per annum.

The dependency ratio, an indicator of the number of persons who depend on the income of one earner, was determined to be 3.29 in 2001 for Emfuleni. The dependency ratio in 1994 for Emfuleni was determined at 2.77. This is a clear indication that in 2001, more persons were on average economically dependent on one earner. This trend also gives an indication of the increase in unemployment in Emfuleni.

The unemployment rate in Emfuleni was determined to be 51.0% in 2001 and 54.1% in 2003. This rate is higher than that of all other municipalities in Gauteng, as well as those in the Northern Free State. Since 1991, the Emfuleni economy has registered only a marginal growth in employment in certain sectors of the economy, and a negative growth in other sectors. The net effect has been a loss of employment opportunities. This effect, combined with an above-average population growth in the 1991-1996 period, has resulted in an increase in the unemployment rate. In the FBTs, where about 90% of the unemployed reside, the unemployment rate has increased by 73.4% from 35.0% in 1991 to 61.7% in 2003, because of a decline in the economy combined with a high influx of unemployed people into Emfuleni in this period.

The employment profile in Emfuleni is largely influenced by the economic structure of the area, which in itself is characterised by a specialisation in manufacturing. Basic metal and metal products are responsible for almost 64% of all manufacturing employment in the area. Of major importance are the trade and services sectors, which are responsible for about 16.7% and 18.9% respectively of the employment total. The manufacturing sector employed 22.2% of all the employed in the Emfuleni area.

The largest percentage of remuneration is paid by the manufacturing sector in Emfuleni; the second largest percentage is paid by the services & other sector and the third largest by the trade sector. This corresponds with the numbers and percentages of the total labour force employed in these sectors.

The average monthly household income in Emfuleni for 2003 was determined at R3,400, compared to R3,083 in 1999. The average monthly wage per formal sector worker in 1999 was determined at R4,115. Salaries and wages on average contributed 72.2% to household income in Emfuleni in 2003. This percentage decreased slightly from 75.4% in 1999, indicating a greater

dependence of the average household on other sources of income. In 2003, 32.1% of household income on average was spent on food, cleaning materials and other groceries. In 1994, the expenditures were 26.1% on similar items for households in the townships. The increased expenditure on food in 2003 clearly indicates an increase in poverty in Emfuleni.

Both the methodologies for measuring the headcount index and the poverty gap were applied to data obtained from a household survey conducted in July 2003 in Emfuleni. The analysis revealed that 51.6% of the households in Emfuleni are poor. The percentage of the total population in Emfuleni that is poor is 53.6%. A further analysis of the poor households indicates that poor households on average are slightly larger than the average household. The average size of a poor household is 3.62 persons, compared to 3.52 for an average (poor and non-poor) household.

In Emfuleni, the poor households have relatively fewer fathers, and single parent households are more common amongst the poor. Almost 50% of the poor female-headed households are headed by a person close to or of retirement age, indicating that there is less likelihood for them to find employment. The poor have less schooling and qualifications than the non-poor, and are in most cases employed in the construction, trade and other sectors, implying that most of them are construction workers, shop attendants and domestic workers.

In the formal sector, the poor earn much less than the non-poor on average. The average household income for the poor is R658 per household per month compared to R4,764 for the non-poor households. The poor spend 86.4% of their income on survival items like food, water and electricity, housing, clothing, transport and save only 2.0% on average, compared to 10.6% of the income saved by the non-poor on average.

Only 12.4% of the total poor population is employed compared to 21.0% of the total population in Emfuleni. Of the poor population, 31.8% are unemployed compared to 24.8% of the non-poor. The unemployment rate amongst the poor is 71.8% compared to 54.1% for the total population in Emfuleni. The dependent population (economically non-active plus children younger than 15) amongst the poor comprises 55.8% of the population compared to 54.2% amongst the non-poor. The dependency ratio (number of people dependent on one income

earner) for the poor is also much higher than that of the non-poor: for the poor it is 7.1 compared to 3.7 for the non-poor.

Almost 52% of the total population of Emfuleni were born outside the Vaal area, whereas only 32.6% of the unemployed poor population in Emfuleni were born outside the Vaal. It appears that a greater percentage of those stemming from outside the region are employed compared to those born in the region. The reason may be that those from outside are prepared to work for lower wages. The minimum wages that the unemployed poor are prepared to accept for employment appears to be rather high. Only 33.7% of the unemployed poor are prepared to take up employment for a wage of R1,000 per month. If all unemployed could and would be prepared to take up employment at R1,000 per month, then the poverty rate would decrease from 51% to 10.5%.

There seems to be a mismatch between skills and desired small businesses and jobs. For instance, direct selling (tuck shops, catering, selling of fruit and vegetables) forms 54% of the desired businesses, while only 9% have any skills in selling or trade.

Many of the unemployed poor have skills in the agriculture field. In spite of this, it appears that there is not much interest in agriculture, but rather for the occupations in the services sector and trade. 28.5% of the unemployed poor were formerly employed in the agricultural sector (including gardening), yet only 11.7% of the unemployed poor actually desire to be employed in this sector.

The most important sector of the Emfuleni economy is manufacturing with a 41.3% contribution to the local GGP. Although it declined from 50.0% in 1990, it still remains the most important economic sector. In the manufacturing sector, the metal and metal products industries (mainly iron/steel) are responsible for 80.6% of all manufacturing production.

The Emfuleni economy plays an important role within the Gauteng Province, especially in its contribution to Gauteng's manufacturing sector. However, in spite of this, Emfuleni has the highest unemployment rate in the province. The headcount ratio of Emfuleni is also the highest compared to the other industrialised centres in Gauteng. Local stakeholders believe that the area has strong development potential, particularly in terms of the entertainment and

tourism sector, and it is hoped that some kind of project of this nature could be kick-started by being included in the Gauteng provincial government's *Blue IQ* Programme.

The number of initiatives that are aimed at regenerating Emfuleni's economy indicate that there is a significant degree of thought and effort being expended at the local level. Each of the initiatives contributes elements towards the attraction and support of business, as well as improving the general business climate. Considering the fact that the manufacturing sector remains the most dominant economic sector in the area, the industrial regeneration initiative is a critical component in influencing the health of the economy more generally.

 The establishment of an Industrial Development Zone and the already established manufacturing advisory centre (Gaumac Vaal) could also add to the support and growth of the manufacturing sector. The initiatives aimed at encouraging the growth of the agricultural and tourism and entertainment sectors are important in terms of aiming at diversifying the economy. Furthermore, the upgrading of the Vereeniging Airport to international status, the marketing of Emfuleni, and general collaborative research efforts can make a considerable contribution in terms of developing the economy in a more general way.

An input-output analysis of the Vaal provided tools for the identification of the key economic sectors of the Emfuleni economy. The 1993 input-output table for the area was adapted and updated to be relevant for the year 2000. As the Emfuleni economy forms an integral part of the Vaal economy, it is neither possible nor desirable to construct an input-output table for Emfuleni alone. The input-output table was used as an instrument to measure the impact of changes within a sector of the economy on the economy as a whole. As all the different sectors of the economy are linked to one another, forward and backward linkages are formed. The stronger the linkages of a sector with other sectors, the stronger the impact of a change in economic activity. Sectors with strong linkages are therefore better suited for stimulating the economy on a whole than sectors with weak linkages. The effect of a change where weak linkages are present will be relatively weak on the rest of the economy.

The sectors with strong backward linkages in Emfuleni are the tourism and entertainment, as well as the services and the manufacturing sectors. However,

although the services sector has strong sectoral linkages, this sector is not considered as a key sector for stimulating the economy, as its growth is namely dependent on the growth of the local economy. If the Emfuleni economy grows as a result of an increase in demand for products produced in the region (money flowing into the region from outside), there will be an increase in the demand for services. But when there is not an increase in the demand for products, this sector will not easily expand, as there is not much export orientation. For this reason alone, it is not considered as a sector to be used to stimulate the local economy.

As a result of the linkages between all the sectors of the local economy, a change in the final demand for products from a specific sector will lead to a change in production, turnover, household income and employment -- not only in the sectors concerned, but also in the other sectors of the economy. This is called the multiplier effect. Mostly GGP income multipliers, household income multipliers and employment multipliers are used to estimate the impact of a change in final demand on the economy.

The sectors with the highest employment, remuneration and GGP income multipliers are the tourism and entertainment, the trade and the services sectors. Just as with the services sector, the trade sector is also dependent on the overall growth of the Emfuleni economy and has therefore little potential for attracting money from outside the region. Tourism and entertainment has a great potential for attracting people and therefore money from outside the region. This sector can therefore be regarded as a key sector to be stimulated for income generation and employment creation in Emfuleni.

The manufacturing sector has moderate multipliers. As the manufacturing sector is the largest economic sector in Emfuleni and because it has a large potential for attracting money from outside the region through an increase in exports, this sector can also be regarded as a key sector for income generation and employment creation.

It is evident that if the key sectors of the economy could be stimulated sufficiently, this would result in an increase in employment and consequently household income. This, in turn, would lead to a decrease in the extent and depth of poverty.

As the formal (commercial) agricultural sector does not have much in the way of expansion possibilities because of limited land available, it has not much scope for stimulating the whole economy in terms of GGP growth. However, informal and intensive agricultural activities have a high employment potential as well as the potential to alleviate poverty. Informal agriculture requires low cost inputs for creating employment opportunities which are much lower than, for example, in the manufacturing sector. With this in mind, it would appear that the agricultural sector can also be regarded as one of the key sectors to be stimulated in Emfuleni.

10.3   Impact of change on the future sustainability of Emfuleni

Making use of the input-output model for the Vaal economy, the impact of change on the level of employment, household income and GGP income was measured in Emfuleni. The poverty impact model was used to measure the impact of a change in household income on the level of poverty (headcount index) and the depth of poverty (poverty gap). Projections of the population growth, GGP growth, growth in employment and unemployment and poverty were made until 2015. Table 10.1 summarises the *status quo* and trends in poverty and unemployment/ employment without any positive (implementation of projects) or negative (negative investment) interventions into the economy.

The table shows an estimated increase in the unemployment rate from 51.3% in 2000 to 60.6% in 2015. The poverty rate was estimated at 46.1% in 2000, increasing to 60.6% in 2015. This clearly shows that the Emfuleni economy at present is not sustainable and does not have the ability in itself *to provide employment and income generating opportunities for the local population to such a degree that the extent of poverty is reduced over a period of time.*

TABLE 10.1   PROJECTIONS OF UNEMPLOYMENT AND POVERTY IN EMFULENI

Year	Population	Unemploy-ment rate %	Poverty rate %	Number of unemployed	Number of employed
2000	645,583	51.3	46.1	155,988	148,082
2005	711,301	57.1	55.0	189,267	142,199
2010	783,410	59.1	59.1	215,756	149,313
2015	862,831	60.6	60.6	243,660	158,419

- Source: Calculated from data in Tables 8.3 & 8.5.

The impact of the two proposed projects by the ELM (Inland Waterfront in Emfuleni and a 5% increase in Manufacturing activities), combined with the negative impact of the failure of Krion Financial Services and Equilibium/Futura International investment schemes were also calculated and projected until the year 2015 (Table 10.2). The impact of the proposed International Cargo Airport and Industrial Development Zone is only estimated for the year 2015. It is, however, not likely that these last two projects will materialise, as they do not have the support of the provincial government. The estimated impact of these projects is included in Table 10.2 (last row), merely to show the effect that projects of that size will have on the unemployment and poverty situation in Emfuleni.

TABLE 10.2   ESTIMATED IMPACT OF TWO PROPOSED PROJECTS AND THE FAILURE OF THE FINANCIAL SCHEMES ON EMPLOYMENT AND UNEMPLOYMENT IN EMFULENI (2000 – 2015)

Year	Population	Unemploy-ment rate %	Poverty rate %	Number of unemployed	Number of poor households
2000	645,583	51.3%	46.1%	155,988	84,549
2005	711,301	56.3%	---	186,615	---
2010	783,410	53.3%	---	194,582	---
2015	862,831	53.1%	46.6%	213,504	114,227
4 projects 2015	862,831	42.0%	37.1%	166,622	90,940

- Source: Tables 8.15 & 8.16.

In the years 2002 and 2003, the years in which the greatest impact of the failed financial schemes were felt, none of the proposed projects were implemented. By the year 2015, assuming that the proposed development projects reach their full potential by that year, it is estimated that the two failed financial schemes will

have no more additional impacts. The cumulative effect of the two failed financial schemes will be a 1.05 percentage points increase in the unemployment rate, while the impact of the two projects will see a decrease in the unemployment rate of 8.6 percentage points from 60.6% to 52.0% in 2015. Adding the negative impact of the two failed financial schemes, the unemployment rate will be 53.1% in the year 2015. If the two additional projects (the IDZ and the upgrading of the Vereeniging Airport to an international cargo airport) would materialise, the combined impact would be a decrease in the unemployment rate down to 42.0%.

The total effect of the failure of the two financial schemes on the poverty rate (percentage of households below their poverty lines) in Emfuleni will be a 1.6 percentage points increase, while the impact of the two proposed projects on the poverty rate will be a decrease from 60.0% to 45.0% in 2015, and to as low as 35.5% in the case of the four projects. Adding the negative impact of the failure of the two financial schemes, the estimated poverty rate will be 46.6% in the case of the two projects and 37.1% in the case of the four projects in 2015.

From Table 10.2, it is evident that, should the ELM implement the two proposed projects, the unemployment rate will be kept at a relatively constant level, increasing only from 51.3% in 2000 to 53.1% in 2015. However, the numbers of unemployed will increase from 155,988 in 2000 to 213,504 in 2015. The poverty rate which is estimated at 46.1% in 2000 will increase to 46.6% in 2015, and the number of poor households will increase from 84,549 to 114,227. The table shows that, with the implementation of the two projects, *the Emfuleni economy will still not be sustainable*, especially in terms of the numbers of unemployed and poor households.

Even if all four projects should materialise, the *number* of unemployed persons in 2015 will still be more than the number of unemployed persons in 2000, implying that even if the unemployment rate may drop, the number of unemployed will be increasing as the population increases. The same applies to the number of poor households. Even if all four projects should materialise, the number of poor households in 2015 would still be more than in 2000.

Conversely, even if the economy could receive an injection with the size of the four mentioned projects, Emfuleni's ability to *provide employment and income*

generating opportunities for the local population to such a degree that the extent of poverty is reduced in terms of numbers over a period of time will still fall short.

10.4   Conclusion

In the above sections 10.2 and 10.3, the state of affairs and impact of some negative and positive factors on the Emfuleni economy in terms of unemployment and poverty were summarised. Based on the assumption that at least the Inland Waterfront Project and the stimulation of the manufacturing sector would be a high implementation priority for the ELM, projections and estimates on unemployment and poverty were made. Although the implementation of these two projects will not make the Emfuleni economy sustainable in terms of the *numbers* of unemployed and poor households, it will at least keep the *unemployment rate* and *poverty rate* of 2000 at roughly the same levels by the year 2015. The implementation of these projects are therefore of crucial importance to retain and maintain this level of sustainability in Emfuleni.

These efforts should be enhanced by an Inward Industrialisation Process (IIP), aimed at the townships areas especially. An analysis of the skills of the unemployed poor in the townships shows vast pools of labour with certain skills. In addition, there are products that are consumed by the local townships communities which can be produced locally. An analysis of the products consumed in the townships (where the majority of the unemployed and poor reside) showed that about the same number of jobs (at a monthly wage of R600) could be created in producing these products as the number of jobs that could be created throughout the economy with the Inland Waterfront. Establishing co-operatives to produce these products will also be far less capital- intensive. Taking into account Emfuleni's financial constraints, this is an appropriate route to take towards sustainability for the Emfuleni economy, additional to the formal projects mentioned earlier.

Although the introduction of an IIP and the stimulation of employment using the unemployed poor as gardeners, domestic workers and the like, would not have a great effect on the GGP of Emfuleni, it could have a great impact on poverty. If jobs for all the unemployed poor (estimated in this thesis at 132,622 in 2005 and 195,556 in 2015 without implementation of the regeneration projects) could be

created at a minimum wage of R600 per month, it would decrease the headcount index of households from 0.51 to 0.23 and the poverty gap index from 0.46 to 0.26. With an average monthly income of R1,000, the poverty rate would decrease to about 10.5%. It is evident that relatively low wages on average are required to alleviate poverty.

An Inward Industrialisation Process, therefore, could have a major impact on employment creation and poverty alleviation in Emfuleni, especially when it is aimed at providing employment for the unemployed poor. This process should be initiated, without neglecting the development and implementation of the formal mentioned projects. All possible ways and means should be explored to put Emfuleni firmly on the track of economic sustainability.

The fact that a strategic review and analysis of the ELM's approach towards Local Economic Development (LED) showed a distinct lack of enthusiasm on the side of the ELM may be because Local Economic Development is apparently not properly understood and therefore not taken seriously. This lack of enthusiasm has resulted in a delay in the planning, development and implementation of the proposed projects on Emfuleni's side, putting the sustainability of the Emfuleni economy at greater risk with every day that passes without action.

Emfuleni has recently put out tenders for the formulation of a marketing strategy. Specific strategies for place marketing, industrial recruitment, SMME promotion and support, community economic development, export promotion and business retention, expansion and attraction should be properly incorporated into this marketing strategy. Taking into account Emfuleni's financial constraints, it is in the interest of the local community that Emfuleni explore Public Private Partnerships to seek solutions for the lack of sustainability of the economy.

10.5   Recommendations

The following recommendations are made to put the Emfuleni economy on a firm road towards sustainability:

- With the support of the Sedibeng District Municipality, Emfuleni Local Municipality, together with the local business sector, should establish a vibrant local development agency to foster LED in the area. This

agency should seek support from provincial and national government as well as the private sector to bring the Inland Waterfront project and the stimulation of the manufacturing sector towards an implementation phase.

- Emfuleni Local Municipality should formulate a proper marketing strategy. This strategy should focus on the tourism and entertainment sector (with the highest employment multipliers) as well as the manufacturing sector (with a well developed infrastructure and ample idle capacity).

- A skills audit should be conducted among the unemployed to determine the level of skills and further training needs.

- An in-depth investigation should be conducted into the production of downstream steel products, making use of the unemployed pool of labour with steel-related skills. The formation and establishment of steel manufacturing co-operatives that will absorb the unemployed poor with steel-related skills should form part of the investigation.

- An in-depth investigation should be conducted into the formation of co-operatives related to the skills of the unemployed poor, for example agricultural co-operatives, clothing manufacturing co-operatives and catering co-operatives. The aim should be to absorb the unemployed into production activities related to their skills. With reference to agriculture, the possibility to develop labour intensive agricultural units in the vicinity of the townships needs to be investigated.

- An in-depth investigation should be conducted into an Inward Industrialisation Process (IIP), where a range of products which are consumed in local communities can be produced locally with labour intensive methods. The formation of co-operatives that will absorb part of the unemployed poor should form part of this investigation.

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Annexure A: Household Surveys

Maps were obtained for Emfuleni and a sample stratification was designed on account of the geographical distribution and concentration of people in Emfuleni. Emfuleni was divided into the different areas and extensions and the questionnaires were apportioned evenly among the inhabited sites. Plots/sites at which field workers were supposed to complete questionnaires were identified individually from the map before the field workers went out. However, where people could not be obtained for an interview, or where it was impossible to trace the house, a next pre-selected household was interviewed. Information was obtained from the breadwinner or the spouse.

A total of about 350 households were interviewed. Almost all the households approached were willing to partake in the surveys. Experience in previous surveys conducted by the Employment Research Unit (ERU), VRG and other institutions (e.g. Bureau of Market Research) has shown that samples of this size with a low refusal rate supply statistically reliable data within reasonable limits (Levin 1985: 2).

An example of the format of the questionnaires used in the surveys is given below:

HOUSEHOLD QUESTIONNAIRE

N.B.:   The information in this questionnaire will be treated in strict confidence.

Suburb:	Section/Zone:	Date:	Questionnaire no:
Street:	House number:	Interviewer:	

Please note that the Head of the Household should preferably answer this questionnaire.

A: BACKGROUND INFORMATION

1.   **What is the position of the respondent in the Household? Cross** ✖

Head of household	Other member of household	Extended Family member	Boarder

2.   **How many housing Units are on the site?**

3.   **How many people stay permanently on the site?**

4.   **How long have you (respondent) stayed in the Vaal Triangle   (years)?**

5.   **Before moving to the Vaal Triangle, where did you stay?** ✖

1. Born in the Vaal Triangle	2. In a town(ship) in the Free State / Gauteng / North W	3. On a Farm in the Free State / Gauteng / NW	4. In a town(ship) in another province	5. On a Farm in another province

6.   **What was your main reason for moving to the Vaal Triangle? (Combination)** ✖

1. Seeking a better life / job	2. Had to leave the farm	3. Followed family	4. Low cost housing	5. Other, explain:

B: ENVIRONMENTAL

7.   **How do you feel about the environment in which you stay? (Mark 2 options)** ✖

1. It is clean and pleasant	2. It is polluted, untidy and dirty	3. Indifferent – No opinion	4. Something should be done to clean it	5. It can be left as it is

8.   **If you feel it should be cleaned up, who should take the initiative and responsibility? (**✖ **More)**

1. The Municipality	2. A street Committee	3. Every person should be made responsible	4. A campaign should be organised	5. Other: (explain)

9.   **If you would have the money, what would you be prepared to pay monthly to live in a clean environment?**

10.   **Has any person in your household been a victim of crime in the last 12 months?**   Y

11.   **What kind of crime? (Can mark** ✖ **more than one option)**

1. Assault	2. Robbery	3. Rape	4. Murder	5. Abduction	6. Other

12.   **How do you experience, especially in winter, the smoke levels (air pollution) in your area?** ✖

1. Not affected	2. Slightly affected	3. Affected	4. Badly affected	5. Unbearable (Severely Affected)

13.   **If you are making fire for cooking & heating purposes, would you like to be introduced to technologies that will reduce the smoke levels at your house?** ✖

1. Not making fire: using electricity for cooking &	2. Making coal / wood fire: but Not interested	3. Making coal / wood fire: And Interested	4. Using paraffin: Not interested	5. Using paraffin: Interested

heating				

14. **If you would have the money, what would you be prepared to pay monthly to live in a smoke-free environment?**

15. **It is known that the burning of plastics & tyres had serious toxic & polluting effects. In order to restrict such pollution, do you think people who do that should be given a fine? ✕**

Y

16. **Especially in the spring & summer some people are using amplifiers to make loud music. How are you affected by this in your area? ✕**

1. Not affected (quiet in the area)	2. I hear it but I don't care (accepting it)	3. I hear it and it is affecting me (don't like it)	4. I hear it and I am badly affected	5. I hear it and it is unbearable (severely affected)

17. **If you feel that something should be done in your area to reduce the noise levels, who should be responsible and what should be done? (Mark ✕ more than one option)**

1. The Municipality should control & restrict people to play loud music	2. The police should control & restrict people to play loud music	3. A street committee should control & restrict people to play loud music	4. People who disturb the neighbourhood with noise should be fined / punished	5. The instruments of those who disturb the neighbour-hood should be confiscated

18. **If you would have the money, what would you be prepared to pay monthly to live in a quiet environment?**

C: CONSUMPTION

19. **How much of the following items do you buy per week & about how much do you spend on these items per week?**

Product	Kilograms / litres per week	Rand per week	Town ✓	Township ✓
1. Maize Meal				
2. Bread				
3. Meat / chicken				
4. Vegetables				
5. Milk				
6. Washing powder				
7. Coal				
8. Paraffin				

20. **How does your household spend your income monthly?**

Item	Rand per month	Name of Shop	Town x	Township x
Housing				
Water				
Electricity				
Other energy (coal, paraffin etc.				

Food				
Cleaning materials				
Cigarettes & Tobacco				
Beer, wine & spirits				
Transport				
Clothing				
School				
Entertainment				
Medical Expenses				
Investment / Insurance				
Gambling: Lotto Casino				
Savings				
Licenses e.g. TV, Vehicle				
Rates and Taxes				
Property tax				
Income tax				
Housekeeping services				
Telephone / Cell				
Car Payment				
Loans				
Furniture				
Other				

21. Complete in respect of all members of the household (Refer to Code List)

1. Number of people in the household						
2. Composition of members (Father, Mother, Son etc)						
3. Age of each member in years						
4. Sex (Male = 1; female = 2)						
5. Marital Status						
6. Qualifications (still at school)						
7. Qualifications (not at school)						

8. Employment Status						
9. Sector of employment						
10. Duration of employment /unemployment in years						
11. Preparedness for Skills Training Unemployed & Underemployed						
12. Sector in which person would like to get Skills Training						
13. What the Unemployed doing presently						
14. Minimum wage expected (unemployed)						
15. Wages/salaries per month (Take home pay)						
16. Pension/Remittance						
17. Grant from Government for children						
18. Help (family/relatives/etc)						
19. Informal activities (eg. SMME)						
20. Subsidies (eg. Housing)						
21. Interest/dividends						
22. Other (Specify)						

E: OWNERSHIP & WEALTH

22. How many of the following items does your household own?

	NUMBER	CODE
Motor vehicle, including cars and bakkies		1
Bicycles		2
Radio		3
Electric Stove		4
Gas Stove		5
DVD, Video recorder, TV		6
Fridge		7
Electric Geyser (Hot water)		9

Annexure B: Economic activities

The 10 economic sectors represent an international grouping of economic activities. The activities referred to in the study are defined as below. The main categories of the South African Standard Classification of all Economic Activities (SIC) of 1993 (CSS 1993) are utilised for this purpose.

1. AGRICULTURE

This sector includes the following:

- Agriculture, hunting and related services

- Growing of crops, market gardening, horticulture

- Farming of animals

- Production of organic fertiliser

2. MINING (Mining and quarrying)

This sector includes the following:

- Mining of coal and lignite

- Extraction of crude petroleum and natural gas, service activities incidental to oil and gas extraction, excluding surveying

- Mining of metal ores, except gold and uranium

- Other mining and quarrying

- Stone quarrying, clay and sand-pits

- Service activities incidental to mining of minerals

3. MANUFACTURING

This sector includes the manufacturing of the following:

- Food products, beverages and tobacco products

- Textiles, clothing and leather goods

- Wood and cork products (except furniture), straw and painting materials, paper and paper products, publishing, printing and reproduction of recorded media

- Coke, refined petroleum and nuclear fuel products, chemicals and chemical products, rubber and plastic products

- Other non-metallic mineral products

- Basic metals, fabricated metal products, machinery and equipment, office/ accounting and computing machinery

- Electrical machinery and apparatus, not elsewhere classified

- Radio, television and communication equipment, medical, precision and optical instruments, watches and clocks

- Transport equipment

- Furniture, recycling, manufacturing not elsewhere classified

4.   ELECTRICITY/ GAS AND WATER

This sector includes the following:

- Electricity, gas, steam and hot water supply

- Collection, purification and distribution of water

5.   CONSTRUCTION

This sector includes the following:

- Site preparation

- Building complete constructions or parts thereof, civil engineering

- Building installation

6.   TRADE (wholesalers and retailers)

This sector includes the following:

- Wholesale and commission trade, except motor vehicles and motorcycles

- Retail trade, except motor vehicles and motorcycles, repair of personal household goods

- Sales, maintenance and repair of motor vehicles/ motor cycles, retail trade in automotive fuel

7.   TRANSPORT

This sector includes the following:

- Land and via pipeline transport

- Water

- Air

- Supporting and auxiliary activities, travel agencies

- Post and telecommunications

8.   FINANCING

This sector includes the following:

- Financial intermediation, except insurance and pension funding

- Insurance and pension funding, except compulsory social security

- Activities auxiliary to financial intermediation

- Real estate activities

- Rental of machinery and equipment, without operator, personal and household goods

- Computer and related activities

- Research and development

■ Other business activities

9. SERVICES

This sector includes the following:

- Public administration and defence activities

- Education

- Health and social work

- Other community, social and personal service activities

- Membership organisations, not elsewhere classified

- Other service activities

10. TOURISM AND ENTERTAINMENT

This sector includes the following:

- Hotels and restaurants

- Recreational, cultural and sporting activities

- Parks and other organisations, not included elsewhere

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CURRICULUM VITAE

TIELMAN JC SLABBERT

Tielman Slabbert was born in 1953 in Jan Kempdorp and was educated at Andalusia Primary School and Vaalharts High School. He received his tertiary education from the Universities of Potchefstroom, Pretoria, Port Elizabeth, Vista, and Molde (Norway). He completed his PhD in Economics under the supervision of Professor M Levin.

Tielman is currently employed at North-West University as Associated Professor in Economics. Before moving to the Vaal Triangle, he was employed as senior researcher at the HSRC and the Institute for Planning Research (University of Port Elizabeth) - where he was *inter alia* responsible for the research and Input-Output Analysis for the Port Elizabeth/ Uitenhage Metropolitan Area. He is a founding member of the Vaal Economic Regeneration Board (VERB) and was appointed by MEC for Gauteng on the board of directors for Gauteng Manufacturing Advisory Centers (Gaumac).

Tielman has published 36 Research Reports and journal articles. His field of specialization is Economic Impact Assessment, Regional-, Developmental- and Micro-economics.

His dissertation, entitled "*An investigation into the state of affairs and sustainability of the Emfuleni economy",* makes an unique contribution towards research on the measurement of economic sustainability in local municipalities. In his thesis he analyses sustainability in the Emfuleni economy in terms of its ability to reduce levels of unemployment and poverty. An input-output model is used to determine the impact of proposed projects on the level of household income and employment, and an economic impact assessment model is used to measure the impact of a change in household income on the level of poverty.

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