

Examine spending capacity to deliver infrastructure in KwaZulu-Natal

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ABSTRACT

Capital budgeting and spending in emerging countries remains a major challenge facing government. The Minister of Finance (South Africa) in 2011 and 2012 (Gordhan 2011 and 2012) has emphasised on the need to focus more on infrastructure spending and efficient use of financial resource allocations. The National Development Plan 2030, tabled by the Minister in the Presidency responsible for Planning Commission, emphasised on the critical role of the infrastructure to realise the country's economic growth. The SA Minister of Finance has repeatedly mentioned that South Africa has enough financial resources but the challenge is on effective and efficient spending of the budget.

This study evaluates spending capacity on infrastructure in KwaZulu-Natal which has emerged as a major challenge for the South African government. The bulk of the SA budget is allocated to the Department of Education and Health hence this study has focused on these two departments in delivering infrastructure.

The study will broadly address factors and evaluate how capacity and planning have contributed to under-expenditure. The data to support this study will be extracted from the budget allocated in KwaZulu-Natal and expenditure levels of the province for the seven year period starting from 2004/05 financial year to 2010/11. The study concludes by proposing possible ways to improve planning capacity and ensure efficient and alignment in spending by different government departments.

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GLOSSARY OF TERMS

OECD	-Organization for Economic Cooperation and Development
NDP	- National Development Plan
BRICS	- Brazil, Russia, India, China, South Africa
ASGISA	- Accelerated shared Growth Initiative of South Africa
AGSA	- Auditor General South Africa
RSA	- Republic of South Africa
IMF	- International Monetary Fund
MEC	- Member of the Executive Council
PPP	- Public-Private Partnerships
NGP	- New Growth Path
DBSA	- Development Bank of Southern Africa
ILO	- International Labour Organisation
WB	- World Bank
MTEF	- Medium Term Expenditure Framework
IDC	- Industrial Development Corporation
KZN	- KwaZulu-Natal
EC	- Eastern Cape
HRG	- Hospital Revitalisation Grant
DME	- Department of Monitoring and Evaluation
S&P	- Standard and Poors

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

Capital budgeting and spending in emerging countries remains a major challenge facing government. The post-apartheid government in South Africa; elected in 1994 is still experiencing a number of challenges such as poverty; inequalities; crime and unemployment. The other challenge experienced by South Africa over the years is on infrastructure spending as a result of capacity constraints in government sector. These challenges require robust intervention by all relevant stakeholders to ensure SA realise growth.

The Minister of Finance (South Africa) in 2011 and 2012 (Gordhan 2011 and 2012) has put more emphasis on the need to focus more on infrastructure spending and financial resource allocations. The National Development Plan 2030, tabled by the Minister in the Presidency responsible for Planning Commission, emphasised on the critical role of the infrastructure to realise the country's economic growth. This will partly assist to address government priorities which among others are job creation and economic development. Gauteng provincial government have created a department fully responsible for infrastructure development to unbundle backlogs of infrastructure spending.

National Treasury led by Minister P. Gordhan; on annual basis provides guidelines for infrastructure spending and processes. However these guidelines in some instances have not yielded any positive results in terms of systematic challenges of South Africa. The recent inception of South Africa into a bloc of BRICS¹ countries has other implications in economic competitiveness (SA National Treasury 2010). In

¹BRICS is an acronym for: Brazil; Russia; India; China; and South Africa

this bloc of countries South Africa is lagging behind in with respect to growth and development. Growth in South Africa in 2012 is projected to be 2.5 while Sub-Saharan Africa will average at 9.1 per cent (IMF World Economic outlook, October 2012). The focus of this study though is more on the capital spending capacity in KwaZulu-Natal as case study. The next chapter reflect on the empirical evidence and theory perspective on infrastructure spending in South Africa; emerging economies and OECD countries.

Adolph Wagner formulated the law of 'increasing extension of state activity' referred to as Wagner's Law (Wagner, 1892). He observed that in the early stages of development, governments tend to increase public expenditure because of the mounting political pressure for social progress. This is one of the theories that emphasise economic growth as the fundamental determinant of public-sector growth, and it has since been the focus of many empirical studies (Lin, 1994). South Africa has in 2006 drafted government's Accelerated and Shared Growth Initiative for South Africa (known as ASGISA Mbheki T, 2006) prioritises support for economic sectors such infrastructure investment that show they can generate employment and stimulate rapid growth over the long term in the country. Capital goods industry is one of the critical sectors for development. The sector is made up of suppliers that vary in size and scope, but which all play a fundamental role in the production process of any firm or industrial activity (Lydall 2009).

1.1 Research Area

The aim of this study is to provide analysis of the capital expenditure capacities and challenges associated with infrastructure spending. KwaZulu-Natal is a case study for the period 2004/05 to 2010/11 financial years. The focus of this study is on the factors that contribute to under-expenditure in capital financial resources in the public sector with specific focus on capacity constraints in government.

1.2 Problem Statement

Under-expenditure in capital financial resources is a major challenge in South Africa. Budget is one of the critical components because it is linked to activities that respond

to service delivery. Under-expenditure therefore means service delivery has been compromised in certain areas. Cloete (1995:39) argues that it would be inappropriate to break the relationship between the budget and service delivery. This argument agrees with the common theory that funds not spent equal to service delivery denied. A small percentage of under-spending may amount to millions that have a potential to improve the lives of the poor because of its multiplier effects. The South African budget is allocated into the three spheres of government namely National; Provincial and Local government. This study will explore challenge of capital infrastructure spending focusing on government capacity to deliver at provincial level. KwaZulu-Natal is a case study for the purpose of exploring capacity constraints to deliver infrastructure. There are a number of factors cited by different government departments which contribute to the low level of spending. These include challenges relating to proper planning, long procurement processes, as well as capacity within the government and entities.

The study will broadly address factors and evaluate how capacity and planning have contributed to under-expenditure. The data to support this study will be extracted from the budget allocated in KwaZulu-Natal and expenditure levels of the province for the five year period starting from 2004/05 financial year to 2010/11. In order to sustain and compared the extent of the capacity to deliver infrastructure, comparative analysis would also be done with other provinces focusing more on the Department of Education and Health. However the paper focuses more on capacity to spend and how planning capacity has contributed to under-expenditure. The study further explores ways of improving planning capacity and ensures efficient and alignment in spending by different government departments. Despites advance and massive investment by South African government in health, education much still needs to be address capacity challenges.

1.3 Purpose and Significance of the Research

The Member of the Executive Council (MEC) for Finance, Nkomfe M (2011), indicated the Gauteng government commitment to eliminating wasteful expenditure in infrastructure which generally emanates from cost escalation, project scope changes, and lack of planning and weak project management. One of the key issues cited in

most of the report for SA government and by the Auditor General of South Africa (AGSA 2011) in infrastructure report is capacity to plan and coordinate implementation by Department responsible for infrastructure deliver. Nkomfe M, 2011, further reflected on some challenges that affect capital expenditure in government. While maintaining the share of expenditure to infrastructure investment is desirable. The problem of capacity to deliver infrastructure must be addressed in order to ensure that scarce resources are directed towards economic development (Nkomfe, 2011). The recent performance of infrastructure spending has not been good enough due to capacity constraints in departments. Under-spending in infrastructure delivery deprives the community of vital amenities and hampers service delivery as well as hampering job-creation efforts (Nkomfe 2012). In 2006, ASGISA had identified the main demand dynamic in the economy as a major infrastructure spending across key industrial sectors in the economy. Such spending was projected to have a strong impact on the economy and created processes for procuring equipment and services input needed in the design, construction, management and ongoing operation of the planned projects. As a result of these challenges, good and proper planning is require to accelerate economic activities.

The study will evaluate capital financial resources and the capacity challenges to spend in KwaZulu-Natal associated with under-expenditure. This evaluation will be done through the collection of expenditure information from the National Treasury of South Africa and/or KwaZulu-Natal Treasury which will assists to show how under-expenditure has taken place over the years. This expenditure will assist in trend analysis over the period under review. The study should further explore on a number challenges mainly capacity of planning that relates to expenditure in South African and make international comparison. South Africa, like other emerging economies, has to focus mostly on capital investment in order to realize economic development driven by developmental agenda for the economy. Over the years, billions of rand have been invested on capital project however the outcome has not been that significant² (National Treasury 2010).

²National Treasury

1.4 Research Questions and Scope

This study should respond to the following questions:

- ▶ How has the infrastructure allocation been increasing over a five year period in KwaZulu-Natal (2004/05 to 2010/11) and how under-expenditure has manifested itself over this period?
- ▶ What are the challenges of expenditure in capital budget with specific focus on planning capacity in government?
- ▶ What are the factors that have contributed to under-expenditure in capital budget and more focus on capacity planning?

1.5 Research Assumptions

Underexpenditure in capital budget is a major challenge in South Africa. Some of the challenges are relates to the capacity and other factors that relates to procurement processes and planning. The SA Minister of Finance (Gordhan P) and other MEC's Finance in different provinces have cited capacity as one of the major challenges in government departments. Over the years, South Africa has challenged in improving the quality of spending and composition of expenditure from consumption towards capital investment, Gordhan P, (2012).

1.7 Definition of concepts

This section provides definition of different concepts used in this study focusing more on capacity, planning and development:

- **Capital budget** includes planned outlays for capital assets with long expected lives and which are designed to produce income or support operations. Capital budgeting includes but not limited to land, buildings, machinery and office equipment (Kolakowski M.)
- **Capacity** is the combination of people, institutions and practices that permits countries to reach their development goals (World Bank 1996). Building capacity is any support that strengthens an institution's ability to effectively

and efficiently designs implement and evaluate development activities according to its mission (UNICEF- Namibia, 1996).

- **Under-expenditure** refers to the spending less than the allocated budget or resources.
- **Over-expenditure** refers to expenditure more than the allocated budget or resources of the department.
- **Capital goods** are products that have value for a specific industry because they can directly enhance the production process and generate additional revenue through further commercialisation and application in other industrial sectors.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This section examines challenges of capital budgeting in more detail and provides a theoretical framework on infrastructure spending and capacity in emerging countries. The focus of this research is on infrastructure spending capacity and how other countries have realised economic growth through infrastructure investment. This chapter provides review of the literature on spending of capital budget in emerging and advanced economies. It further provides a comparative analysis and/or practices on infrastructure delivery between South Africa and other selected countries.

Background and description of concepts

Infrastructure is not just essential for faster economic growth and higher employment. It also promotes inclusive growth, provide citizens with means to improve their lives and boost their income. Infrastructure is essential to development in South Africa (SA National Development Plan 2030).

Infrastructure can be broadly defined as long-term physical assets that operate in markets with high barriers to entry and enable the provision of goods and services. The purpose of infrastructure can be divided into social and economic category. Social infrastructure is a subset of the infrastructure sector and typically includes assets that accommodate social services such as schools; universities or tertiary facilities; medical facilities; prisons and community housing. In contrast economic infrastructure aims to support economic activities and is often characterised by “user-pay” or demand-based revenue streams which may include among other tolls on toll roads of landing fees for an airport. Social infrastructure in New Zealand is almost exclusively provided by central or local government or related entities. However the

development of social infrastructure in United Kingdom and more recently Australia is well suited to public-private partnerships (PPPs) and it has been very successful since the early 1990s.

This study will focus mostly on South Africa's capacity to deliver social infrastructure which is also important to encourage private investment in emerging economies. It will further reflect slightly on the performance of private infrastructure delivery in South Africa. Capital budgeting is a process of planning for the use of capital resources in the future. One of the challenges highlighted by the Minister of Finance in South Africa in 2011 and 2012, was that South Africa has enough financial resources the challenge remains with the capacity to utilise those resources.

18 years into democracy, South Africa has still major challenges of poverty; unemployment and inequalities, (South African Government Information, 2012). This is despite massive of funds being invested in different spheres of government to ensure delivery of services. In addressing issues of unemployment, the New Growth Path (NGP) sets a five million new jobs by 2020, identifies structural problems in the economy to be overcome and points to opportunities in specific sectors and markets. The policy (NGP) points out infrastructure as the first jobs driver in the economy and for higher growth. As highlighted in chapter, South Africa has very good policies to respond to the structural problems of the economy, but one major challenge is in its ability or capacity to implement its own policies.

Theoretical framework

Sturm 1998, conducted a study on causes and impact of the decline in public capital spending in OECD countries. Government can improve future living conditions in many ways. It can stimulate private or foreign investment, spend more in education and health programmes in order to enhance human capital or it can add stock of public capital spending. He emphasised on the important role of infrastructure investment towards realising economic growth. Sturm 1998, further reflected on the challenges facing emerging economies towards delivering infrastructure. Challenges of poor capital spending over the past decades have affected countries such as Netherlands and even other developed countries. South Africa has also experienced

challenges of infrastructure delivery for the past years due to the shortage of capacity to deliver in different level of government.

Sturm 1998, indicated that despite severe drop in spending, infrastructure spending is still by far the largest part of total public capital spending. Infrastructure investments may have definitely lost ground. Whereas this type of investment confiscated on average 67 per cent of the total public investment budget during the 1960-70 period, its share was reduced to 57.5 per cent during the 1984-94 period.

Mitsui, 2004, in Vietnam, conducted a study on the decision to improve National Highway No. 5 and rehabilitate the port of Haiphong in the early 1990s led to a massive increase in investment (much of it foreign) in major industrial zones, spurring growth and employment in the northern part of the country in general. The findings of that study were that infrastructure was part of the solution to the employment challenges of that country.

In 2006, South African President at the time Thabo Mbheki unveiled ambitions of the Accelerated and Shared Growth initiative (ASGISA) which calls for reduced taxation and significant investment in the infrastructure and increased resources in education and training. The success of the programme would hinge crucially on improving the government's implementation capacity. The weakness in capacity has severely hindered progress in areas such as infrastructure, education, poverty alleviation and health. South African policies have not necessarily failed because of being bad policies. The major challenge is on the capacity to deliver on those policies. Most advanced countries have realised growth through infrastructure investment, South Africa need ensure that they build enough capacity to ensure efficient and effective spending on infrastructure.

Countries have experienced problems with developing the necessary institutional capacity at the level of the Ministry of Finance and spending ministries to support budget reforms. That capacity is influenced by wider institutional structure and resources in terms of staff and expertise. Most OECD member countries continue to struggle with these reforms. Some common challenges, regardless of approach, include: improving measurement; finding appropriate ways to integrate performance

indicators into the budget process; gaining the attention of key decision makers; and improving the quality of the information. Although there are exceptions, most governments are finding it difficult to provide decision makers with good quality, credible and relevant information in a timely manner, let alone incentives to use this information in budgetary decision making

Report by the United Nations Millennium Project (2005), the Blair Commission (2005) and the World Bank (2005a, 2005b) have indeed dwelt on the importance of a “Big Push” in public investment in core infrastructure, financed by generous debt relief and a substantial increase in aid. The positive effect of public capital on the marginal productivity of private inputs may hold not only for infrastructure but also for other components of public capital – such as in education and health, which may both affect the productivity of labour. Infrastructure capital may have a particularly large effect in countries where initial stocks are low and basic infrastructure services (such as electricity and clean water) are lacking, as is the case in many low-income countries.

Albala-Bertrand and Mamatzakis (2004) found that Chile, public infrastructure capital had a significant positive effect on private investment. Another channel through which public capital infrastructure can exert a positive effect on growth is private capital formation. Public infrastructure increases the marginal productivity of private inputs. Greater availability of public capital in infrastructure could in principle also reduce the demand for private inputs, at a given level of output (net substitution effect).

Conversely, the study of Uganda by Reinikka and Svenson (2002) illustrates well how inadequate public infrastructure may adversely affect private investment. In principle, crowding-out effects associated with public infrastructure should be short term in nature. The extent that an increase in the public capital stock raises output growth in the medium and longer term, future government borrowing needs may actually fall as a result of higher tax revenues. In that sense, deficits today will pay for themselves tomorrow, a common logic when discussing tax cuts and increases in expenditure in a growth context (for instance, Ireland, 1994, and Agenor and Yilmaz, 2006). However, as noted earlier, these effects may also persist beyond the short term, and turn into longer-run (adverse) effects on growth. For instance, if higher tax

rates create permanent incentives for tax evasion, lower resources may reduce durably the government's capacity to invest in infrastructure and other areas in the future, or its ability to ensure adequate maintenance of the public capital stock. If so, then, despite the complementarily effect, the net effect of an increase in public infrastructure may well be hamper, rather than foster, economic growth. The point here is good public infrastructure may have a positive effect on growth by improving the durability of private capital.

There is a consensus across all schools, on the important role of infrastructure towards economic growth. South Africa can draw a number of international lessons from this paper which will be applicable in addressing systematic challenges most important capacity issues. However developing countries have been struggling to get service delivery on infrastructure in order.

Botha R, 2010, conducted a study on South Africa's infrastructure deficiencies. The study reflected on the challenges that South Africa has in delivery infrastructure which among other is capacity constraints and inadequate levels of expenditure. In twelve years since the 1993 national budget, average growth average annual growth in government expenditure on economic services amounted to only 2.1 per cent, compared to 3.9 per cent for total expenditure and 9.7 per cent for social welfare.

According to the DBSA (2006), the funds provided for maintaining road infrastructure have barely been able to meet basic maintenance requirements over the past two decades, and this had been exacerbated due to previous financial constraints and as a result of the ever-increasing age of the road network. In contrast, the Minister of Finance has indicated that SA has secured financial resources but in other projects there is no value for money.

South Africa's transport sector maintenance and new construction backlog is posing a serious threat to the country's ability to increase its economic growth capacity (as stated in the introduction to the National Department of Transport Strategic Plan, 2003). Since 1994, provincial road planners have recognised that the absence of a road network in deep rural areas constrains delivery of other services necessary for social and economic development of rural populations, (DBSA, 2006).

International best practices and experience

South Africa has acknowledged that international experience demonstrates that higher levels of public and private investment in economic and social infrastructure promote more rapid GDP growth, rising employment and per capita incomes, as well as broadening of economic activities, (National Treasury, 2012). Infrastructure capital may have a particularly large effect in countries where initial stocks are low and basic infrastructure such as electricity and clean water are lacking as the case in the many low income countries. Data from the China (1978-97), India (1970-93) and Uganda countries that managed to stimulate growth and reduce poverty on the large scale, show that the marginal returns to public incremental expenditures on rural roads were always among the highest, (Agenor, 2005).

The study of Uganda by Reinikka and Svenson (2002) illustrates how inadequate public infrastructure may adversely affect private investment. This illustration shows how crucial infrastructure is in the economy. The public and the private sector has a critical role to play in delivering infrastructure.

The foregoing analysis suggests that it is crucial in designing growth-promoting strategies direct and indirect through which infrastructure affects the economy. The literature suggests that a close interaction between health and education can magnify the effects of an increase in public infrastructure on growth. Capacity to spend allocated budget for infrastructure is critical for the public and private sector.

The International Labour Organisation (ILO) and the World Bank (WB) in 2012 released a report on the government actions to prevent job loss and boost skills in response to the global financial crisis of 2008-2009. The report revealed that in most of the 55 low-income and middle-income and 22 high-income countries surveyed, unlike the previous crisis, there was a considerable government intervention to mitigate the impact of the downturn. The report further reveals that it was not only through the expansionary fiscal and monetary policies to stimulate the economy but government also directly intervened through spending on infrastructure to protect or create employment, World Bank (2012). It is critical to

maintain capacity to spend in infrastructure to ensure the country's ability to respond to economic difficult and realise growth. Important lessons can also be drawn from Germany which in the past invested massive of its resource in labour intensive investment in infrastructure and today the country has best infrastructure in the world.

Infrastructure has a multiplier effect in the economy. Investing in infrastructure as explained early in this chapter, may result in job creation, growth and development. Japan, through infrastructure spending has realised economic growth of above 7 per cent in the 1990s. Infrastructure investment has supported a number of countries to realise the level of development that they are today which include China, Brazil and other developing countries. One of the key issues that countries had to address was its ability to spend its financial resources on capital projects.

The analysis of infrastructure investment for UK's 2012 shows indicate average that average infrastructure investment between 2010 and 2012 has increased to \$33 billion per year from an average of \$29 billion per year between 2005 and 2010 which has been driven mostly by investment in energy and transport, HM Treasury, 2012. Infrastructure networks form the backbone of a modern economy. In recognition for the importance of infrastructure in economic growth, most government has developed its national infrastructure plan. However, the challenge for emerging economies is on the capacity to deliver on the provisions of those plans. There are three elements that form the basis for the UK's National Infrastructure Plan:

- Effective planning for the medium term across all sectors;
- Mobilising financing and funding for infrastructure investment; and
- The government taking an active role in ensuring the infrastructure in the plan is delivered.

One of the important lessons in this plan is on the critical role of the private sector to bring in capacity in infrastructure development. South Africa over the years has been affected by failure to properly plan for infrastructure which has been witnessed by a number of reports tabled in SA National Parliament. Minister of Health, Motsaoleli A, 2010, tabled a report to the Select Committee on Appropriations that reflect lack of capacity, among other reason, for failure of completion (in time) of other government

infrastructure projects. These challenges of infrastructure have been there despite SA National Treasury's effort to provide national guidelines for infrastructure delivery. The UK has a special directorate called UK Research Partnership Infrastructure which provides innovative ways to strengthen and enhance infrastructure delivery. This directorate become an important platform for the private and the public sector to ensure effective and efficient funding of infrastructure. There is further more a very close relations with world class universities to enhance infrastructure capacity and support long-term economic growth.

Similarly, Australia and New Zealand have created infrastructure plans to drive long-term development and investment. Australia had identified and invested in the infrastructure needed to meet the significant challenges of that country. In response to capacity challenges, Australia Infrastructure Plan emphasise on better governance to avoid adverse impact on infrastructure; one nation one set of rules that will ensure productivity and effective use of resources. New Zealand National Infrastructure Plan also emphasised on the vital role of good infrastructure to a well-running economy. The New Zealand Plan aims to contribute to government objectives of productive growth, maintain high level of employment and closing the gap with Australia by 2025, English B, 2010. South Africa still experience high level of unemployment while massive of its budget has been invested in infrastructure.

South Africa needs to ensure efficient and effective use of financial resources allocated to infrastructure. Governance and oversight structures need to be strengthened to ensure effective monitoring. The PPPs play a critical role in infrastructure delivery and to realise economic growth. There is an urgent need to build capacity in relevant government departments and entities mandated to deliver infrastructure. Building capacity involves a wide variety of factors, which include among others proper planning; suitably qualified personnel; ability to implement policies; retaining high skilled personnel.

South Africa's lessons

The bulk of the SA budget is allocated towards infrastructure spending. The Minister of Finance and President JZ Zuma, (2011), indicated that over the medium term

expenditure framework (MTEF), SA will continue to focus on infrastructure investment to create more jobs. The Minister of Finance, Gordhan P, (2012), has emphasised that South Africa has enough financial resource but the challenge is on effective spending of such resources.

Infrastructure spending is amongst the priority of SA government. In 2010 and 2011, President JZ Zuma pronounced five key priorities of government. These priorities are job creation, infrastructure investment, rural development, education and health. The 2012/13 budget had allocated R844.5 billion towards infrastructure investment over the next three years, (National Treasury, 2012). The National Treasury had proposed vigorous assessment to determine feasibility of in South Africa, (National Treasury, 2012). One of the critical areas that need attention is skills availability to deliver those projects. The budgeted projects are planned to benefit the region in many ways and will also have sectoral development and demonstrate long-term benefits. The SA National Treasury has indicated that to achieve the planned projects for the 2012/13 financial year and beyond the country will need to strengthen capacity and accelerate capital investment.

The Auditor General of South Africa conducted performance audit of the infrastructure delivery process at the provincial departments of Education and Health which was presented or tabled to Parliament of South Africa in August 2011. The audit focused on the demand management; acquisition management; project management; and commissioning and utilisation chapter 4 shows the findings of this audit. The audit revealed that capacity to delivery is one of the serious challenges that South Africa need to pay attention to in order to accelerate service delivery. The provincial Departments of Education and Health are responsible for infrastructure and related services in their sectors. These two departments are supported by the department of Public Works to implement infrastructure projects. The Department of Public Works plays a critical role in planning, organising, monitoring and control of infrastructure projects hence capacity in this department is crucial.

The 2011 report by the Auditor General further revealed findings that require urgent corrective action by government (AGSA 2011):

- The process of needs determination and planning was found not to be effective giving rise to unused and underutilisation of completed infrastructure.
- A robust procurement system was not consistently applied thus compromising the transparency, accountability and economy with which decisions/commitments were made; and
- Project management was not effective resulting in projects that were not completed on time and at the required level of quality and cost.

The underlying causes for the identified deficiencies as set out above, includes poor planning and co-ordination by and between departments, as well as a lack of skills and capacity in government to oversee complex infrastructure projects. The outcomes of the audit performance was shared with the three departments affected (Education, Health and Public Works) and some recommendations were received and adopted, (AGSA 2011). One critical area will be on the capacity to implement and coordinate what has been recommended for these departments.

South Africa has underspent on capital expenditure over the past ten years. The recent statistics shows that even state-owned enterprises have underspent on infrastructure for the past years. In 2010/11 financial year, Eskom has underspent by 15.4 per cent; Transnet underspent 5.8 per cent, Central Energy Fund by 98 per cent and Trans-Caledon Tunnel Authority 91.1 per cent. According to Mondi L. (2012), the continued under-spending in capital budget budgets is limiting the economic benefit. It also increase uncertainty for companies potentially involved in the supply of inputs/services for various projects. Underspending in capital budget furthermore has resulted in unnecessary cost escalations.

The National Development Plan has also identified capacity challenges and matters that require urgent actions in order to achieve vision 2030. Capacity includes institutional architecture, processes and resources needed for effective spatial governance, as well as the required knowledge sets, skills, learning networks, innovation capacity and leadership and leadership. It further recognise capacity challenges has long implication to realise the 2030 vision of the country. However the country needs cooperation and proper coordination with the private sector and tertiary institutions that produce skilled employees. SA require an integrated action

ensure that will ensure alignment of priorities of departments that play a vital role in implementing infrastructure, for instance if the project will require health, public works and transport in its execution, the plans or priorities of all these departments should be aligned to avoid unnecessary delays which possibly result in price escalation.

Underspending in government and other entities further justify the purpose of this study, which explores SA's capacity to deliver infrastructure. South Africa needs to ensure that its build adequate capacity while increasing financial resources allocated to infrastructure. There must be systemic reforms to ensure the country's response to capacity challenges. The report to Parliament table by SA National Treasury, October 2012, on underexpenditure in local government has also justified the high levels of capacity constraints to deliver infrastructure. In some other instances infrastructure allocations have been used for different activities. The report referred to above on under or over spending in municipalities indicates that, spending gets off to a very slow start in the first quarter of the financial year (particularly July and August in municipalities). This may indicate that municipalities have not completed the project design, planning and procurement preparation necessary to begin immediate implementation of the capital budget at the beginning of the new financial year. It also reflects a failure on the part of municipalities to use section 16(3) of the MFMA that allows a municipal council to approve multi-year capital budgets. This again revolves on the key question of capacity in different levels of government to deliver capital projects.

SA Treasury, 2012, further confirmed that there is no set standard for the rate at which municipalities should spend their capital budgets, it is expected that spending should commence at a brisk pace from the start of the municipal financial year, 1 July. There are recognised breaks in South Africa's construction activities, mainly due to the extended holiday season at Christmas and Easter which coincide with the 2nd and 3rd quarters of the municipal financial year. Progress on capital projects will slow during these periods hence it is critical that municipalities plan and budget accordingly so that spending is not negatively impacted by these unavoidable productivity losses

Conclusion

While South Africa has realised economic growth in the post apartheid era and is now accelerating, it has been slow compared to other emerging economies (National Treasury 2012). However the growth that has occurred has not substantially reduced high unemployment rate which has been reported to be at 33.2 per cent in the 2013 SA National Budget.

Good public infrastructure may have a positive effect on growth by improving the durability of private capital. This has important implication for spending on maintenance and the quality of public capital. Lack of public spending on infrastructure maintenance has been a recurrent problem in many developing countries. According to the World Bank (1994, p. 1), technical inefficiencies in roads, railways, power and water in developing countries caused losses equivalent to a quarter of their annual investment in infrastructure in the early 1990s. Building capacity in government sector is one of the crucial factors to encourage private investment.

Insufficient maintenance of a railroad system will cause frequent breakdowns and lower its reliability, creating potentially severe losses for users. Thus, increasing maintenance spending, by reducing power losses, telephone faults and so on, would help to enhance the productivity effects of public infrastructure on private production. For instance, in Vietnam, the World Bank (1999, p. 44) estimated that reducing a road's roughness from 14 IRI (International Roughness Index) to 6IRI would save between 12 and 22 per cent in vehicle operating costs. A reduction from 14 IRI to 3 IRI would save from 17 to 33 per cent in those coasts. More dramatically perhaps, Gyamfi and Guillermo (1996, p 5) estimated that for Latin America and the Caribbean, each dollar not spent on road maintenance leads to a \$3.0 increase in vehicle operating costs as result of poor road conditions. Thus, to the extent that public expenditure on maintenance affects the durability, as well as the quality, of private physical capital, it may have a sizable impact on growth.

This chapter has covered the views of different scholars on the subject and also reflected the views of policy makers on infrastructure spending. It has looked at the challenges of infrastructure spending focusing more on capacity. It, thus laid

foundation for understanding the nature and the extent of the challenges facing emerging economies on infrastructure spending, thus expanding the knowledge base regarding infrastructure expenditure. The chapter has been able review challenges of infrastructure spending from both developed and developing countries which comprised of international and empirical studies on the impact of infrastructure spending. Chapter 3 looks at the methodology used in the execution of this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides analysis and discussion of the methodology used in data collection during the research process to support this research. This chapter further reflects on the methods and the approach to the data used in this study. Besides observational method, self-administered questionnaires, interviews and literature study were used to support this study. The questionnaire was preferred in this study because it's an easy and less expensive method of eliciting comparable and qualitative information. It is also that various issues which may have an ethical bearing on conducting this study have been carefully considered.

This study has used qualitative methods in its approach leading to the conclusion of the study.

1.6 Research Approach and Strategy

This study made used of qualitative case study. According to Creswell (1998:62), case study may be regarded as an exploration or in-depth analysis of a bounded system (bound by time and/or place), or single or multiple case, over a period of time. This exploration or description of the case take place through detailed, in-depth data collection methods, involving multiple sources of information that are rich in context (De Vos, 2005:272). Part of this study, the researcher has used quantitative. Within the context of the fundamental principles underpinning quantitative research design, the researcher conducted the study in a well-structured, logical, measured and extensive manner (Bouma and Atkinson 1995:208). The researcher made use of the quantitative research design with the view to redefine concepts of interest into the language of variables and the basic casual relationships among variables. This research design assisted the researcher to establish the relationship between different variables and the ability of different department to spend its infrastructure allocations.

Kerlinger (1986:10) describes research as a systematic, controlled, empirical and critical investigation of natural phenomena, guided by theory of hypothesis about presumed relations among phenomena. It is a systematic process of collection and logical analysis of data for specific purpose (Mouton, 1996:29). Research methodology as defined by Mount, 1996:107; is a blueprint of the research project that precedes the actual research process. It is a plan or steps of the researcher to be followed in gathering data towards finding the solutions and/ or answers to a problem.

1.7 Data Collection, Frequency and Choice of Data

The research has been conducted through informal visits to the selected infrastructure projects to observe progress given the time planned for those respective projects. In this visit the researcher had informal interviews with the people involved in these projects with the aim of identifying the extent of capacity constraints in different infrastructure projects. The aim was to evaluate the challenges on the completion of capital projects in time.

According to Erlandson et al. (1993:33), the search for data must be guided by processed that will provide rich details to maximize the range of specific information that can be obtained from and about that context. Guided by this statement the research used both primary and secondary methods of data collection. The methods included personal observation of documents and reports provided by different department and credible institutions that provide reliable and credible data in South Africa. The researcher has used questionnaire, telephonic and face to face interviews. The advantages of using interviews, as indicated by Birnard and Mwale (1990:22), are directly related to high response rate, spontaneity, flexibility, control of the environment and observation of non-verbal cues.

Anderson et al. (1994:115) also states that interviews are a good tool to use when one wishes to know how a person feels about events that have happened or are happening. Interviews are also important in gaining the perspective on how others understand and interpret their reality. In using interviews the researcher to get idea

from different institutions and individuals, on the extent to which they view challenges relating to infrastructure. Furthermore to identify other challenges associated with infrastructure spending capacity in the department of health and education as the main consumers of the SA budget. The researcher had to explain to the interviewees the purpose of the research, signing the secrecy of identity declaration and encouraging them to fully participate in the data collection phase with no fear.

The type of data to be collected include: expenditure patterns for the past years including the current financial year; challenges relating to capacity to deliver infrastructure project by the department of education and health in South Africa, operational performance, leadership and governance documents as well as legislations that governs implementation of infrastructure.

1.8 Sampling

According to the 2011 Mid-year population estimate, KwaZulu-Natal is the second highest province in terms of population meanwhile in 2001 it was the highest with its population being at 9 584 129 or 21.4 per of the total population share. According to the 2011 Census, KwaZulu-Natal province has a population of 10 267 300 as at the mid-year of 2011. Gauteng province was the highest with a population estimate of 11 328 203 from the population estimates of 50 586 757 in South Africa. The KwaZulu-Natal constitutes a proportion of 21.39 per cent of the total population estimates. Growth in population increases the need to accelerate service delivery in the country. The bulk of investment in infrastructure is directed to the two big provinces with high population which are KwaZulu-Natal and Gauteng. This study has focused mostly in KwaZulu-Natal.

1.9 Data Analysis Methods

The study has analysed qualitative data which informed the findings and recommendations of this research. Marshall & Rossmann (1999:150) define data analysis as a process of bringing order, structure and meaning to the mass of data collected. In the informal and telephonic interviews conducted, the researcher took

some notes, further noted the reaction of the participants and compiled a brief report soon after the completion of the interviews.

Paton (2002:134) further says that data analysis in qualitative research transforms data into findings. The researcher has analysed the collected data through interviews, observation and questionnaires to inform the findings and recommendations of this study.

The main source for performance and expenditure report, used by the researcher for this study, has been the National Treasury, KwaZulu-Natal provincial Treasury, Development Bank of South Africa (DBSA) and Industrial Development Corporation (IDC). The Auditor General of South Africa (AGSA) conducts audit on the use of public funds and compliance of country's legislation. Parliament of the RSA has been visiting a number of projects and has published oversight reports which have assisted also in this study to evaluate issues that have emerged in those visits particularly that relate to infrastructure delivery. The researcher has conducted with few selected officials to get their view on the capacity challenges to deliver infrastructure.

1.10 Research Reliability and Validity

Data used in this study has been provided by the government departments and are of public consumption. The Auditor General has made verification also in most infrastructure figures of the Department of Education and Health which strengthens the validity and reliability of this study. The reports used for reference in this study have been tabled in Parliament of the Republic of South Africa which is the highest institution of the country and have also been made public.

The officials who participated in this study are directly involved in a number of projects implemented by the government. The other group of participants in this study work with oversight structure of government department in South Africa. The reports by Departments were submitted by Ministers responsible for those departments in Parliament of RSA.

1.11 Limitations

Infrastructure delivery is a complex element in the economy; hence assessing its performance is also complex. One major challenge for this study might be the systemic challenges in reporting on the performance of different infrastructure projects. The limited time to conduct this research is also a challenge to gather all information useful for this study. However, reasonable information has been collected to ensure reliability and validity of this research.

Ethical consideration

Welman, Kruger and Mitchell (2006: 201), that there are four important ethical considerations that a researcher should pay attention to, namely informed consent, right of privacy, protection from harm and involvement of the researcher. These ethical elements have been complied with in conducting this study. The researcher has also used other information which has been tabled in Parliament of the Republic of South Africa, and these are public documents that can be used by any member of the public.

As part of this study, the research has been conducted through informal and/or unstructured interviews with members of the Select Committee on Appropriations to identify other challenges that Parliament of the Republic of SA has experienced over the past. The Select and Standing Committees on Appropriations play a critical oversight role on infrastructure projects initiated by government. There was no harm to the respondent, whether psychologically or emotionally. The names of the respondents are not appearing in this study to ensure anonymity and to avoid the likelihood of any views expressed in the study linked to them.

CHAPTER 4

RESEARCH FINDINGS, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents findings of the study conducted on the challenges of infrastructure spending capacity in South Africa with more focus on KwaZulu-Natal as a case study. The sample of this study as pointed out in the previous chapter purposefully selected people who are involved with the departments which are responsible for infrastructure and those serving in structures that are monitoring the progress of SA projects initiated by government.

In conducting this research, designed questionnaires were used with the intention of drawing responses towards establishing challenges that impact on infrastructure spending in South Africa. The study has targeted respondents who are familiar with different sector most importantly who engage or work with departments who are delivering infrastructure. The respondents were also afforded an opportunity to comment or to contribute with more other factors affecting infrastructure delivering. The responses were fairly good and most of the responded felt excited of be part of this projects. The researcher was also present at the time respondents were responding to the questionnaire with the aim to probe follow-up questions, clarify and ensure the respondents understood the expectations. The researcher has used reports on infrastructure from different institutions to identify most of the challenges and findings of this study. These institutions include AGSA (which conducted audit on infrastructure performance for the first time in South Africa, 2011), Development Bank of Southern Africa (DBSA) which play a very important role in different spheres of SA government in delivering infrastructure, Industrial Development Corporation

(IDC), Parliament of the Republic of South which plays an oversight role over all departments, as well as reports from the national and provincial departments of education, public works and health.

4.2 Findings of the study

The large portion of South Africa budget is allocated to the Department of Education and Health which are also responsible for infrastructure delivery. The study has focus much on these two major departments on delivery infrastructure focusing more on the challenges that these have been reported by these departments. One of the Useful tools for this study has been the audit by the office of the Auditor General which looked at performance of these departments however this study focused more on capacity of these departments to delivery on their mandate.

4.2.1 Performance audit

The Auditor General of South Africa, 2011, conducted a performance audit of the two major departments (education and health) that are responsible to deliver infrastructure. The scope of our coverage which focused on three critical areas revealed findings that require urgent corrective action by government.

- The process of needs determination and planning was found not to be effective giving rise to unused and underutilisation of completed infrastructure.
- A robust procurement system was not consistently applied thus compromising the transparency, accountability and economy with which decisions/commitments were made; and
- Project management was not effective resulting in projects that were not completed on time and at the required level of quality and cost.

According to the Auditor General South Africa (AGSA) 2011, the underlying causes for the identified deficiencies as set out above, includes poor planning and co-ordination by and between departments, as well as a lack of skills and capacity in government to oversee complex infrastructure projects. This confirms the initial assumption of this study that capacity and its elements are the major challenge of SA government. The SA national budget for the 2011/12 has been focused more on

infrastructure and over the medium term expenditure framework (MTEF). This massive allocation over the medium term, required strong oversight and monitoring to achieve the desired outcomes. The 2013/14 announced R844.5 billion to be invested towards infrastructure over the MTEF. In spending the SA budget, it will require to explore more avenues to ensure value for money mostly in infrastructure.

4.2.2 Contribution of different sectors towards growth

Infrastructure is responsibility of different sectors in the economy. In outline the case study, the researcher has looked at the important role that all sectors have played in realising economic growth in South Africa. As reflected in chapter two (earlier), infrastructure plays a significant role towards economic growth. Social infrastructure forms the basis for country’s infrastructure investment. Improved social infrastructure has a high potential to attract infrastructure investment.

The table below shows contribution of infrastructure spending towards economic growth.

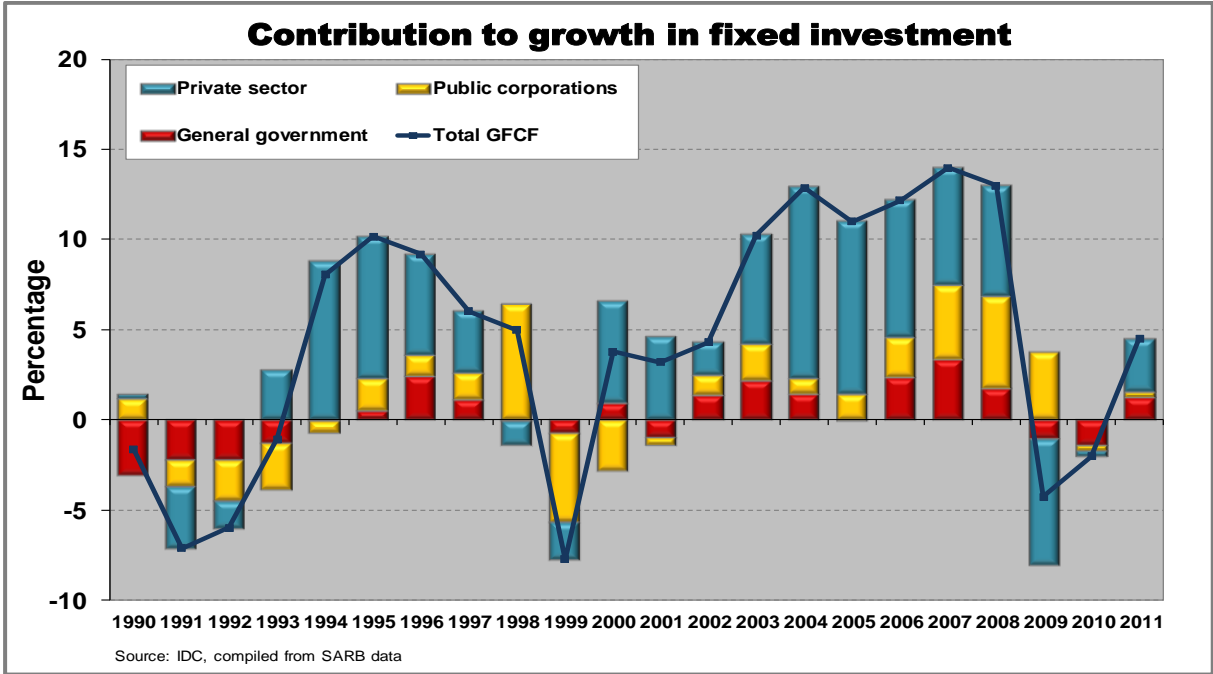


Figure 4.1

Despite the ongoing multi-billion rand public sector infrastructure investment programme, which played a considerably counter-cyclical role in the 2009 recession

year, the contribution to growth in fixed investment is well below pre-crisis levels. The recent, (2012), downgrade of SA credit rating by Moody's and Standard & Poors (S&P) questioned the current leadership's ability to address the country's key challenges such as: institutional capacity and poor service delivery by the public sector. Building capacity in all sectors of the economy is key towards realising economic growth and development. Government need to ensure efficient and effective spending of infrastructure allocations.

4.3 Selected Infrastructure projects

In conducting this study, infrastructure projects have selected randomly that were initiated over the past ten years and where information could be obtained. The Department of Health reported to the Select Committee on Appropriations, October 2010, on the infrastructure projects which were funded through the hospital revitalisation grant across the nine province of South Africa (some of these projects are reflected on Appendix). The hospital revitalisation grant is a ring-fenced funding which is provided to provided to provinces through the Division of Revenue Act (passed annually) with aim to provide funding to enable provinces to plan, manage, modernise, rationalise and transform health infrastructure, health technology, monitoring and evaluation of health facilities in line with the national policy objectives. Despite the fact that these funds are being ring-fenced there are cases where different provinces use it for unintended purpose, one of the respondents confirmed also that this does not only affects the department of health. Infrastructure allocations in other instance are use for operational expenditure. Some of these projects are purely funded from SA fiscus and others are PPPs initiative.



Figure 4.2 Photograph: Source SA National Department of Health: No progress in 12 months

The photograph above shows an infrastructure with enough budget allocated to it but no progress has been made in twelve months time. One reason cited by the department implicated in this project is the lack of capacity to deliver the expected standard.

The project contained in the report of the SA Department of Health (submitted to the Select Committee on Appropriations, October 2010) shows the challenge relating to capacity to coordinate alignment in towards infrastructure delivery. The implementing Department had prioritised the building of this admin block for the hospital but Eskom had different plans and priorities with respect to electrification (refer to Appendix 2).

The illustrations on appendix (at the end) were extracted from the report of the Department of Health to the Select Committee of Appropriations (Parliament of RSA), 2010, with respect to infrastructure delivery by the department of health. After its engagement with the department this Committee adopted a report which was also passed by the National Council of Provinces and has reflected the following challenges with respect to infrastructure capacity by the department of health and public works (as the implementing agent):

- **Poor management**

The Department of Health has experienced among other challenges proper planning and management of professional service providers of which in many cases has resulted to poor performance in a number of infrastructure projects. Playing oversight over the implementing agents of mega-infrastructure for the Department has also been a challenge over the years. The Department of Health has outsourced a number of its services relating to the implementation of infrastructure. In other instances even the Department of Public Works has also outsources services of engineers because of skills shortages in South Africa.

- **Inadequate norms and standards**

Measuring the success of the project may be based on four criteria namely quality and standard; time completed; budget allocated versus costing; user consumption. As shown in appendix 1 other projects may be reported completed in other departments particularly Health as reflected in its 2010 report where the service provider failed to meet the standards set for the projects. The Department of Health further reflected of the poor input into quality planning, design, specification. The study also identified a number of project have been reported but very inadequate project briefs (poor planning), inadequate and wrong design, wrong health technology and other equipment and frequent and costly modifications (poor planning) which was reported by the Department of Health on the implementation of Hospital Revitalisation Grant. Annual report of different departments of the KwaZulu-Natal (Education and Health) continue to reflect that the extent to which the province has been affected by capacity constraints to deliver infrastructure. However this has not only affected the KwaZulu-Natal province but capacity constraints have emerged as a major challenge of SA government to deliver infrastructure. The study further has identified a gap in terms of proper coordination of the implementation of government projects.

In the diagnostic report of the Department of Health and Public Works, infrastructure delivery in these departments has been affected by frequent and costly changes on the scope of works which adversely affect the completion of the project. Poor quality and quantity of project have contributed to late payments which have costed the government more.

The diagnostic report further indicates, there are lack of, or poor involvement of the management of the facilities under revitalisation and to some extent other stakeholders responsible for the implemented project. This means poor oversight, communication, coordination and reporting on the project which has negative implication on the completion. There is general poor performance of the roles and responsibilities by the health departments in the project development and management cycle.

The other challenge that has affected a number of departments is inadequate project management systems in place. Officials responsible for infrastructure delivery have not taken ownership of the work they perform to extent they ignoring the potential savings on repetitive designs and documentations in many instances.

Procurement process and contract management

Poor and lengthy procurement process, sometimes taking eight to nine months before the contract is awarded. This is as a result of absence of panel members; grievances in the process and interest of other officials. Poor contract management, administration and communication contribute to high costs and time over-run; many variation orders; abandoned projects or never-ending projects; poor quality workmanship of the contractors and late payment. There is minimum, if not non-closure of many projects. Files remains open and retention with monies are not paid as building plans and manuals are not produced or are not delivered to the client. Some projects are outstanding for more than seven years.

These findings further confirms the initial assumption of this study that infrastructure spending capacity in South Africa still has its challenges in many respect.

The researcher has interviewed members of different communities and officials where government infrastructure projects have been initiated. The hall (refer to Appendix 3), was built by Gert Sibande District municipality which is in Mpumalanga province in South Africa, which was made for Mkhondo Local municipality. At the time of interviewing some officials the hall had been standing for 12 months and not

handed over to the local municipality. As a result of this lack of proper coordination, floods had damaged the building and there was high possibility of vandalism as the property was vulnerable to the public abuse. The major challenge identified in this project relate to poor planning, lack of coordination and capacity of contractors that were awarded the tender of building this hall as its condition had a number of areas for improvement.

4.4 KwaZulu-Natal case study

The research has conducted through interviews with officials have worked closely with the Department of Health and Education on the status of infrastructure initiated by these departments. South Africa has Parliament oversight Committees that have visited this province to evaluate the progress made with respect to infrastructure spending and these Committees have identified a number of challenges related to infrastructure deliver. These Committees are the pillars for oversight work of the Houses of Parliament. After conducting an oversight visits Parliamentary Committees are required to report to their respective Houses of Parliament. These reports have been made available for public consumption by Parliament of the Republic of South Africa. These reports have also been useful to this study as they provide fact in terms of issues raised by different department and primary information where Parliamentary Committees have visited infrastructure projects. It is worth mentioning though that the researcher of this study was also personally involved in most of these visits and engagements as per of conducting primary research.

This section provides a case study of selected projects and findings in KZN provincials departments (health and education) with respect to infrastructure spending and identified challenges. The KwaZulu-Natal Province indicated that scarcity of project managers within the health sector poses a serious challenge. This harm the Province's capacity to track and/or monitor progress of projects in different stages.

The KwaZulu-Natal department of education has acknowledged challenges relating to infrastructure delivery in its 2011/12 Annual report. Infrastructure is critical for the

department of education to provide quality service to the public yet the provision of infrastructure remains a challenge in the KwaZulu-Natal mostly in rural areas. The KwaZulu-Natal comparative to other provinces in South Africa is rated amongst the good performer in infrastructure. Part of acknowledging capacity challenges to deliver infrastructure the KwaZulu-Natal department of education has started to realise the Public-Private Partnerships (PPP) to expedite the delivery of infrastructure. The KZN Department of Education had a backlog of school infrastructure for about R75 billion according to the department's annual report 2011/12. In the context of disjuncture between infrastructure backlog and the available budget, the department has considered the PPP as part of the solution to accelerate speed of the department to achieve the outcome of schooling 2025. Electrification programme continues to be rolled out by the Department of Minerals and Energy, while provision and maintenance of solar electrical systems is with the Department of education and that need to be reconsidered. The major challenge is on the capacity to coordinate relevant department's priorities and its alignment. In assessing infrastructure project in department of education researcher had looked at few challenges relating the implementation of accelerated school infrastructure delivery initiative (known as ASIDI) in the Eastern Cape. Among other challenges identified relates to; poor performance by contractors; shortage of material supply; competition with business sector on scarce resources; poor planning and redesign of site drawings.

4.4.1 Rietvlei Hospital

The KwaZulu-Natal Department of Health, among other reports that have been submitted to the Standing Committee on Appropriations in 2012, had outline infrastructure challenges relating to the ring-fence funding for hospital revitalisation grant (HRG) for Rietvlei hospital. The Rietvlei hospital is a district hospital under uMzikhulu area in Sisonke District municipality, KwaZulu-Natal, and is located in 100 per cent rural with 20 municipal wards comprised of 202 682 inhabitants. In implementing the HRG infrastructure grant, the following challenges have been identified:

- The criterion for appointment of contractors
- The awarding of multiple contracts to a single contractor has been cited as a reason for projects delays

- There seemed to be no effective mechanism or system to identify blacklisted contractor who failed to honour previous contracts with government departments
- Litigations against government departments had delayed delivery of certain infrastructure projects
- Poor quality of work standard by emerging contractors

Project delays have resulted to the department's inherent of price escalation over the years. The poor structure built by contractors had to be demolished which require another budget from government additional to the initial allocated budget. It's also important to mention that during the research process, it has been noted that the department of health had indicated that some infrastructure projects have been under-funded. Meanwhile same projects have reported under-spending over the past years.

The similar project for hospital revitalisation has been reported by the Eastern Cape Department of Health and some challenges have also been cited by the report of the Standing Committee on Appropriations, 2012. The study has looked at the HRG project in Nelson Mandela Academic Hospital in the Eastern Cape. Among other challenges identified by the Eastern Cape department of Health is that budget cuts have negatively affected the payment of contractors and its ability to plan effectively, and had also affected infrastructure projects for the implementation of National Health Insurance. The non-payment of contractors has led to: contractors moving off the sites, legal contractual challenges, delayed re-start of projects, cost escalations, maintenance contracts lapsing, and warranties being compromised.

The challenges cited in these different projects are similar in nature and require urgent corrective majors from relevant departments. However it is important to note that there are good lessons that each of the two provinces (KZN and EC) can draw from one another.

4.4.2 Expenditure capacity analysis

This section provides a quantitative analysis of spending by the two selected major departments i.e. KZN- Departments of Education and Health for the period 2004 to 2011. The section reflects changes in allocations over the period under-review and also reflects on the expenditure outcomes. Table 4.3 below shows budget allocations for infrastructure spending in KwaZulu-Natal for the departments of Education and Health. Allocations provide for financial capacity to departments to deliver however that needs to be compliment competent and qualified personnel to deliver infrastructure. The graph, (figure 4.5) that follows, shows how these allocations have grown over the period under review.

Table 4.1

Monetary growth on Infrastructure allocations by KZN -Education and Health							
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
R'000	Budget	Budget	Budget	Budget	Budget	Budget	Budget
Education	637 745	854 286	707 243	974 055	1 243 614	1 219 022	1 941 116
Health	459 894	796 947	953 145	1 278 396	1 278 175	1 373 726	1 587 404

Source: KZN-Provincial Treasury, 2012

The KZN-Department of Education was allocated R637.7 million in 2004/05 financial for infrastructure which grew over this period to R1.94 billion in 2010/11 financial year. The provincial department of health was allocated R459.9 million in 2004/05 (as reflected in the table above) which grew to R1.59 billion by 2010/11. It's worth mentioning that infrastructure allocation for the Department of Health grew fast then education until 2009/10, where 2010/11 allocations for the provincial department of education almost double the previous year's budget.

Figure 4.2

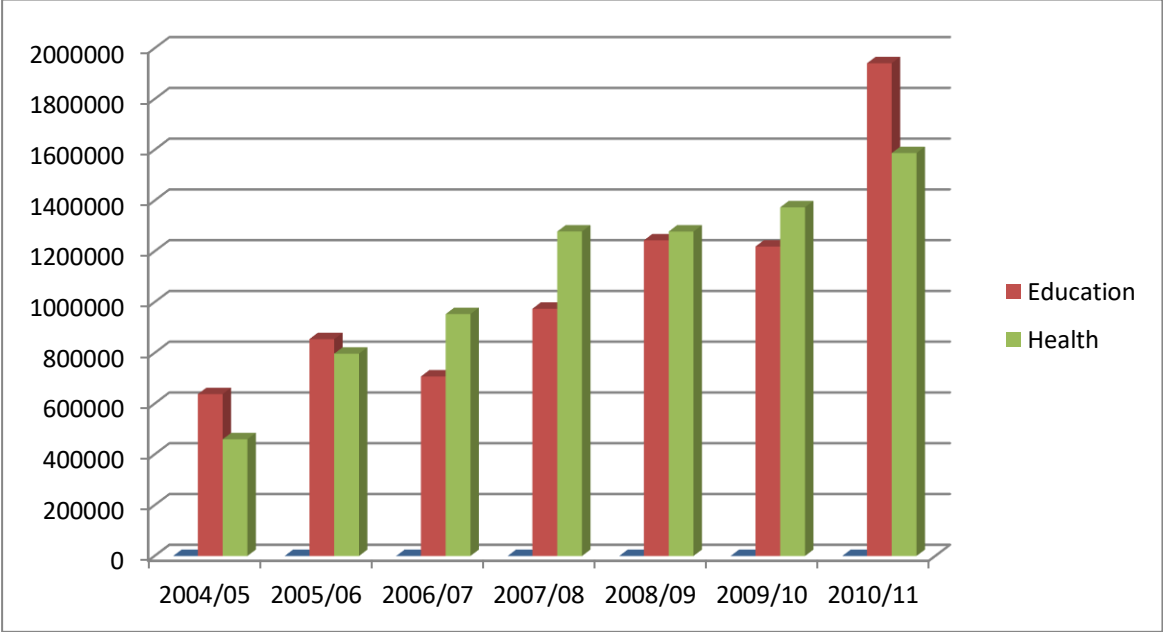


Figure 4.3 Source: own translated from expenditure report

Figure 4.5 above, provides a broad picture of how growth has happened in these two departments of the KZN. Significant growth had been noted by the department of education in 2010/11 which almost double the previous year’s allocation. Between 2006/07 and 2009/10 the provincial department of had more infrastructure allocation compared to the education. The table below shows expenditure percentage by these two departments for the selected period.

Table 4.2

Percentage spending on Infrastructure by KZN -Education and Health							
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Education	66%	88%	109%	100%	100%	114%	99%
Health	93%	92%	76%	85%	86%	100%	68%

Source: KZN-Provincial Treasury, 2012

Table 4.1; above shows expenditure percentage by the department of education and health for the period of 2004/05 to 2010/11 financial year. During this period the department of education only managed to spend 100 per cent of infrastructure

allocations in two financial years i.e. 2007/08 and 2008/09. In the other financial years, there has been no alignment between the allocated budget and the spending by the provincial Department of Education. The provincial Department of Education had peak at 114 per cent expenditure level in 2009/10 financial year.

The capacity to spend by the department of health has emerged to be amongst major challenges facing KZN- Department of Health. For the period under review, the department had only managed to spend 100 per cent of its infrastructure allocation in 2009/10. In all the other years the provincial department of health has experienced the challenge of under-spending in infrastructure budget.

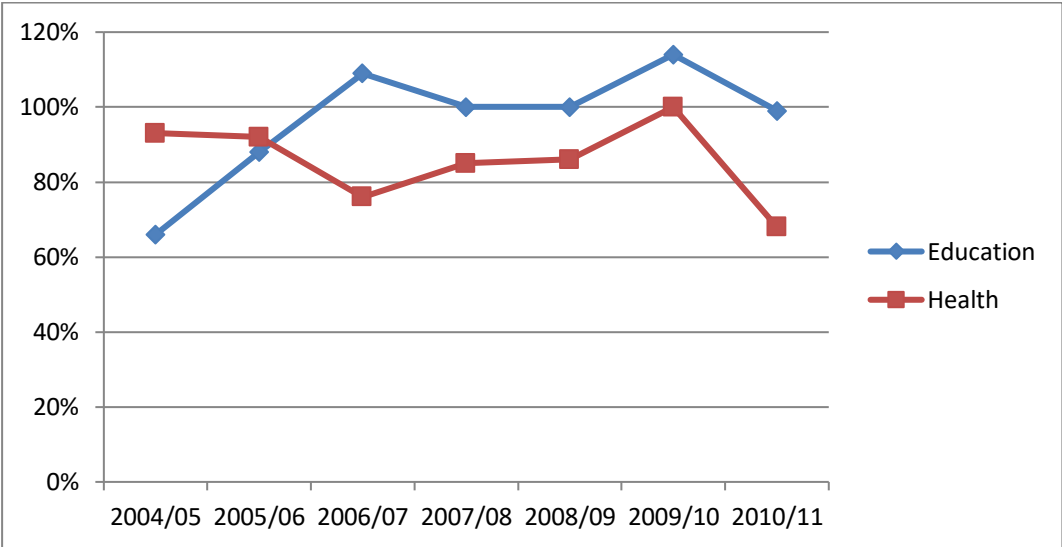


Figure 4.4: Percentage spending of KZN –Health and Education on infrastructure

Figure 4.3 shows graphical presentation of infrastructure spending by the by the KZN-departments of Education and Health. Overspending has been experienced by the department of education in two occasions i.e. in 2006/07 and 2009/10 financial year (starts 1 April to 31 March). In 2007/08 and 2008/09, the provincial department of education has spent the entire allocated infrastructure; however, the important part for this study is value for money on spending.

The KZN-Provincial Department of Health has underspent on its infrastructure budget since 2004, except in 2009/10 financial year. According to the annual reports of the department of health, infrastructure has always been among its top priorities; however the department has experienced challenges in delivering infrastructure. The

spending of the department of health suggests that the department continued to have capacity challenges of infrastructure spending.

4.5 Challenges of projects in different stages

Table 4.3 below shows selected projects where auditing could not be conducted and/or submitted due to lack of documentation. In the report of the AGSA, 2011, alternative procedures were performed to obtain the required information to conclude the audit process but could not obtain the required information. In the absence of the relevant documentation from the department of health and education, the AGSA could not determine:

- Schools, hospitals and clinics were planned to ensure timely and effective service delivery;
- Contractors with the required skills and capacity were appointed in a fair, equitable and transparent way;
- Projects were managed effectively to ensure that it is completed on time, in budget and at the required level of quality; and
- Contractors corrected all identified defects before the final payment were made

Record keeping is one of the key critical area to evaluate efficient and effective spending on capital projects. It is necessary that departments responsible to implement infrastructure is fully capacitated in its finance directorate. The findings on the audit conducted in the Department of Education and Health in 2011 has also touched on issues of capacity by these departments to account for infrastructure projects.

The performance audit focused on four key phase to address the economic procurement and efficient and effective use of resources in erecting infrastructure that relates to this study. These phases are reflected in table 4.3 (below) which can be summarised as follows:

- **Demand management** is the first phase of infrastructure delivery and is an element of supply chain management. The objective is to ensure that the

resources required to fulfil the needs identified in the strategic plan are delivered at the correct time, price and place and that the quantity and quality will satisfy those needs.

- **Acquisition management** focused on the provisions of the Public Finance Management Act, No. 1 of 1999 which requires accounting officers to ensure that the department has and maintains an appropriate procurement and provisioning system which is fair, equitable, transparent, competitive and cost effective. In major infrastructure, this provision is very vital to ensure that in the spending of the department there is value for money.
- **Project management** for infrastructure projects focused mainly on the strategic and technical monitoring and evaluation of the execution of contracts. During this phase, the focus is on the achievement of critical target or delivery dates, the monitoring of current expenditure against progress and budgeted funds, the monitoring of quality against specifications as well as addressing risks with suitable interventions
- **Commissioning** is the final phase towards completing the project. The contractor commissions the completed building to the client department for occupation and use. Delays during the construction process led to projects not always being commissioned in time by the departments.

Table 4.3: Summary of projects which could not be audited due to lack of supporting documents

Provinces	Key phase			
	Demand Management	Acquisition Management	Project Management	Commissioning and utilisation
Eastern Cape	10 projects R505 mil	10 projects R505 mil	10 projects R505 mil	
Free State	16 projects R419 mil	4 projects R15 mil	7 projects R133 mil	6 projects R31 mil
Gauteng				
KwaZulu Natal	14 projects R192 mil	21 projects R132 mil	13 projects R77 mil	4 projects R26 mil
Limpopo	3 projects R65 mil	9 projects R93 mil	4 projects R28 mil	4 projects R88 mil
Mpumalanga	30 projects R250 mil	30 projects R250 mil	26 projects R244 mil	28 projects R247 mil
North West	1 project R3 mil	12 projects R73 mil	24 projects R380 mil	
Northern Cape		1 project R291 mil		
Western cape				
Total	74 projects R1 434 mil	87 projects R1 359 mil	84 projects R1 367 mil	42 projects R392 mil
	Limitation of scope existed		Most procedures could be executed	

Source: AGSA 2011 Infrastructure performance in the Department of Education and Health

This section has provided a holistic picture of SA infrastructure spending by the department of education and health. The findings by the researcher of this study shows that SA government has experienced serious challenges as a result of lack of capacity and qualified staff in departments and implementing agents to ensure a comprehensive planning take place in time. Insufficient project information at identification stages of projects has compromised the verification of values of projects and budget allocated.

Since capacity in most stages of infrastructure project has emerged as one of the major challenge of SA government. According to the AGSA, 2011, the department of education had incurred the estimated additional cost of R45.7 million from the initial estimated amount of R63.95 million at the end of the 2010/11 financial year. This has

been as a result of replacement of contractors and delays in completing the projects where projects were part of multiple contracts.

The SA's National Department of Health has incurred the estimated additional cost of R313.4 million from the initial R537.9 million. The result of the additional costs is attributed by replacement of contractors and delays in completing projects that were part of multiple contracts. The research through interviews with people who participated in this study has identified the lack of supervision and monitoring during the construction process and timely actions taken against defaulting contractors. As highlighted above some contractor could not perform to the expected standard because of being over-burdened by a number of contracts awarded by different government departments.

4.6 Conclusion

In a nutshell, the chapter presented and interpreted the findings of the study on infrastructure spending capacity in KwaZulu-Natal and comparative to other provinces in South Africa. The presentation and interpretation of the findings regarding this study were done using combined methods of analysis made up of the qualitative and quantitative methods. The excel package was used to analyse data in respect of quantitative analysis. The results of this research have used findings and one-on-one interviews with participants of this study.

The chapter has revealed a number of challenges associated with the delivery of infrastructure by the department of health and education. Most of the challenges identified relates to capacity by government departments, contractors and sub-contractors that provide services, human capacity and proper coordination and planning of infrastructure projects. The next chapter will focus on the findings and recommendations for this study on the identified challenges.

Chapter 5

RESEARCH CONCLUSIONS

5.1 Introduction

This study focused on infrastructure spending capacity by the departments of education and health in KwaZulu-Natal. The previous chapter has provided findings on the research conducted for this study which has identified a number of challenges in government departments and also explore the extent of capacity challenges in KwaZulu-Natal comparative to other provinces in South Africa. According to the findings of this study, South Africa has experienced serious capacity challenges relating to infrastructure delivery which are articulated in the previous chapter. The National Development Plan 2030 has put more emphasis on the critical role of infrastructure towards realising economic growth and development. There are few cases where the country has experienced financial resource capacity, SA Minister of Finance, Gordhan P (2012), in his budget speech has also confirmed that South Africa has enough money, but the challenge is on how the country spends the available budget. This study has revealed a number of challenges that had impact on infrastructure spending deficiencies.

5.2 Aims of the study

The aim of the study was to evaluate infrastructure spending capacity and challenges that underpinning the level of under-spending in infrastructure in KwaZulu-Natal comparative to other provinces of South Africa. The objectives of this study outlined in chapter one were the following:

- To analyse challenges of infrastructure spending capacity and factors that contributed to under-spending.
- Evaluate infrastructure allocation been increasing over a five year period in KwaZulu-Natal (2004/05 to 2010/11) and how under-expenditure has manifested itself over this period?

- What are the challenges of expenditure in capital budget with specific focus on planning capacity in government

5.3 From this study it can be concluded that:

Capacity has emerged as one of the major challenge towards infrastructure delivery in South Africa. Capacity consists of planning, competent staff and skills, procurement processes, coordination of policies and governance. Management of infrastructure project is complex and require manager with expertise to manage and monitor its implementation.

South Africa has proper policies and framework for infrastructure deliver. The infrastructure guidelines published by National Treasury of SA provides a framework for infrastructure delivery. However, there are challenges on the adherence to these guidelines.

Considering the level of underspending on infrastructure confirms that the challenge in South Africa is on the capacity to spend budget. Proper coordination of policies is critical in order to realise service delivery and growth in South Africa. If all factors of production were to be employed to its potential, SA has a potential of 6 per cent growth over a long period.

Coordination and integration of plans across and within governments departments to ensure complementing plans are aligned and set as priority, when it needed, has been identified as a challenge.

The National Planning Commission led by Minister Trevor Manuel, in the Office of the Presidency, South Africa, has in 2012, produced a National Development Plan 2030, which put more emphasis on proper planning and focus on infrastructure investment to realise economic growth. South Africa needs to take urgent actions in addressing issues of infrastructure spending capacity in all government departments.

The study has further revealed that South Africa has high potential to realise economic growth through efficient and effective use of resources. As announced by the SA's Minister of Finance, this country has sufficient financial resource to invest in infrastructure and the level of under spending also confirms the statement by Minister Gordhan.

5.4 Recommendations

This section contains recommendations of this study which are linked to its objectives and analysis of findings in the previous chapter. These recommendations will help in addressing challenges of infrastructure spending capacity in SA, and in other emerging economies with similar government structures:

5.4.1 Integration and Coordination

Integration and coordination has emerged to be amongst the major challenges facing South Africa to deliver infrastructure. One of the important lessons to deliver infrastructure is to ensure effective integrated plans by different departments that provides services which complement one another. Inter- and intra-coordination is one of the elements to effective implementation of infrastructure. Integration refers to the coordination of different departments meanwhile intra- refers to coordination of directorate or units within the same department in this context. This study has identified integration and coordination to be amongst the challenges of SA government to deliver infrastructure.

South Africa has established the Department of Monitoring and evaluation (DME), which is a step towards improving the performance of all government departments. This however does not respond to the question of effective coordination of department's infrastructure projects. In this study, the researcher suggests effective coordinating directorate at the high of office of the country notwithstanding legal provisions and mandate of different departments. This coordinating directorate, in its mandate, should be to provide national framework which provides alignment of

departmental priorities on infrastructure projects that will be delivered within a specific timeframe. One interesting model is on the study of Uganda on the functionality of the directorate of Monitoring and Evaluation with the national coordinating commission. Uganda, through these programmes has shown how monitoring and evaluation can contribute to national capacity building.

5.4.2 Planning

The National Development Plan 2030 has set a national framework for planning by different department, however noting the provision of the SA Constitutional framework for Intergovernmental Fiscal Relations on the separation of power in three spheres of government. A similar commission could be consider at provincial levels and local government. However, with capacity challenges in local government, planning should possible be coordinated at local government level except metropolitan municipality because they have enough resources to plan their activities. Planning at all government levels should ensure alignment of complement activities and address challenges in spending.

5.4.3 Governance and oversight

Monitoring and oversight structures play a vital role in ensuring efficient and effective use of resource. In all spheres of SA government, there are different structures and committees responsible for monitoring and oversight, however the challenge is possibly on the capacity and expertise to perform the respective mandates. This study further recommends that building capacity on oversight structures and within departments units responsible for infrastructure be enhanced or accelerated to realise value for money.

5.4.4 Financial management

In addressing issues of proper financial management, committees that are established to look at effective financial management must be in place and be fully capacitated. These include auditing committees, internal audit unit, financial risk management which will also help to identify any possibly risk associated with the

project and majors to be taken after risk assessment. This study has further revealed that South Africa has good financial policies; however the critical part is on the enforcement of these policies. National Treasury of SA, and other relevant structures should ensure enforcement of the Public Finance Management Act, No 1 of 1999; the Division of Revenue Act which is passed annual to ensure that ring-fenced funding for infrastructure are not used for different purpose. The AGSA, performs financial performance audit annual across all spheres of SA government, one of the important issue which normal emerged on the audit is non-compliance with laws and regulations. Urgent corrective actions should be taken to ensure that competent qualified people (with capacity) are place in right positions.

5.4.5 Skills mobility and connectivity

Technical skills to implement, manage and monitor mega infrastructure has also been identified be amongst the challenges which attributed to under-spending on capital projects. This study emphasise on skills mobility and connectivity with the rest of the world where the country can acquire such skills. Most important is also on the skills transfer model and the ability of the country to develop and maintain its own people with such skills. SA need to strengthen its partnership with tertiary institutions which produces such skills and review its current model to encourage young people enrol for these scarce skills.

5.5 Conclusion

This chapter has reflected on the findings of the study conducted by the researcher on infrastructure spending capacity in South Africa with specific focus to the Department of Education and Health. For the purpose of this study Kwazulu-Natal has been used as a case study comparative to other SA provinces. Capacity to deliver infrastructure is complex yet important for economic growth and development. The study will be useful for people responsible for infrastructure; SA government and other emerging countries as it draws lessons across the world on infrastructure spending and its importance towards economic growth.

CHAPTER 6

RECOMMENDATIONS FOR FUTURE RESEARCH

Scope for future research

This study has identified a number of areas for future research with specific focus on infrastructure. South Africa has ring-fenced funds for infrastructure which are introduced through the Division of Revenue Bill which is tabled annually in Parliament of the Republic of South Africa. However in some other instances, these funds are used for different purposes, it may be interesting to consider the following case studies and explore challenges in their implementation:

- Analyse the implementation of the Hospital Revitalisation Grant and its challenges in Free State province
- Analyse financial resource and capacity of the Eastern Cape on Accelerated School Infrastructure Development Initiative
- Capacity challenges in KwaZulu-Natal Municipalities to deliver Municipal Infrastructure Grant
- Examine the extent of capacity challenges to implement school infrastructure in KwaZulu-Natal
- Comparative spending and allocations of Provincial infrastructure in KwaZulu-Natal

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APPENDICES



Appendix 1: Photograph depicts example of sub-standard work, e.g. support beams that have structurally been weakened, and poor brickwork.



Appendix 2 Photograph: Admin block - completed in 2006 but not handed over due to absence of electricity



Appendix 3: Photograph: Hall was built by a district municipality by not handed over the relevant local municipality