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The Impact of the Maputo Development Corridor on Socio- economic Development: A Review of the Legislative and Regulatory Framework

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ABSTRACT AND KEYWORDS

Purpose of this paper

From a South African point of view, and more generally an African point of view corridor development is current and important for future socio-economic growth as also seen in the fact that the South African Developing Community (SADC) is interested in the possible positive outcomes of corridor development. The objectives of this study included the following:

- A literature review on economic wealth creation within the broader region that the Maputo Development Corridor currently serves;
- A theoretical overview on development corridors;
- South African legislative and policy overview in respect to corridor development.

Design/methodology/approach

The research method comprised of a literature review on economic wealth creation within the broader region.

Findings

Areas closer to the N4 corridor had higher growth in terms of economic output as measured by Gross Valued Added than those further removed.

Research limitations/implications

An empirical research phase comprising of qualitative interviews with the business sector needs to be done in a following phase.

Practical implications

An entire region must take part in the development process and for a Development Corridor the two primary development centres must be linked by means of a communication axis, preferably with other secondary development centres in between. There must be mutual dependency between the centres, the interaction must have the potential for further development and the corridor must grow both economically and physically.

Value of paper

As nodal points are important to the development of a corridor and provide economic activities/ employment opportunities that stimulate growth and spatial interaction within the corridor, one can now make recommendations on what is possibly needed and what can be looked into from an economic, social and environmental point of view as to realize the sustainability of such a development.

Keywords: Development Corridor, spatial development initiatives

1. INTRODUCTION

In mid-2008 Trans African Concessions (Pty) Ltd (TRAC) requested a multi-disciplinary research team of the University of the Free State and the Council for Scientific and Industrial Research (CSIR), Built Environment Division to initiate a socio-economic impact study on the Maputo Development Corridor (MDC) along the N4 toll road. TRAC is since 5 May 1997 the Concessionaire of the R3 Billion (1R=10\$) projects to build, finance, operate, maintain and expand the 630 km N4 toll road stretching from Pretoria in the Gauteng Province, in South Africa, through the

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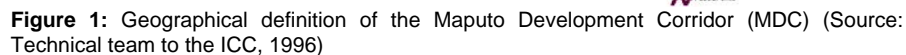
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Mpumalanga Province to Maputo in Mozambique (Figure no 1 refers). It runs through some of the more industrialised and productive regions in Southern Africa, including mining and agricultural areas and large concentrations of manufacturing, processing, mining and smelting industries, which are located in Johannesburg and Pretoria on the western end of the corridor (Nathan Associates Inc 2008).

The vision of the MDC is to rehabilitate the core infrastructure, i.e. road, port and dredging, electricity and the border post within the Corridor, through public/ private partnerships, thereby re-establishing key linkages and opening up inherent under and unutilised economic development opportunities. Underlying the vision is the desire to see this initiative contributing to other key policy areas – notably regional economic integration, international competitiveness and a broadening of the ownership base in the economy of the Corridor. In order to facilitate the implementation of the project in partnership with the private sector, protocols were signed between the two Governments of South Africa and Mozambique (TRAC N4 Toll Road: online).

The Southern African Developing Community (SADC) is interested in the possible positive outcomes of corridor development: "The SADC Secretariat intends to undertake a study to develop the Corridor/SDI program as a development strategy to accelerate regional economic integration and development. The success of this development is dependent on the cooperation and political commitment of member states on the Corridor/SDI Program" (SABC News: Online 05/06/2007).

The idea of the National Physical Development Plan (RSA, 1975:17) of 1975 was to link existing metropolitan areas with identified or future growth poles by means of development axes. Geyer (1986:163) found that some of these axes were not supported by secondary development centres or were stretching over too long distances to make development realistically viable. The greater the distances between centres, the stronger these secondary centres must be as a propelling force. In some cases these so-



This paper revisits concepts related to corridors and their theoretical foundation. Some sectors and components of socio economic development have been included in the literature review as well as main activities that occurred since the inception of the MDC. Although the Maputo Corridor is a complete entity stretching from Gauteng to Maputo, the information to be presented focused on the South African side particularly within/ along the Mpumalanga province (Figure no 1 refers). Mpumalanga's growth (for the period of analysis: 1996-2002) in terms of economic output as measured by Gross Value Added (GVA), was on par

with South Africa as a whole. The analysis did however indicate that areas closer to the N4 corridor (axis) had higher growth than those further removed. This is the case for total output as well as for several sectors. GVA per capita also indicated a similar situation – areas close to the road corridor had a higher growth rate than those further removed.

2. DELIMINATION OF THE STUDY

Figure 1 provides an indication of the physical extent as geographically defined at the start of the Maputo Corridor Project (initiated by the National Department of Transport). The Maputo Development Corridor is a major import/export route that connects the north-east provinces of South Africa with the capital and main port of Mozambique. It also serves Gauteng, Swaziland and South West Mozambique.

3. RESEARCH METHODOLOGY

This research eventually aims to determine the effect the Maputo corridor project and in particular the road (N4) has had on social-economic development and subsequent economic 'wealth' creation within the broader region it currently serves. This report is the first activity in this process and provides a review of available (desktop) literature dealing with the Maputo Development Corridor (MDC). It must be emphasized that the list of literature reviewed is not exhaustive; instead it attempts to focus on the most appropriate material given the stated objective. In addition, it also contains theoretical concepts related to development corridors and regional development.

This paper revisits concepts related to corridors and their theoretical foundation. Some sectors and components of socio economic development have been included as well as main activities that occurred since the inception of the MDC. Although some studies investigated the impact of the MDC it is clear that subsequent deductions are matters of interpretation. Some changes cannot clearly be related to the MDC. There are clear deficiencies and con-strains (example: the coverage of Mozambique and Swaziland) in the picture currently. This research should therefore be seen as an initial scan of only what is available and it must be emphasised that the focus was also on the road component of the MDC.

4. THEORETICAL ASPECTS OF REGIONAL DEVELOPMENT

From a regional point of view the Development Bank of Southern Africa (DBSA), in Coetzee, Geringer and Thompson (1985:viii) points out that the theory of economic development has not evolved in isolation from

developmental thinking, but generally reflects the underpinnings of the latter, where the modernization or diffusionist paradigm and dependency approach hold different views on regional development.

Bingham & Mier (1993:28) point out that there are two schools of thought on regional development. Firstly, the development-from-above approach, which views regional development as essentially emanating from the core and growth centres, and then trickling down to the periphery and hinterlands. Secondly, the development-from-below approach argues that regions should take control of their own institutions to create the standard of living desired in the region.

The difference between the two views is that the Modernisation Paradigm in regional economics includes regional growth theories as well as Spatial and Industrial Location Theories, while the Dependency Theory has not yet developed a full Spatial Theory of development, since their Spatial Theory is derived from a historical description of the development of the World Capitalist System. (DBSA, in Coetzee *et al.* 1985: viii).

For the scope of this paper only the Modernisation Theories, will be applicable in the region along the N4 Route, with much attention being devoted to regional growth. Fair (1982:5) argues that the essence of the Modernisation Paradigm is that, if underdeveloped countries are to develop, then these countries must follow the path taken by the advanced industrial countries over the past 100 to 200 years. However, this paradigm sees underdevelopment as merely an initial stage from which countries or regions can escape, implying that the cause of the underdevelopment of regions lies within themselves.

4.1 Regional Growth Theories

The DBSA, (Coetzee *et al.* 1985:30) states that, in an attempt to reconcile Regional Theories with the more general Growth Theories, a number of scholars have endeavoured to formulate Regional Growth Theories, mostly to explain what happened in regions. The most influential amongst these theories are the Export-Based Theory and Leven's Stages Theory of Exports, and these theories will be discussed briefly below.

4.1.1 Export-Based Theory

Glasson (1978:80-81) refers to this theory as an economic-based theory, and argues that it's the simplest and probably the best-known theory in view of its focus on basic and non-basic services. On the other hand, the DBSA, in Coetzee *et al.* (1985:30) holds the view that the Export-Based Theory was the first attempt to formulate a Regional Economic Growth Theory. This theory divides the economy of a region or city into export and residential sectors (or basic and non-basic sectors).

Export activities are considered to be the prime mover of the economy and the economic growth of a region or city is thus mainly

determined by the ability of the region or city to export to other regions, cities or countries. From a regional planning viewpoint, Glasson (1978:82) states that a rise in the level of basic activity within a region will increase the flow of income into the region, thus leading to a greater demand for goods and services within the region and a corresponding increase in the volume of non-basic activity.

In addition, it must be mentioned that - even though this theory is a popular tool in the analysis of regional development - it has been criticised severely for its limitations as a Growth Theory, since it uses employment as the unit of measurement in the identification of basic and non-basic activities, as well as the choice of study areas (Glasson, 1978:83).

4.1.2 Sector Theory and Leven's Stage Theory

The Sector Theory arises from empirical observations by Clark and Fisher (Coetzee et al. 1985:31). It has been argued that an increase in per capita income in different areas at different times is generally accompanied by a resource reallocation and a decline in the labour force proportion employed in primary (agricultural) activities, as well as a rise in secondary (manufacturing) activities, followed by a rise in tertiary (service) activities.

The DBSA, (Coetzee et al. 1985:31) points out that "the shift in the importance of the different sectors is determined by the income elasticity of the demand for their products and by the rates of change of labour productivity." However, Leven's Stages Theory of Exports is an extension of the Simple Sector Theory and Glasson (1978:104) referred to it as the Stage Theory, which suggests that regional development is primarily an internal evolutionary process. The DBSA, (Coetzee et al. 1985:32) argues that, "Leven's theory has expanded by applying Rostow's theory within a regional context." He identified five stages of development, namely the Period of Isolation, the Colonization Period, the Diversification Stage, the Industrialization Phase and the Developed Stage. Leven regarded productivity as the single most important factor determining economic growth.

Therefore, Glasson (1978:104) identifies the following five stages of development, which suggest that regional development is primarily an internal evolutionary process:

- "Self-sufficient subsistence economy, with little investment or trade".
- "With the improvements in transport, the region develops trade and specialisation".
- "With increasing inter-regional trade, the region progresses through a succession of agricultural crops ..."
- "With increasing population and diminishing agricultural returns, the region is forced to industrialise".
- "The final stage is the development of tertiary industry producing export".

In view of the above-mentioned stages of development, the DBSA, (Coetzee *et al.* 1985:32) states that “the magnitude of exports was related to the particular stage of development of a country or region at a specific point in time, because an increase in exports is viewed at least partly as a consequence (and not a cause) of increased growth in per capita real income.”

If development essentially concerns people and their needs then regional development cannot be narrowly focused on the demarcation of regions or the location of industry, but the emphasis should be placed on the people in the region. Besides, the industrial revival of a region may be promoted by restructuring certain factors, i.e. improving the standard of living, providing labour training, improving communication and transport, improved standards and financial aid to new industries, as well as intervening in behavioural-type patterns, in order to enhance the image of a region.

5. THEORETICAL PERSPECTIVE OF REGIONAL DEVELOPMENT AND DEVELOPMENT CORRIDORS

Development Corridors are difficult to define spatially as they are often based on the use of transport infrastructure such road or rail connections, though Development Corridors can not be restricted to the narrow band where such infrastructure is located. Its developmental linkages are much broader than the area adjacent to the transport infrastructure. It is clear, looking at the literature, that different approaches exist. For the purpose of this study it is important to consider the corridor as originally envisaged and conceptualised. Geyer (1988:123) sees the Development Corridor or axis as a dynamic phenomenon that evolves in different stages over time. He identifies four stages shown in Figure 2, namely:

- The potential axis (Figure A) or the development finger with the potential for the establishment of a development centre at the other end (Figure B);
- The axis in an infant stage with a well established communication axis between two primary centres (Figure C);
- The mature stage with the corridor or axis having one or more secondary centres in between (Figure D) and
- The axis in its old age or dormant stage where an over-concentration on the axis may lead to the development of agglomeration diseconomies or polarization reversal (Figure E).

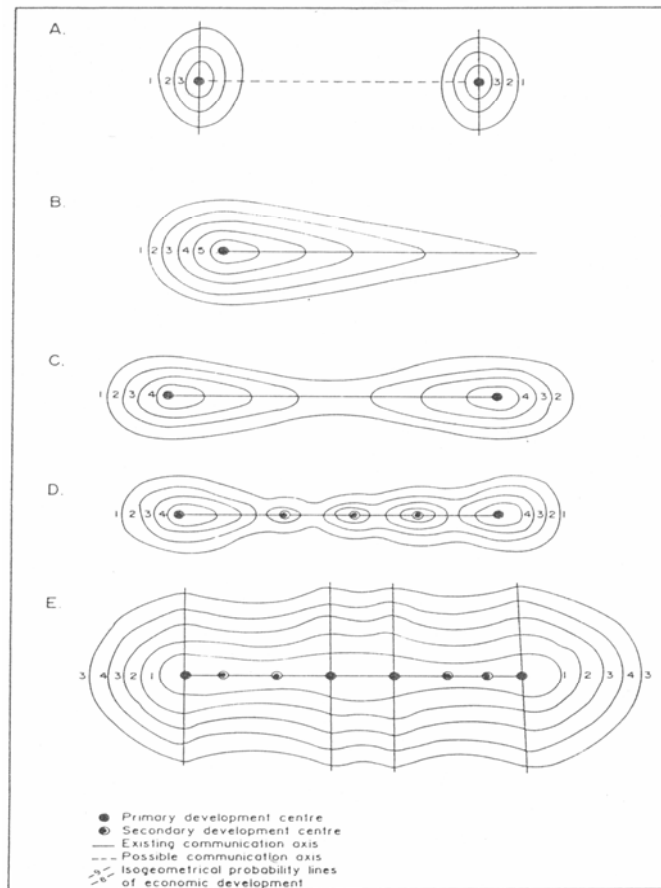


Figure 2: The evolution of the Development Corridor
(Geyer, 1988:123)

A Development Corridor can be seen as a concept to elevate an area to a certain level of development. The area must have the potential to develop, on the condition that the entire area must take part in the process (Infrastructure Development Corridor, 2004). The National Physical Development Plan (RSA, 1975:17) of 1975 refers to various existing and future development axes. The idea was to link existing metropolitan areas, as in this case Pretoria or Gauteng, with identified or future growth poles, such as Maputo, by means of development axes. Geyer (1986:163) found that some of these axes were not supported by secondary development centres or were stretching over too long distances to make development realistically viable. The greater the distances between centres, the stronger these secondary centres must be as a propelling force. In some cases these so-called axes were not axes at all but rather a finger

development with no equilibrant pole at the other end. The development of a good road network which provides better interaction with the hinterland in many cases led to the decline of economic activities in small towns as the threshold “time” to bigger centres was changed. An understanding of economic forces is vital to any development planning as people and businesses will only locate in areas where it is economical viable. The MDC could presently be rated as a Figure D corridor development.

6. GOVERNMENT INITIATIVES: SPATIAL DEVELOPMENT INITIATIVES (SDIs)

The regional Spatial Development Initiatives (SDIs) are projects identified on the basis of their inherent unutilised economic potential. Their developmental objective is to create sustainable jobs in these areas by identifying and facilitating new investment. The mechanism by which this is achieved is focused, co-ordinated action at all levels of government and by all relevant line functions within the spatially defined area, in order to remove blockages to investment. The SDIs are part of the Growth Employment and Redistribution (GEAR) strategy. This macro-economic strategy developed by the South African government in 1996 aims to strengthen economic growth in the country while broadening employment opportunities as well as the redistribution of economic opportunities and income to the advantage of the poor (Du Plessis and Landman 2002: 64). Therefore as part of GEAR the SDIs fit into a broader macro-level strategy of simultaneously expanding the economy, stabilising conditions for sustained growth and opening up economic opportunity and employment prospects for previously disadvantaged sectors of the South African population (Jourdan, 1998:717). Spatial Development Initiatives is a key industrial policy committed to foster sustainable industrial development in areas where poverty and unemployment is at its highest. This objective is carried out through the SDI which focuses high-level support in areas where social-economic conditions require concentrated government assistance and where inherent economic potential exists (South Africa 2007: online).

Primarily all the major projects in the SDI are based on a partnership between the public and private sectors such as the MDC, and are set to provide opportunities for participation in sectors such as agriculture, mining, tourism, environment, forestry, infrastructure and ports. These projects were expected to create more than 68 000 new jobs. A key component of this initiative is the move towards international competitiveness, regional co-operation, and a more diversified ownership base (South Africa Information/doing business/economic development 2007: online).

Certain SDIs are also beyond the confines of South Africa's borders where the economic imperatives of the strategy dictated that the SDI includes part of a neighbouring country. Examples are the Maputo Development Corridor between South Africa and Mozambique (but it also affects Swaziland, Zimbabwe and Botswana), and the Lebombo Initiative between South Africa, Mozambique and Swaziland. Under consideration is the extension of the Rustenburg SDI to include the Trans-Kalahari transport corridor between Namibia and Botswana.

Ten development initiatives have been designated such as the regional development programmes or Development Corridors and have already generated around 400 investment projects valued at R83-billion (\$8,3 billion) (South Africa 2007: online) such as the Maputo Development Corridor where the key infrastructure projects are the N4 Maputo Corridor toll road, the upgrading of the railway line from Ressano Garcia to Maputo, the upgrading of the Maputo Port, the dredging of the harbour and finally, telecommunications. The first phase of the corridor, the N4 toll road construction was launched on June 6, 1998. The transport axis between Gauteng, the industrial heart of South Africa, and Maputo offers the shortest link to an export harbour.

The South African SDIs all matured in the early 2000's and either became provincial initiatives (like the IDZs, for example the Lebombo as referred to above) or fizzled out – like the West Coast Investment Initiative and Platinum SDI. None of the old South African SDIs are being pursued as part of the 2001/2+ Regional SDI Programme. However, one or two of the provinces appear to have adopted the methodology and refer to corridors in their Provincial Growth and Development Strategies (Perkins 2009: personal communication).

7. MAIN FINDINGS AND DEDUCTIONS OF LITERATURE REVIEW PROCESS

Only 29 000 tons of goods passed through the border post between South Africa and Mozambique by road in 1997. By 2007 this has increased to approximately 2.25 million tons per year. The estimated number of trucks (2007) per day according to the Mpumalanga freight data bank is approximately 400 (200 per direction). The main eastbound cargo groupings are sugar, cement, maize, fruit, chemicals, and machinery and general freight. The annual number of vehicles crossing the border is 168,780, with an average of about 560 vehicles per day (USAID, 2008).

The following figure contain a spatial analysis of the economic output of Mpumalanga, using GIS technology and drawn from the study. The concept of Gross Geographic Value Added (GVA) – which is used by the firm Global Insight as a basis for making estimates of regional economic activity – is broadly similar to what is more generally known as Gross Geographic Product (GGP). In essence: $GVA (factor\ cost) =$

Compensation of employees + Gross Operating Surplus (GAP 2007). From this “All sectors” figure (Figure no 3 refers), areas revealing a high annual growth for a given indicator are awarded a darker shade than areas with a lower growth. This makes it possible to visually detect spatial patterns over the analysis period. For each spatial entity (district), growth for that area is also shown in the form of bar charts, the first bar indicating the indexed value at the start and the second bar the value at the end of the analysis period.

On this figure it is clear that areas in close proximity of the transport infrastructure spine grew at a higher rate than areas further removed from the Corridor. As regards the individual sectors of the economy this pattern is less pronounced in the case of agriculture and mining, as they are location/resource-dependent and therefore less dependent on an intervention such as the MDC. In the case of the other sectors, this figure shows that growth in the vicinity of the MDC outperformed growth in areas further removed from the Corridor.

The analysis of first phase study (Schutte & Fransisco, 2004) involved an analysis of the breakdown of employment in Mpumalanga by economic sector and spatial area. The change (increase/decrease) in employment for the most important sectors of the economy was then compared with the corresponding figures for South Africa's average. As regards this comparison the following was shown: a growth rate in employment in Mpumalanga's trade sector, with an annual increase of more than 15 per cent p.a. that is well above the South African average

growth rate of about 2per cent p.a.

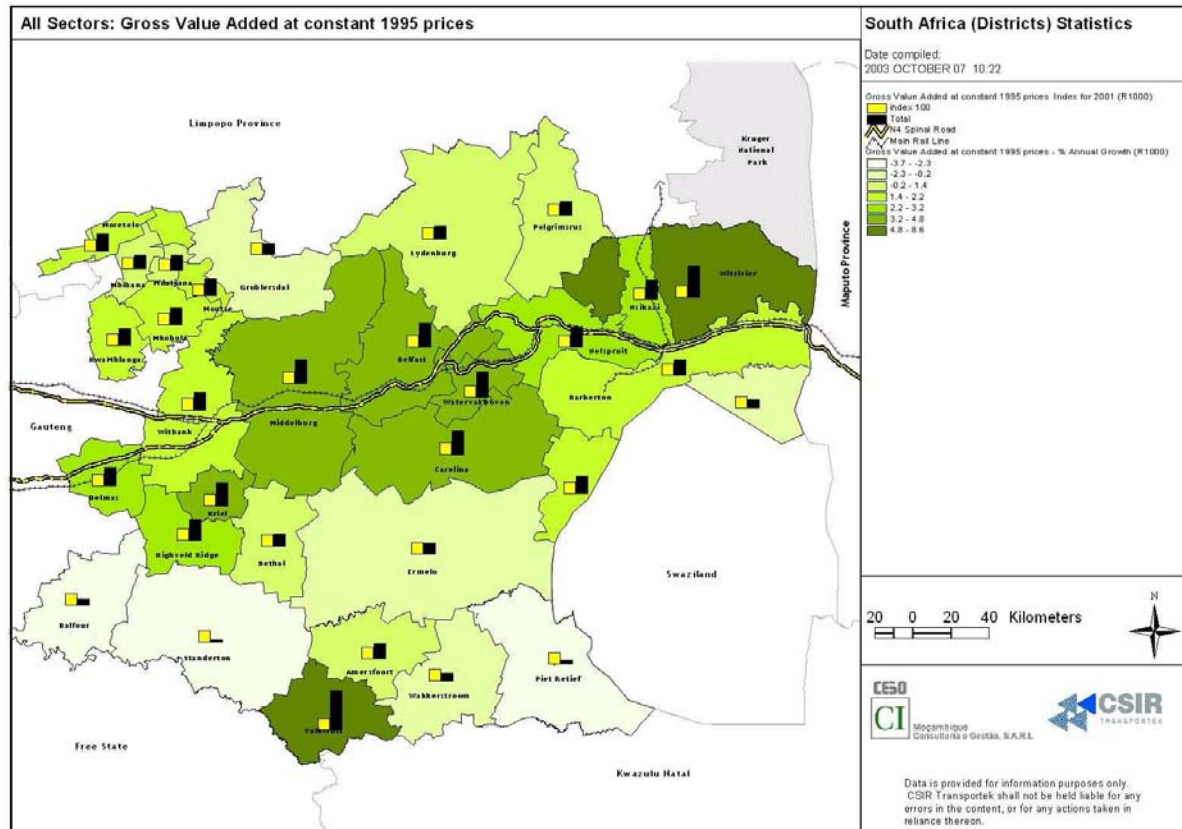


Figure no 3: Rate of change during the analysis period: Gross Value Added (all sectors)
(Source: Schutte & Francisco. 2004)

As regards the relative importance of economic sectors, Figure 4 shows the dominance of trade in terms of employment. This is followed by the community service, manufacturing and agriculture sectors, each approximately half of the size of the trade sector. As with regards to the relative importance of districts, Figure 5 confirms the dominance of Nelspruit, Witbank, Middelburg and Highveld Ridge as major employment centres. It is notable that these areas are all located on the N4-road. This supports Geyer's theory (1988) that such secondary development centres are imperative for the viability of Development Corridors. The construction

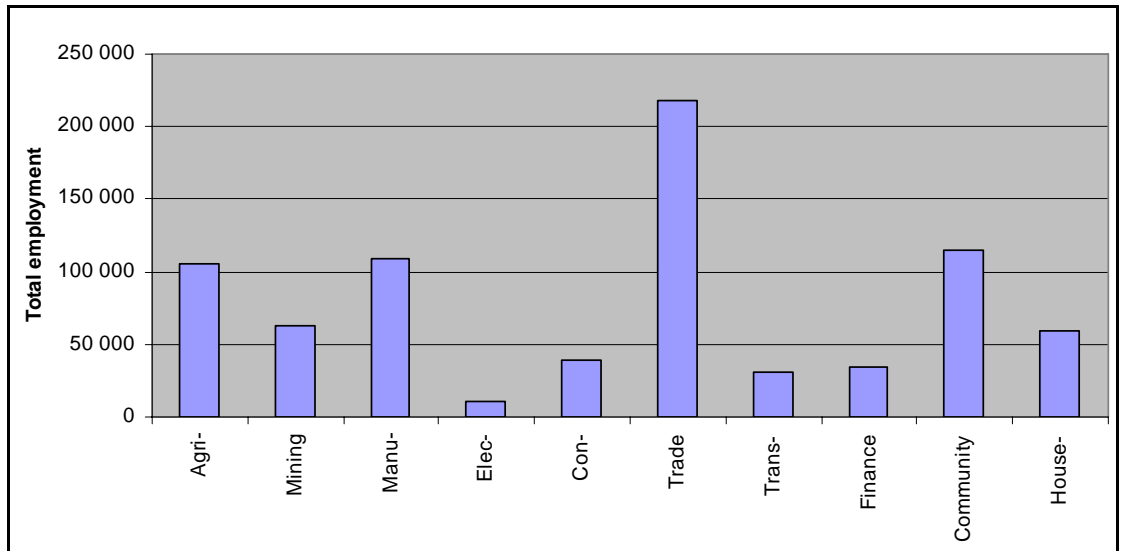


Figure 4: Mpumalanga employment per economic sector, 2001(SSA 2001)

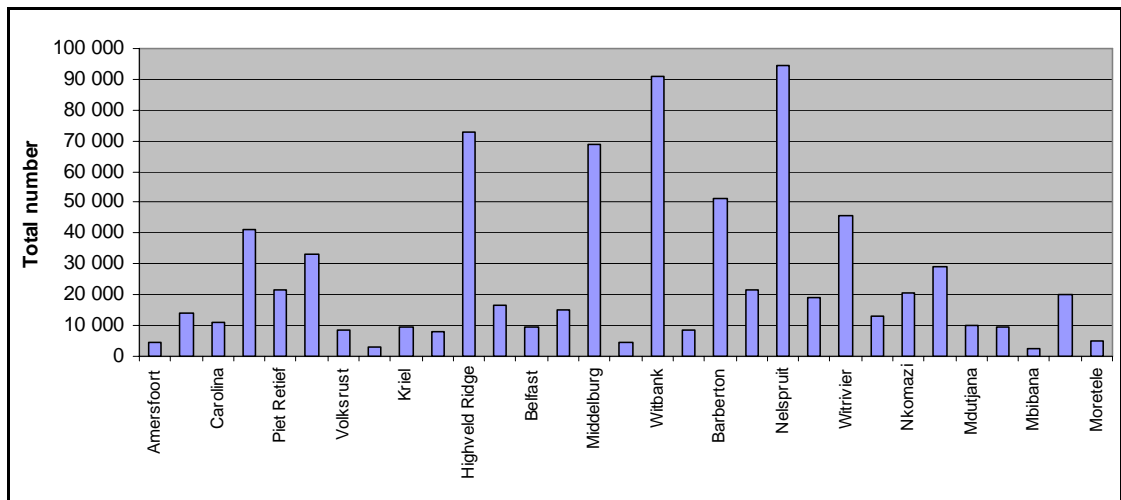


Figure 5: Mpumalanga employment by local municipality, 2001(StatsSA 2001)

sector also showed strong employment growth along the corridor (road) municipalities. This could be attributed partly to the construction of the N4 as well as growth in the main towns along the N4. The primary table comparison of Statistics South Africa (StatsSA, 2005) indicates labour participation rates for Mpumalanga for 1996 and 2001. These tables show that in 1996 the labour participation rate in Mpumalanga was 55,7%

(606000 employed, 297000 unemployed and 718000 not economically active). In 2001, the labour participation rate was 56,1% (630000 employed, 439000 unemployed and 838000 not economically active).

8. CONCLUSIONS

It is difficult to relate directly to the successes of the Maputo development corridor, as some effects/ impacts are indirect. Some local municipalities (especially those on the N4 corridor) see the MDC as an important component in their planning and marketing. The positive effects of the corridor are therefore used as an attraction for further investment within these areas.

Major changes occurred in the Mpumalanga Province. The most obvious deductions relate to freight and people movements directly related to the usage of the road and port. Other implications are indirect and thus assumed. The socio-economic issues addressed do not clearly point to the Maputo Development Corridor as the main contributor to changes in socio-economic conditions. This review of existing literature included mostly quantitative items, and utilized statistics sourced from various reports. Therefore the way forward has to comprise of an empirical research phase when qualitative interviews with the business sector will be done.

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