A Revitalisation Strategy for Dying Mining Towns within Mpumalanga

Phases One to Five

Chapters 1 to 6

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EXECUTIVE SUMMARY

BACKGROUND AND OBJECTIVE

Mpumalanga, as a province rich in mineral resources, has a number of small towns which were designed to provide housing, social infrastructure and recreation facilities for mine employees and managed by the mine companies. Once the mine closes, economic activities around these towns deteriorate causing unemployment and severe stress for mine communities. These towns also possess well developed and expensive infrastructure that falls into disuse once the mine closes. Measures taken by the mines to ameliorate the impact of closure on mine communities are mostly inadequate. There is, therefore, a real need for a strategy to revitalise mining towns where mine closure occurred and to manage future closing scenarios.

Laduma, The African Planning Partnership was commissioned by the Mpumalanga Department of Economic Development and Planning to investigate the phenomenon of dying mining towns in the province and to develop a strategy aimed at ensuring continued economic development in such towns.

The study brief defined the districts of Volksrust, Steynsdorp, Rietspruit, Pilgrim's Rest and Piet Retief for a scoping analysis to finalise the study area.

The main objective of the study is to develop a strategy to ensure continued economic development and sustaining of infrastructure in mining towns after mine closure. An additional objective is to provide guidelines for future closure scenarios.

STRUCTURE AND SCOPE OF THE REPORT

The first phase of the study involves a literature study of the way that closed mines have approached the problem of former mine communities and infrastructure as well as a scoping analysis to identify the former mining towns which should be included in the study.

The literature study revealed that measures taken by the mines to ameliorate the social and economic impact of mine closure on mine communities often vary and are mostly inadequate.

The most significant of these measures are:

- Voluntary retrenchment of employees
- Re-employment of former employees at other mines of the same company
- Replacing contractors with former mine employees
- Setting up co-operatives and micro-enterprises for their communities
- Skills training programmes for self-employment

- Demolition of all fixed infrastructure
- Abandonment of infrastructure
- Proclamation of former mine villages into townships governed by the local municipality
- Sale of housing units to former employees and other private individuals
- Donation of recreational facilities to the community
- Transfer of schools, hospitals, etc. to the appropriate government departments
- Rehabilitation of the environment disturbed by mining operations

Problems experienced are:

- Training offered for self-employment is not always contextually applicable
- Only a number of former employees can be re-employed
- Failure of the majority of job creating projects as a result of a combination of the following reasons:
  - inadequate expertise to discern sustainable projects;
  - lack of or inadequate consultation between the mine, community and consultants contracted to carry out implementation;
  - lack of integrated planning;
  - inadequate funding, training, supervision and governance strategy and capacity by community forums;
  - lack of management, marketing and entrepreneurship capacity; in the community;
  - projects are too small to provide an adequate income;
  - lack of commitment from community members;
  - failure to establish extended markets - local markets are relatively small and are constrained by the lack of purchasing power.
- Job creating projects are too small to replace the jobs lost through mine closure
- Illegal occupation of houses because of inability or unwillingness to pay for them
- Vandalism of recreational facilities and other infrastructure during the transitional period

The scoping analysis revealed that the following towns correspond with the description of dying mining towns and should be included in the study:

- Bergvliet mine near Majuba Power Station (Pixley Ka Seme Municipal Area)
- Msauli mining village (Albert Luthuli Municipal Area)
- Rietspruit (Emalahleni Municipal Area)
- Pilgrim’s Rest (Thaba Chweu Municipal Area)

Piet Retief district was excluded from the study as all the former mining villages were demolished.

Phase two of the study is a situation assessment of the closed mining operations and infrastructure in the identified mining towns. In addition, natural resources and socio-economic factors likely to impact on sustainable development opportunities were also investigated. Information gathering was by means of desktop research, workshop sessions, questionnaire surveys and interviews with stakeholders.

Phase three of the study involves the determination of potentially viable activities and projects in the mining towns.

Phase four of the study analyse the viability of potential programmes and projects in terms of comparative advantage, sustainability, costs and benefits, market accessibility and potential linkages. As a result project priorities are outlined.

Phase five is the culmination of the study and involves the determination of development portfolios for the mining towns under study and guidelines for future closure scenarios.

OVERVIEW OF THE RESULTS

Bergvliet mining complex

Bervliet mine was established to provide coal for the nearby Majuba Power Station, but could not be utilised because of dykes in the coal deposits and excessive gasses. There is a well developed infrastructure and a diverse range of structures associated with the mines. The latter include offices, large workshops, a human resource centre, 4 hostel/apartment blocks, mess, kitchen, changing rooms and laundry. All services are available plus a sewerage plant. There is sufficient bulk water supply from Zaaihoek Dam (capacity 193 ML), electricity from Escom and land for further extension. Escom has offered toe complex to the local municipality and province.

Berbvliet is centrally located within the Municipal Area with short distances to the surrounding towns. The N11 and R35 are the major road connections with Mpumalanga, Gauteng and KwaZulu-Natal. Bergvliet has a strategic location with regard to these provinces.

The area has comparative advantages in agriculture and agri-industries with major markets in Mpumalanga, Gauteng and KwaZulu-Natal. The majority of the industries want to extend, but there is a lack of industrial land in the Municipal Area.

The investigation revealed high unemployment (50.7%), a shortage of large economic development and of technically trained people and a total lack of technical training institutions in the Municipal Area.

In this light an industrial complex/park (with emphasis on agri-industries, service industries and storage and distribution depots) and a complimentary technical training facility was determined as the most beneficial and viable use of the mine infrastructure. Apart from many jobs and valuable training, such a development will also stimulate SMME development for the provision of many goods and services. The project has been captured in the municipal IDP and LED strategy.

Msauli mining village

Msauli, the last of South Africa's Chrysotile asbestos mines closed in 2002 and was totally rehabilitated under the guidance of Eko Rehab of North West University. The mining town of msauli is situated within the Songimvelo Game Reserve near the Swaziland border. The town has been put under management of the Mpumalanga Tourism and Parks Agency awaiting a land claim resolution.

The old mining town with its charming architecture has been well preserved. There is a well developed infrastructure and a diverse range of structures and amenities including 94 houses, guest house, recreation club, workshops, school, hall, church, offices, library, shops, post office, golf course and clubhouse, tennis courts, squash court, swimming pool, bowling green, tennis/bowling ablution and children's play park.

The natural attributes of the town (mountains, Komati River, flora and fauna) are exceptional.

Following the mine closure, unemployment in the area has reached a high of 71.5%. Apart from tourism, economic development in the area is limited and offers no solution for the high unemployment.

Msauli is accessible by road and is within easy reach of two gateways, namely Kruger Mpumalanga International Airport (110 km by road) and Matsapa International Airport in Swaziland (67 km by road). It is also less than 4 hours drive from OR Tambo International Airport (320 km by road).

The town has a Pilgrim's Rest feel to it and present a unique opportunity to be developed into an end 'destination family resort' and 'spring board destination' feeding the greater

Songimvelo-Malolotja TFCA. This is the sole and most beneficial option identified for the town.

The Mpumalanga Tourism and Parks Agency and the Songimvelo-Malolotja TFCA initiative also subscribe the above option.

A resort at Msauli will be well suited to stimulate economic development in the area. Many spin-offs will be created for the provision of goods and services. Employment opportunities for the local population will be ample at all levels. Linkages with other attractions in the area will create more jobs. There is much in the area with strong tourism appeal.

For maximum benefits for all concerned, the proposed resort should be run by a joint venture partnership (CPPP) between the community, the Tourism and Parks Agency and a private sector enterprise.

Rietspruit (Reed Stream Park Village)

Rietspruit Mine closed in 2002 due to the depletion of coal reserves. Ingwe Mine Closure Operations has subsequently completed the rehabilitation of the environment. The town was left with a well-developed infrastructure and a diverse range of structures associated with the mine and community. The latter include workshops, offices, ±900 family homes, hostels, a business area, a combined school, hospital, community hall, recreation facilities, tarred airstrip, industrial and residential land, tarred streets and municipal services.

The present population is 7164 and unemployment 65%. Unemployment is very high amongst women.

The measures implemented by the mine to ameliorate the effects of mine closure varied in success. Effective measures include:

- Proclaiming the mine village into a township governed by the local municipality;
- Transferring the school and hospital to the Departments of Education and Health respectively;
- Selling houses to former employees (not all houses were sold);
- Re-employing a number of former employees at other Ingwe operations;
- Replacing contractors with former employees.

The mine’s re-employment strategy, however, benefited only a number of its former employees. The job creation projects that were implemented were also too small to make a difference and they invariably struggled or failed because of insufficient funding and support.

The existing Rietspruit scenario can, therefore, be seen as the result of the lack of a proper Social Plan with sustainable social and economic projects linked to it.

In the light of the local attributes of agricultural land, large former mine buildings, industrial and residential land and nearness to large markets, the economic development strategy best suited fort the town is to establish large agricultural and agri-industry projects, stimulate industrial and commercial investment through the introduction of special incentives and provide residential land for future growth.

The investigation identified three projects with large potential to increase sustainable job creation and beneficiation of the local unemployed population:

- Intensive market orientated vegetable production including hydroponics, nets and open lands under irrigation
- Chicken broiler projects with abattoir
- Frozen vegetable and vegetable packaging project in former mine building

Many opportunities for spin-offs and SMME development will be created by the above projects.

Pilgrim's Rest

The townships adjacent to Pilgrim's Rest are experiencing high unemployment (46.2%) brought about by retrenchments by the forestry and mining sectors and the influx of unemployed people. With the influx the number of informal housing is increasing.

Both the Thaba Chweu Tourism Development Plan (KPMG, 2006) and the study identified tourism as the pivotal economic sector to lead economic growth and redistribution in the area despite a recent downward trend in tourist numbers.

That Pilgrim's Rest is nowhere near utilising its full tourism potential considering its uniqueness and national and international recognition as a major tourism node, is recognised by both studies, as is the need for fundamental transformation of the 'tourism product' to deal with modern tourist demands.

The ultimate objective for Pilgrim's Rest should be to 'grow the tourism pie' by introducing new attractions and by broadening the participation of previously disadvantaged persons in the tourism industry.

With a view of achieving the above objective a three-pronged attack is necessary, viz:

- innovative new products
- SMME development
- effective planning and marketing

New product development should focus on:

- Theme attractions. Dramatisation of events from the past (e.g. the highwayman saga) to create excitement and capture the spirit of a bygone era
- Increasing authenticity (e.g. people/participants wearing late 19th century clothing on street and in all businesses and museums that come into contact with tourists
- Increasing the number of yearly events which will draw many participants
- Establishing rides (e.g. restoring historical tramline, rides by horse drawn carts and oxwagon)

SMME development should be accomplished by the establishment of an arts and crafts manufacturing hive focusing on niche products and the development of an African market.

Fresh strategic planning and marketing is needed and can best be accomplished by a local Marketing Board with directors from the Tourism Business sector and the community, assisted by representatives of the relevant government departments.

GUIDELINES FOR FUTURE MINE CLOSURE SCENARIOS

With a view to the formulation of a development strategy for mining towns in Mpumalanga to address closures long before they happen, the following policy guidelines should firstly apply:

- The settlement policy for all new mines should be to concentrate residential development in the nearby larger centres;
- Non-sustainable mining village should be demolished should they no longer be required or alternatively sold as a whole to private ownership;
- A holistic and integrated approach and the diversification of economic activity should be followed for the formulation of a development strategy for sustainable settlements;
- Efficient alternative use of mine infrastructure which can be economically justified;
- Establishment of an appropriate community development fund by the mine;
- Restoring of land surface to support pre-mining land potential;
- All mining companies should be actively involved in municipal economic development forums.

Planning for mine closure

As a point of departure, the Social and Labour Plan of the mine with reference to closure should include the following mechanisms to ameliorate the social and economic impact on the mine community:

- Mechanisms to provide alternative solutions and procedures for creating job security in the light of job losses - including consultation, retrenchment details and notifying the Minerals and Mining Development Board, employees, municipalities and the media about retrenchments.
- Mechanisms to ameliorate the social and economic impact of mine closure - including counselling services, comprehensive self-employment and re-employment training programmes.

The following guidelines should also apply to ensure continued economic development and sustaining of infrastructure:

- Timeously start the process of proclaiming the mining settlement into a town governed by the local municipality.
- Inclusion of the timing of mine closure in the Social Plan:
  - to enable the DME to ensure appropriate application of the requirement of the Social and Labour Plan;
  - to enable municipal structures to include the mine closure into their annual LED programmes, including the securing and maintenance of infrastructure;
  - to enable employee structures to plan re-skilling programmes.
- Possible re-employment programmes
- Establishing sustainable job creating projects driven by a social fund pertaining to a specific mine - taking the following into consideration:
  - determine projects in consultation with all stakeholders;
  - plan projects in accordance with local opportunities;
  - design projects to respond to the regional, national and global context creatively;
  - establish ‘export’ businesses to best stimulate the local economy;
  - cluster projects where possible to also benefit other mining towns.
- Conduct baseline studies to inform aspiring entrepreneurs of the needs and business potential in the town - and provide entrepreneurs with micro-loans (soft loans) to establish such businesses.

- Provide comprehensive skills training programmes that are project and self-employment orientated and also contextually applicable.
- Facilitate partnerships between the community and the private sector for increased sustainability of projects.
- Integrate community development projects into the municipal IDP.
- Transfer the community's development portfolio of job creating projects to the local municipality and Ward Committee.
- Ensure efficient alternative use of mine infrastructure which can be economically justified, namely:
  - sell houses, with priority given to former employees;
  - sell or donate hostels to a single entity;
  - transfer schools, hospitals, clinics, libraries and other social services to the appropriate government authorities;
  - donate recreational infrastructure to the community under custodianship of the local municipality;
  - sell business premises to the occupants;
  - donate mine buildings to the local authority for administrative or LED use;
  - municipality to provide development incentives to investors for the use of former mine buildings and industrial land after taking over administration of the town.
- The period of transition between transference of infrastructure from the mine to the new owners is critical to ensure that the property is physically maintained and its security is not compromised.
- The post-mining regeneration priorities in the light of the country's development context are as follows:
  - restoration of land surface of sufficient quality to support pre-mining land potential;
  - restoration of the ecological function of mined land and in the case of degraded land, the ecological function must be improved;
  - minimisation of current and potential future impaired water quality and supply; and
  - large sources of ground water assessed by mines should be made available to the industrial sector at costs lower than that currently charged by parastatals such as Rand Water.

Finally, it is important to remember that long-term success can not be guaranteed by a strategic development plan alone. Achievements and success requires the enthusiastic participation and commitment of communities, stakeholders and entrepreneurs.

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1. PROJECT DESCRIPTION AND METHODOLOGY

1.1 INTRODUCTION AND BACKGROUND

Mpumalanga, as a province rich in mineral resources, has a number of small towns which were established to house mine employees near the working mines. Developments within and around mining operations have created communities that include mine employees as well as those who are not employed by the mine but by other economic sectors. These towns also possess expensive infrastructure viz.: housing, shops, schools, recreation facilities and services - all maintained by the mine. Once mining cease, economic activities around the towns deteriorate. The state in which closed mines have been left varies greatly from best practice closure to abandonment, with most mines of the latter category having closed some time ago.

Challenges associated with mine closure are acute in mature mining countries. The number of operating coal mines alone in South Africa has declined from 112 in 1990 to approximately 65 in 2004 (Limpitlaw et al.,2006). Apart from the cost incurred by the mining companies in returning the land to a viable post mining use, mine closure can cause severe distress for communities because of the threat of economic and social collapse (World Bank, 2002). The transition from mine employee to ex-mine employee is difficult because for most the total cost of employment included housing, services, transport, etc. The decay of infrastructure through lack of maintenance is a further problem. There is, therefore, a real need for a strategy to save the towns where mine closure occurred. Such a strategy must result in development projects meant to creatively stimulate and regenerate the local economies in those areas. South African legislation governing mine closure, particularly the Mineral and Petroleum Resources Development Act (25 of 2002), requires rigorous mitigation of both bio- and socio-economic impacts (Swart, 2003).

During 2006 Coaltech researched the way that 36 closed coal mines have approached the problem of former mine communities during the post mine closure period (Coaltech 2020, 2006). The findings of the report is of significance for this study.

a) Employees

At closure employees are offered an opportunity for voluntary retrenchment. Although it is mostly older employees who take up voluntary retrenchment, some younger employees also opt for voluntary retrenchment driven by the lure of a bulk financial pay-out and the hope that their work experience will earn them another ;job in the mining industry.

Where possible, transfers to other mines within the mining house are opened up. Retrenchees are offered the first opportunity to be interviewed for jobs in other mining companies that have a relationship with the one closing. But often, employees in supervisory and management position are at greater advantage to acquire replacement jobs due to their relatively high skill base and or professional qualifications than their general employee level counterparts in categories two to eight. These lower level employees are often the worst affected by closure often remaining unemployed for indefinite periods following closure.

Most of the mines closing after 1995 have implemented employee training programmes to provide retrenchees with skills that could help them enter new job markets or set up their own entrepreneurship initiatives. A variety of skills are offered and these include some of the following: Brick laying, welding, drivers' licences, etc. But the contextual applicability of the skills that are offered by the mining companies are seldom researched, and employees often impulsively select skills preferences without matching the value and applicability of the skills to their home areas and preferred future livelihoods.

b) Communities

Developments within and around mining operations have created communities which include those who are employed by the mine and those who are not employed by the mine. Often these include employees and their families.

Mines closing after 1990 have implemented programmes to ensure economic sustainability of the communities comprising ex-mine employees as well as those who have never worked for the mine.

With the assistance of consultants some closing mines have set up co-operatives and micro-enterprises for their communities. These include vegetable farming, welding, bakery, laundry, beadwork, sewing, security services, car wash, food processing, carpentry, brick laying, driving, technical courses, etc. Owing to a variety of reasons, most of these initiatives have however failed. To date the most successful have been those linked to a large and stable market such as a mine or the local government. Failure of some of the initiatives cited above has been as a result of one or a combination of the following reasons:

- Lack of or inadequate consultation between the community, the closing mines and consultants/training providers sub-contracted to carry out implementation of intervention programmes;
- Lack of commitment from community members to see through the success of the co-operatives by following the cycle of planning, operations/production, marketing, survivalist entity, to profit-making entity which might take months to years;
- Conflict (fuelled by human relations or political differences) between members of co-operatives resulting in sabotage and or theft from the co-operatives;
- Poor communication between marketers and manufacturers of products;
- Poor communication or lack of synergy between consultants and members of co-operatives;
- Lack of or inadequate governance strategy and capacity by community forums/committees that would ensure successful programmes;
- Lack of entrepreneurship capacity among members of the community;
- No baseline studies to inform business development initiatives of the needs and business potential in the community.

The co-operatives and micro-enterprises are however problematic in that first, they cannot produce a large number of jobs which would replace the magnitude of jobs lost during closure of the mine, and second, some of the projects are unsustainable as their markets are linked to the existence of the mines which again does not address the communities' vulnerability to mine closure. Because members of co-operatives often have no financial stake in the businesses, they often lack the commitment to see the enterprise through to its success. To address this problem, some closing mines have sought to sign soft-loan (or part loan) contracts with members of the co-operatives, thus ensuring commitment for the success of the enterprise.

c) Infrastructure

Residential infrastructure

Most of the mines closing before 1990 demolished all the fixed infrastructure leaving only the shaft into the ground. Most of these shafts have, however, been rehabilitated through re-vegetation (in the case of open cast mines) and the plots are currently being used for agricultural purposes. Underground shafts have been either sealed or fenced off.

Mines closing after 1990 have as a result of changes in legislation had to deal with the burden of disposal of infrastructure or its transference to government or community structures.

Family units/dwellings

Family units comprise units/dwellings with one or multiple bedrooms, a toilet and a bathroom, a kitchen and a living-room. These units have been disposed of in a number of ways varying from mine to mine. To-date, none of the closed mines indicated having a set strategy for disposal of infrastructure. At closure, mines have engaged negotiations for disposal of property with interested parties ranging from former employees, government, private individuals or private companies. The following are some of the options that have been taken by mines in disposing of their infrastructure:

- Some units have been left in an abandoned state - some disintegrating as a result of exposure to natural elements and lack of maintenance. These units are, however, secured and protected from illegal occupation.
- To-date the most successful form of disposal of family units has been through sale of units to private individuals with first priority given to employees of the closing mine through government's housing subsidy programme. The units are in all instances priced below the market value from R6 000 to R120 000. But, because the government subsidy is limited to R15 000, buyers whose houses cost in excess of R15 000 have had to explore a variety of strategies to top-up the subsidy. Depending on the top-up value, one or a combination of the following have been implemented:
  - Some buyers have had to top-up the cost of their houses with their own funds.
  - Some have used their retrenchment benefits to top-up the cost of their houses.
  - Some have been offered low interest loans of a limited amount by the closing mines.
  - Some have had to approach financial institutions to raise top-up finance.
  - Some have opted to sell their houses rather than get into debt trying to raise top-up finance.
- Although the sale of houses to private individuals has been described as the most successful form of disposal of units, the following problems have been realised:
  - Some owners have held back on payment of municipal rates, either because they are unemployed or because they still haven't acquired or got used to a culture of

payment of rates, or they have refused to pay as they consider themselves entitled to free housing because of their long-term service as employees of the mine.

  - During the period before ownership of property is transferred to the owner, the occupiers of the houses are expected to pay rent but, the mines have had limited success convincing occupiers to pay rent.

- Some people have chosen neither to buy the houses nor to rent them. They have illegally occupied the units with the hope that the strategy to make them buy the houses will “blow over” with time and they will be able to take ownership of the houses for free.

Hostels

Hostels are in the form of units housing a number of people in one room, or single person units, with cooking and bathroom facilities shared by a number of people. In most cases, due to maintenance concerns, hostels were demolished at the time of closure. In some cases, however, the hostels have been sold or donated to a single entity as a single block. This way the hostel property as a block can be used collectively as an accommodation block for employees, or multi-purpose usage by private or government entities.

It is the assessment of the study that the hostels are the most difficult of fixed property to dispose of. Unless units can be fitted with individual water and electricity metres, it has not been feasible for hostel units to be disposed of as single units where individuals can have sectional titles to the property. This has resulted in a lack of interest to purchase the hostel blocks for purposes of rental of individual units, and the mine itself is in no position to continue managing rental of hostel units after closure.

To avoid vandalism and illegal occupation, where the hostel cannot be sold or disposed of as a single block to a single entity, the option has been to demolish the building.

Recreational infrastructure

Recreational infrastructure includes tennis and squash courts, swimming pools, bar and dining areas, halls, exercise facilities, etc. In most cases this infrastructure has been donated to the community under custodianship of the municipality or a community trust.

But problems pertaining to maintenance and security of the property have been experienced with most of the property either vandalised or not utilised due to lack of management capacity or lack of financial capacity to keep the various facilities operational.

- Where there is lack of or inadequate security, the property has either been vandalised or illegally occupied. Mobile equipment such as furniture and gym equipment has been stolen or destroyed.
- Under conditions of adequate security, provided by the municipality, the infrastructure is maintained and used to the benefit of the community.

Social services infrastructure (schools and clinics)

Social services infrastructure in the mine villages comprises schools, clinics and/or hospitals. In all the mines that have been closed after 1990, all schools and health facilities have been transferred to ownership by the Departments of Education and Health respectively. All the facilities are currently still in use, as government facilities, serving the community at large.

Disposal of infrastructure

Through adequate investment of time and money, some mines have succeeded in proclaiming former mine villages into townships governed by the local municipality. This process involves financial investment in upgrading water, electricity and sewage networks to the standards required by the Township Proclamation Act. Once proclaimed and transferred to the ownership0 of the municipality, the mine stops paying rates and taxes for the property as a whole. Single units (houses) are billed to individual occupants by the municipality, and the grounds (roads, parks, pavements, grassed areas) are maintained by the municipality.

The period of transition, between transference of fixed property from the mine to the new owners is critical to ensure that the property is physically maintained and its security is not compromised. In cases where there has been a gap in ownership during the period of transfer of ownership, property has either been vandalised (through theft of material from the houses), destroyed (through fire, breaking windows or doors), or have been illegally occupied (and in the process the property is vandalised or destroyed).

d) Environmental rehabilitation

Land use is a decision to be made by society. Land use can be changed - society can decide to change the land use on a rehabilitated colliery from crops to housing or housing estates but, mines have an obligation to ensure that no net loss in land capability occurs. This must be the primary objective in rehabilitating mined land. Where land capacity is not preserved, society is deprived of choice (Limpitlaw et al,. 2006).

Most open cast pits have been rehabilitated and re-grassed. To accelerate the re-grassing process, mines work with livestock farmers through rotational grazing the rehabilitated areas.

Some mines have experienced instances of illegal mining. This is most common in winter where fuel needs increase as people try to keep warm. Illegal mining from dumps has in some instances helped mines to accelerate clearance of dumps while at the same time providing fuel to those who need it. Illegal mining from shallow mine shafts is however posing health risks to those involved.

e) Closure certificates

Of the 36 mines that were included in the study only two had closure certificates when the findings became available. It was found that this has been as a result of one or a combination of the following reasons:

- Most mines closed at a time before promulgation of legislation requiring mines to expedite closure and obtain certification thereof.
- Most of the mines closing in the era when the Minerals and Petroleum Resources Development Act required mines to expedite closure and be issued with certificates of closure still have water rehabilitation issues outstanding. This is not necessarily as a result of lack of technology to expedite the process, but the process in itself tends to take relatively longer to complete.
- Some mines have applied for closure certificates and are currently awaiting inspection and approval from the Departments of Land and Water Affairs.

f) Impacts on land and water resources

The research findings of Coaltech have indicated that rural and urban/semi-urban mining areas experience the impacts of mine closure differently.

In the Mpumalanga highveld as well as in some areas of the KwaZulu-Natal coal cluster, most areas are semi-urbanised with ex-employees/communities living in former mine villages. In these areas most people are ex-migrant mineworkers, and since losing mine jobs, they have had to seek alternative employment in nearby mines or towns. In addition, at closure, mines have engaged with the communities in programmes to set up income generation projects in the former mine villages as a means to assist people to generate alternative livelihoods through co-operatives and self-employment initiatives. Major problems in these areas are unemployment, inadequate service delivery from municipal authorities arising out of incompetence within municipal service structures or a poor record of payment of municipal accounts, deterioration of property due to inability of individuals to maintain the standards previously kept by the mine, and vandalism of disused infrastructure such as recreational facilities.

In the rural areas, communities' agrarian livelihoods have been displaced by mining activities, and such livelihoods have not been able to recover following closure of the mines. In these rural communities, the period before mining was dominated by agriculture in the form of grain farming as well as livestock farming which adequately provided for people's livelihood. Many people and communities were, however, later displaced by mining and were reportedly not compensated in anyway or in some cases not adequately compensated for their loss of residence or agricultural livelihood. While many received some consolation through employment in the mines, some had to seek alternative livelihoods elsewhere. But, closure of the mines in the areas have exposed and worsened the implications of the loss of traditional agrarian livelihoods. The following have been cited by the communities as some of the reasons why they can no longer successfully invest in agricultural livelihoods.

- Owing to unemployment, people lack cash to sponsor farming inputs. They lack the means to fully tap into agriculture as an alternative livelihood.
- Water problems have hampered decisions to engage in crop or grain farming.
    - Water sources, which used to be adequate for the community prior to and during mining have since dried-up following closure of the mine.
    - Available water sources are salty thus affecting the quality of the water.
    - The few usable non-portable water sources are too far from where the community lives.
- Ground conditions such as fractures and joints developing as a result of mining have reduced the size of arable land. Some of these joints have been reported to be emitting heat, with occurrences of steam and boiling water following rains.

Although some of the mines have maintained their presence and responsibility in previous mining areas, monitoring the water quality, and mending fractures and joints as reported by the community, the farmers, or through aerial inspection, the level of response to the problems as reported by some communities seem inadequate or not as swift as would be expected.

Mining and or rehabilitation has had a negative impact on the water-table in the rural areas of KwaZulu-Natal. In the era before mining, the community had an adequate supply of water from natural sources such as springs and streams. The flow of water in the springs and streams either remained constant or increased during mining, but following closure of the mine and rehabilitation many springs have dried-up, and the few that can still be used are salty.

This is unlike the situation in Nkangala district where mining has created positive spin-offs to water challenges in the area. Through mining activities, mines have accessed large sources of ground water which they are now supplying, or in the process of finalising negotiations with local government to supply water to the industrial sector at costs lower than what is currently charged by parastatals such as Rand Water.

g) Transiting from mineworker to ex-mineworker

The transition from mine employee to ex-mine employee has been difficult for many. For most employees, the total cost of employment includes accommodation, meals (for hostel dwellers). commuter transport, and medical expenses. It has, therefore, been a shock for many ex-mine workers to transit to a kind of life where they have to pay rent or cost of accommodation including related expenses such as water, electricity and municipal rates, meals, transport, and medical expenses. While many have accepted the inevitable and have made means to pay the necessary bills, others have resorted to more drastic action having occupied houses, but refusing to pay rent, electricity, water or municipal rates. In some former mine villages, these individuals have organised themselves into social groups, referring to themselves as “concerned citizens”, mobilising communities not to pay for either municipal services or rent, with the view that ultimately the mine will tire in its effort to evict them or force them to pay, with the effect of winning themselves free ownership of the property. The argument from these groups is that as long-term employees of the mine, who have contributed their labour to building the wealth of the mine, the inadequate salaries they have earned over the years, and the fact that they have lived on the mine for decades and therefore have no other home to go back to, entitles them to free housing. The mine on the other hand raises the following concerns, challenges and counter-arguments.

- The mine does not have residential housing in the quantities required to ensure access by each retrenched mine worker.

- Allocating houses as gifts to employees would attract tax implications for both the employer and the recipients.
- Making decisions about categorisation of employees to available housing would prove too great a challenge.
- All the money received from sale of houses has been allocated to community upliftment programmes to build alternative livelihoods following mine closure.

h) Communicating closure

On the basis of financial and geological results, mines know years in advance that they will be closing and are able to project relatively accurately the year during which they will be closing, but often stakeholders such as the DME, district and local municipal structures, employees, etc. are informed only months (in most cases three months) before closure.

Without timely knowledge of the timing of closure of the mine, the DME is concerned that it is unable to intervene on issues such as ensuring appropriate application of the requirements of the social and labour plan; municipal structures are unable to plan closure of the mine into their annual local economic development programmes which include inheriting mine infrastructure and making appropriate plans to secure it and maintain it; and employee structures are unable to make appropriate decisions concerning reskilling and retraining of employees in mitigation of loss of mine jobs.

While mines may be delaying communication about closure as a means to avoid alarm and distress among employees which may have a negative impact on productivity, informing employees only three months before closure creates greater stress and anger about closure. This anger has often been cited as the reason why ex-employees vandalise property following closure. This anger and stress about closure and loss of stable employment again has been cited as the reason for employees refusing skills training as a means to equip them with skills to engage in alternative livelihoods.

Cooke and Limpitlaw (2003) sums up the post-mining regeneration priorities for South Africa in the light of the country's developmental context, as follows:

- restoration of land surface of sufficient quality to support pre-mining land potential,
- restoration of the ecological function of mined land and in the case of degraded land, the ecological function must be improved,

- efficient alternative use of mine infrastructure should be encouraged which can be economically justified; where no economic alternative uses exist infrastructure must be removed and the site rehabilitated to pre-mining status,
- Southern Africa in general, and South Africa in particular, experiences water shortages and therefore minimisation of current and potential future impaired water quality and supply is imperative,
- job creation through education and stimulation of economic activity,
- development projects to enable equitable participation in post mining economy by all members of the community, especially marginalized groups,
- enhancement of leadership capacity within the community and local government may be required to ensure that development continues post closure,
- skills and literacy training for community members.

1.2 PROBLEM STATEMENT

- A large number of Mpumalanga's mining towns are deteriorating after closure of the mine. Communities in those areas face a serious problem of unemployment. There is a need to develop strategies to ensure that there is sustainable development in those towns.
- These towns possess expensive infrastructure that falls into disuse once the mining shafts ceased operations and/or reached the conclusion of their lifespan.
- There is also a need to ensure that sustainable development plans are in place to address closures long before they happen and also to deal with areas where mining closures have already occurred.

1.3 PROJECT DESCRIPTION

The project will include deteriorating mining towns where mining has already ceased or is immanent. The study area will encompass the following districts and will be finalised after completion of the initial scoping analysis indicated as phase 1 of the project.

- Pilgrim's Rest
- Rietspruit
- Piet Retief
- Volksrust

- Steynsdorp

The study will include assessment of, amongst others, the following projects:

- Sustainable development projects
- Establishment of best rehabilitation practices
- Socio-economic development
- Invite collaboration on establishing SMME’s in old mining areas.

1.4 PROJECT GOALS

The project is intended to ensure sustainable development in areas where mining has ceased operations and to develop strategies for dealing with the socio-economic problems associated with such closures.

1.5 PROJECT OBJECTIVES

The primary objective of the project is to develop a strategy to ensure continued economic development and sustaining of infrastructure in mining towns prior to and after mine closure. The strategy can also act as guideline for future closure scenarios.

Subject to the primary objective, other objectives are:

- to do an analysis of the economic conditions in the existing dying mining towns in the identified districts;
- to identify realistic economic options in the towns (i.e. within context of the local and regional resource base, geographic location, availability of land, buildings and service infrastructure, current and future demands and markets and available skills);
- to translate viable economic options into alternatives to sustain economic activity in these towns;
- to generate new direct job opportunities for men, women, youths over 18 and the disabled;
- to stimulate SMME development;
- to maintain existing buildings and other infrastructure through re-use;
- to indicate the key role players in the development process.

1.6 PROJECT METHODOLOGY

The methodology that was used to develop the strategy to revitalise dying mining towns in Mpumalanga is indicated in the diagram (Figure 1.1) and discussed hereunder.

CHAPTER 1: INTRODUCTION AND METHODOLOGY

The project is introduced with a brief literature study to determine the nature of the problems posed by dying mining towns and the different approaches that are followed to address the problems. The literature study is of great significance for the project as it provides the necessary background information.

TABLE 1.1 METHODOLOGY: STRATEGY TO REVITALISE DYING MINING TOWNS

Project description	**Key indicators**	**Means of verification**	**Assumptions**
PHASE 1: **Chapter 1** **Project Description and Methodology** **Chapter 2** **Scoping Analysis**	• Introduction • Purpose • Methodology	• Literature study • Objectives • Diagram	• Socio-economic development need exists
Identify and prioritise dying mining towns	• Number of closed operations & their prevailing economic status • Stakeholder Task Teams	• Scoping Report	• Socio-economic development need exists
PHASE 2: **Chapter 3** **Situation assessment**			
Identify and assess all mining infrastructure	• Number of closed operations & their	• Reports, site visits and research	• Socio-economic development need

and existing economic activity in the identified areas where operations have ceased.	prevailing economic status • All stakeholders consulted	documentations • Stakeholder interviews, meetings and workshops	exists
PHASE 3: **Chapter 4** **Situation analysis**			
• Determine economic activities with potential in identified mining towns.	• Characteristics of existing economic activities in those mining towns • Existing development initiatives	• Report and findings	• Economic activity exists
PHASE 4: **Chapter 5** **Identify realistic economic development options**			
• To determine profitability of potential programmes and compare comparative advantage, cost and benefit of available options	• Economic return on investment modelling • Internal rate of return models • Other appropriate models	• Report • Programmes and projects	• Development potential exists
PHASE 5: **Chapter 6** **Determine a development portfolio**			
• Determining	• Prioritised	• Strategy Report	• Role-players are

development portfolio for dying mining towns	programmes and projects for sustainable development • Clear program of action • Key role-players identified • Project proposals	• Business plan • Implementation plan • Skills audit • Financial sourcing options	willing to co-operate in development programme

The objectives of the study, the study area and the methodology then follows

CHAPTER 2: SCOPING ANALYSIS AND IDENTIFYING STUDY AREA

Purpose

To identify the towns in Mpumalanga that are affected by closure of mines and prioritising these towns for inclusion in the study. To identify stakeholders (i.e. mines, municipalities, provincial departments, etc.) to establish their interest and existing strategies and plans to develop such areas. To establish Task Teams.

Content

Information gathering by means of desktop research, interviews and fieldwork.

Output

Detailed scoping report and prioritising towns for inclusion in the study.

CHAPTER 3: SITUATION ASSESSMENT

Purpose

To identify and assess conditions of the closed mining operations and infrastructure in the identified mining towns. To consult all stakeholders to establish their interest and existing strategies and plans to develop such areas.

Content

Information gathering by means of desktop research, workshop sessions, questionnaire surveys and interviews with stakeholders.

Output

Details of the status quo of the identified towns.

CHAPTER 4: SITUATION ANALYSIS

Purpose

Determine economic activities with potential and analyse existing economic initiatives.

Content

Information gathered during previous phases as well as through questionnaire surveys, interviews, existing literary information and fieldwork.

Output

Findings of the research and checklist of potentially viable activities and projects.

CHAPTER 5: IDENTIFY REALISTIC ECONOMIC DEVELOPMENT OPTIONS

Purpose

To determine and analyse the viability of potential programmes and projects in terms of market feasibility, comparative advantage, costs and benefits of development options available.

Content

Analysis based on similar research, past experience and inputs from stakeholders.

Output

- Sustainable economic development programmes and projects.
- Identification of collaborative opportunities for SMME development.

CHAPTER 6: DEVELOPMENT PORTFOLIO FOR DYING MINING TOWNS

Purpose

To determine a development portfolio for the dying mining towns. To select potential projects, key role-players to be involved, the nature and possible sources of funding for the development of the portfolio and the immediate steps to be taken to implement such projects.

Output

Prioritised programmes and/or projects detailed feasibility studies, business plans, implementation and management plans, skill requirements, etc.

1.7 STUDY APPROACH

The approach followed in assessing the local economy and to determine the economic options available is based on the so-called “Gap Analysis”. The basic elements of this approach are graphically illustrated in Figure 1.1.

In essence, the approach involves a comparison between the past and current types and level of economic activities, against the inherent production capacities and potential as represented in the portfolio of the local production factors available. The unused or under utilised production capacity is then translated into economic options and ultimately into specific strategies and projects. This second element of the Gap Analysis is also referred to as *Positive Economic Intervention* (PEI), which essentially implies:

- the identification of realistic economic options (i.e. within context of the local and regional resource base, geographic location, availability of land and service infrastructure, current and future demand and markets, etc.), and
- the translation of such options into specific and implementable projects and/or business enterprises

2. Identification of areas to be included into the study

2.1 Introduction

The identification of areas to be included into the study covers all the districts of Mpumalanga. This scoping process involves a desktop research and interviews with relevant stakeholders in the area. The stakeholders include the Chamber of Mines, Municipalities, Mining officials, the Department of Mineral and Energy Affairs. Some areas were also visited to get a proper background to specific areas.

The Mineral and Petroleum Resources Development Act, 2002, (Act No 28 of 2002)(MPRD) requires all applicants for mining and production rights to develop and implement comprehensive Human Resources Development Programmes including Employment Equity Plans, Local Economic Development Programmes and processes to save jobs and managing the downscaling and or closure of the mines.

The above programmes are aimed at promoting employment and advancement of the social and economic welfare of the mining communities whilst ensuring economic growth and socio economic development. The above Act allows for existing operations and does not include previous operations where mines have closed down and mining communities were left to fend for themselves. This study focuses primarily on the following scenarios but also attend to the areas under threat of mine closures in the near future:

- Mining towns where operations have ceased before 2002
- Mines that have closed down shortly after the Act has been promulgated in 2002 for which no HRDP exist
- Mines that have been established as mining towns but have since developed as tourism attractions
- Towns / Infrastructure that have developed based on mining activities where mining has never taken place
- Mining towns that have been in existence but have totally been abandoned

2.2 Objectives of the Report

The objectives of the report focus on:

- Identifying the districts in Mpumalanga affected by the closure of mine activities
- Prioritising such for inclusion into the study
- Identifying stakeholders
- Establish existing strategies and plans to develop such areas

2.3 Methodology

The sustainability of mining towns after closure of a mine or the downscaling of mining and complementary operations is subject to various factors such as:

- The role of mining within the broader economy.
- The existing economic basis of the area within which the town is situated.
- The locality of the town with regard to other mining or economic activities.
- Governmental or mining company policy with regard to the existence of the village or settlement after closure or downscaling of the mining operation.

The methodology followed to determine the status of future mining activity within the Mpumalanga involves the following:

- An analysis of role of mining within the economy of the different districts and local municipal areas of Mpumalanga in order to determine the future of this sector within the economy.
- Distribution of mining activities within the Mpumalanga Province including
- Distribution of Mining Towns within the following districts.
    - Ehlanzeni
    - Nkangala
    - Gert Sibande
- Recommendations

2.4 An analysis of the role of mining within the economy of Mpumalanga

In order to determine the feasibility of mining towns within Mpumalanga it is necessary to get a clear understanding of the economy of the area within which the existing urban areas function. The existing and future development status of this industry and ancillary industries such as manufacturing and electricity generation will determine the future sustainability of mining towns. This section therefore has the aim to provide a broad analysis of the role of the mining industry within the different districts and municipal areas of Mpumalanga.

The Mining sector is the 2nd largest contributor to the Mpumalanga Economy. It contributes R17,4 Bn or 19.2% (2005) of the provincial GVA of Mpumalanga. The Industrial Sector is the highest contributor with R26,9 Bn or 30%. Electricity (4th) contributes R9.3 Bn or 10.3%. See TABLE 2.1

TABLE 2.1: MPUMALANGA: PERCENTAGE DISTRIBUTION OF GVA PER ECONOMIC SECTOR PER DISTRICT

Geographical Area	**Gert Sibande**		**Nkangala**		**Ehlanzeni**		**Mpumalanga**		**Total: South Africa**	
Year	**2001**	**2005**	**2001**	**2005**	**2001**	**2005**	**2001**	**2005**	**2001**	**2005**
Agriculture, hunting, forestry and fishing	6.7	7.0	2.7	3.1	9.4	9.3	5.4	5.8	3.5	3.5
Mining and quarrying	22.4	15.5	39.3	30.7	3.4	2.6	26.0	19.2	8.3	6.4
Manufacturing	40.5	44.2	18.2	22.8	22.1	22.4	26.2	29.8	19.1	19.9
Electricity, gas and water supply	5.5	7.5	16.1	16.8	1.8	1.6	9.6	10.3	2.5	2.3
Construction	1.4	1.4	1.2	1.4	3.3	3.2	1.7	1.8	2.4	2.4
Wholesale and retail trade	7.3	7.3	6.0	6.5	20.4	19.8	9.5	9.8	14.0	13.7
Transport, storage and communication	3.4	3.4	3.5	3.9	7.4	7.2	4.3	4.5	9.6	9.6
Financial, insurance, real estate and business services	4.2	4.5	4.2	4.9	8.3	8.6	5.1	5.6	19.1	20.4
Community, social and personal services	8.6	9.2	8.8	10.1	23.9	25.2	12.0	13.2	21.4	21.6
Total	100	100	100	100	100	100	100	100	100	100

Source: DBSA 2005

Within all the districts and Mpumalanga the Mining Sector has experienced a decrease in relative contribution to the total GVA compared to all the other sectors. This can be attributed to the relatively low growth experienced in the Nkangala District and negative growth experienced within in Gert Sibande and Ehlanzeni Districts in the mining sector and high growth rates within most of the other sectors. See TABLE 2.2

TABLE 2.2: MPUMALANGA: PERCENTAGE DISTRIBUTION OF GROWTH IN GVA PER ECONOMIC SECTOR PER DISTRICT

Geographical Area	Gert Sibande	Nkangala	Ehlanzeni	Mpumalanga	South Africa
Year	**2001-2005**	**2001-2005**	**2001-2005**	**2001-2005**	**2001-2005**
Agriculture, hunting, forestry and fishing	0.2	1.2	-1.3	-0.2	1.2
Mining and quarrying	-1.1	1.6	-4.5	0.7	2.7
Manufacturing	0.8	1.5	0.1	0.9	2.3
Electricity, gas and water supply	12.4	1.7	-0.9	3.8	2.3
Construction	7.1	7.0	5.5	6.4	8.4
Wholesale and retail trade	4.6	5.7	4.2	4.8	5.3
Transport, storage and communication	4.5	4.7	3.9	4.3	6.0
Financial, insurance, real estate and business services	4.4	4.8	4.3	4.5	6.3
Community, social and personal services	1.6	1.6	1.5	1.6	1.6
Total	**2.0**	**2.2**	**1.9**	**2.1**	**4.0**

Source: DBSA 2005

The percentage contribution of the municipalities to the provincial GVA is set out in TABLE 2.3. The Mining sector within Mpumalanga is mostly concentrated within the Nkangala District contributing 70% of the total GVA of mining in the province. Emalahleni (Witbank) represents 43.7 % of the Mpulanga Mining GVA and Steve Tswete 22.9%. Delmas only represents 2.2 % and Emakhazeni 1.3%.

The Nkangala District also provides for 32% of the provincial manufacturing GVA (Steve Tswete 26.1%, Emalahleni 6.3%) and 72.1% of the provincial electricity, gas and water supply GVA. (Emalahleni 49.3% , Steve Tshwete 19.3%)

Gert Sibande District contributes 26.6% of the total Mining GVA of the province with Govan Mbeki representing 21.5% of the total provincial Mining GVA . Lekwa represents only 2.2%. The Manufacturing Sector of the Gert Sibande District represents 49% of the total GVA of manufacturing in Mpumalanga with Govan Mbeki providing for 46.1%. 24% of the utility sector within Mpumalanga GVA comes from Gert Sibande District with Lekwa the largest contributor.

TABLE 2.3: CONTRIBUTION OF MUNICIPALITIES TO THE PROVINCIAL GVA BY KIND OF ECONOMIC ACTIVITY (%)

Geographical Area	Year	Mining and quarrying	Manufacturing	Electricity, gas and water supply
Albert Luthuli	**2001**	0.6	0.3	0.8
	2005	0.6	0.3	0.7
Msukaligwa	**2001**	1.7	0.5	2.6
	2005	1.7	0.5	2.2
Mkhondo	**2001**	0.4	1.0	0.1
	2005	0.4	0.9	0.1
Pixley ka Seme	**2001**	0.1	0.1	2.6
	2005	0.1	0.1	4.4
Lekwa	**2001**	2.3	1.2	7.4
	2005	2.2	1.1	12.5
Dipaleseng	**2001**	0.0	0.1	1.5
	2005	0.0	0.1	1.3
Govan Mbeki	**2001**	22.5	46.3	3.5
	2005	21.5	46.1	3.0
Gert Sibande District Municipality	**2001**	**27.6**	**49.6**	**18.5**
	2005	**26.6**	**49.0**	**24.2**
Delmas	**2001**	2.6	0.3	0.3
	2005	2.2	0.3	0.3
Emalahleni	**2001**	42.9	5.9	53.2
	2005	43.7	6.3	49.3
Steve Tshwete	**2001**	22.6	24.7	20.3
	2005	22.9	26.1	19.3
Emakhazeni	**2001**	1.3	0.4	1.0
	2005	1.3	0.4	1.0
Thembisile	**2001**	0.2	0.5	0.5

	2005	0.2	0.5	0.5
Dr JS Moroka	**2001**	0.0	0.3	2.0
	2005	0.0	0.2	1.8
Nkangala	**2001**	**69.5**	**32.0**	**77.4**
	2005	**70.4**	**33.8**	**72.1**
Thaba Chweu	**2001**	1.3	2.3	0.2
	2005	1.4	2.2	0.2
Mbombela	**2001**	0.7	11.2	2.7
	2005	0.7	10.6	2.4
Umjindi	**2001**	0.5	1.2	0.3
	2005	0.5	1.1	0.2
Nkomazi	**2001**	0.4	2.8	0.6
	2005	0.4	2.5	0.5
Bushbuckridge	**2001**	0.0	0.9	0.4
	2005	0.0	0.8	0.3
MPDMA32	**2001**	0.0	0.0	0.0
	2005	0.0	0.0	0.0
Ehlanzeni	**2001**	**2.9**	**18.4**	**4.1**
	2005	**3.0**	**17.2**	**3.6**
Mpumalanga	**2001**	**100.0**	**100.0**	**100.0**
	2005	**100.0**	**100.0**	**100.0**

Source: DBSA 2005

Approximately 46000 people within Mpumalanga are employed within the mining industry and 12000 in the utility sector.The distribution of mining activities indicated by the number of people employed within the mining and utilities industries within the local municipal areas within the three municipal districts of Mpumalanga shows a predominance of Nkangala and Gert Sibande Municipalities. Within Nkangala District, the mining industry within Emalahleni represents 38%, Steve Tswete 13% and within Gert Sibande District, Govan Mbeki 26% and Msukwaliqwa 4%. The Utilities sector within the Nkangala District shows a strong correlation with the Mining Sector due to the concentration of mines and Eskom power stations in to the Emalahleni and Steve Tswete Local Municipal areas. See TABLE 2.4

TABLE 2.4 : MPUMALANGA EMPLOYMENT IN MINING AND QUARRYING AND UTILITY INDUSTRIES

Description	Mining, Quarrying	% Distibution	Utilities	% Distibution
Gert Sibande	**16,478**	**35.6%**	**2,748**	**23.2%**
Govan Mbekhi	12,081	26.1%	515	4.3%
Dipalaseng	29	0.1%	103	0.9%
Lekwa	1,170	2.5%	1,133	9.5%
Pixley ka Seme	48	0.1%	476	4.0%
Mkhondo	609	1.3%	94	0.8%
Msukaliqwa	1,852	4.0%	218	1.8%
Ehlanzeni	**3,977**	**8.6%**	**2,308**	**19.4%**
Bushbuckridge	419	0.9%	658	5.5%
Umjindi	1,020	2.2%	47	0.4%
Mbombela	769	1.7%	1,107	9.3%
Thaba Chweu	766	1.7%	109	0.9%
Nkomazi	1,003	2.2%	387	3.3%
Nkangala	**25,831**	**55.8%**	**6,814**	**57.4%**
Delmas	960	2.1%	43	0.4%
Emalahleni	17,648	38.1%	4,875	41.1%
Steve Tswete	6,190	13.4%	1,430	12.0%
Emakhazeni	625	1.4%	42	0.4%
Thembisile	344	0.7%	234	2.0%
JS Maroka	64	0.1%	190	1.6%
Total	**46,286**	**100%**	**11,870**	**100%**

Source: Statistics SA 2001

2.5 Distribution of Mining Activities

The urban settlement patterns within certain parts of Mpumalanga can directly be attributed to the mining activities that occurred since 1873 when gold was found in Pilgrims Rest and in 1884 in Barberton. Mpumalanga has a wealth of mineral deposits, and the distribution of these reserves on which mining industry is built determines the existing and future development patterns in large parts of the province. Extensive mining is done all over the province and the minerals found include Gold, Platinum group metals, Silica, Chromite, Vanadiferous Magnetite, Argentiferous Zinc, Antimony, Cobalt, Copper, Iron, Manganese, Tin, Coal, Andalusite, Chrysotile Asbestos, Kieselguhr, Limestone, Magnesite, Talc, and Shale.

Coal is by far the most important mineral extracted. Extensive coal resources are situated in the western and southwestern part of the Province and sustain several large coal-fired power stations situated on the Highveld between Witbank, Standerton, Piet Retief and Carolina, as well as the petrochemical plants and metal industries in the area.

Of the other important commodities, gold is being mined in the Evander, Barberton and Pilgrims Rest areas and iron ore near Roossenekal.

2.5.1. Coal Mining

2.5.1.1. Background

Coal mining in Mpumalanga is by far the most dominant mining activity within Mpumalanga. Mpumalanga accounts for 83% of South Africa's coal production ammounting to approximately 200-million tonnes of coal produced. 90% of South Africa's coal consumption is used for electricity generation and the synthetic fuel industry. Coal power stations are in proximity to the coal deposits. The mining company Sasol, a coal liquification plant in Secunda is the site of one of the country's two petroleum-from-coal extraction plants, which is operated by the mining company Sasol.

Extensive coal resources are situated in the western and southwestern part of the Province. A number of significant coal seams possessing diverse characteristics are present and have a variety of potential markets in the power generation, export, domestic, metallurgical, liquefaction and chemical sectors. The **Witbank coalfield** lies between Bethal and Springs in Gauteng Province, while the **Southern Highveld Coalfield** lies between Secunda and Standerton and the **Eastern Highveld Coalfield** lies between Ermelo and Volksrust.

The above coalfields are the most important coal-producing areas in South Africa and support some 106 collieries (and several others to come), working several seams in the Ecca coal measures. The Witbank coalfield contains a large and very important resource of high yield export quality steam coal, especially in the No. 4 seam. In the adjacent Highveld coalfield the equivalent or No. 2 seam contains low-grade bituminous coal, which is better suited to synfuel and power production.

South Africa has limited coal reserves. An estimated 34 billion tons remain, and based on present consumption rates, South Africa could have a mere 7 billion tons remaining by 2040. **The Witbank/Highveld coalfields have enough coal remaining for another 20 years of exports (J Beukes, Coaltech Creamers Media 2006).** This could change owing to technological advances on the one hand, and more stringent or relaxed export requirements on the other. **Coaltech forecasts that the first mines will start running out of export reserves in about seven to eight years**.

The life of the coal remaining for energy generation in the Witbank/Highveld coalfields is estimated at **40 to 45** years. The most viable alternative reserves to the Witbank/Highveld coalfields are in the Waterberg coalfield.

Approximately 2,25-million people are dependent on the mines in the Witbank-Highveld coalfields and the development of technology to ensure the productive use of the resources and prolong the life of the coalfields is imperative. The large coal companies, Eskom, universities, the Council for Scientific and Industrial Research, the Chamber of Mines and organised labour, initiated the Coaltech 2020 research programme to develop technology to ensure the South African coal industry remains competitive and to prolong the life of the Witbank/Highveld coalfields. The programme also includes:

- Water research, including the evaluation of alternative water-treatment methods a full-scale biological plant at Anglo Coal's Landau colliery and a R300-million joint-venture plant between Anglo Coal and BHP Billiton, which is set to treat mine water, ultimately supplying drinking water to Witbank.
- Dense-medium beneficiation of fine and ultrafine coal, which makes export-quality coal from fine-coal discards and slurry.

2.5.1.2. Coal Mines

The major coal producers and exporters, viz. Anglo American Coal (Anglo Coal), Ingwe (a BHP Billiton subsidiary) and Xstrata (previously Duiker, with Swiss Glencore International as a major shareholder), Eyesizwe Coal, Kumba Resources, Sasol, Total, Graspan and Elcoal dominate coal mining within Mpumalanga.

There are approximately 106 collieries around Mpumalanga producing for the export or domestic markets. Lower-quality coal is used in Eskom's coal-fired power stations as in TABLE 2.5, spread across the Highveld.

The distribution of the major coal mines within the different municipal areas is set out in TABLE 2.6. Other mines within the area are small and have no direct link with smaller mining towns TABLE 2.6 also provides an exposition of the following;

- The settlement associated with the mine
- The mining company and shareholding
- The power station
- The status of the mine
- The production of the mine
- The target markets
- The reserves

Most of the coalmines are concentrated in Nkangala District (74) with the majority of the people residing in the towns of Witbank, Middelburg and Delmas and in Gert Sibande District (30) with Ermelo and Secunda as residential areas.

TABLE 2.5: MPUMALANGA: DISTRIBUTION OF ESKOM POWER STATIONS

Power Station	**Status**	**Municipality**	**Town**
Arnot	Working	Steve Tswete	Rietkuil
Duvha	Working	Steve Tswete	Duvha Park
Hendrina	Working	Steve Tswete	Hendrina
Kendal	Working	Emalahleni	Kendal
Kriel	Working	Emalahleni	Kriel
Majuba	Working	Pixley ka Seme	Volksrust/Amersfoort
Matla	Working	Emalahleni	Kriel
Tutuka	Working	Lekwa	Thtukhani
Camden	Working Reinstated in 2005	Msukaligwa	Camden
Grootvlei	Mothballed. Operational in 2008	Dipalaseng	Grootvlei
Komati	Mothballed. Operational in 2008	Steve Tswete	Komati

Source: Eskom

TABLE 2.6 THE DISTRIBUTION OF THE MAJOR COAL MINES WITHIN THE DIFFERENT MUNICIPAL AREAS

. Town	Municipality	Eskom Power Station	Coal Mine / Quarry	Shareholder	% Share	Status	Mt per year	Investment	Target markets	Reserves	Resources
Arnot, Rietkuil	Steve Tswete	Arnot Power Station.	Arnot Colliery	**Eyesizwe Coal (Pty) Ltd (New Coal)**	100.00%	Underway	6		Arnot Power Station.	Proven in situ reserves were at over 99.76 million tonnes as at January 1999	Geological resources are at 85.48 million tonnes.
Arnot, Rietkuil	Steve Tswete	Arnot Power Station.	Mine development project, Arnot North Coal reserves,	**Eyesizwe Coal (Pty) Ltd (New Coal)**		Planned	1.3		Eskom Arnot power station	It will have a life of 23 years. R1.6 billion	

Middelburg	Steve Tswete	Duvha Power station	Middelburg Colliery	**X Strata**	16%	Underway	17	-	The principal products are power station grade coal for Eskom's nearby Duvha Power station and higher quality export grade products for the sea borne steam coal markets. -	540 Tonnes (millions) at 30 June 2005 -	292 Tonnes (millions) at 30 June 2005 -
				Ingwe Coal Corporation Ltd	84%						
No settlement (near Hendrina)	Steve Tswete		**Forzando Coal Mines**	Total Coal Holdings	100%	Underway	0.2				
No settlement (near Hendrina)	Steve Tswete		**Tumelo**	Total Coal Holdings	49%	New				six-year life, commencing in July 2008	
No settlement (near Hendrina)	Steve Tswete			Mmakau Mining (Pty) Ltd	51%	Underway					

No settlement (near Hendrina)	Steve Tswete		**Forzando Coal Mines South**	Total Coal Holdings	100%	New					
Pullenshope	Steve Tswete	Hendrina Power Station	Optimum Colliery	Ingwe Coal Corporation Ltd	100.00%	Underway	13.5		Hendrina Power Station, as well as other inland destinations and exports of higher quality coal to the overseas steamcoal market.Life of mine of 18 years.	556 Tonnes (millions)	314 Tonnes (millions)
Near Middelburg	Steve Tswete		**Polmaise Colliery**		100%	Underway					
Douglas	Steve Tswete	Duvha power Station	Douglas Colliery	X Strata	16%	Underway	9.5			609 Tonnes (millions) at 30 June 2005	97 Tonnes (millions) at 30 June 2005
				Ingwe Coal Corporation Ltd	84%						
Blinkpan, Nkomati	Steve Tswete	Komati Power Station	Koornfontein Mine -	Ingwe Coal Corporation Ltd	100%	Underway	5.2			32 Tonnes (millions) at 30 June 2005	10 Tonnes (millions) at 30 June 2005

Belfast	Emakhazeni	Majuba Power Station 196 km	Glisa Colliery	**Eyesizwe Coal (Pty) Ltd**	100.00%	Underway	3		Majuba Power Station 196 km . Rand Water board.smaller and casual customers.Sappi's Ngodwana mill.	Proven in situ reserves were at over 735 million tonnes as at January 1999. These are mainly from the number 2 and 4 seams.	Glisa was scheduled for closure in 2006, however, its owners have devised a plan to extend the oper-ation well into the future.
Kriel	Emalahleni	Matla Power Station	Matla Colliery	**Eyesizwe Coal (Pty) Ltd (New Coal)**	100.00%	Underway	15		Matla colliery is Eskom-tied and supplies the Matla Power Station.	Proven in situ reserves were at over 735 million tonnes as at January 1999. These are mainly from the number 2 and 4 seams.	Geological resources are at 502.7 million tonnes, including the number 5 seam that has technically changed its status to a measured resource as a result of its exclusion from the Matla life of mine plan.

New Clydesdale	Emalahleni		New Clydesdale Colliery	**Eyesizwe Coal (Pty) Ltd (New Coal)**	100.00%	Underway	2.5		Approximately 800,000 tons per annum of this coal is produced for export, through RBCT. About 180,000 tons per annum of A-grade product is sold on the domestic market.	Proven in situ reserves were at over 14.1 million tonnes as at August 1998. These are all from the number 2 seam	Geological resources, as at July 1997, were at 87.6 million tonnes. These are from seams 1, 2, 4 and 5.
Near Komati	Emalahleni		Bank	**Anglo Coal**	100.00%	Underway	3.3		produce pulverised coal injection and thermal coal for export and domestic customers.		
Hope Village (near Komati)	Emalahleni		Goedehoop	**Anglo Coal**	100.00%	Underway	5.6		Export		
Near Witbank	Emalahleni		Greenside Colliery	**Anglo Coal**	100.00%	Underway			produces coal for the export market.		

Near Witbank	Emalahleni		Landau Colliery	**Anglo Coal**	100.00%	Underway			Produces pulverised coal injection and thermal coal for export and washed sized coal for the domestic market.		
			Isibinelo Colliery	**Anglo Coal**	100.00%	Under construction	5		Approximately 5 Mt/y over a 20-year period		
Near Witbank, No settlement	Emalahleni		Kleinkoppie Colliery	**Anglo Coal**	100.00%	Underway			Export market.		
Kriel	Emalahleni		Kriel South Colliery	**Anglo Coal**	100.00%	Underway	8.7		Export market.		
Kriel	Emalahleni		Kriel South coal reserves development	**Anglo Coal/Sasol Mining**		Planned	5	(ZAR 1, 809 billion)	Sasol Synfuels at Secunda. Sasol has been granted access to the southern portion of the Kriel South coalfield, through the expansion of its existing underground operations at Syferfontein Colliery.		20 years lifespan

Kriel	Emalahleni	Arnot Power Station.	Mafube Coal	Eyesizwe and Anglo Coal		A feasibility has yet to be undertaken before the project goes ahead	5.5	ZAR1,6 billion	Arnot power station,"		
Landau - Witbank	Emalahleni		Landau Colliery	**Anglo Coal**	100.00%	Underway			produces pulverised coal injection and thermal coal for export and washed sized coal for the domestic market.		
Witbank	Emalahleni		Arthur Taylor Colliery	**X Strata**	50%	Underway	1.8		- -	- -	- -
				Total Coal Holdings SA (Pty) Ltd (50%)	50%						
	Emalahleni		Arthur Taylor Opencast Mine	**X Strata**	50%	Underway	2.3		-	-	-
				Total Coal Holdings SA (Pty) Ltd (50%)	50%				-	-	-
Clewer Witbank	Emalahleni		Elandsfontein Colliery	**Anker Coal and Mineral Holdings SA (Pty) Ltd**	100.00%	Underway	0.5		Export	10 mT	-

Delmas	Emalahleni		Delmas Colliery	Kuyasa Mining (Pty) Ltd (100%)	100.00%	Underway	1.2		domestic and metallurgical markets.		
Delmas	Emalahleni		Inkwezi Colliery	Kuyasa Mining (Pty) Ltd (100%)	100.00%	Underway	1		domestic and metallurgical markets.	11mT 10 year lifespan	
Coalville	Emalahleni		Boschmans Colliery	**X Strata**	100%	Underway	2		-	-	-
Phoenix	Emalahleni		Phoenix Colliery	**X Strata**	100%	Underway	1.8		-	-	-
Reedstream Park	Emalahleni		Rietspruit Colliery	**X Strata**	50%	The mine closed during the last financial year due to the depletion of the coal reserves and is now undergoing rehabilitation prior to the issuance of a Closure Certificate					
				Ingwe Coal Corporation Ltd	50%	Underway					

Near Reedstream Park	Emalahleni		South Witbank Colliery	**X Strata**	100%	Underway	1.8				
No settlement (Near Witbank)	Emalahleni		Tavistock Colliery	**X Strata**	100%	Underway	1.3		-	-	-
No settlement (Near Ogies)	Emalahleni		Waterpan Colliery	**X Strata**	100%	Underway	1.1		-	-	-
No settlement (Near Ogies)	Emalahleni		Witcons Colliery	**X Strata**	100%	Underway	1		-	-	-
No settlement (near Kriel)	Emalahleni		Dorstfontein	Total Coal Holdings	75%	Underway	0.5		high-quality coal which is required by the local ferrometal industry and for the export market.	Approximately 80 million tons of No. 4 Seam exist and further exploration work is required to determine its viability. The life of mine is estimated to be in excess of 20 years, including the undeveloped No. 4 Seam	15.5 million tonnes of No. 4 Seam

				Mmakau Mining (Pty) Ltd	25%						
Near Kendal	Emalahleni	Kendal Power Station	Bankfontein Opencast	**Wakefield Investments (Pty) Ltd**	100%	Underway	0.5				
Near Kendal	Emalahleni	Kendal Power Station	Lakeside Colliery	**Wakefield Investments (Pty) Ltd**	100%	Underway	0.4				
Near Kendal	Emalahleni	Kendal Power Station	Leeuwfontein Colliery	**Wakefield Investments (Pty) Ltd**	100%	Underway	1.3				
No settlement (nearOgies)	Emalahleni	Kendal Power Station	Khutala Colliery	Ingwe Coal Corporation Ltd	100%	Underway	15.1		Eskom's Kendal power station,	741 Tonnes (millions) at 30 June 2005	299 Tonnes (millions) at 30 June 2005
Near Ogies	Emalahleni		Klipspruit coal mine	Ingwe Coal Corporation Ltd	100%	Planned		3.6 Mt/year	Coal is transported 34 km to the Rietspruit wash plant where the export coal is beneficiated and on loaded onto trains and railed to the Richards Bay Coal terminal. At the Rietspruit plant inland market coal is also loaded and	87 Tonnes (millions) at 30 June 2005	

									railed to Majuba Power Station		
Near Delmas	Delmas		Ikhwezi Colliery	**Kuyasa Mining (Pty) Ltd**	100%	Underway		1.4 Mt/year			
Near Delmas	Delmas		Leeuwpan Colliery	Kumba Resources Ltd	100%	Underway		1.4 Mt/year			
Near Ermelo	Msukaligwa		Balgarthan Colliery	**Kangra Group Ltd**	100%	Mothballed					
No settlement Near Ermelo	Msukaligwa		Tselentis Colliery	**X Strata**	100%	Underway	1.2		-	-	-
Near Ermelo	Msukaligwa		Taaiboschspruit Colliery	**Kangra Group Ltd**	100%	Underway		2 Mt/year			
No settlement Near Ermelo	Msukaligwa		Spitzkop Colliery	**X Strata**	100%	Underway	1.4		-	-	-
No settlement Near Ermelo	Msukaligwa		Strathae Colliery	**X Strata**	100%	Closed	0.6		-	-	-

Ermelo	Msukaligwa		Golfview Colliery	**Anker Coal and Mineral Holdings SA (Pty) Ltd**	100.00%	Underway	1.5		Export	6 mT 4 yr lifespan	_
Ermelo	Msukaligwa		Van Oudtshoornstroom Coal's	**Anker Coal and Mineral Holdings SA (Pty) Ltd**	100	Underway			_	50-million mineable insitu tons of coal. New-order prospecting rights had also been granted for another 90-million insitu tons of coal.	_
Bethal, Standerton	Thutukhani	Tutuka power station	New Denmark Colliery	**Anglo Coal**	100%	Underway	6.1		Eskom's Tutuka power station		
Near Piet Retief	Mkombo		Savmore Colliery)	**Kangra Group Ltd**	100%	Underway		1 Mt/year			
Near Heidelberg (Outside Mpumalanga)	Gauteng	Grootvlei	**Heidelberg Open Mine**	Anglo Coal	100%	Underway		3 Mt/year			
Near Secunda	Albert Luthuli		Bosjesspruit	**Sasol Mining (Pty) Ltd**	100%	Underway		7.3 Mt (2001)			

Near Secunda	Albert Luthuli		Brandspruit -	**Sasol Mining (Pty) Ltd**	100%	Underway		8.5 Mt (2001)			
Near Secunda	Albert Luthuli		Middelbult	**Sasol Mining (Pty) Ltd**	100%	Underway		8.2 Mt (2001)			
Near Secunda	Albert Luthuli		Syferfontein Colliery	**Sasol Mining (Pty) Ltd**	100%	Underway		9 Mt (2001)			
Near Secunda	Albert Luthuli		**Syferfontein Colliery Expansion**			Planned		ZAR22-million			
Near Secunda	Albert Luthuli		Twistdraai	**Sasol Mining (Pty) Ltd**	100%	Underway	7.4				

Source: Various websites

2.5.1.3. Distribution of Coal Mining Towns

The distribution of Coal Mines and Associated villages and towns is indicated on **MAPS A1-A3** for the different districts**.** Smaller villages scattered through the districts that are directly associated with mines and Eskom power stations are as follows:

<u>Emalahleni:</u>

- New Clydesdale, Van Dijks Drift , River Close, Kriel, Landau, Clewer, Phoenix, Readstream Park, Kendal, , New Largo, Ogies, Tweefontein,
- Several informal housing areas are also in the process of developing viz. Duhva Power Station and Douglas mine
- Certain of the mining companies have it as a policy to demolish defunct mining villages and has the razing of New Clydesdale and Wolvekrans Village already been started with. The Emalahleni Municipality accepts this as a policy within their Spatial Development Framework

<u>Steve Tswete</u>:

- Arnot, Rietkuil, Blinkpan, Hope, Merlindale, Springbok, Pullenshope, Douglas, Komati, Bank, Eikeboom, Naledi and Lesedi.

<u>Balfour:</u>

- Grootvlei
- The power station was mothballed but will be operational in 2008.
- The new Heidelberg Open Mine will supply the Grootvlei Power Station but will no new housing village be provided.

2.5.2. Gold

Approximately 16 tonnes of gold were produced by 8 gold mines in Evander, Barberton and Pilgrims Rest in 2005. The workers in the mines reside in the towns of Evander, Barberton (also in a few villages) and in Sabie and Graskop. The Barbrook mine in Barberton has limited reserves. See TABLE 2.7. The distribution of Gold Mines and Assciated villages and Towns is indicated on **MAPS B1-B3** for the different districts

TABLE 2.7: MPUMALANGA GOLD MINES

Company	Mine/Project	Locality	Status	Annual gold output (Current/at full production) (kg)	Value of investment R'million	Reserves (t)
Caledonia Mining	Barbrook	Barberton, Mpumalanga	Production	684.3	na	1.8
Eastern Goldfields	Makonjwaan Imperial	Barberton, Mpumalanga	Production	300-400	na	na
Great Basin Gold	Burnstone	Balfour, Mpumalanga	Construction	6656.1	1013	73.9
Harmony Gold Mining Co.	Evander	Evander, Mpumalanga	Production	10000	na	476.7
Metallon Gold	Agnes	Barberton, Mpumalanga	Production	400-500	na	20.2
Metorex	Fairview	Barberton, Mpumalanga	Production	3350	na	17.3
Metorex	New Consort	Barberton, Mpumalanga	Production		na	
Metorex	Sheba	Barberton, Mpumalanga	Production		na	
Simmer & Jack Mines	Transvaal Gold Mining Estates	Pilgrims Rest, Mpumalanga	Production	1555.2	na	12.5

Source: DME

2.5.3. Other Mines

Iron ore as well as chrome, platinum, alusite, magnetite and vanadium mines contribute considerably to the mining sector. Mines are developed and planned as part of the Eastern Limb of the Bushveld Complex spanning the Lydenburg, Steelpoort, Burgersfort, Dullstroom, Belfast and Groblersdal areas. Existing and proposed mines provide housing in adjacent towns.

2.6 Summary of Findings

No mining towns, apart from the mining towns assessed in Part 1 of this report were identified for further analysis should the study excludes the mining towns that will be subject to the requirements of The Mineral and Petroleum Resources Development Act, 2002 with regard to implementation of Social Plans.

The formulation of a strategy for Rietspruit (Read Stream Park Village) , requires a more holistic and integrated approach and should the Mining Settlement Practices and Policies within the Witbank - Middelburg Coalfields be evaluated and taken into account in the formulation of such a strategy.

2.7 Evaluation of Mining Settlement Practices and *Policies within the Witbank - Midelburg Coalfield*

Historically, development within the Witbank-Middelburg Coalfield resulted in a settlement structure consisting of two major traditional urban areas of Witbank and Middelburg and dispersed residential settlements and villages. The mining settlements and villages are designed to provide housing, sport facilities and social infrastructure for the workers at a mine and managed by the mine companies. The mining settlements and villages provide ease of access for mine workers to their jobs. It does not provide the critical mass needed for the provision of sustainable local social infrastructure or larger shopping centers. The settlements and villages still have to rely on the larger centers of Witbank and Middelburg to provide for sustainable business and social facilities. The dependency on mining and limited size of these settlements and villages made these settlements extremely vulnerable to mine closures and does it have no long term sustainability. The future settlement policy adopted by all the mining houses and local municipalities is to concentrate new residential developments within the larger centers.

The Witbank-Middelburg Coalfield is experiencing a vast growth in the mining and electricity industries, which results in growth in all towns affected in this manner. New mines are opening and existing mines are expanding their activities. The increasing demand for coal for electricity generation, export, metal and synfuel production will for at least the next 20 years or even longer have a positive influence on the local economy. It will however be imperative to broaden the economic base of the local economy through diversification of economic activity involving all other economic sectors, in order to ensure the long term economic sustainability of the whole area. The local development strategies of the municipalities need to utilize the comparative advantages of the Witbank-Middelburg area such as locality to markets, the Maputo Corridor development initiatives, local engineering and social infrastructure to ensure long term sustainability in economic development and growth.

Although the Witbank- Middelburg area will experience long term growth which will ensure sustainability of socio economic development, the socio economic vulnerability of the smaller mining towns and villages Witbank-Middelburg Coalfield to mine closures requires action in the short term.

> The dispersed distribution of these settlement and villages and dependency on the specific mine's reserves provides the potential of severe decline in the socio economic profile of such a community should a mine close down. Closure plans required by the Mineral and Petroleum Resources Development Act, 2002, involve the compilation of proper social plans involving human resources development as well as local economic development. The existing Rietspruit scenario can be seen as a result of the lack of such a social plan with sustainable social and economic projects linked to it. It can be accepted that the relevant authorities will in future focus on sustainable projects driven by a social fund pertaining to a specific mine.

The mining companies BHP Billiton, Total Coal, Amcoal, Extrata, and Exxara, all involved with mining activities in the Witbank- Middelburg area were consulted on their future plans with regard to sustainable villages and the provision of sustainable local economic development projects within the Witbank- Middelburg area. The situation with regard to the above is summarised a follows:

- All mining companies have a community development fund where a percentage of their earnings are spent on community development. The available development funds vary from mining group. Some mining groups generate their funds on a local basis and some on an international basis.
- All mining companies are in the process of preparation of Social and Labour Plans in terms of the Mineral and Petroleum Resources Development Act, 2002 for each of their mines providing for human resources development as well as local economic development.
- No new settlement or villages will be provided in future. It is the long-term policy that the relevant mines will demolish all non-sustainable small villages, should they no longer be required. The demolition of these villages owned by mines is mostly concentrated within the Witbank area. No time frame is set. These villages include at this stage Douglas (Albion Village), Wolwekrans , Landau village (partly , rest will be incorporated into Tasbet park), TNC Village, and Greenside. The Emalahleni Spatial Development Framework supports this strategy.
- Sustainable settlements such as Ogies, Kriel, Blikpan, Nkomati, Pullenshope, Rietspruit, Bank, Arnot, Rietkuil, Naledi and Lesedi will remain. These settlements provides for either private ownership or are still utilized as residential areas for the mines.
- Social projects funded by mining companies in the past tend to be focused on the provision of social facilities and training. All mining companies are however involved with local economic development projects. Projects are however done on an ad hoc basis and no clustering of projects between different groups take place. There is however an expressed need by the mining companies to cluster their efforts.

- All mining companies are actively involved in municipal economic development forums and regard that to be the essential to the sustainable integration and clustering of projects.
- Rietspruit : Another 150 households removed from the Zaaiwater station will be accommodated here.The opening of the Klipspruit Mine 20 km from Rietspruit in 2008 will boost the beneficiation plant at Rietspruit.
- The Douglas Mine will close down in two years time. A social plan will be in place at that stage.

2.8 Areas to be included into the study

In the light of the above analysis, the following areas will be analysed to formulate a strategy for the revitalisation of dying mining towns within Mpumalanga:

- Pilgrims Rest
- Rietspruit
- Majuba Mine
- Msauli Mine

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Exxara (2007): Interview with Mr. Ramesh Chagan

3. SITUATION ASSESSMENT

3.1 INTRODUCTION

The purpose of this chapter is to identify and assess all mining infrastructure and existing economic activity in the identified areas where mining operations have ceased. The study includes the following:

- Economic production factors
- Human resource base
- Physical infrastructure
- Economic activities

3.2 MAJUBA POWER STATION AND BERGVLIET MINE

3.2.1. Location and Background

Majuba Power Station is situated near the towns of Amersfoort and Daggakraal in Pixley Ka Seme Municipal Area. The power station forms part of Eskom's national grid. Majuba is coal powered and has a licensed capacity of 3,843 MW with a nett energy sent out of 2,437,198 MWh.

The power station provides employment for 500 workers residing in:

- Volksrust : 300
- Amersfoort : 20
- Daggakraal : 10
- Standerton : 70
- Ermelo : 80
- Newcastle : 20

Van Aswegen, 2005

The average income per worker is R10 000 per family per month.

No major expansion is expected - possibly 10 people over 5 years. A gas project envisaged at the coal mine will employ 4 to 5 workers.

Apart from the employees, 250 contractors are utilised who are mainly residing in Volksrust.

Coal mining

Eskom established a coal mine (Bergvliet) on coal deposits near the power station to provide the necessary coal. It was found, however, that coal mining is not feasible due to dykes in the coal deposits and excessive gasses - this despite large deposits in the area.

Coal is presently transported from coal mines in the Highveld of Mpumalanga at a rate of 500 to 800 truck loads per day. Only 10 trucks are from a local transport company. The heavy trucks have a deteriorating impact on the condition of the roads.

A railway line is planned to transport coal from Witbank to Majuba. Construction is envisaged in 2008/09.

Expenditure in the area

Majuba power station contributes substantially towards the economy of the area. Apart from salaries that are paid out, R500 million is spent annually on items in Volksrust, Standerton, Ermelo and Secunda.

A further R200 million is paid out annually to SMME contractors and Eskom has a fleet of 150 vehicles that are mostly serviced locally.

Bergvliet mine infrastructure

The mining complex has been made available to the Provincial Government and Pixley Ka Seme Municipality when it became clear that coal mining in the area is not feasible. The photos (Figure 3.1 a - g) give an indication of the scope and quality of the development which consist of the following:

- tarred access road
- paved interior roads
- face-brick buildings
- hostel complex with 4 blocks X 56 rooms X 3 persons, kitchen, mess and administration offices
- 5 changing rooms (6168 m^2)
- 2 office buildings with approximately 100 offices (3149 m^2 and 500 m^2 respectively)
- resource centre (training centre)
- 3 workshops with a total floor area of 10505 m^2
- Laundry (858 m^2)
- Sewerage plant
- piped water and reservoir. Bergvliet is provided with water through a pipeline from the Zaaihoek Dam with a capacity of 193 ML.
- electricity from Eskom

The buildings and infrastructure are in a relatively good condition, but streets are showing signs of decay because of neglect and non use.

In view of the above the utilisation of the mining complex should not be seen in isolation, but as of significance for the Pixley Ka Seme Municipal Area as a whole.

3.2.2. Characteristics of existing economic activities

3.2.2.1. Economic Indicators

Bergvliet mine and the Majuba power station and the nearby mining complex are situated west of Amersfoort in the Pixley Ka Seme Municipal Area. (see Figure 3.2). The municipal area is located on the eastern border between Mpumalanga and KwaZulu-Natal and is framed by the Mkhondo Municipality in the east, Msakaligwa Municipality to the north and Lekwa Municipality to the west.

The Municipal Area comprise of an area of approximately 5227,98 km^2 with an estimated total population of 103 116 of which 68.1% is urban and 31.9% rural. Regional access to the Municipal Area is obtained via the N11 National Road and the R23, R35 and the R543 provincial roads.

The following towns and settlements are situated within the Municipal Area.

- Amersfoort
- Ezamokuhle
- Perdekop
- Siyazenzela
- Volksrust
- Vukuzakhe
- Wakkerstroom
- Esizameleni
- Daggakraal 1, 2 and 3
- Sinqobile A, B. C and D
- KwaNgema

Pixley Ka Seme Municipal Area is characterised by a lack of large, economic enterprises. Slow economic growth in most economic sectors and a high rate of unemployment (50.7%). TABLE 3.1 is a comparison between the economies of Pixley Ka Seme Municipal Area, Gert Sibande District Municipality as a whole and Mpumalanga as a whole. The role played by Pixley Ka Seme Municipal Area in both the District and Provincial economies is also illustrated.

TABLE 3.1 GROSS VALUE ADDED AT CURRENT PRICES BY KIND OF ECONOMIC ACTIVITY, 1996 AND 2002 (R1000)

DM and LM Name	Year	Agriculture, hunting, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas and water supply	Construction	Wholesale and retail trade	Transport, storage and communication	Financial insurance, real estate and business services	Community, social and personal services	Total
Pixley Ka Seme	**1996** **2002**	**205,993** **340,636**	**6,640** **16,671**	**16,880** **28,219**	**72,326** **169,645**	**36,766** **55,419**	**63,434** **118,016**	**46,026** **85,837**	**21,444** **50,541**	**159,659** **273,006**	**629,168** **1,137,990**
Growth %	1996 2002	65.36	151.07	67.17	134.56	50.73	86.05	86.50	135.69	70.99	80.87
% of Total Mun. Eco	2002	29.93	1.46	2.48	14.91	4.87	10.37	7.54	4.44	24.00	100.00
% of District Eco sector	2002	17.85	0.25	0.28	11.02	14.86	7.07	9.64	4.76	10.83	4.25
% of Prov. Eco sector	2002	6.95	0.09	0.13	2.08	4.18	1.78	2.36	1.17	2.32	1.41
Total Gert Sibande	**1996** **2002**	**1,154,444** **1,908,513**	**4,155,496** **6,790,395**	**4,708,445** **10,013,373**	**1,448,230** **1,539.930**	**270,350** **372,840**	**1,098,153** **1,668,445**	**557,959** **890,277**	**549,981** **1,060,856**	**1,474,653** **2,521,549**	**15,417,711** **26,766,183**
Growth %	1996 2002	65.32	63.41	112.67	6.33	37.91	51.93	59.56	92.89	70.99	73.61
% of Total district Eco	2002	7.13	25.37	37.41	5.75	1.4	6.23	3.33	3.96	9.42	100.00
% of Mpum. Eco sector	2002	38.93	37.85	45.71	18.92	28.11	25.10	24.48	24.48	21.47	33.22
Total Mpuma-langa	**1996** **2002**	**2,928,119** **4,902,814**	**9,266,049** **17,940,305**	**11,473,397** **21,905,094**	**6,411,049** **8,137,067**	**929,686** **1,326,364**	**3,940,888** **6,646,548**	**1,976,555** **3,636,642**	**1,976,409** **4,334,244**	**6,869,593** **11,746,502**	45,771,744 **80,574,579**
Growth %	**1996** **2002**	**67.44**	**93.61**	**90.92**	**26.92**	**42.67**	**68.66**	**83.94**	**119.30**	**70.99**	**76.04**
% of Total Prov. Eco	**2002**	**6.08**	**22.27**	**27.19**	**10.10**	**1.65**	**8.25**	**4.51**	**5.38**	**14.57**	**100.00**

Source: DBSA, 2004

TABLE 3.1 indicates the following:

- The economy of Pixley Ka Seme Municipal Area can be considered small if its total contribution to the District and Provincial economies is taken into consideration. Of the 7 Local Municipalities in Gert Sibance District Municipal Area, the economy of Pixley Ka Seme ranks fourth after Govan Mbeki (R17,147,159,000.00), Lekwa (R3,353,299,000.00) and Msukaligwa (R2,462,626,000.00). The economy of Pixley Ka Seme L.M. constitutes only 4.25% of the Gert Sibande D.M. economy.

  Of the 23 local municipalities in Mpumalanga, the economy of Pixley Ka Seme ranks 13th and its contribution to the Provincial economy is only 1.41%.

- Although there was growth in all economic sectors of the Municipal Area from 1996 to 2002, growth in real economic terms is primarily concentrated in agriculture, the electricity, gas and water supply sector, wholesale and retail trade sector and community social and personal services sector.

- When compared to the District and Provincial economies, Pixley Ka Seme shows comparative advantages in agriculture, electricity, gas and water supply, construction and transport, storage and communication.

- Further comparisons with the District and Provincial economies show special weaknesses in the Pixley Ka Seme economy in the mining and quarrying sector and manufacturing. Both these economic sectors are very strong in Gert Sibande D.M. The large employment creating potential of these two economic sectors is well known.

- Agriculture is the largest economic sector in the Municipal Area. Continued growth in this sector is crucial for the economy of the area.

- Community, social and personal services is the second largest economic sector in the Municipal Area. Further growth in this economic sector is dependent on population growth, future contributions by government and growth in person income.

The need for active intervention to strengthen the economy of the Municipal Area and create jobs is stressed by the following:

- Continued population growth in the area
- Few new annual job opportunities are created

- Growing unemployment (unemployment currently stands at 50.7%)
- 2037 job losses between 2000 and 2001 alone
- A high dependency ratio of 6.9 (number of people dependent on each worker)
- Because of the high unemployment, there is a large dependency on Welfare grants and pensions for livelihood maintenance. This has negative social and psychological consequences.
- Youths of 18 years and under comprises 46% of the population. This holds serious consequences for future employment.
- The male / female ration is 46.88% / 53.32% because of male absenteeism due to a shortage of job opportunities.

3.2.2.2. Economic production factors

An inventory of the economic production factors in the area that could play a role in the utilisation of the mining complex is of importance.

3.2.2.2.1. Natural resource base

1. Climate

The area can be characterised as a summer rainfall area with the warmer months from October to April. The rainfall varies from 760 mm per annum in the north-western part of the Municipal Area to approximately 1000 mm per annum along the escarpment east of Wakkerstroom. The climate of this area varies from very cold with frost between 25 April and 15 October and some snow during winter, to fairly hot during the summer in the parts below the escarpment. The area falls within the mist belt.

2. Topography

The Municipal Area is situated within the Highveld Region, consisting of undulating hilly landscapes with an average elevation of 1550 m above sea level. To the south and south-east is an escarpment and related mountains, which provide an attractive variety to the landscape. The town of Wakkerstroom that is situated in the latter area is malaria free due to the altitude.

3. Soil

TABLE 3.2 indicates the broad soil patterns of the Municipal Area.

TABLE 3.2 BROAD SOIL PATTERNS

Broad Soil Types	Area (ha)	%
	8,025	
Red, dystrophic and/or mesotrophic (Ab)	4,981	1.0
Red and yellow dystrophic and/or mesotrophic (Ac)	65,681	12.6
Yellow, dystrophic and/or mesotrophic (Ad)	525	0.1
Dystrophic and/or mesotrophic; red soils widespread (Ba)	31,236	6.0
Dystrophic and/or mesotrophic; red soils not widespread (Bb)	10,654	2.0
Plintic catena: upland duplex and/or margalitic soils common (Ca)	212,572	40.7
Vertic, melanic, and/or red structured diagnostic horizons (Ea)	102,309	19.6
Pedologically young soils (lime rare or absent) (Fa)	93,642	17.9
Exposed rock areas with miscellaneous soils (Ib)	94	0.0

Source: Dept. of Agriculture, Conservation and Environment, Mpumalanga, 2005.

The agricultural potential of the Ca and Fa soil types are marginal while the potential of the Ea, and Ac types are medium to high. Recommended crops for the area are: grain sorghum, sunflower, maize and wheat and groundnuts.

TABLE 3.3 indicates the soil form associations found in the Municipal Area.

TABLE 3.3 SOIL FORM ASSOCIATIONS

Class	Area (ha)	%
Hu-dominant	90,239	17.3
Hu, Av, Cv, Gc	54,635	10.5
Av, Gc, We,Cv	38,308	7.3
Lithosols, Hu, Cv, Gc	62	0.01
Lithosols, Cv, Gc, Hu	4,627	0.9
Lithosols, Hu, v, Sd, Sw	21,304	4.1
lithosols, Cv, Va	91,939	17.6
Gs, Cv, Es	10,828	2.1
Es, Gs, Cf	24,953	4.8
Hu, Sd, Sw, Gs	742	0.1
Ar, My, Va	69,665	13.3
Ar-dominant	51,070	9,8

Rg, Ar	62,976	12.0
Non-perennial pans	629	0.1
Waterbodies	822	0.2

Source: Dept. of Agriculture, Conservation and Environment, Mpumalanga, 2005.

- The Hutton Form (Hu) is dominant over a large area and is also found in association with other soil forms. The soil consists of an Ortic A horizon over a red Apedale B horizon. The agricultural potential of the soil is high.
- The Avalon Form (Av) consists of an Ortic A horizon over a yellow-brown Apedale B horizon over a soft Plintic B horizon. Medium to high agricultural potential.
- Lithosols are stony soils - not till able.
- Arcadia (Ar) consists of a dark or red A horizon. The clay contents vary from 30-60% in the A horizon. Low agricultural potential for maize and groundnuts.
- The Clovelly Form (Cv) has an Ortic A over a yellow-brown Apedale B horizon. The clay content vary from 15-35% and the soils have a high to medium agricultural potential.
- The Vals River Form (Va) consists of an Ortic A horizon over a Pedocutanial B horizon over unconsolidated material. The clay content in the B horizon is high. Agricultural potential is marginal.

Agriculture is the foremost economic sector in the Municipal Area because of soil conditions that are conducive to crop production.

4. Geology and mining

A major portion of the Municipal Area is occupied by the Karoo Outcrop, which belongs to the Dwyka, Vryheid and Volksrust formations. Several types of dolerite in the form of silts and dykes have intruded the sediments. On site sediments of the Vryheid formation and dolerite intrusions predominate. Quaternary deposits comprise small patches of terrace ground and gully wash along the gullies, some talus along the foot of the steeper dolerite hills and a widespread, but thin covering of soil or terricrete on the plains. The Vryheid formation consists predominantly of mudrocks with sub-ordinate sandstone, gravel and coal seams. The Carolina-Wakkerstroom coalfield covers most of the Municipal Area.

As indicated in TABLE 3.1, mining is currently not an important contributor to the economy of the Municipal Area in terms of economic production as well as provider of employment opportunities. The industry's contribution to the Gross Value Added (GVA) was 1.46% in 2002. Comparable figures for Gert Sibande District was 25.37% and for Mpumalanga 22.27%.

The Carolina-Wakkerstroom coal field covers most of the Municipal Area although there are no coal mines at present. The coal mine that was started near Majuba Power Station to produce coal for the power station, turned out to be not feasible due to dykes in the coal deposits and excessive gasses - despite large coal deposits in the area.

Four sectors of the Carolina-Wakkerstroom coal field are found within the Municipal Area, viz:

- The southern portion of the Ermelo Sector. Usutu Colliers is situated just south of Ermelo on this sector, but outside Pixley Ka Seme Municipal Area.
- Glenfillan sector in the north-eastern portion of Pixley Ka Seme Municipal Area.
- Perdekop-Volksrust sector
- Mhlangapisi Mountain-Wakkerstroom sector.

The Alfred, Gus, Dundas and Coking Coal layers are present in all four sectors. These layers are best developed in the area north-east of Wakkerstroom and north of Amersfoort (Department of Mining, 1976:383-385).

5. Livestock production

TABLE 3.4 LIVESTOCK PRODUCTION

Type	Number
Cattle	101,711
Sheep	244,952
Goats	5,521
Pigs	5,541
Horses	3,086
Donkeys & Mules	236
Poultry	258,833

Source: Dept. of Agriculture, Conservation and Environment, Mpumalanga, 2005.

Cattle, sheep and poultry (chickens) are the most important livestock produced in the Municipal Area. Milk production is prevalent in the area around Wakkerstroom.

3.2.2.2.2. Human resource base

1. Population size and projection

TABLES 3.5 and 3.6 show the estimated population of Pixley Ka Seme for 2006 and the projected populations for 2011, 2016 and 2016 at low and high HIV/AIDS impact respectively.

TABLE 3.5 POPULATION SIZE AND PROJECTION: 2006 - 2021 AT LOW HIV/AIDS IMPACT

						AVERAGE ANNUAL GROWTH RATE			
Place Name	**2001**	**2006**	**2011**	**2016**	**2021**	**2001-2006**	**2006-2011**	**2011-2016**	**2016-2021**
Amersfoort	1,316	1,511	1,716	1,916	2,136	2.80	2.58	2.23	2.20
Amersfoort NU	5,697	6,519	7,365	8,184	9,082	2.73	2.47	2.13	2.10
Daggakraal 1	1,714	1,971	2,238	2,498	2,784	2.83	2.57	2.22	2.19
Daggakraal 2	3,600	4,127	4,674	5,206	5,790	2.77	2.52	2.18	2.15
Daggakraal 3	8,391	9,577	10,789	11,952	13,224	2.68	2.41	2.07	2.04
eSizameleni	4,677	5,358	6,062	6,742	7,489	2.76	2.50	2.15	2.12
Ezamokuhle	6,696	7,656	8,642	9,592	10,633	2.72	2.45	2.11	2.08
KwaNgema	3,640	4,175	4,728	5,264	5,855	2.78	2.52	2.17	2.15
KwaNgema North	1,422	1,634	1,854	2,069	2,304	2.82	2.56	2.22	2.17
Perdekop	465	535	608	680	758	2.84	2.59	2.26	2.20
Sinqobile A	2,518	2,889	3,279	3,656	4,070	2.79	2.56	2.20	2.17
Sinqobile B	2,268	2,604	2,952	3,293	3,668	2.80	2.54	2.21	2.18
Sinqobile C	2,108	2,422	2,749	3,067	3,416	2.82	2.57	2.21	2.18
Sinqobile D	656	755	859	959	1,070	2.85	2.61	2.23	2.21
Siyazenzela	2,922	3,354	3,802	4,237	4,717	2.80	2.54	2.19	2.17
Volksrust	7,343	8,387	9,459	10,491	11,621	2.69	2.43	2.09	2.07
Volksrust NU	8,874	10,120	11,395	12,615	13,952	2.66	2.40	2.06	2.04
Vukuzakhe	15,911	18,007	20,121	22,105	24,257	2.51	2.24	1.90	1.88
Wakkerstroom	1,156	1,340	1,521	1,698	1,893	2.84	2.57	2.23	2.20
Wakkerstroom NU	8,923	10,175	11,450	12,690	14,034	2.66	2.41	2.06	2.03
TOTAL	90,306	103,116	116,273	128,914	142,753	2.69	2.43	2.09	2.06

DBSA, 2004:P. 63	Provincial growth rate	2.36	2.11	1.78	1.76
	Gert Sibande growth rate	2.24	1.88	1.68	1.67

TABLE 3.6 POPULATION SIZE AND PROJECTION FOR THE MUNICIPAL AREA: 2006 - 2021 AT HIGH HIV/AIDS IMPACT

						AVERAGE ANNUAL GROWTH RATE			
Place Name	2001	2006	2011	2016	2021	2001-2006	2006-2011	2011-2016	2016-2021
Amersfoort	1,286	1,428	1,545	1,638	1,693	2.12	1.59	1.18	0.86
Amersfoort NU	5,560	6,147	6,613	6,973	7,172	2.03	1.47	1,07	0.56
Daggakraal 1	1,673	1,858	2,007	2,125	2,191	2.12	1.55	1.15	0.61
Daggakraal 2	3,515	3,895	4,200	4,439	4,578	2.07	1.52	1.11	0.62
Daggakraal 3	8,186	9,027	9,683	10,178	10,435	1.98	1.41	1.00	0.50
eSizameleni	4,563	5,053	5,443	5,746	5,916	2.06	1.50	1.09	0.58
Ezamokuhle	6,533	7,216	7,755	8,168	8,389	2.01	1.45	1.04	0.54
KwaNgema	3,552	3,938	4,244	4,485	4,625	2.08	1.51	1.11	0.62
KwaNgema North	1,387	1,540	1,665	1,763	1,823	2.11	1.57	1.15	0.67
Perdekop	455	506	546	581	601	2.15	1.53	1.25	0.68
Sinqobile A	2,455	2,725	2,942	3,114	3,216	2.11	1.54	1.14	0.65
Sinqobile B	2,211	2,456	2,652	2,805	2,895	2.12	1.55	1.13	0.63
Sinqobile C	2,057	2,282	2,465	2,608	2,693	2.10	1.55	1.13	0.64
Sinqobile D	640	712	771	816	846	2.16	1,60	1.14	0.72
Siyazenzela	2,850	3,161	3,411	3,608	3,721	2.09	1.53	1.13	0.62
Volksrust	7,166	7,911	8,496	8,941	9,182	2.00	1.44	1,03	0.53
Volksrust NU	8,658	9,542	10,231	10,751	11017	1.96	1.40	1.00	0.49
Vukuzakhe	15,521	16,972	18,054	18,821	19,139	1.80	1.24	0.54	0.34
Wakkerstroom	1.137	1,263	1,366	1,449	1,500	2.12	1.58	1.19	0.69
Wakkerstroom NU	8,706	9,593	10,283	10,803	11,069	1.96	1.40	0.99	0.49
TOTAL	88,111	97,225	104,372	109,812	112,701	1.99	1.43	1.02	0.52
DBSA, 2004:P. 57			Provincial growth rate			1.66	1.11	0.71	0.22
			Gert Sibande growth rate			1.56	1.02	0.62	0.14

In both of the above projections population growth is expected for it is believed that the epidemic is unlikely to lead to negative population growth except where there is a combination of very high levels of HIV prevalence and rapidly declining fertility. Future population growth should be closely monitored to determine which of the two growth rates should be used for planning purposes.

Both projections indicate a gradual decline in the annual growth rate towards 2021. The annual average compound growth rate for the Municipal Area is, however, higher than the projected growth rates of Mpumalanga and Gert Sibande District for both projections.

A total of 41.0% of the population of the Municipal Area is concentrated in and around the towns of Amersfoort and Daggakraal that are nearest to the mining complex. Expectations are that this percentage will remain more or less the same for 2011, 2016 and 2021.

2. Urbanisation ratio

The Urban/Rural ratio of the population is 68.1% / 31.9% compared to 40.5% / 59.5% for Mpumalanga as a whole. This indicates a higher degree of urbanisation for the Municipal Area that is expected to increase in future.

3. Population composition

The male / female ratio for the Municipal Area is 46.88% /53.32% or 88.25 males for every 100 females against the 47.9% / 52.1% or 92.1 males for every 100 females for Mpumalanga (DBSA, 2004:p.3). The male / female ratio indicates a relatively high level of male absenteeism due to a shortage of local job opportunities.

Africans represent 92.05% of the population, Whites 6.83%, Coloureds 0.52% and Indians 0.57%.

4. Level of education

The level of education is an important indicator of development and affluence of a society. In normal circumstances there is a positive correlation between these two indicators.

TABLE 3.7 indicates the highest education level of the Municipal Area.

TABLE 3.7 HIGHEST EDUCATION LEVEL - 1996 AND 2001

EDUCATION LEVEL	SEME 1996	SEME 2001
No schooling	19,315	13,858
Grade 1	583	527
Grade 2	232	787
Grade 3	1,223	1,317
Grade 4	1,979	1,805
Grade 5	1,620	1,649
Grade 6	1,926	1,597
Grade 7	2,194	2,241
Grade 8	2,738	2,324
Grade 9	1,694	1,811
Grade 10	3,470	2,824
Grade 11	1,824	1,778
Grade 12 / Matric	4,600	4,923
Certificate and diploma with less than matric	405	157
Matric and certificate	313	389
Matric and diploma	750	1,013
Bachelor’s degree	285	253
Bachelor’s degree and diploma	58	154

Honour's degree	33	98
Higher degree (Master's / doctorate)	25	39

Source: Statistics South Africa. Census 1996 and 2001.

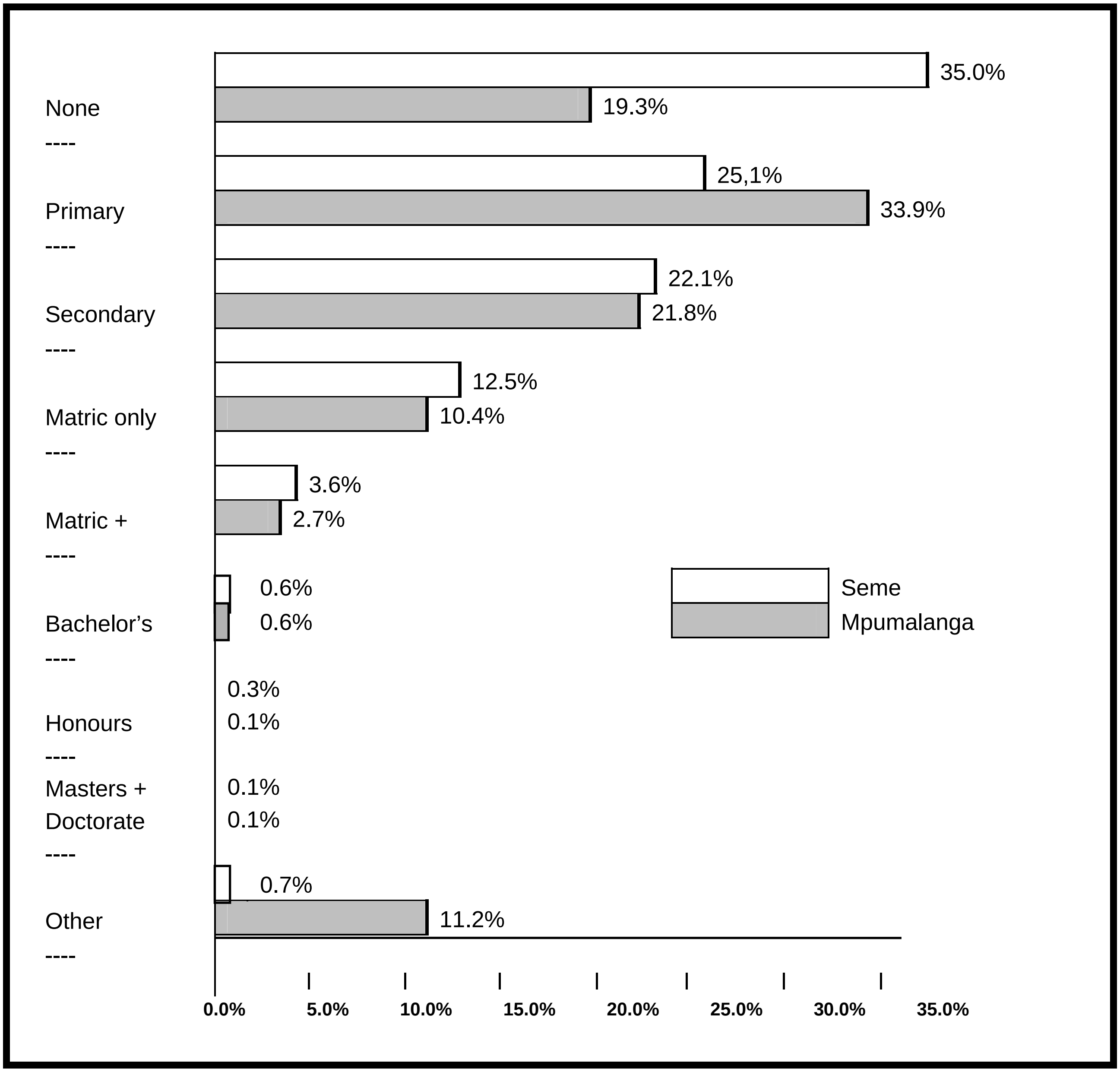
TABLE 3.7 indicates the following:

- There was a large decrease of people without schooling since 1996. Available statistics indicate that the largest numbers of people currently without schooling are located in Daggakraal (3509), eZamokuhle (1257), Seme Farm Area (5248) and Vukuzakhe (1942).
- There was a slight increase in the number of people with primary education (Grades 1-7) from 9757 to 9923.
- The number of people with matric increased from 4600 to 4923.
- The number of people with a post matric education increased from 1464 to 1946.
- The number of people with a degree increased from 401 to 544.

To summarise, it is clear that there is an upward trend in the education level in the Municipal Area although the table reveals relatively low levels of schooling. Although the 17.1% of the population with matric and tertiary levels of education is higher than the 13.1% for the Province, it still highlights the need for delivery of the whole spectrum of educational services. A survey conducted among households (2005) indicated a special need for technical and tertiary education. The municipality also expressed the need for a nearby centre for the training of Traffic Officers. Personnel are presently trained at Hammanskraal and the waiting list makes it difficult.

The graph, Figure 3.3 is a comparison of the level of education composition of the Municipal Area and the Province.

Figure 3.3 POPULATION DISTRIBUTION BY LEVEL OF EDUCATION, 2001



Source: Estimates Development Information Unit: DBSA
(Based data: Statistics South Africa)

The graph indicates the following:

- The Municipal Area has a much larger percentage of people with no schooling than the Province.
- The Municipal Area has a much lower percentage of people with primary education than the Province.
- The Municipal Area has slightly higher percentages of people with secondary education, matric alone and tertiary education than the Province.

5. Employment

a) Employment and unemployment

TABLE 3.8 is a comparison of the employment and unemployment situation of the Municipal Area, Gert Sibande District Municipality and Mpumalanga for the 1996 and 2001 Census years.

TABLE 3.8 EMPLOYMENT AND UNEMPLOYMENT IN 1996 AND 2001

Area	**Year**	**Employed (Formal & Informal)**	**Unemployed**	**Total**	**Employment rate (Formal & Informal) %**	**Unemployment rate %**	**Total %**
Pixley Ka Seme	1996	15,781	10,206	25,987	60.7	39.3	100
	2001	11,730	12,059	23,789	49.3	50.7	100
Gert Sibande D. Mun.	**1996**	**188,748**	**91,168**	**279,916**	**67.4**	**32.6**	**100**
	2001	**179,416**	**134,264**	**313,661**	**57.2**	**42.8**	**100**
Mpumalanga	1996	623,634	303,634	927,268	67.3	32.7	100
	2001	630,066	439,519	1,069,585	58.9	41.1	100

Source: DBSA, 2004, p:74, 76.

- A total of 4051 jobs (25.7%) were lost in the Municipal Area between 1996 and 2001. Gert Sibande District Municipality lost a total of 9332 jobs (4.9%). The Municipal Area had the highest number of job losses (43.4%) in Gert Sibande District Municipality. Mpumalanga as a whole shows a slight growth (1.03%) in employment during the same period.
- The formal and informal employment rate shows a decline in all three areas, however, decline is the highest in the Municipal Area where it dropped from 60.7% in 1996 to 49.3% in 2001.

- The Municipal Area has a higher unemployment rate than Gert Sibande District Municipality and Mpumalanga. The growth in unemployment is also higher than for the District and Province. The unemployment rate for the Municipal Area currently stands at a high 50.7%.

The high unemployment rate must not only be seen against the background of a small economy and a lack of job opportunities, but can also be linked to the cultural and historical backgrounds of the different groups in the labour force. Young age profiles, male dominance, high levels of male absenteeism, low labour force participation rates, high labour dependency ratio and high levels of youth unemployment are normal characteristics of a labour force that consists of a large number of people who did not receive adequate formal education or training before they entered the labour market.

b) Employment by kind of economic activity

TABLE 3.9 is a summary of the total employment by kind of economic activity for the Municipal Area in 1996 and 2001. To make comparisons, the percentages for Gert Sibande District Municipality and Mpumalanga are also included.

TABLE 3.9 EMPLOYMENT BY KIND OF ECONOMIC ACTIVITY: 1996 AND 2001

Year	Agriculture, hunting, forestry and fishing	Mining and quarrying	Manufacturing	Electricity, gas and water supply	Construction	Wholesale and retail trade	Transport, storage and communication
1996	4,806	281	730	854	1,281	1,384	592
2001	2,700	39	1,084	458	533	1,503	283
1996	30.5%	1.8%	4.6%	5.4%	8.1%	8.8%	3.85
2001	23.0%	0.3%	9.2%	3.9%	4.5%	12.85	2.4%
2001	20.0%	9.2%	12.4%	1.5%	4.9%	13.0%	3.1%
2001	18.1%	7.5%	11.2%	1.8%	6.1%	13.9%	3.6%

Source: DBSA, 2004, p:77-80.

Financial insurance, real estate and business services	Community, social and personal services	Private Households	Undetermined	Total
317	1,595	1,866	2,075	15,781
398	1,921	2,365	446	11,730
2.0%	10.1%	11.8%	13.1%	100%
2.4%	16.4%	20.2%	3.8%	100%

4.4%	14.5^	10.9%	6.0%	100%
5.3%	15.4%	10.9%	6.3%	100%

- There was an increase in employment in the economic sectors manufacturing, wholesale and retail trade, financial, insurance, real estate and business services, community, social and personal services and in the employment by private households.
- The economic sectors agriculture, hunting, forestry and fishing, mining and quarrying, electricity, gas and water supply, construction, transport, storage and communication and undetermined show a decrease in employment.
- Although agriculture shows a marked decline in employment, it is still the largest employer. This economic sector shows a slight comparative advantage over Gert Sibande District Municipality and Mpumalanga.
- Employment in manufacturing and mining and quarrying (the traditionally large employment sectors) is less than the average for Gert Sibande District Municipality and Mpumalanga. The potential for possible future growth also exists in the above sectors.
- Employment by private households is much higher than the average for Gert Sibande District Municipality and Mpumalanga. This is an indication of a small economy with a shortage of job opportunities in the formal economic sectors.

6. Individual monthly income

The income of the population has a direct influence on the numbers and types of businesses, personal services as well as quality of housing in an area.

TABLE 3.10 INDIVIDUAL MONTHLY INCOME

Income	**Individual**	**Percentages**
	2001	**2001**
None	60,847	75.36%
R1 - R400	7,375	9.13%
R401 - R800	7,328	9.08%
R801 - R1600	1,761	2.18%
R12601 - 3200	1,453	1.80%
R3201 - R6400	1,155	1.43%
R6401 - R12800	532	0.66%
R12801 - R25600	161	0.20%

R25601 - R51200	41	0.05%
R51201 - 102400	31	0.04%
R102401 - R204800	46	0.06%
Over R204801	9	0.01
	80,739	100.00%

Source: 2001 Census data

The above figures indicate that people without an income and those in the low income group are by far in the majority followed by the middle income group.

TABLE 3.11 is a more detailed indication of the distribution of income in the Municipal Area.

TABLE 3.11 INDIVIDUAL MONTHLY INCOME PER WARD

WARD	1	2	3	4	5	6	7	8	9	10
None	75.82	72.70	63.88	83.62	78.45	81.27	73.35	74.48	81.23	74.18
R1 - R400	8.83	6.63	8.33	4.79	8.02	10.28	8.50	11.20	7.82	12.66
R401 - R800	10.58	12.70	8.42	9.57	8.56	6.91	8.37	8.53	9.31	8.97
R801 - R1600	3.33	3.65	3.88	1.28	2.06	0.78	3.64	1.99	0.64	1.58
R1601 - R3200	1.03	2.69	5.06	0.53	1.38	0.32	3.31	1.77	0.64	0.98
R3201 - R6400	0.24	1.36	5.43	0.21	0.96	0.27	2.02	1.16	0.30	1.03
R6401 - 12800	0.18	0.20	3.36	0.00	0.35	0.13	0.40	0.53	0.03	0.34
R12801 - R25600	0.00	0.03	0.98	0.00	0.14	0.03	0.34	0.11	0.00	0.10
R25601 - R51200	0.00	0.00	0.20	0.00	0.04	0.00	0.07	0.08	0.00	0.03
R51201 - R102400	0.00	0.00	0.14	0.00	0.04	0.00	0.00	0.04	0.00	0.08
R102401 - R204800	0.00	0.03	0.26	0.00	0.00	0.00	0.00	0.11	0.03	0.03
Over R204801	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.03

Source: 2001 Census Data

The table shows that the majority of people in the area are without an income. The low average income in Amersfoort (Wards 7 and 8) and Daggakraal (Wards 4, 6 and 9), the towns nearest to the mining complex, is obvious.

7. Age distribution

TABLE 3.12 indicates the age distribution per ward and for the Municipal Area as a whole.

TABLE 3.12 AGE DISTRIBUTION PER WARD

	1	2	3	4	5	6	7	8	9	10	TOTAL
AGE	%	%	%	%	%	%	%	%	%	%	%
0-4	5.70	8.30	10.36	3.67	10.54	17.99	5.15	10.72	13.45	14.09	12.27
5-14	5.53	9.09	9.96	3.94	11.39	15.83	4.83	9.97	14.36	15.11	26.34
15-34	7.05	12.39	14.45	3.50	10.18	12.41	6.29	9.54	11.44	13.76	33.74
35-64	6.43	13.11	16.40	2.89	9.24	11.81	5.64	10.16	10.21	14.10	22.53
65 +	3.33	12.90	15.58	3.41	13.04	10.51	4.28	8.48	12.03	16.45	5.12

Source: 2001 Census data

- Youths in the age group 0-14 years represent 38.61% of the population. This is higher than the 37.10% for the country and almost equal to the 38.9% for Mpumalanga. When these children mature and reach child-bearing age over the next 30 years, a relatively strong population momentum will be maintained over the period - if emigration through a shortage of jobs and deaths through HIV/AIDS can be curbed as far as possible. The high percentage of children highlights the increasing pressure the Municipal Area will experience in future in supplying enough jobs, housing and services for its population.
- The economic active age groups (15-64 years) represent 56.27% of the population. The size of this group indicates the pressure on the local economy to provide jobs. This is especially true if the high percentage of the young economic active group is taken into consideration. Among these are large numbers of young people who have completed their schooling and are looking for jobs.

3.2.2.2.3. Physical Infrastructure

1. Transport

Roads

Figure 3.2 also indicates the major road network of the Municipal Area. National and Provincial roads in the area include:

- N11 to Amersfoort / Ermelo and Gauteng via the N17
- R543 to Wakkerstroom
- R543 to Vrede
- P 4-6 to Sandspruit railway station / Perdekop and P 4-5 from Perdekop to Ermelo
- N11 to Charlestown / Newcastle in KwaZulu-Natal
- P 97-1 to Perdekop / Amersfoort and linking Perdekop with P 7-3
- R23 to Standerton

The Municipal Area is well connected to the rest of Mpumalanga, KwaZulu-Natal and Gauteng. The N11 is the main connector road with Mpumalanga, Gauteng and KwaZulu-Natal. This road is regularly in a very poor condition between Amersfoort and Ermelo because of the daily movement of coal trucks to Majuba Power Station.

Railway

The functional railway network in Mpumalanga covers approximately 2083 km. The trajectories Volksrust / Balfour North via Standerton and Volksrust / Bethal via Amersfoort form part of this network (see Figure 3.4). The Volksrust / Glencoe trajectory further continues to Durban. The trajectory Volksrust / Wakkerstroom / Amersfoort is no longer functional.

A railway line is planned to transport coal from Witbank to Majuba Power Station. Construction is envisaged in 2008. This development will result in the improvement of the N11 between Amersfoort and Ermelo and with the mining complex in general.

Airfields

The private airfield at Majuba Power Station (location co-ordinates 27 04S/29 47E) is the only licensed airfield in the Municipal Area. The runway of 1500 X 15m has an asphalt surface with strength of 40 LCN (Civil Aviation Authority: Aeronautical Information Publication, Part 3, 2001).

Bus service

Greyhound has a daily bus service between Johannesburg and Durban via the N11 and Volksrust. The bus stops at the Tourist Information office in Volksrust.

Vuka Transport with an office and workshop in Volksrust, is the only local bus service involved in the transportation of passengers within the Municipal Area. The company has 10 buses and 20 employees. A total of 200 passengers are transported on a daily basis.

Route description:

- Luneburg - Groenvlei - Wakkerstroom - Volksrust (2 X per week)
- Groenvlei - Zaaihoek Dam - Volksrust (3 X per week)
- Driefontein - Wakkerstroom - Volksrust (5 X per week)

Taxi service

Taxis are the main means of transport of commuters within the Municipal Area. A number of 61 taxis within the Municipal Area provide both intra and inter urban transport within the area. The service can be extented to incorporate the mining complex. The present number of daily trips and passengers to and from Amersfoort (the nearest town to Bergvliet) are as follows:

Amersfoort

Internal: 48 trips, 714 passengers

Daggakraal to Amersfoort: 12 trips, 195

Perdekop to Amersfoort: 2 trips, 42 passengers

(Taxi Survey, 2005)

2. Water provision

The main rivers and dams in the Municipal Area are indicated in TABLE 3.13.

TABLE 3.13 RIVERS AND DAMS IN THE MUNICIPAL AREA

DAM	NEAREST TOWN	RIVER	FULL SUPPLY CAPACITY MILLION ML
Amersfoort	Amersfoort	Schulpspruit	0.993
Schuilhoek Balfour Mahawane	Volksrust	Sandspruit - Vaal River Sandspruit - Vaal River Mahawane - Buffles	350 ML 310.5 ML 1.92 x 10/3 ML
Martins Dam	Wakkerstroom	Wakkerstroom Slang River	Not available
Zaaihoek Dam	Wakkerstroom	Wakkerstroom Slang River	193 ML

Source: Pixley Ka Seme L.M., IDP Revision, 2004.

The Majuba Power Station is provided with water through a pipeline from the Zaaihoek Dam.

3. Electricity

Eskom provides electricity to the area with the inclusion of Bergvliet.

3.2.2.3. Business activities

Formal business sector

TABLE 3.14 indicates the composition and distribution of the formal business sector of the Municipal Area.

TABLE 3.14 FORMAL BUSINESS SECTOR

	Volksrust	Amers-foort	Wakker-stroom	Perdekop	Dagga-kraal
FINANCING					
Estate Agency	4				
Bank	4	2	1		
Insurance	5	2			
Money loan (micro)	4	2		1	
SERVICE UNDERTAKINGS					
Auctioneer	1				
Beauty Salon	1				
Crèche	4				
Computers	3				
Dry Cleaner	1	1			
Electrician	2	1			
Ladies Hairdresser	7	3	1		
Men's Hairdresser	1	1			
Laundry					
Newspaper	1				
Plumber	2				
Carpenter	2				
Printing	1				
Security	2				
Funeral Services	7	4	1	1	1
Video's	3				
Photographer	1				
ACCOMMODATION					
Bed + Breakfast	1	--	--	--	--
Guest House	5	2	4	--	--
Lodge	1	--		--	--
Hotel / Motel	1	1	1	1	--
Boarding house		--	--	--	--
FOOD					
Supermarket	4	2	--	--	--
Groceries / convenience shop	6	3	--	2	9
Fruit + vegetables	4	4	--	1	--
Butchery	3	3	1	1	--
Liquor Store	5	4	1	1	2
Bakery	2	2	1	--	--
Ice-cream parlour	--	--	--	--	--
Take aways	6	3	--	1	--
Restaurant	3	2	--	1	--
Café	6	4	1	3	1
Fish & Chips	--	--	--	--	--

Drive-in restaurant	--	--	--	--	--
SPECIALISED WARE					
Cell phones	2	2	1	--	--
Books and stationary	2	--	--	--	--
Building material	2	3	--	1	--
Gifts + Toys	3	1	2	--	--
Pharmacy	4	1	--	--	--
Florist	2	--	--	--	--
Hardware and paint	3	1	--	--	--
Needlework / sewing machines	2	1	--	--	--
Pawn shop	1	--	--	--	--
Radio + TV	1	1	--	--	--
Music	1	--	--	--	--
Glass	1	--	--	--	--
Jewellery	2	--	--	--	--
Guns + ammunition	1	--	--	--	--
Office Equipment	2	--	--	--	--
Bicycles	1	1	--	--	--
Sport goods	1	--	--	--	--
Wood + coal	2	--	--	--	--
MOTOR TRADE					
Filling station / garage	5	1	1	--	1
Workshop only	12	4	1	--	--
Tow-in service	1	--	--	--	--
Motor spares	3	--	1	--	--
New car sales	2	--	--	--	--
Used car sales	4	--	--	--	--
Motorcycles	1	--	--	--	--
Farming implements / workshop	1	1	--	1	--
Tyres and exhausts	3	1	--	--	--
Batteries	1	1	--	--	--
Panel beaters	1	--	--	--	--
Auto Electricians	2	--	--	--	--
HOUSEHOLD GOODS					
Bathroom appliances	--	--	--	--	--
Lights	--	--	--	--	--
Break ware	1	--	--	--	--
Electrical ware	2	--	--	--	--
Carpets	1	--	--	--	--
Curtains	2	--	--	--	--
Material	2	2	--	--	--
Furniture	13	6	--	--	--

Used furniture	2	--	--	--	--
Air conditioning	2	--	--	--	--
Tiles	1	--	--	--	--
CLOTHING					
Babies clothing	1	--	--	--	--
Ladies clothing	6	--	1	--	--
Men's clothing	2	--	--	--	--
Ladies + Men's clothing	15	14	1	2	--
Shoes	2	1	--	--	--
Clothes making	2	--	--	--	--
Shoe repair	2	1	--	--	--
Leather ware	--	--	--	--	--
TRANSPORT					
Delivery / Couriers	2	--	--	--	--
Bus service	1	--	1	--	--
Furniture removal	1	--	--	--	--
Taxi	--	1	--	--	--
Travel agency	--	--	--	--	--
Road transport	3	--	--	--	--
Air transport	--	--	--	--	--
PROFESSIONAL SERVICE					
Attorney	6	1	--	--	--
Accountant / CA	3	--	1	--	--
Engineer	1	--	--	--	--
Architect	1	--	--	--	--
Town Planner	--	--	--	--	--
Land Surveyor	1	--	--	--	--
Doctor / consulting rooms	7	4	1	--	--
Dentist	2	--	--	--	--
Veterinarian	2	--	--	--	--
Physiotherapists	2	--	--	--	--
Optometrist	2	--	--	--	--
Interior decorator	2	--	--	--	--
OTHER (Specify)					
General Dealer	6	7	5	3	3
Building Contractor	2	1	--	--	--
Coffee shop	2	--	1	--	--
Pub / Tavern + grill	5	3	2	2	1
Internet café	1	--	--	--	--
Antiques	1	--	1	--	--
Pottery	1	--	--	--	--
Soap products	1	1	--	--	--

Computer Training	--	1	--	--	--
Arts shop / curios	1	1	1	--	--
Roller Mills + Sales	1	2	1	--	1
Sweets	4	--	--	--	
Coke Depot	1	1	--	1	1
Entertainment centre / games	2	--	--	--	--
Farmers' Services	2	1	--	1	--
Driving school	1	1	--	--	--
Herbal shop	4	2	--	--	--
Pet shop	1	--	--	--	--
Nursery	1	1	1	--	--
Bed shop	1	--	--	--	--
Signs	1	--	--	--	--
Private ambulance	1	--	--	--	--
TOTAL	**304**	**117**	**35**	**24**	**20**
TOTAL FLOOR AREA IN USE m^2	**55546**	**25710**	**6137**	**5140**	**3413**
PER CAPITA FLOOR AREA m^2	**2.27**	**2.07**	**0.73**	**0.44**	**0.14**
TOTAL BUSINESS FLOOR AREA INCLUDING VACANT SHOPS m^2	**59666**	**28819**	**6612**	**5444**	**3413**

Source: Fieldwork, 2005; TDS: Yellow pages and phone book, Mpumalanga,2004/5

As indicated by TABLE 3.14, there are 500 formal business undertakings with a total floor area of 95564 m^2 in the towns of the Municipal Area. There is also an additional 8390 m^2 vacant business floor area in the towns. Volksrust has 4120 m^2 of vacant business floor area, Amersfoort 3109 m^2, Wakkerstroom 475 m^2, Perdekop 301 m^2 and Daggakraal 384 m^2. The total available business floor area for the five towns is, therefore, 103954 m^2.

The 304 formal businesses in Greater Volksrust represent 60.80% of the total number of formal businesses in the Municipal Area and 58.12% of the floor area currently in use. Amersfoort has 23.40% of the businesses and 26.90% of the business floor area in use. Wakkerstroom has 7.00% of the businesses and 6.42% of the floor area in use. Perdekop has 4.80% of the businesses and 5.38% of the floor area in use. Daggakraal has 4.00% of the businesses and 3.18% of the floor area in use.

Volksrust has larger numbers of enterprises dealing in specialised commodities than the other towns in the Municipal Area where a concentration of enterprises dealing in convenience commodities are mostly found. Businesses that are generally classified as enterprises dealing in specialised commodities are the motor trade, department stores, hyper-supermarkets, large furniture stores, better known clothing and shoe stores and speciality shops such as jewellers, computer shops, sport goods shops and florists. Professional services are also included under this classification. Businesses that are generally classified as enterprises that sell convenience goods or services are smaller grocery shops, general dealers, liquor stores, hardware and paint shops, pharmacies, auto repair shops / workshops, dry cleaners, hair salons (female and male), café's and fruit and vegetable stores.

TABLE 3.15 indicates the type of ownership of the formal businesses.

TABLE 3.15 OWNERSHIP OF BUSINESS

Ownership	Volksrust	Amersfoort	Wakkerstroom	Daggakraal	Perdekop	TOTAL
One man concern	108	47	29	8	14	206
Partnership	25	16	4	11	2	58
Closed Corporation	88	14	2	1	3	108
Company	39	13	--	--	4	56
Agency	--	2	--	--	--	2
Trust	--	--	--	--	1	1
TOTAL	260	92	35	20	24	431

Source: Seme Formal Business Survey, 2005.

The majority of the formal businesses in the Municipal Area are small and medium sized oneman concerns and closed corporations. Companies represent only 13.08% of the formal businesses.

3.2.2.4. Manufacturing

Pixley Ka Seme's contribution to the total value added by manufacturing in the province is only 0.10% (see TABLE 3.1) whereas Gert Sibande District's contribution is 45.70%.

TABLE 3.16 indicates the manufacturing structure of Pixley Ka Seme Municipal Area according to the Standard Industrial Classification of All Economic Activities (Department of Statistics, 1981). Fieldwork and a questionnaire survey were used to gather the necessary information.

TABLE 3.16 MANUFACTURING STRUCTURE OF THE MUNICIPAL AREA

Major Divisions - Manufacturing industries	Volksrust	Amers-foort	Wakker-stroom	Dagga-kraal	Perdekop	Oudehouts-kloof	TOTAL
Manufacturing of food, liquor or tobacco	3	2	5	1	2	1	14
Textile, clothing and leather industry	1	3	2	2	2	--	10
Wood, wood products and furniture	3	1	--	--	--	--	4

Paper, paper products, printing and publishing	1	--	--	--	--	--	1
Chemicals, petroleum, coal, rubber and plastic	--	--	--	--	--	--	--
Non-metallic mineral products	2	--	--	1	--	--	3
Basic metal industries	--	--	--	--	--	--	--
Fabricated metal (excluding machinery and equipment	2	--	--	--	--	--	2
Machinery and equipment	1	--	--	--	--	--	1
TOTAL	13	6	7	4	4	1	35
Service Industries							
Electrical	1	2	--	--	--	--	3
Hydraulic	1	--	--	--	--	--	1
Motor engineering	4	1	--	--	--	--	5
TOTAL	6	3	--	--	--	--	9

Source: Seme Industrial Survey, 2005.

There are 35 manufacturing industries in the Municipal Area of which 14 are food manufacturers. Manufacturers of clothing are the second most numerous, followed by wood and wood products.

TABLE 3.17 indicates the different industries of the towns, their floor area, number of employees and their main outputs (products).

TABLE 3.17 INDUSTRIAL PROFILE

	Floor Area m^2	**No. of workers**	**Years operational**	**Main Products**
Volksrust Industries				
Amajuba engineering	3878	43	10+	Steel structures, truck bodies, truck parts, repair work
Betta metals	44	5	17	Scrapyard, used steel
Brax Bakery	210	9	3-5	Cakes, tarts, buns, bread
Dambas Breweries	--	23	10+	Sorghum beer
Miltec Products	700	42	10+	Maize products
Sebenzinanani	752	19	10+	Wooden doors, windows, toys
SS Metals	--	5	10+	Steel
Tailor Made Timbers	974	43-80	10+	Wood, timber frames
Thatch tiles Project	--	19	1-2	Thatch tiles
Volksrust Concrete Works	see JJ Elec.	13	3-5	Concrete panels, bricks, paving
SUBTOTAL	**6558**	**221**		
Service Industries				
Denlee Automotive Engineering	646	8		Automotive engineering
J&J electrical Contractors	198	2		Electrical installations, repair

Hydrolic Brake and Clutch	750	6		Brake and clutch repair
Santi Panel Beaters	190	9		Panel beating, repairs
Volksrust Engineering and Hydrolics	113	9		Machinery repairs, manufacturing
Zietsman Panel Beaters	200	8		Panel beating, repairs
SUBTOTAL	2097	42		
TOTAL VOLKSRUST	**8655**	**263**		
Amersfoort Industries				
Amersfoort Bakery	552	46	22	Bread, buns, cakes
Lamprecht Roller Mills	3135	45	63	Maize meal, animal feed
New South Africa Building & Cons.	1079	5	3-5	Wood, wooden frames
Sianani	--	3	6-10	Clothes
Sizamakahle sewing project	30	6	1-2	Clothes
Textile project	--	10	3-5	Clothes
SUBTOTAL	4796	115		
Service Industries				
Abakhephiwe	66	11		Electrical repairs, installation
1 Stop Workshop	317.75	4		Car and truck repairs
Repair Store	44	5		Electrical ware, Radio & TV repairs
SUBTOTAL	427.75	20		
TOTAL AMERSFOORT	**5223.75**	**135**		
Wakkerstroom Industries				
Bambanani Sewing Club	30	10	3-5	Clothes
Bayazenzela Club	30	16	1-2	Clothes
Glass products factory	--	5	3-5	Glass products
honeymoon Valley Cheese	180	3	-1	Cheese
Tuscany Juice Bottler	170	20	3-5	Fruit juice, squash
Suiker-bekkie Bakery	125	10	1-2	Cakes, tarts, bread, buns
Volksrust Roller Mills	225	6	12	Maize meal depot
Wakkerstroom Roller Mills	1247.50	23	10+	Maize meal
TOTAL WAKKERSTROOM	**2007.50**	**93**		
Daggakraal Industries				
Daggakraal Brick Works	--	15	10+	
Masakana Clothing Ware	--	8	-1	
Siyazama	--	2	1-2	
Vlakpoort Roller Mills	4294.27	30	10+	
TOTAL DAGGAKRAAL	**4292.27**	**55**		
Perdekop Industries				
Budget Food Products	1608.10	52	10+	Salt
B & N Sewing	--	10	3-5	Clothes
Miltec Perdekop	130.9	4	10+	Maize meal and animal feed
Nalithuba Women Group	--	15	1-2	Clothes
TOTAL PERDEKOP	**1739**	**81**		
TOTAL MUNICIPAL AREA	**20881.52**	**627**		

Source: Seme Industrial Survey, 2005; Laduma Building Measurements, 2005.

The food and food products division is the dominant manufacturing division in the Municipal Area. This division is also proving to be the most sustainable according to the number of years in operation. All the large food and food products manufacturers were established more than 10 years ago. During the last 10 years no large industries were established. Industries established since then consist of medium size to small service industries, food and liquor manufacturers and clothing manufacturers. The latter were mostly established by previously disadvantaged women.

Location of industries

There are no planned industrial areas in any of the towns. Industries are either intermixed with other businesses on the periphery of the CBD or located on the periphery of the towns as single enterprises. Although there is a concentration of industries in Volksrust, the food and food manufacturing industries are dispersed over all five towns.

3.3 MSAULI

3.3.1. Location and Background

Msauli, the last of South Africa's chrysotile asbestos mines closed in 2002 and was totally rehabilitated under the guidance of prof. Leon van Rensburg of Eko Rehab North West University.

The mining town of Msauli is situated within the boundaries of the Songimvelo Game Reserve on the border of Mpumalanga and Swaziland (see Figure 3.5). The town has been put under management of the Mpumalanga Tourism and Parks Agency and is currently uninhabited except of a number of Park officials. The town has been for the most part well preserved since its closure and has a Pilgrims Rest feel to it with its charming architecture and tree lined streets.

3.3.2. Infrastructure

Msauli has an extensive and mostly well preserved infrastructure consisting of the following:

Msauli: Summary of facilities		
Facility	**Number**	**Area m^2**
Clubhouse (Golf)		250.6
Clubhouse (main)		547
Golf Course	9 Holes	
Equipment		
Irrigation		
Landscaping		
Hall		347
School	8 Classrooms	643
Church	1	275
Workshops	1	1176
Offices	2 Blocks	953
Library	1	16
Squash court	1	85.4
Tennis courts	3 (1 with lights)	
Swimming pool	1	156.6
Bowling green	1	
Tennis/bowling/ablutions		116.5
Post Office	1	180
Shops	2	180
Houses	94 (120 m^2 average)	12480
Guest House	1	200
infrastructure		
Roads	1 km	
Water Supply		
Electricity		
Sewerage		

The natural attributes of the town, viz. Mountains, Komati River, flora and fauna is exceptional.

Msauli is subject to a land claim although it is situated within the Game Reserve. The Mpumalanga Tourism and Parks Agency is in favour of incorporating the town as a camp within the Game Reserve with the co-operation of the claimants.

3.3.3. Population

The nearest settlements to Msauli are Ngonini, Ekulendeni, Ebutsini, Steynsdorp, Kalwerskraal and Songimvelo Game Reserve (together forming Ward 12). Population projections for these settlements according to high and low HIV/AIDS impacts are as follows:

TABLE 3.18 POPULATION PROJECTIONS

Settlement		2006	2011	2016	2021
Songimvelo Game Reserve	H	464	504	534	554
	L	492	559	624	697
Ngonini	H	1026	1111	1177	1217
	L	1088	1237	1381	1539
Ekulendeni and Ebutsini	H	7109	7640	8047	8265
	L	7544	8516	9451	10478
Steynsdorp	H	748	810	858	888
	L	794	903	1009	1125
Kalwerskraal	H	648	701	744	769
	L	685	779	870	970
TOTAL	H	9995	10766	11390	11693
	L	10603	11994	13335	14809

Source: DBSA, 2004.

Blacks constitute 99.4% of the population. The main languages spoken are Siswati (89%) and IsiZulu (7.3%).

The following population and household information is derived from 2001 Census data.

1. Household size

TABLE 3.19 HOUSEHOLD SIZE

People	No.
One	315
Two	187
Three	225
Four	222
Five	195
Six	186
Seven	134
Eight	92
Nine	83
Ten and over	122

Source: Based on 2001 Census data

- The average household size is 4.7.

2. Type of housing

Formal housing is 75% of housing.

TABLE 3.20 NUMBER OF ROOMS

Rooms	No.

One	65
Two	287
Three	198
Four	522
Five	160
Six	247
Seven	93
Eight	70
Nine	30
Ten and over	49

Source: Based on 2001 Census data

- Two room (16.7%), four room (30.3%) and six room (14.4%) houses are in the majority. Six and more rooms indicate additional structures on the property.

3. Ownership of houses

TABLE 3.21 OWNERSHIP OF HOUSE

Ownership	No.
Owned, fully paid	1341
Owned, not paid	106
Rented	62
Occupied rent-free	215
Not applicable	39

Source: Based on 2001 Census data

- 76% of the houses are owned and fully paid.

4. Gender distribution

The male : female ratio of Ward 12 is 46 : 54. The relatively high level of male deficit which measures -8 is an indication of male absenteeism probably because of a shortage of employment opportunities.

Household gender ratio is 50.2 :49.8 indicating that almost half of the households are female dominated.

5. Age distribution

TABLE 3.22 AGE DISTRIBUTION OF POPULATION

Age	No.
0 - 4	997
5 - 9	1247
10 - 14	1396
15 - 19	1242
20 - 24	657
25 - 29	405
30 - 34	460
35 - 39	345
40 - 44	303

45 - 49	272
50 - 54	231
55 - 59	192
60 - 64	156
65 - 69	113
70 - 74	113
75 - 79	48
80 and over	79

Source: Based on 2001 Census data

- There is an unusually heavy concentration in the 0 - 19 year age groups (59.1%). As the younger groups move upwards into the reproductive and economically active age, the potential for population growth and new job seekers will increase enormously.
- Ward 12 has a predominantly youthful population as indicated by the fact that 81.7% of the population is under 40 years.
- The economically active age group (20 - 64 years) represents a low 36.6% of the population.
- The percentage of elderly people 65 years and over is 4.3% which is less than the national average.

6. Employment

TABLE 3.23 EMPLOYMENT

Employed	403
Unemployed	1010
Not Economically Active	2877

Source: Based on 2001 Census data

- 71.5% of the economically active population who want to work are unemployed.
- Only 5% of the total population are employed.
- The dependency ratio (the number of non-working dependants of the population for every 100 workers) is 1898. This means that for every 100 economically active people in the population there are 1989 people who have to be supported (± 19 per worker).

The detrimental effect of a high dependency ratio and a high growth rate to the economy is obvious. There is an increasing young and dependant sector. Such a situation places tremendous strain on natural resources, social services (schools and health facilities), housing and employment.

TABLE 3.24 indicates the type of employment of the working population.

TABLE 3.24 EMPLOYMENT OF THE POPULATION

Economic sector	**No.**
Agric. relate work	**7**
Mining, Quarrying	87
Manufacturing	10
Elec., gas, water	3
Construction	24
Wholesale, Retail	35
Transport, Commercial	10
Business Services	20
Community Services	167
Private Household	30
Undetermined	11
Extra Territorial Organisations	0
Rep Foreign Government	0

Source: Based on 2001 Census data

- The majority of the economically active population work in the community services (41.3%), mining and quarrying (21.5%) and wholesale and retail (8.7%) sectors.
- A total of 359 of the population are employed in the formal sector while 44 are employed in the informal sector.

7. Education

TABLE 3.25 indicates the levels of education of the total population.

TABLE 3.25 EDUCATION LEVELS

Level	**No.**
No schooling	**648**
Grade 1/Sub A	339
Grade 2/Sub B	374
Grade 3/Std. 1	447
Grade 4/Std. 2	428
Grade 5/Std. 3	471
Grade 6/Std. 4	504
Grade 7/Std. 5	484
Grade 8/Std. 6	484

Grade 9/Std. 7	377
Grade 10/Std. 8/NTC1	410
Grade 11/Std. 9/NTC11	374
Grade 12/Std. 10/NTC3	621
Cert. no Grade 12	5
Dip. no Grade 12	7
Cert. With Grade 12	37
Dip. With Grade 12	80
Bachelor's degree	6
B. degree dip	14
Honour's degree	0
Higher degree	3
Not applicable	997

Source: Based on 2001 Census data

- People with a primary education level (Grades 1 - 7) is 38.9% of the population.
- People with a secondary education level (Grades 8 - 12) is 27.5% of the population.
- 7.5% of the population have a Grade 12 (matric) education.
- Only 1.7% of the population have a tertiary education.

TABLE 3.26 indicates the levels of education of the adult population (20 years +).

TABLE 3.26 EDUCATION OF ADULT POPULATION

Level	**No.**
No schooling	**1260**
Some primary	469
Complete primary	194
Some secondary	778
Std. 10/Grade 12	535
Higher	138

Source: Based on 2001 Census data

The table indicates that:

- 37.3% of the adult population have no schooling.
- 5.8% have a complete primary education.
- 15.9% have a complete secondary.
- 4.1% have a higher education.
- The level of education among the adult population is low.

8. Monthly income

TABLES 3.27 and 3.28 indicate the monthly income per person and annual income per household respectively.

TABLE 3.27 MONTHLY INCOME PER PERSON

Rand per month	No.
No income	**7261**
R1 - R400	216
R401 - R800	466
R801 - R1 600	91
R1 601 - R3 200	101
R3 201 - R6 400	89
R6 401 - R12 800	19
R12 801 - R25 600	4
R25 601 - R51 200	3
R51 201 - R102 400	3

Source: Based on 2001 Census data

- 88% of the population have no income.
- 68.8% of the people with an income earn R800 or less per month.

TABLE 3.28 ANNUAL INCOME PER HOUSEHOLD

Rand per month	No.
No income	**933**
R1 - R4 800	122
R4 801 - R9 600	350
R9 601 - R19 200	138
R19 201 - R38 400	100
R38 401 - R76 800	83
R76 801 - R153 600	26
R153 601 - R307 200	4
R307 201 - R614 400	2
R614 401 - R1 228 800	1
R1 228 801 - R2 457 600	0
R2 457 601 or more	0

Source: Based on 2001 Census data

- 53% of the households have no regular income.
- 73.8% of the households earn R19 200 and less per year.

9. Mode of transport

TABLE 3.29 MODE OF TRANSPORT

Type	No.
Not applicable	**4064**
On foot	3736
Bicycle	3
Motorcycle	0

Car as a driver	41
car passenger	41
Minibus/taxi	32
Bus	324
Train	3
Other	7

Source: Based on 2001 Census data

- The majority of people travel on foot and by bus.

10. Available services

10.1 Water

TABLE 3.30 WATER PROVISION

Type	No.
No access to pipe	**317**
Pipe water (dwell)	297
Pipe water (yrd)	970
Pipe water < 200 m	55
Pipe water > 200m	125

Source: Based on 2001 Census data

- Only 16.8% of households have piped water in their dwelling.
- The majority of the households (55%) have piped water in their yard.
- The 18% of the households without access to piped water get their water from boreholes (7), springs (6), rain-water tanks (58), rivers/streams (230) and water vendors (40).

10.2 Electricity

TABLE 3.31 SOURCE OF ENERGY FOR LIGHTING

Type	No.
Electricity	**975**
Gas	10
Paraffin	85

Candles	684
Solar	5
Other	4

Source: Based on 2001 Census data

- The table indicates that:
  - 55.3% of the households have access to electricity.
  - for the 44.7% of the households without electricity, candles (38.8%) and paraffin (4.8%) are the major sources of energy for lighting.

TABLE 3.32 SOURCE OF ENERGY FOR COOKING

Type	**No.**
Electricity	**513**
Gas	19
Paraffin	325
Wood	769
Coal	127
Animal dung	2
Solar	2
Other	5

Source: Based on 2001 Census data

- Electricity is only utilised by 29.1% of the households for cooking
- Wood (43.6%) is the most important source of energy for cooking.
- Paraffin is used by 18.4% of the households and coal by 7.2%.

10.3 Sanitation

TABLE 3.33 TYPE OF SANITATION

Type	**No.**
Flush toilet sewer	**112**
Flush toilet tank	46
Chemical toilet	26
Pit latrine W/vent	32
Pit latrine WO/vent	305
Bucket latrine	929
None	312

Source: Based on 2001 Census data

- Few households have flush toilets and a sewer system (6.4%).
- Bucket latrines are still used by the majority (52.7%) of households followed by pit latrines (19.1%).
- As much as 17.7% of households have no sanitation system.

10.4 Refuse removal

TABLE 3.34 REFUSE REMOVAL

Type	No.
Removed once a week	**540**
Removed less often	345
Communal dump	2
Own refuse dump	407
No Disposal	469

Source: Based on 2001 Census data

- Half (80.2%) of the households have door-to-door refuse removal.
- Refuse removal is unsatisfactory as indicated by the fact that 23.1% of households use their own refuse dump and 26.6% have no disposal system.

10.5 Telephone

TABLE 3.35 TELEPHONE ACCESS

Type	No.
Tel/cell (dwelling)	**85**
Tel (dwell only)	145
Cell-phone only	125
Near neighbour	131
Near Public Tel	767
Nearby	409
Far	62
No Tel access	37

Source: Based on 2001 Census data

- A very high percentage of the households (97.9%) have access to a telephone in some way or other.
- Few households have in-house telephones (13.0%).

3.3.4. Characteristics of Existing Economic Activities

3.3.4.1. The economic infrastructure

Msauli and the Songimvelo Game Reserve is served by the following roads:

- A gravel road from the R541 between Badplaas and Lochiel to Msauli (± 35 km). This road also serves the Doornhoek entrance gate to the Game Reserve, the settlements of Tshaka, Nhlazatje, Lukwatini and Armburg to the west and Ebutsini, Ekulendeni, Ekulendeni Entrance Gate and Ngonini to the south of Msauli.
- A gravel road from Hartbeeskop on the N17 between Ermelo and Oshoek on the Swaziland border. This road is ± 26 km to Msauli via Steynsdorp. The road links up with the above road at Ebutsini.

- A winding gravel road through mountainous areas from the R40 at Josefsdal in the north to Msauli. The R40 connects Barberton with Bulembu in Swaziland.

3.3.4.2. Tourism

1. Songimvelo Game Reserve

The Songimvelo Game Reserve, together with its common border neighbour, the Malolotja Nature Reserve in Swaziland, is a core component of the currently developed Songimvelo-Malolotja Transfrontier Conservation Area or S-M TFCA. This trans-border conservation and tourism initiative was approved by Swaziland / Mozambique / South Africa Trilateral Ministerial Committee on the 2nd November 2004 as the 5th Transfrontier Conservation Area in Southern Africa. The S-M TFCA will encompass 80 000 ha of unspoilt mountain-land wilderness, open savanna, a diversity of cultural historic resources, and natural and man-made waterways, including the new Maguga Dam in Swaziland.

Located in eastern Mpumalanga on the border with Swaziland, the Songimvelo Game Reserve is the largest provincial reserve in South Africa, covering 50 000 ha of rugged mountain lands and expansive savanna. The area is greatly valued for its wilderness appeal, wide open spaces, spectacularly deep gorges and a myriad of crystal clear streams and dramatic waterfalls. The reserve is bisected by the deeply incised Lomati and Komati rivers.

The Barberton mountain range is internationally acclaimed for its well exposed geological formations, which includes the oldest exposed rocks on earth, dated between 3.2 to 3.5 billion years old.

The vegetation is divided into mountain sourveld and lowveld sour bushveld, with relic patches of proteoid woodland on the escarpment. The sheltered valleys and kloofs at high altitude hold pockets of afromontane forest, which are linked to riparian forest lower down via thickets that occur along mountain streams. The afromontane forest is home to highly endangered endemic cycad forests. Situated within the Barberton Centre of Plant Endemism the reserve is home to over 1 431 plant species including 15 threatened plant species.

Songimvelo is also home to over 20 species of herbivores, including elephant, rhino, leopard and buffalo. Over 300 species of birds have been recorded and more than 1400 plant species.

The area is rich in cultural historic resources, boasting a number of dravidian sites dating back to 400 BC, three known ancient iron ore or ochre mines (dating back some 40 000 years), San art, and the famous "Skaapbrug'. The latter steel structured bridge spans the Komati River and was approved and built by the Paul Kruger government to allow highveld sheep farmers access to winter grazing on the Songimvelo plains. Other attractions include the Songimvelo panhandle hiking trails and Diepgezet ghost town.

2. Adjacent Tourist attractions

Attraction in the Malolotja Nature Reserve include the Maguga Dam, Mthunzi Cultural Village, several craft shops, stone age artefact site, the well of Spirits, several waterfalls and the Gap hiking trails

Adjacent attractions include the spectacular Saddleback Pass, linking Songimvelo with the historic mining town of Barberton. The worlds longest cable way can be viewed along this route as it cuts it's path through the mountains from the Havelock mine in Swaziland down to Barberton's industrial area.

The Ebutsini Cultural Village on the southern doorstep of the reserve (16 km from Msauli) provides an insight into the traditional Swazi Culture. The village provides the following infrastructure and attractions:

- large ceremonial hut and smaller huts
- accommodation for 20 in traditional huts with bathrooms and electricity
- kitchen serving Swazi cuisine
- laundry
- nursery with medicinal plants
- marimba band
- traditional dancing in traditional dress
- arts and craft manufacturing and sale
- nearby office / information and conference centre
- day visitors are accommodated in groups up to 10 persons.
- marketing is done by a Johannesburg company (Where to Stay)

Other attractions include horseback safaris to the traditional village and reserve and 4X4 route in the mountains.

3.3.4.3. Business activities

All businesses in Msauli have closed. The nearby towns of Ngonini, Ekulendeni, Ebutsini, Steynsdorp and Kalwerskraal have a number of smaller supermarkets, general dealers and informal shops and other enterprises.

3.3.4.4 Manufacturing

Manufacturing enterprises in the towns are of informal nature.

3.3.4.4. Agriculture

Agriculture's contribution to the GVA of the Albert Luthuli Municipal Area is 21.10%. Maize production and cattle is dominant in the area near Msauli.

3.4 RIETSPRUIT

3.4.1. Location and Background

Rietspruit mining town is situated within Emalahleni Municipal Area approximately 30 kilometres south-west of Witbank (see Figure 3.6). The town was built by Anglo American near the Rietspruit mine and Reduction plant.

The mine closed during 2002 due to the depletion of coal reserves. Ingwe Mine Closure Operations started rehabilitation of the environment disturbed by mining operations and sale of redundant assets soon after closure.

Rietspruit is a modern town consisting of:

- approximately 900 family houses;
- a business area;
- Lehlaka Combined School;
- Lehlaka Hospital;
- recreation facilities;
- an industrial area;
- tarred roads;
- electricity, water, sewerage.

The layout of the town is indicated by Figure 3.7.

After closure of the mine, former employees were enabled to buy their houses at below market price and without incurring an income tax liability. Of the remaining 800 former employees, 550 have been re-employed or have left the company voluntarily. Re-employment has been achieved by:

- replacing contractors with former mine employees;
- actively placing affected employees at other Ingwe operations (Ingwe is the wholly owned subsidiary of BHP Billiton in South Africa).

The Emalahleni Town Council took over the provision of basic services after the cessation of mining activities.

Observations in Rietspruit have indicated the first signs of the problems associated with the transition of a mining village into a township governed by the local municipality. Deterioration of housing due to inability of individuals to maintain the standards previously kept by the mine, deterioration of recreational facilities, parks, school grounds and some streets are becoming more and more obvious.

A socio-economic survey of households in Rietspruit was conducted by Laduma early in 2007 (see Annexure for questionnaire). The purpose of this survey was to determine the socio-economic status quo of the town as basis for creating a strategy for revitalisation thereof. The results of the survey are analysed in the following section.

3.4.2. Socio-economic situation of Rietspruit

1. Household size

The average household size for Rietspruit is 4.75 although the number of inhabitants per house vary from 2 to 12. The total population is 7164 (Emalahleni IDP, 2007).

2. Type of housing

All housing is formal and consist of family dwellings ±90% and hostel accommodation 10%. The houses are 42.8% single dwellings, 38.8% single dwellings with flats and 18.4% semi-detached.

3. Ownership of houses

The majority of the houses (80.0%) are owned by the inhabitants while 20.0% are rented.

4. Gender distribution

The male : female ratio of the town is 50:50. This is normally an indication of a high percentage of stable families, home ownership and work surety. The male : female ratio in the predominant economic active age group (20-60 years) is 48.3:51.7. This is an indication of a slight male absenteeism due to a shortage of employment.

TABLE 3.36 AGE DISTRIBUTION OF POPULATION

0-6 yrs	7-14 yrs	15-19 yrs	20-24 yrs	25-60 yrs	60+ yrs
14.1%	18.3%	9.2%	11.5%	45.8%	1.1%

Source: Socio-economic survey, 2007

- The percentage of the population under the age of 20 (41.6%) is relatively high and holds implications for a high demand for employment in future.
- The obvious decline in the age groups 15-19 years and 20-24 years indicates an inability of the local economy to accommodate new job seekers - thus forcing young people of post-school age to seek employment elsewhere.
- The primary economic active age group (20-60 years) represents 57.3% of the population.
- The number of elderly people over 60 years (1.1%) is less than the national average and an indication that the town is currently not a popular location for elderly people.

5. Employment

Total employment for the population of Rietspruit is approximately 1437. Unemployment is 65%. TABLE 3.37 indicates the percentage employed in the different economic sectors.

TABLE 3.37 EMPLOYMENT OF POPULATION

Economic Sector	**%**
Agriculture	2
Mining	75
Industry	2
Business	3
Government	-
Municipality	2
Construction	5
Education	2
Transport	1
Financial services	-
Services	2
Security	6

Source: Socio-economic survey, 2007

- The majority (75%) of the economic active population is still employed in the mining sector. Approximately 21% of these workers are employed at the Rietspruit Process Plant that washes coal from the Klipspruit mini-pit. The coal is transported to Richards Bay for export. The rest of the mine workers are employed at nearby coal mines, viz. Klipspruit (24%), Middelburg (13.5%), Tavistock (12%), Kriel (6%), etc.
- The dependency ratio (the number of non-working dependants of the population for every 100 workers) is 398.5.

Unemployment is very high amongst women as an estimated 1040 women over 18 are unemployed and want to work. Twenty-six percent of the women have no skills. Skills include the following: labourer (19.7%), clothes making (10.6%), computer (7.6%), cashier (4.5%), domestic (4.5%), business (3.0%), driving (3.0%), designer, home base care, beadwork, electrical engineer, food preservation, agriculture, nursing.

An estimated 448 men over 18 years are unemployed and searching for work. Twenty percent of these men do not have any skills. Available skills are: mining (35,7%), labourer (28.6%), driving (14.3%), technical/engineering (10.7%), gardening/agriculture (5.6%), mechanic, nursing and general.

The dependency ratio (the number of non-working dependants of the population for every 100 workers) is 398.5.

A total of 80 households make their living in the informal sector. Approximately 18% of the households receive a pension or other welfare grant.

6. Education

TABLE 3.38 indicates the highest education level achieved by adult members of the households.

TABLE 3.38 EDUCATION LEVELS

Education	**%**
No formal school	26.3
Pre-school	-
Primary	4.4
Secondary	63.5
Diploma	2.2
Degree	0.8
Technical	2.8

Source: Socio-economic survey, 2007

- People with secondary education are in the majority (63.5%).
- The percentage with technical training is low (2.8%).
- The percentage of people with no formal training is high (26.3%).

7. Monthly income per household

TABLE 3.39 indicates the monthly income per household according to different income categories.

TABLE 3.39 MONTHLY INCOME PER HOUSEHOLD

Rand per month	%
No income	6.5
1-800	39.0
801-1499	22.0
1500-2499	17.0
2500-3499	6.5
3500-5999	6.5
6000-8999	2.5
9000-11000	-
12000-14999	-
15000 +	-

Source: Socio-economic survey, 2007

- The majority of the households (67.5%) have a monthly income of less than R1500 while 84.5% earn less than R2500 per month.

8. Household spending

TABLE 3.40 indicates the monthly spending patterns of the households.

TABLE 3.40 HOUSEHOLD SPENDING PER MONTH

Category	Average p/m-R	Monthly Total (Rietspruit)-R
Groceries	544	478 720
Clothing and shoes	218	192 240
Entertainment	30	26 400
Chemist	72	63 552
Hairdresser	33	28 800
Liquor	91	14 560

Petrol	90	79 200
* Housing rent	344	30 616
* Municipal services	308	271 450
Motor repayment	96	153 968
Coal and wood	8	6 640
TOTAL	**R1 487**	**R1 346 146**

Source: Socio-economic survey, 2007.
* According to actual number of households involved.

- The largest monthly expenditure is on groceries (35.6%), followed by municipal services (20.2%), clothing and shoes (14.3%) and motor repayment (11.4%).

9. Towns where households shop

TABLE 3.41 indicates the percentages (according to value in Rand) of purchases of different items that the households do in different places.

TABLE 3.41 TOWNS WHERE HOUSEHOLDS SHOP

Item	Rietspruit %	Witbank %	Kriel %	Other %
Groceries	5.0	88.5	6.5	-
Alcoholic bev.	45.5	45.5	9.0	-
Clothes & shoes	-	87.2	10.3	2.5
Furniture & electric ware	-	83.3	16.7	-
Motor vehicles	-	61.5	15.5	23.0

Source: Socio-economic survey, 2007.

- Witbank is the most important venue for shopping of Rietspruit households, followed by Kriel and Rietspruit itself.
- There is a large leakage of buying power from Rietspruit to Witbank. This is an indication of a weak local business sector.

10. Travel to work

The economic active population use the following modes of travel to their places of work:

• walk	:	34.5%
• mini-bus taxi	:	12.0%
• bus		28.0%
• lift club	:	10.0%
• own car	:	12.0%
• bicycle	:	3.5%
• motorcycle/scooter	:	30.0%

11. Services available at the houses

TABLE 3.42 SERVICES AVAILABLE AT THE HOUSES

Service	**%**
Water	100
Electricity	100
Waterborne sewage	100
Telephone	44
Refuse removal	100
Street lighting	100
Tarred roads	100
Postal service	100

Source: Socio-economic survey, 2007.

- Municipal services are available at all the houses.
- The whole town has tarred roads and street lighting.
- Only 44% of the households have a telephone in the house. Many households have the use of a cell phone.

12. Sport activities

TABLE 3.43 indicates the regular sport activities of household members.

TABLE 3.43 REGULAR SPORT ACTIVITIES OF HOUSEHOLD MEMBERS

Sport activity	**Number of participants**
Athletics	96
Gymnastics	8
Jogging	16
Netball	80
Soccer	192
Volleyball	16

Source: Socio-economic survey, 2007.

- Soccer, athletics and netball are the more popular sport activities.

TABLE 3.44 indicates the sport activities in which there are a shortage according to the respondents.

TABLE 3.44 SPORT FACILITIES IN WHICH THERE ARE A SHORTAGE

Sport activity	**Number of respondents**
Athletics	16
Basket ball	30
*Bowling	8
Boxing	45
Cricket	32

*Golf	24
Gym	10
Gymnastics	8
Hockey	32
Karate	6
Netball	130
Rugby	30
Soccer	192
Soccer stadium	30
*Swimming pool	48
*Tennis	96
Volleyball	128
Wrestling	28

Source: Socio-economic survey, 2007

- Facilities provided by the mine have either been destroyed by community members or totally neglected.
- Facilities for the following sports should receive priority:
  - soccer
  - netball
  - volleyball
  - tennis
- There is an existing community hall (for indoor sports) and swimming pool that need repair for re-use.

13. Quality of service in town

TABLE 3.45 indicates the respondents' perception of the quality of services in Rietspruit according to the following scale:

0 = none 1 = very bad 2 = poor 3 = average 4 = good 5 = excellent

TABLE 3.45 QUALITY OF SERVICES

Service	Scale
Fire brigade	0
Ambulance	2
Medical	3
Electricity	3
Street lighting	3
Water	2
Sewerage	3
Refuse removal	4
Library	0
Streets	2
Traffic control	0

Shops	2
Parks	1
Sport facilities	2
Street trees	3
Sidewalks	2
personal safety	2
Schools	2

Source: Socio-economic survey, 2007

- According to the respondents the following services need to be improved.
  - ambulance
  - water provision
  - streets
  - shops
  - parks
  - sport facilities
  - sidewalks
  - personal safety
  - schools
- The following services do not exist and must be introduced:
  - fire brigade
  - library
  - traffic control

14. Suggestions by respondents for the improvement of the town

The questionnaire made provision for suggestions from the respondents for measures to improve the town. The results are summed up in TABLE 3.46.

TABLE 3.46 SUGGESTIONS BY RESPONDENTS FOR IMPROVEMENT OF THEIR TOWN

Suggestions	**Number of respondents**
Create more job opportunities	424
Fix Lehlaka Hall	30
Upgrade the school building	163
Clean the neighbourhood and streets	160
Fix the street lights	32
Provide a police station to improve security	195
Fix the soccer grounds and lights	30
Fix burst sewerage pipes regularly	15
Improve streets and sidewalks	81
Fix the swimming pool	31

Clean the water	408
Provide an ATM	50
Fix the tennis courts	48
Bus drivers must stop at the bus stops	10
Open the filling station	4
Clinic must be better organised, 24 hours	80
Shopping complex	31
Better education for children	98
Provide a library	50
Provide sport facilities	16

Source: Socio-economic survey, 2007

From the above and the previous section it is clear that the most urgent needs of the population that should receive attention are:

- The need for job opportunities
- Cleaning of the municipal water
- A local police station
- Upgrading of the school building
- Cleaning of neighbourhood and streets
- Improving of streets and sidewalks
- 24 hour clinic

3.4.3. Economic Production Factor

3.4.3.1. Natural resource base

1. Climate

The prevailing day and night temperatures are typical of those of the Highveld and vary between 27^{o}C in summer to below freezing in winter. Frost occurs generally from May to September. The area is subject to showers and thunderstorms which occur mainly from October to March. More or less 84% of the annual precipitation of about 650mm also occurs during this period.

2. Topography

The area around Rietspruit forms part of the Highveld and lies, on average, about 1550 m above sea level. The landscape is generally mildly undulating.

3. Soils

Dystrophic and mesotrophic soil types are dominant in the area with red soils not widespread. The dominant soil forms are Avelon, Glencoe and Hutton. The agricultural potential of these soils are medium to high. Lithosols (not tillable stony soils) are found in smaller areas.

4. Geology

The rock formations in the area consists of shale, sandstone, clay, conglomerate, limestone and marl of the Fort Brown Shale Formation, dolerite and occasional felsite.

Shallow coal layers cover the whole area. The rock formations wherein the coal layers are found consist mainly of sandstone with subordinate slate, shale, siltstone and carbonaceous shale (Department of Mining, 1976:380).

5. Land restoration

After closure of the mine, Rietspruit's rehabilitation involved the sealing off of adits to underground workings and filling and shaping the overcast area of 4500 hectare according to the rehabilitation design. The design included shaping the land to its original form and restoring the veld to its former grazing potential. The rehabilitated land includes a game area stocked with wildebeest, ostriches, zebra, springbok and blesbok.

6. Agriculture

Except for the areas where coal mining is still continuing and the rehabilitated areas that is suitable for grazing, the greater part of the land around Rietspruit is suitable for agriculture. Maize is the most important crop in the area followed by potatoes and grain sorghum. The grazing capacity is 5 LSU/ha.

3.4.3.2. Physical infrastructure

1. Roads

Road transport is the dominant form of transportation of people and goods in the area. Rietspruit is served by the following road connections:

- The R547 to Witbank and Kriel and Kinross.
- The R545 to Ogies and Bethal.

- District roads.

2. Railway

The branch-line from Rietspruit is used to transport washed coal via the trajectory Ogies-Ermelo-Vryheid to Richards Bay for export.

3. Airfields

The Sace (Witbank) airfield is the only licensed airfield in the Municipal Area. The location co-ordinates are 25 57 S/29 12 E. The airfield has a public license and gravel/asphalt runways.

4. Bus

Phola Coaches provides a bus service in the area. The transportation of school children as an LED project was started in 2005. Ingwe mine was the funding body.

3.4.4. Economic activities

3.4.4.1. Business

Rietspruit has a business complex with a tarred parking area.

The business sector consists of the following enterprises:

- supermarket
- fruit and vegetable shop
- general dealer
- plumber
- driving school
- training enterprise
- security business
- transport business
- tuck shops
- hairdressers

The service area of the businesses comprises the town and immediate surrounding area. Employment is 45.

Interviews with the businesses in the business complex provided the following information:

- More jobs are needed for the population to strengthen the client base;
- The neatness of streets and sidewalks in the vicinity, refuse bins, street lighting and quality of sidewalks are unsatisfactory.
- A police station is needed for improved safety of customers
- An ATM is needed
- Businesses are satisfied with their present location.

3.4.4.2. Manufacturing

Rietspruit has a planned industrial area that is presently not utilised. Velcore concrete Products and Jabula Plant Hire are the only industries.

3.5 PILGRIM'S REST

3.5.1. Location and Background

Pilgrim's Rest is situated on the eastern Escarpment region of Mpumalanga within Thaba Chweu Municipal Area. The history of Pilgrim's Rest dates back to ancient times when unknown black miners worked the quartz reefs for gold. The historic village was founded in 1873 when alluvial gold was discovered in the Pilgrim's Creek. News of the discovery triggered the first major gold rush in South Africa. On 22 September 1873 Pilgrim's rest was declared a gold field. By the end of 1873 there were about 1500 diggers from all over the world working 4000 claims in and around Pilgrim's Rest. The valley was rich in gold with large finds also being made at Starvation Gully, Peach Tree Creek, Brown's Hill, Poverty Creek, Golden Point and Breakneck Gully.

Initially the diggers lived in tents. By 1874 successful diggers had replaced their tents with more durable wattle and daub shanties. Prosperous store keepers and canteen owners were able to erect structures of timber and corrugated iron. Buildings were usually no more than one large room with elementary furnishings. Beds were made of poles with canvas sheets tacked to the frames. Layers of dried grass served as mattresses. Tables and chairs were made from wooden boxes and crates in which provisions had been transported to the diggings (Pilgrim's Rest Information Centre, 2006). The present buildings and interiors are representative of the early twentieth century.

The 1880's saw the end of the diggers era and the establishment of the Transvaal Gold Exploration Company, the first gold mining company in the area. In 1895, this company, along with other smaller companies, amalgamated to form the Transvaal Gold Mining Estates. In 1896 the increasing production of ore necessitated the establishment of a central reduction works at Pilgrim's Rest. In 1897 a stamp mill, a smelting house and office buildings were erected. To serve the scattered mines in the area an electric tramline was constructed to convey ore from outlying mines to the central reduction works. The size of the reduction works and the tramline was something of a technical feat at a time when South Africa was technically still in its infancy.

The early period of the Anglo-Boer War (1899-1902) saw the village and mines in Boer hands. The Boers adapted some of the machinery to strike gold coins (Veldponds). They also printed bank notes on stationary left in the offices of the reduction works. After the war ended, mining was resumed and the reduction works re-opened. The village continued to grow and in the 1930's there were apart from the butcheries, bakeries and blacksmiths, 16 general dealers.

Mining activity at Pilgrim's Rest during the twentieth century ceased in 1972 when the last mine (Beta mine) and the reduction works closed. The twenty-first century saw the re-starting of mining activity in the area by the Frankfort and Morgenzon mines and reduction plant and the Dukes Hill Section of Simmer and Jack Mines Ltd.

The conservation of Pilgrim's Rest as a cultural and historic asset began in 1974 when the Provincial Government purchased the village and started restoring the rundown corrugated iron structures. In 1986 the town of Pilgrim's Rest and the farm of Ponieskrantz, on which the town is situated, was declared a National Monument. Pilgrim's Rest offers visitors the opportunity to experience something of the life and times of an early South African gold mining community and industry. Apart from the historic village, there are five museums and several historic sites. The Pilgrim's Rest living museum is managed by the Mpumalanga Department of Culture, Sport and Recreation. This Department is responsible for heritage conservation and the development of heritage resources in the province. The Public Works Department is responsible for buildings and infrastructure. Over the years, Pilgrim's Rest developed into a major tourist destination in South Africa. Tourism completely took over where gold mining left off. Today the town consists of distinct Up Town and Down Town areas, approximately 30 businesses (all tourist orientated), museums, a bank, post office, a

Catholic church, Anglican church, a golf course, holiday resort / caravan park and an Environment Education Centre. Schoonplaas Township is ± 3 km from the town. Pilgrim's Rest Primary School is situated in Schoonplaas. The old mining infrastructure in town is fast degenerating.

The last few years shows a decline in the number of tourists - Pilgrim's Rest's life blood. A number of businesses closed because of an increase in rent. There is a large influx of people to the area because of new gold mining activities. With the influx of people came the development of squatter camps and an increase in unemployment. Recent retrenchments by the mines further increased the number of unemployed.

3.5.2. Characteristics of existing economic activities

3.5.2.1. Economic indicators

No detail information on GGP was available for Pilgrim's Rest, except that there was a decline in the formal sector from 82.7% in 1996 to 62.0% in 2002. The percentage contribution of economic sectors to gross value added and tress indices for Thaba Chweu for 1996 and 2002 are as follows:

TABLE 3.47 PERCENTAGE CONTRIBUTION OF ECONOMIC SECTORS TO GROSS VALUE ADDED AND TRESS INDICES

Year	Agric., hunt., forest., fish. %	Mining, Quarrying %	Manufacturing %	Elect., gas, water %	Construction %
1996	25.7	4.9	24.6	1.1	2.7
2002	25.8	11.7	22.3	0.8	1.9

Year	Wholesale, Retail %	Transport, storage, communication %	Financial, Insure., Real Estate, buss., services %	Comm., Social, Personal Services %	Tress Indices %
1996	12.3	5.4	4.4	18.9	50.1
2002	10.3	5.2	4.6	17.4	48.2

Source: DBSA, 2004:113

- The percentage contribution of the economic sectors stayed more or less the same. The tress indices indicate a marginal movement towards more diversification.

The Thaba Chweu Municipal IDP anticipates that future economic growth in the area will be due to improved education facilities, continued forestry, mining and agriculture and an increase in tourism. Tourism is already a key component of the Mpumalanga economic base.

3.5.2.2. Economic production factors

3.5.2.2.1. Natural resource base

Pilgrim's Rest is situated on the mountain grasslands of the Drakensberg Escarpment approximately 1400 metres above sea level. The area has a moderate climate with summer temperatures rarely exceeding 32^{o}C and winter minimum temperatures seldom below freezing. The average annual rainfall is 900 mm. Vegetation includes indigenous rain forests, open grasslands and timber plantations (Wattle, Pine and Blue-gum).

The area is malaria free, although it is situated close to the Lowveld where malaria occurs. Mountain streams are generally unpolluted and not infested with bilharzia. Drinking water is taken from fountains and is regularly tested.

Agriculture consists of dry land cultivation of maize, stock farming (cattle and sheep) and deciduous fruit.

3.5.2.2.2. Socio-economic situation of Pilgrim's Rest

A questionnaire survey of previously disadvantaged households in Pilgrim's Rest was conducted in February-March 2007 (see Annexure 1) to determine their socio-economic status. The results of the survey is discussed below.

1. Household size

The average household size is 4.47. Large households with more than six people is 14% of the total.

2. Type of housing

The majority of the houses are formal (74%) while informal housing comprises 26%.

Single dwellings per stand (68%) are in the majority, followed by two dwellings per stand (26%) and three dwellings per stand (6%).

3. Ownership of houses

36% of the households have title deeds on their houses while 59% have rental contracts and 5% share-block arrangements.

4. Gender distribution

The male : female ratio is 47.5 : 52.5. This is usually an indication of a measure of male absenteeism due to a shortage of employment opportunities.

TABLE 3.48 AGE DISTRIBUTION OF POPULATION

0-6 yrs	7-14 yrs	15-19 yrs	20-24 yrs	25-60 yrs	60+ yrs
13.3%	15.6%	12.8%	14.1%	40.4%	3.8%

Source: Socio-economic survey, 2007.

- The percentage of young people under 20 years is 41.7%. This is relatively high and holds implications for a high demand for future employment.
- The economically active age group (20-60 years) comprises 54.5% of the population.
- The male : female ratio in the economically active age group is 45.9 : 54.1. The relatively high level of male absenteeism which measures -8.2 is an indication of a shortage of local employment opportunities.

5. Employment

Unemployment is 46.2%. This is higher than the unemployment rate for Mpumalanga which is 29.8% (Thaba Chweu IDP, 2006). The estimated number of employed people is 1182. TABLE 3.49 indicates the percentage of workers in the different economic sectors.

TABLE 3.49 EMPLOYMENT OF POPULATION

Economic sector	%
Agriculture	2.5
Mining	16.7
Industry	--
Business	29.2
Government	25.8
Municipality	--

Construction	11.7
Education	0.8
Transport	0.8
Financial service	--
Services	1.7
Domestic	9.1
Informal	1.7
Security	--

Source: Socio-economic survey, 2007.

- The business sector is the largest employer (29.2%) followed by government (25.8%), mining (16.7%) and construction (11.7%).
- The percentage of workers in the informal sector is very low. Informal enterprises include taverns, spaza shops, welding and electrical repairs.
- 9% of the households receive a pension.

Available skills among unemployed men and women who are searching for work are indicated below. The most numerous are first.

Men	Women
Bush cutter	House keeper
Ground moving machines	Cleaning
Banking	Computer
Painter	Dressmaking
Builder	Hairdresser
Security	Clerk
Carpenter	Nurse
Chef	Security
Accounting	
Hotel work	

Unemployment is high amongst women. There is also a shortage of skills amongst unemployed women.

6. Education

TABLE 3.50 indicates the highest education level achieved by adult members of the households.

TABLE 3.50 EDUCATION LEVELS

Education	%
No formal school	17.2
Pre-school	2.3
Primary	6.0

Secondary	66.5
Diploma	5.6
Degree	1.9
Technical	0.5

Source: Socio-economic survey, 2007.

- The majority of the adult population (66.5%) have achieved a secondary school education.
- The percentage with no formal school education is relatively high (17.2%).
- The percentage with technical training is very low.

7. Monthly income per household

TABLE 3.51 indicates the monthly income per household according to different income categories.

TABLE 3.51 MONTHLY INCOME PER HOUSEHOLD

Rand per month	**%**
No income	1.4
1 - 800	33.8
901 - 1499	31.0
1500 - 2499	18.6
2500 - 3499	9.0
3500 - 5999	2.8
6000 - 8999	--
9000 - 11999	--
12000 - 14999	--
15000+	3.4

Source: Socio-economic survey, 2007

- The majority of the households (66.2%) have a monthly income of less than R1500 while 84.8% earn less than R2500 per month.

8. Household spending

TABLE 3.52 indicates the monthly spending patterns of the households.

TABLE 3.52 HOUSEHOLD SPENDING PER MONTH

Category	**Average p/m R**	**Monthly total R**
Groceries	731	584 800
Clothing and shoes	151	120 800
Entertainment	30	24 000
Chemist	93	74 400
Hairdresser	43	34 400
Liquor	30	24 000
*[1] Petrol	800	40 000
Housing bond	--	--
*[2] Housing rent	263	152 540
Municipal services	--	--
*[3] Motor repayment	792	47 520
Coal/wood	156	124 800
ESTIMATED TOTAL MONTHLY SPENDING		**R1 227 260**

Source: Socio-economic survey, 2007

*[1] + *[3] = car owners only *[2] = only rent payers

- The largest monthly expenditure is on groceries (47.7%), followed by housing rent (12.4%), coal/wood (10.2%) and clothing and shoes (9.8%).

9. Towns where households shop

TABLE 3.53 indicates the towns where the households shop for different items as well as the percentages of their spending.

TABLE 3.53 TOWNS WHERE HOUSEHOLDS SHOP

ITEM %	**Pilgrim's Rest %**	**Graskop %**	**Bushbuck Ridge %**	**Hazyview %**	**Lydenburg %**	**Nelspruit %**
Groceries	3.0	70.0	3.5	3.5	9.4	10.6
Alcoholic Bev.	1.8	69.6	--	5.4	12.5	10.7
Clothes & shoes	1.2	65.4	2.5	4.9	11.1	14.9
Furniture & Electric ware	3.8	65.8	--	--	--	--
Motor vehicles	--	--	--	20.0	20.0	60.0

Source: Socio-economic survey, 2007.

- There is a very large leakage of purchasing power for household goods and necessities from Pilgrim's Rest as indicated by the extremely low local shopping percentages. This situation is brought about by the tourism orientated nature of the shops and the goods on sale.

- Graskop is the main shopping destination of the Pilgrim's Rest households. The two towns are only 16 km apart by road.

10. Place of work

The majority of the working population (1147 or 93.8%) work in and around Pilgrim's Rest. Other places of work are Sabie (47 or 3.8%), Nelspruit (18 or 1.5%), Graskop (10 or 0.8%) and Steelpoort (1 or 0.1%).

11. Travel to work

The economic active population use the following modes of travel to their places of work:

- walk : 913 (74.7%)
- minibus taxi : 244 (20.0%)
- bus : 38 (3.1%)
- own car : 28 (2.2%)

The large percentage of people who walk is an indication of the nearness of living area and work place.

12. Services available at the houses

TABLE 3.54 SERVICES AVAILABLE AT THE HOUSES

Service	%
Water	82.4
Electricity	68.2
Waterborne sewage	64.7
Telephone	1.2
Refuse removal	54.1
Street lighting	62.4
Tarred roads	38.8
Postal service	21.2

Source: Socio-economic survey, 2007

- The fact that 26% of the houses are informal and not situated on formal stands influences the percentages of available services.
- The majority of the households residing in the area (82.4%) have access to piped water in their home or on site.

Access to electricity is 68.2%, but 31.8% of households (mostly informal housing) have

- no electricity. Their is a very substantial use of wood and coal for heat.
- Availability of waterborne sewage is 64.7%, but 35.3% of the households (mostly informal housing) have either access to pit latrines or no access to any sanitation levels.
- Refuse removal is only available at 54.1% of the households.
- Street lighting is available at 62.4% of the houses while 37.6% are without it (26% informal housing).
- Very few of the households have a telephone in the house, but many have the use of a cell phone.

13. Sport activities

TABLE 3.55 indicates the sport activities that household members participate in on a regular basis.

TABLE 3.55 REGULAR SPORT ACTIVITIES OF HOUSEHOLD MEMBERS

Sport Activity	Number of participants
Soccer	536
Netball	273
Athletics	38
Tennis	28
Basketball	9
Gymnastics	5

Source: Socio-economic survey, 2007.

- Soccer is the dominant sport activity for males.
- Netball is the dominant sport activity for females.
- Other sport activities are far in the minority.

TABLE 3.56 indicates the shortage of sport facilities in town as identified by the respondents.

TABLE 3.56 SPORT FACILITIES OF WHICH THERE ARE A SHORTAGE

Sport Facility	Number of respondents
Sports grounds	103
Cricket	85
Baseball	75
Tennis	66
Soccer stadium	56
Rugby	19
Soccer fields	18
Netball	9
Facility for indoor games	9
Karate	3
Volleyball	2

Source: Socio-economic survey, 2007

- Sports grounds and facilities for cricket, baseball, tennis and soccer should receive priority.

TABLE 3.57 indicates the shortage of sport facilities in the Municipal Area as indicated by the households of Pilgrim's Rest.

TABLE 3.57 SHORTAGE OF SPORT FACILITIES IN THE MUNICIPAL AREA

Sport Facility	Number of respondents
Soccer stadium	226
Baseball	85
Sports grounds	56
Community hall	47
Rugby	19
Tennis	9
Softball	9

Source: Socio-economic survey, 2007

- The need for a soccer stadium is foremost in the list of inadequate sport facilities in the Municipal Area.

14. Quality of services

TABLE 3.58 indicates the respondent's perception of the quality of services in their township according to the following scale:

0 = none 1 = very bad 2 = poor 3 = average 4 = good 5 = excellent

TABLE 3.58 QUALITY OF SERVICES

Service	Scale
Fire brigade	2
Ambulance	1
medical	2
Electricity	3
Street lighting	2
Water	3
Sewerage	2
Refuse removal	3
Library	0

Streets	1
Traffic control	2
Shops	1
Parks	1
Sport facilities	1
Street trees	1
Sidewalks	1
Personal safety	2
Schools	3

Source: Socio-economic survey, 2007

- Water and electricity provision, refuse removal and schools are regarded as of average standard. All the other services are regarded as poor to very bad and need upgrading.

15. Suggestions by respondents for the improvement of the town

TABLE 3.59 is a summary of the suggestions made by the respondents for the improvement of the township where they live.

TABLE 3.59 SUGGESTIONS BY RESPONDENTS FOR THE IMPROVEMENT OF THEIR TOWN

Suggestions	Number of Respondents
Provide housing (RDP housing)	210
Create more job opportunities	179
Improve the service at the clinic/provide 24 hours service	94
Repair the rented houses	66
Provide land for houses	56
Provide a soccer stadium	55
Good shops are needed	47
Provide more schools	38
Provide housing for old people	28
Provide sports grounds	28
Improve the services	19
Keep the town clean	18
Provide street lights in all areas	10
Improve the streets	10
Provide a hall	9
Better transport is needed	9
Make provision for a crèche	3
Youth development is needed	1

Source: Socio-economic survey, 2007.

- The survey indicated that there is a large need for housing (RDP housing). The number of respondents corresponds with the percentage of informal housing.
- The need for job creation is almost equally important.
- Other important issues are the need for a 24 hour service at the clinic, repair to the rented houses, the need for land for houses and the need for a soccer stadium.

1.1.1.1.1. Physical infrastructure

1. Roads

The R533 and a gravel road are the only connecting roads with Pilgrim's Rest. The R533 connects Pilgrim's Rest with Graskop and link up with the R36 to Lydenburg. The gravel road link up with the R532 to Blyde River Canyon in the north as well as with the R36 to Ohrigstad and the north.

2. Railway

The nearest railway line is at Graskop (see Figure 3.4).

3. Airfields

The nearest airfields are at Lydenburg, Hazyview and Kruger/Mpumalanga International Airport. Kruger Mpumalanga International Airport (KMIA) near Nelspruit is 103 km from Pigrim's Rest while Eastgate Airport in Hoedspruit (Limpopo Province) is 127 km from Pilgrim's Rest.

S.A. Airlink and Nationwide are currently the only airlines to operate scheduled flights to KMIA. S.A. Airlink operates several flights a day between Monday and Friday from Johannesburg, Durban and Cape Town. Over weekends flight capacity is reduced. Nationwide operates a daily flight from Cape Town and Durban via Johannesburg to KMIA and back from Monday to Friday and on Sunday.

Eastgate Airport is connected to Johannesburg and Cape Town by regular flights.

4. Bus service

Tourist buses visit Pilgrim's Rest regularly.

5. Taxi service

There is a local taxi service operating in the area.

6. Water provision

Drinking water is taken from fountains and is regularly tested. Pilgrim's Rest is the nearest town to the Ohrigstad Dam with a capacity of 13 million cubic metres and the Blyderivierspoort Dam with a capacity of 54 million cubic metres.

7. Electricity

Eskom provides electricity to the town.

1.1.1.2. Business activities

1. Business / tourism

Business and tourism in Pilgrim's Rest is not distinguished from one another because of the orientation to the tourism industry of all businesses in the town. A questionnaire survey of all businesses in Pilgrim's Rest was undertaken in February 2007 to provide the necessary information for the study (see Annexure 2).

TABLE 3.60 indicates the composition of the formal business sector in Pilgrim's Rest.

TABLE 3.60 FORMAL BUSINESS SECTOR

Category	Business
Financing	First national Bank
Service undertakings	Pilgrims and Sabie news
	The Old Print House (books)
	Pilgrim's Place photostudio
Accommodation	Beretta's Guesthouse
	Royal Hotel and Annexes
	Ponieskrantz Stables (self catering)
	Environmental Education Centre
	Pilgrim's Rest Caravan Park
Food and liquor	The Stables Restaurant
	Chaitow's & Stables (restaurant)
	Scotts Café
	Royal liquor store
	Mona Cottage Restaurant
	The Muddler Minnow Restaurant
	Welcome Inn
	The Vine Restaurant
	Johnny's Pub
	Jubilee Potters Restaurant
	Clewer Bottle Store & Butchery
	The Pilgrim's Pantry Restaurant
	Alcock Restaurant
	Pilgrim's Bakery
Specialised ware & services	Feldmans Silk Merchants (African silks)
	Edwin Woods & Co - wine exporters
	Mrs. Mac's (jewellery, African artefacts)
	Spotted Dog African arts and crafts
	Iron Stone (curios & cards)
	The Leather Shop (leather articles & tobacco)
	Ponieskrantz Weavery & Arts & Craft
	Belvedere Metal Craft (metal ornaments)
	The Daisy (gifts)
	Kuzzulo's Emporium (antiques, photographer)
Garage & workshop	Highwayman's garage
General dealer	----

Source: Fieldwork, 2006, Business survey, 2007.

2. Type of ownership

The percentage distribution of different ownership categories is as follows:

One man concern : 43.0%

Closed corporation : 28.5%

Company : 28.5%

3. Employees

The total number of business employees in Pilgrim's Rest at the time of the survey was 203 (owners included).

The place of residence of the employees is Pilgrim's Rest (89.0%), Graskop (8.0%) and Sabie (3.0%).

4. Number of years that business has been operating

TABLE 3.61 AGE OF BUSINESS

Years	%
Less than 1 year	8
1 - 2 years	17
3 - 5 years	25
6 - 10 years	33
11+ years	17

Source: Business survey, 2007.

75% of the businesses are older than 3 years and 50% older than 6 years. The average age of the businesses is 6 years. This indicates a measure of stability.

5. Future plans

The majority (86.0%) of the businesses want to continue operating while 14.0% are considering closing down in the near future.

6. Main advantages and disadvantages for a business in Pilgrim's Rest

TABLE 3.62 MAIN ADVANTAGES FOR A BUSINESS IN PILGRIM'S REST

Advantages	Number of businesses
Tourist	20
Safe place/low crime	13
Scenic beauty	11
Quiet and peaceful place	5
historically unique place	4
Small village atmosphere	3
Holiday destination	3
Good infrastructure	---

Source: Business Survey, 2007.

- The majority of businesses regard the tourists as the most important advantage of the town.
- The low crime rate and scenic beauty of the town are also regarded as important advantages.

TABLE 3.63 MAIN DISADVANTAGES FOR A BUSINESS IN PILGRIM'S REST

Disadvantages	Number of businesses
Hawkers are not historically correct	18
Tourist numbers are declining	8
Unable to own property	7
Insufficient activities to keep tourists longer	5
Not enough accommodation for tourists	3
Untidy image and littering	3
Businesses must pay for upkeep of sidewalks	3
Main Road in poor condition	2
Down town is not regarded as part of town	2
Non-performance by government including insufficient marketing	2

Source: Business survey, 2007.

- The majority of the businesses regard the hawkers as not historically correct for the following reasons:
  - hawkers were not part of the history of the town
  - they are selling products that were not manufactured in South Africa
  - many tourist see the hawkers and other informal activities (car washers, nut sellers) as a disregard for historical correctness.
- Other relevant observations by the respondents are the decline in the number of tourists, insufficient activities to keep the tourists for longer periods, shortage of accommodation and untidiness of the town.

7. Origin of customers

The origin of the customers are approximately as follows:

- 60% from South Africa
- 38% from overseas
- 2% from the rest of Africa

8. Location of suppliers

More than 50% of suppliers are located in Mpumalanga, 15% are local and 30% are in Gauteng. The rest are located in other provinces, overseas and in KwaZulu-Natal.

9. Monthly turnover

TABLE 3.64 indicates the monthly turnovers of the businesses as percentage per category.

TABLE 3.64 MONTHLY TURNOVERS

Monthly turnover	%
R10 000 -	14
R10 001 - R20 000	36
R20 001 - R50 000	22

R50 001 - R100 000	7
R100 001 - R200 000	7
R200 001 - R500 000	14

Source: Business survey, 2007.

- 58% of the businesses have a monthly turnover of R10 001 - R50 000.

10. Main problems experienced by businesses

TABLE 3.65 MAIN PROBLEMS

Main problems	Number of businesses
Too many businesses of the same kind	12
High rent/increase in rent	13
Not enough customers	18
Decrease in number of tourists	25
Not enough marketing by Province	17
Tourism potential of town is not fully utilised	20
Crime is affecting my business	4
Many jobless people in the area	24
High electricity cost	2
Lack of action by Department of Works re leases	2
Harassment of visitors by car washers and nut sellers	15
Informal traders clutter/flow in from other areas	8
Inflow of unemployed people	7

Source: Business survey, 2007.

11. Recommendations for improvement of business area

The respondents were asked to make recommendations for the improvement of the business area. The following recommendations were received:

- Regular refurbishment of all buildings is necessary.
- The town must be cleaned up regularly
- Historical correctness is essential for the success of the town.

  This aspect has been raised by many businesses and tourist alike and the following recommendations were made:

  - buildings must be truly representative of the mining era
  - hawkers, car washers and nut sellers are not historically correct and should be removed from the business area
  - proper provision can be made for the hawkers on the large park area in down town
- Develop activities to attract more tourists and keep them longer in town. Several recommendations were made in this regard, but emphasis was placed on the necessity of historical correctness:
  - rebuild the historical tramline, or a portion of it, that was used by the mine
  - further develop the concept of a living museum by incorporating the following activities into the town's programme viz. -

* traditional ox transport wagon trips through town and along specified route
* traditional horse drawn cart trips
* late 19th century early 20th century dress code utilised in businesses, museums, public buildings
* enactment of happenings during the early years of the diggings as well as during the early 20th century
* gold panning demonstrations by locals in era dress code

Respondents recommended that local unemployed people be utilised for the above activities.

- Province should be more involved in marketing the town.
- Improve communication between Province and the Business sector.
- More accommodation is needed.
- Businesses must improve their service delivery.
- Improve main street and sidewalks.
- The Down town area must be recognised as an equally important part of the town.
- The town must be off limits for heavy trucks and quad bikes.

1.1.1.3. Manufacturing

All manufacturing in Pilgrim's Rest is tourism-business orientated. Goods are either manufactured at the shop itself or by local people. The following manufacturing enterprises are located in town:

- Belvedere metal craft. Ornamental metal products and glass products for the tourist market are manufactured and sold.
- Ponieskrantz weavery. Carpets and other woven products are manufactured and sold.
- African Silks. Weavery of African silk
- Pilgrim's Bakery. Variety of bakery products manufactured on site

The total number of employees are 30.

1.1.1.4. Tourism

Pilgrim's Rest is first and foremost a history and heritage destination for tourists. Pilgrim's Rest is unique in the sense that the entire town has been preserved.

Both the Business and Manufacturing sectors are tourist orientated and are major contributors towards the tourism industry. There are also a substantial number of other solely tourism orientated enterprises viz.:

1. Museums

Pilgrim's Rest is a unique village where the visitor can experience something of the life and times of an early South African gold mining community. Apart from the historic village which is a museum unto itself, there are five museums and several historic sites. All museum tickets and bookings for guided tours are available at the Information Centre.

- **The Diggings Site Museum**

The Diggings Site Museum reveals the life and times of the early diggers.

- **Victorian House Museum**

The House Museum is a fine example of wood and iron architecture which is typical of Pilgrim's Rest in the early 20th Century. Built in 1913 the house now emphasises late Victorian styles in the decor and furnishings.

- **Printing Museum**

The museum represents the Pilgrim's and Sabie News printing works - the first of its kind in the town.

- **The Alanglade Period House Museum**

The large double storey house was built in 1915 by the Transvaal Gold Mining Estate as the official mine manager's residence at Pilgrim's Rest. Architecturally, the house conforms to the design essentials of early twentieth century buildings. The museum is furnished with objects from the period 1900 to 1930. The furnishings reflect a modern Edwardian approach and are mostly of Arts and Crafts, Art Nouveau and Art Deco stylistic origins.

- **The Dredzen Shop and House Museum**

The Dredzen Shop Museum is representative of the typical general dealer of the period 1930 to 1950. The home and the life style of the post Second World War era has been reconstructed in the store owner's house, adjoining the shop.

- **The Reduction Works Museum**

The Reduction Works Museum is housed in the restored corrugated structures where the original reduction works was housed.

2. Other historic buildings and sites

- **Historic cemetery**

The different nationalities of the people who lie buried in the cemetery reflects the cosmopolitan character typical of the Pilgrim's Rest gold fields.

- **Joubert Bridge**

The stone bridge was built in 1896 by an Italian engineer, Galetti.

- **Police Station built in 1902**
- **Methodist church**
- **The Royal Hotel**
- **All other buildings representing late 19th century and early 20th century architecture**
- **International gold panning site**

3. Other tourist facilities

- **Pilgrim's Rest golf club**
- **Ponieskrantz Stables**

The stables provide horse safaris in the form of hour rides and weekend trails.

- **Pilgrim's Rest Environmental Education Centre**
- **Pilgrim's Rest caravan and camping park**

The park provides caravan sites, back-packer accommodation, tent accommodation, ablution blocks with toilets and showers, swimming pool, barn, function hall and children's playground.

- **Historic hiking trails (the prospectors hiking trail)**

Daily guided hiking tours are provided through the scenic natural surroundings of Pilgrim's Rest.

1.1.1.5. Mining

There are two active gold mining enterprises in the immediate vicinity of Pilgrim's Rest, viz.:

- Caledonian Mining Exploration Company's Frankfort and Morgenzon Mine and Reduction Plant. The mines annual gold output is 684.3 kg and the reserves are 1.8 ton.
- Simmer and Jack Mine's Transvaal Gold Mining Estate's annual gold production is 1555.2 kg and the reserves are 12.5 ton.

The mines employ more than 200 local people.

1.1.1.6. Agriculture

Agriculture in the area consists of dryland cultivation of maize, deciduous fruit and stock farming (cattle and sheep). A small number of the population of Pigrim's Rest's township are employed in the farming sector.

1.1.1.7. Forestry

There are several forestry companies active in the Pilgrim's Rest area viz.

- Barloworld Farms LTD. Apart from the plantations, the company has guest houses at Enthabene, Hermansberg, Ledovine, Lisbon and Vaalhoek.
- Crocodile Valley Estates (Pty) LTD.
- Sappi Forests (Pty) LTD.

Employment in the forestry industry by residents of Pilgrim's Rest is low (approximately 20). Several of the unemployed males have training in forestry skills.

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2. SITUATION ANALYSIS

2.1 INTRODUCTION

The purpose of this chapter is to determine economic activities with potential in the identified mining towns and to analyse existing economic initiatives.

2.2 BERGVLIET MINE (Pixley Ka Seme Municipal Area)

2.2.1. Economic Activities with Potential

2.2.1.1. Manufacturing

A principle of comparative territorial advantage, in part, means that areas having the greatest advantage for a particular activity will specialise in the activity that brings them the greatest returns. As such it should only take place when a distinctive comparative advantage exists.

The manufacturing profile indicates a clear dominance of agri-industries dependent on local raw products. In the second place are wood industries that obtain their wood from nearby areas in Mpumalanga and KwaZulu-Natal.

The comparative advantage of the agricultural sector together with a lack of mining and other raw materials has led to a dominance of the raw-material-orientated agri-industries in the area. The largest and most numerous industries in the area are manufacturers of maize meal, animal feed and other maize products and sorghum beer. The degree of specialisation that exists in the above-mentioned industrial branch is shown by the fact that 40% of the manufacturing industries and more than 70% of the larger industries in the Municipal Area are food manufacturers. These industries are distributed throughout the Municipal Area and underlines the fact that the locational tendency of primary manufacturing firms is to be raw-material orientated. The sustainability / success of food producing industries in the area is proven by the fact that all the large food producing firms are older than 10 years. One firm is even 65 years old. The majority of these industries indicated that they want to enlarge their production.

The Municipal Area also has comparative advantage in the production of wool, milk (Wakkerstroom area), meat and trout. There are, however, no manufacturing firms that manufacture products from wool, milk or fish. The abattoirs in Volksrust (Trans Natal abattoir) and Amersfoort (Klipplaatdrift abattoir) sell only slaughtered meat. There are no value added to the slaughtered carcasses. Factories specialising in milk products are especially labour intensive.

The manufacturing of wood products can also be seen as raw-material-orientated because wood is obtained from adjacent areas in Mpumalanga and KwaZulu-Natal. There is scope for enlargement in this sector.

There are several small clothing manufacturing enterprises in the towns that are run by previously disadvantaged women. Several are the results of LED job creating poverty alleviation projects. Because of their size and lack of capacity, these enterprises do not have an impact on the local economy and are struggling to survive. Their efficiency can greatly be increased through the establishment of clothing co-operative that can compete for larger markets.

Apart from manufacturing industries, more repair and maintenance enterprises as well as warehouses / storage and distribution depots can be established. Technical and support services for the manufacturing sector and heavy transport vehicles are regarded as a high priority.

The unused mining complex at Bergvliet has many of the ingredients of an industrial park and can be used as the first phase in a programmed provision of industrial land for development. The mining complex has the added advantage of accommodation and is ideal for a technical training facility for industrial workers or technical school.

The creation of such an economic cluster will be in agreement with the PGDS's targets of an increase in the number of economic clusters and manufacturing's contribution to the GGP (PGDS, p.26).

2.2.1.2. Training

The Mpumalanga Provincial Growth and Development Strategy (PGDS) 2004-2014 (p.53) states that: "The high unemployment levels in the Province together with a shortage of technologically skilled manpower, severely constrain economic growth and competitiveness. The challenge thus lies in how to transform the present labour force, which is characterised by a narrow skills base, poor levels of productivity, outdated technological skills and high levels of illiteracy, into a labour force, which meets requirements of the modern economy."

The following strategic thrusts are identified by the PGDS for long term sustainable growth and development (p.54):

- Invest in people skills to promote service delivery, economic growth and development
- To focus higher education institutions to meet the skills demand of the Province
- Improve access to and ensure quality education

Major institutions in Mpumalanga for higher education and training (HET), further education and training (FET) and skills training are as follows:

- Tshwane University of Technology (Nelspruit campus)
- Tshwane University of Tecnology (Witbank campus)
- Technicon Vaal Triangle, Highveld Ridge Satellite campus (Secunda)
- Unisa has offices in Nelspruit and Middelburg
- Gert Sibande FET College (Ermelo)
- Gert Sibande FET College (Standerton)
- Nkangala FET College (Middelburg)
- Technical College Middelburg
- Technical College Nelspruit
- Technical College Witbank
- Metro Training College (Lydenburg)
- Colliery Training College (Witbank)
- Belfast Information Technology Centre (Belfast)
- Ermelo Local Business Service Centre (Ermelo)
- FDSA Training Centre (Secunda)
- Funda Mlini Training Centre (Verena)
- Lowveld Centre for Life Long Learning (Nelspruit)
- Lowveld Training Centre (Nelspruit)
- MSC Private College (Middelburg)
- Regional Training Trust, Mpumalanga REG (Emalahleni)
- Advanced Tutors Computer School (Witbank)
- ATTI (Advanced Technology Training Institute (Middelburg)
- Chamber of Mines of SA, rescue services training
- Crux Computer Training Institute (Nelspruit)
- Discovery Training (Secunda)
- Eco Training (Nelspruit)
- Enviro Training Africa (Tour guide training) (Nelspruit)
- Future Achievers Academy (Middelburg)
- Learning Solutions (Witbank)
- Lottenburg Edu farm (Piet Retief)
- Masima Training SA CC (Middelburg)
- Microtech Training (Nelspruit)
- Nkomazi Teachers Centre (Kwalugedlane)
- Osizweni Adult Centre (Evander)
- Salma Sawmilling Training Centre (Sabie)

- SPES Training, heavy lifting and earthmoving equipment (Witbank)

From the above it is clear that Pixley Ka Seme Municipal Area is characterised by a lack of HET, FET and skills training institutions. The lack of a nearby training facility for traffic officers (the training centre is at Hammanskraal) is also unsatisfactory to the Municipality.

The mining complex with hostel accommodation, training centre, offices and land for further growth is ideally suited for a FET College geared towards industry and specialised short term training programmes. This will also be in agreement with the PGDS's key priority of Human Resource Development with reference to investment in the supply of skills demanded by industry.

4.2.2 Existing economic initiatives

Existing economic initiatives of relevance to the utilisation of Bergvliet are:

4.2.2.1 The Municipal IDP

1. The Local economic Development Programme of the Municipality as described in the Municipal IDP.

The objectives of the LED strategy are as follows:

- To provide support for informal traders and SMME's.
- To ensure a net increase in job opportunities for all sectors of the community.
- To broaden and diversify the economic and hence the tax base to improve provision of services to the entire community.
- To maximise the location benefits of Pixley Ka Seme.
- To increase the attractiveness of Pixley Ka Seme for new investments.
- To improve the local business climate to facilitate new business formation and establishment.

Projects (with their budgets) that are captured in the Municipal IDP (2006) that have relevance to the utilisation of the mining complex are:

- Development at mine premises (R200 000).
- Development of industrial area (R5 000 000).
- W/N Skill School and Hotel (R3 000 000).

2.2.1.3. The Municipal Local Economic Development (LED) Strategy

A local economic development strategy for the Municipality was completed in 2005.

The following development priorities with relevance to the mining complex and industrial development were accepted by Council.

Project Description
1. Establishment of an industrial park and technical training college at the Majuba Mining Complex. Available buildings can be leased to industrial enterprises.
1. Adopting Industrial Development Incentives to attract industries.
1. The adoption of an industrial development budget and appointment of an Industrial Development Officer to 'drive' the process of attracting industries.
1. To facilitate the establishment of CPPP's (Community Public Private Partnerships) between the previously disadvantaged community and the private sector in the value added industrial sector (e.g. meat products, agricultural products, wool and milk products). Such partnerships will give the previously disadvantaged community share-holding in profitable new industrial enterprises while providing the private sector with capital to increase their scope and production.

Source: Pixley Ka Seme LED Strategy, 2005.

2.2.1.4. Industrial development incentives

The following industrial development incentives were approved by Council in 1998:

1. That a discount be applicable for water and electricity usages for interested investors who create more than five employment opportunities - 2.5% discount / rebate for maximum period of one year for both water and electricity.
2. That a discount of 5% be applicable on assessment rates for a maximum period of three years - Investors who purchase land and properties.
3. That a site be given free to investors who want to start business on condition that they must not sell within a specified period and that they must create a minimum of 5 employment opportunities.
4. That an economical structure be allowed, but within the National Building Regulation.
5. That Council allows the possibility of renting sites out to investors with the option of purchasing it later. No discount on assessment rates will be applicable when renting a site. More than five employment opportunities must be created.
6. That in respect of infrastructure the principle of giving possible investors a 10-year interest free loans be applicable if Council can afford such a loan.
7. That the NER be contracted regarding their policy to supply electricity infrastructure to assist in development - only applicable in Volksrust.
8. That all interested investors for Pixley Ka Seme be engaged in discussion.
9. The establishment of a Development Fund by the Local Council to contribute towards development - with Council approval.
10. That such development incentives in number nine above be given to local investors.

2.3 MSAULI

2.3.1. Economic activities with potential that can realistically be exploited

The Songimvelo-Malolotja TFCA represent the single most important development opportunity in the region. By incorporating the Msauli Mining Village in the development the viability of the nature reserve will be enhanced because the town has all the amenities and facilities of a fully fledged main camp of a major nature reserve and more.

The Songimvelo-Malolotja TFCA process has identified a number of pivotal development opportunities within the Songimvelo Game Reserve. Core to the TFCA vision is the concept of developing activities that can function beyond the international Swaziland-South Africa border. The intention is to develop a range of activities and facilities that will facilitate a true mountain adventure experience. Proposed activities include all forms of adventure sports, 4X4 and quad bike trails, bridle trails, game viewing and resort type activities including golf. To realise these opportunities, the necessity of incorporating the Msauli mining village into the development is emphasised.

The picturesque old mining village is situated in the middle of the Songimvelo-Malolotja Transfrontier Conservation Area with the Songimvelo's best road connections coalescing there. The old mining village with its charming architecture has been well preserved. The town has a Pilgrim's Rest feel to it and present a unique opportunity to be developed into an 'end destination' family resort, and 'springboard destination' feeding the greater Songimvelo-Malolotja TFCA. It can, therefore, act as main camp for the reserve. Msauli has all the necessary amenities and facilities to enhance the 'holiday experience' of the visitors (Mpumalanga Tourism and Parks Agency, 2006).

A resort at Msauli has the potential to drastically increase the number of visitors to the Songimvelo Game Reserve because of the large increase in accommodation that it will bring. More, accommodation will also increase the Reserve's competitiveness. The resort will stimulate all the above-mentioned recreational activities as well as tourism orientated manufacturing, business and agriculture. Job opportunities for the local previously disadvantaged population (men, women, youths of working age and the disabled) will also increase dramatically.

2.3.2. Existing Economic Initiatives

The current Songmvelo-Malolotja TFCA process has identified a number of potential economic initiatives that should further enhance the tourist attraction of the resort and region, viz.:

2.3.2.1. The Songimvelo Panhandle hiking trails

The panhandle area to the north-east of the resort presents ideal opportunities for hiking trails. The scenic mountains with indigenous forests, the Shiyalonguba Dam and the spectacular cycad and tree fern forests of the Lomati River valley are especially noteworthy. The area offers the opportunity for day or multi-day hikes potentially extending beyond the international border into the Malolotja Nature Reserve.

2.3.2.2. Shiyalonguba Dam chalets

The Shiyalonguba Dam is a renowned angling spot and point of access to the Songimvelo panhandle hiking trails. Development opportunities include a small lakeside chalet development, potentially linking with the hiking activity in the panhandle.

2.3.2.3. 4X4 trails and adventure sport

The Mendon area at 1500m is accessible by 4X4 only, offering breathtaking panoramic views of Skokohla peak and the Barberton mountain range. It is proposed that this be the start of a true 4X4 wilderness experience, feeding down into the remote Dunbar valley, with a stop-off at Msauli village before crossing the Komati River and joining the Ebutsini 4X4 trail wedged between Songimvelo and Malolotja Nature Reserve.

2.3.2.4. Photo - safari tourism

The Songimvelo plains, with their open grassland savanna teaming with game, are ideally suited for photo-safari based tourism. It is proposed that three to four 24 bed concessioned lodges be developed within the secluded valleys that flank this landscape.

2.3.2.5. Guided tours

Guided tours from Msauli to the Ebutsini Cultural Village, ancient iron-ore mines, “Skaapbrug”, San art, etc. is proposed.

2.3.2.6. Horse riding tours

Horse riding tours from Msauli to some of the above attractions and areas of scenic beauty is proposed.

2.4 RIETSPRUIT

2.4.1. Economic Activities with potential

With the cessation of mining activities BHP Billiton implemented a two phased strategy to create sustainable economic and alternative employment opportunities for the remaining employees and for Rietspruit as a whole (see Figure 4.1).

Phase 1

Phase 1 involved identifying stakeholder groups within the community and gaining their support. Twelve groups were identified throughout the community and a transitional forum established. An Executive of the resulting Rietspruit Community Development Forum has been elected and the position institutionalised. The activities of the forum were subsequently taken over by the Ward Committee.

Phase 2

Phase 2 took the community up to the cessation of mining operations. It focused on creating a final representative forum (now Ward Committee) and business development process aimed at:

- creating important replacement jobs in the town, through self-sufficiency in the supply of goods and services within Rietspruit and thereby keeping money within the town economy;
- creating service related jobs, for example through municipal services being performed mainly by local residents;
- establishing 'export' businesses to stabilise the town economy.

During this stage the institutional structure of the town were to be finalised and start to operate (see diagram Figure 4.1).

The functions of the different structures were planned to be as follows:

- **Lehlaka Property Development (Pty) Ltd**

Initially a Section 21 company was envisaged, but eventually the above company was established to create the social fund, enabling employees to buy their houses at below market price and without incurring an income tax liability. Houses have been bought, with employees either using their own resources or grant financing from the government. The company must ensure that monies raised from house sales are used for the creation of sustainable alternative employment.

- **Community Forum**

The Forum was designed to allow community leaders to consult with the various stakeholders in the town.

Its function was to be that of a steering body with no operational responsibility. The Ward Committee took over the functions of the Forum.

- **Community Trust and Village Bank**

These were planned to allow participation by community members in the commercial and financial affairs of the community's job creation investments. The Trust was to distribute excess earnings to its beneficiaries (to be decided by the Community Forum). The Village Bank was planned to allow the community to develop their own 'bank' - effectively a joint account, supported by one of the commercial banks of RSA, but operated within the community as a separate bank. Such a system would allow the community to profit from transaction charges and would provide it with financial credibility through the visibility of its collective wealth. The Bank and Community Trust did not realise.

- **Development 'Corporation'**

The goal of the Corporation was to manage the community's investment portfolio of job-creating businesses. This function was taken over by the Emalahleni Municipality and the Ward Committee.

2.4.2. Existing Economic initiatives

2.4.2.1. Current LED Projects

1. Zisize Vegetable Farming

- Description: Vegetable farming on 7 ha fenced area and 3 ha under netting.
- Funding body: Ingwe mine
- Value: R2 million
- Starting date: 2003
- Number of jobs created: Project started with 46 people that were reduced to 16
- Beneficiaries: Men and women
- Present status: The project is currently dormant and consultants were appointed by the Municipality to re-activate it. Tomatoes and green peppers will be cultivated under nets and products such as beans, cabbage, spinach, broccoli and carrots will be produced in the open with drip irrigation. Marketing will be to local supermarkets and large supermarkets and fruit and vegetable outlets in Witbank. New name to be Imifino Gardens.

2. Reedstream Laundry

- Description: Dry cleaning and laundry
- Funding body: Ingwe mine
- Value: R300 000
- Starting date: 2005
- Number of jobs created: 6
- Beneficiaries: 6 women
- Present status: Ongoing

3. Bus Transportation

- Description: Transportation of school children and others
- Funding body: Ingwe mine
- Value: ---
- Starting date: 2005
- Number of jobs created: 6
- Beneficiaries: Male
- Present status: Ongoing

(Emalahleni Local Municipality LED Department, 2007)

2.4.2.2. LED projects that are captured in the Municipal IDP

- Emergency Centre (R3.5 million)
- Hawker cubicles (R300 000.00)
- Initiation and facilitation of food garden projects by providing seedlings, tools and equipment (refer 1 above)

2.4.2.3. Other potential projects

1. A nearby farm of 1500 ha that is Municipal property can be utilised for the production of vegetables and other crops (i.e. maize, sunflowers, etc.) and variations of stock farming. The farm has 5 boreholes and water pumping rights from the Steenkoolspruit. Previously maize was produced under irrigation.
2. There are large unused workshops, storerooms and other buildings that were previously used by the mine. These buildings are now available for other forms of utilisation.

2.4.2.4. Main reasons for failure of some job creating projects in Rietspruit

The Municipal LED manager identified the following reasons why some LED projects failed:

- Lack of management and marketing skills
- Without financial support from the mine, projects failed to be sustainable

2.4.2.5. Type of projects with the most potential for sustainability

The Municipal LED manager indicated that the existing projects are deemed to be the most sustainable by the Municipality.

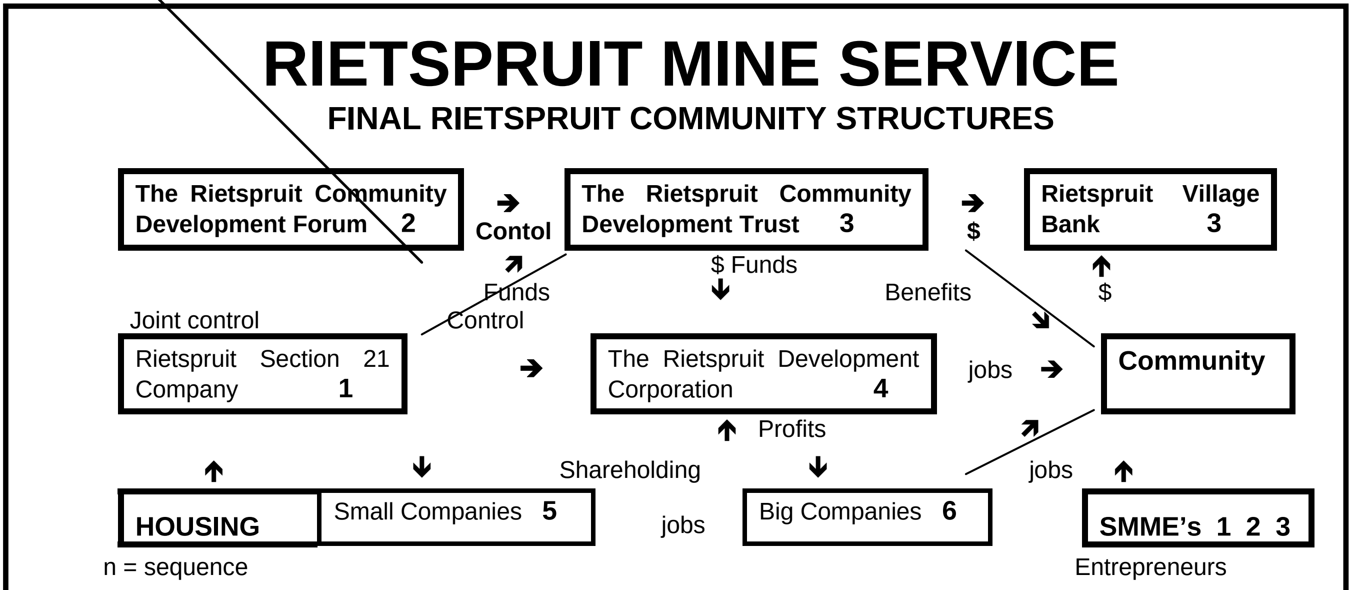

FIGURE 4.1 Rietspruit Community Structures

2.5 PILGRIM'S REST

2.5.1. Economic Activities with potential

Existing and envisaged economic initiatives for Pilgrim's Rest are all tourism orientated and consists of planned events, the rebuilding of the tramline, a Tourism Development Plan for Thaba Chweu (2006) that was conducted for the Municipality by KPMG Hospitality, Leisure and Tourism in conjunction with Zabo Consulting and recommendations by the shareholders.

2.5.1.1. Planned events

1. Gold panning championships

Gold panning enthusiasts in Pilgrim's Rest formed the South African Gold Panning Association (SAGPA) with an office in the town. The primary objective being to promote and maintain the tradition of gold panning in South Africa and to facilitate co-operation between gold prospectors.

SAGPA joined forces with the Pilgrim's Rest Museum and Mpumalanga's Department of Culture, Sport and Recreation to present the first South African Gold Panning Competition in December 1997. Ever since SAGPA, and the Mpumalanga Department of Culture, Sport and Recreation have successfully presented the South African National Championships, participation in the yearly event has increased steadily from 78 to 700. Apart from the competitors, family members and other interested people also attended the events (South African Gold Panning Association, 2006).

The emphasis is on family participation and many exciting additional events are held. Excursions are also undertaken such as a geological tour to the Kruger National Park, Panorama Escarpment, Shangana Cultural Village, the Cheetah Project and Moholoholo Bird Rehabilitation Project. In 2005 the World Gold Panning Championships was held in Pilgrim's Rest and competitors from all over the world participated.

2. The Pilgrim's Rest Classic

The annual mountain bike race held in December attracts an estimated 200 participants.

2.5.1.2. Rebuilding of the tramline

To serve the scattered mines in the area at the end of the 19th century, an electric tramline was built in 1897 to convey ore from outlying mines to the central reduction works in Pilgrim's Rest. The size of the project was something of a technical feat at a time when South Africa was technically still in its infancy.

A potential project was identified by the Mpumalanga Department of Culture, Sport and Recreation to rebuild the tramline to accommodate tourist rides. The potential tramline route will include the mine, old campongs, reduction plant and tourism centre.

2.5.1.3. The Thaba Chweu Tourism Development Plan (2006)

The findings and recommendations of the Development Plan with regard to tourism and tourism development in Pilgrim's Rest can be summed up as follows:

Findings

- Pilgrim's Rest represents a significant opportunity for tourism growth and development in diverse target markets. The product is unique in South Africa and is a popular stop-over-point on the tourist trail. The potential of the product is currently not being realised. Interviews with stakeholders in the region indicated that many tourist busses stop in the town and although travellers generally walk through the town they do not spend much.
- Street hawkers are potentially a problem, particularly in terms of car washers who are often aggressive in getting individuals to pay for washes that had not been requested.
- After 17h00 there are few entertainment opportunities on offer in the town to influence tourists to stay overnight.
- Stakeholders estimate a decline of 40% in tourists visiting the town.
- Institutional issues are preventing effective management of the Pilgrim's Rest Product. Such issues must be resolved if desired levels of demand for the town is to be generated.
- The scenically beautiful area around the town creates opportunities for nature orientated recreational activities. Forestry areas can also be included, for despite potential conflict between tourism and forestry many forestry companies do work in conjunction with the tourism industry. Hiking trails, mountain biking trails, 4X4 trails, etc. are provided on some forestry land.

Recommendations

- Pilgrim's Rest is a theme attraction and should be managed as such. Attracting people to a theme attraction whilst creating job opportunities requires a pro-active approach, investment in new events and products and the creation of exciting stories and themes to keep children and adults alike entertained. When doing so, Pilgrim's Rest can position itself as a primary attraction within Mpumalanga and South Africa as a whole.

- The development of an institutional structure that will be able to deliver real change on the ground is required.
- The scenically beautiful area creates opportunities for hiking trails, mountain biking, driving and horse riding.
- Events such as the National and International Gold Panning Championships and the Pilgrim's Rest Classic (mountain bikes) should be staged as it attracts large groups of people.

There are opportunities for Pilgrim's Rest to host a diversity of events that could be related to arts and crafts, history, food and beverage.

- Employment opportunities for local residents must be maximised. Skills development and training must, therefore, be a priority in moving forward.

2.5.2. Projects Recommended by the Stakeholders

2.5.2.1. Arts and crafts center

Curio stalls along Main Street in Pilgrim's Rest do not contribute towards the historic theme of the town. The majority of products sold is also generic and can be found in curio stalls throughout the country. Few of the items are unique to the area and a large portion are not created by local artist or even South African artists.

The development of an arts and craft centre separate from the historic town that promotes educating local communities in the art of crafting, beadwork, etc. will provide opportunities for unemployed locals to earn a living. Such a facility can be undertaken as part of a Community Public Private Partnership (CPPP) in order to encourage win / win opportunities for all.

The large park area in the Down Town area of Pilgrim's Rest is considered an ideal location.

2.5.2.2. 'Living museum' / theme attractions

Stakeholders felt that activities should be developed to attract more tourists and keep them longer in town. The concept of a theme attraction similar to that put forward by the Tourism Development Plan is recommended. Such a project has the potential to vastly increase the representation of the whole community in Pilgrim's Rest because local unemployed previously disadvantaged individuals can represent the majority of the participants. Thereby they can create a living for themselves.

The following live activities are recommended by the stakeholders:

- rebuild the historical tramline or a portion of it and utilise it for rides for tourists.

- further develop the concept of a ‘living museum’ by incorporating the following activities into the town’s programme -
  - traditional ox wagon (transport wagon) trips through town
  - traditional horse drawn cart trips
  - late 19^{th} century early 20^{th} century dress code utilised in museums, public buildings, businesses and by a number of people on street
  - enactment of events/happenings during the early years, viz. Robbery by highwayman, arrival of stage coach, diggers panning for gold, etc.

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3. REALISTIC ECONOMIC DEVELOPMENT OPTIONS

3.1 INTRODUCTION

The purpose of this chapter is to identify realistic economic development options that will best stimulate and regenerate the local economies in the identified towns where mine closure occurred. A community based development strategy is the final outcome envisaged. This phase of the study will determine profitability of the potential programs and compare comparative advantage, cost and benefit of available options.

The preceding study has indicated that the state in which closed mines have been left varies greatly from best practice closure to abandonment and disintegration with most mines of the latter category having closed before 1990. Pilgrim's Rest falls into this latter category. The town was, however, saved from total decay when the Provincial Government purchased it as a whole in 1974 and started restoring the rundown corrugated iron structures - creating a living museum.

The other three mining towns have closed down after 1990 and some measure of preserving of infrastructure has been implemented in all three cases, viz.:

- Bergvliet mining complex is secured and protected by Escom from illegal occupation and vandalism, but no maintenance work is done.
- Msauli is secured and protected by Mpumalanga Tourism and Parks Agency. Some refurbishment work has to be done to the town and recreational facilities.
- Rietspruit has been maintained through the following measures taken by the mine:
  - houses were sold to former employees;
  - the mining village was proclaimed into a township governed by the Emalahleni Local Municipality;
  - recreational facilities were donated to the community and, thus, fall under the jurisdiction of the Municipality;
  - the school was transferred to ownership by the Department of Education; and
  - programmes have been implemented to ensure economic sustainability of the community - although with varied success and limited scale.

The previous study greatly assisted in giving guidelines as to the sectorial development options that will be best suited to stimulate and regenerate the local economies of the towns being studied, viz.:

Bergvliet Mining Complex

Two potential economic development options were identified:

1. Converting the complex into an industrial area or Industrial Park.
2. Converting the complex into a technical training facility (i.e. FED College).

Msauli

Two potential economic development options were identified:

1. Incorporating the Msauli Mining Village as 'end destination' family resort and main camp into the Songimvelo Game Reserve and as 'springboard destination' feeding the greater Songimvelo - Malolotja TFCA. All planning and development should be in partnership with the land claiments and the latter should receive maximum benefits through job creation and income share.
2. Transferring the village to the land claiments and proclaiming it into a township governed by the local authority. This option will, however, not contribute towards the unemployment situation.

Rietspruit

The following potential economic development options were identified:

1. Farming projects on available municipal farmland, viz.:
   - Intensive vegetable production (under nets, hydroponics and open land under irrigation);
   - Chickens (Broilers, free roaming and layers);
   - Grazing
2. Industrial development on zoned land and by utilising former mine buildings. Agri-industries (vegetable packaging and frozen vegetables), mining related industries and service industries should receive preference.
3. SMME development to provide for the present shortage in businesses, business services and personal services.

Pilgrim's Rest

The following potential development options exist:

1. Positioning the town as a primary tourist attraction within Mpumalanga and South Africa as a whole by increasing the attractions with special emphasis on theme attractions and events.
2. Developing an arts and crafts industry as a separate, but complementary industry to the historical town.

3.2 COMMUNITY BASED DEVELOPMENT STRATEGY

A community based development strategy optimises the economic and societal benefits received by the local population.

Historically previously disadvantaged mining communities have benefited in a very limited way or not at all from the closure of the mine and activities that were introduced afterwards. By choosing the economic development options that will best stimulate and regenerate the local economies while maximally involving the previously neglected communities, real benefits can be obtained for these communities.

3.3 SUITABILITY OF ECONOMIC DEVELOPMENT OPTIONS

3.3.1. Criteria

The economic development options that were identified will be measured against a number of criteria to determine their suitability. Where alternatives exist, the most worthwhile with the most benefits for the community will be identified.

CRITERIA	**DESCRIPTION**
1. COMPARATIVE ADVANTAGE	• The principle that areas or places having the greatest advantage for a particular activity will specialise in the activity that brings them the greatest return. • An area or place without a clear cut advantage over other areas will similarly specialise in the activity/activities for which it has the least ratio of disadvantage.
2. SUSTAINABLE DEVELOPMENT	• Development that optimises the economic and other societal benefits available in the present without jeopardising the likely potential for similar benefits in the future. • In the context of tourism, agriculture and industry it means that the industry should not destroy or harm the resource base on which it relies through over exploitation or irresponsible development.
2. COSTS AND BENEFITS 3.1 Access to employment opportunities	• Local previously neglected people should gain employment during both the development and operating phases of the project. Employment should be at all levels.
3.2 Increasing the value of land	• The value of land can be increased by utilising it for economic development. • If the local community hold appropriate rights over land, they can either sell it, lease it or use the land to acquire a stake in a company that can develop the land. • Development or use of the land for economic purposes can also be done as a joint venture partnership with a company or government department - thereby generating an income and employment opportunities.
3.2 Increasing the value of buildings and	• The value of unused mine buildings and infrastructure can be increased by utilising it for economic or social development

infrastructure	
3.2 Protecting the environment	• Projects should ensure that they are not damaging the local environment. They can also contribute towards repairing and protecting the environment.
3.2 Preservation of cultural and natural heritage	• Tourism potentially can put resources into cultural projects that while being a tourist attraction pays artists, performers and crafts people to further enhance the tourist attraction by keeping the area's culture alive.
3.2 New entrepreneurs and SMME development	• SMME development and the emergence of new entrepreneurs from the previously neglected community should be stimulated.
3.2 Skills transfer	• Economic development projects require a range of skills that are generally absent or underdeveloped in the former mining towns. Projects should ensure that these skills are transferred to the beneficiaries and that the local capacity to participate fully in the enterprise is actively built. • Skills transferred can be industry specific to equip the local people to participate more effectively in the modern economy. • By improving education and job training, job seekers (especially the young) will also be empowered to move to more advantageous regions.
3.2 Infrastructure development	• Economic development projects can lead to better services such as roads, electricity and water in areas.
3.2 Access to abandoned and unused land	• Former mine lands that have been rehabilitated or have not been utilised.
3.2 Access to abandoned buildings and facilities	• Development of a new industrial area or tourism node will be costly and the availability of suitable buildings will impact largely on the potential of such an area.
3.2 Access to abandoned services	• The development of a new industrial area or tourism node will be costly and may not be feasible without bulk services (water, electricity and sewerage). The availability of such services, therefore, will impact substantially on the potential of such an area.
4. ACCESSIBILITY	Accessibility comprises two major components: • the connection component - that of being able to reach a place; • the movement cost component - that of being able to get there quickly and/or cheaply. More accessible locations: • allow economic activities to reduce their movement costs, for example, providing an incentive for industrial investment and intensive agricultural production; • contribute towards larger numbers of tourist visiting tourist attractions
4.1 Route connectivity	• Road connectivity will be determined using a Beta - index: $B = \frac{r}{c}$ r = number of roads c = number of corner points (towns) -1 = low connectivity 1+ = high connectivity • Rail connectivity will be determined by distance to nearest railway line • Air connectivity will be determined by distance to nearest major

	airport.
4.1 Market accessibility	• Accessibility to a market/consumer market is a major locational determinant for agricultural industrial and tourist enterprises. The larger the market, the larger the development potential and chance of success.
5. ASSESSMENT OF POTENTIAL TOURISM NODES	• A variation of a method used in North West (North West TEC, 1998:51) will be used to assess the potential of possible tourism nodes. The potential of a tourism node is dependant on an intricate combination of different factors, each with varying levels of influence. This method will be applied to give a broader indication of the potential of a specific node, based on a combination of factors. No single factor can guarantee the success of a tourism node. The criteria is discussed below:
5.1 Access	• Access represents the distance from and ease of access to markets, existing nodes and gateways. Ease of access such as represented by the condition of roads, is almost non - negotiable for any tourism node to succeed, unless remoteness itself is the main attraction or unless the destination is ultra unique. Beyond 4 hours by road, it is almost entirely the uniqueness of a product that will attract tourists. Measure = Determined by distance from Gateway 400 km = 2, 200 km = 5, 100 km = 10
5.1 Attractions	• The attraction of an area depends on the natural features (e.g. scenery, culture, wildlife and places of interest). The availability of attractions dictates the supply capacity as well as the demand potential of an area. Both uniqueness and diversity of attractions are important. Few attractions exist in isolation. Generally they are part of a tourist locale created by the interdependence and the spatial relationship of all its available tourist resources. A well defined cluster of attractions, especially when they are of different types and complementary to one another, has a greater tourist value than scattered or unrelated features. It is, however, important to note that the 'tourist value' of a locale is something more than the sum of its parts - but also of their individual importance. The recreational paraphernalia of sporting activities, outdoor living and various forms of entertainment play only a supporting role to a leading attraction. It is the same principle that applies in a shopping centre where a large department store or supermarket provides the necessary nucleus and the drawing power on which smaller complimentary shops rely for their business. Measure = based on adapted KPMG/DEAT priorities. Eco-tourism, culture, adventure, entertainment = 5; Meetings, conferences and exhibitions = 3; Health and fitness, sports and events = 1. TOTAL = 10.
5.1 Present status and products	• The current level of development, the presence of existing products and the current prominence of a tourism node or proximity to another node provide a springboard from which to launch further expansion and development. Areas at or near existing tourism nodes have an obvious advantage over totally underdeveloped areas. Measure = Based on consultants own assessment. • Standard of uniqueness: 0 = not unique; 1 = unique on a local level; 2 = unique on a regional level; 3 = unique on a Provincial and National level; 4 = unique on a National and International level;

	5 = unique on the highest level (e.g. Victoria Falls) • Number of potential beds: 600 - 1000 = 1 1000 - 5000 = 2 5000 + = 3 • Proximity to major tourism nodes: -200 km = 2 200 - 400 km = 1 400+ km = 0 TOTAL = 10
5.1 Supply	
5.4.1 Infrastructure	• The development of a new tourism node will be costly and may not be feasible without buildings and bulk services (water, electricity, sewerage) including suitable access roads. The availability of infrastructure and services, therefore, impacts on the tourism potential of an area. Measure = based on consultants own assessment. • Provision in all building needs = 5 • Provision in all service needs = 5
5.4.1 Expansion potential	• The potential for further expansion increases the value of a tourism node. Measure = Based on consultants own assessment. • No potential for further expansion = 2 • Limited potential = 2 • Moderate potential = 5 • Large potential = 8 • Unlimited potential = 10
5.5 Needs	
5.5.1 Unemployment	• Tourism can be used as a mechanism for job creation and economic empowerment. The unemployment rate of an area is used as measure for the need for economic development.
6. LINKAGES	
6.1 Competitive linkages	• Competitive linkages exist where similar activities cluster together and thereby enhance the total drawing power of that activity. The resultant larger numbers of customers will be to the advantage of all.
6.1 Complementary linkages	• Different enterprises supply the same market with different, but somewhat similar and interlocking kinds of goods and services.
6.1 Commensal linkages	• Different enterprises may be found together because of the common use of facilities, infrastructure or services.
6.1 Ancillary linkages	• The mixing of unlike establishments in an area, but supplying the same area or customer source. In most cases a number of different smaller enterprises are subordinate to a larger function in the area.
7. IMPLEMENTATION COSTS	• Cost - minimisation or the cheapest way to accomplish a defined objective, but still achieving maximum benefits is an important factor to consider in any new project.
7. IMPLEMENTATION TIME	• The time that it will take until an impoverished community can achieve maximum benefits/relief from a new project is crucial in assessing the desirability of projects where alternatives exist.

3.3.2. Application of criteria

3.3.2.1. BERGVLIET MINING COMPLEX

CRITERIA	PROJECT AND EVALUATION	
	Industrial Park	**Technical Training College**
1. COMPARATIVE ADVANTAGE	• Available infrastructure (buildings, roads, bulk services) • Available land for growth • Municipal incentives • Comparative advantage for agri-industries within a predominant agricultural area • Central location between nearby towns • Lack of planned industrial area/land for development in Municipal area • Near markets - major markets are within Pixley Ka Seme Municipal Area, Mpumalanga and KwaZulu/Natal • Good road connections • Accommodation for workers	• Available infrastructure (buildings for accommodation, workshops, classrooms, offices, bulk services) • Available land for growth • Central location between towns • Lack of technical training facility in Municipal Area • Available accommodation for students make the location more desirable than the Technical Colleges in nearby Ermelo and Standerton - especially for a less mobile largely impoverished population.
2. SUSTAINABLE DEVELOPMENT	• The potential development will preserve the available infrastructure through utilisation and maintenance.	• The potential development will preserve the available infrastructure through utilisation and maintenance.
2. COSTS AND BENEFITS		
3.1 Access to employment opportunities	• The ability of manufacturing industries to create jobs is well documented. An industrial park has the potential to create more jobs for the local population at the locality than any other activity (mining excluded). • Many spin-offs can also be created for service industries, associated businesses and services and transport enterprises.	• A Technical College does not have the same potential for creating jobs for the local population as an industrial complex. Because of the level of skills needed for teaching and administration staff, many of the employees on these levels will have to be ‘imported’ from outside the Municipal Area, leaving the lower levels to the local population. • After completion of their studies, the majority of students will also have to seek employment elsewhere because of a scarcity of jobs in the Municipal Area.
3.1 Increasing the value of land	• Industrial development represents the use of land to achieve the most profit. It, therefore, has the capability to increase the value of land considerably.	• A Technical College does not represent the use of land for large financial gains. It, therefore, does not have the same capability to increase the value of land.
3.1 Increasing the	• The same principle applies as	• The same principle applies as

value of buildings and infrastructure	under 3.2.	under 3.2.
3.1 Protecting the environment	• Using the infrastructure and land for clean industries will safeguard them against destruction and abuse.	• Using the infrastructure and land for Technical College will safeguard them against destruction and abuse.
3.1 Preservation of cultural and natural heritage	• Not applicable	• Not applicable
3.1 New entrepreneurs and SMME development	• A industrial complex can create many opportunities for new entrepreneurs and SMME development at the locality and in nearby towns.	• A Technical College will not have the potential to create opportunities for new entrepreneurs and SMME development at the locality. A number of opportunities will be created for associated enterprises in the nearby towns.
3.1 Skills transfer	• Industry specific skills will be transferred to employees, thus increasing their capacity to participate more effectively in the enterprise.	• Acquiring of skills through training will still not ensure job seekers of employment.
3.1 Infrastructure development	• An industrial complex can lead to further improvement of services in the area.	• A Technical College can lead to further improvement of services in the area, but on a more limited scale.
3.1 Access to abandoned and unused land	• The development will have access to the unused land.	• The development will have access to the unused land.
3.10 Access to abandoned buildings and facilities	• The development will have access to the abandoned buildings and facilities, thereby saving on costs and increasing feasibility.	• The development will have access to the abandoned buildings and facilities. Thereby saving on costs.
3.10 Access to abandoned services	• The development will have access to the abandoned services, thereby saving on costs and increasing feasibility.	• The development will have access to the abandoned services, thereby saving on costs.
4. ACCESSIBILITY		
4.1 Route connectivity	• Road connectivity ratio = 1. This indicates a road connection with all the towns in Pixley Ka Seme.	• Ditto
4.1 Market accessibility	• The major markets of the manufacturing industries in Pixley Ka Seme are located in the Municipal Area itself, Mpumalanga, KwaZulu/Natal and Gauteng. It is expected that an industrial complex at the Majuba mining complex will have the same major markets.	• Because of the location of intermediate opportunities in the form of technical colleges in Ermelo, Standerton, Witbank, etc., the market area of a Technical College at the mining complex will primarily be restricted to the Pixley Ka Seme Municipal Area. The market will also primarily be represented by the 15 - 24 years age group. A market potential model is used to determine the potential intensity of demand for a

		technical college from within the Municipal Area. The formula is as follows:
		$$Mpi = \sum_{j=1}^{n} \frac{Mj}{dij}$$
		Where Mpi = market potential at I Mj = measure of size of the market (population 15-24 years) dij = average distance in km between complex i and all five towns $= \frac{27172}{37}$ Market potential = 734
5. ASSESSMENT OF POTENTIAL TOURISM NODES	• Not applicable	• Not applicable
5. LINKAGES	• The potential exists for the clustering of industrial enterprises to form different types of linkages (see 6.1 - 6.4)	• Not applicable
5. IMPLEMENTA-TION COST (see estimates for refurbishment costs hereunder)	• The minimisation of implementation cost for government will be brought about by the availability of infrastructure (buildings, bulk services, roads). • Implementation and running costs will be primarily in the hands of the private sector - apart from initial cost for repair or upgrading of infrastructure left unused for a period of time and for future maintenance of services and on buildings rented out. • Resultant financial benefits for the Municipality (and community) will be: – Regular income through the renting out of building and office space – Regular income through the letting of apartments to industrial workers – Income through the sale of industrial land – Regular income through the provision of services – Income through property tax – Employment opportunities for the community	• Apart from the savings on already available infrastructure, government will be responsible for all further expenditure on implementation. Government will also pay the major share of the running costs through the provision of a subsidy. • Financial benefits for the Municipality will be restricted to an income for the provision of bulk services.
8. IMPLEMENTA-TION TIME	• The proposed project will reside under the jurisdiction of the Local	• The proposed Technical College will reside under the Central and

	Authority and can be implemented in less than a year. • Economic and associated social benefits will be available to the impoverished community within a relatively short period of time.	Provincial Governments and implementation can take several years. • Benefits will be largely social of nature (better education and training) and it will take several years before the first students complete their studies

Bergvliet Mine (Majuba): Summary of facilities					
Functional area	**Facility**	**Number**	**Area m^2**	**Refurbishment Costs**	
				Unit cost	R
SERVICES	Electricity supply	Re-commission		---	150 000
	Sewerage plant	Re-commission		---	250 000
	Water system	Re-commission		---	100 000
					R500 000
				Rate/m^2 R	
OFFICES	Office (Main)	1	3149	50	157 450
MINE	Changing rooms	5	6168	25	154 200
	Laundry	1	858	75	64 350
	Workshops & Offices	3	10505	15	157 575
	Offices	1	500	50	25 000
	TOTAL		**18031**		
				Unit cost	
HOSTEL	Hostel - 4 blocks x 56 rooms x 3 persons			---	600 000
	Mess	1		---	450 000
	Food processing	1		---	600 000
	Admin offices	1		---	100 000
HUMAN RESOURCES CENTRE	Human Resources Centre	1		---	150 000
					R1 900 000

3.3.2.2. MSAULI

CRITERIA	PROJECT AND EVALUATION
	UTILISING MSAULI AS A TOURIST RESORT
1. COMPARATIVE ADVANTAGE	• Available infrastructure of an attractive former mining village that has been rehabilitated. • Located within the large Songimvelo Game Reserve of 50 000 ha and the Songimvelo - Malolotja TFCA that will encompass 80 000 ha.
2. SUSTAINABLE DEVELOPMENT	• The attractive former mining village with its sensitive setting within the natural landscape will best be preserved by incorporating it into the Songimvelo Game Reserve as main camp 1 and destination family resort. • The proposed development will provide the most substantial and sustainable economic benefits to the impoverished community of the area.
2. COSTS AND BENEFITS	
3.1 Access to employment opportunities	• In an impoverished area with high unemployment and scarce economic opportunities, the former mining village represents the single most important opportunity to create significant economic benefits for the local community. • A joint venture between the community, the Mpumalanga Tourism and Parks Agency and a private sector company (to manage the project) is a successful approach followed by Madikwe Game Reserve in North West. Such an approach will increase the sustainability of the project and ensure maximum employment for the community, viz: – administration – information – accommodation – maintenance – cleaning – transport – tour guides – restaurant/catering – recreation – gardens – security – shops – health services – laundry and at tourist attractions in the vicinity, viz.: – Ebutsini Cultural Village (traditional Swazi Village, tribal dancing, marimba band, arts and crafts, conference facility) – Horse trails – 4X4 and quad bike trails An estimated 150+ direct and indirect employment opportunities can be created. Spending of tourists in an area can create an income for more enterprises and individuals.
3.1 Increasing the value of land	• A strong tourism destination can increase the value of adjacent land as private investments along the boundaries of the Kruger National Park have indicated.

3.1 Increasing the value of buildings and infrastructure	• The value of the buildings and other infrastructure at Msauli will increase when it is utilised for a tourist resort. The unused buildings and infrastructure is presently without real value.
3.1 Protecting the environment	• By utilising the town as a tourist resort, the cultural (man made) and natural environment will be safeguarded against damage. It is important that the quality of both the above should be maintained because of the impact that it has on tourist numbers.
3.1 Preservation of cultural and natural heritage	• By incorporating adjacent cultural attractions into the resort's 'tourist package', the area's culture can be kept alive and local artists, performers and crafts people can benefit financially. Local arts and crafts can also be sold at resort shops.
3.1 New entrepreneurs and SMME development	• A resort of this size (potential accommodation for more than 600 tourists) can create many spin-offs that can lead to SMME development, viz.: – provision of food and beverages – provision of furniture, curtains, carpets, etc. – provision of sanitary goods – laundry – transport – electrical maintenance – plumbing maintenance – water maintenance – arts and crafts articles
3.1 Skills transfer	• The tourism business of managing a resort requires a range of skills. These skills can be transferred to the community through the assistance of the Department of Labour and accredited training firms. In this way local people can be equipped to participate fully in the potential business.
3.1 Infrastructure development	• The incorporation of Msauli as main camp/family resort into Songimvelo Game Reserve will necessitate the tarring of the main entrance road off the R541 and possibly the entrance road off the N17. This is necessary to increase the competitiveness of the resort. The towns of Ekulendeni, Ebutsini, Steynsdorp, Lukwatini, Nhlazatje, Armburg and Tshaka and the Doornhoek and Ekulendeni entrance gates to the Game Reserve will all benefit from the tarring of the roads.
3.1 Access to abandoned and unused land	• The transforming of Msauli into a resort within the Game Reserve will give access to the former mine land.
3.1 Access to abandoned buildings and facilities	• The creation of a resort at Msauli will give access to the buildings and facilities of the former mine village. The buildings and facilities will, thus, be safeguarded from further decay that comes from non-use.
3.1 Access to abandoned services	• The potential resort will have access to all the services of the former mining village.
4. ACCESSIBILITY	
4.1 Route connectivity	• $B = \frac{r}{c} = \frac{4}{4} = 1$ Although the connectivity is adequate, the quality of all the gravel access roads impact negatively on the accessibility.
4.1 Market accessibility	• Market accessibility represents the distance and ease of access

	from markets (large population nodes and gateways or international airports). Beyond 4 hours per road only very unique products will attract large numbers of tourists. The situation for Msauli and Songimvelo Game Reserve is as follows:			
	Distance by road to Gateways/International Airports		Distance by road to major population Nodes/Cities	
	OR Tambo International : 320 km Kruger Mpumalanga International Airport (via Badplaas) : 175 km Kruger Mpumalanga International Airport (via Barberton) : 115 km Matsapa International Airport (Swaziland) : 67 km		Johannesburg : 320 km Pretoria (Tshwane Municipal Area: 320 km Nelspruit (via Badplaas) : 155 km Nelspruit (via Barberton) : 88 km Mbabane (Swaziland) : 40 km	
	• OR Tambo International, Johannesburg and Pretoria can be reached in less than 4 hours (average speed 100 km/h). • Kruger Mpumalanga International Airport and Nelspruit can be reached in less than 2 hours. • The nearness of Matsapa International Airport give the Reserve a further advantage.			
5. ASSESSMENT OF POTENTIAL TOURISM NODE	• See 5.1 - 5.5 for assessment/measurement criteria.			
	Criteria		**Max. 10**	**Score**
		Access	10	9
	DEMAND	Attractions	10	6
		Current status	10	5
		Infrastructure	10	10
	SUPPLY	Expansion potential	10	8
	UNEMPLOYMENT RATE		10	7.2
	TOTAL SCORE		Max. 100%	75%
	Songimvelo/Msauli can be regarded as a tourism node with potential. It is currently on a level slightly lower than Madikwe (with the big 5) in North West. With the development of Msauli and other camps, acquiring of lions to complete the big 5, improvement of access roads, and the smooth functioning of the Songimvelo - Malolotja TFCA the reserve has the potential to surpass Madikwe and to equal Pilanesberg Nature Reserve			
6. LINKAGES	• The potential for complementary linkages exist. The ‘tourism experience’ from Msauli can be extended further than Songimvelo to include adjacent tourist attractions such as Ebutsini Cultural Village, attractions in Malolotja Nature Reserve, the Panhandle hiking trails, Shiyalonguba Dam, ancient iron-ore mines, horse riding tours, etc.			
6. IMPLEMENTATION COST	• The availability of the necessary infrastructure (accommodation and other buildings, recreation facilities and bulk services) of generally satisfactory quality will minimise implementation costs. • Implementation cost will include the upgrading of buildings and facilities that were not utilised for a number of years and installing the necessary accessories needed by the resort. Cost for			

	refurbishment is estimated at R11 152 220. An estimated R3 million will be required for furniture and accessories, office equipment, clothing , vehicles and other equipment. • The Provincial government will also need to give attention to the tarring of the main access road to the reserve and Msauli. • Implementation of the resort has the potential to create many part-time job opportunities.
6. IMPLEMENTATION TIME	• Once ownership of the mining village has been established and agreement has been reached between the owners and the Mpumalanga Tourism and Parks Agency, implementation can be completed in less than a year.

Msauli: Summary of facilities			**Refurbishment costs R**	
Facility	**Number**	**Area m^2**	**Rate/m^2**	
Clubhouse (Golf)		250.6	500	125 300
Clubhouse (main)		547	200	109 400
Golf Course	9 Holes			
Equipment				1 200 000
Irrigation				600 000
Landscaping				450 000
Hall		347	150	52 050
School	8 Classrooms	643	300	192 900
Church	1	275	150	41 250
Workshops	1	1176	100	117 600
Offices	2 Blocks	953	150	142 950
Library	1	16	250	4 000
Squash court	1	85.4	800	68 320
Tennis courts	3 (1 with lights)			240 000
Swimming pool	1	156.6		150 000
Bowling green	1			75 000
Tennis/bowling/ablutions		116.5	300	34 950
Post Office	1	180	150	27 000
Shops	2	180	175	31 500
Houses	94 (120 m^2 average)	12480	500	6 240 000
Guest House	1	200	250	50 000
Infrastructure				
Roads	1 km			450 000
Water Supply				600 000
Electricity				150 000
Sewerage				
				R11 152 220

3.3.2.3. RIETSPRUIT

CRITERIA	PROJECT AND EVALUATION		
	Vegetable Project	Chicken Broiler Project	Frozen Vegetable and Packaging Industry
	Description: Intensive vegetable production on 7 ha existing fenced land. Was former mine initiated project. • 2 ha under netting (existing) • 3 ha open land with drip irrigation • 25 hydroponic tunnels (30m x 10m each) on 2 ha land	Description: • Project on former mine land • 24 chicken broiler houses housing 2500 chickens each • Chicken abattoir with a capacity of 2500 birds per day	Description: • Located in disused mine building(s) • Frozen vegetable and packaging factory • Complementary linkages with vegetable project
1. COMPARATIVE ADVANTAGE	• Existing land and services • Relatively large local markets in Emalahleni (population 361 356) and Middelburg (126 055) • ± 100 km to Johannesburg via R545 and N4	• Existing land • Relatively large local markets in Emalahleni and Middelburg • ± 100 km to Johannesburg via R545 and N4	• Existing buildings and services • Near large market in Gauteng • Centrally located for distribution in Mpumalanga
1. SUSTAINABLE DEVELOPMENT	• The project will have no detrimental effect on the environment and future generations can con-tinue to utilise the land	• The project will have no detrimental effect on the environment if the proper installations (e.g. sewerage system) is put into place for the abattoir	• The project will have no detrimental effect on the environment • Former mine buildings can be utilised that otherwise would have decayed or be dismantled - losing a valuable asset
1. COSTS AND BENEFITS			
3.1 Access to employment opportunities	• An estimated 50 job opportunities can be created. • The establishment of a frozen vegetable and packaging project will increase the demand for vegetables considerably - thus creating the opportunity to extend the project to available municipal farmland (1500 ha) with adequate water supply. • The latter will increase the potential job opportunities considera-bly. • Initial job breakdown will	• Initial employment is estimated as: – 25 for broiler farm – 32 for abattoir • The project can be further extended locally or to other nearby mining towns (e.g. Kriel, Ogies). This will be determined by the market. • Further extension can include a blood meal factory with a further 10+ job opportunities.	• Initial employment is estimated at 180 with a 3-shift system for continual production. • Local people will be employed at all levels viz.: – Factory manager = 1 – Administration = 5 – Marketing = 3 – Security = 3 – Shift managers = 3 – Forklift operators = 3 – Machine operators = 6x3=18 – Packers = 10x3=30 – Transport = 6

	be: – hydrop. Tunnels = 26 – Nets = 6 – Open land = 6 – Packaging = 8 – Transport = 3 – Manager = 1		– Labourers = 36x3=108
3.1 Increasing the value of land	• Land value will increase because of economic use and available infrastructure.	• Land value will increase because of economic use and available infrastructure.	• Land value will increase because of economic use and available infrastructure.
3.1 Increasing the value of buildings and infrastructure	Not applicable	Not applicable	• The value of the disused mine buildings will increase because of upgrading and industrial use.
3.1 Protecting the environment	• The detrimental effect of a vegetable project on the environment is very minimal.	• With the proper measures provided, the project will have no detrimental effect on the environment including ground water. • An EIA will have to be conducted beforehand.	• The proposed factory is a 'clean' enterprise with no potential pollution. • Buildings will be utilised that otherwise would have decayed.
3.1 Preservation of cultural and natural heritage	Not applicable	Not applicable	Not applicable
3.1 New entrepreneurs and SMME development	• There will be a large potential for the establishment of informal vegetable sellers. • Other potential SMME development is: – sellers of farming and hydroponic equipment – formal vegetable shops – vegetable preserving – frozen vegetables – marketing agents – establishment of a fresh vegetable market – sellers of fertilisers – skills training firms	• There will be opportunities for the following SMME's – private distributors – enterprises selling chicken products – cushion and pillow manufacturers – offal sellers – blood meal manufacturers – skills trainers	• There will be a large potential for farmers, communities and other private individuals to participate as vegetable suppliers for the project. Production will be an estimated 21 tons per day. • There will also be opportunities for distributors and service maintenance people and skills trainers.
3.1 Skills transfer	• Skills training is a necessity	• Skills training is a necessity	• Skills training is a necessity
3.1 Infrastructure development	• All services must be available	• Infrastructure specific to the enterprise will be developed.	• The necessary infrastructure is available
3.1 Access to abandoned and unused land	• Yes	• Yes	• Yes
3.1 Access to abandoned buildings and	• Yes especially facilities	• Yes	• Yes

facilities			
3.1 Access to abandoned services	• Yes	• Yes	• Yes
4. ACCESSIBILITY			
4.1 Route connectivity	• Road connections to Witbank via the R547 and to Ogies and Kriel via the R545. The above roads connect Rietspruit also with the N4 to Gauteng, Witbank, Middelburg and Nelspruit (connectivity ratio = 1). • The town is also served by a railway branch-line of the main Pretoria-Ogies-Ermelo-Vryheid-Richards Bay line	• Ditto	• Ditto
4.1 Market accessibility	• The road and rail connections described in 4.1 together with the nearness of local markets and Gauteng (see 5.3.2.3 No. 1) assures the project of a high market accessibility and potential.	• Ditto	• Ditto
5.	Not applicable	Not applicable	Not applicable
5. LINKAGES	• There is a large potential for complementary linkages between the vegetable project and a potential frozen vegetable and packaging project. The reasons are the large demand for fresh vegetables from such a factory and on the other hand the advantage of a large and regular local market for vegetables.	• Complementary linkages can be established between the potential project and a large chicken enterprise whereby the project can act as grower of broilers for such an enterprise. The large enterprise will be responsible for provision of the day old chickens, food and medicine. The grower must have the necessary infrastructure. The large chicken enterprises prefer to use their own abattoir - which will make a project abattoir unnecessary. • Linkages can also be established with distributors and other markets.	• The potential and advantages of complementary linkages between the factory and a nearby vegetable project are explained in column 2.
7. IMPLEMENTATION COSTS (summation)	• 25 Hydroponic tunnels fully equipped + seedlings, fertilisers and sprays x2 = R1 841 841 • Nets (existing) seedlings fertilisers and sprays plus vegetable lands (3 ha) = R197 600 • Agricultural equipment =	• Total cost per house with 2500 chickens = R70 000 x 24 = R79 800 x 24 = <u>R1 680 000</u> • Total cost of abattoir + equipment – Abattoir building	• Alterations to existing building = R300 000 • Plant + Equipment = R3 832 380 • Operating capital = R5 969 450 • Professionals + technicians = R537 210

	R243 000 • Diverse R923 000 • TOTAL = R3 205 441 (14% VAT included)	=R468 000 – Office, store room and ablution block = R367 080 – Abattoir equipment = R43 200 – Freezer + cold room facilities = R320 000 – Office equipment = R54 000 – Security fencing = R36 000 – TOTAL = R3 383 839 (14% VAT included) – Services ± = R200 000 – Contractors = R247 920 – Diverse = 250 000 TOTAL COSTS =<u>R4 081 759</u>	TOTAL COSTS (14% VAT included) = <u>R10 339 040</u>
5. IMPLEMENTATION TIME	• 6 - 8 months	• ± 8 months depending on duration of EIA	• 6 - 8 months

3.3.2.4. PILGRIM'S REST

The study has indicated that there are no important alternative for tourism to create jobs for the previously disadvantaged population in the area. The potential of the surrounding mines to increase their number of employees is limited as is their projected life span.

The recent study by KPMG (2006) clearly underlined the fact that Pilgrim's Rest is regarded as unique and a major tourist attraction in Mpumalanga and South Africa. Tourism successfully saved the town from becoming a ghost town in the past. Despite the recent decline in tourist numbers, a revitalised tourism industry with an increase in attractions remains the most realistic and viable economic option to stimulate and regenerate the local economy and create job opportunities for the previously disadvantaged population.

The KPMG study recommended the following:

- Pilgrim's Rest should be managed as a theme attraction with theme related entertainment for tourists
- An increase of events related to arts and crafts, history, food and beverage, exhibition, etc.
- Linking entertainment with the scenic surrounding area
- The rebuilding of the historic tramline was also identified as a potential project by a previous study.

To determine what effect an increase in attractions will have on the tourism potential (ability to attract tourists) of Pilgrim's Rest, the assessment model for tourism nodes will be applied. Unemployment is not taken into consideration as a decrease in unemployment is expected with the incorporation of the above recommendations.

POTENTIAL	DEMAND			SUPPLY		TOTAL	TOTAL SCORE
	Access	Attractions	Current status	Infrastructure	Expansion potential		
	10	10	10	10	10	50	100%
Current potential	9	6	7	8	6	36	72
Potential with new attractions	9	10	7	9	8	43	86

* Access: See 3.5.2.2.3

* Uniqueness and remoteness by road also contribute towards the towns attraction

* Number of beds in town and surrounding guest houses and hotels taken into consideration for current status

The above results indicate that the expansion of the product/attraction base - aimed at international and national tourists - has the potential to increase the number of tourists.

3.4 RETURN ON INVESTMENT

To determine the profitability of potential projects, calculations are based on market related figures as experienced in the industry. Not all potential returns could be calculated as there are as yet unknown variables. In such cases the previous discussion which assesses the wider implications of potential projects should serve as guideline for assessing the desirability of projects and ensuring, where alternatives exist, that the most worthwhile is selected.

3.4.1. Majuba Mining Complex

See 5.3.2.1 No 7 for income assessment. The discussion under 5.4.1 and No. 7 clearly indicates that an industrial complex is the most desirable option that will provide the most economic benefits for the community and Municipality.

3.4.2. Msauli

The previous discussion clearly indicated that the transformation of Msauli into an end destination resort/main camp within the Songimvelo Game Reserve is the most desirable option. This project will be the most sustainable for the cultural and natural environment and will provide the most economic gains for the local largely impoverished community. This option is also supported by the Mpumalanga Tourism and Parks Agency and the Songimvelo - Malolotja TFCA initiative.

For maximum gains, the project should be run as a joint venture between the local community, the Mpumalanga Tourism and Parks Agency and the private sector. An experienced private company can operate the resort on behalf of the community and Tourism and Parks Agency through a management contract. This is a successful approach followed in Madikwe Game Reserve and Pilanesberg National Park in North West. Apart from the members of the company, only members of the local community should be employed at all levels. Skills transfer will be optional in such a situation.

The majority of the Game Parks and Reserves in South Africa are under-utilised and despite the potential of some, all operate at a loss. This is mainly due to a lack of management capacities, funding, skills and the absence of appropriate private/public partnership arrangements

Partnership arrangements with the private sector (which is primarily profit driven) is required to improve the cost effectiveness and profitability of reserves and their products and create more products.

Income for the resort can be generated through gate fees, accommodation, utilisation of facilities such as the restaurants, shops, laundry, golf course, game drives, guided tours, guided hiking trails, film/video shows, conference facilities and chapel and catering facilities for marriages. A caravan park should be a considered for future development.

The numbers of visitors to the resort and income generated, will be determined by the quality and uniqueness of the attraction base of the Reserve and the proposed resort together with an effectual, focused and aggressive marketing strategy.

Potential income

According to Grant Thornton Kessel Feinstein (1997) domestic tourists spend 27% of their expenditure on accommodation, 23% on food, 25% on other goods and 24% on transportation to reach their destination (not relevant for calculation). Excluding transport, the expenditure at a destination is 36% on accommodation, 30.7% on food and 33.3% on other goods.

Foreign tourists spend 50% of their expenditure on accommodation, 20.4% on meals, 9% on entertainment, 14.6% on souvenirs and gifts and 6% on local transport (Satour 1999). Excluding transport, the percentages are 53.1% on accommodation, 21.7% on meals, 9.6% on entertainment and 15.5% on souvenirs and gifts.

At a projected 70:30 ratio for domestic and foreign tourists potential, income is calculated as follows:

PROJECTED ANNUAL TURNOVER

CATEGORY	**ANNUAL INCOME-R**	**% OF EXPENDITURE**
Accommodation/100 units @ 60% capacity) and R350 per night	7 665 000	42%
Meals/food	2 069 550	27%
Entertainment/recreation	1 084 050	11%
Souvenirs and gifts & other	1 971 000	20%
TOTAL INCOME	**R23 698 928**	**100%**
ESTIMATED EXPENSES AT 60%	**7 673 760**	**60%**
ESTIMATED PROFITS FOR YEAR 1	**5 115 840**	**40%**

- Accommodation cost per self-catering housing unit is according to the fees charged by Kromdraai camp in the Game Reserve for a three bedroom fully equipped chalet per night plus an additional cost of R50 per night to make provision for a future price adaptation.
- Gate fees are not included in the calculations as it only applies to day visitors.

3.4.3. Rietspruit

PROJECT 1 - Vegetable project

- **Capital budget**

COSTS		QUANTITY	TOTAL R
HYDROPONICS			
• 25 Tunnels @ R19 266 ea			481 650
• Erection of tunnels @ R3 675 ea			91 875
• Transport			6 500
• 3 Pumps 1.1 KW @ R2 200 ea			13 200
• 3 Pump stations with 3 valves ea @ R3 500 ea			10 500
• Drippers per tunnel @ R1 523		25 tunnels	38 075
• 12 X 5000 L tanks @ R2 700			32 400
• 15 X 920 tomato plants X 2 cycles @ R1.80 (Marutchka)		27 600	42 780
• 10 X 720 cucumber plants X 3 cycles @ R2.80		21 600	60 480
• 15 Rolls of string 4 500m @ R200 ea			3 000
• 27 600 black plastic bags for 2 cycles tomatoes @ R0,65 per bag		27 600	17 940
• 21 600 black plastic bags for 3 cycles cucumbers @ R0.65 ea		21 600	14 040
• 4 680 bags of wood shavings @ R15.00 per bag		4 680	70 200
• 3 Floor plastic strips 1,6m X 1000m 150 micron @ R5 700 ea			17 100
• Wire hooks @ R0,75 ea			17 188
• Hydro gro		625 kg	131 813
• Calcium Nitrate		625 kg	62 500
• Potash Sulphate		180 kg	34 500
• 10 Spraying programme & chemicals for tomatoes & cucumbers @ R5 600 ea X 2			56 000
• Spraying machine combined			5 500
• 1 PH meter			2 100
• Electricity and water			120 000
• 5 Coal heaters @ R100 000 ea			500 000
• Coal (peas) 25 ton @ R500 per ton			12 500
SUBTOTAL			**R1 841 841**
Packaging unit	cold room		48 000
	Pack store (mine building)		
	Packaging material - Equipment (scales sealer)		30 000
SUBTOTAL			**R78 000**
Salaries			
Supervisor	R4000 p/month	max 12 mths	48 000
Security officer 3-shifts	3 X R3 000 p/month	max 12 mths	108 000
Interim allowances for beneficiaries	46 X R1500 p/month	6 mths	414 000
SUBTOTAL			**R570 000**
Transport			
LDV			135 000
Petrol and maintenance			50 000
SUBTOTAL			**R185 000**
Diverse			
Administration			30 000
Training	Dept. of Labour		--
Insurance			20 000

Project maintenance	(tunnels, pumps, etc.)		40 000
SUBTOTAL			**R90 000**
Vegetable plots 2 ha under nets, 3 ha open land			87 600
Total cost all inclusive	cabbage, onions, carrots, spinach, beetroot, pumpkin,		
plus spraying programme	squash, green beans, watermelon		
Drip irrigation			100 000
Agri protective clothing			10 000
SUBTOTAL			**R197 600**
Agricultural equipment			
• Tractor (2nd hand)			140 000
• 3 share plough (2nd hand)			4 000
• Disc plough (2nd hand)			3 500
• Harrow (2nd hand)			3 500
• Maintenance to tractor			30 000
• Petrol			50 000
• Gardening tools			
– wheelbarrows		4	2 000
– spades		20	2 000
– forks		20	2 000
– rakes		20	2 000
– hoes		20	2 000
– watering cans		20	2 000
SUBTOTAL			**R243 000**
PROJECT TOTAL			**R3 175 441**

- **Expected Annual Turnover**

Hydroponics

In estimating the potential income per annum of 15 tomato and 10 cucumber tunnels of 300 m^2 each, the projections by Dicla, one of the leading providers of tunnels and hydroponic systems in the country, is used. Tomatoes have 2 cycles per year and cucumbers 3 cycles per year.

TOMATOES - DICLA'S PROJECTION/FORECAST

1	Tunnel 10m X 30m		$300m^2$		
Quantity plants			900		
Cycle in months			6		
Possible Kg's			9207		
Average price per Kg			R2.50		
Total income over 1 cycle			R23 017.50		
Total expenses		40,03%	R9 213.43	Profit	R13 804.07

RUNNING COSTS FOR 1 CYCLE

		Quantity	Price	Amount
Fertilizer:	Hydro Gro	13.2	140	1 844.64
	Calcium Nitrate	8.4	55	463.80
	Potash Sulphate	2.5	95	234.70
Chemical;	Spraying programme	0.5	2 600	1 300.00
	Plants	900	0.7	630.00
	Bags	900	0.3	270.00
	Sawdust	75	10.5	787.50
	Packaging @ R0.45/kg			R3 682.80

CUCUMBERS - DICLA'S PROJECTION/FORECAST

1	Tunnel 10m X 30m		300m^2	
Quantity plants			720	
Cycle in months			4	
Possible Kg's			12 528	
Average price per Kg			R2.00	
Total income over 1 cycle			R25 056.00	
Total expenses		32.83%	R8 225.17	Profit R16 830.83

RUNNING COSTS FOR 1 CYCLE

		Quantity	Price	Amount
Fertilizer:	Hydro Gro	10.5	150	1 581.12
	Calcium Nitrate	10.5	60	632.45
Chemical;	Spraying programme	0.4	3 500	1 400.00
	Plants	720	1.75	1 260.00
	Bags	720	0.3	216.00
	Sawdust	60	10.5	630.00
	Packaging @ R0.45/kg			2 505.60

GREEN PEPPERS - DICLA'S PROJECTION/FORECAST

Green peppers have 3 cycles per year. The profit per tunnel per cycle is R22 000 and for 3 cycles/year R66 000. This is an optional choice depending on the market.

The estimated profit of 15 tomato and 10 cucumber tunnels per month and annum is indicated in the following table.

	Profit per month	Profit per year
Tomatoes: 15 tunnels X R13 804.07 profit per tunnel per cycle = R207 061 X 2 cycles per year	R34 510.18	R414 122.10
Cucumbers: 10 tunnels X R16 830.83 profit per tunnel per cycle = R168 308.30 X 3 cycles per year	R42 077.08	R504 924.90

TOTAL	R76 587.26	R919 047.00

Net and open land vegetable production (5 ha) under irrigation (estimate)

Average profit of R40 000 per ha.

Profit for 5 ha is R200 000.

Estimated total annual profit (labour costs excluded) - R1 119 047

PROJECT 2 - Chicken broiler and Abattoir project

Chicken broiler houses

A. Cost and income estimates for broiler houses with a capacity of 2500 chickens.

1. Costs (VAT excluded)

- Buying price per day old chick R1.80

Feed consumption

Phase	Type of feed	Feed price	Feed usage	Cost per broiler
1.	Pre-starter	R2 598.00	300g	R0.78
1.	Starter	R2 593.00	600g	R1.56
1.	Grow	R2 503.00	1200g	R3.00
1.	Finish	R2 482.00	1100g	R2.72
Total (42 day cycle)			3 200g	R8.07

• Medicine cost (per bird);	R0.08
• Heating cost (per bird):	R0.25
• Additional costs (per bird):	R0.25
• **Total production cost (per bird)**	R10.45
• A broiler at 42 days should weigh approx. 2.00kg (live weight)	
• **Production cost per kg of live weight:**	**R5.23**

2. Labour costs

Estimated labour costs (24 chicken houses)

• 24 X labourers at R1400 per month	R33 600.00
• 2 X transport personnel R1500 per month	R3 000.00
• 8 X security personnel at R1400 per month	R11 2000.00
• 4 X supervisors at R2500 per month	R10 000.00
• **Total Labour costs**	**R57 800.00**

3. Income per house per cycle (VAT excluded)

• Selling price to abattoir (per kg of live weight)	R7.00
• Gross income per kg of live chicken	R1.77
• Gross income per 2 kg live chicken	R3.54
• **Gross income per cycle of 42 days (8% mortality rate):**	**R8 142.00 / grower**

4. Income per cycle and year for 24 chicken houses (5% mortality rate)

- Gross income per cycle of 42 days — R195 408
- Gross income per year for 24 chicken houses at 6 cycles of 42 days per year — R1 172 448
- Minus Labour costs — R693 600
- **Total nett profit per year** — **R478 848**

Abattoir

B. Cost and income estimates for abattoir with a capacity of 2500 - 4000 chickens per day

1. Estimated costs

Estimated labour costs

• 20 X labourers at R70.00 per day per month	R30 800.00
• 2 X supervisor at R200.00 per day per month:	R8 800.00
• 1 X manager at R450.00 per day per month:	R10 000.00
• 1 X growers co-ordinator at R300.00 per day per month:	R6 600.00
• 2 X admin. Clerks at R125.00 per day per month:	R5 500.00
• Casual labour per month:	R3 000.00
• **Total labour per month:**	**R64 700.00**

Estimated running costs

• Water and electricity supply per month:	R11 000.00
• Telephone and postal costs per month:	R5 000.00
• Security per month:	R2 500.00
• Transport per month:	R30 000.00
• Additional running costs per month:	R10 000.00
• **Total estimated running costs:**	**R58 500.00**

• Capital cost of abattoir (excl. VAT)	R1 239 600.00
• Cost of abattoir, depreciated over 60 months	
• Interest rate at 16% per annum	
• **Cost of capital per chicken slaughtered:**	**R0.55**
• **Cost per chicken slaughtered (Labour, running and capital**	**R2.79**
• Cost per kg of a 1.4 kg slaughtered chicken:	R1.99
• Buying price per live chicken per kg:	R7.00
• **Buying price per slaughtered chicken per kg (70%)**	**R9.10**
• **Total cost per kg of slaughtered chicken produced:**	**R11.09**

2. Estimated income

- Selling price per whole chicken to wholesalers per kg — R10.80
-
- Offal per kg per chicken — R1.84
-

- Total income per kg R12.64
- Total cost per kg of slaughtered chicken produced R11.09
- Nett profit per kg chicken sold R1..55
-
- **Nett profit per moth (55 000 chickens at 1.4 kg each)** **R119 350.00**
- **Nett profit per year** **R1 432 200.00**

** Information obtained from Country Bird, Tigane Chickens, Wildeals chicken farm, Kentron Abattoir, JF Equipment, FJ Horn Poultry and Spif Chickens.

Free roaming chickens and layers are alternative options.

Additional income will come from satellite growers and from the selling of blood for blood meal.

PROJECT 3 - Frozen vegetable and packaging project

- **Capital budget**
- **Asset Capital**

	Quantity	**Cost**	**Total - R**
Buildings and alterations			
• Alterations to building			800 000
• Services			250 000
• Cleaning consumables		3 000	3 000
Plant and equipment			
• Vaporator / Quick Freezer Plant	1	1 100 320	1 100 320
• Freezer room (12mX6mX3m)	1	191 189	191 189
• Potato peelers	2	15 405	30 810
• Food processors	4	19 540	78 160
• Form fill & seal	1	125 000	125 000
• Spinners	1	19 540	19 540
• Stainless steel tables	25	2 506	62 650
• Bowls	25	250	6 250
• Knifes & accessories		2 881	2 881
• Cool room	1	85 000	85 000
• Palette	100	35	3 500
• Blanch plant	1	183 500	183 500
• Fencing (security)	1	65 000	65 000
• Vehicles			
– Cool trucks (4 ton)	2	255 000	510 000
– Fork lift (1.5 ton battery driven), 2 batteries, charger and gig.	1	194 500	194 500
Pre-Production costs			
• Water & electricity		13 500	13 500
• Telephone		2 500	2 500
• Skills training (Dept of Labour)		--	--
• Marketing expenses		50 000	50 000
• Office equipment		65 080	65 080

SUBTOTAL			**R3 832 380**

Operating capital

			Monthly	3 Months
Salaries & wages				
Administrative				
– Reception and admin. Secretary	1	5 000	5 000	15 000
– Bookkeeper/clerk	1	6 500	6 500	19 500
– Audit fees	1	2 000	2 000	6 000
– Security	3	4 000	12 000	36 000
Factory - 3 shifts				
• Factory manager	1	20 000	20 000	60 000
• Shift bosses	3	6 500	19 500	58 500
• Machine operators	18	4 500	81 000	243 000
• Forklift operators	3	4 500	13 500	40 500
• Other	159	1600	254 400	763 200
SUBTOTAL				**R1 241 700**
Cost of sales				
• Purchase fresh produce	1	1 260 000	1 260 000	3 780 000
• Packaging	1	100 000	100 000	300 000
SUBTOTAL				**R4 080 000**
Other expenses				
• Advertising & promotions/marketing	1	27 500	27 500	82 500
• Bank charges	1	3 750	3 750	11 250
• Insurance	1	3 000	3 000	9 000
• Municipal services	1	11 500	11 500	52 500
• Transport & Freight	1	142 000	142 000	426 000
• Cleaning	1	1 500	1 500	4 500
• Office administration (telephone, stationery etc.	1	13 000	13 000	39 000
• Repair and maintenance	1	10 000	10 000	30 000
SUBTOTAL				**R647 750**
Summary of capital requirements				
• Asset capital				**R3 832 380**
• Operating capital				**R5 969 450**
• Professional project consultants				R381 210
• Technicians				R156 000
SUBTOTAL				**R537 210**
PROJECT TOTAL				**R10 339 040**

Total market potential

The total local market for choice grade frozen vegetables is estimated at 70,000 tons (70 million Kg / annum) and for the catering grade a further estimated 80,000 tons (80 million Kg / annum).

Target market

From the above figures it is clear that a target of 4% of the market will be necessary to make any impression. The marketing firm, Cold Chain, indicated that they will need approximately 2000 ton (2,000,000 Kg) per annum. The initial acceptance will be 500 ton (500,000 Kg) per annum.

Metro Cash & Carry indicated that they need supplies under the home brand Family Favourite logo - an estimated quantity of 1000 tons per annum.

Expected annual turnover

Product	**Expected production Kg**	**Average price R/Kg**	**Total sales**
Baby marrows	150 000	8.50	1 282 500
Green beans	300 000	8.50	2 565 000
Broccoli	180 000	8.50	1 539 000
Butternut	180 000	7.50	1 296 000
Baby carrots	240 000	8.10	1 944 000
Sliced carrots	180 000	7.20	1 296 000
Diced carrots	180 000	7.20	1 296 000
Julienne carrots	180 000	7.65	1 377 000
Cauliflower	200 000	8.55	1 710 000
Chips	300 000	6.75	2 025 000
Chunky mix	250 000	7.65	1 912 500
Mix vegs 1	250 000	7.65	1 912 500
Mix vegs 2	300 000	7.65	1 295 000
Onion rings	100 000	6.75	675 000
Sliced potatoes	180 000	6.75	1 215 000
Potjiekos	250 000	8.55	2 137 500
Pumpkin	180 000	7.20	1 296 000
Stir fry plain	200 000	7.65	1 530 000
Stir fry hawaiin	200 000	8.55	1 710 000
Stir fry mushroom	150 000	9.45	1 417 500
Sweet potato	150 000	7.65	1 147 500
Peas	350 000	8.55	1 992 500
Cut corn	350 000	8.55	1 992 500
TOTAL TURNOVER	**5 000 000**	**R7.87**	**R39 564 000**
Less expenditure			**R28 247 390**
Year 1-Expected earnings before interest and tax			**R11 316 610**
Year 2- ditto			**R17 254 820**
Year 3- ditto			**R18 980 302**

3.4.4. Pilgrim's Rest

The previous study as well as the study by KPMG (2006) indicated that tourism remains the most worthwhile solution for economic regeneration of the town and the economic upliftment of its predominantly poor population. The Town's attraction rate - its ability to attract more tourists - can only be increased by the inclusion of theme attractions and more events (the focus should be on niche products), the exclusion of elements that are not historically correct (cat washers, nut sellers, informal arts and craft stalls selling products that are not local in origin), the development of an institutional structure that will be able to deliver real change on the ground and an effectual, focused and aggressive marketing strategy.

Potential new attractions that are recommended by the KPMG study and the community (Business and Socio-Economic Surveys) are:

- Theme attractions - enacting situations from the past, viz:
  - arrival of stagecoach and robbery by highwayman
  - arrival of ox wagon (transport wagon)
  - diggers having merriment and fights
  - catching of highwayman
  - diggers panning for gold
  - a ball with late 19th century dress code for guests
  - diggers day with enactment of activities in a late 19th century/early 20the century town
  - hiring of 19th century clothing to guests at the hotel for 'traditional' lunches.
- Rides
  - rebuilding of the historic tramline
  - rides by traditional horse drawn carts
  - rides by ox wagon through town
- Events
  - the gold panning championships and mountain bike events should be further enlarged
  - establishing of events related to arts and crafts, history, food and beverage
- An arts and crafts industry to the south of the town that will be representative of local arts and crafts

1. Theme attractions, rides and events

The rides, events and several of the theme attractions should be outsourced to the private sector in a joint venture with the local community. The new attractions should be profit driven to achieve maximum benefits for the local community who will be the major participants.

Main theme attraction events must take place on pre-determined days and must be aggressively marketed to ensure maximum attendance. On such days the entrances to the town must be closed and entrance fees charged.

Trips can take place on a daily basis and fees charged. New attractions should be implemented in close co-operation between the Government, private sector and community.

By sourcing out the new attractions to the private sector, including entrepreneurs from the community, cost to government will be minimal, except for the proposed tramline that needs government support (existing costs estimate is R3.5 million).

Income will be determined by the uniqueness and authenticity of all events (including clothing, vehicles) enthusiasm and dramatisation of the enactment and by aggressive and focused marketing.

2. Arts and crafts industry

An arts and crafts hive should be built on the large park in Down Town next to the proposed parking area for tourist for maximum exposure.

The proposed arts and crafts industry should consist of walk-in industries to present easy access to tourists. The industry should be complementary to the historical town and its businesses by manufacturing articles under contract. Direct sales to tourists should also be important. Products with a definite African and local character should be predominant. The emphasis should be on articles that can be easily transported and are different from the overdeveloped curio industry and market. The curio trade in town could, however, also be shifted to the vicinity of the industrial hive because it is not historically correct in its present location.

A potential spin-off of the industry is the establishment of an export business to package and send larger articles and bulk buys of foreign tourists overseas.

The implementation costs and possible income of the different industries that are proposed are set out underneath Funding of projects from Provincial Arts and Culture Department.

WALK-IN INDUSTRIES

LEATHER PRODUCTS		R
• Leather and materials for manufacturing of leather goods		27 080
• Sewing machines	3	15 000
• Tool kits @ R800		8 000
• Overalls @ R75		750
• Tables @ R600	3	1 800
• Chairs @ R60	10	600
• Packaging material		2 500

Subtotal		R55 730
SEWING		
• Electric sewing machines	8	20 000
• Over locker	2	12 000
• Material		25 000
• Embroidery machine		11 000
• Accessories (scissors, threads)		1 200
• Electricity		3 000
• Tables and chairs		2 400
• Overalls @ R75	10	750
• Rails		1 500
• Packaging material		3 000
Subtotal		R79 850
KNITTING AND WEAVING OF WOOL		
• Knitting machines	2x double	24 000
• Wool		27 000
• Weaving looms		25 000
• Shelves		2 000
• White string		6 000
• Scissors		600
• Packaging material		5 000
• Tables & chairs		2 000
Subtotal		R91 600
POTTERY		
• Dabeb Kiln Type 380 Phase 8 elements: Size 350 X 600 X 450 mm inside	1	8 000
• Kiln control 1		1 300
• Wheels - low sitting position	4	7 000
• Wheel bats	12 X R25	300
• Stainless steel sink		500
• Moulds		500
• Glaze	20 buckets 20 L	2 000
• Clay	200 kg plastic	1 500
• Casting slip	120 kg (3 bags)	200
• Glaze powder	25 kg	250
• Paints - Cerami colours for bisque ware Cerami slip for green ware		400
• Paint brushes		200
• Kiln shelves	5 X R100	500
• Wooden shelves		600
• Tables + chairs		1 200
• Pottery tools		400
Subtotal		R24 850
T-SHIRT PRINTING		
• Printing machine		15 000
• Fabric paint	25 L (10 colours)	2 200

• Table and chairs		800
• T-shirts		6 000
• Computer		6 000
Subtotal		R30 000
ARTS AND CRAFTS - Artificial flowers and art products		
• 12 X scissors		1 320
• Wire		605
• 20 L pigment dye		1 100
• Decorations		2 200
• Material		10 000
Subtotal		R15 225
GENERAL		
• Building Hive	8x 6x8m workshops	576 000
• Services		250 000
Subtotal		R826 000
TOTAL		R1 123 255

Potential annual income of industries based on similar developments.

Industry	**Annual income - R**
Leather products	96 000
Sewing	102 000
Knitting and weaving of wool	78 000
Pottery	67 900
T-shirt printing	57 600
Arts and crafts (artificial flowers and art products)	35 000

Estimated number of job opportunities is 35.

An increase in tourist numbers and spending will benefit the whole town and community, viz.:

<u>Business sector</u>

- The median monthly turnover of the business sector presently falls in the lower levels of the income category R20 001 - R50 000. Almost 50% of the businesses have an income of less than the median. Increased tourism numbers and spending is expected to increase the turnover of the businesses over the whole spectrum - thus also increasing the median.
- The new attractions will create new entrepreneurs and stimulate SMME development

<u>Community</u>

- The new business opportunities will create new entrepreneurs and stimulate SMME development under the previously disadvantaged community.

- New employment opportunities that will be created by the new attractions and increase in business income will have a positive effect on household income (present average falls between R901 - R1499 per month) and will reduce unemployment.

4. DEVELOPMENT PORTFOLIO

4.1 INTRODUCTION

The purpose of this chapter is in accordance with the primary objective of the study, namely:

1. To develop strategies to ensure continued economic development and sustaining of infrastructure in the identified dying mining towns of Bergvliet, Msauli, Rietspruit and Pilgrim's Rest.
2. To provide strategy guidelines for other mines in Mpumalanga who will be closing down in future.

4.2 DEVELOPMENT PORTFOLIOS FOR THE IDENTIFIED DYING MINING TOWNS

4.2.1. Bergvliet

The mining complex which has never been utilised has a well developed infrastructure (paved street and tarred access roads, electricity from Escom, large bulk water supply and sewerage plant) and a diverse range of structures associated with the mine that are primarily of face bricks and of good quality. The latter include an office block, hostels or apartment buildings, kitchen, mess hall, laundry, human resource centre, changing rooms and large workshops(see 5.3.2.1). The buildings and other infrastructure has been secured and are well preserved. There is also ample land for further extension.

The investigation revealed high unemployment, a shortage of large economic development and of technically trained people and a total lack of technical training institutions in the Municipal Area. The area further has comparative advantage in agriculture and agri-industries.

From the study it is clear that the development option that will provide the most benefits for the population of the surrounding towns (jobs, income, empowerment through training) and the municipality (income and local economic development) will be the establishment of an industrial complex/park and technical training facility at Bergvliet that will be under the jurisdiction of the Pixley Ka Seme Local Municipality.

The above project has been captured in the Municipal IDP and Municipal LED strategy. It also corresponds with the resolve of the Mpumalanga Provincial Growth and Development Strategy (PGDS) 2004 - 2014 to support the development of sustainable agri-industries and industries in general (p.25 and 26) and to invest in people's skills to promote service delivery, economic growth and development.

In this light and with a view to achieving the above mentioned development, the following strategic steps should be followed:

- Bergvliet must be proclaimed into an industrial township governed by the Pixley Ka Seme Local Municipality
- Acquire government funding to refurbish the complex
- Communicate with the Department of Education and private training institutions/enterprises for the establishment of a technical training centre or a school or even a combination of the two with hostel accommodation.
- Establish an Industrial Advisory Committee or Board with representation from the Council and private business sector - with the following functions:
  - to formulate an effectual and focused marketing strategy
  - to provide information to potential investors
  - to plan and co-ordinate actions
  - to ensure a healthy climate for development and growth
  - to formulate solutions for problems
- To provide incentives for industrial and commercial development. The following actions can be considered:
  - tax concessions
  - provision of inexpensive and/or subsidised infrastructure
  - providing buildings for rent
  - provision of industrial sites of different sizes
  - deregulation of technical and implementation requirements
- To launch an aggressive marketing campaign utilising the media
- To apply “head-hunting” techniques to acquire investors
- To place special emphasis on the settlement of the following industrial sectors:
  - agri-industries
  - manufacturing/repair of agricultural machinery and equipment
  - service industries for the complex and Power Station
  - service industries for the heavy transport sector
  - other manufacturing industries
  - storage and distribution depots (beer, groceries, etc.)
- Use local companies and labour to renovate the complex

BUSINESS PLAN

A business plan summary for the development of the mining complex is set out below with the inclusion of strategies, skills needed, implementation plan and financial sourcing options.

<table>
<tr><td colspan="2">DEVELOPMENT PRIORITY: INDUSTRIAL DEVELOPMENT AND TECHNICAL SKILLS TRAINING</td></tr>
<tr><td>PROJECT
• Industrial park/complex and technical training facility</td><td>PROJECT DESCRIPTION
• Utilisation of the available buildings and infrastructure at the disused mining complex to create an industrial park/complex and technical training facility
• The development will fall under the jurisdiction and management of the Pixley Ka Seme Municipality</td></tr>
<tr><td>PROJECT PRIORITY STATUS
• High priority because the proposed development has the potential to create the largest economic benefits for the community and municipality in the shortest time.</td><td>OFFICIAL STATUS
• Captured in the municipal IDP
• Captured in the municipal LED strategy
• Increased investment in manufacturing and the availability of scarce skills is included in the Mpumalanga Provincial Growth and Development Strategy 2004 - 2014</td></tr>
<tr><td>OBJECTIVES
• To establish an industrial park/complex at the disused Bergvliet mining complex that will be a major catalyst in the economic development of the region, the creation of large numbers of jobs and the empowering of the previously disadvantaged community.
• To establish a technical training facility to empower the local PDI population through the development of scarce skills to meet the labour market
• To provide accommodation for learners and workers who so prefer</td><td>INDICATORS FOR ACHIEVEMENT OF OBJECTIVES
• All industrial buildings occupied
• Establishment of technical training facility
• Increase in the availability of scarce skills
• Large numbers of jobs created for the PDI population
• Increased investment in manufacturing and beneficiation
• Spin-offs (SMME’s) established</td></tr>
<tr><td colspan="2">STRATEGIES (see previous list of strategies)
• Proclaim the mining complex into an industrial township governed by the municipality
• Use local companies and labour to renovate the complex
• Acquire government funding to refurbish the complex
• Facilitate the establishment of a technical training facility
• Establish an Industrial Advisory Committee or Board to market and launch the development
• Provide incentives for industrial and commercial development
• Apply an aggressive marketing campaign to acquire investors
• Apply ‘head-hunting” techniques to acquire investors
• Provide more land for industrial development</td></tr>
<tr><td colspan="2">KEY ROLE-PLAYERS
• Municipality
• Mpumalanga Departments of Economic Development and Planning and Education
• Gert Sibande District Municipality
• Escom
• Private sector investors
• Industrial Advisory Committee or Board to be established</td></tr>
<tr><td colspan="2">SKILLS AUDIT
• The enterprises (industries) who buy into the project will determine the skills that they need.</td></tr>
</table>

- Technical and administrative skills will be foremost in the skills that will be needed.
- Training skills provided by private training institution or government

TARGET GROUPS

- Unemployed men, women, youths (18 and over) and disabled from the nearby towns of Pixley Ka Seme Municipal Area
- Students from Pixley Ka Seme Municipal Area and elsewhere

TIME-FRAME

- Implementation time will depend on how soon the necessary approval can be obtained and the reaction time of the private sector. Implementation can take approximately one year if all goes according to plan.

ESTIMATED COSTS

- ± R1 900 000 for refurbishment (see 5.3.2.1), ± R3 million for further growth in next financial year.
- Private sector will carry majority of additional costs.

FINANCIAL SOURCING OPTIONS

- Municipal Infrastructure Grant (MIG)
- Gert Sibande District Municipality
- Mpumalanga Department of Economic Development Land Planning
- Mpumalanga Public Works Department
- Private training institution or Department of Education

IMPLEMENTATION PLAN

Phase 1	Preplanning and preparation	• Institutional arrangement for transfer of property to the municipality and establishment of industrial township • Establish Industrial Advisory Committee or Board • Meetings with private training institutions and Department of Education • Apply for funding	Pre-implemen-tation period
Phase 2	Start of implemen-tation	• Approval of funding • Tender process for refurbishment of buildings and infrastructure according to municipal procurement policy • Formulate marketing plan • Formulate incentives for industrial development	Months: 1-3
Phase 3	Refurbishment	• Refurbishment of complex	Months: 2-8
Phase 4	Marketing and recruiting	• Marketing of complex • Recruiting of investors • Contracts with investors • Occupation of buildings by industries and training facility • Installation of equipment and alterations made	Months: 9-12
Phase 5	Start and Growth phase	• Start of production and training • Continue marketing • Provide more land for development	Months: 13+

4.2.2. Msauli

The Songimvelo-Malolotja TFCA represents the single most important economic development opportunity in the region. By incorporating the Msauli Mining Village in the development, the viability of the nature reserve will be enhanced because the village has all the amenities and facilities of a fully fledged end destination family holiday resort or main camp of a major nature reserve and more. The development of Msauli into a holiday resort will benefit the reserve through the increase in domestic and international tourists and the local previously disadvantaged community by broadening their participation in the tourism industry through ownership and job creation.

No other use of the former mining village can nearly provide the same economic benefits for the previously disadvantaged population of whom many previously depended on the mine for their living. The resort will reduce the rate of unemployment in the surrounding towns, address those issues that relate to the unequal distribution of wealth, stimulate infrastructure provision and improvement and 'grow the tourism pie' by providing linkages with other tourist attractions outside the reserve. The start-up costs for the resort will also be low because of the available infrastructure and structures as well as recreation facilities which are all mostly well preserved.

In this light and with a view to achieving the above mentioned development, the following strategies should apply:

- Facilitate a meeting between representatives of the Mpumalanga Tourism and Parks Agency, the Mpumalanga Department of Economic Development and Planning, the land claimants, community, Albert Luthuli Local Municipality and Gert Sibande District Municipality to reach consensus on the establishment of the resort and how it should be run.
- Establish a CPPP consisting of community stakeholders (land claimants), the Mpumalanga Tourism and Parks Agency and a private sector enterprise (as manager on a yearly basis) to drive the development and run the project.
- Arrangements must be made to employ the claimant community at all levels according to their skills and abilities and to pay them a pre-determined percentage of the income after expenses.
- The rest of the previously disadvantage community should also be employed in available positions with first priority given to former employees of the mine.

- As a priority, only local previously disadvantaged workers should be employed for all construction, restoration and maintenance work except where special skills are required which are not available locally.
- The CPPP must draw up the final business plan and apply for funding.
- Establish an effectual, focused and aggressive marketing campaign.
- Strategies and marketing tools should include the following:

  Publications

  – Regional information brochure
  – Specialised product brochure

  Media advertising

  – Media promotional tours
  – Radio inserts, advertising
  – Relevant TV shows
  – Magazine articles

  Trade and consumer contact

  – Invite and host representatives from the travel trade and travel marketing organisations
  – Corporate participation at trade and consumer shows (national/international
  – Trade functions and events
  – Consumer functions and events

  Exhibition and display material

  – CD's
  – Posters and photographic display material
  – Banners and flags
  – T-shirts
  – Souvenirs (spoons, post cards, small flags, etc.)
- Improved marketing activity at provincial level in co-operation with the board
- 'Grow the tourism pie' by establishing linkages with nearby tourist attractions through package tours and excursions
- Stimulate SMME development by buying local and utilising local service providers
- Ensure effectual training of all the participants

BUSINESS PLAN

A business plan summary for the development of a resort at Msauli Village is set out below with the inclusion of strategies, skills needed, implementation plan and financial sourcing options.

<table>
<tr><td colspan="2">DEVELOPMENT PRIORITY: TOURISM</td></tr>
<tr><td>PROJECT
• Utilising Msauli village as tourist resort</td><td>PROJECT DESCRIPTION
• Incorporation of the former mining village of Msauli as an End Destination Family Resort and Main Camp within the Songimvelo Game Reserve to maximise income through tourism and to broaden the participation and beneficiation of the previously disadvantage community in the tourism industry through ownership, job creation at all levels and SMME development</td></tr>
<tr><td>PROJECT PRIORITY STATUS
• Highest priority because the proposed project represents the single most important opportunity for substantial and sustainable economic benefits and large scale employment for the impoverished community of the area</td><td>OFFICIAL STATUS
• Tourism development as a development priority is captured in the Municipal IDP. It is an objective of the municipality to promote the Municipal Area as a tourist destination
• Tourism growth promotion and broadening of the participation of previously disadvantaged individuals in the tourism industry is economic development priorities in the Mpumalanga/ PGDS 2004 - 2014</td></tr>
<tr><td>OBJECTIVES
• To incorporate the former Msauli mining village as an End Destination Family Resort and Main Camp within the Songimvelo Game Reserve to largely increase the tourist attraction and accommodation capacity of the reserve and its capacity as major contributor to formal employment in the region
• To broaden the participation and benificiation of the previously disadvantaged community in the tourism industry
• To establish a CPPP to manage the project to the maximum benefit of all concerned</td><td>INDICATORS FOR ACHIEVEMENT OF OBJECTIVES
• Establishment of the resort
• Establishment of a joint venture partnership or Community Public Private Partnership (CPPP) between the claimant community, Mpumalanga Tourism and Parks Agency and a private sector enterprise for the running of the resort
• Large increase in tourist numbers
• Large increase in formal employment for the community at all levels
• Enlargement of the tourism “package” by linkages with secondary tourism ventures in the area
• Creation of spin-offs for the local economy</td></tr>
<tr><td colspan="2">STRATEGIES
• To achieve buy-in of the local community (land owners), Mpumalanga Tourism and Parks Agency and the private sector in a joint venture partnership (CPPP) to run the project on a day to day basis.
• To apply for funding
• Liaise with other government departments regarding their inputs
• Develop and implement an effectual and aggressive marketing campaign
• Acquire the necessary human resources from the community and facilitate their training
• Invite proposals from suitably qualified consulting firms
• Assign the necessary accountabilities
• Mobilise further growth and development of the tourism ‘package’ through linkages with nearby</td></tr>
</table>

tourists attractions

- Use local labour as far as possible for the refurbishment of the village

KEY ROLE-PLAYERS

- Mpumalanga Tourism and Parks Agency
- Land claimants and rest of previously disadvantaged community(especially former mine workers)
- Private sector enterprise
- Provincial Government Departments, viz:
  - Public works, Roads and Transport (assistance needed to tar access road to Msauli;; and the reserve)
  - Sport, Recreation, Arts and Culture
  - Agriculture, Conservation and Environment
- Albert Luthuli Local Municipality
- Gert Sibande District Municipality

SKILLS AUDIT (skills needed)

- Private sector enterprise with proved experience in managing a resort/reserve
- Skills needed to run the resort on a day to day basis are:
  - managing
  - administrative
  - marketing/information
  - accommodation
  - maintenance
  - cleaning
  - restaurant/catering
  - gardens/landscaping
  - security
  - business/shops
  - recreation
  - tour guides
  - transport
  - health services
  - laundry

TARGET GROUPS

- Land claimants (men, women, youths (18 years and over) and disabled
- Other previously disadvantaged community members including former mine employees

TIME-FRAME

- ± One year

ESTIMATED COSTS

- ± R11 152 220 for refurbishment, ±R3 million for furniture and equipment (see 5.3.2.2.).

FINANCIAL SOURCING OPTIONS

- The primary source of funding will be from the national allocation to Provinces for tourism
- Secondary sources of funding are:
  - Relevant Provincial Departments
  - Department for Trade and Industry (DTI)

IMPLEMENTATION PLAN

Because of the availability of all the necessary infrastructure, implementation can be completed within a relatively short period after the initial planning has been completed and funding acquired.

Phase 1	Preplanning and implementation	• Meeting of stakeholders • Establish CPPP • Business plan • Apply for funding	Months: 1-4
Phase 2	Start of implementation	• Approval of project and funding • Tender process for refurbishment • Tender process for provision of necessary equipment, furniture and clothing for staff, vehicles, etc. • Tender process for training service provider	Months: 5-6
Phase 3	Renovation, training and installation	• Refurbishment of buildings, recreational facilities, roads and services • Identifying all participants from PDI community • Training of participants • Finalise marketing plan • Installation of all furniture and equipment	Months: 7-11
Phase 4	Marketing and project start	• Start with aggressive marketing campaign • Staff start their duties	Months: 12
Phase 5	Post implementation phase and further growth	• Mobilise for tourism growth by establishing linkages with nearby tourist attractions	Months: 12+

4.2.3. Rietspruit

With the closing of the mine in 2002, Rietspruit lost the ability to provide comprehensive employment opportunities for its community. The growth experienced in the Witbank-Middelburg Coalfields because of an increasing demand for coal for electricity generation, export, metal and synfuel, production will for at least the next 20 years or longer have a positive influence on the economy of Rietspruit. This is because new employment opportunities will open up with the opening of new mines and expansion of existing mines in the nearby area. For example, the opening of the Klipspruit mine 20 km from Rietspruit in 2008 will boost the beneficiation plant at Rietspruit.

The above mining activities can, however, not sustain the economy of Rietspruit on the same scale as before. It is therefore imperative to broaden the economic base of the town through diversification of economic activity involving all other economic sectors in order to ensure long term sustainability.

The existing Rietspruit scenario clearly indicates the lack of a proper social plan with sustainable social and economic projects linked to it. Without proper financial support from the mine and a lack of management and marketing skills, projects failed to be sustainable. Projects were also too small to make any real impact on the high rate of unemployment in the town.

In this light and with a view to achieving the objective of sustainable economic development for Rietspruit, the following strategies should apply:

- Diversification of economic activities
- Establishment of large projects that will replace the majority of jobs lost
- Place emphasis on the development of ‘export’ businesses to generate outside capital to strengthen the local economy
- Cluster projects to include nearby mining towns in trouble - thereby increasing their benefits and scope
- Stimulate local SMME development by informing the community of shortcomings in the business and service sector - and assist in the acquiring of funding (micro-loans or soft loans)
- Create service related jobs, for example through municipal services being performed mainly by local residents
- Provide land for industrial, business and agricultural development

- Provide development incentives for industries and commercial activities, viz:
  - buildings to rent or buy
  - tax concessions (a minimum number of jobs must be provided)
  - provision of inexpensive and/or subsidised infrastructure (a minimum number of jobs must be provided to qualify)
  - provision of industrial sites of different sizes
  - deregulation of technical and implementation requirements
- An aggressive marketing campaign as well as ‘head-hunting’ should be applied to acquire investors

BUSINESS PLAN

In view of the requirements for large projects (‘export’ businesses) to stimulate the economy of Rietspruit, three projects have been identified in accordance with the specific circumstances and opportunities, viz;

- Intensive vegetable production
- Chicken broilers and abattoir
- Frozen vegetables and vegetable packaging

Summaries of the business plans and the implementation plans for the above projects are set out in the following section.

DEVELOPMENT PRIORITY: AGRICULTURE	
PROJECT • Intensive vegetable production	**PROJECT DESCRIPTION** • Intensive vegetable production consisting of 25 hydroponic vegetable tunnels, 2 ha under nets (existing) and 3 ha open lands with drip irrigation • Project will be a revival and enlargement of a previous job creating project funded by the mine
PROJECT PRIORITY STATUS • High priority	**OFFICIAL STATUS** • Captured in Municipal IDP • Maximum exploitation of agricultural potential and opportunities is a key priority in the Mpumalanga PGDS 2004 - 2014
OBJECTIVES • To create jobs for former mine workers and unemployed men, women, youths and the disabled • To empower the unemployed community to participate at all levels of the proposed project	**INDICATORS FOR ACHIEVEMENT OF OBJECTIVES** • Growth in agricultural production and benefication • ± 50 job opportunities can be created for previously disadvantaged men, women, youths over 18 and the disabled • The majority of the beneficiaries will be women • Transfer of appropriate skills through training

STRATEGIES

- To upgrade the existing infrastructure
- To provide additional infrastructure to enlarge the project
- To facilitate skills training for the beneficiaries at all levels
- Appointment of service provider(s)
- To establish sustainable markets
- To establish legal entity (co-operative)

KEY ROLE-PLAYERS

- Municipality and Municipal LED Department
- Mine
- District Municipality
- Community
- Service providers for providing of infrastructure, to provide training and to act as mentor

SKILLS AUDIT

The following skills are necessary for the project and must be transferred to the beneficiaries/owners of the project:

- Managing/administrative
- Business and financial
- Marketing
- Agricultural
- Driving (tractor and truck)

TARGET GROUPS

- Unemployed residents of Rietspruit
- Men, women, youth (18 and over) and the disabled
- Majority of women

TIME-FRAME

- 9 months from approval of project and funding being available

ESTIMATED COSTS	**FEASIBILITY**
• R3 175 441 (see 5.4.3)	Yes, see 5.4.3

FINANCIAL SOURCING OPTIONS

- Ingwe Mine
- Municipal Infrastructure Grant (MIG)

IMPLEMENTATION PLAN

Intensive vegetable production

Phase	Stage	Activities	Time
Phase 1	Preplanning and implementation	• Business plan • Apply for funding • Programme design • Soil samples • Planting programme	Time: Before implementation
Phase 2	Start of implemen-tation	• Tenders for the provision of tunnels/infrastructure, irrigation, seedlings, fertilisers and sprays • Tender for training service provider • Establishing markets	Months: 1-2
Phase 3	Providing infrastructure	• Appointment of manager and security personnel • Erecting hydroponic tunnels • Installing services • Installing cool room • Buying agricultural equipment • Buying LDV • Buying seedlings, fertilisers and sprays • Installing irrigation	Months: 3-6
Phase 4	Training and planting	• Identifying and training of participants • Ploughing and fertilisation • Planting seedlings and seed	Months: 7-8
Phase 5	Production	• Production • Marketing	Months: 9+

<table>
<tr><td colspan="2">DEVELOPMENT PRIORITY: AGRICULTURE</td></tr>
<tr><td>PROJECT
Chicken Broilers and Chicken Abattoir</td><td>PROJECT DESCRIPTION
24 Broiler houses accommodating 2500 chickens each
Small chicken abattoir with a slaughter capacity of 2500 - 4000 chickens per day. The reason for the small abattoir is to save costs, because production and marketing will be easier manageable and because production of the chicken houses will be spaced so that no more than 2500 chickens will be delivered per day. An additional activity can be the manufacturing of blood meal.
Project can be situated on municipal farm land or former mining land.</td></tr>
<tr><td>PROJECT PRIORITY STATUS
High priority if a project cluster can be established that incorporates Rietspruit and other mining towns in the area such as Kriel and Ogies.</td><td>OFFICIAL STATUS
The promotion of agriculture and agri-industries and the broadened participation of previously disadvantaged persons in the agricultural economy is included under Economic Development priority in the Mpumalanga PGDS 2004 - 2014.</td></tr>
<tr><td>OBJECTIVES
To establish a strong community orientated chicken project at Rietspruit that will be sustainable and will create a large number of jobs at all levels for the community
To extend the project in future to include other nearby mining towns in a larger ‘cluster’.</td><td>INDICATORS FOR ACHIEVEMENT OF OBJECTIVES
The creation of ± 67 jobs at all levels
The procurement of sustainable markets
Clustering of the project to include other nearby mining towns with high unemployment</td></tr>
<tr><td colspan="2">STRATEGIES
Acquire land for the project (municipal or former mine land)
Secure funding
Provide buildings and infrastructure
Secure sustainable providers and markets
Acquire the necessary human resources from the community
Facilitate the necessary training
Assign the necessary accountabilities
Mobilise further growth and development of a ‘cluster project’</td></tr>
<tr><td colspan="2">KEY ROLE-PLAYERS
Municipality and Municipal LED Department
Mine
District Municipality
Provincial Departments
Professional consultants
Training service providers
Community</td></tr>
<tr><td colspan="2">SKILLS AUDIT
Knowledgeable professional consultants and service providers are necessary for the implementation</td></tr>
</table>

• The following skills are necessary for the day-to-day functioning of the project and must be transferred to the beneficiaries/owners – managing – administrative (computer, filing, bookkeeping, etc.) – business and financial – marketing – broiler skills – abattoir skills – driving	
TARGET GROUPS • Unemployed residents of Rietspruit • Men, women, youth (18 and over) and the disabled	
TIME-FRAME • ±9 Months	
ESTIMATED COSTS • ±R4.1 million for implementation(5.4.3 project 2)	**FEASIBILITY** Yes (see 5.4.3 project 2)
FINANCIAL SOURCING OPTIONS • Ingwe mine • Municipal Infrastructure Grant (MIG) • Provincial Departments viz: – Social Services and Population Development – Agriculture, Conservation and Environment	

IMPLEMENTATION PLAN

Chicken broilers and abattoir

Phase 1	Preplanning and implementation	• Business plan • Applying for funding • Institutional arrangements (EIA etc) • Establish Steering committee • Procure land	Time: Before implementation
Phase 2	Tenders	• Procure sustainable markets • Tenders for the provision of chicken houses and abattoir • Tenders for the provision of day-old chickens and food or alternatively • Establish 'grower' contract • Tenders for training service provider	Months: 1-2
Phase 3	Providing infrastructure	• Building and equipping of chicken houses • Building and equipping of abattoir • Appointment of mentor/manager and security personnel • Identifying participants	Months: 2-6
Phase 4	Training and product implementation	• Training of participants • First batch of day-old chicks in chicken houses	Months: 7-8
Phase 5	Production	• Second batch of day-old chicks in chicken houses • Abattoir start with production	Months: 9+

DEVELOPMENT PRIORITY: INDUSTRIAL (AGRI-INDUSTRY)

PROJECT

- Frozen vegetable and packaging industry

PROJECT DESCRIPTION

- Factory to be housed in former mine building(s) at Rietspruit
- Necessary alterations to be made to buildings and equipment to be installed
- Project will have complementary linkages to proposed vegetable project and will largely stimulate vegetable production in the region

PROJECT PRIORITY STATUS

- High priority because of potential to create a large number of jobs

OFFICIAL STATUS

- The Mpumalanga PGDS 2004 - 2014 has identified agri-processing as an economic sector with growth potential in the province and has included it under its Key Priority Area 1: Economic Development.

OBJECTIVES

- To establish a strong community orientated agri-industry at Rietspruit that will be sustainable and a major catalyst in the economic development of the town and the surrounding rural areas, the creation of jobs, the alleviation of poverty and the building of capacity for the poor.
- To broaden the participation of previously disadvantaged persons in the agri-industrial economy

INDICATORS FOR ACHIEVEMENT OF OBJECTIVES

- The creation of ± 180 jobs at all levels
- Complementary linkages with the proposed vegetable project
- Large scale increase in vegetable production in the area to supply the factory (farmers, communities) - thus increasing income and creating more jobs.

STRATEGIES

- Secure the use of disused mine buildings and make the necessary alterations and install the necessary equipment.
- Secure sustainable markets
- Secure distributors
- Secure sustainable suppliers (commercial farmers, community projects)
- Establish complementary linkages with existing community vegetable projects)
- Facilitate the necessary training
- Establish partnerships with private sector enterprises
- Stimulate the establishment of more community based vegetable projects to act as suppliers

KEY ROLE-PLAYERS

- Municipality and municipal LED Department
- Mine
- Department of Agriculture (advisor, mentor)
- Community
- Training service provider(s)
- Professional consultant(s) for implementation. Must be knowledgeable as to the enterprise

SKILLS AUDIT

- The assistance of knowledgeable professional consultants is crucial for the implementation of the project
- The following staff composition will be required:
  - Factory manager
  - Shift managers (3)
  - Marketing manager (1) and personnel (2)
  - Administration personnel (5)

- Security (3)
- Forklift operators (3)
- Machine operators 6X3 = (18)
- Packers 10X3 = (30)
- Transport (6)
- Labourers 36X3 = (108)

TARGET GROUPS

- Unemployed men, women, youths (18 and over) and disabled of Rietspruit
- The following employment breakdown is envisaged:
  - Women (youths included) : 55%
  - Men (youths included) : 40%
  - Disabled (men and women) : 05%

TIME-FRAME

- Estimated implementation time is 10 months from approval of project and funding being available

ESTIMATED COSTS	FEASIBILITY
• R10 339 040 (see 5.4.3 Project 3 for budget)	Yes, see 5.4.3 Project 3

FINANCIAL SOURCING OPTIONS

- Mpumalanga Department of Economic Development and Planning
- Municipal Infrastructure Grant (MIG)
- Department of Trade and Industry (DTI)

IMPLEMENTATION PLAN

Frozen vegetable and vegetable packaging

Phase 1	Preplanning and implementation	• Procure former mine building • Establish Steering Committee • Business plan • Apply for funding • Institutional arrangements (EIA, rezoning, etc.) • Determine sustainable markets • Determine sustainable suppliers of vegetables	Time: Before implementation
Phase 2	Tenders	• Secure sustainable markets • Secure sustainable suppliers • Appoint knowledgeable consultants • Tenders for alterations to building • Tenders for factory equipment • Tenders for services • Tenders for training service providers • Tenders for cold trucks • Advertisements for manager and senior personnel	Months: 1-3
Phase 3	Providing of infrastructure	• Alterations to building • Services installed • Freezer - and cold rooms installed • Determining of staff through interviews	Months: 2-7
Phase 4	Installation and Training	• Installation of factory equipment • Training of staff	Months: 8-9
Phase 5	Starting of production and marketing	• Starting of production line and marketing of products	Months: 10+

4.2.4. Pilgrim's Rest

The local formal economy in the Pilgrim's Rest area is dominated by mining, forestry and tourism. Mining and forestry are extremely vulnerable to exogenous factors over which they have no control. These factors influence demand and price levels resulting in fluctuating demands for labour, as the recent retrenchments in the forestry industry clearly illustrates. Referring to the local labour market, tourism is much more stable in its labour demands. As a labour intensive industry, tourism has, therefore, been identified as the pivotal economic sector to create new jobs and drive economic development in the area. The mining and forestry industries should at the same time not be hindered in their endeavours for future growth.

The primary objective for Pilgrim's Rest must focus on 'growing the tourism pie' while taking care that employment opportunities and SMME development for previously disadvantaged individuals in the tourism industry is maximised.

Growth in tourism in Pilgrim's Rest demand:

- new product development
- SMME opportunities
- effective marketing of the destination

New product development should be innovative to increase the number of tourists dramatically. Previous visitors should be encouraged to come again and to recruit new tourists by 'word of mouth'. The following actions are recommended:

- The 'theming' of the historical product and creating stories and excitement around the themes. For example characters can perform episodes from the highwayman saga, late 19^{th} century street scenes, arrival of the stage coach, arrival of the transport wagons (ox-wagons), an active blacksmith shop and business and hotel personnel in late 19^{th} century costume, etc.

To increase authenticity, no motor vehicles should be visible along Main Street. Move vehicles of business sector out of sight to the back. A parking area on the large open space in Down Town can provide ample parking for tourists' cars and busses. From here visitors can be transported to town with special tractor drawn trailers that are low for easy access, with a roof and open sides (two of these trailers can be attached to one another). Visitors who so prefer, can also walk to town.

- Strengthening of the existing events (gold panning championships and mountain bike competition) and development of new events that could be related to arts and crafts, food and beverage, history and road races.
- Creating of rides by rebuilding a portion of the historical tramline and establishing rides by horse drawn carts and ox-wagon.
- Development of an industrial 'beehive' where products can be manufactured for the tourism businesses and the tourists. The project will be solely owned by members of the local PDI community.
- Creating an 'African Market' where curio hawkers can sell their products and marimba bands and tribal dancers in traditional dress can perform.
- Creating new hiking trails, mountain biking trails, horse riding trails, 4x4 trails and quad bike trails in conjunction with the forestry companies.
- The development of new hotels and lodges within the forestry areas.
- The establishment of organised tours to historic, scenic and other attractions in the area.
- The establishment of a local Marketing Board that will be responsible for the planning, implementation and managing of new tourist attractions as well as the marketing of the town and its attractions regionally, nationally and internationally in an effectual, focused and highly competitive manner. The local business sector and population are in the best position to market their tourism product.
  - The board should consist of 'expertise directors' from the local tourism industry and PDI directors.
  - It is recommended that the board should consist of a maximum of 15 directors of which 10 are from the tourism business sector and 5 from the PDI sector.
  - Provision must be made for provincial and municipal representatives to attend meetings of the board in an advisory capacity.
  - Remuneration of directors should be paid in the form of a meeting attendance fee, plus the cost of travel and accommodation, where applicable.
  - To ensure legality of the board, the election must be managed by the Independent Electoral Commission (IEC).
  - An annual budget of R3 million is recommended which should come from the following sources:
    - a tourism levy imposed by the municipality on all businesses in the municipal area (tourism is a major source of income for most);
    - contribution by the district municipality;

        * contribution by Mpumalanga Department Arts and Culture;
        * entrance fees for visitors at manned entrance control gates;
    - A tourism information office should be maintained by the board for 7 days
- Marketing tools should include the following:

<u>Publications</u>

- Regional information brochure
- Specialised product brochure

<u>Media advertising</u>

- Media promotional tours
- Radio inserts, advertising
- Relevant TV shows
- Magazine articles

<u>Trade and consumer contact</u>

- Invite and host representatives from the travel trade and travel marketing organisations
- Corporate participation at trade and consumer shows (national/international)
- Trade functions and events
- Consumer functions and events

<u>Exhibition and display material</u>

- CD's
- Posters and photographic display material
- Banners and flags
- T-shirts
- Souvenirs (spoons, post cards, small flags, etc.)

- Improved marketing activity at provincial level in co-operation with the board. The province should create the platform upon which the local Marketing Board can do their own marketing.
- Improved maintenance of existing infrastructure by province
- Skills development and training should be a priority for product provision of a high standard
- As far as possible all work related to the tourism industry should be done by local people (building, clothes making, manufacturing, etc.)

BUSINESS PLAN

The projects which will create the most jobs for the local population are:

- The development of theme attractions that can be performed
- The establishment of an industrial beehive of arts and crafts enterprises

Summaries of the business plans for the projects are set out below with the inclusion of strategies, skills needed, implementation plan and financial sourcing options.

DEVELOPMENT PRIORITY: TOURISM	
PROJECT • Theme attractions	**PROJECT DESCRIPTION** The creation of stories and animation in and around the streets of Pilgrim's Rest to keep the tourists entertained whilst creating many job opportunities The focus will be on the theming of the historical product (events from the past) and creating stories and excitement around the themes. The highwaymen sagas, late 19^{th} century street scenes, gold rush, arrival of stage coach and ox-wagons can all be enacted.
PROJECT PRIORITY STATUS • High priority, because this was identified by the Municipal Tourism Development Plan, the study and the Tourism Business Sector as the most important step for improving the overall product offering within Pilgrim's Rest.	**OFFICIAL STATUS** • Captured in the Thaba Chweu Tourism Development Plan (2006) • Corresponds with Mpumalanga Growth and Development Strategy (2004-2014) in its resolve to broaden the participation of historically disadvantaged individuals (HDI's) in the tourism industry.
OBJECTIVES • To increase the number of domestic and international tourists by enhancing the tourism experience through introduction of theme attractions. • To broaden the participation of the previously disadvantaged local population in the tourism industry.	**INDICATORS FOR ACHIEVEMENT OF OBJECTIVES** • Substantial increase in number of domestic and international tourists • Increase in the average time spent by tourists in town and in the number of people staying overnight. • Increase in the money spent in town. • Labour intensive community involvement to share in the financial rewards. • PDI involvement in the planning and running of the project
STRATEGIES • Establish a representation Tourism Marketing Board for Pilgrim's Rest which will be responsible for the planning, implementation and managing of the theme attractions as well as effectual focused and highly competitive marketing of the product on a regional, national and global scale (see strategies and marketing tools). • Establish an annual tourism development fund to pay for equipment, clothing, salaries and marketing. • Ensure high standards in product provision by providing for the following:	

- – Professional assistance to plan the themes, equipment, clothing and enactment.
  - – Talent identification amongst the population by professionals to determine the participants.
  - – Facilitate comprehensive skills training programmes that are contextually applicable
- Establish manned entrance gates with booms on both streets leading to town and apply affordable entrance fees (development fees) for all visitors. Drive pass pay cubicles similar as those at toll gates should suffice. Entrance fees should be on billboards approaching and at the gates.
- To 'grow the tourism pie' an all-out attack must be launched to truly present the visitor a fascinating window into the past and capture the spirit of a bygone era and its people. The following strategies are recommended:
  - – the historic village must be kept as true to history as possible(including buildings, street furniture and signs and activities taking place)
  - – The daily street scene of a late 19th century-early 20th century mining village must be demonstrated by dramatisation of themes from the past and people going about their business in clothing and transport of that era.
  - – All personnel serving the public should be dressed in late 19th century-early 20th century clothing (including the entrance gates)
  - – To increase authenticity no motor vehicles must be allowed to park along Main Street where the activities will take place. Vehicles of business owners must be moved out of sight at the back and visitors must park at a parking area in Down Town.

KEY ROLE-PLAYERS
- Pilgrim's Rest Tourism Marketing Board (TMB) (to be established)
- Thaba Chweu Local Municipality
- Mpumalanga Public Works Department
- Mpumalanga Department Arts and Culture
- Ehlanzeni District Municipality
- Local tourism businesses
- Community
- Professional acting consultants/trainers

SKILLS AUDIT (skills needed)
- Acting
- Clothes making (for manufacturing of period costumes)
- Manufacturing of animated characters
- Manufacturing, repair and maintenance of historical transport equipment
- Horse riding skills
- Skills to drive historical stagecoach, horse drawn carts and ox-wagon

TARGET GROUPS
- Local community with special emphasis on previously disadvantaged men, women, youths (18 and over) and the disabled

TIME-FRAME
- ± 9 months (see Implementation plan)

ESTIMATED COSTS
- R3 million per year

FINANCIAL SOURCING OPTIONS
- A tourism levy imposed by the municipality on all businesses in the municipal area
- Contribution by the District Municipality
- Contribution by Mpumalanga Department Arts and Culture
- Gate fees for visitors

IMPLEMENTATION PLAN

Theme attractions

Phase 1	Preplanning	• Establish Pilgrim's Rest Tourism Marketing Board • Business Plan • Apply for funding	Time: Before implementation
Phase 2	Preparation of themes	• Board plan themes with professional assistance • Identify talented performers from population - done by professionals • Professionals design historical clothing and costumes • Procure historical vehicles that will be used in the themes • Appoint professionals to train the performers	Months: 1-2
Phase 3	Preparation of infrastructure	• Manufacture trailers to transport tourists • Buy tractors to draw trailers • Making of clothing and costumes by local skilled people under supervision of professionals • Renovation of historical vehicles to be used for themes - done by knowledgeable persons • Procure horses and oxen for the vehicles • Build controlled entrance gates with drive-along ticket offices and booms • Build parking area for tourists on Down Town park. Provide public toilets on site	Months: 2-5 Overlapping with Phase 2
Phase 4	Training and marketing	• Training of performers • Remove all modern items from Main Street • Start implementing the no car rule along Main Street • Plan the opening day and market it aggressively	Months: 6-8
Phase 5	Starting of new attractions	• Opening day of theme attractions • Future growth	Months: 9+

<table>
<tr><td colspan="2">DEVELOPMENT PRIORITY: TOURISM</td></tr>
<tr><td>PROJECT
• Manufacturing ‘hive’ for arts and crafts products</td><td>PROJECT DESCRIPTION
• A ‘hive’ for small arts and crafts industries at the proposed parking area for tourists in Down Town Pilgrim’s Rest - for maximum exposure.
• Products will differ from the general curios sold at the roadside
• Products will have an African character, but of high quality, viz: pottery, wool products (carpets, clothing), leather products (including crocodile, ostrich and leather of different game species), T-shirts with Pilgrim’s Rest and other South African designs and arts and crafts products (grass and reed ornaments, beadwork, etc.)</td></tr>
<tr><td>PROJECT PRIORITY STATUS
• High priority because of the potential for SMME development as well as a large number of jobs for the previously disadvantaged community</td><td>OFFICIAL STATUS
• Identified in the Thaba Chweu Tourism Development Plan
• Identified in the Business Survey that was conducted in 2007 in Pilgrim’s Rest</td></tr>
<tr><td>OBJECTIVES
• To stimulate SMME development and entrepreneurship amongst the previously disadvantaged community
• To largely increase the number of jobs for unemployed men, women, youths (18 and over) and the disabled
• To empower the previously disadvantaged community through skills training
• To contribute towards a stronger tourism industry in Pilgrim’s Rest</td><td>INDICATORS FOR ACHIEVEMENT OF OBJECTIVES
• Development of SMME’s for the PDI community
• Creation of an estimated 35+ job opportunities for unemployed men, women, youths (18 and over) and the disabled
• Entrepreneur development for the PDI community
• Acquiring of skills through intensive skills training programmes
• Linkages with the tourism businesses in the provision of products to sell</td></tr>
<tr><td colspan="2">STRATEGIES
• Build a ‘hive’ for small arts and crafts industries at the proposed parking area for tourists in Down Town Pilgrim’s Rest to ensure maximum exposure.
• Ensure that the building will be complementary to the surroundings.
• Identify people with talent for the different enterprises among the previously disadvantaged population.
• Facilitate intensive and effectual skills training for the participants as well as training in business administration, finances and marketing.
• Apply for funding from the Mpumalanga Department Arts and Culture and Public Works Department.
• Establish an export business to package and send larger articles and bulk buys of foreign tourists overseas.
• All enterprises should be owned and managed by their participants. The building and equipment must remain the property of the Public Works Department.</td></tr>
<tr><td colspan="2">KEY ROLE-PLAYERS
• Mpumalanga Department Arts and Culture
• Mpumalanga Public Works Department
• Thaba Chweu Local Municipality</td></tr>
</table>

- Local previously disadvantaged population
- Specialised training service providers

SKILLS AUDIT (skills needed)

- Business management, finance and marketing
- Pottery
- Clothes making
- Wool knitting and weaving
- leather products manufacturing
- T-shirt design and printing
- Arts and crafts manufacturing (including grass and reed products, beadwork, etc.)
- Export business (including packaging)

TARGET GROUPS

- Previously disadvantaged men, women, youths (18 and over) and disabled of Pilgrim's Rest with talent and interest in the different enterprises plus the ability to learn. Previous experience and business skills should also count.

TIME-FRAME

- ± 9 months (see implementation plan)

ESTIMATED COSTS	**FEASIBILITY**
R1 123 255 (see 5.4.4 No 2 for Budget)	Yes, (see 5.4.4 No 2 Table 2 for potential income)

FINANCIAL SOURCING OPTIONS

- Mpumalanga Department Arts and Culture
- Mpumalanga Public Works Department

IMPLEMENTATION PLAN

Arts and crafts manufacturing hive

Phase 1	Preplanning	• Institutional arrangements • Establish Steering Committee of marketing Board members and representatives of Departments of Public Works and Arts and Culture • committee decide on design of hive and make cost assessment • business plan • Apply for funding	Time: Before implementation
Phase 2	Building plan and tenders	• Finalise building plans for approval • Tenders for local BEE builder • Tenders for building material • Quotations for equipment and material • Tenders for experienced training providers(s)	Months: 1-2
Phase 3	Building of hive and Identifying beneficiaries	• Building of hive • Determine appropriate name for the hive • Design fetching logo • Identify skilled persons for hive through demonstration of their products at an appropriate place	Months: 2-6 Overlapping with Phase 2
Phase 4	Install equipment and start with training	• Completion of hive • Buying and installing equipment in workshops • Buying materials and goods needed • Training of participants • Production planning together with training firm	Months: 7-9
Phase 5	Production and marketing of products starts	• Starting of production and marketing • New products • Growth	Months: 9+

6.3 GUIDELINES FOR FUTURE MINE CLOSURE SCENARIOS

With a view to the formulation of a development strategy for dying mining towns in Mpumalanga, the following broad policy guidelines should firstly apply:

- The future settlement policy for all new mines should be to concentrate residential development in the existing larger centres.
- All non-sustainable small mining villages should be demolished should they no longer be required - unless such a village can be sold as a whole to private ownership.
- Efficient alternative use of mine infrastructure should be encouraged which can be economically justified; where no economic alternative uses exist, infrastructure most be removed and the site rehabilitated to pre-mining status.
- Outlying mining towns should only be preserved if they are sustainable, viz:
  - If they have a well developed infrastructure to provide in the needs of the community as well as potential for economic development to create jobs to replace those lost.
  - If they have an extraordinary potential for tourism, industrial or agricultural development to totally replace mining as employer.

Towns of the first category should be proclaimed a township governed by the local authority. Services should be upgraded in advance to the standards required by the Townships Proclamation Act. The formulation of a development strategy for such towns requires a more holistic and integrated approach.

Towns of the second category should be governed by the appropriate government authority or CPPP.

- The mine should be actively involved in municipal economic development forums.
- The mine should establish an appropriate community development fund to be used for human resource development and local economic development at mine closure.
- Land surface must be restored to sufficient quality to support pre-mining land potential.
- Restoration of the ecological function of mined land and in the case of degraded land, the ecological function must be improved.

Planning for mine closure

As point of departure, all mines are to prepare Social and Labour Plans as presented by the Mineral and Petroleum Resources Development Act, 2002, (Act No 28 of 2002) - to develop and implement comprehensive Human Resources Development Programmes including

Employment Equity Plans, Local Economic Development Programmes and processes to save jobs and manage downscaling and/or closure.

The Social and Labour Plan of the mine with reference to closure, should include the following mechanisms to ameliorate the social and economic impact on the mine community:

1. Mechanisms to provide alternative solutions and procedures for creating job security in the light of job losses:

- The consultation process in terms of Section 52(1) of the Act.
- Implementing section 189 of the Labour Relations Act, 1995 to deal with retrenchment details.
- Notification to the minerals and Mining Development Board in terms of section 52(1) (b) of the Act (Act No 28 of 2002).
- Communicating retrenchments to employees, municipalities and media.

2. Mechanisms to ameliorate the social and economic impact on individuals, regions and economics where mine closure will occur.

   The process must include, but not limited to:

   - Assessment and counselling services
   - Comprehensive self-employment training programmes
   - Comprehensive training and re-employment programmes

With the inclusion of the above mechanisms the following guidelines should also apply with a view to achieving the objective to develop a strategy to ensure continued economic development and sustaining of infrastructure in mining towns after mine closure.

- The plan should include the timing of the mine closure -
  - to enable the DME to ensure appropriate application of the requirements of the social and labour plan;
  - to enable the municipal structures to plan closure of the mine into their annual local economic development programmes which includes inheriting mine infrastructure and making appropriate plans to secure it and maintain it, and
  - to enable employee structures to make appropriate decisions concerning re-skilling and retraining employees in mitigation of loss of mine jobs.
- Voluntary retrenchment offered to employees
- Possible re-employment of former employees by:
  - placing them at other operations of the mining company

- replacing contractors with former mine employees

- Establish sustainable job creating projects driven by a social fund pertaining to a specific mine;
  - The objective of development projects should be to enable equitable participation in the post mining economy by all members of the community, especially marginalised groups.
  - Identify potential projects in consultation with all stakeholders and the community to ensure support and sustainability.
  - Cognisance must be taken of the distinctive characteristics, circumstances and opportunities of each individual mining town and area to create an economic development strategy that is specific to the local context.
  - Economic development initiatives need to take account of the regional, national and global context, and be designed in a way which assists local areas to respond to the national and global context creatively.
  - As first priority, establish ‘export businesses’ to acquire outside money to stimulate the local economy.
  - Increase the scope of projects by clustering them over a group of closely situated mining towns.
- Conduct baseline studies to inform aspiring entrepreneurs of the needs and business potential in the town - and provide entrepreneurs with micro-loans (soft loans) to establish such businesses.
- Create service related jobs, for example through municipal services being performed mainly by local residents.
- Provide comprehensive skills training programmes that are project and self-employment orientated. The contextual applicability of such programmes must be assured.
- Integrate community development projects into the municipality’s IDP.
- Transfer the community’s investment portfolio of job creating businesses to the local municipality and Ward Committee.
- Establish legal entities (e.g. co-operatives, companies, etc.) to manage the projects.
- Facilitate partnerships between the community and the private sector to increase the sustainability of economic development projects.

Use of mine infrastructure

Efficient alternative use of mine infrastructure should be encouraged which can be economically justified. Where no economic alternative uses exist, infrastructure must be removed and the site rehabilitated to pre-mining status.

Residential infrastructure

- Sell houses below the market value to former employees through government's housing subsidy programme. Depending on the top-up value one or a combination of the following strategies can be implemented:
  - buyer utilise own funds
  - buyer utilise retrenchment benefits
  - low interest loans by the mine
  - loans from financial institutions
- The remaining houses can be sold to other individuals.
- Sell or donate hostels to a single entity as a single block to be used collectively as an accommodation block or multi-purpose usage by private or government entities.

Social services

- Transfer schools and health facilities (hospitals, clinics) to ownership by the Departments of Education and Health respectively
- Transfer libraries to the local municipality.

Recreational infrastructure

- Donate recreational infrastructure to the community under custodianship of the municipality.

Business centre

- Sell business premises to the occupying businesses at less than market price.

Structures associated with the mine

Administration/office blocks, resource centres (training centres), workshops, reduction plants and other structures can be disposed off in the following manner:

- Donate buildings to the local municipality for administrative and LED use.
- Sell appropriate buildings to private enterprises which have the financial means to develop it for industrial or business purposes - thus creating more jobs.

Development incentives

- Provide development incentives to industrial and commercial enterprises in such a way that the town will be selected above other localities, viz;
  - that a site be given free to investors who want to start an industry or commercial enterprise on condition that they must not sell within a specified period and that they must create a minimum of 10 employment opportunities;
  - that buildings be rented out to investors with the option of purchasing it later - on condition that a minimum of 10 employment opportunities must be created;
  - that a discount of 25% be applicable on assessment rates for a maximum period of three years for investors who purchase land and buildings and create a minimum of 10 employment opportunities.

The period of transition between transference of infrastructure from the mine to the new owners is critical to ensure that the property is physically maintained and its security is not compromised.

Environmental rehabilitation

Rehabilitation of the environment must start with a rehabilitation plan (including design specifications).

- The post-mining regeneration priorities in the light of the country's development context are as follows:
  - restoration of land surface of sufficient quality to support pre-mining land potential with the inclusion of the following steps:
    - Seal off adits to underground workings.
    - Fill in open-cast area.
    - Level and shape the land according to the rehab design.
    - The design should try to maximise the drainage area and to minimise slopes steeper than 1:3 to ensure a more sustainable land form for future use.
    - Spread top soil on the levelled land and fertilise it.
    - Sow grass on the levelled area to restore it to its former grazing potential or replant former wooded areas with indigenous trees and shrubs.
    - Continue with after-care for as long as is necessary.
  - restoration of the ecological function of mined land and in the case of degraded land, the ecological function must be improved;
  - minimisation of current and potential future impaired water quality and supply; and

- large sources of ground water assessed by mines should be made available to the industrial sector at costs lower than that currently charged by parastatals such as Rand Water.

Finally, it is important to remember that long-term success can not be guaranteed by a strategic development plan alone. Achievements and success requires the enthusiastic participation and commitment of communities, stakeholders and entrepreneurs.