

# Socio-economic performance of municipalities along the Maputo Development Corridor (MDC): Implications for the National Development Plan (NDP) of 2011

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## Abstract

The economic successes of the Maputo Development Corridor (MDC) project demonstrate that corridor development can provide solutions to economic development in landlocked African countries. However, the National Development Plan (NDP) (2011) cites a lack of employment opportunities and under-maintained infrastructure among the inhibitors of economic development, including the area within the MDC, where infrastructure maintenance has, in fact, been praised. This article aims to establish the socio-economic performance of the MDC region between 1996 and 2011, by comparing it to Mpumalanga and the other provinces, and comparing the socio-economic performance of the six MDC municipalities with each other. Results indicate that the socio-economic performance of the MDC region is consistently better than Mpumalanga and, in certain cases, the region even outperforms the other provinces, thus demonstrating the success of the MDC project. Furthermore, the municipalities that showed stronger economic potential in 1996 (Emalaheni, Steve Tshwete and Mbombela) continued to prosper in 2011 at the expense of the poorer municipalities (Nkomazi, Victor Khayne and Emakhazeni). Policy implications for the NDP (2011) are discussed.

## SOSIO-EKONOMIESE PRESTASIE VAN MUNISIPALITEITE LANGS DIE MAPUTO ONTWIKKELINGSKORRIDOR (MOK): IMPLIKASIES VIR DIE NASIONALE ONTWIKKELINGSPLAN (NOP) VAN 2011

Die ekonomiese suksesse van die Maputo Ontwikkelingskorridor (MOK)-projek dra by tot die idee dat korridorontwikkeling oplossings vir die ekonomiese ontwikkeling van omringende Afrikalande kan bied. Nietemin noem die Nasionale OntwikkelingsPlan (NOP) (2011) dat die gebrek aan werksgeleenthede en infrastruktuur wat nie onderhou word nie, ondermeer deel van die onderdrukkers van ekonomiese ontwikkeling is, insluitend die area binne die MDC, waar die onderhoud van infrastruktuur geprys was. Die artikel beoog om die sosio-ekonomiese prestasie van die MOK-streek tussen 1996 en 2011 te bepaal deur dit met Mpumalanga en die ander provinsies te vergelyk, en om 'n vergelyking van die ses MOK-munisipaliteite se sosio-ekonomiese prestasie met mekaar te doen. Resultate dui aan dat die sosio-ekonomiese prestasie van die MOK-streek aanhoudend beter as Mpumalanga is, en in sekere gevalle presteer die streek selfs beter as die ander provinsies; dus word die sukses van die MOK-projek gedemonstreer. Bowendien hou die munisipaliteite wat 'n sterker ekonomiese potensiaal in 1996 toon (Emalaheni, Steve Tshwete en Mbombela) aan om in 2011 vooruitgang ten koste van die armer munisipaliteite (Nkomazi, Victor Khayne en Emakhazeni) te toon. Beleidsimplikasies vir die NOP (2011) word bespreek.

## DITSHIBELETSANO MMOHO LE MAPUTO DEVELOPMENT CORRIDOR, KA MANTSWE A MANG E LENG (MDC) LE MASEPALA TABENG TSA BOLULO LE MORUO OA NAHA: DITLAHISO TSA NATIONAL DEVELOPMENT PLAN (NDP) EA SELEMO SA 2011

Dikatheho tsa moruo projekeng ea Maputo Development Corridor (MDC) di bontsha hore twelopele e phethahetseng e khona ho fana ka di karabo tsa ho tswedisa moruo oa dinaha tsa Afrika tse seng pela leoaatle pele. Le ha ho le joalo, National Development Plan (NDP) ea selemo sa 2011 e bontsha ho e na mekhoha ea mesebetsi e mengata, mme le tswelopele ea meruo le ea naha e se teng haholo. Sepheo sa serapa sena ke ho bontsa ho tiia hoo mekhoha ea MDC ea ho phethahatsa tshibeletso tsa bolulo le moruo ho mahareng a selemo sa 1996 le selemo sa 2011. Sena se tla etsoa ka bapisa

Mpumalanga le diprofinsi tse ding moo ho bapisonang di tshibeletso tsa bolulo le moruo ka hara masepala e mets'elela ka palo. Diphetho tsa taba tse na di bontsha tshibeletso tsa bolulo le moruo ka hare ho MDC di le betere ho feta tsa Mpumalanga, hape hape ho bonahala di tshibeletso tsa MDC di hlile di le ka hodimo dimo ho feta diprofinsi tse ding; sena se bontsha katleho ea projeke ea MDC. Ho fetisisa, bo masepala ba bontshitseng ho ba le di tshibeletso tsa moruo ka selemo sa 1996, (e leng Emalaheni, Steve Tshwete le Mbombela) ba bontshitse ba tswelopele ho atleha le ka 2011 le ha be lematsa bo masepala ba futsaneileng (joalo ka Nkomazi, Victor Khayne le Emakhazeni) ho atleha ka mokho ba atlehang ka teng. Dipuisano tsa hore na NDP (2011) e amme hakae e teng mona.

## 1. INTRODUCTION

Transport corridor development is viewed as a means of enhancing economic development in landlocked African countries. The South African Development Community signed an agreement in 2008 to introduce policies that would promote free trade in the region (Roodt, 2008: 91). This agreement may well have sprung from observations of certain economic successes in the Maputo Development Corridor (MDC), which is regarded as the pioneering project of the Spatial Development Initiatives (SDIs) (1996) (Rogerson, 2001: 324) that followed the Reconstruction and Development Plan (RDP) (1994) and the Growth, Employment and Redistribution (GEAR) macroeconomic strategy (1996). The RDP was aimed at redressing past imbalances of the apartheid government policies by providing basic services to everyone (Pillay, Tomlinson & Du Toit, 2006: 1), and GEAR wanted to enhance the country's participation in the globalised economy, and minimise the government's role in the provision of services (Pycroft, 2000: 113). In line with GEAR, the National Department of Trade and Industry (DTI) implemented SDIs in 1996 in an attempt to unlock under-utilised economic development potential at specific locations in the country. The SDIs' vision is to facilitate economic growth, job creation and social development (especially for historically disadvantaged people), rehabilitate primary infrastructure networks by means of corridor development, promote investment in these corridors and surrounding areas, and

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ensure a holistic participatory approach to development (DTI, 1999).

The National Government proposed 11 SDIs, of which the MDC was the first incepted in 1996 between South Africa and Mozambique, consisting of road and rail infrastructure to transport goods from the greater Gauteng region and industrial areas in Mpumalanga to the port of Maputo. The Trans African Concessions company (TRAC) built three toll gates in Middelburg, Machado and Nkomazi in Mpumalanga and two in Mozambique (Matola Bulk Terminal, handling general mining cargo such as coal) and Maputo Terminal (handling general cargo) (Söderbaum, 2001: 4; United States Agency International Development [USAID], 2008: 22). A one-stop border post has been built for clearing freights on the South African side in Komatipoort (USAID, 2008: 11-17). Commodities transported from Gauteng outweigh all others, with the road freight consisting mostly of basic consumer goods and construction material, and rail freight consisting mostly of coal. The Maputo Corridor Logistics Initiative was established in 2004 to coordinate the development of logistics policies between the public and private sectors (Söderbaum, 2001: 4; USAID, 2008: 22). At present, the N4 national road is mostly used, because the rail cargo declined due to a lack of maintenance (Driver & De Barros, 2000: 5; USAID, 2008: 24).

Different opinions exist as to whether the MDC project was able to live up to its expectations as the most advanced international development corridor in Africa. The MDC project is praised for attracting international investment to Africa, propelling Mpumalanga's population growth by encouraging people to move into the region in search of job opportunities, rehabilitating the N4 road infrastructure from Emalahleni to Maputo, increasing the economic growth rate of areas along the road infrastructure, and encouraging property and socio-economic development in nodal points along the MDC at a faster rate than those further away (Campbell, Maritz & Hauptfleisch, 2008: 12; Hauptfleisch & Marx, 2011: 9-10; Rogerson, 2001: 341; Roodt, 2008: 92-94; Söderbaum & Taylor, 2003). The MDC project is, however, criticised for its failure to create job opportunities for Mpumalanga

residents, and for its contribution to the long-term unemployment rate of Mpumalanga, which was the highest in the country between 2009 and 2010. Rehabilitation to the N4 road also came at a high cost for impoverished Mpumalanga communities who were prohibited from selling goods informally along the road and obtaining an income. Impoverished communities were also impacted by the lack of basic service provision, especially health facilities and, in instances where services were provided, they were inaccessible to certain sectors, e.g., farming communities located far from local markets. This resulted in a number of community protests over poor service delivery (Campbell, Maritz & Hauptfleisch, 2008: 4; Roodt 2008: 92-94; Söderbaum & Taylor, 2003). Rogerson (2001: 334) also noted that loopholes existed in the guidelines and specifications in the contract that was awarded to TRAC, which ensured once more that the previously advantaged group benefitted the most.

Scant research could be found comparing the socio-economic performance of the municipalities along the MDC to Mpumalanga province and the other provinces in the country. Furthermore, the question does not seem to be answered as to whether such socio-economic growth can be observed in official statistics between 1996 and 2011. Consequently, the aims of this article are to compare the extent of socio-economic growth that has occurred along the MDC region as a whole (Victor Khanye, Emalahleni, Steve Tshwete, Emakhazeni, Mbombela and Nkomazi)<sup>1</sup> to the Mpumalanga province and the eight other provinces in the country, and to compare the extent of socio-economic growth that has occurred is also compared between the six municipalities that form the MDC to determine which municipalities have demonstrated the greatest socio-economic growth, and which municipalities indicate stagnated socio-economic growth. The findings have a significant impact on the economic development strategies mentioned in the new National Development Plan (NDP) (NPC, 2011).

## 2. CORRIDOR DEVELOPMENT AND ITS POTENTIAL SOCIO-ECONOMIC GROWTH: EVIDENCE FROM THE LITERATURE

### 2.1 Defining and classifying corridor development

Various terms are used interchangeably to refer to the phenomenon known as development corridors, i.e. development axes, connecting axes, concentration axes, urban axes, growth axes, development lines, ribbon development, or development spines to name a few (Geyer, 1989: 114; Potter, 1963). The majority of the earlier definitions use the term 'development centres' to refer to larger cities or towns that are located along or on opposite sides of the development corridor/axis, and which serve as centres to activate social and economic activity along the corridor or axis. Development centres can also be called development nodes, growth poles, growth centres, core regions or gravity points. For the purpose of this article, the term 'development centres' is used (Geyer, 1989: 115).

A development axis is a growing development area that connects two or more development centres (Friemann, 1966). Spatial and functional organisation of regions occurs along a linear development axis consisting of an agglomeration of development centres (Tuppen, 1977: 4). Whebell (1969: 1-2) postulated the concept of a linear urban system or corridor in opposition to Christaller and Losch's principles of central and non-central place theory, to denote a linear pattern of major towns joined by highly developed 'bundles' of transport routes. His corridor hypothesis was based on the following three main assumptions: people are attracted to certain areas; the resulting innovations in technology, accessibility and knowledge will spread from a few points of origin (mostly from very large areas) at various speeds of dissemination, and this happens mostly along routes that require the least effort. Development axes require the following attributes to be regarded as such: a primary development centre that shows economic dominance over other centres at both ends of the axis; the linked development centres must be mutually dependent, and an axis must create the potential for further physical and economic growth and

<sup>1</sup> Collectively, all six municipalities are referred to as the MDC region for the purpose of the study.

development. A development axis can, therefore, be defined as

a linear concentration of development that occurs between two mutually dependent primary development centres that creates a favourable milieu on and in the vicinity of the axis for further physical development at one or both primary centres on the axis (Geyer, 1989: 120).

More recent studies mostly make use of the term 'development corridors', referring to bundles of infrastructure (highways, rail links, bus lanes, cycle paths, canals, short sea or air connections) that link two or more urban areas (Priemus & Zonneveld, 2003: 167). Marriam & Freeman (2001: 7) define a corridor as

a linear spatial element consisting of two outer nodes and strips and/or inner nodes of high intensity non-residential and/or high density residential land use that are connected by at least one mass public transport route which may be fed by supporting feeder routes.

The South African National Department of Transport (1998: 3) defines corridors as "high volume transport routes that link major activity centres that are highly concentrated with passenger and freight movements." The Cape Metropolitan Council (1996: 43) illustrates the concept of development corridors by referring to the 'string of beads' concept (Figure 1) where centres/nodes and subcentres/

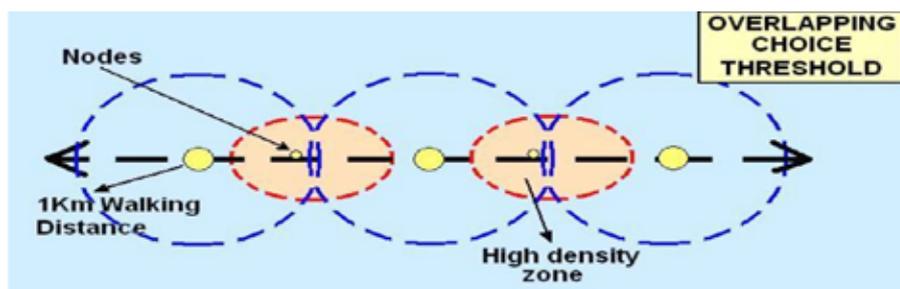


Figure 1: String of beads concept  
Source: Cape Metropolitan Council, 1996: 43.

subnodes occur along the main movement channel, generating areas of higher-density development.

So how does corridor development occur? Certain pre-conditions are needed for corridor development including economic, organisational/institutional, political, planning, physical and transport, as well as behavioural

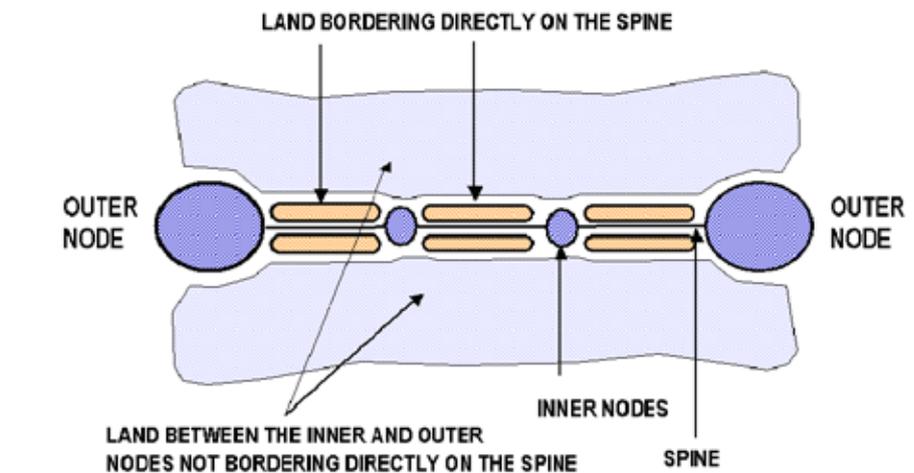


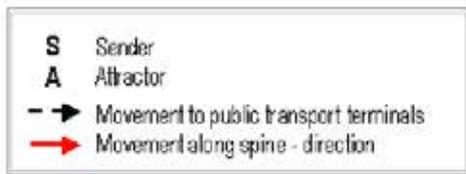
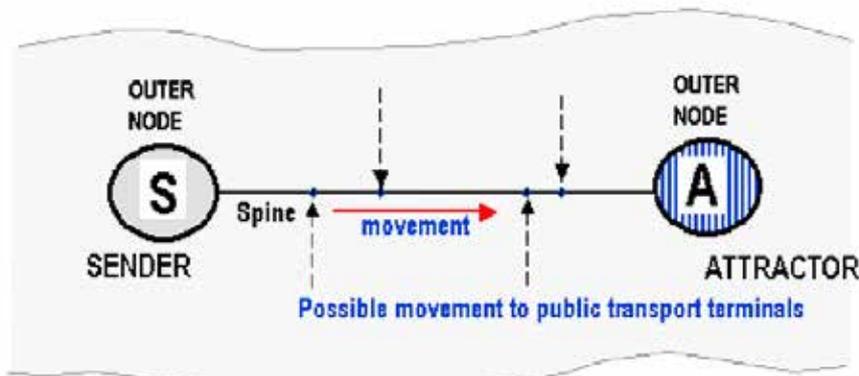
Figure 2: Generic components of corridor development  
Source: Meyer & Oranje, 2001: 7

and perceptual requirements (Marriam & Freeman, 2001: 7-10; Warnich & Verster, 2005: 345). Whebell (1969: 5-8) outlines the economic stages associated with corridor development as subsistence agriculture; commercial exchange; rail transport dominance; the early automobile period, and rapid transit and 'metropolitanism'. In the first stage, accessibility to opportunities was important for settlement locations. In the second and third stages the focus turned to the accumulation and employment of local capital to businesses through increased social and economic interaction and entrepreneurial activity, which results in the improvements of transportation routes, particularly railway

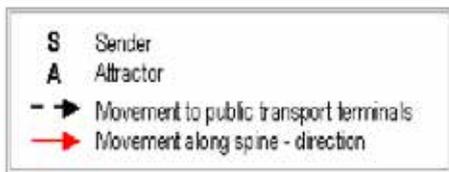
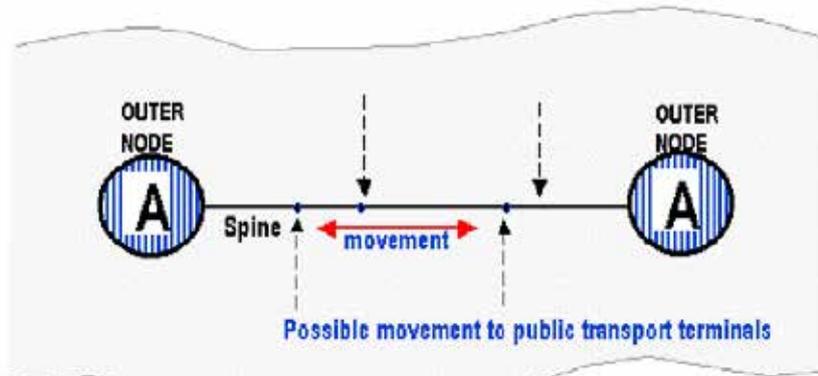
and services in urban places known as 'development centres or growth poles'. Meyer & Oranje (2001: 5-12) provide a very well-outlined structure to describe the phases of corridor development. This differs slightly from Whebell's explanation. They start off by indicating that all corridors require certain 'forces of attraction'. These forces set in motion the movement of people and activities between the two outer nodes/centres at the boundary of the corridor, the inner nodes/centres between the two outer, the land running directly along the spine/corridor connecting the inner and outer nodes/centres as well as the land between the inner and outer nodes/centres not bordering directly on to the spine (Figure 2). Any of these components can be 'attractors' or 'senders' of people or activities or both. The main purpose of a corridor is to transform senders to attractors mostly by means of public investment and incentive schemes.

Corridors can contain a single attractor where movement flows in a one-way direction from the outer nodes (the sender) to the attractor (where the sender and attractor may be reversed) (Figure 3a), or a dual attractor where both outer nodes act as attractors, but, in this instance, the flow will not be of equal magnitude (Figure 3b). Multiple or multi-nodal attractors have inner and one or both outer nodes/centres as attractors (Figure 3c), while strip attractors encourage development along a portion of the strip that can be located anywhere between two outer nodes (Figure 3d). Ultimately, mature corridor development occurs where the areas in-between the inner and outer nodes/centres, which are

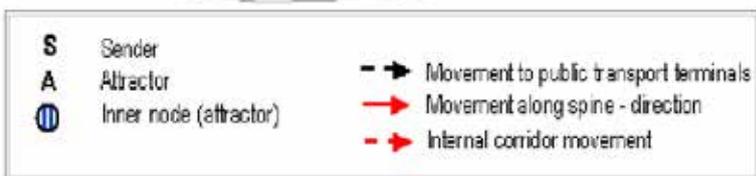
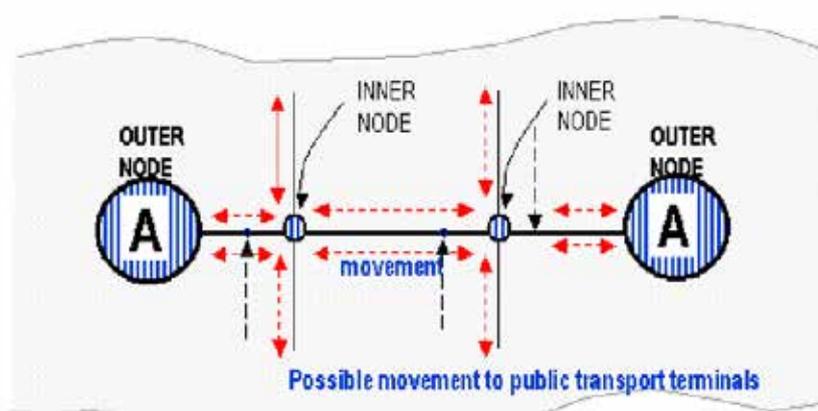
development, and ultimately factory development. In the fourth stage, with the dawn of the early automobile era, the existing geographical situations became reinforced, and further growth occurred along the development centres and the corridor, resulting in the fifth stage, the development of rapid transport and 'metropolitanism'. This enabled the agglomeration of retailing



A



B



C

adjacent and non-adjacent to the spine/corridor respectively, act as attractors, resulting in a corridor with an array of movements to and from all the components in the corridor (Figure 3e) (Meyer & Oranje, 2001: 5-12).

Von Malchus (1976), in Geyer (1989: 119-121), noted that not all development corridors are exactly the same, but that functional and planning corridors/axes exist. Functional corridors/axes are distinguished more by the content of the corridor/axes than on the actual function itself, as seen by his distinction between industrial, residential and traffic axes – whereas planning corridors/axes refer to the instrumental attributes of corridors/axes and their application as a possible planning instrument. Consequently, planning corridors/axes are used to distinguish between those used to regulate and initiate haphazard development and those used for development renewal (Geyer, 1989: 120-121; Von Malchus, 1976). Priemus & Zonneveld (2003: 172) seem to agree with Von Malchus's (1976), in Geyer (1989: 119-121), distinction of corridors. However, instead of grouping them into functional and planning corridors/axes, they show different types of functional corridors/axes. These include infrastructure corridors/axes (which focus on traffic engineering), economic development corridors/axes (where there is supposed to be an implicit and explicit relationship between opportunities for economic development and major traffic corridors/axes), and urbanisation corridors/axes (where the corridor/axes determines the direction for future urbanisation for residential and work activities).

This distinction between different types of corridors is even further enhanced by Warnich & Verster (2005: 345-347) who classify corridors into activity corridors and growth corridors, and Priemus & Zonneveld (2003: 172) who distinguish between infrastructure, economic development, and urbanisation corridors/axes. Activity corridors are structures along which social activities in the form of high-density mixed use development and economic development can be promoted and integrated in the city to ensure higher quality of life for its residents. For an activity corridor to function optimally, it requires a major transport route, public transport modes, linkages between centres/nodes and subcentres/subnodes, intense human interaction,

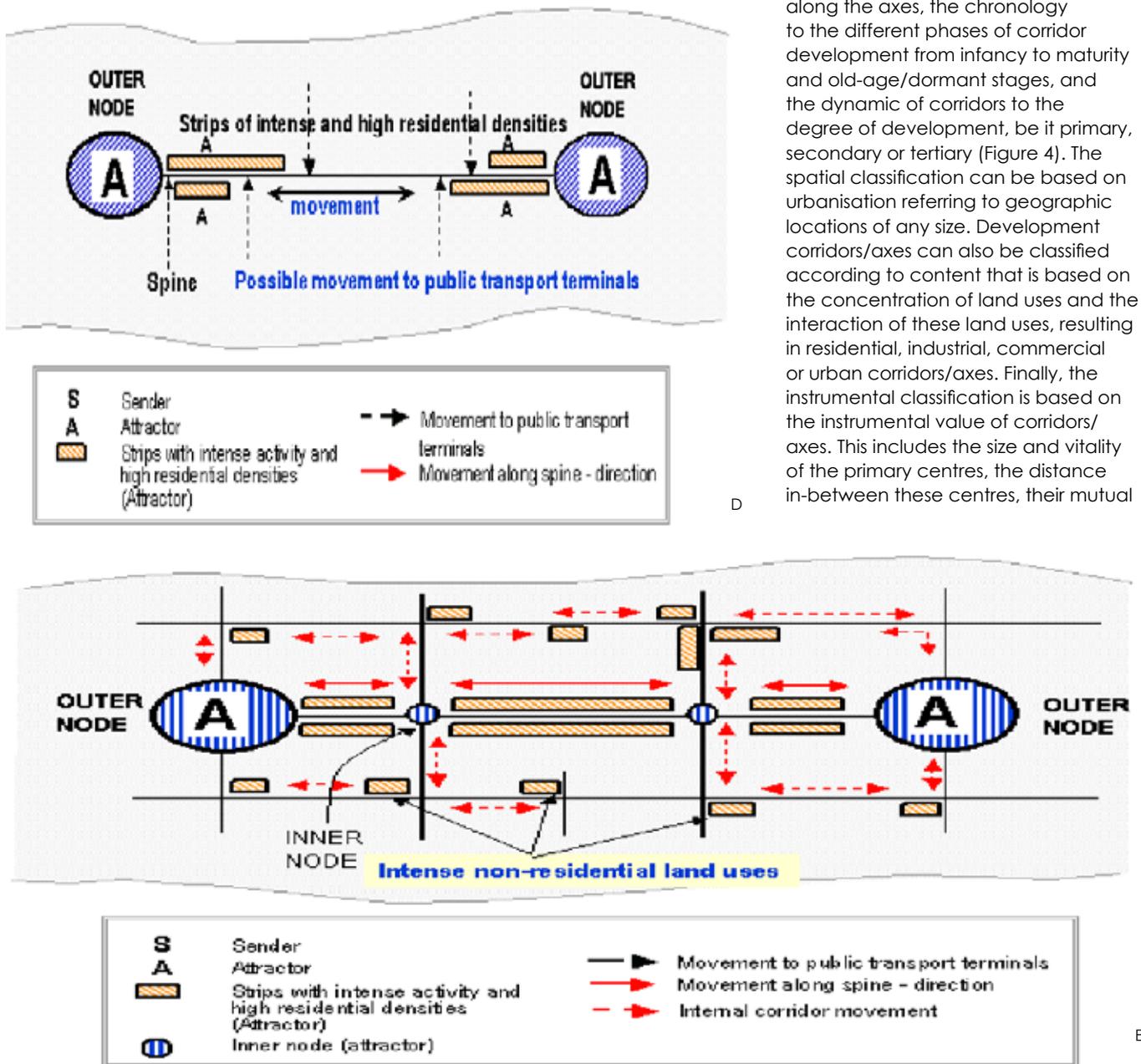


Figure 3: The types of corridors developed by different sender and attracter nodes/centres in the corridor: single attracter, dual attracter, multi-nodal attracter, strip attracter, and e) the total area attracter).

Source: Meyer & Oranje, 2001: 8-10

availability of services, intensification of development and public investment in the immediate vicinity of the activity corridor (Warnich & Verster, 2005: 345-346). Thus, activity corridors are similar to communication corridors/axes that refer to more than simply traffic movement. Instead, they focus on the role of communication infrastructure that links development centres with dynamic characteristics in a diverse, vibrant and interactive way (Geyer, 1989: 115). Growth corridors, on the other hand, refer to a more extensive scale of a metropolitan area and can exist in various forms of maturity. Its potential for further growth and development is

important for a corridor to be classified as a growth corridor. Growth corridors are said to ultimately develop into an activity corridor (Warnich & Verster, 2005: 347).

To this end, Geyer provides an outline of the fundamental properties of development corridors or axes to help distinguish between the different types of corridors (Figure 4). These properties include morphology, chronology, dynamic, scale of urbanisation, geographic, content and instrumental (Geyer, 1989: 119-127).

Morphology refers to the number of development centres that are located

along the axes, the chronology to the different phases of corridor development from infancy to maturity and old-age/dormant stages, and the dynamic of corridors to the degree of development, be it primary, secondary or tertiary (Figure 4). The spatial classification can be based on urbanisation referring to geographic locations of any size. Development corridors/axes can also be classified according to content that is based on the concentration of land uses and the interaction of these land uses, resulting in residential, industrial, commercial or urban corridors/axes. Finally, the instrumental classification is based on the instrumental value of corridors/axes. This includes the size and vitality of the primary centres, the distance in-between these centres, their mutual

interdependence, and the physical, economic and political administrative circumstances in which they are situated (Geyer, 1989: 120-127).

## 2.2 Impacts of corridor development on local communities

As indicated by the descriptions of the research that follows, there are various viewpoints as to whether corridor development has a positive or negative impact on local communities. Notwithstanding the aforementioned, the majority of studies indicate similar positive and negative

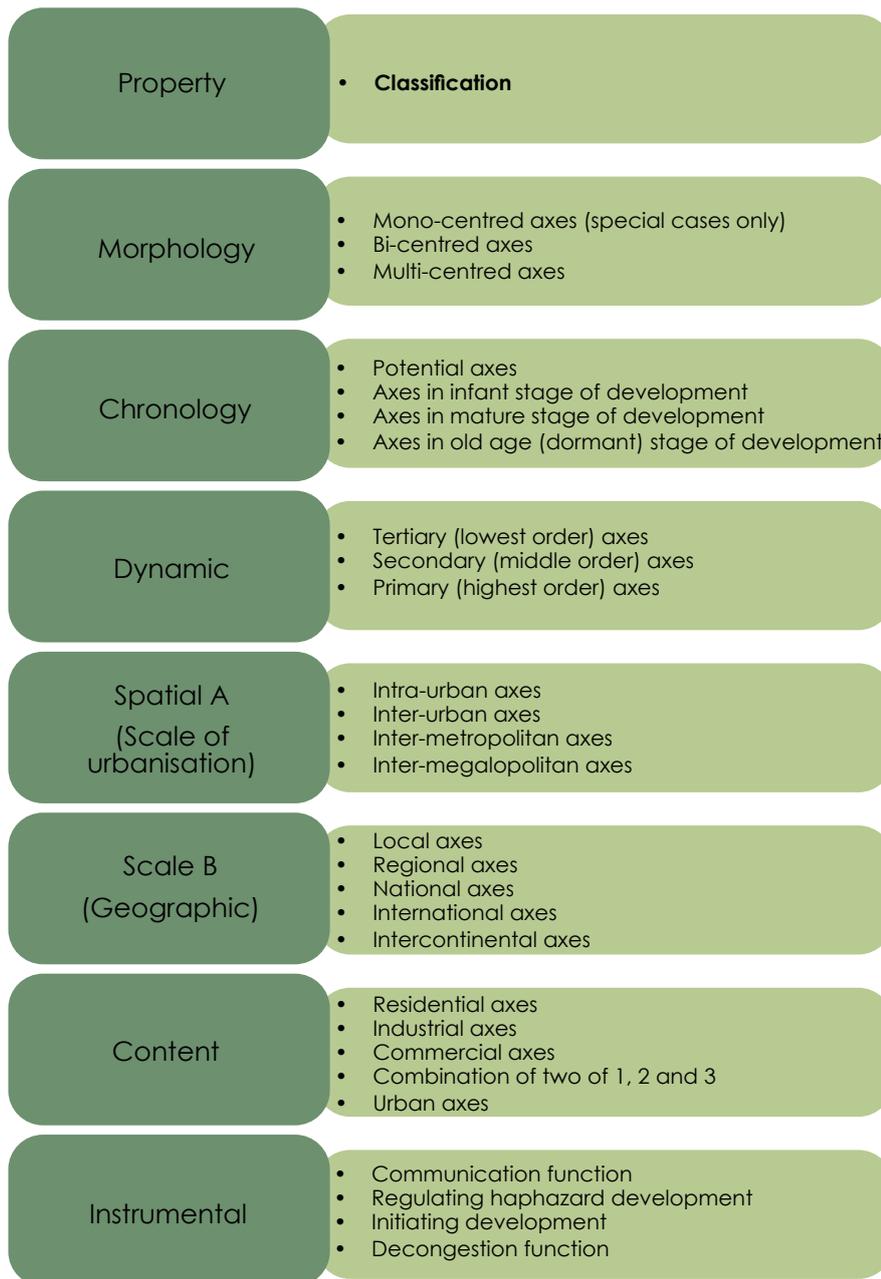


Figure 4: Classification of development corridors/axes according to their fundamental properties.

Source: Geyer, 1989: 122.

impacts worldwide, irrespective of the geographic location. There are two aspects of positive impacts: economic and social. Positive economic impacts include improvements to infrastructure and transportation in more peripheral areas, to ensure the development of multimodality which can enhance integration and cooperation between cities, the agglomeration

of manufacturing, wholesale, retail and services along the corridor development which stimulates overall economic growth and employment opportunities to local communities, and the integration of supply chains to ensure a more efficient flow (import and export) of goods (African Development Bank Group, 2009: 9-10, 16; Keorodom, Butphomvihane & Vanhnalat, 2007:

26-27; Kleynhans, 2002: 85; Mitchell & Anderson, 2011: 10). Positive social impacts relate to improved living standards and improved access to service delivery such as health care, education and markets (African Development Bank Group, 2009: 9-10; Mitchell & Anderson, 2011: 10; Phyrum, 2007).

In nearly every world region, the negative impacts of corridor development seem to outweigh the positive ones (Hobbs, 1992: 1-3). There are several issues relating to negative impacts, namely economic, social, environmental and operational. Economic effects include the increase of competition between cities and towns with corridor development and those without, negative spillover effects reducing the attractiveness of neighbouring areas, resulting in fewer investment opportunities, slower economic growth than expected, and increased income disparity. Negative social impacts include the fragmentation of the population into smaller subpopulations, the increased migration of a younger labour force into the corridor area, increased crime rates, and the increase in the spread of HIV and AIDS. Negative environmental impacts include effects on climate change and global warming through carbon emissions, and the disturbance of ecosystems and the natural habitat. Operational impacts can include a threat that corridor development may take place in certain areas at the expense of neighbouring well-established urban centres, difficulties in regulating traffic to create synergy between urban patterns and traffic infrastructure networks, and a consequent increase in road accidents due to inadequate infrastructure networks (African Development Bank Group, 2009: 16; Forman & Deblinger, 2001: 45; Hobbs, 1992: 1-3; Keorodom, Butphomvihane & Vanhnalat, 2007: 26-27; Pain, 2007: 11-12; Priemus & Zonneveld, 2003: 173-174; Stone & Strutt, 2009: 9).

In the case of the MDC, impact studies focused mainly on the economic and operational growth. Economically, it was found that municipalities near

2 The South African side of the border was used due to the fact that census data were easily obtainable for South Africa. Obtaining similar data from Mozambique would have proved more difficult and time consuming. The most important nodes in the six MDC municipalities have been added in the methodology.

3 The authors realise that other companies and organisations also provide statistics that could have been used in this article. However, the authors decided to use the census data, because Stats SA is recognised as the official source of statistics in the country. Although the authors agree that transportation and traffic flow data may have enhanced the article slightly, they are of the opinion that using such data would have gone beyond the scope of this study, which was to determine whether socio-economic growth and development have occurred in the MDC region in comparison to the Mpumalanga province and the other eight provinces in the country by using census data.

the N4 road grew at a faster rate than those further away (Campbell, Maritz & Hauptfleisch, 2008: 8-12; Hauptfleisch & Marx, 2011: 2). There was also an improvement in freight logistics which contributed to the success of operations (Driver & De Barros, 2000: 20; Söderbaum, 2001: 19; USAID, 2008: 24). Hauptfleisch & Marx's (2011: 13-14) study found an increase in education, health care and housing services, together with increased job opportunities which can be attributed to the MDC project. In contrast to these positive impacts, negative effects were also reported. The reduced role of the state to act as facilitator in the MDC project to attract viable private investments hindered the growth of local communities in the MDC region (Söderbaum & Taylor, 2001). In addition, despite the colossal amount of development in this regional corridor, the MDC project generally failed to create job opportunities for locals (Roodt, 2008: 102; Söderbaum & Taylor, 2001). In essence, comparing the number of positive versus negative

impacts on communities along the MDC, it appears that the negative outweighs the positive. Again, in investigating the developmental effects of the MDC, Rogerson (2001: 341) argued that "the success or failure of the SDIs cannot be measured simply in terms of their effects for changing the geographical patterns of economic activities".

To conclude, different ways were provided to define and classify corridor development and the stages of corridor development were outlined. Given these theories, it appears that the MDC constitutes a weak development axis that is more pronounced in its structural and content properties. In an era where the majority of African countries are still struggling with job creation, many turn to corridor development to unlock the economic activity of a country, despite the fact that negative impacts seem to outweigh positive ones worldwide. Although a great deal of research has been done on the evaluation and impacts of the MDC on its surrounding

communities and the Mpumalanga province, limited research was found pertaining specifically to the socio-economic performance of the MDC region, using 1996, 2001 and 2011 Census data to determine whether socio-economic growth had occurred.

### 3. STUDY AREA AND METHODOLOGY

This article seeks to compare the extent of socio-economic growth that has occurred along the MDC region<sup>2</sup> as a whole (Victor Khanye, Emalaheni, Steve Tshwete, Emakhazeni, Mbombela and Nkomazi) to the Mpumalanga province and the eight other provinces in the country. Secondly, the extent of socio-economic growth that has occurred is also compared between the six municipalities that form the MDC (Figure 5) to determine which municipalities have demonstrated the most significant socio-economic growth, and which municipalities showed stagnated socio-economic growth.

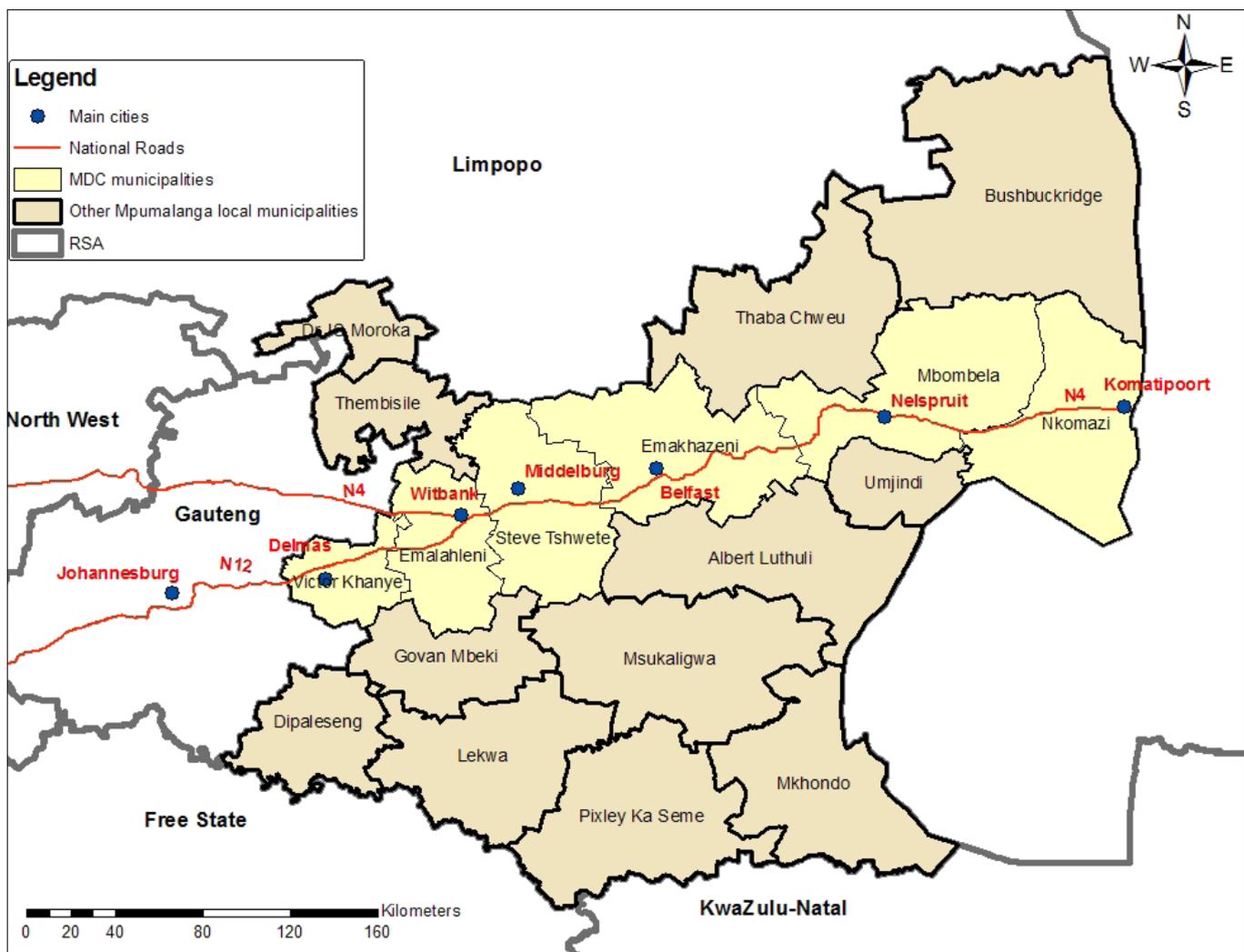


Figure 5: Local municipalities in Mpumalanga province

The MDC is located in the Mpumalanga province, located approximately 350 km from Johannesburg. Mpumalanga is one of the fastest growing provinces in the country, with the mining, energy and manufacturing sectors dominating its economy and contributing significantly to the country's Gross Domestic Product. Despite the aforementioned, the growth in formal employment opportunities remains very low, resulting in the growth of informal activities and a lack of formal education opportunities (Mpumalanga province, 2004: 11-24).

There is variation in the economic development level, population density, and dominant spatial settlement types among these municipalities. Four local municipalities, of which three are located in the MDC, contribute the most to the province's economy. These municipalities are Steve Tshwete, Emalahleni and Mbombela. Steve Tshwete's local economy is dominated by manufacturing, mining, electricity and communication services, mostly in the primary and secondary nodes of Middelburg, Hendrina and Kwazamokuhle. Tertiary nodes are dominated by mining and power stations (Steve Tshwete Municipality, 2010: 38, 73). Emalahleni is strategically located where the N4 and N12 highways of the MDC merge, and is known as the energy mecca of South Africa due to its rich deposits in coal reserves and power stations. Not surprisingly, the economic activities are centred on mining, power stations and, to a lesser extent, business activities and agriculture. The most important towns or settlements ranked on population size and land-use diversity include Emalahleni complex, the Ga-Nala and Thubelihle area as well as Ogies and Phola (Emalahleni Municipality, 2013: 37-38, 42). Unlike the other municipalities, Mbombela performs well in terms of trade and accommodation, finance and business services, as well as government services. These occur mostly in the regional activity nodes located in the Nelspruit CBD, Riverside Park, and the industrial areas, and first-order activity nodes (White River, Hazyview and Swalala) (Mbombela Municipality, 2012: 38, 84).

The municipalities contributing less to Mpumalanga's economy include Emakhazeni, Victor Khanye and Nkomazi. Emakhazeni's economy is based, to a large extent, on the tourism and agricultural sectors. The two most important business activity nodes are

Emakhazeni and Dullstroom (which is booming, due to increased tourism activities), with third- and fourth-order nodes mostly catering to the more rural populations (Emakhazeni Municipality, 2010: 38, 58-59). The largest contributor to the economy in Victor Khanye is the transport sector, mining (especially coal and silica) and agricultural activities, particularly maize production. Victor Khanye is also characterised by high levels of unemployment and illiteracy. The prominent towns and settlements include Abor, Argent, Delmas and Brakfontein (Victor Khanye Municipality, 2012: 34, 37, 40). Nkomazi's economy is characterised by high levels of poverty, unemployment, and self-employment due to the lack of education and consequent technical skills required in the other sectors of the economy. The main employment sectors include community services, agriculture, trade, and manufacturing. The main urban centres in Nkomazi are Malalane, Hectorspruit, Marloth Park and Komatipoort (Nkomazi Municipality, 2012: 17, 28-29).

Statistics South Africa's<sup>3</sup> programme containing the entire Census information (SuperCross) was used to extract the 1996, 2001 and 2011 Census data for the six municipalities that together make up the MDC region and the nine provinces in the country. The raw values for the six municipalities, MDC region (consisting of the totals for the six municipalities), Mpumalanga and the eight other provinces in the country were converted to percentages, which were used to make the comparisons between the socio-economic performance of the MDC region, Mpumalanga province and the eight other provinces, and the six municipalities.

#### 4. SOCIO-ECONOMIC GROWTH COMPARISON BETWEEN THE MDC, MPUMALANGA PROVINCE AND THE COUNTRY

This section compares the demographic profile, economic profile and household service delivery of the MDC region with Mpumalanga province and the other provinces in order to establish whether socio-economic growth has occurred in the MDC region. It is expected that the results will reflect better socio-economic growth in the MDC compared to Mpumalanga province and the other provinces.

##### 4.1 Demographic profile

The MDC was already the preferred destination for 70.9% of the labour force (people aged between 15 and 64) with the inception of the MDC project in 1996, indicating the highest percentage of the labour force between Mpumalanga and the other provinces (Figure 6). A decline of 8.7% is shown in the MDC's labour force in 2001, while a slight increase up to 66.6% is observed in 2011. Conversely, Mpumalanga's labour force started out much smaller in 1996, but grew incrementally with roughly 4% per Census year, while the other provinces showed a smaller increase in the labour force per year. The aforementioned findings could contribute to the role of the MDC project to facilitate job creation through enhanced economic growth, resulting in a natural increase in in-migration in search of job opportunities and better living conditions (DTI, 1999).

Educational attainment is of national concern, as indicated in the government's national education intervention programmes, including basic education for all, adult basic education, and no-school-fee schools (NPC, 2011: 266). Educational

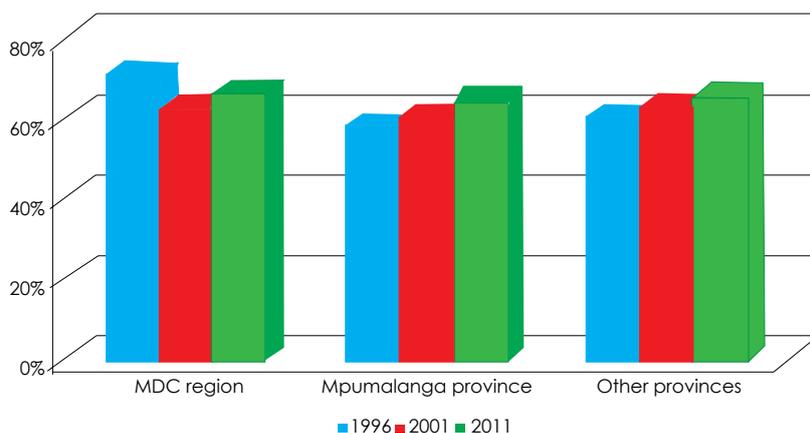


Figure 6: Labour force growth (people aged between 15 and 64)

attainment was classified into four categories: no schooling, primary education (Grades 1-7), secondary education (Grades 8-12), and tertiary education (Honours to Doctoral degree) (Figure 7). Although the number of people with no schooling has decreased significantly in Mpumalanga and the other provinces, the biggest decline is observed in the MDC, with the percentage of people with no schooling dropping by roughly 10% per Census year. The percentage of people with primary education in Mpumalanga and the other provinces has increased and decreased over the three Census years, but the MDC showcases a constant decline in the number of people with primary education, thus signalling a change for the better in terms of the citizens' education level. The percentage of people with secondary and tertiary education is consistently higher in the MDC than in Mpumalanga, while the other provinces only have a slightly higher percentage of people with secondary education than the MDC in 2001 and 2011, with the tertiary education level in the other provinces being the highest of

is only calculated for 1996 and 2001, since the subclassifications for 2011 are not yet available. The primary sector consists of agriculture, hunting, forestry, fishing, mining, and quarrying; the infrastructure-related sector consists of manufacturing, electricity, gas and water supply, construction, transport, storage, and communication. The wholesale, retail and services sector consists of wholesale and retail trade, financial, insurance, real estate and business services, community, social, and personal services (Figure 8).

As can be expected in a post-industrial era, the percentage of people employed in the primary sector in the MDC, Mpumalanga and the other provinces has decreased over the two Census years. It is not surprising that the MDC indicates the highest percentage of people who are employed in the primary sector in 1996 and 2001, which can be attributed to the participation in commercial agricultural activities in the region, and the local economies mostly being dominated by mining and quarrying activities (Mpumalanga province, 2004: 11-24). Similarly,

the MDC region has the highest percentage of people being employed in the infrastructure-related sector in 1996 (7.7%) and 2001 (5.2%). This can be ascribed to the construction of the MDC project. These results also indicate that, despite the hype created about the MDC project and its resultant job creation in the infrastructure-related sector, this growth was, to a large extent, limited to 1996 only, with the growth failing to materialise in 2001. Since wholesale, retail and trade do not contribute as much to the MDC economy (Mpumalanga province, 2004: 11-24), it is not surprising that this sector showed a slight decrease from 1996 to 2001 in the MDC, while this percentage started out slow in Mpumalanga; it grew similarly to the other provinces.

Despite the post-apartheid government's attempts to eradicate poverty and inequality between population groups, South Africa remains divided not explicitly according to race, but due to market operations and consequent economic inequalities. Thus class distinctions remain inexplicitly linked to race. Individual income levels were only comparable between 2001 and 2011 Census data, due to it being grouped differently during the 1996 period. Individual income includes security grants, money from informal trade, and remuneration from formal employment (Figure 9). The percentage of people falling in each income category has increased over the 10-year period in the MDC, Mpumalanga and the other provinces. These results thus indicate that there is a growing disparity between the rich and the poor in South Africa, with certain groups becoming much poorer (having no income), while others demonstrate significant growth in the higher income categories. This overall pattern can be

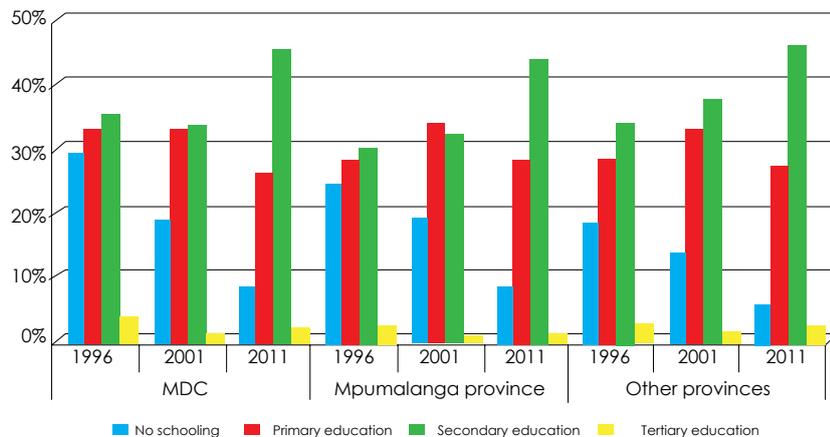


Figure 7: Educational attainment

all in 2001 and 2011. The MDC thus outperformed Mpumalanga and the other provinces in terms of secondary and tertiary education in 1996. These findings again demonstrate the success of the MDC project in improving the education level of citizens in the MDC due to the employment sectors requiring higher education levels.

#### 4.2 Economic profile

The employment sector will provide an indication of where the labour force is employed, and whether it relates to the MDC project or not. It is important to note that the employment sector

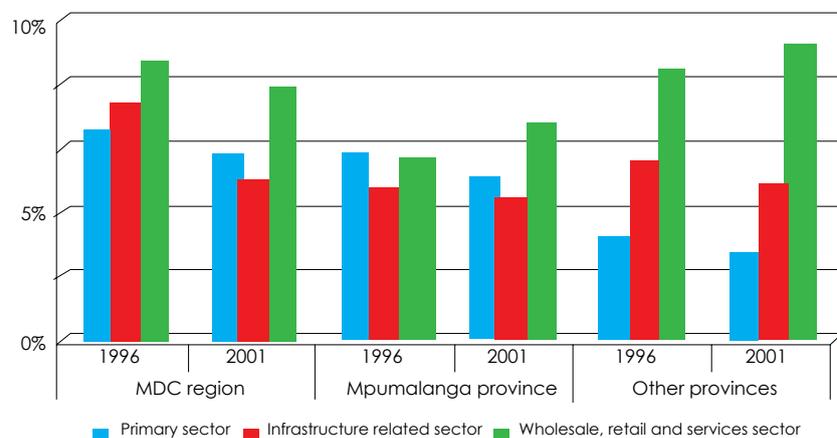


Figure 8: Employment sector

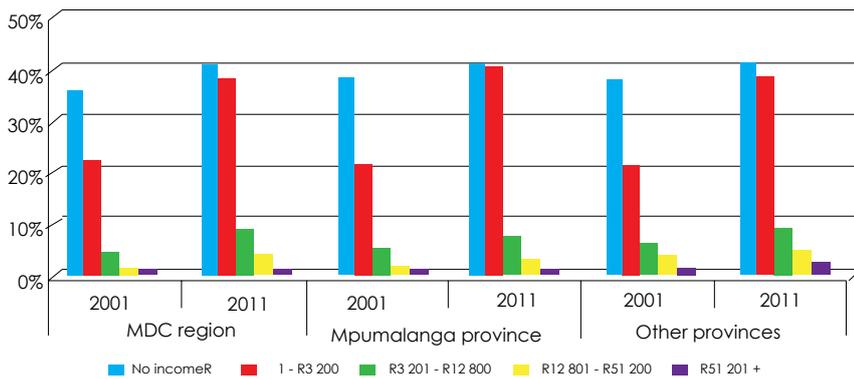


Figure 9: Individual income

accredited to the global economic recession experienced since 2008/2009 (Verick & Islam, 2010: 1-61). It is interesting to note that the MDC region outperformed Mpumalanga in terms of the higher income patterns in 2001 and 2011, thus indicating the success of the MDC project in attracting the labour force and providing sufficient job opportunities and remuneration.

### 4.3 Household services

According to the South African Constitution, everyone has the right to access basic service provision. The removal of discriminative apartheid laws propelled the previously disadvantaged groups to move closer to cities, resulting in the development of unplanned informal settlements on the periphery of cities. The provision of basic water, improved sanitation and electricity for

such communities was problematic for the newly elected government, especially due to the inability of some communities to pay for consumed household services. Figures 10 to 12 present the percentage of people who have access to piped water on site or in the yard, flush or chemical toilets, and electricity supply. It is important to note that, since the subclassifications for the 2011 Census data for water are not yet available, the researchers worked with the percentage of households who have access to a regional or local water scheme that is operated by the municipality or other water-service providers to make up the 2011 percentages in Figure 10.

Given the government's mandate to provide basic services, it is not surprising that there has been an increase in the percentage of people who have access to piped water on site or in the yard and those who have access to a flush or chemical toilet over the three Census years in the MDC, Mpumalanga and the other provinces (Figures 10 and 11). The slight drop in the percentage of people who have access to piped water on site or in the yard and those with flush or chemical toilets in the MDC in 2001 may be attributed to the increased labour force migration to the MDC in search of employment opportunities. This would naturally have a negative impact on service delivery due to the government being required to increase the services rendered to these areas. This pattern stabilised in 2011. Conversely, electricity usage has increased significantly over the three years in the MDC, Mpumalanga and the other provinces (Figure 12).

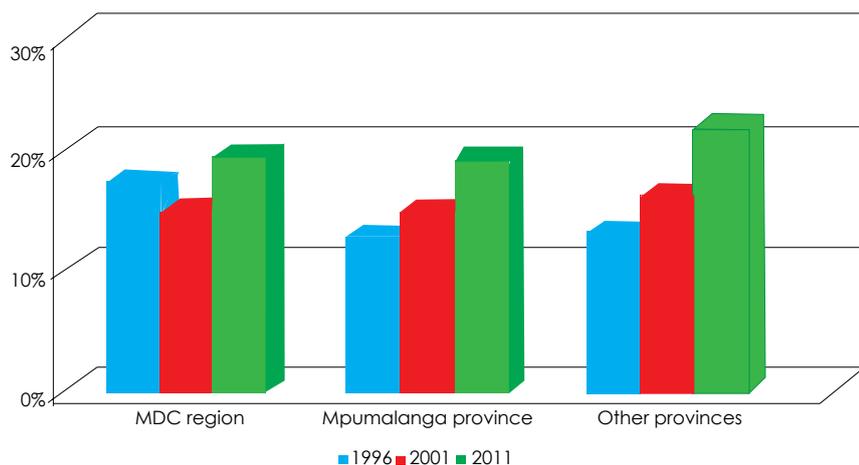


Figure 10: Piped water on site or in the yard

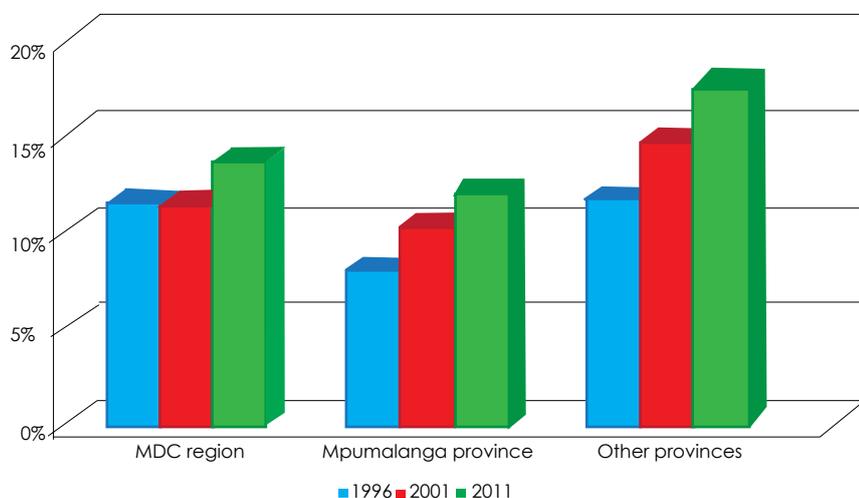


Figure 11: Flush or chemical toilets

## 5. SOCIO-ECONOMIC GROWTH PERFORMANCE OF THE MDC MUNICIPALITIES

Even though economic development of all six municipalities has been reported by some researches (Campbell, Maritz & Hauptfleisch, 2008: 8-12; Driver & De Barros, 2000; Hauptfleisch & Marx, 2011: 2; USAID, 2008: 24), a variation in socio-economic growth is expected among the MDC municipalities, because some are located directly along the corridor, while others are located further away. The aforementioned is the primary focus of this section.

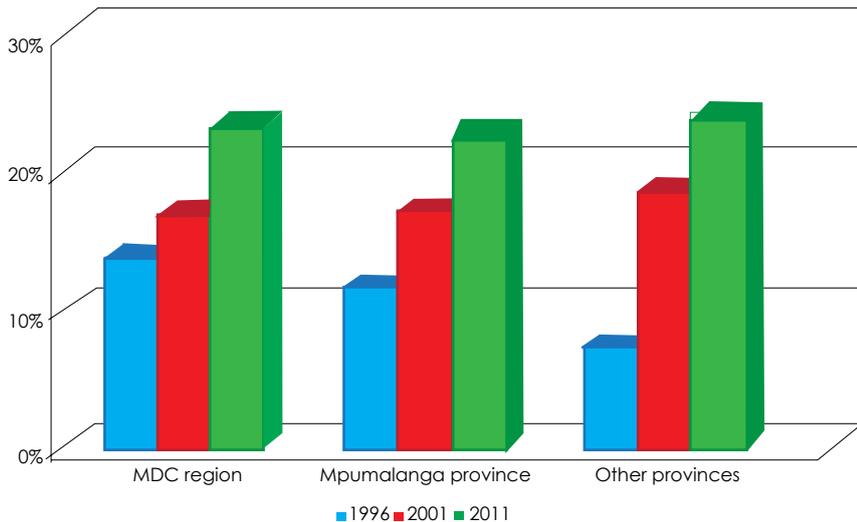


Figure 12: Electricity supply

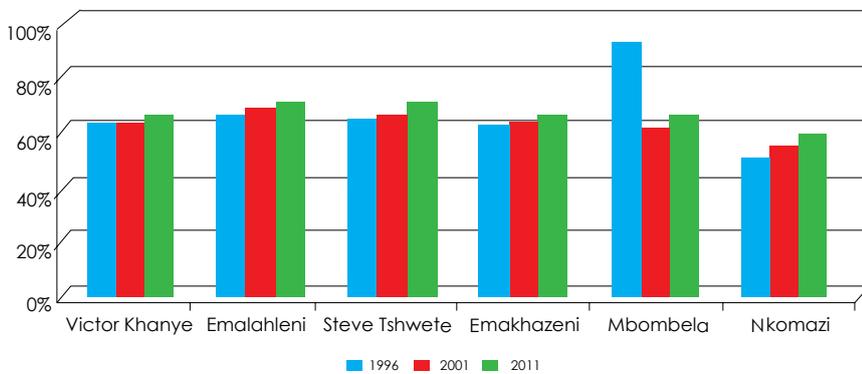


Figure 13: Labour-force growth (people aged between 15 and 64) in MDC municipalities

### 5.1 Demographic profile of MDC municipalities

The local municipality that had the highest growth in the labour force (people aged between 15 and 64) is Mbombela (93.4%), which could possibly be explained by the fact that the labour force was attracted to the capital city of Mpumalanga province, because they thought it offered the most opportunities to improve their living conditions (Figure 13). However, since 2001 and 2011, the labour force has been distributing themselves throughout all the six municipalities which have shown varying degrees of growth in the labour force. Those that contribute more towards Mpumalanga's economy (Steve Tshwete and Emalahleni) (Mpumalanga province, 2004: 11-24) indicated the highest growth in the labour force, while Victor Khanye, which is considered one of the poorer municipalities in Mpumalanga (Mpumalanga province, 2004: 11-24), has the third highest labour-force percentage. The aforementioned could be attributed to Victor Khanye's

proximity to Johannesburg and Tshwane in Gauteng province, which have the strongest economies in South Africa. Conversely, Nkomazi has shown slower growth than all the other provinces, but indicates the most significant growth between the three Census years, which could be due to its close proximity to the Mozambican side of the MDC.

Educational attainment was again classified into four categories: no schooling, primary education (Grades 1 to 7), secondary education (Grades 8 to 12), and tertiary education (Honours to Doctoral degree) (Figure 14). The poorer municipalities (Nkomazi, Victor Khanye, and, to a lesser extent, Emakhazeni) (Mpumalanga province, 2004: 11-24) reflect the poorest level of education (no schooling), with the percentage of people with primary education also being higher than those with secondary education in 1996 and 2001 in these two municipalities. An improvement in the educational attainment is observed in these three municipalities in 2011. The higher percentage of people with no schooling in Mbombela, which

is considered a richer municipality, could be attributed to the high influx of people aged between 15 and 64, in search of job opportunities and better living conditions. However, they do not necessarily have the relevant qualifications. The significant drop experienced in 2001 in those people with no schooling in Mbombela could indicate that either these migrants moved out of Mbombela, or they improved their level of education (as observed by the higher percentage of people with primary and secondary education levels). Generally, the richer municipalities (Emalahleni, Steve Tshwete and Mbombela) have more people with secondary education than those with primary education. Despite the overall decrease in the percentage of people with tertiary education from 1996 to 2001 to 2011, these municipalities also have more people with tertiary education.

### 5.2 Economic profile of MDC municipalities

The primary sector includes agriculture, hunting, forestry, fishing, mining, and quarrying; the infrastructure-related sector consists of manufacturing, electricity, gas and water supply, construction, transport, storage, and communication. The wholesale, retail and services sector consists of wholesale and retail trade, financial, insurance, real estate and business services, community, social, and personal services (Figure 15). Similarly, as above, the employment sector is only calculated for 1996 and 2001, since the subclassifications for 2011 are not yet available. Participation in the primary sector is the highest in the poorer municipalities (Victor Khanye, Emakhazeni and Nkomazi), and an overall decrease from 1996 to 2001 is observed in all the municipalities, except in the case of Nkomazi where an increase is detected. This could be attributed to the municipality's reliance on agricultural activities of which some of the people could be participating in subsistence agriculture to make a living, since many are self-employed (Nkomazi Municipality, 2012: 17, 28-29).

The infrastructure-related sector indicated the highest growth in the stronger municipalities (Mbombela, Emalahleni and Steve Tshwete) in 1996, while the poorer municipalities lagged behind in this regard (Figure 15). Victor Khanye is the only municipality that showed a slight increase in the

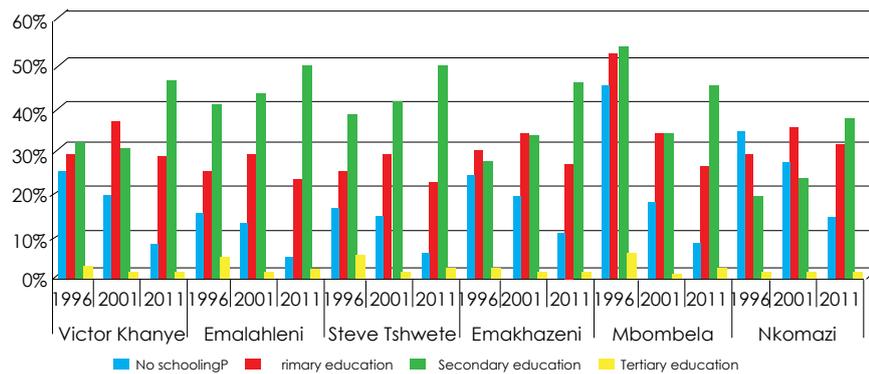


Figure 14: Educational attainment in MDC municipalities

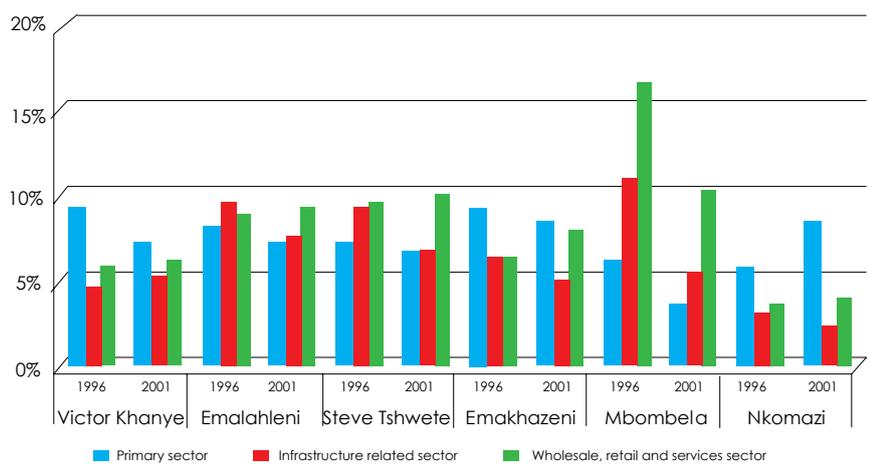


Figure 15: Employment sector in MDC municipalities

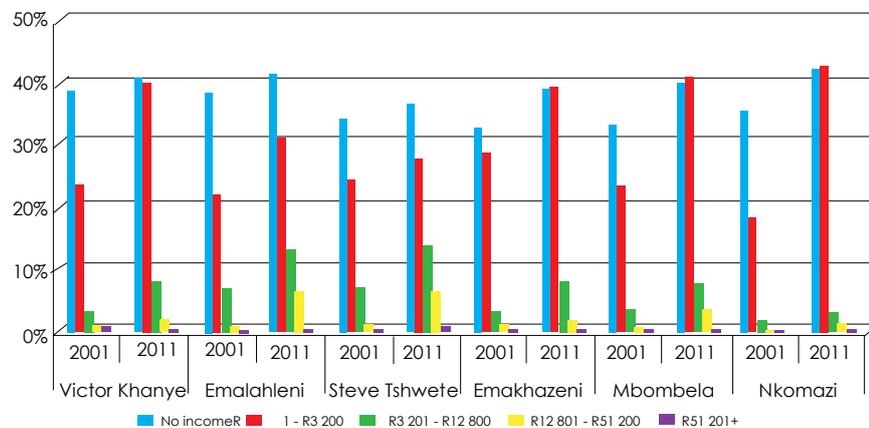


Figure 16: Individual income in MDC municipalities

percentage of people who are employed in the infrastructure-related sector in 2001. The other provinces all showed, on average, a 2% decrease in the percentage of people employed in the infrastructure-related sector in 2001, thus signalling that the MDC project did not sustain the job opportunities created in this sector over the two Census periods, despite the government's continual investment in the MDC project and region for this purpose.

It is not surprising that Mbombela had the highest percentage of people who are employed in the wholesale, retail and services sector, which indicates similar results as in the policy document for this municipality (Figure 14) (Mbombela Municipality, 2012: 38, 84). Despite the wholesale, retail and services sector growing slightly between 1996 and 2001 in five municipalities, a significant drop in this sector is observed in Mbombela, which could be due to the global economic recession

experienced since 2008/2009 (Verick & Islam, 2010: 1-61).

Individual income levels were only comparable between 2001 and 2011 Census data, due to it being grouped differently during the 1996 Census. Individual income includes security grants, money from informal economic activities, self-employment, and remuneration from formal employment (Figure 16). The economic disparity between rich and poor in South Africa is very evident in the distribution of individual income in the six MDC municipalities. This picture manifests itself in the blue and red bars indicating no income and R1-R3,200, respectively in Figure 16, being significantly higher in all six municipalities than the green, yellow and purple bars each indicating a higher income category, respectively.

Despite all the municipalities demonstrating an increase in the percentage of people with no income and R1-R3,200 from 1996 to 2011, the poorer municipalities (Nkomazi, Victor Khanye and Emakhazeni), as well as Mbombela, which is considered a richer municipality (Mpumalanga province, 2004: 11-24), demonstrate the highest increase in the percentage of people with no income and R1-R3,200 from 1996 to 2001 (Figure 16). Although all the municipalities also show an increase in the people who earn higher incomes, the municipalities that perform better economically (Emalahleni, Steve Tshwete and Mbombela) (Mpumalanga province, 2004: 11-24) have the highest increase in people earning more. These findings generally indicate that the poorer municipalities continue to be in a difficult economic situation over time, while the richer municipalities continue to prosper at the expense of the poorer municipalities.

### 5.3 Household services of MDC municipalities

Figures 17 to 19 present the percentage of people who have access to piped water on site or in the yard, flush or chemical toilets, and electricity supply. It is important to note that since the subclassifications for the 2011-census data for water are not yet available, the researchers worked with the percentage of households who have access to a regional or local water scheme operated by the municipality or other water-service providers to make up the 2011 percentages in Figure 17. Steve Tshwete, Mbombela and, to a lesser extent, Emalahleni had the

highest access to the abovementioned services in 1996, which is again in line with those municipalities that perform better economically (Mpumalanga province, 2004: 11-24). The delivery of these services dropped significantly in the aforementioned MDC municipalities in 2001, but the delivery of these services picked up pace again in

2011 in all the municipalities. Nkomazi and Victor Khanye, and to a lesser Emakhazeni, which are considered the poorer municipalities, are consistently underperforming (Mpumalanga province, 2004: 11-24).

## 6. CONCLUSION

The increased allocation of funds from the national government in the MDC region implied that in-migration increased to this area as people migrated in search of employment opportunities and, ultimately, better living standards. The aforementioned resulted in an overall more positive socio-economic development in the MDC region in comparison to Mpumalanga province and the other provinces, thus demonstrating the success of the MDC project for the region. Despite the aforementioned, the MDC project had both positive and negative effects on the socio-economic development of the municipalities through which it runs. Municipalities with an export base that performed well in terms of their socio-economic development in the past (Emalahleni, Steve Tshwete and Mbombela) continued to prosper throughout the Census years. Conversely, the poorer municipalities (Nkomazi, Victor Khanye and Emakhazeni) continued to perform poorly in terms of their socio-economic performance. These results indicate that there is a growing disparity between the rich and the poor in South Africa, with the socio-economic performance of certain municipalities continuing to prosper significantly at the expense of the poorer municipalities. These results also confirm the findings of the literature that, in some instances, insufficient employment opportunities are created from corridor development. Some may argue that the MDC project is still in process. However, as the biggest infrastructural development is already implemented, little change to the aforementioned situation can be expected in the future. Consequently, the challenge lies in how to prevent corridor development from taking place at the expense of certain municipalities, but to allow for a more even distribution in terms of its resultant socio-economic impact.

Some important policy implications of this article for the NDP of 2011 include:

1. The decision about where future corridors are developed should consider the social, environmental and economic aspects and their potential effects to ensure that corridors are located in strategic locations in order to benefit the entire area instead of merely pockets. This is crucial since corridor development is expensive and expansive.

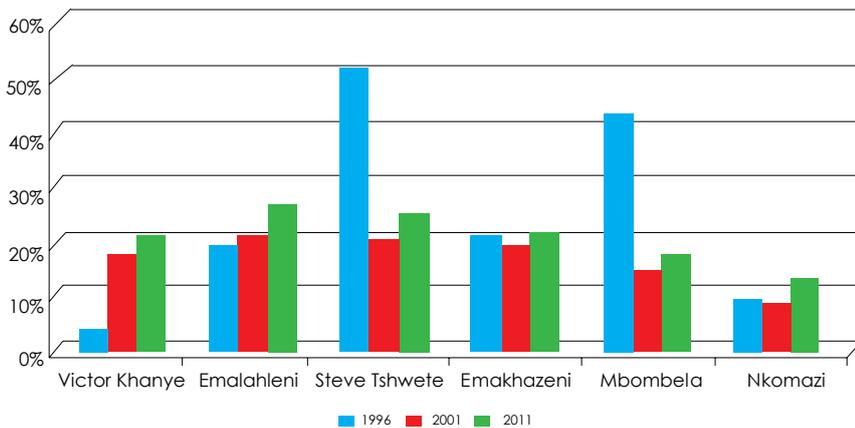


Figure 17: Piped water on site or in the yard in MDC municipalities

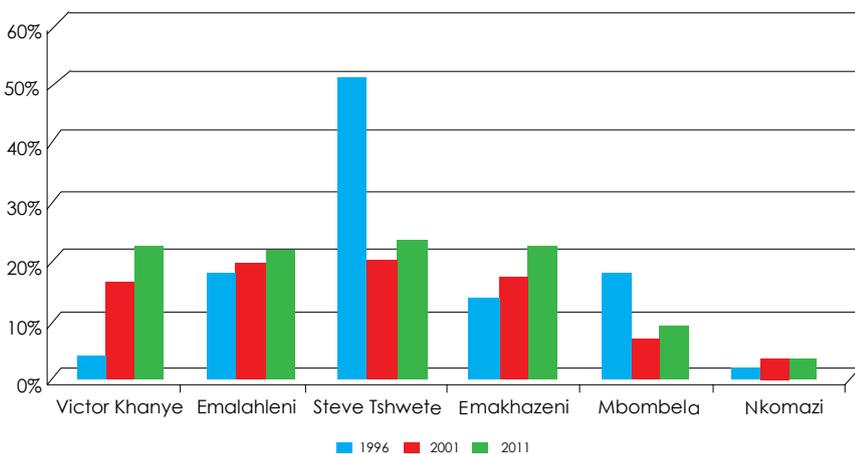


Figure 18: Flush or chemical toilet in MDC municipalities

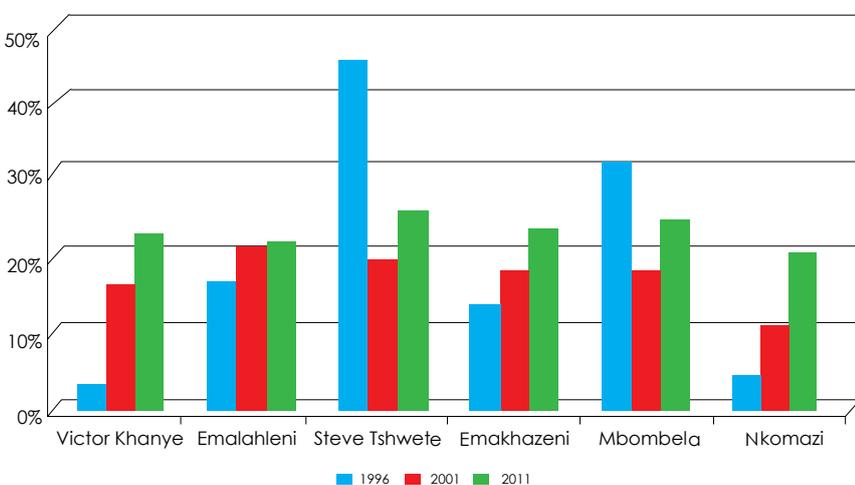


Figure 19: Electricity supply in MDC municipalities

- Taking the abovementioned into consideration while planning will help avoid future problems.
2. Where a corridor has already been operating for a few years, as in the case of the MDC, it is important to find innovative ways to improve its resultant social, environmental and economic effects on the local communities, particularly in the poorer municipalities that appear to be more negatively affected by corridor development at present. This can be achieved by approaching the private sector to play a role in improving the corridors to allow them to run through more decentralised nodes, so that not merely the primary nodes located closer to the corridor itself are benefiting. One way to ensure that the sections of the corridors that run through the decentralised nodes are used more often is to charge higher fees in the existing part of the corridors that run through the primary nodes.
  3. A thorough conceptualisation for the structural and content classification of development corridors should be incorporated into the NDP planning process to ensure that the correct type of development corridor is planned according to the area's functional and fundamental properties to ensure maximal socio-economic benefits for the proposed corridor development area.
  4. The on-going monitoring and evaluation of loopholes in the contractual agreements with investors into corridor development projects should be achieved in order to get rid of unwanted and embarrassing scenarios.

## REFERENCES LIST

- AFRICAN DEVELOPMENT BANK GROUP. 2009. *Multinational: Nacala road corridor rehabilitation project - phase 1: Environmental and social impact assessment summary*. Tunisia: African Development Bank Group.
- CAMPBELL, M.M., MARITZ, J. & HAUPTFLEISCH, A.C. 2008. *The impact of the Maputo Development Corridor on wealth creation within the region it services*. Midrand: Trans African Concessions (TRAC) (Pty) Ltd.
- CAPE METROPOLITAN COUNCIL. 1996. *Metropolitan Spatial Development Framework: A guide for spatial development in the Cape Metropolitan functional regional technical report*. Cape Town: City of Cape Town.
- DRIVER, A. & DE BARROS, J.G. 2000. *The impact of the Maputo Development Corridor on freight flows: An initial investigation*. Working Paper 00/38. Cape Town: Development Policy Research Unit & Centre for Strategic and International Studies.
- DTI (DEPARTMENT OF TRADE AND INDUSTRY). 1999. *Spatial Development Initiatives Programme*. Pretoria: Department of Trade and Industry.
- EMAKHAZENI MUNICIPALITY. 2010. *Spatial Development Framework*. Emakhazeni: Emakhazeni Municipality.
- EMALAHLENI MUNICIPALITY. 2013. *Integrated Development Plan. Draft*. Emalahleni: Emalahleni Municipality.
- FORMAN, R.T.T. & DEBLINGER, R.D. 2001. The ecological road-effect zone of a Massachusetts (USA) suburban highway. *Conservation Biology*, 14(1), pp. 36-46.
- FRIEDMANN, J. 1966. *Regional development policy: A case study of Venezuela*. MA, Cambridge: MIT-Press.
- GEYER, H.S. 1989. The terminology, definition and classification of development axes. *South African Geographer*, 16(1/2), pp. 113-129.
- HAUPTFLEISCH, A.C. & MARX, H.J. 2011. The potential impact on property and socio-economic development resulting from road transport corridors in Africa: A case study. In: Wamelink, J.W.F., Geraedts, R.P. & Volker, L. (eds). *MISBE2011 - Proceedings of the International Conference on Management and Innovation for a Sustainable Built Environment, Paper 24*, 20-23 June. Amsterdam: Delft University of Technology, pp. 1-15.
- HOBBS, R.J. 1992. The role of corridors in conservation: Solution or bandwagon? *Trends in Ecology & Evolution*, 7(11), pp. 389-392.
- KEORODOM, B., BUTPHOMVIHANE, S. & VANHNALAT, B. 2007. *Impact of East West economic corridor on tertiary business and social development of Savannakhet Province, Lao PDR*. Working Paper Series No. 02/2007. Thailand: Mekong Institute.
- KLEYNHANS, H.A. 2002. Section D: A theoretical framework for development corridors. Pretoria: University of Pretoria. [Online]. Available from: <http://upetd.up.ac.za/thesis/submitted/etd-12192005-124739/unrestricted/02chapter2D.pdf> [Accessed: 22 June 2012].
- MARRIAM, B. & FREEMAN, P. 2001. *Towards a general theory of corridor development in South Africa*. 20<sup>th</sup> South African Transport Conference, 16-20 July. Pretoria: Conference Planners.
- MBOMBELA MUNICIPALITY. 2012. *Spatial Development Framework. Draft 2011-2030*. Mbombela Municipality: Umsebe Development Planners.
- MITCHELL, S. & ANDERSON, N. 2011. Equity in development and access to health services in the Wild Coast of South Africa: The community view through four linked cross-sectional studies between 1997 and 2007. *BMC Health Services Research*, 11(2S5), pp. 1-11.
- MPUMALANGA PROVINCE. 2004. *Provincial growth and development strategy 2004-2014*. Mbombela: Mpumalanga Provincial Government.
- NATIONAL DEPARTMENT OF TRANSPORT. 1998. *Business Plan 1998/9*. Pretoria: National Department of Transport.
- NKOMAZI MUNICIPALITY. 2012. *Integrated Development Plan 2012-2013*. Nkomazi: Nkomazi Municipality.
- NPC (NATIONAL PLANNING COMMISSION). 2011. *National Development Plan 2030: Our future: Make it work*. Pretoria: National Planning Commission, Department The Presidency.
- PAIN, K. 2007. Gateways and corridors in globalisation: Planning sustainable infrastructures for transcontinental spaces of flow. In: *Proceedings of the 1<sup>st</sup> International Conference on Gateways and Corridors, 2-4 May*. Vancouver British Columbia: Centre for Transportation Studies, University of British Columbia. [Online]. Available from: <http://www.gateway-corridor.com/roundconfpapers/papers.htm> [Accessed: 13 November 2013].
- PHYRUM, K. 2007. *Social and environmental impacts of economic corridors, regional supports to address the impacts of economic corridors in the Greater Mekong Sub-region (GMS)*, South East Asia. Philippines: Asian Development Bank.
- PILLAY, U., TOMLINSON, R. & DU TOIT, J. 2006. (eds). *Democracy and delivery*:

- Urban policy in South Africa. Cape Town: Human Sciences Research Council (HSRC).
- POTTER, P. 1963. Axes de communication et développement économique. *Revue Economique*, 14, pp. 50-132.
- PRIEMUS, H. & ZONNEVELD, W. 2003. What are corridors and what are the issues? Introduction to special issue: The governance of corridors. *Journal of Transport Geography*, 11(3), pp. 167-177.
- PYCROFT, C. 2000. From the global to the local: The impact of globalisation on developmental local government. Unpublished report. Midrand: Development Bank of Southern Africa.
- ROGERSON, C.M. 2001. Spatial development initiatives in Southern Africa: The Maputo Development Corridor. *Tijdschrift voor Economische en Sociale Geografie*, 92(3), pp. 324-346.
- ROODT, M.J. 2008. The impact of regional integration initiatives and investment in a Southern African cross-border region: The Maputo Development Corridor. *African Sociological Review*, 12(1), pp. 88-102.
- SÖDERBAUM, F. 2001. Institutional aspects of the Maputo Development Corridor. DPRU Working Papers 01/47. Cape Town: Development Policy Unit, University of Cape Town.
- SÖDERBAUM, F. & TAYLOR, I. 2003. Transmission belt for transnational capital or facilitator for development? Problematizing the role of the state in the Maputo Development Corridor. *The Journal of Modern African Studies*, 39(4), pp. 675-695.
- STATS SA (STATISTICS SOUTH AFRICA). 2010. *Millennium Development Goals: Country Report 2010*. Pretoria: Statistics South Africa.
- STEVE TSHWETE MUNICIPALITY. 2010. *Spatial Development Framework. Draft report*. Steve Tshwete Municipality. [Online] Available from: <[http://www.stevetshwetelm.gov.za/SDF/SDF\\_2010\\_DRAFT.pdf](http://www.stevetshwetelm.gov.za/SDF/SDF_2010_DRAFT.pdf)>. [Accessed 12 November 2013].
- STONE, S. & STRUTT, A. 2009. *Transport infrastructure and trade facilitation in the Greater Mekong subregion*. Working Paper Series No. 130. Tokyo: Asian Development Bank Institute.
- TUPPEN, J.N. 1977. *Axial regions: An appraisal of their formation, evolution and definition*. Discussion Papers in Geography No 4. United Kingdom, Salford: University of Salford.
- USAID (UNITED STATES AGENCY INTERNATIONAL DEVELOPMENT). 2008. *Maputo corridor summary report: A transport logistic diagnostic tool study*. Arlington, VA: Nathan Associates Inc. & United States Agency for International Development.
- VERICK, S. & ISLAM, I. 2010. *The great recession of 2008-2009: Causes, consequences and policy responses*. Discussion Paper No. 4934. Bonn: Institute for the Study of Labour.
- VICTOR KHANYE MUNICIPALITY. 2012. *Integrated Development Plan*. Delmas: Victor Khanye Municipality.
- VON MALCHUS, V. FRHR. 1976. *Entwicklungsachsen, Verkehrsachsen und Siedlungsachsen in der europäischen Raumordnungspolitik. Veröffentlichungen der Akademie für Raumforschung und Landesplanung* 113, pp. 103-152.
- WARNICH, S. & VERSTER, B. 2005. *The answer is corridor development, but what is the question*. In: (SATC2005) *Proceedings of the 24<sup>th</sup> Southern African Transport Conference*, 11-13 July 2005. Pretoria: Conference Planners, pp. 343-351.
- WHEBELL, C.F.J. 1969. Corridors: A theory of urban systems. *Annals of the Association of American Geographers*, 59(1), pp. 1-26.