



## Mineral-based Rural Development in South Africa

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*South Africa has less than 2% of the global land surface yet it is ranked highly in terms of remaining mineral resources. Mineral wealth has not translated into a better life for all and poverty still grows, particularly in rural areas. This study seeks to identify a solution or partial solution to this situation. The need to develop rural areas is well researched and has the additional benefit of reducing poverty in those areas, slows migration to already overcrowded urban centres and reduces the need for government spending on temporary job creation. A review of rural poverty in South Africa had identified that: returns to uneducated labour are so low that claims on other economic or social assets are necessary to lift a family above the poverty line; and financial constraints limit the poor's ability to effectively utilise productive assets and endowments (e.g., land or mineral wealth) which they do have. Rural entrepreneurs amongst others, hold the key to unlocking mineral wealth but the support they receive is either inadequate or absent. Interviews conducted in rural areas across South Africa, from 2006 - 2010 with people making a living off minerals, support the view that government is complicating its own role and not supporting rural entrepreneurs. The key recommendations made includes: the completion of a national rural mineral-asset audit; the use of the information to demarcate rural-regions that can be developed as national and international competitive regions (clusters and corridors); and provision of an easier way to launch mineral-based rural enterprises and incentivise rural development for accelerated growth.*

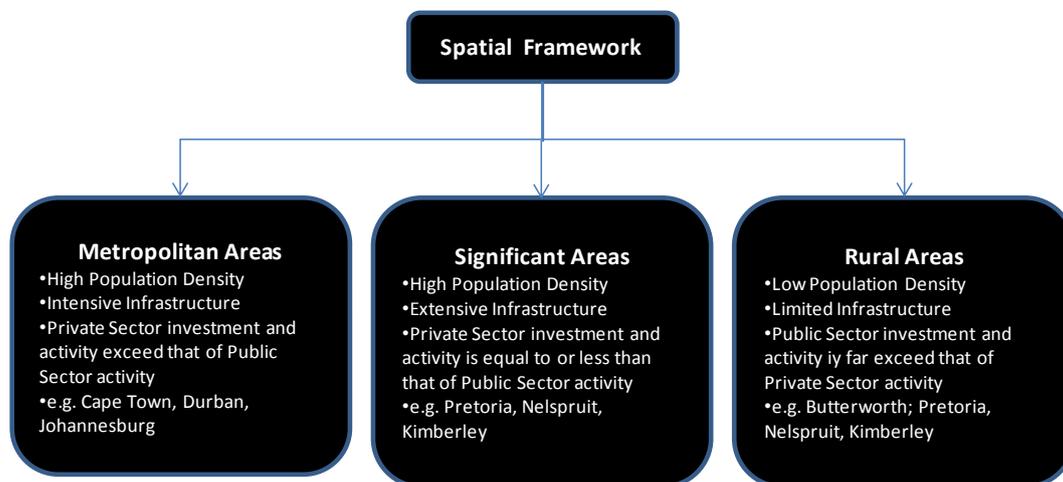
*The model presented here is of the types of rural development than can be successfully attempted.*

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### Regional Spatial Development

It is possible to classify South Africa into numerous spatial development typologies in terms of development requirements, infrastructure levels, funding allocation models and population density. The level of fragmentation of spatial classification is often a feature of the research being conducted but they all fall into three overarching types, 'metropolitan areas', 'significant areas' and 'rural areas'. In the context of South Africa the three key spatial-type areas; the metropolitan areas would be Cape Town in the Western Cape, Durban in KwaZulu-Natal and Johannesburg in Gauteng. Secondly, other significant clusters, but not as large economically as the first three, are Bloemfontein, Kimberley, Nelspruit, Pietermaritzburg, Polokwane, Port Elizabeth, Pretoria and Rustenburg. In these towns the size of government contributions to the regional economy are substantial and the levels of economic diversification are lower. Thirdly, the remainder of South Africa's regional economies exist in a state of survivalist participation and do not appear fully integrated into the large economic centres nor are they involved in global trade. This part of South

Africa is largely rural and exists almost separately to the rest of the economically developed South Africa.



**Figure 1: Example of Spatial Framework used as the research basis**

### **Rural Areas and South African Poverty**

A problem encountered in addressing rural development is that there are no clear definitions for ‘rural’ (RUDASA, 2006). Statistics South Africa (StatsSA) has used a traditional classification system that “classified areas proclaimed as municipalities (mostly the cities and ‘white’ towns and their associated ‘townships’) as urban, and everything else as rural”. The need to maintain comparisons with historical data leads to the reluctance to reclassify rural areas. This therefore impacts on agreeing what form of rural development should take place. RUDASA (2006) therefore recommended that a rural strategy could be categorised based on the dominance of human settlement patterns and access to amenities in a municipality. They proposed the following:

- **Metropolitan area:** Metropolitan municipality.
- **Other urban areas:** Local municipality that consists of a city or major town with mostly tar roads, water supplied through pipes and flushing sanitation, and a broad choice of different services.
- **Close rural area:** Local municipality that has small towns, settlement of more than 50% of the people are closer than 5km to a tar road, mostly piped water supply, but only a small number of services are available in that local municipality.
- **Deep rural area:** Local municipality that has small towns and/or old ‘resettlement areas’, settlement of more than 50% of the people is further than 5km from a tarred road, water

from streams, rivers, dams or rainwater tanks are used by more than 25% of people and people have a small number of services available in that municipality.

South Africa's general urbanisation levels are shown in Table 1. The classification of urbanisation in the Northern Cape and Free State provinces (75-80%) belies the levels of poverty in these provinces and the vast farmlands that occupy most of the region. South Africa's urbanisation levels are broadly increasing as consequence of urban centres expanding to encompass rural areas.

**Table 1: Urbanisation levels of South Africa's Provinces in 2001**

Province	Urbanisation Level	Province	Urbanisation Level	Province	Urbanisation Level
Gauteng	96%	Free State	75%	Mpumalanga	39%
Western Cape	90%	KwaZulu-Natal	45%	Eastern Cape	38%
Northern Cape	80%	North West	41%	Limpopo	10%

Source: Statistics South Africa, 2006

Poverty is not only a rural problem and there is well known examples of urban poverty. Poverty has three dimensions and manifestations (UNESCAP, 2007; Baartjes, 2011):

- Lack of income and high requirements for welfare.
- Lack of access including being removed from basic infrastructure and services.
- Lack of political and economic power possibly because they are geographically removed from the seats of power.

In reviewing South Africa's rural poverty, Carter and May (1999) identified the following additional features:

- The income of uneducated labour is so low that other assets (economic and / or social) are necessary to lift a family above the poverty line.
- The poor's ability to use their assets and endowments (e.g. natural resources, land or mineral wealth) are limited by their financial constraints.

The consensus view is that the interventions required will always need to jointly emphasise



Rural Development and Enterprise Development.

### **Rural Development**

South Africa has unique geology that has found mines currently operating and those already closed occurring in the rural areas. The mineral base has been shown to exceed \$4.7 trillion, of which this mineral asset is largely rural based (Baatjes and Gounden, 2011). Mines by themselves do not urbanise an area. Formal mining has taken place in South Africa since the 1850s (Smalberger, 1975) and then, like today, most mines are situated in the rural areas. The mineral wealth of South Africa has been prolific and remains substantial. The revenue flows from these mines typically end in economic centres, such as Johannesburg, but also in economic centres abroad. The positive legacy effect of mines in South Africa is viewed as something that needs to be re-visited, and recent amendments to legislation are focused on dealing with this.

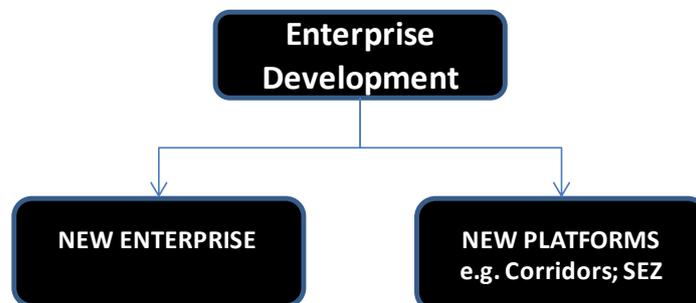
The similar situation exists whereby mines that have long since closed are also largely located in rural areas. These deposits remain off limits for numerous reasons, including a lack of permitting, a shortage of information to decide whether to re-open them, and a clear shortage of rural entrepreneurs. The emphasis on the problems of rural areas, and not the assets of rural areas, is partly responsible for why rural entrepreneurs do not approach opportunities around these deposits.

There are many interventions to alleviate poverty and some of these include providing property rights, granting access to credit facilities under favourable terms, training, provision of grants, and the provision of development aid. South Africa appears to have followed a path of utilising welfare to tackle poverty and not the creation of employment to tackle poverty. For a rural area to be able to compete internationally and ultimately nationally, it is important to establish rural regions which can act as competitive areas that can participate in the economy. This advances the debate of regionalism. The designation of regional competitive areas also allow for the focusing of strategies and the funding for targeted rural projects.

### **Enterprise Development**

Enterprise development is commonly understood to be the establishment of new ventures and business based on a specific opportunity. This can be developed on existing or new platforms. This work reviews two aspects:

- The role of enterprises in economic growth; and
- The use of corridors to create economic linkages.



**Figure 2: Integrating two components to enable Enterprise Development**

According to Henderson *et al.* (2009), there is agreement on the following:

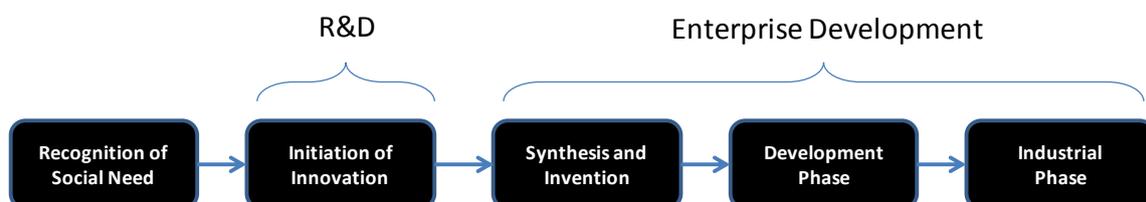
- Entrepreneurs are diverse with different levels of education, skill and motivation. They can be identified in many different contexts, but the critical defining characteristic is a willingness and ability to innovate.
- As few as 10% of entrepreneurs will succeed in creating enterprises that create significant numbers of jobs and wealth.
- Innovation can be found in many different contexts and is not restricted to high-technology sectors.
- It would be unwise from a policy standpoint to attempt to identify which entrepreneurs will eventually be these job creators, so a prudent approach is to facilitate the creation of a large and diverse pool of aspiring and early-stage entrepreneurs.
- The main challenge is to increase the conversion rate from early-stage entrepreneurs to established business owners through appropriate policies and support.

### ***The role of enterprises in economic growth***

The global trend is that the competitive unit is not only the enterprise but the economic region; *“in many regions, the emphasis still focuses on securing only wages, reducing taxes, and recruiting new companies using financial incentives. This emphasis is self-defeating because cheap labour and*

*natural resources are globally available, low wages do not yield competitiveness but rather hold down the standard of living, and financial incentives are easily matched by competing regions and only serve to undermine the tax base needed to invest in education and infrastructure. If the aim is to increase regional prosperity, the focus must be on sustained productivity growth, which is at the very heart of competitiveness. Enterprise development is expected to be stronger in locations with large, vibrant economies” Dabson (2009). The competitiveness is founded on the identification and leverage of a unique combination of regional assets, and innovation and entrepreneurship are the keys to translating these regional assets into competitiveness.*

It is a misconception that entrepreneurship and enterprise development are mechanisms to increase productivity, efficiency and income. Enterprise development is a means to initiate and continue structural changes to the business sector and social framework. It is the change that occurs that then leads to economic growth and increased output. This growth leads to wealth creation. Hisrich and Peters (2002) argue that enterprises do not emerge at just any stage. All responses to business or social enterprises commence with the emerging need. This is followed by a stage where research outputs are developed or modified to resolve the need. This output lacks commercial or social traction and needs to first be implemented. It is in this area that enterprise is required, i.e. in the taking to market or the taking to communities of the research output. This is illustrated in Figure 3.



**Figure 3: Product evolution and area of enterprise development**

Source: Modified from Hisrich & Peters, 2002.

The meeting of social need with the research output (where the enterprise development is required) is also identified as the area where technology transfer is required. Three stakeholders can drive this technology transfer:

- Government;
- Existing businesses and enterprises; and

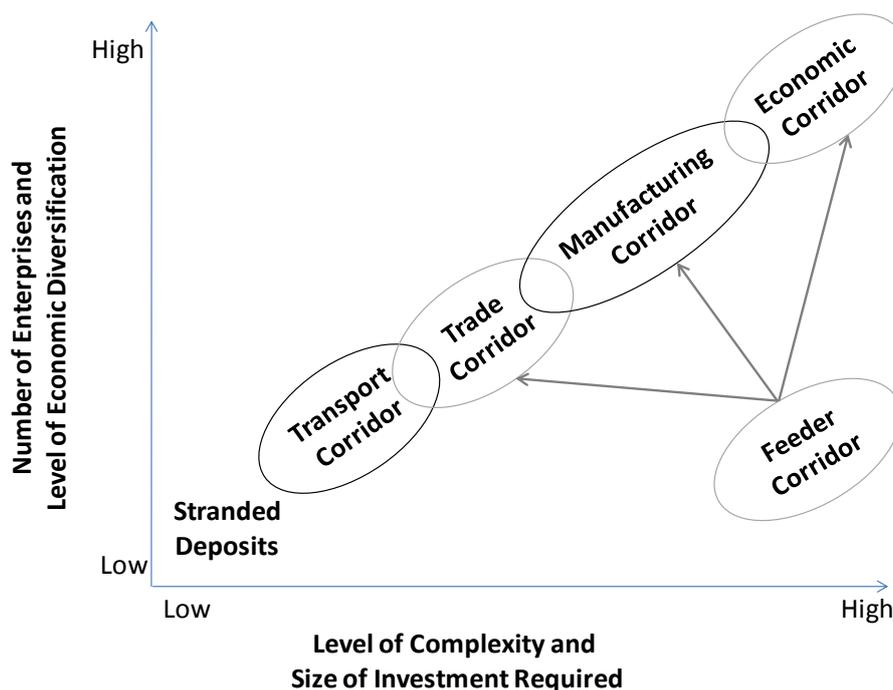
- New enterprises.

Government is a poor implementer of technology transfer and so should play no role as an actual enterprise because it lacks the business skills necessary for commercialisation. The only way government can provide support is by way of financial resources and research outcomes from its research councils e.g. CSIR, ARC and CGS. Existing enterprises can be used to bridge the gap between the research output and the social need, but with the advantage of existing knowledge, business skills, financial resources and access to market systems, the bureaucracy associated with the adoption or incubation of new ventures inhibits progress.

It is therefore left to new enterprises which, though lacking financial resources, existing knowledge and even access to market systems, can overcome the bureaucracy (created by government) to involve itself in development of new solutions where returns on investment are less important. Existing business operate in an environment of hyper-competition whereas new enterprises will not. New enterprises successfully bridge the gap between research outputs and the market place and so these enterprises significantly affect the economy of an area by building the economic base and providing jobs.

#### ***The use of corridors to create linkages***

Nguyen (2008) notes four types of corridors: transport corridors, logistics corridors, integrated trade facilitation corridors and economic corridors. The development of trade corridors leads to increased infrastructural densification. This means that the corridor grows to incorporate road, rail, pipeline, water and electrical infrastructure. This densification then leads to opportunities for small enterprises (SMEs) to develop around these. The crowding-in effect, it is hoped, supports the introduction of low value commodities (such as agriculture) as well as its downstream linkages (such as agri-processing).



**Figure 4: Evolution of corridors from transport dominated to economic dominated**

Source: Modelled from Hisrich & Peters (2002) and Nguyen (2008)

Thomas (2009) describes a corridor as “an infrastructural link for logistics with under-utilised economic potential in their environ, the development of which should be explored through spatial planning and development projects (SDIs)”. Trade and investment led economic growth can be promoted by using infrastructure to the full, motivating beneficiation (value added processes) and increasing the competitiveness of the regional economy. This can be achieved by arranging, assessing priority and improving inter-related infrastructure and significant investments in specific geographic areas. A key feature of South Africa is that its largest economic centre, Gauteng, is located inland. In many countries, including Africa, the economic centres are located along the coast. There are four guiding principles that underpin the corridor approach:

- There must be real economic potential.

A corridor must be able to demonstrate true economic potential through either underutilised natural resources or some other such financially viable and quantifiable quality, for example a well positioned deep-water port close to growing or potentially dynamic markets.

- As far as possible, private sector resources should be mobilised.

If a commercial return is possible, then the private sector should be brought in – whether in the form of public-private partnerships (PPPs), or exclusively for private sector investments.

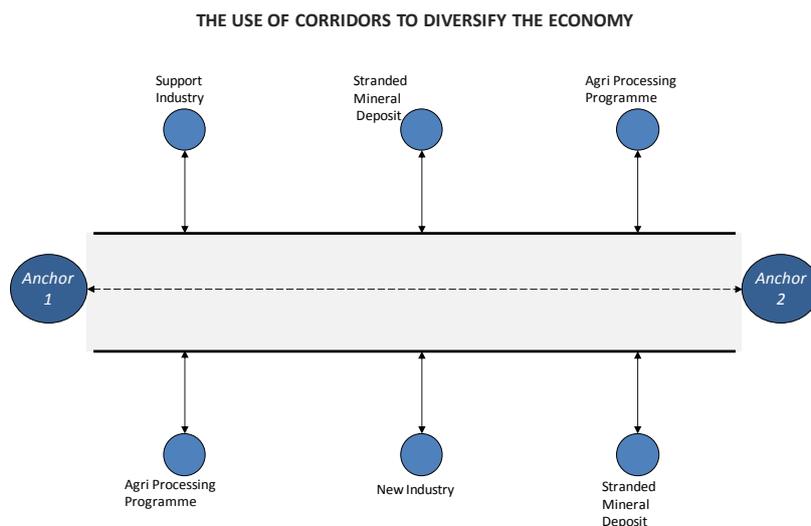
- Apply scarce public sector resources where they will have the most impact.

This principle refers to the application of both public financial and human resources (i.e. the time and energy of government officials). Through a spatial development initiative (SDI), limited public resources should be focused in areas where they are likely to have the most advantage, rather than being spread so thinly that they have limited or no effect at all.

- The benefits of economic growth should be shared with those previously excluded.

This principle points to small and medium enterprise (SME) involvement, and is viewed as critical; especially for job creation opportunities. It is also essential to ensure that local communities benefit from the opportunities created.”

The example cited as the most successful Southern Africa corridor is the Maputo Development Corridor. This corridor runs from Maputo in Mozambique to Johannesburg in South Africa and has been in place for several decades (Söderbaum, 2001). Across its almost 600 km route, it links the steel mills in Vanderbijlpark and Vereeniging, petrochemical plants in Secunda, quarries, mines and smelters. Low value, high volume agricultural goods, such as sugar cane and forestry plantations, are also situated along the corridor. These corridors are either specific sectorally or have a combination of sectors along it. The idealised mineral corridor can be illustrated as shown in Figure 5.



**Figure 5: Idealised form of a corridor**

Source: Adapted from Thomas, 2009.



The corridor requires two anchors, typically a rural-based commodity located far away around which an anchor project can be developed. This anchor can develop links to smaller projects in the area. The corridor, largely developed by the private sector, is linked to an export point or a large market opportunity. In many cases this could be a port, and at this port a second anchor develops; typically processing of the items received from anchor 1 (Söderbaum, 2001; Thomas, 2009).

The corridor enables projects, including mineral-based ones, that are 'stranded' to link to the corridor and this enhances economic diversification. The costs of transport within the corridor are therefore steeply reduced. It is envisaged that it is government funding that is used to link the satellite projects to the main corridor as these will typically be smaller enterprises than the two major anchors.

### **The Impact Of Mineral Development**

The impacts of mineral development can be both positive and negative.

#### *Positive Impacts*

An advantage of mineral development projects are that they, to varying degrees, tend to integrate into the local economy. In doing so they create additional spin-offs at different stages of the project, particularly at the construction stage. Local labour is employed, trained and skilled and the local employees furthermore spend salaries on local goods and services which give rise to wider effects through income and employment multipliers.

If larger projects are developed, then additional support infrastructure will be developed, such as electrical infrastructure, transport networks and corridors, ports development and employee facilities such as housing.

Highly skilled individuals are required and these individuals gain ongoing experience and eventually continue to grow the economy either by starting their own businesses or transferring skills to younger employees.

#### *Negative Impacts*

Traditionally mining in South Africa was focussed on the generating of ore for export. In recent years some additional processing has occurred. When ore is fully exported then the largest value addition,



achieved in processing, refining and manufacturing is largely exported as it occurs elsewhere. The issue therefore is whether South Africa should focus on processing and beneficiation of all ore generated in a country. There is an argument (Crowson, 2009) that indicates that small countries (and small territories or regions) do not have a large enough market to either process and produce intermediate goods as well as absorb the products manufactured.

Furthermore, due to funding from outside a country, much of the early profits are repatriated to the lending countries to service loans initially made to develop the project. It is therefore only after a time period when amortisation of the loans is completed before the profits accrue to the local area.

If tax revenues are discounted by tax holidays and other forms of investment incentives and rebates are factored in, then this tax revenue will only appear slowly (Crowson, 2009).

Mining also involves the irreversible loss of land, especially if open-cast mines are developed. Waste rock piles and tailings dams are also permanent or semi-permanent features of the landscape. The intense use of water also diverts scarce water resources to mining. Biodiversity can be negatively affected by reducing habitats and ineffective rehabilitation.

Employment is highest during the construction phases and the jobs created at this phase are also only temporary. During the operating phase the skilled and semi-skilled workers tend to be recruited from other existing industries, possibly in the area. This will cause local salaries to jump and create competition for scarce skills in the region.

#### *Integrated mineral development*

McPhail (2009) recommends the enhancement of the socio-economic influence of mineral development enterprises with parallel and integrated interventions by a range of stakeholders. These include:

- Partnerships.
- Intensifying efforts for poverty reduction.

#### **Partnerships**

Partnerships between all concerned stakeholders are needed to enhance the positive impacts from mining and to tackle the negative impacts that have been identified. These requirements are clearly



stated in the preamble of the Mineral and Petroleum Resources Development Act (MPRDA). With partnerships, the MPRDA is intended to effect the following:

- Achieve the contribution of mining to poverty reduction by leveraging partnerships. Government departments (like treasury and mining) need to work together with each other, companies and the Chamber of Mines to collaborate with their social investment budgets towards achieving the Millennium Development Goals (MDG). In this National government needs to take the lead to ensure national poverty reduction strategies are shared in terms of responsibilities for outcomes by integrating the efforts of the mining sector.
- The special needs of communities affected by mining should be considered and funds from donor agencies and social funds should be better aligned to their requirements.

#### ***Intensify efforts at poverty reduction***

Another suggestion is to improve efforts for dispute resolution mechanisms and poverty reduction at local levels. The development of mining clusters can be supported by partnerships and in this way contribute to the regional economic diversification. Companies can improve by setting up a grievance procedure process in order to gain the input of all parties, providing a wider decision-making structure including stakeholders and local communities. Local non-governmental organisations can obtain agreement for how benefits can be shared fairly by working with local communities and indigenous peoples'. The marginalised can therefore be better represented.

#### **Enterprise Development**

This study identified two mechanisms to drive enterprise development. Enterprises, typically the product of entrepreneurial activity, are required to increase economic intensity and activity.

A need has been identified, i.e. poverty reduction, and so enterprises, a product of economic development, should be applied to the situation. There is a role for the private sector, and government has a limited role to play.

#### **Mineral development**

One of the concerns with mineral resource-dominated regions is that they develop rapidly at the expense of other sectors. Typically one sector (in this example mining) continues to grow, and

eventually the salaries earned attract skills and labour away from other regions. Even though national performance was considered as affected by the natural resource curse, it was also applicable at the sub-national level. Interventions must therefore first identify areas where there was surplus labour (though not necessarily skills) and so mining projects would not draw labour away from other sectors of the local economy.

Furthermore, the growth of mining (primary sector activity) would, it is feared lead to 'deindustrialisation'. In this research it is demonstrated that if carefully planned and executed, a structured development programme that involves partnerships, a deepening of governance reforms, and intensive efforts at poverty reduction, linked to minerals could help industrialise a region.

### **Development corridors**

Development corridors are merely a platform on which rural development can occur. Different types of corridors were identified, including transport, trade, manufacturing, feeder and economic corridors. These were assessed and it was noted that South Africa has many transport corridors. Stranded deposits, it is recommended, can be developed by linking these to transport corridors.

South Africa has identified 12 trade and feeder corridors that will receive prioritised support to create economic corridors. This does not preclude the formation of new corridors or the strengthening of other transport corridors. The inland location of South Africa's largest economic hub in Gauteng means that there is a requirement for substantial movement of all goods. Gauteng is linked to numerous trade, feeder and economic corridors. The use of corridors, however, as they evolve, occurs with increased economic and infrastructure densification.

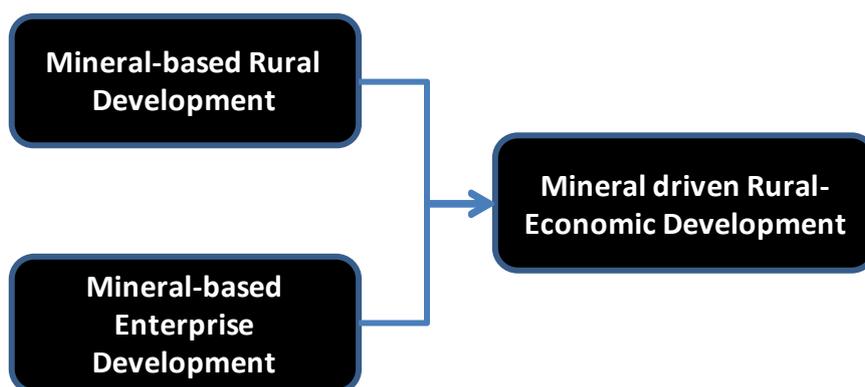
This densification then leads to opportunities for small enterprises (SMEs) to develop around these. The crowding in effect, it is hoped, supports the introduction of low value commodities (such as agriculture) as well as its downstream linkages (agri-processing). Baartjes (2011) investigated a total of 13 South African corridors.

### **Summary of recommendations**

The recommendations made commence with a structured approach to mineral-based rural development. This commences with the following:

- Complete a national rural mineral-asset audit;
- Use the information to demarcate rural-regions that can be developed as national and international competitive regions;
- Establish a rural Resource and Training Academy(ies) so that skills are developed close to areas where they will be deployed; and
- Provide an easier way to launch rural enterprises and incentivise these for accelerated development.

The recommendations for mineral-based development in rural areas are premised on the support roles that can be played by two other activities: mineral-based rural development and mineral-based enterprise development.



**Figure 6: Schematic showing mineral-driven rural economic development achievement**

### **Recommendations for mineral-based rural development**

It is the recommendation that rural development is achieved in the following manner:

- Commence with an 'asset audit' for rural mining areas so that the mineral asset base can be correctly understood and contextualised;
- Identify a rural-region that can be built up as an economic entity that can compete as an economic entity on a national level first and ultimately on the global level; and
- Incentivise rural development with greater rebates, a quicker permitting process, and grant funding for infrastructural aspects.

### **Recommendations for mineral-based enterprise development**

It is the recommendation that rural development is achieved by the following structures:

#### ***Rural enterprises***

- Identifying mineral resources (occurrences, deposits, unmined areas and derelict and abandoned sites) and conducting feasibility assessments to determine their economic viability for rural enterprises to operate;
- Identify the infrastructural shortcomings (what needs installation and what requires upgrade or repair); and
- Complete a skills assessment to see what skills are available or require development in the region.

#### ***Development Corridors***

Corridors do not develop first, and this section is based on the assumption that the enterprises required are allowed to develop. Thereafter, to strengthen these enterprises, before they struggle with logistical issues, development corridors need to develop. This would entail the following:

- Look to establishing rural feeder corridors where these are close to urban centres (e.g. within 100 km of Cape Town, Durban or Johannesburg);
- Attempt to link stranded deposits to transport corridors. This stage will have to be linked to development strategies of Transnet (rails and ports) and the South African National Road Agency Ltd. (SANRAL); and
- Utilise Public-Private Partnerships (PPPs) more extensively for rural development along approved or envisaged corridors.

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