

CSIR

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THE FOURTH

ANNUAL STATE OF LOGISTICS SURVEY FOR SOUTH AFRICA

2007

Logistics for
regional growth and
development





THE CSIR MANDATE

“The objects of the CSIR are, through directed and particularly multidisciplinary research and technological innovation, to foster, in the national interest and in fields which in its opinion should receive preference, industrial and scientific development, either by itself or in co-operation with principals from the private or public sectors, and thereby to contribute to the improvement of the quality of life of the people of the Republic, and to perform any other functions that may be assigned to the CSIR by or under this Act.”

(Scientific Research Council Act 46 of 1988, amended by Act 71 of 1990)

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PREAMBLE



Hans Ittmann

With this, the fourth annual State of Logistics survey, logistics and supply chain management remain as important, if not more important, than ever before. The World Bank report on international logistics competitiveness illustrates not only the importance of this critical business function, but also provides a very valuable benchmark for logistics performance worldwide. While South Africa is ranked a comforting 24th out of 150 countries, the high internal – or domestic – logistics costs remain the biggest concern for industry in our country. If South Africa wants to compete in the global market place the high logistics costs need serious attention. Various factors are, however, going to make this difficult in the short term.

Ever-increasing fuel costs, the general deteriorating infrastructure countrywide, as well as the fact that there is no indication of appropriate freight moving back to rail are some of these factors. Industry will thus have to be even more innovative in overcoming such hurdles.

The theme of the fourth survey is: 'Logistics for regional growth and development'. We endeavour to portray the role South Africa is playing, from a logistics point of view, in the southern African region. We attempt, through some case studies, to illustrate what it entails to provide logistics services to the rest of Africa.

The CSIR and its associates believe we are again addressing critical aspects on national and industry levels in this report. Ports play a very important role, while freight growth is still predominantly on road and efforts to get freight back to rail will probably take longer than envisaged. The format is similar to that of previous surveys and allows for comparisons in trends, which has not been possible to date.

We strongly believe that this report should open the agenda for further discussions, interactions and dialogue on various logistics and supply chain management issues. It is only through such collaborative interaction that relevant research can be conducted to the benefit of the

country. Researchers need to be stimulated to identify areas for further investigation that will address concerns of the industry and government.

We, as the CSIR, are pleased and excited that we have formed a long-term partnership with Imperial Logistics, by far the largest leading third-party logistics service provider in South Africa. The financial support from Imperial Logistics will ensure the continuation of this survey as well as provide researchers with the opportunity of interacting with and test hypotheses in a practical environment. Both parties are determined to ensure the survey continues to add more value to government and industry while remaining objective and independent.

To all those who contributed to the survey, thank you.

Hans W Ittmann
CSIR Built Environment
Pretoria, South Africa

June 2008

PREFACE from Imperial Logistics

We want to thank Hans Ittmann and the CSIR team for affording us the opportunity to partner with them in the annual State of Logistics survey. We are excited about the opportunity and believe that the survey plays a critical role in the southern African logistics and supply chain management industry. The survey is a key reference for various stakeholders, including government, analysts, industry captains and supply chain professionals as a source of information and support in the strategic decision-making process. The sponsorship is a strategic investment for Imperial Logistics and a significant contribution towards the South African economy and our customers.

We entered into a formal relationship with the CSIR in January 2008 in order to contribute and ensure that the supply chain community benefits from the continuation of the survey. Furthermore, as a leading third-party logistics service provider in southern Africa and Europe, we are able to test certain aspects of the survey in a practical environment. With 70 operating companies that provide logistics and supply chain management services across all industries, we provide the CSIR with an opportunity to extract empirical support for the validation of theoretical hypotheses as and when required.

Imperial Logistics is proud to be associated with the CSIR's State of Logistics survey and we look forward to working together in future. We congratulate the CSIR on the fourth edition and wish them success for the upcoming fifth survey – we will get actively involved in this one and contribute from an experiential perspective.

Marius Swanepoel
CEO Imperial Logistics

About Imperial Logistics

Imperial Logistics is a leading third-party logistics (3PL) and supply chain management company in southern Africa. The company provides customised value-added logistics services and supply chain solutions to blue chip customers in almost every industry. Imperial Logistics is 100% owned by Imperial Holdings and is home to 70 operating companies. In sub-Saharan Africa, operations are segmented into three key divisions, namely Transport and Warehousing, Consumer Products and Specialised Freight. Imperial Logistics has an international arm, focusing on European markets and comprising four operating units, namely Panopa Logistik, Neska, Imperial Reederei and Brouwer Shipping. For further information, please visit www.imperiallogistics.co.za

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EXECUTIVE SUMMARY

While the third State of Logistics survey in 2006 focused on the implementation of logistics strategies in a developing economy, the theme for this year's study is logistics for regional growth and development. South Africa has a leading role to play in the development of the southern African region and is well positioned to take up this challenge.

MACRO-ECONOMIC PERSPECTIVE

Logistics costs

The logistics costs as a percentage of gross domestic product (GDP) for 2006 are 15,7%, half a percentage less than the figure for 2005 (16,2%). This decrease, in an environment where the GDP has increased substantially, is probably due to logistics operators being able to utilise spare capacity in the system better as opposed to improvements in the structural efficiency of the logistics system. Transport constitutes the major component of logistics costs at 56,9%; it is worrying that it has increased by 0,7% from 2005 to 2006. The other stack elements have remained relatively constant and even decreased over the same time period.

Land freight transport costs

Total land transport amounted to 1,5 billion tons shipped in 2006, which constitutes an increase of 5,5% from 2005. It is shown that since 1997, all growth has been captured by road, which is a worrying trend. Most transport takes place on major corridors (39%), secondly in rural areas (24%), bulk-mining accounts for 21% and metropolitan areas carry 16% of transport.

Spatial perspective

South Africa is spatially challenged due to agglomeration of major industries in the centre of the country. South Africa was placed 24th out of 150 countries on the World Bank's Logistics Performance Index, but was 124th based on domestic logistics costs, an indication of the effect of the high transportation costs on logistics costs. The two major corridors between Gauteng-Durban and Gauteng-Cape Town constitute 40% of all corridor movement. However, rail represents only 25% and 15%, respectively, of tonnage moved, which places strain on these two corridors. Rail gained market share compared to road in the chemicals, steel and timber industries between 2003 and 2005, but lost market share in the automotive, cement, coal, fertiliser and grain industries in the same period.

Southern African ports: A gateway into Africa

World seaborne trade increased by 4,3% from 2005 to 2006 to 7,4 billion tonnes loaded. It is estimated that seaborne trade has more than doubled in the past 20 years.

Containerisation has by far accounted for the biggest growth in shipping volume worldwide. The global logistics and freight-forwarding market is in a state of rationalisation and consolidation, but the freight-forwarding market is expected to continue growing by 9,4% over the next five years. Volumes handled at South African ports in 2006 showed an increase in containerised traffic by 7% and bulk exports and imports increased by 6% and 4%, respectively. A decrease of 5% occurred in break-bulk cargo, partially attributable to the growth in containerised cargo. A major drawback for South African ports is the lack of sufficient intermodal facilities and this factor needs to be improved to accommodate the growth in containerised traffic.

All southern African ports face the challenge of infrastructure development to accommodate the growth in international trade. Many ports that lack sufficient capital to ensure adequate expansion have concessioned terminals to major international port operators and are experiencing success through this measure. Congestion remains a primary concern and in an effort to combat this, ports are developing value-adding activities close to or inside the port boundaries, or attempting to streamline the intermodal transport system to the port. Shippers tend to choose a complete supply chain solution instead of a single port to provide a holistic solution to their transport problem and ports therefore need to make sure they add value to the supply chain in which they participate.

INDUSTRY-LEVEL PERSPECTIVE

Using 3PLs in Africa

Being active on the African continent provides experience and opportunities for South African companies to expand globally, but many logistical challenges are presented when expanding cross border. Poor infrastructure, low information and communications (ICT) uptake, legislation differences, border-post delays and higher operational costs are some of the challenges faced when expanding into Africa. As a result, companies are turning to third-party logistics (3PL) companies to manage their logistics activities when operating across borders. Major advantages of using a 3PL when exporting include reduction of risk in the foreign environment, supply chain complexity is kept to a minimum, geographical coverage can be expanded, transportation costs can be reduced, extensive supply chain support is available and less time is required to establish a distribution network.

A case study was conducted on four operating companies from Imperial Logistics and a number of cross-border exporting challenges and remedies were identified. All the companies used road transport as the main transport means and border-post delays were identified as the main challenge faced. Solutions proposed to solve this challenge included a standard electronic clearing system, longer border-post operating hours, better-trained personnel and improved communication between key role players.

South Africa's potential as a regional logistics hub

South Africa has great potential to become the Southern African Development Community (SADC) region's logistics hub. Both the export and import markets are growing at a fast pace and eight of the top 20 trading partners are SADC countries. South Africa is the leading economy in the SADC region and contributes 67% to the total GDP of the region. Geographically, South Africa is well positioned to reach the SADC market with all major cities in the region within 3 500 km of Gauteng, the economic hub. The infrastructure quality is good compared to other SADC countries, and current investment in infrastructure will ensure this position is maintained in future. As with ports, the one major inadequacy is the lack of intermodal facilities and integration between transport modes, which needs to be addressed before South Africa can be seen as a true regional logistics hub.

SMMEs and the export market

Small, medium and micro enterprises (SMMEs) find the economics of exporting difficult and are faced with a number of challenges when exporting. The South African government has an important role to play in SMME development and in promoting SMME exports. Supply chain refinement is especially challenging for SMMEs and government should do more to assist SMMEs in streamlining the supply chain. Collaboration and partnering with big businesses could be one way of managing supply chain risk for SMMEs. The export strategy, the export marketing assistance scheme and the export finance guarantee scheme released by government should be used by SMMEs to develop and promote themselves in the export market.

INTRODUCTION

Ittmann Hans W

The CSIR and its partners are pleased to present the fourth annual State of Logistics survey. With this survey it is possible to show trends of critical factors over the past four years, something that was not possible before the start of the first survey back in 2004. From a data analysis point of view, the survey covers the 2006 reporting year. The aim of the survey is much the same as in previous years, namely to provide a comprehensive picture of the state of logistics in South Africa, incorporating a macro-economic view (top-down), an industry-level perspective (bottom-up), and a small business development perspective, dealing with logistics as a developmental constraint for SMMEs in urban and rural environments.

The World Bank recently published a report on international logistics competitiveness.¹ The report benchmarks the logistics performance of 150 countries across seven areas of performance, namely:

- Efficiency of the clearance process by customs and other border agencies
- Quality of transport and information technology infrastructure for logistics
- Ease and affordability of arranging international shipments
- Competence of the local logistics industry
- Ability to track and trace international shipments
- Domestic logistics costs
- Timeliness of shipments in reaching destinations.

Using these seven criteria, an overall logistics performance index (LPI) is calculated. South Africa scored 3,53 for the LPI and was ranked 24th out of 150 countries. The five top performing countries were Singapore, the Netherlands, Germany, Sweden and Austria. Both Australia (17) and New Zealand (19) are ranked ahead of South Africa. This positions South Africa among the top performers in the world. Domestic logistics costs are, however, the Achilles heel for South Africa – regarding this aspect the country is rated 124th in the world.

The logistics costs as a percentage of GDP are again presented; however, there is a difference in the way these costs were calculated and readers need to take note. The inventory carrying costs calculation (i.e. the opportunity costs of carrying inventory – or financing stock) was done in the past by applying the prime interest rate to the average inventory holding time based on the value-added figure for each sector. The value-added figure is a standard available statistic in the national accounts, but it means that only the carrying costs of each sector's value added were shown. In real life, however, the logistics manager in a specific sector has to finance the total value of the inventory (also value that was added by other sectors). As this study has progressed over the years, much more detailed industry-level

¹ The World Bank. 2007. Connecting to Compete: Trade Logistics in the Global Economy. Washington DC.

information of stock value could be analysed and the logistics costs calculation has now been performed on this total value. The old calculation was repeated in order to show trends, and the new calculation backtracked to enable historic comparison for the future.

Logistics costs are currently negatively affected by the rising fuel prices. This is possibly the one aspect of most concern to supply chain managers in South Africa. This, together with the energy crisis, the multitude of large infrastructure projects, serious congestion in the metropolitan areas, the serious skills shortage, and the preparations for the Soccer World Cup in 2010 are putting huge strains on the logistics/supply chain management system in the country. Unfortunately, this situation is not going to change, at least not in the short to medium term; in fact, the situation will probably get worse first and it is hoped that it will then start improving.

The theme for this survey is 'Logistics for regional growth and development'. We endeavour to portray the role that South Africa is playing, from a logistics point of view, in the southern African region. In this regard the ports play a very important role. We also attempt, through some case studies, to illustrate what it entails to provide logistics services to the rest of Africa.

For South Africa, and southern Africa to continue to grapple with competing in the global market, it is essential to maintain a comprehensive picture of the state of logistics. The geographical location of the region is already a major drawback in creating a competitive advantage in the global market. It is therefore of the utmost importance that all players in this region collaborate in achieving the goal of making South Africa, and its neighbouring countries, truly competitive on a global scale.

TRENDS IN SUPPLY CHAINS

What are the topics and issues that will be receiving the focused attention of those involved in supply chain management in coming months? There is certainly no shortage of aspects that will affect us. The dramatic events regarding electricity supply in South Africa, or rather the lack of supply, have illustrated vividly how quickly things can change. It can be generally stated, therefore, that we live in a dynamic environment and supply chains need to be designed in such a way that they are sufficiently resilient to be able to accommodate changes quickly and effectively.²

2 Sheffi Y, 2006. *The Resilient Enterprise*. The MIT Press, Cambridge, Massachusetts, USA.

Blasden³ lists three of the most common themes currently high on the priority list for attention:

- **Globalisation and the lack of predictability** – The growing complexity of international networks of partners and suppliers, as well as the rapid changes that impact supply chains
- **Environmentally-sound practices** – The growing demand for environmentally-sustainable and socially-responsible products and services
- **Changing demographics** – The ageing of the population internationally is a concern and will affect supply chain management.

The *Supply Chain Digest*⁴ has identified 10 key supply chain megatrends that will impact supply chain and logistics professionals. A megatrend is defined as a “power force that will shape (the) supply chain and logistics decisions of many companies over the next few years, impacting strategy, organisation, business results and more”. Each megatrend will be analysed in depth in future; only details about the first trend have been released to date. It will be worthwhile tracking these.

The 10 megatrends are the following:

- Supply chain alignment
- Push-to-pull
- Actionable visibility
- Virtualisation
- The integrated supply chain organisation
- China
- Performance management
- Lean supply chains
- Risk management
- Sensory networks.

These are international trends that we in South Africa should take note of and start implementing and investigating over time. Some of these trends could be more applicable to the South African situation than others. What about trends in South Africa itself? Here externalities possibly influence supply chains more than industry setting formal supply chain trends. We refer to aspects such as the energy crisis, major congestion on the main roads and corridors that will worsen in the short to medium term, the lack of road infrastructure, the lack of proper road maintenance, the skills shortage, no proper freight logistics strategy across all levels of government, and the lag in ensuring that the main rail operator provides

3 Blasden R, 2008. New skills for the 21st century. CSCMP's Supply Chain Quarterly, Q1/2008, p 19.

4 Supply Chain Digest Newsletter. 30 August 2007.

a service that will attract freight back to rail. Soaring fuel and diesel prices will, together with many of these externalities, contribute to even higher logistics costs in the country. This we cannot afford since it will make us less competitive internationally.

Flexibility throughout the supply chain is becoming essential and this must be based on proven supply chain design principles, the right culture, etc. Investment in resilience and flexibility will create a competitive advantage in an increasingly volatile marketplace.⁵

The issue of global warming as part of the climate change debate, together with the negative effect of economic activity on our environment, has rarely been more prominent. Concern for the environment will soon be part of the mindset of a critical mass of consumers, which will result in shippers, and logistics and supply chain operators factoring it into business decisions and in choosing suppliers. 'Greener' supply chains will certainly become a requirement in the near future.

5 Sheffi Y, 2006. *The Resilient Enterprise*. The MIT Press, Cambridge, Massachusetts, USA.

RESEARCH APPROACH

The multiple perspectives considered by the State of Logistics survey include established areas of research such as costs modelling, transport economics and supply chain analysis, as well as areas such as the role of logistics in socio-economic development. The research methodology reflects this holistic approach, as well as the relative maturity of these research areas. A more formal and quantitative approach is adopted for the development of the costs of logistics, while a more qualitative and exploratory approach is applied to the small business and economic development perspective.

The research approach is summarised in Figure 1.

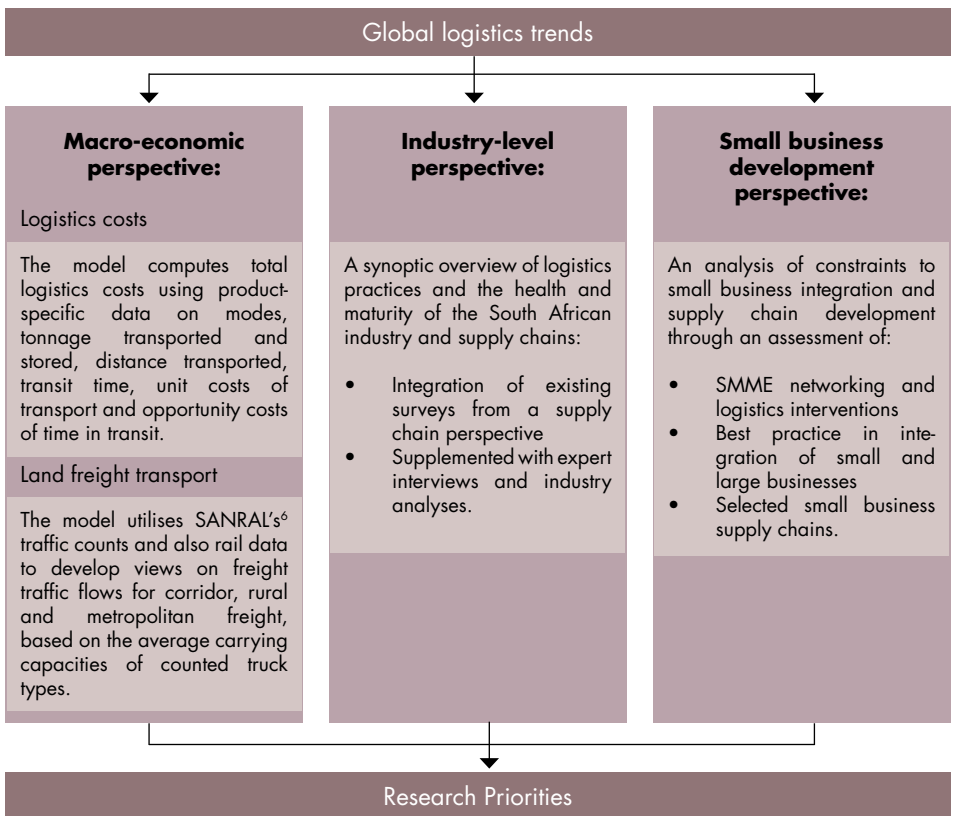


Figure 1: Research approach

MACRO-ECONOMIC PERSPECTIVE

MODELLING APPROACH – LOGISTICS COSTS MODEL

Havenga JH, Jacobs CG, Pienaar WJ and Van Eeden J

‘Logistics’ in this part of the study is considered to be that part of the supply chain process that deals with the transportation, warehousing, inventory carrying, and administration and management of goods between the point of production and the point of delivery to the final consumer. By definition this excludes the costs of passenger transport and the costs of transport, storage, packaging, handling, etc. of mail and luggage, as well as the storage and transport tasks involved in the production process.

Study methodology and approach

The logistics costs model (LCM) employs a ‘bottom-up’ approach to the computation of logistics costs by aggregating detailed commodity-specific data, including throughput, transport and storage characteristics, as well as transport and warehousing unit costs. The aggregation of logistics costs is based on primary input elements (the amount of a specific commodity that is produced) and the costs of performing specific tasks (transport, storage and handling) with respect to that commodity in the logistics chain. The validity of output data can therefore be verified at the primary source before any aggregation takes place. In this way the model differs from existing methods, which extrapolate logistics costs data that were collected by means of non-specific sample surveys.

Specific data adjustments

- ***Inventory carrying cost***

In previous surveys the calculation of inventory carrying costs was based on the value-added worth of the aggregated commodities or products in question for the agricultural, mining and manufacturing sectors. In line with the delineation of the survey, value added from other sectors was excluded and the final value of the inventory, which would have required detailed industry-level research, was not used (as it was not available). Such research, which reflects the total value of the inventory that would need to be financed, was conducted in this survey and for the first time the inventory carrying costs based on the total inventory value are reported. The old method was repeated for comparative purposes and the results are also reported in this survey.

- ***Gross domestic product***

The gross domestic product (GDP) was updated from the official revised figures published by the South African Reserve Bank (SARB). As is customary, the SARB backdates the updated figures, which are presented in Table 1.

Table 1: GDP at current prices (rand million)

Year	Previous SARB figure	Latest SAFB figure	% difference
2003	R1 260 693	R1 260 693	0,00
2004	R1 398 157	R1 395 369	-0,20
2005	R1 539 253	R1 541 067	0,12
2006		R1 741 060	

The 2004 and 2005 models were updated with latest available figures.

- **Manufacturing**

Attention is drawn to the fact that the calculation of manufacturing throughput remains problematic because the official statistics are presented in terms of monetary value (or in some instances in units, such as the number of garments) rather than in tonnage. A complex series of calculations is therefore required to estimate the throughput of manufactured products in ton-equivalent. In addition, a 'volumetric adjustment' is made for particular items to take into account that the transport costs of these components are based on the volume rather than on the tonnage.

- **Costs**

Transport costs updates consist of inflationary adjustments for the various modes based on the latest available information, the industry costs associated with vehicles required to perform the service and the ton-kilometre supplied per commodity.

Storage costs, which include the storage and on-site handling of freight, were updated with the latest available information. This includes the quay-side storage and handling of freight in ports, including imports, exports and coastal shipping.

The opportunity costs of capital locked up in freight during storage and transport (inventory costs) in 2006 were calculated using the prime rate of 11%.

Impact of data refinements on the historical logistics costs

The effect of aforementioned changes to the logistics costs model on logistics costs is summarised in Table 2.

Table 2: Impact of data refinements on model results (2004 data)

Total logistics costs using inventory carrying cost calculation based on value-adding of primary and secondary sectors only	% of GDP	Total logistics costs using inventory carrying cost calculation based on total value of inventory when financed	% of GDP
2003: R187 billion	14,8%	R210 billion	16,7%
2004: R204 billion	14,6%	R230 billion	16,5%
2005: R223 billion	14,5%	R250 billion	16,2%
2006: R246 billion	14,6%	R273 billion	15,7%

The combined model update and GDP adjustment on logistics costs as a percentage of GDP amounted to an average upwards annual adjustment of 1,6%. A further impact of the more detailed information on an industry level was an improved view of the split between primary and secondary sector costs. This is reflected in the final results.

LOGISTICS COSTS

De Jager D, Havenga JH, Jacobs CG and Pienaar WJ

Logistics costs in South Africa amounted to R273 billion in 2006. It is unlikely that the downward trend in logistics costs since 2003 could be ascribed to improvements in the structural efficiency of the logistics system. It is far more likely that logistics operators are better able to utilise available spare capacity in an environment where the GDP has increased substantially. Logistics costs will have to be tracked over a much longer period to draw any definite conclusions in this regard. Improvements in the structural efficiency of the logistics system will also show up only over a much longer timeframe.

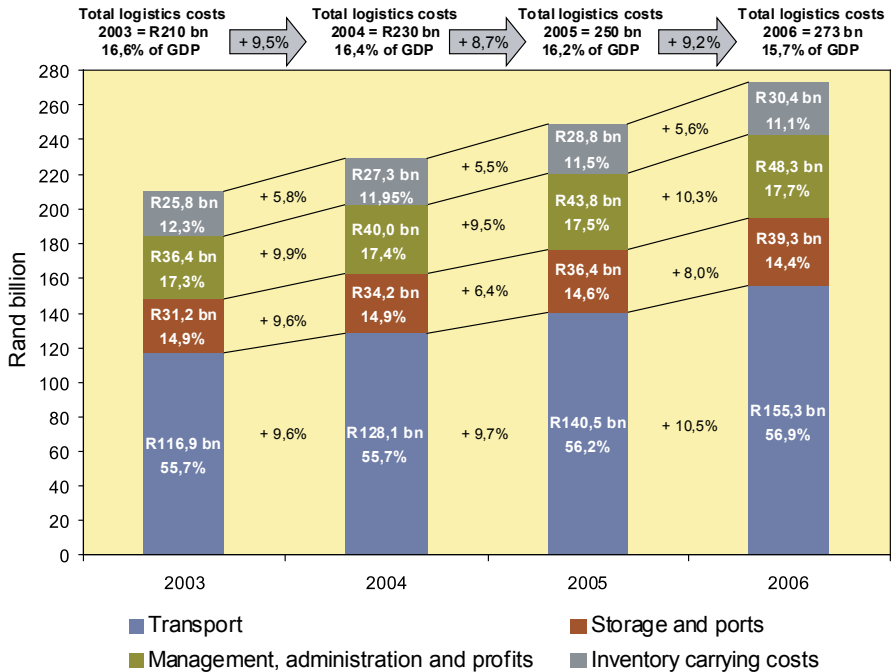


Figure 2: Stack elements of South Africa's logistics costs

The stack elements of logistics costs are depicted in Figure 2. Logistics costs increased by 9,2% between 2005 and 2006. The contribution of the stack elements to logistics costs remained relatively unchanged. However, the increase in the transport sector's contribution (predicted in earlier surveys) is clear (see Figure 3). The transport sector is more susceptible to 'administered' prices (costs elements outside the control of logistics managers), and the poor configuration and management of South Africa's freight network will continue to drive this trend.

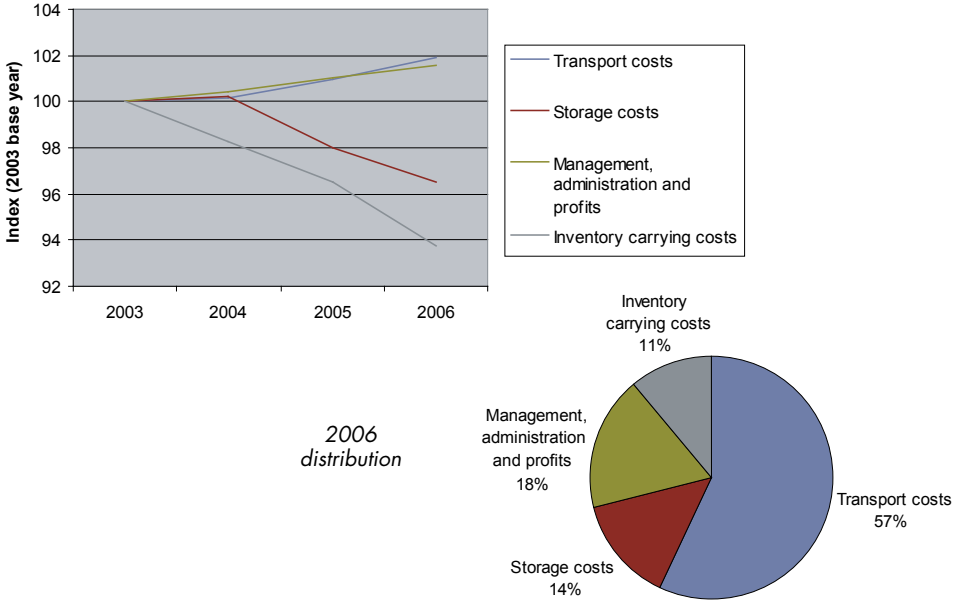


Figure 3: Growth in the transport costs element

The stack elements of logistics costs for the primary and secondary sectors are depicted in Figure 4. In 2006, the primary sector contributed 9% to South Africa’s nominal GDP and accounted for 49% of the logistics costs. The secondary sector contributed 16% to nominal GDP in 2006 and accounted for 51% of the logistics costs.

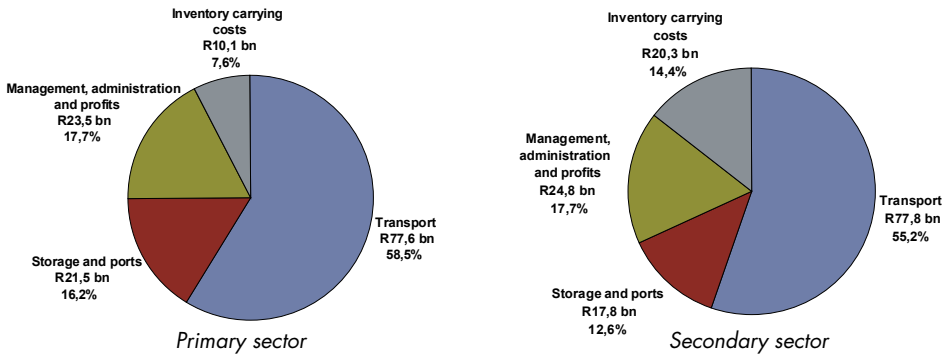


Figure 4: Stack elements of South Africa’s logistics costs – primary and secondary sectors⁷

⁷ The ‘primary sector’ refers to agriculture and mining (extraction of basic materials), while the ‘secondary sector’ refers to manufacturing (processing of basic materials).

Transport also has an impact on inventory carrying costs as depicted in Figure 5. Almost 9% of inventory carrying costs are incurred while materials or goods are in transit. Transport remains the biggest contributor to the costs of logistics (and the biggest challenge in South Africa) and as such is analysed in more detail in the following section.

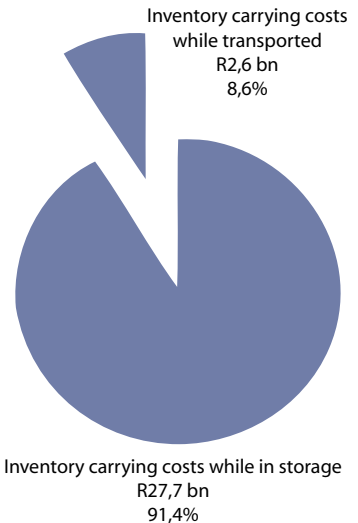


Figure 5: Effect of in-transit time (place utility) on inventory carrying costs (time utility)

MODELLING APPROACH – LAND FREIGHT TRANSPORT MODEL

Havenga JH, Hobbs IE and Van Eeden J

The land freight transport model utilises the South African National Roads Agency Limited's (SANRAL) comprehensive traffic observation (CTO) yearbooks as a basis for the development of a current and historical view of freight traffic flows in South Africa. The model accounts for the differences between corridor, rural and metropolitan freight, and the various carrying capacities of the types of truck that are used. These differences are then collated and compared with actual rail data to develop views on market shares, corridor densities and overall investment strategies for South Africa.

The model uses an 'observed' approach, i.e. it indicates to what extent freight 'appears' on certain typologies of transport (the various typologies are discussed in the 'results' section). This will include double counting where the same freight appears on more than one typology, but is per definition correct as infrastructure requirements for the same freight will also be necessary on more than one typology.

LAND FREIGHT TRANSPORT COSTS

Havenga JH, Simpson Z and Van Eeden J

Total land transport in the South African economy in 2006 amounted to 1,5 billion tons shipped. The split between road and rail, and changes from 2005, are shown in Figure 6.

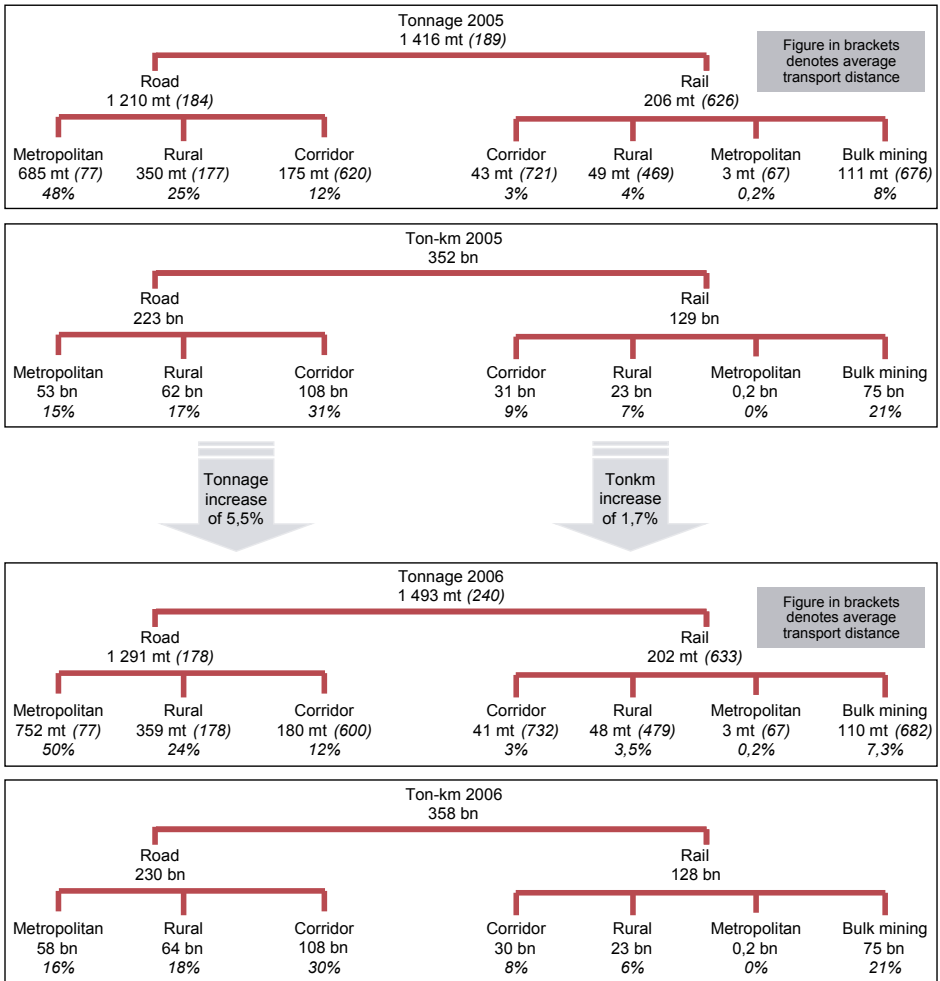


Figure 6: Land freight transport in South Africa (percentages denote share of total tonnage and ton-km, respectively)

As reported in previous surveys, all growth is still captured by road. The core modal structure of South African transport has not changed and the challenges that arise from this structure are still valid. These identified challenges include the inordinate volume of road freight on corridors, which requires sustained road infrastructure investment in these corridors, thereby limiting funds for rural road infrastructure development.

Historical data for freight shipped in South Africa are, for the first time, reflected in this survey in Figure 7.

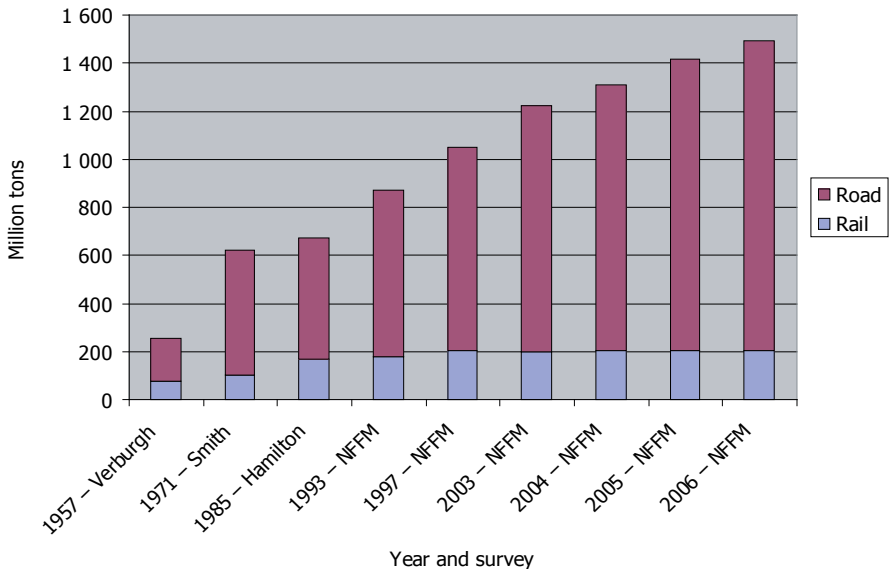


Figure 7: Historical freight transport data

The data for 1957 to 1985 are based on sporadic surveys by Verburgh, Smith and Hamilton and the data from 1993 to 2006 on the application of the national freight flow model (NFFM) methodology to data from these years. The need for modal restructuring is clearly illustrated. The same methodology was also applied to the four typologies of transport, i.e. corridor, bulk mining, rural and metropolitan traffic. The total ton-km distribution for 2006 between the four typologies is illustrated in Figure 8 and historical trends in Figure 9.

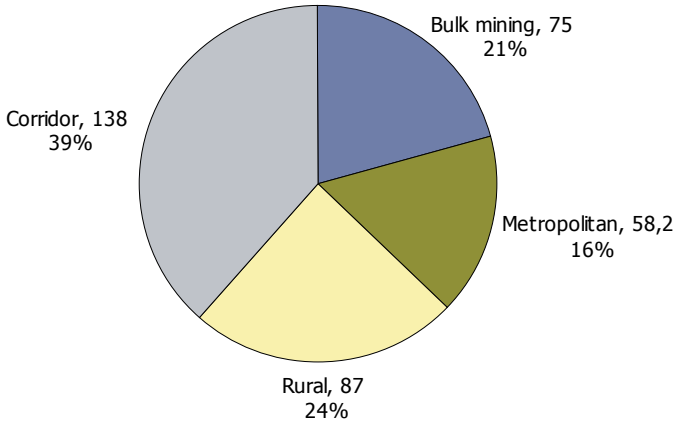


Figure 8: Freight typologies (ton-km and percentage share)

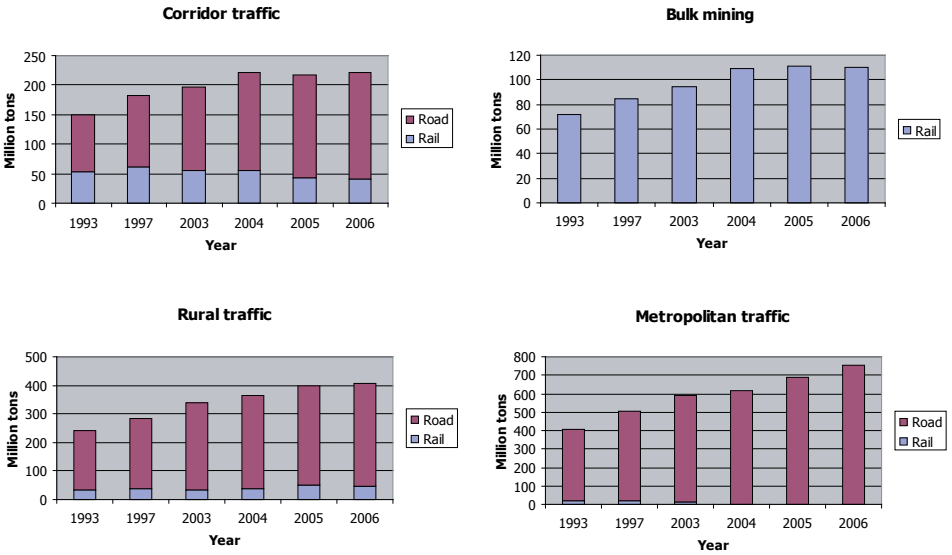


Figure 9: Historical data for the four transport typologies

It is hoped that the implementation of master plans at Transnet and the company's large capital investment programme, as well as the finalisation of the Department of Transport's (DoT) national master plan will, in the medium term, contribute to the required modal restructuring, leading to more costs-efficient transport in this regard.

SPATIAL PERSPECTIVE

King DJ

Introduction

The physical internet is described as the global network connecting firms, suppliers and consumers. The ability of a country to access this global network depends on the quality of its national infrastructure, as well as on the effectiveness of its policies and institutions. In a similar fashion, supply chains now form a global network. These expanded supply chains put a new premium on moving goods in a predictable, timely and costs-effective way.

Well-connected countries can have access to many more markets and consumers, while for poorly connected countries, the costs of exclusion are considerable and growing, and the risk of missed opportunities looms large, especially for the poorest landlocked countries, many of which are in Africa. Organisations base their international location decisions on the performance of a country's logistics system. High logistics costs are seen as a barrier to trade and foreign direct investment, and thus to economic growth. The answers lie in better processes, higher-quality services and the operating environment. Seamless, paperless systems should be the goal of each country to optimise logistics processes.⁸

Infrastructure quality is a big factor in determining logistics performance, especially ICT systems. Transport infrastructure is also fundamentally important and should be able to satisfy rapidly growing demands. The competence of private and public logistics service providers is another key aspect. The performance of the supply chain depends on the quality of the service provided by the private sector, in collaboration with the proficiency and diligence of public agencies. Lack of corruption and increased transparency are cardinal in the overall governance of logistics systems. The last factor is the reliability of the supply chain. Quality of service, along with reliability, is a key factor in the age of globalisation and customers tend to value the latter even more than the costs of the service provided.

South Africa can be described as spatially challenged in a logistical sense due to the agglomeration of major industries in Gauteng in the centre of the country, which increases logistics costs when competing in the global market. In a global benchmarking study done by the World Bank, which compared the logistics performance of countries,⁹ South Africa was ranked 24th out of 150 countries, which is a remarkable achievement considering that

8 The World Bank. 2007. *Connecting to Compete: Trade Logistics in the Global Economy*. Washington DC.

9 The World Bank. 2007. *Connecting to Compete: Trade Logistics in the Global Economy*. Washington DC.

South Africa was ranked 124th based on domestic logistics costs. The high logistics costs are due to the high transportation costs of goods, which will continue to increase in the short term, firstly due to the geographical nature of South Africa's market and secondly, due to global factors such as higher oil prices. Therefore, to reduce logistics costs in the supply chain, efficiencies should be realised in other areas of operation.

Major corridor movement

The previous State of Logistics survey¹⁰ mapped the costs of transporting goods to the nearest market town, port or international logistics hub and showed the costs disadvantage of long-distance transport to these points. It therefore stressed the importance of a streamlined and upgraded freight logistics system along the main corridors that connect South Africa's main economic concentrations and ports of entry. Figure 10 shows the major corridor movement with volumes (tons) per direction for 2005 (the rail percentage per corridor is shown in brackets).¹¹

The major corridors for the movement of goods remain Gauteng–Durban and Gauteng–Cape Town, as also stated in the National Freight Logistics Strategy (NFLS), with almost 40% of all corridor movement taking place on these two corridors. The movement from Gauteng constitutes double the movement towards Gauteng on these two corridors, as can be expected. Rail accounts for only 25% of tonnage moved on the Gauteng–Durban corridor and for 15% on the Gauteng–Cape Town corridor (2005 data).

10 CSIR Built Environment. 2006. The Third Annual State of Logistics Survey. Pretoria, RSA.

11 The corridor data do not represent all commodities transported but include only a selection of 22 major industries. They also do not include specialised routes such as the Sishen–Saldanha export iron ore route and the Gauteng–Richards Bay export coal route or other similar smaller routes.

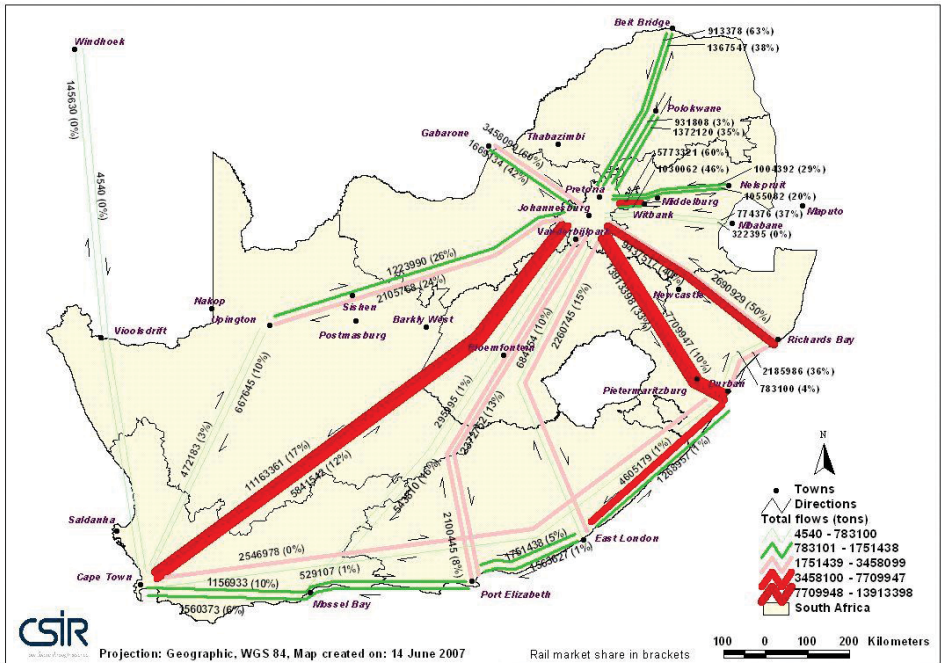


Figure 10: Total tons moved on South African corridors for selected industries¹²

Road vs rail in selected industries

It is difficult to carry the road vs rail debate across industries, but examining the change in market share of selected industries on the major corridors and routes between 2003 and 2005 gives insight into the challenges facing rail transport in future (see Figure 11).

The transportation of bulk mining products (iron ore, manganese and coal) is dominated by rail due to the suitability of the product for rail transport, but also due to the specialised infrastructure afforded to these commodities, such as ring-fencing and the prioritisation of rolling stock allocation. Rail has lost market share in the automotive (15%), cement (7%), coal (11%), fertiliser (9%) and grain (28%) industries, but has gained market share in the chemicals (9%), steel (44%) and timber (35%) industries between 2003 and 2005.

¹² CSIR Built Environment and University of Stellenbosch: Department of Logistics data. 2005

Marketshare of road and rail per selected industries

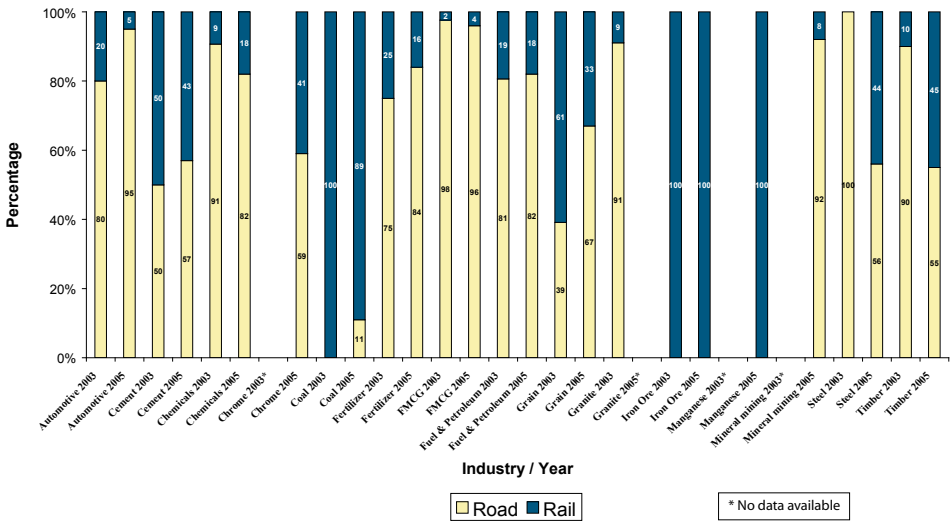


Figure 11: Comparison of selected industries' road vs. rail market share on major corridors and routes for 2003 and 2005¹³

Supply chain challenges and innovation

To bring about a streamlined and upgraded freight logistics system that will drive down domestic logistics costs will require greater collaboration, especially between government and private industry role-players. Government has, since the release of the NFLS in 2005, identified strategic nodes and corridors that require special attention, but has struggled to implement noteworthy logistical changes. A heavy emphasis has been placed on infrastructure investment (as is necessary), but more needs to be done in terms of management and operations. The leadership role that the private sector can play in this regard is crucial and an open communication channel or discussion forum between government and industry could be the first step in realising a more streamlined system.

The release of South Africa's National Freight Databank in 2007 by the DoT is one of the tools to help stakeholders in the logistics chain plan transport in South Africa and across its borders. The databank has a long-term focus of providing freight data that will help with policy formulation, infrastructure investment plans, enhanced operational efficiency, cross-border information about infrastructure, and operations and corridor tools, such as mapping, modelling and forecasting.

13 CSIR Built Environment and University of Stellenbosch: Department of Logistics data. 2003 and 2005.

Visibility in the supply chain is another important factor and just as a company requires visibility to improve their logistics function, so government requires visibility to improve the national freight system. Sharing of information is one way to do this, but past experience shows that companies (especially in the same industry) are reluctant to share information. The automotive industry has in the past few years bridged this gap with the Motor Industry Supply Chain Competitiveness Improvement Programme (MISCCIP) and instead of the local big original equipment manufacturers (OEMs) competing only with one another, they are competing more and more with their counterparts abroad. The aerospace industry (funded by the Department of Trade and Industry - **the dti**) started with its own programme, the Aerospace Supply Chain Improvement Programme (ASCIP), in 2006 with the goals of enhancing the supply chain efficiency and communication process of the industry and facilitating international growth, but has had limited success thus far.

SOUTHERN AFRICAN PORTS: A GATEWAY INTO AFRICA

King DJ, Maspero E and Van Dyk E

Introduction

Sea ports are generally acknowledged to be a country or region's economic lifeline in the global marketplace and it is estimated that over 90% of physical international trade takes place *via* sea transport. Figure 12 shows the world's major ports.

Major Ports of the World



Figure 12: Major global ports¹⁴

14 Source: <http://gcaptain.com/maritime/blog/top-10-worlds-busiest-ports>. Accessed 22/04/08.

The United Nations Conference on Trade and Development (UNCTAD) estimates that in 2006, world seaborne trade increased by 4,3% from 2005 to 7,4 billion tons loaded. It is estimated that world seaborne trade has more than doubled in the past 20 years (see Figure 13).

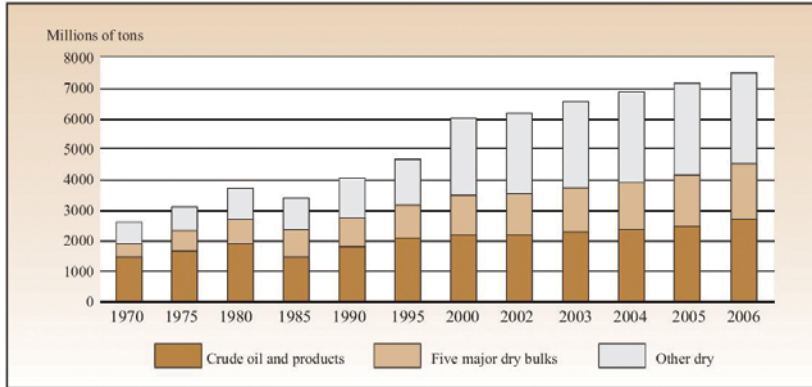


Figure 13: International seaborne trade for selected years¹⁵

The rise of international container shipping

Although bulk and break-bulk shipping remains common, containerisation has accounted by far for the biggest growth in shipping volume. Figure 14 shows the increase in international containerised cargo from 1985 to 2006.

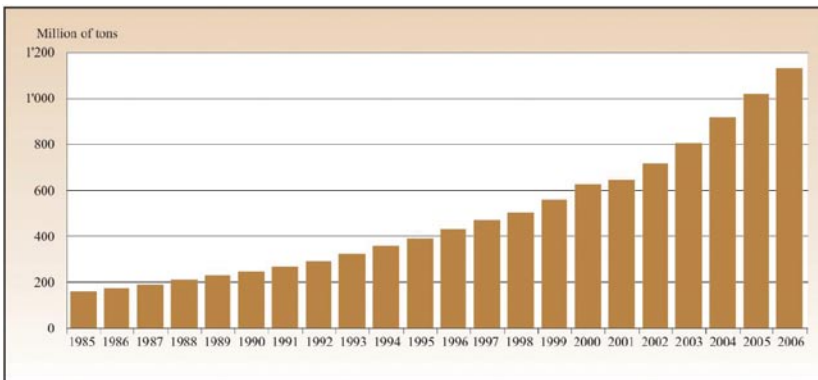


Figure 14: Growth in international containerised trade (1985–2006)¹⁶

15 UNCTAD. Review of Maritime Transport 2007. United Nations, New York and Geneva.

16 UNCTAD. Review of Maritime Transport 2007. United Nations, New York and Geneva.

The major advantages of containerised cargo are shorter loading and unloading times due to the homogeneity of containers, and also less product handling and therefore less risk of damage to products. Perhaps the biggest advantage of containerisation is that it enables streamlined intermodal transportation with containers arriving at and departing from the port by road or rail. The patterns of containerised cargo movement are shown in Figure 15. The amount of container traffic for the period 2003 to 2005 is depicted in a novel way in that territory size represents the proportion of all shipping containers being loaded and unloaded there. It can be seen that Eastern Asia and especially China dominate world containerised traffic movement, with Africa and South Africa having a negligible amount of containerised traffic by comparison.

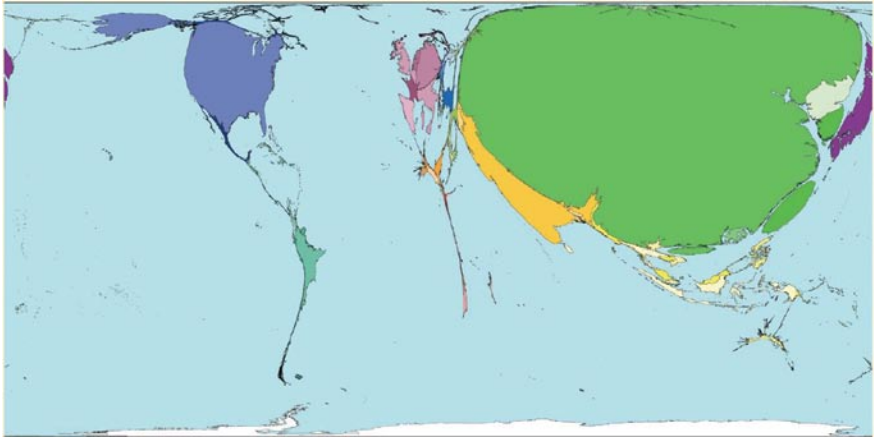


Figure 15: Proportion of world containerised traffic per territory¹⁷ (Map areas represent proportion of all shipping containers being loaded and unloaded)

With the growth in containerised traffic, pressure is placed on port terminals to achieve maximum efficiency of operations in the loading and unloading of containers. Increased and improved coordination of the entire maritime supply chain has become vital, particularly the seamless intermodal transfer of containers between road and rail to and from the ports. To fully realise the benefits of containerisation, intermodal interchanges must be as efficient and effective as possible.

Trends in global maritime logistics¹⁸

The global logistics and freight-forwarding market is in a state of rationalisation and consolidation. In recent years many forwarders have developed their operations to take advantage of the trend towards outsourcing and to meet shippers' requirements for more

17 Source: http://www.worldmapper.org/posters/worldmapper_map38_ver5.pdf. Accessed 22/04/08.

18 UNCTAD. Review of Maritime Transport 2007. United Nations, New York and Geneva.

sophisticated logistics and supply chain services. Driven by globalisation, the overall freight-forwarding market is expected to continue growing at 9,4% over the next five years. This positive outlook is, however, subject to downward risks, including the cooling United States economy and its potential impact on transpacific and transatlantic trade. In addition, freight forwarders are negatively perceived by some customers as being a low value-adding resource providing a range of commoditised, costs-based services.

South African ports

South Africa has eight commercial ports along its coastline, most of which serve fairly natural economic hinterlands producing specific cargo types. The port of Cape Town, for example, handles cargo bound predominantly from or for industries of the Western Cape. Richards Bay and Saldanha are highly specialised ports handling primarily bulk products – coal and iron ore, respectively. The new port of Coega in the Eastern Cape will be able to accept larger vessels and will have facilities to handle containers and bulk liquids. This product-specific and natural specialisation of the ports has resulted in relatively low levels of inter-port competition in South Africa. The main products handled by the respective port terminals or facilities are summarised in Table 3 below.

Table 3: South African port terminals and major products handled¹⁹

Port	Terminal	Major products handled
Saldanha	Oil terminal	Oil and petroleum products
	Iron ore jetty	Iron ore
	Multi-purpose terminal	Lead and copper concentrates, pig iron, zircon, rutile, chloride and sulphate slag, steel coils Imports: steel pellets, anthracite and coking coal
Cape Town	Dry-bulk terminal	Maize, soya and barley
	Cape Chemicals	Chemicals
	Cape tank terminal	Molasses, vegetable and fish oils
	Oil terminal	Petroleum products
	Cape Town bulk storage	Chemicals and bunker fuel
	Container terminal	Containers (including reefers)
	Multi-purpose combi-terminal	General cargo, fruit, timber, steel and containers
Fresh produce terminal	Fresh produce, timber and containers	
Mossel Bay	Single-point mooring	Mossgas products
	Oil industry terminal	Export Mossgas products
	Submarine pipeline	Export Mossgas products

Port	Terminal	Major products handled
Port Elizabeth	Container terminal	Containers
	Multi-purpose terminal	Steel, fruit, timber and bagged cargo, including mini-bulk such as grain and feedstock
	General terminal	Deciduous and citrus fruit, timber, steel, unitised and bagged cargo
	Dry-bulk terminal	Manganese ore and other free-flowing commodities for export
	Oil terminal	Refined petroleum products
East London	Dry-bulk terminal	Grain and other dry bulk
	Tanker terminal	Liquid bulk (refined fuels)
	Container terminal	Container and break-bulk
	Car terminal	Vehicles
Durban	Soda ash terminal	Soda ash
	Dry-bulk terminal	Coal, coke, minerals and fertiliser
	Fresh produce terminal	Fresh produce (citrus) for export
	Bulk-sugar terminal	Sugar for export
	Durban shipping terminal	Dry bulk, grain and vegetable oils
	Durban coal terminal	Minerals, sulphur, fertiliser, coal and coke
	Grain elevator	Grain
	Liquid bulk (bulk molasses)	Liquid bulk molasses
	Liquid bulk terminal	Lubrication oils, glycols, alcohol, chemicals, solvents and vegetable oils
	Island View storage	Chemicals, molasses, petroleum products and vegetable oils
	General cargo/break-bulk point terminal	Granite, steel, timber, general and unitised cargo
	City terminal	General cargo
	Rennies cargo terminal	Steel and general cargo
	Ocean terminal	Passenger and cruise ships
	Forest products terminal	Forest products, paper and pulp
	Container terminal	Containers
	Combi-terminal	Steel, ferro-chrome, timber, granite, motor vehicles, scrap, grain, pulp and paper
Car terminal	Vehicles	

Port	Terminal	Major products handled
Richards Bay	Dry-bulk terminal	Imports: andalusite, chrome ore, fertiliser, rock phosphate, rutile, titanium slag, vanadium slag, vermiculite, woodchips and zircon Exports: alumina, coking coal, fertiliser, petcoke, potash, rock phosphate, salt, sulphur, urea and zinc
	Coal terminal	Coal
	Liquid bulk quay	Fuel
	Multi-purpose terminal	Ferro-alloys, pig iron, granite, forest products, aluminium, steel, scrap, containers and pitch coke
	Island View storage	HAZMAT storage: bulk liquids and liquefied gases
	Richards Bay bunker service	Bunker fuel

Cargo is generally divided into the main categories of bulk (liquid and dry), break-bulk (palletised) and containerised cargo. The first two are measured in metric tons while containers are measured according to the international standard of TEUs (twenty-foot equivalent units). The volume of cargo handled by South African ports during the 2006 calendar year is reflected in Table 4.

Table 4: Summary of cargo handled at South African ports²⁰

SUMMARY OF CARGO HANDLED AT PORTS OF SOUTH AFRICA									
JANUARY—DECEMBER 2006									
	RICHARDS BAY	DURBAN	EAST LONDON	PORT ELIZABETH	MOSSEL BAY	CAPE TOWN	SALDANHA	TOTAL	
BULK CARGO (METRIC TONS)									
BULK LANDED	6 137 418	28 580 245	1 051 466	1 121 637	472 533	2 569 588	4 014 437	43 947 324	
BULK SHIPPED	75 247 420	7 410 512	87 970	2 686 937	958 089	816 847	28 233 075	115 170 850	
TRANSHIPMENT CARGO	-	156 065	-	-	-	131 539	4 453 412	4 741 016	
TOTAL BULK HANDLED	81 384 838	35 876 822	1 139 436	3 808 574	1 430 622	3 517 974	36 700 924	163 859 190	
BREAKBULK (METRIC TONS)									
BREAKBULK LANDED	130 917	4 312 182	260 451	584 273	41 634	223 499	242	5 553 198	
BREAKBULK SHIPPED	4 803 308	3 532 882	106 224	477 666	46 341	336 103	1 072 026	10 374 550	
TRANSHIPMENT CARGO	137	139 355	-	-	-	57 164	-	196 656	
TOTAL BREAKBULK HANDLED	4 934 362	7 984 419	366 675	1 061 939	87 975	616 766	1 072 268	16 124 404	
TOTAL CARGO HANDLED	86 319 200	43 861 241	1 506 111	4 870 513	1 518 597	4 134 740	37 773 192	179 983 594	
CONTAINERS (TEUs)									
CONTAINERS LANDED	1 376	1 095 911	17 110	220 519	-	380 979	-	1 715 895	
TRANSHIPMENT CONTAINERS	-	237 980	2	20 963	-	71 619	-	330 564	
TOTAL CONTAINERS SHIPPED	2 815	1 102 689	21 198	172 294	-	401 889	-	1 700 885	
TRANSHIPMENT CONTAINERS	-	251 776	123	24 484	-	75 977	-	352 360	
TOTAL CONTAINERS HANDLED	4 191	2 198 600	38 303	392 813	-	782 868	-	3 416 780	

²⁰ Transnet National Ports Authority, Port Statistics for 2006.

These figures represent a general increase in the volumes handled in regard to all cargo types, except for break-bulk where a 5% reduction occurred (in part attributable to the continued growth in containerisation of cargo). Containerised traffic grew by 7% in 2006 and is forecast to grow by a further 8% in 2007.²¹ Total bulk export volumes increased by 6% and bulk imports increased by 4%.²²

South Africa falls on the secondary north/south routes served by smaller vessels and it is unlikely that any of the major container vessels will call at a South African or African port in the near future. However, as the size of the container vessels calling at South African ports is still increasing, any port or terminal congestion becomes critical as the risk of delay is that much higher. A major constraining factor is the lack of adequate and modern intermodal transfer points between the ports, road and rail; and this situation needs to be improved to accommodate the growth in containerised traffic.

Regional perspective – the future of southern African ports

All southern African ports, especially those in the SADC region, face the challenge of expanding their facilities to accommodate the growth of international and national trade. In South Africa, significant capital expenditure has been planned for port expansions and developments as part of Transnet's overall freight logistics strategy. Within the next five years Transnet is expected to spend some R80 billion on such developments.

The port of Coega in the Eastern Cape is South Africa's 8th and latest commercial port development, and is set to start operating in 2008. The port's deepwater construction is capable of serving post-Panamax dry and liquid bulkers, and the new generation of cellular container ships. The port is located within the Coega Industrial Development Zone (IDZ), which will serve as a primary location for new export-driven industries. The construction of a link with the existing Port Elizabeth–Gauteng main railway line has received approval and is underway. Both the existing railway line and the N2 freeway pass through the Coega IDZ, which improves connectivity and makes intermodal solutions a possibility.²³

The port of Walvis Bay in Namibia has experienced investment of over R600 million over the past 10 years to fund expansion. Another expansion programme of R1,2 billion is planned, starting in 2008, to cater for increased business in the SADC region.

Extensive economic growth in the SADC region has placed heavy pressure on the transport infrastructure to keep pace. Many of the ports lack sufficient capital (whether financial, human or technical) to ensure adequate expansion at the rate demanded and therefore

21 SAPO Operational Report. Source: http://www.transnet.co.za/AR_2006/ops_saposrt.html

22 NPA Operational Report. Source: http://www.transnet.co.za/AR_2006/ops_nationalports.html

23 Ports and Ships, Shipping News online. 2006. The port of Ngqura.
Source: <http://www.ports.co.za/coega.php>. Accessed 22/04/08.

some have followed the international trend of concessioning terminals to major international port operators. Dar es Salaam in Tanzania is one such example: in September 2000, a 25-year lease was granted to the Tanzania International Container Terminal Services (TICTS), which is backed by the Hong Kong-based port operator Hutchison Whampoa, to operate container services at the port.²⁴ A more recent example is a 20-year concessioning agreement between the Angolan government and APM Terminals, an international port operator, and Gestao de Fundos, a locally-based company, to operate the container terminal at Luanda's Terminal 2 with the express goal of easing congestion in Angola's busiest port. The port currently handles 200 000 TEUs a year and projections are for double-digit growth in the next few years due to mining and oil-related expansion.²⁵

Port congestion remains a primary concern to port operators, shipping lines and major industries. The possible causes of port or terminal congestion are many: inclement weather, bunching of vessel arrivals, inefficient transport linkages with road or rail (delaying the transfer of cargo from or to the port), inefficient cargo handling (from or to the vessel) or, in many African countries, the inefficiency and delays experienced with inland customs clearance. Port congestion has significant knock-on effects: if a vessel is delayed in one port, the remainder of the voyage and the planning and operations at all subsequent ports-of-call will be disrupted unless the vessel can make up time. Shipping lines are so concerned about delays that during the worst phase of the congestion experienced in Durban (from 2003 to 2005), a congestion surcharge penalty of US\$100 were levied on each container in an attempt to encourage better performance. Sadly, such surcharges are almost always passed on to cargo owners and in turn to their customers (the final consumers).²⁶

Port congestion can also force time-sensitive regional cargo to road or rail or even to another port. Regional competition between ports for cargo volume is on the increase and it can only benefit the nations involved through continued economic development stimulated by increased trade. Some ports are developing either value-adding activities located close to or even within the port boundaries (such as smelters or cold stores), while others are attempting to streamline the intermodal transport system to the port. It can be argued that shippers no longer choose a port *per se*, but rather a supply chain solution that provides them with efficient access to markets.²⁷ The port therefore needs to ensure that it adds value to the supply chains in which it participates.

24 Mjasiri J, Dar port faces more challenges. Source: <http://dailynews.habarileo.co.tz/magazine/?id=2525>. Accessed 22/04/08.

25 Cargo Info Africa. 26/10/07. Into Africa Buzz. Lines confident of an improvement in Luanda but landslide problems persist. Source: <http://www.cargoinfo.co.za/>. Accessed 22/04/08.

26 Enslin-Payne S, Ports: Volumes tell a tale of turnaround. Business Report, 20/01/08. Source: <http://www.busrep.co.za/index.php?fArticleId=4212134>. Accessed 22/04/08.

27 Port Strategy online edition. Supply chain synchronisation. 10/2007. Source: http://www.portstrategy.com/archive/2007/october/in_focus_port_modelling/port_modelling. Accessed 22/04/08.

CASE STUDIES

The Maputo Development Corridor



Figure 16: The Maputo Development Corridor²⁸

The Maputo Development Corridor (Figure 16) is a case in point. Through close cooperation between the governments of South Africa and Mozambique, a highly-efficient transportation network has been created. The corridor stretches from Johannesburg to Maputo through one of the most highly industrialised areas in the region, serving industries such as steel, petrochemicals, mining and agriculture. The N4 road corridor has been concessioned to Trans African Concessioning (TRAC) until 2028, thereby ensuring the long-term sustainability of the corridor.

The long-delayed rehabilitation of the railway line was also completed due to CFM (the Mozambican railway operator) and Spoornet (now Transnet Freight Rail) signing an agreement of cooperation in 2006, which will lead to greater volumes being transported between Johannesburg and Maputo *via* rail. Due to the success of the corridor, some cargo traffic has already moved from the port of Durban to the port of Maputo. In 2005, 6,4 million tons of throughput was achieved, a 16% increase over the previous year, which underlines confidence in the port's future. To enhance the working of this corridor, the Maputo terminal has to be upgraded, the channel needs to be deepened and the border crossing should be much more efficient. Increased growth in traffic will require a larger terminal with a number of new berths and larger cranes capable of handling ships to international standards.

Even more important is a seamless border crossing, as this will directly influence the rate of growth of the Maputo port.²⁹ In this regard, a one-stop border facility between South Africa and Mozambique currently in the conceptual development stage and planned for completion in 2010 could be the answer.

28 Source: <http://www.mcli.co.za/mcli-web/images/wpe17627.jpg>. Accessed 22/04/08.

29 Cargo Info Africa. 26/10/07. Into Africa Buzz. Upgraded terminal, deeper channel and faster border post needed for Maputo corridor. Website: <http://www.cargoinfo.co.za/>. Accessed 22/04/08.

The Trans-Kalahari Corridor



Figure 17: Trans-Kalahari Corridor³⁰

Another example is of Botswana shippers using the Trans-Kalahari Corridor (TKC), which links the port of Walvis Bay with Gaborone in Botswana and with Gauteng in South Africa, to ship goods through the port of Walvis Bay. The port handled approximately 3,3 million tons of cargo in 2006 and expansion plans aim to increase the port's handling capacity for containers to 500 000 TEUs per year. A Botswana-funded project is underway to develop a dry port at Walvis Bay to increase traffic volumes on the TKC and to assist exporters and importers by reducing total transport costs and turnaround times. The border post between Namibia and Botswana has extended border hours and only a single clearance document is needed, as in the rest of the SADC region, which ensures fast clearance times of less than 30 minutes.³¹ In 2007 it was estimated that traffic on this corridor increased by 58% with a transit time of 48 hours to and from Gauteng.³²

30 Source: <http://www.corridornet.co.za/modules/articles/?Irn=23>. Accessed 22/04/08.

31 Cargo Info Africa. 16/11/07. Into Africa Buzz. Renewed marketing campaign punts Transkalahari corridor benefits. Website: <http://www.cargoinfo.co.za/>. Accessed 22/04/08.

32 Lute A, Trans-Kalahari Corridor providing fastest trade route. *The Botswana Gazette*. Source: <http://www.gazettebw.com/business/trans-kalahari-corridor-proving-fastest-trade-route-2.html>. Accessed 22/04/08.

INDUSTRY-LEVEL PERSPECTIVE

USING 3PLS IN AFRICA

Bean W and Willemse E

Introduction

During the past 15 years South African companies have been slowly gaining access to markets throughout the African continent. Although some ventures have failed dismally, most companies have developed successful African business models that allow them to expand into these new markets and deliver profits to their shareholders. South Africa ranked worldwide amongst the top 10 largest developing country investors in 2004. The main business drivers for manufacturing companies to expand into Africa are access to new markets, growing the business, diversification and improving competitiveness. For natural resources and agriculture companies, the reasons are to access more natural resources, control value chains, increase privatisation opportunities and decrease the costs of production.³³ Being active on the continent also provides opportunities for expansion beyond Africa, thus allowing companies to become global players. This trend of expansion into Africa, or what some refer to as 'South Africanisation' of the African economy, has its advantages and disadvantages and it has a notable impact on the logistical system of companies.³⁴

Impact on the logistical system

When a South African company expands into Africa, the location of business and manufacturing facilities is greatly influenced by the availability and condition of physical infrastructure and also by transport costs. Since many African countries are underdeveloped, the location of facilities could be a great challenge to the logistical system of a company. Roads in some African countries are poorly maintained and this leads to high accident rates, high vehicle maintenance and high operation costs.³⁵ In addition, the uptake of ICT in many African countries is very low and this could cause logistics costs to increase drastically. Cross-border traffic also increases the complexity of both the logistical system and the supply chain since logistical activities must be managed between different countries with different

33 UNCTAD (United Nations Conference on Trade and Development). 2005. Case study on outward foreign direct investment by South African enterprises. Commission on Enterprise, Business Facilitation and Development: Expert Meeting on Enhancing the Productive Capacity of Developing Country Firms through Internationalization, Geneva, 7 December 2007.

34 Gillingham A, 2007. Taking on the continent. Mail & Guardian online, 24 July. Source: http://www.mg.co.za/articlePage.aspx?articleid=314789&area=%20/suppanafrican0707_home/suppanafrican0707_content/. Accessed 23/01/08

35 Pedersen PO, 2001. Freight transport under globalisation and its impact on Africa. *Journal of Transport Geography*, 1(9): 85–99.

regulations and rules. As a result, companies are increasingly using third-party logistics service providers (3PLs) to manage their logistical activities.³⁶

Benefits of using 3PLs in Africa

Outsourcing is becoming more popular every day and the 3PL industry is growing rapidly worldwide. As supply chain complexity increases, the appeal of outsourcing logistics activities becomes more evident. Outsourcing the logistics activities gives companies the opportunity to focus on their core competency and to increase their geographical coverage.³⁷ As geographical coverage increases, transportation costs also increase. By using a 3PL for distribution activities, a company can decrease transportation costs considerably. A 3PL can influence the load consolidation and backhaul opportunities of different companies, which will result in lower transportation rates. The 12th Annual Third-party Logistics Study found that outsourcing logistics activities to 3PLs reduced logistics costs on average by 13%.³⁸

Although exporting is a risky business, risks can be reduced by outsourcing logistics activities. By using 3PLs, companies receive supply chain support that allows them to investigate opportunities in new countries. This enables a company to build a multi-location distribution network in less time, with lower risk and without the high capital investment required to build its own network.³⁹

If a company's business is seasonal in nature or it needs to supply goods only during certain months of the year, it can scale activities to provide maximum support during peak months and minimal support during off-peak months by using 3PLs. In addition, 3PLs can increase inventory turns, increase company performance, decrease order cycle times and consequently increase customer satisfaction. The dynamics of being a 3PL in Africa are illustrated in the following case study.

Case study: Imperial Logistics

Imperial Logistics is a 3PL logistics provider in sub-Saharan Africa, providing logistics solutions to clients in the manufacturing, agriculture, mining, retail, hospitality, services and distribution industries. Imperial Logistics operates around 4 500 vehicles of its own, provides work to another 2 000 (sub-contractor) vehicles and employs more than 12 000 people. It is a division of the Imperial Group, and has a number of operating companies that

36 Ntuli AN, 2004. Is Globalisation Good for Sub-Saharan Africa? Threats and Opportunities. Adam Mickiewicz University, School of Social Sciences, October 2004.

37 About Inc 2007. Advantages and disadvantages of 3PL.

Source: http://logistics.about.com/od/outsourcing/a/3pl_adv_disadv.htm. Accessed on 15/01/08

38 Langley CJ, 2007. Third-Party Logistics Study: Results and Findings of the 12th Annual Study. Georgia Institute of Technology, Cap Gemini, DHL and SAP America.

39 Logistics List 2007. 5 Reasons to use a 3PL provider. Website: <http://www.logisticslist.com>. Accessed on 15/01/08.

provide logistics services into Africa. The African coverage of Imperial Logistics is indicated in Figure 18.

A survey conducted focused on the business environment and the challenges experienced by logistics service providers when exporting into Africa. Four operating companies within Imperial Logistics were surveyed: Imperial Cargo Namibia (Pty) Ltd, Cargo Africa Overborder (Pty) Ltd, Truckafrica South Africa (Pty) Ltd and Etosha Transport (Pty) Ltd.

Imperial Cargo Namibia

Imperial Cargo Namibia, situated in the Western Cape, provides transportation and clearing services for the food and beverage industry. The company transports finished goods in bulk mainly to Botswana and Namibia.



Figure 18: African presence of Imperial Logistics

Cargo Africa Overborder

Cargo Africa Overborder is situated in Johannesburg. The company focuses on services to and from Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe. The

main products transported by the company are finished goods, aid food, and mining and industrial products, which are transported in break-bulk or containerised loads.

Truckafrica South Africa

The main office of Truckafrica South Africa is situated in Germiston. Additional branches are located in Durban, Komatipoort and Richards Bay, with a sister company in Lusaka, Zambia. The company transports mainly finished and consumer products and provides consolidation, transportation and express delivery services for the mining industry. It operates across Botswana, the Democratic Republic of Congo (DRC), Malawi, Mozambique, Tanzania, Zambia and Zimbabwe. Products are transported in abnormal, bulk, break-bulk, containerised or consolidated loads.

Etosha Transport

Etosha Transport specialises in the cross-border transportation and warehousing of furniture, general cargo and refrigerated products, which are transported in bulk, break-bulk, containerised, consolidated or refrigerated loads. The company offers consolidation, freight forwarding and transportation services, mainly within Namibia, but also transports products to Botswana and Swaziland. The head office is in Windhoek, Namibia, with warehouses in Cape Town and Johannesburg.

Cross-border exporting challenges and remedies

All four companies use road transportation since they feel that it is the most efficient mode and that it provides the best access to customers. Cargo Africa Overborder uses limited rail transportation. Rail is not preferred because it was indicated that it takes longer and the infrastructure is inadequately serviced. Given the predominant use of road transportation, the main exporting challenge faced is border-post delays. The companies indicated that this can be attributed to customers not paying duties, racketeering, lack of fully electronic border systems, border posts not being operational 24 hours a day and seven days a week, lack of information on border-post changes and charges, electricity load shedding, lack of resources with regard to the approval and clearing of goods in-bond, and delays in the completion and approval of documentation.

Challenges experienced that are not related to border posts include excessive road tolls, corruption, lack of qualified technical personnel capable of repairing broken-down vehicles *en route* and competitors that do not comply with good corporate governance and the laws of the land.

Remedies for some of the abovementioned challenges were proposed by the companies, as follows.

Standard electronic clearing system

All southern African countries should use a standard paperless electronic clearing system, i.e. ASYCUDA. The existing electronic data interchange (EDI) systems currently used at some border posts have to be integrated and standardised into a single EDI system. This will speed up the process of clearing goods through the border as it will reduce the delay resulting from the completion and approval of documentation. An integrated EDI system will also facilitate information exchange between border posts.

Longer border post operating hours

One of the primary factors contributing to the border-post delays is the limited operating hours of some of the posts. A simple remedy to this problem is to keep key border posts operational for 24 hours a day, seven days a week. The increased operating hours will simplify the transportation planning process of all companies that provide cross-border logistics services. Additional operating hours will also negate time delays resulting from drivers arriving at the post either too early or too late. Furthermore, additional operating hours will lessen the unbalanced strain on the limited border-post resources.

Better trained border post personnel

Better trained border-post personnel will result in an increase in productivity, which will in turn decrease waiting time. Additional training will also be required if an integrated EDI system is implemented.

Improved communication between key role players

Better communication between customs, exporters and transporting companies will facilitate the transportation planning process and decrease unnecessary delays due to misunderstandings. An integrated EDI system will provide an opportunity to improve communication between customs and transportation companies.

SOUTH AFRICA'S POTENTIAL AS A REGIONAL LOGISTICS HUB

Botha M

Introduction

Trade relations with other countries are pivotal for the economic development of South Africa, especially with globalisation of the world economy. South Africa's international trade deficit (imports exceed exports) necessitates export promotion and development, and it is hoped that the implementation of an export strategy developed by **the dti** in 2006 will achieve this. The aim of the strategy is to ensure that South African exports maintain their market share in traditional markets, and substantially increase their market share in prioritised, new high-growth markets through aggressive marketing and a larger exporter

community.⁴⁰ The establishment of South Africa as a regional logistics hub can contribute significantly to this aim.

South Africa's international trade statistics

Table 5 shows the top five countries that South Africa exports to and imports from. These countries were the same for both exports and imports in 2007, only the order differs. An element of concern is that none of the top five countries is a member of SADC or situated close to South Africa. This automatically increases logistical costs, increases supply chain complexity and promotes transportation complications.

Table 5: Top five South African export and import countries in 2007⁴¹

Country	Export R'000 000	% of total exports	Import R'000 000	% of total imports
United States	52 755	10,68%	43 155	7,72%
Japan	50 400	10,20%	36 978	6,61%
Germany	35 357	7,15%	65 621	11,73%
United Kingdom	34 620	7,01%	27 288	4,88%
China	28 015	5,67%	60 298	10,78%
Top 5 Total	201 147	40,71%	233 340	41,72%

The top 20 trading partners in terms of trade balance did include eight SADC countries for 2007, two of them in the top six as shown in Table 6. The top trading partners are determined by the positive balance between the exports and imports involving South Africa and another country. Globalisation has clearly benefited South Africa, especially in international trade. South Africa's export market showed an annual growth rate of 24,7% and the import market increased by 21% from 2006 to 2007 – clear indicators of a growing economy.

40 About SA: Economy. South African government.

http://www.info.gov.za/aboutsa/economy.htm#SA_positioning_integration. Accessed 22/04/08.

41 Department of Trade and Industry. Trade statistics 2007.

<http://www.thedti.gov.za/econdb/raportt/rapcoun.html>. Accessed 22/04/08.

Table 6: Top 20 South African trading partners for 2007⁴²

Rank	Country	Trade Balance R'000 000	Rank	Country	Trade Balance R'000 000
1	Japan	13 422	11	DRC	4 383
2	The Netherlands	10 863	12	Israel	2 852
3	United States	9 599	13	Zimbabwe	2 465
4	Zambia	7 594	14	Tanzania	2 371
5	United Kingdom	7 332	15	Ghana	2 144
6	Mozambique	6 628	16	Hong Kong	1 814
7	Switzerland	5 707	17	Malawi	1 522
8	Belgium	5 499	18	Mauritius	1 484
9	Spain	5 116	19	Morocco	1 438
10	Kenya	4 395	20	Madagascar	1 119

South Africa and the SADC region

Even though South Africa is located on the southern tip of Africa, it serves as the continent's leading commercial and economic hub and plays a leading role in the development and growth of SADC, which was created in 1992 and now consists of 14 member states.

Table 7 shows the SADC countries with 2006 population and GDP figures.

42 Department of Trade and Industry. Trade statistics 2007.

<http://www.thedti.gov.za/econdb/raportt/rapcoun.html>. Accessed 22/04/08.

Table 7: SADC members with population and GDP figures for 2006⁴³

Country	Population '000 000	GDP in US\$ billion
Angola	16,4	44
Botswana	1,8	10,3
DRC	59,3	8,5
Lesotho	1,8	1,5
Madagascar	19,1	5,5
Malawi	13,2	2,2
Mauritius	1,3	6,4
Mozambique	20,1	7,6
Namibia	2,1	6,4
South Africa	47,4 / 19,11%	255 / 67,34%
Swaziland	1,1	2,6
Tanzania	39,5	12,8
Zambia	11,9	10,9
Zimbabwe	13,1	5
SADC	248,1	378,7

The South African economy is the largest one in SADC and its GDP comprises 67% of the GDP of the region. South Africa has a population of 47,4 million (second in size only to the Democratic Republic of Congo – DRC), which provides access to more consumers, resulting in more consumer buying power than most countries in southern Africa. The GDP growth for the country has also remained constant during the past few years and was registered at 5% for 2006.

On the whole, the South African economy is head and shoulders above the rest of the region. The closest country in terms of total GDP is Angola with 11,62% of the total SADC GDP. These two countries account for nearly 80% of the region's GDP.

The current goals of the SADC Regional Indicative Strategic Development Plan (RISDP)⁴⁴ are to establish a SADC free trade area (2008), a customs union (2010), and a common

43 The World Bank. Website: www.worldbank.org. Source: World Development Indicators database, April 2007. Accessed 22/04/08.

44 SADC RISDP 2004. Website: www.sadc.int.

Source: http://www.sadc.int/content/english/key_documents/risdp/SADC_RISDP_English.pdf. Accessed 22/04/08.

market (2015) that will facilitate trade and financial liberalisation in the region and promote integration into the global economy. South Africa is well placed to play a leading role in this initiative. The SADC region relies heavily on the economic well-being of South Africa and any negative influences on the South African economy will also have a direct impact on other countries in the SADC region and will thus threaten the success of the developmental goals and policies of the RISDP.

A suitable geographical location

Figure 19 illustrates the geographical distance of South Africa from the rest of the SADC countries. The concentric circles indicate 500 km intervals from the midpoint, Johannesburg, and, as can be seen, all capital cities of the SADC region fall within a straight-line distance of 3 500 km from Johannesburg. As the economic hub of South Africa, Gauteng serves as a suitable choice for a midpoint regarding movements from or to South Africa. Although located the furthest south of any SADC country, South Africa is still favourably located as a regional logistics hub in terms of distance and accessibility, but a number of other factors also contribute to its favourability.

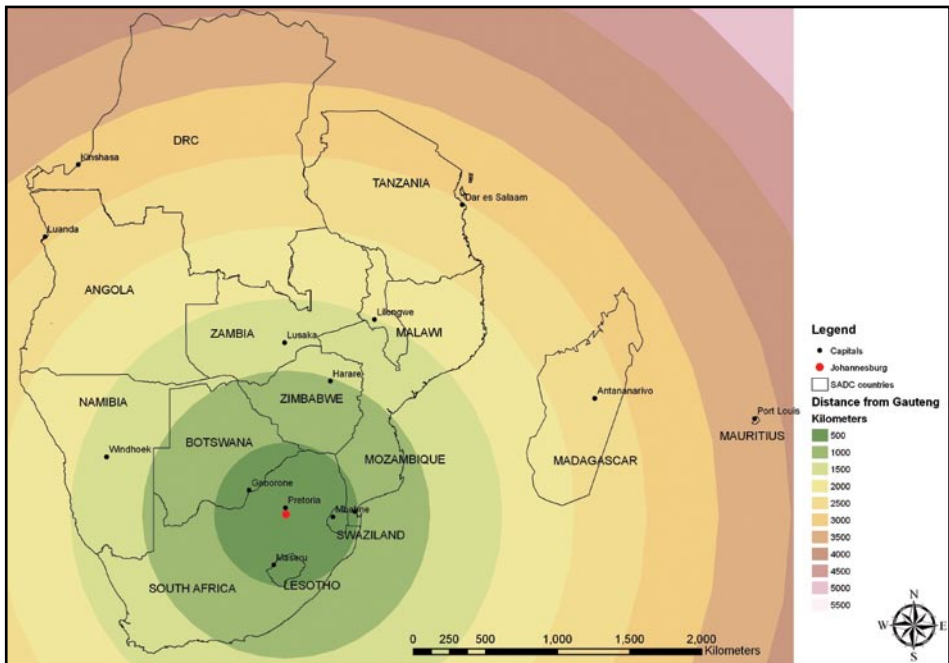


Figure 19: Geographic position of South Africa in the SADC region

Extensive transport infrastructure

Three components of international transportation that facilitate trade include:⁴⁵

- **Transportation infrastructure** – physical infrastructure such as terminals, vehicles, and networks. Effective and efficient infrastructure will promote international trade
- **Transportation services** – the set of services involved in the circulation of goods and people, including logistics, finance, insurance and marketing
- **Transactional environment** – the legal, political and cultural setting in which the transport system operates, including regulations, quotas and tariffs, but also consumer preferences.

Apart from a healthy and robust transactional environment and transportation services comparable with those of developed countries, South Africa also has good infrastructure compared with other SADC countries. The ICT environment is adequate at present and does not hinder development and growth, but there is room for improvement. Ports have been discussed under the macro-economic perspective in this survey and Figure 20 illustrates the supremacy of the South African road and rail infrastructure in the SADC region. South Africa's rail network accounts for approximately 80% of infrastructure in the whole of Africa.

Although maintenance and performance in both road and rail environments in South Africa require attention, transport infrastructure is constantly being improved and integrated. Government will mobilise an investment of more than R25 billion from both the public and private sectors over the next five years for utilisation on national roads. This is over and above the R3 billion allocated annually to SANRAL for managing non-toll roads. Transnet Freight Rail has also announced a R4,1 billion capital expenditure plan for the next five years.

⁴⁵ Rodrigue JP et al. 2006. *The Geography of Transport Systems*. Routledge: New York, USA.

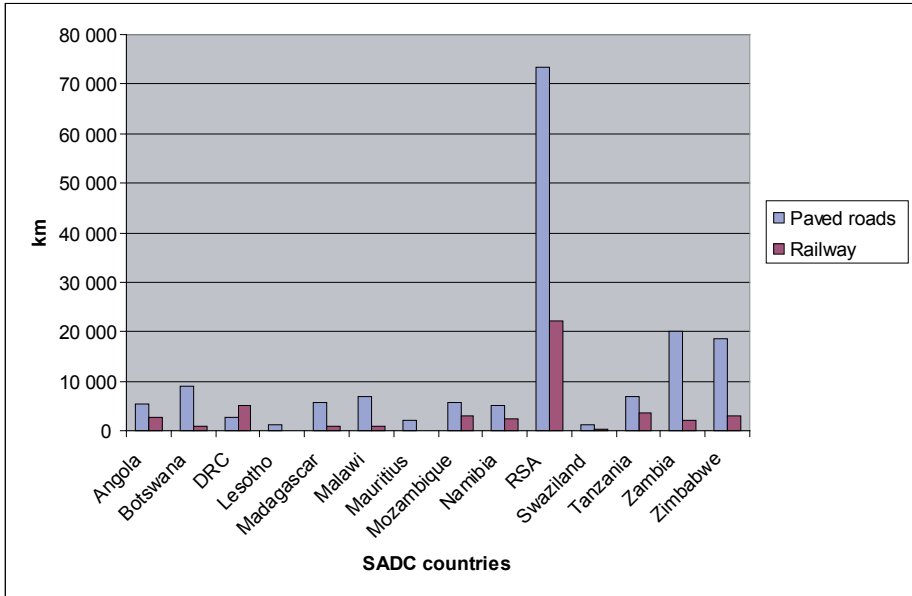


Figure 20: Road and rail infrastructure in SADC countries⁴⁶

Intermodal solutions

However, South Africa has one major inadequacy when compared to both developing and developed countries, namely the lack of intermodal integration. Intermodal transport has become very important, especially with the rise of containers as a freight solution. South Africa lacks the intermodal terminals and interchange facilities that can improve the logistical system by consolidating cargo, thereby increasing efficiency and simultaneously reducing logistics costs.

One solution is to identify a suitable location for a logistics hub or hubs for South Africa where several modes of transport can be accommodated. Several studies have seen the light in the past year promoting different regions or cities as logistics hubs. Each proposal has its merits, but what is required is an effort from national government in conjunction with the private sector to identify a suitable location for one or more logistical hubs based on predetermined criteria. The goal must be the promotion of modal integration and in the end realise South Africa's potential as a regional logistics hub.

⁴⁶ CIA World Factbook. Source: <https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html>. Accessed 22/04/08.

The development of South Africa as a regional logistics hub will not only improve the country's logistics performance and drive down logistics costs but, more importantly, it will give the country the opportunity to access the 'physical internet', and become a global player.

SMMEs AND THE EXPORT MARKET

Kekana E

Introduction

Since its first democratic elections in 1994, South Africa has moved rapidly towards increased economic integration with global economic processes. The government has managed wide-ranging economic restructuring and has identified increased foreign direct investment (FDI) as core to its strategy of economic growth. Together with a move to facilitate greater export orientation in its policies, government has also sought to encourage the small, medium and micro enterprise (SMME) sector through a range of supply-side support measures. South Africa is increasingly becoming a key trader, and in some cases investor, in the African continent.⁴⁷

Reforming the SMME supply chain is a strategy that has enormous potential. Small businesses usually have limited capabilities and little knowledge about the business environment, especially about the export industry. The government has started providing incentives for value-added manufacturing projects, support for industrial innovation and improved access to finance, to enable SMME development.⁴⁸ South African SMMEs should have a head start on other African SMMEs when it comes to exporting or importing because of better infrastructure and institutional arrangements, but is this the case?

The methods used by government to market and advertise the support incentives are often not accurately targeted and reach only a limited number of SMMEs. There are mixed reactions to these programmes and sponsorships: some SMMEs have stated that they are not well informed about the processes and procedures that one must follow when exporting. SMMEs find the paperwork involved in qualifying for such programmes laborious. However, some SMMEs do find the government programmes (such as the trade fair in Buxton, England) useful and of great value. Trade fairs help smaller exporters get exposure to the international market.

The CSIR undertook a survey to gauge the effectiveness of government SMME support programmes and to obtain an idea of the challenges facing SMMEs in the export market,

47 Robbins G, 2006. Strategies and Policies on Trans-National Corporations (TNC) SMME Linkages. Country Case Studies: South Africa. Industrial Restructuring Project, School of Development Studies, University of KwaZulu-Natal, UNCTAD.

48 Department of Trade and Industry (the dti) website: <http://www.thedti.gov.za/>. Accessed 22/04/08.

specifically looking at the supply chain of SMMEs. The information was gathered via various methods, such as questionnaires, telephone interviews and a desktop study.

Key industrial challenges for exporting SMMEs

SMMEs tend to find the economics of exporting difficult because of various issues, notably lack of experience and lack of financial support. SMMEs can overcome the experience gap by investing time and resources to develop export opportunities, only to find that they cannot secure funds from local banks.

Other challenges when exporting were listed as:

- The management of foreign exchange risk
- Political uncertainties (especially in African countries)
- Changes in import and export legislation in different countries
- Risk relating to logistics and distribution in foreign countries
- Theft of goods across borders.

The technological, socio-economic and political environments in foreign markets differ substantially from those in South Africa and require tailored marketing and specific sales strategies for each country.⁴⁹ SMMEs lack information and knowledge on what the market trends are globally or regionally, and they may fail to understand the economic position of their target market in the foreign country (usually due to the fact that they do not have the funds to do extensive market research). Sufficient training and information are usually not readily available with regard to the research that has to be done for the product to be marketed and established successfully in the foreign country.

Key supply chain challenges

The dti has released a guide called the Export Marketing and Investment Assistance Scheme (EMIA) to assist SMMEs, but according to some SMMEs, the systems of the dti are not user-friendly, and especially not the EMIA guide. The government programmes are regarded taking too much time and effort because of the amount of paperwork that needs to be completed. The programmes provided by the dti to support exporting SMMEs do not specifically address supply chain issues and therefore it is difficult for SMMEs to improve and streamline their export supply chains.⁵⁰

Competition amongst South African businesses (large or small) is high, which makes cooperation and collaboration between companies difficult. At present, big businesses

49 Dawn Ltd. 2006. Divisional Overview – Export Source: <http://www.dawnltd.co.za/2006/divisionalExport.htm>. Accessed 22/10/2007

50 Personal interviews with SMME owners attending the dti Export Workshop in Mpumalanga, 22–23 November 2007.

supporting and making their supply chains accessible to SMMEs are just a concept that needs to be developed further.

An SMME, like any other business, also faces the challenge of keeping up with the ongoing evolution of the southern African transport industry. Road transport is the major link between trading partners in southern Africa and aggressive competition in the deregulated road haulage industry has led to large increases in private distribution fleets and vehicle sizes. This limits the opportunities for SMMEs to gain sufficient cross-border market share when using single or light delivery trucks to compete with industry giants that have huge private fleets or use 3PL service providers to transport their goods.

Lack of affordable supply chain training to SMMEs (especially from the private sector), such as inventory management, supply chain improvement, value chain creation, outsourcing of non-essential functions and information sharing, hinders the development of effective supply chain management for SMMEs.

A list of the constraints facing SMMEs and specifically exporting SMMEs includes:

- Lack of access to insurance and finance resources
- Lack of knowledge about local and international legislation
- Lack of knowledge about export market requirements
- Lack of managerial skills and expertise
- Limited access to skilled labour
- Limited access to ICTs
- Limited information available about the target export market
- Lack of access to information on potential market opportunities and competition in foreign countries
- Insufficient infrastructure and infrastructural investment in foreign countries
- Marketing/advertising problems in foreign countries
- Long periods between delivery and payments when exporting, which cause cash flow problems.

Supply chain innovation

A supply chain management perspective emphasises viewing the supply chain as a holistic entity, rather than as discrete processes. Consequently, a key focus of supply chain management is to use technology to enable all the players along the chain to work together to optimise the system.⁵¹ Integration and alignment of exporting SMME processes can enhance supply chain performance. For SMMEs to gain a competitive advantage over their

51 Nadia A (Assistant Director, Export Development: Trade Opportunities). Designing and Implementation of the National Export Strategy. Presentation made to the National Trade Information Network.
Source: www.thedti.co.za. Accessed 22/04/08.

foreign competitors, supply chain collaboration is a way forward. This, in turn, may improve and strengthen South Africa's export trade within the southern African region.

Supply chain collaboration when exporting to foreign markets can reduce total logistics costs and optimise profitability. According to some supply chain management professionals, adopting first world supply chain best practices might be the solution to promoting the concept of supply chain collaboration between big and small businesses. The acceptance of change is the driving force behind many businesses that are involved in successful global operations.

Government adopted the White Paper on the National Strategy for the Development and Promotion of Small Business in South Africa in 1995.⁵² The goal of the White Paper was to create an enabling environment for the accelerated growth of small enterprises, following a history characterised by the dominance of large, capital-intensive firms and the continued neglect of small enterprises⁵³.

This challenge still remains today and hence government developed the Export Strategy (ES) policy in 2006. The ES is a policy measure for developing and promoting exports under the National Industrial Policy Framework (NIPF). The focus is on the development of exporters, with the target group being SMMEs and broad-based black economic empowerment (B-BBEE) enterprises. The programme will be delivered largely by the Small Enterprise Development Agency (seda), in cooperation with **the dti**.

South African policy is in line with that of the World Trade Organisation (WTO) and does not favour direct subsidies. Instead, indirect support for exporters is provided via the Export Marketing Assistance (EMA) scheme, which offers financial assistance for the development of new export markets through the financing of trade missions and through market research. The export finance guarantee scheme for small exporters is the government's newest means of assisting SMME exporters; it operates through credit guarantees with participating financial organisations.⁵⁴ Further improvement of export schemes for SMMEs would help to enhance small enterprises' exposure to international markets. SMMEs should utilise and participate in available government support programmes and sponsorships when available to improve their chances of surviving the global export market and to grow their supply chains.

52 Dlamini-Zuma N (Minister of Foreign Affairs). 2007. How to Identify and Conquer International Markets. Presentation made at the African National Congress (ANC) REC and Women's League Fund-Raising Dinner, Parys, 2 November 2007.

53 Department of Trade and Industry (the dti). 2005. Unlocking the Potential of South African Entrepreneurs. Integrated Small Enterprise Development Strategy.

54 Department of Minerals and Energy. 2003. An Overview of South Africa's Primary Industrial Mineral Imports and Exports. Directorate: Mineral Economics, government publication, report R42/2003. Website: <http://www.dme.gov.za>. Accessed 22/04/08.

TradeWorld is one example of a private organisation that also offers B-BBEE and SMME companies immediate sourcing solutions. The e-marketplace allows companies to gain access to a supplier database through which a supplier's credentials can be checked before engaging with them. From the supplier's perspective, immediate benefits include increasing the avenues for gaining new business opportunities and being proactive about concluding new business.⁵⁵

Case study: Plantwise

Plantwise entered the global export market in 1998 by successfully shipping 1 000 fully-grown palm trees to Abu Dhabi in the Middle East. Apart from a host of logistics challenges in getting the trees to the final destination, a drip irrigation system had to be developed to ensure that the palms arrived in good shape and as this had never been done before, a process of trial and error increased the costs significantly. On being successful, the company grabbed the attention of buyers from the United Arab Emirates (UAE), and the next challenge was to find a reliable supplier that could deliver the volumes of plant material required by this huge market. A suitable supplier was contracted and some 140 000 palm trees are currently being cultivated on three farms in Mpumalanga for this purpose. In each of the past three years, exports have doubled in both value and volume, and China is the latest market to be successfully entered, despite strong competition from companies in India, Sri Lanka and the USA.

As global experts in plant consulting and in the sourcing and transporting of flowers and horticultural products, Plantwise is well positioned to exploit these opportunities. As professional plant brokers that have been in business for more than 14 years, the company grows, sources and delivers on site, plants, herbaceous material and other horticultural products to meet the exact requirements of the client, at the best price and within the time constraints specified.

The company has dispatched orders to Botswana, Germany, Mozambique, Namibia, Swaziland and Zambia. Cut flowers and foliage have also been sent to the Netherlands, the USA, the UK and various European countries, and vegetables have been sent to Germany and the UK. The challenges involved in transporting plants globally require special skills in packaging and in maintaining plants in containers. For extra-large plants, no refrigeration is used but irrigation is applied. Plantwise is experienced in catering to these requirements, and in getting the plants to their destination in good condition.

The plants required are not restricted to South African or even African specimens, but are sourced from anywhere in the world. They include fully-grown specimens handled by crane or machinery. The climatic conditions of certain areas in South Africa and the properties of our indigenous flora allow 100% compatibility with conditions in the UAE and the rest of

⁵⁵ Tradeworld website: <http://www.tradeworld.net>. Accessed 22/04/08.

the Middle East. South Africa's diverse climatic regions allow the growth of an exceptional variety of plants, which are available in all sizes and in huge quantities able to satisfy a constant demand. In the next two years, Dubai alone will require some 500 000 fully-grown trees and other plant material for its Palm Island development – a great export opportunity for the company.⁵⁶

56 Personal interview with the founder and owner of Plantwise, Jenneth Prinsloo, and online at <http://www.plantwise.co.za/about.htm>. Accessed 18/02/2008.

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The Centre for Supply Chain Management (CSCM) is an ancillary academic institution with its primary responsibilities being consulting and research services in the fields of supply chain strategy, strategic and business positioning, and market and economic research.



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