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Construction Contractors and Healthcare Delivery in South Africa: Challenges and Interventions

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ABSTRACT AND KEYWORDS

South Africa faces significant challenges with regard to the delivery of new infrastructure and the upgrading and maintenance of existing infrastructure. This is particularly true of the health sector where Government has set a target, in terms of the hospital revitalisation project, of revitalising approximately 400 new hospitals in the country over a period of 20 years.

This delivery must take place in terms of the requirements of the Construction Industry Development Board's (Cidb) regulations for the procurement of construction services within the public sector. In terms of the Cidb Act, organs of state may only invite tenders from contractors registered with the Cidb. The Register of Contractors evaluates contractors against a basket of factors and determines a category of registration: this category, in turn, determines the maximum value of a construction project which a contractor may tender for.

This paper compares the demand side requirements of the National Department of Health with the supply-side capabilities of the construction industry as determined by the Register of Contractors. It finds that only a small percentage of registered contractors may tender for the Department's projects, and suggests that the target set by Government in terms of its hospital revitalisation project will not be met unless dramatic interventions are introduced.

The paper recommends that new interventions are required, and that these focus around procurement strategies that advance integrated supply chains, long-term relationships throughout the construction and post-construction period, innovation, and new technologies, if Government wants to achieve the strategic objectives around socio-economic infrastructure delivery and higher rates of economic growth.

KEY WORDS**Health infrastructure, Contractor registration, Construction capability, Procurement strategies, Technological innovation****INTRODUCTION**

The construction industry globally is widely criticised for its lacklustre performance: a significant body of published and anecdotal evidence indicates that the construction industry has among the highest rates of corruption; construction projects invariably take longer than planned; overrun budgets; seldom adds value; subject workers to irresponsible and life-threatening risks; manifests variable quality; and generally underperforms as a production entity (Edwards 2002; ILO 2000; van Wyk and Chege 2004; Woudhuysen and Abley 2004).

A similar criticism is levelled at the construction industry in South Africa: a Status Report on the South African Construction Industry prepared by the Cidb (2004) found that the industry suffered from high rates of enterprise failure; that the quality of service of the contractors was rated by clients as average to good (with variation between firms); that the service of newer firms provided poorer quality; that there was little evidence of process and productivity improvement and very little attention being paid to systematic performance improvement activities.

It is against this background that this paper evaluates the ability of the National Department of Health (DoH) to achieve its objective of revitalising approximately 400 hospitals in the country over the next 20 years as envisaged by its Hospital Revitalisation programme (DoH 2005).

For purposes of this paper, the following definition is used for construction sector:

Construction sector – “The Construction Sector comprises establishments primarily engaged in the construction of buildings and other structures, heavy construction (except buildings), additions, alterations, reconstruction, installation, and maintenance and repairs. Establishments engaged in demolition or wrecking of buildings and other structures, clearing of building sites, and sale of materials from demolished structures are also included. This sector also includes those establishments engaged in blasting, test drilling, landfill, levelling, earthmoving, excavating, land drainage, and other land preparations. The industries within this sector have been defined on the basis of their unique production processes. As with all industries, the production processes are distinguished by their use of specialised human resources and specialised physical capital” (CETA 2004:11).

HOSPITAL REVITALISATION PROJECT

The hospital revitalisation programme entered its fifth year of implementation in 2007/08. The hospital revitalisation programme is premised on the importance both to the provision of quality health services to patients and creating an optimal environment for health personnel to function effectively. The programme includes improving infrastructure, equipment, and the quality of care, management and organisational development at the targeted hospitals (Treasury 2007).

It is anticipated that the programme will be significantly expanded over the next three years (2007-2010) with 45 additional hospitals being enrolled into the programme (DoH 2006).

Expenditure on health is estimated to grow from R7,7 billion in 2003/04 to R15,2 billion in 2009/10, an average annual increase of 11.9 per cent (Treasury 2007). The largest areas of growth have been in the HIV/AIDS sub-programme and in the hospital revitalisation grant in the Hospital Services sub-programme (Treasury 2007).

With regard to infrastructure spending in the health sector, allocations have increased from R717,6 million in 2003/04 to R2,6 billion in 2009/10 (Treasury 2007). The table below indicates the provincial health infrastructure expenditure budget from 2003/04 to 2009/10. The increase represents an average annual growth rate of 32.8 per cent (Treasury 2007).

Table 1: Estimates of National Expenditure (Health) 2003/04 – 2009/10

Million (R)	2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10
Infrastructure	382,8	838,0	1047,2	1269,0	1934,1	2318,5	2537,0

The Quarterly Report March 2005 – June 2005 of the Hospital Revitalisation programme (DoH 2005) noted that progress on site for most of the revitalisation projects was severely hampered by inefficiencies in the tendering and procurement systems, as well as the appointment of contractors that did not have the capacity to handle large scale construction activities. It must be noted here that this report pre-dates the implementation of the Cidb Register of Contractors as more fully explained later in this paper.

AN OVERVIEW OF CONSTRUCTION PERFORMANCE IN SOUTH AFRICA

Economic and political policies of the past 140 years resulted in unequal income and wealth distribution, and unequal access to opportunity and government services. Three decades of political struggle came at the cost of a stagnating economy with growth slowing down significantly in the 1970s and 1980s: estimated unemployment rose from some 0.5 million in 1970 to

a peak of 8.2 million in 2003 (Bruggemans, 2007). With the changes that occurred in the early 1990s leading up to the first democratic elections in 1994, faster economic growth and a higher level of development became an imperative to ensure a wider distribution of income, wealth and opportunity (Presidency, 2007).

However the real economic breakthrough only came in late 2003 on the back of growth in incoming foreign capital, which caused the Rand to firm, assisted inflation lower, allowed nominal interest rate easing in 2003, triggered household consumption and asset booms that saw equity and house values triple, and from 2004 onward stepped up the GDP growth rate from below 3% in 1990s to 5% in 2004.

While fixed investment grew by only 4% in 2002, barely 15% of GDP, by early 2007 the fixed investment growth rate had increased to 20.25%, and rising (SARB 2007). Whereas the slowdown of growth and the vesting of long-term stagnation effectively saw the halving of the size of the construction sector to 2.5% of GDP in the 1980s, the events of 2003 required the construction sector to double relative to GDP and to do so again by 2010-2012 at the latest if South Africa wanted to sustain long-term economic growth rates of 5% plus.

Total investment in the construction industry (excluding informal and unrecorded activity) was about R50 billion in 2002, of which about 60-65 per cent was invested in residential and non-residential buildings and the remainder in the civil engineering industry. By 2004 total investment for the construction industry had risen to over R100 billion, representing a doubling of construction investment over four years.

Spending on gross fixed capital formation (GFCF) which is divided into residential and non-residential buildings, construction works, transport equipment, machinery and other equipment, and transfer costs, expanded by 10.7 per cent in the first quarter of 2006 (RMB 2006). This increase can be mainly ascribed to an increase in private sector investment which constitutes some 70 per cent of GFCF.

All the major public corporations have stepped up real outlays on capital goods to improve infrastructure. This includes the expansion of electricity and communications networks in support of the maintenance of existing infrastructure to meet service delivery obligations. With GFCF by general government, as a ratio of gross domestic product, having remained virtually static at 2.7 per cent since 2003 (SARB 2006), significant further increases in economic infrastructure expenditure by general government are planned to facilitate accelerated and shared growth.

Mid-year interim results from the construction companies reflects the buoyant conditions experienced by the construction industry: the construction group Basil Read increased its first-half profit to R50 million, up 148 per cent from the R20,2 million reported for the first six months of the previous year, with turnover increasing by 78 per cent to R900,7 million (EN 2007). Wilson Bayley Holmes-Ovcon posted a 23,35 per cent return on equity and its share value has increased from 140c in 1999 to R95 in April this year. Its order book grew from R6,1 billion in June 2006 to R8,5 billion

in December 2006 (FM 2007). Murray and Roberts construction and engineering order book increased by 54 per cent to R15,4 billion in the six months to December 2006, and its share value has risen from R20 in June 2006 to R70 in December 2006 (FM 2007). Aveng's construction order book rested at R15,6 billion in December 2006 from R11,3 billion in June 2006. Its share value has more than doubled over the past 12 months (FM 2007).

GROWTH EXPECTATIONS FOR THE SOUTH AFRICAN CONSTRUCTION SECTOR

AsgiSA is one of Government's initiatives aimed at identifying State interventions in six key areas to accelerate economic growth. It states that this depends on achieving a 4.5 per cent growth rate from 2005 – 2009, and a 6 per cent growth from 2009 - 2014. One of the instruments identified in achieving this target was the delivery of new socio-economic infrastructure (AsgiSA 2006).

Thus the target for GFCF is 25 per cent of GDP by 2014 (Presidency, undated). In addition, it is a Government objective to achieve a GFCF/GDP ratio of between 20 – 25 per cent. Both of these targets seem to be in reach: indeed, the GDP growth rate has been consistently exceeded, while GFCF has been climbing steadily toward the 25 per cent mark. Gross fixed capital formation for 2003 was 16 per cent; 16.3 per cent in 2004; 17.3 per cent in 2005; 19.2 per cent in 2006; and early indications for 2007 indicate a value in excess of 20 per cent. Overall public sector infrastructure expenditure increased 15.8 per cent per year between 2003/04 and 2006/07. The planned R409,7 billion Medium Term Expenditure Framework (MTEF) budget represents an average annual growth rate of 14.2 per cent (The Presidency, undated).

Table 2 below indicates the actual infrastructure expenditure for 2005/06 and 2006/07 and the estimated infrastructure expenditure from 2007/08 to 2009/10; the actual and estimated GDP growth rate; and the actual and estimated value of GDP as provided in the MTEF. To this has been added a progressive achievement of the targeted ratio of GFCF/GDP of 25 per cent using past performance as a guide. The corresponding GFCF value is then calculated. It is assumed that the current construction investment/GFCF ratio of 42 per cent will remain (based on the 2005/06 results) due to Government's infrastructure investment programme, the value of construction investment from 2007/08 to 2009/10 is projected. It is important to note that the assumptions are reflected in the period 2007/08 to 2009/10: actual figures are used for 2005/06 and 2006/07.

Table 2: 2007 MTEF infrastructure expenditure estimates

R million	2005/06	2006/07	2007/08	2008/09	2009/10
Total	80 030	101 356	119 781	139 023	150 952
% GDP	5.1	5.8	6.2	6.6	6.5
GDP	1 562 785	1 745 795	1 928 295	2 119 871	2 330 459
% GFCF	17.3	19.2	20.5	22	24
Value GFCF	270 361	335 192	395 300	466 371	559 310
Construction % GFCF	42	42	42	42	42
Construction investment	114 955	140 780	166 026	195 875	234 910

On this basis, construction spend will again double between 2005 and 2009.

CHALLENGES FACING THE SOUTH AFRICAN CONSTRUCTION SECTOR

A first reading of the above statistics would suggest that the construction sector in South Africa is well geared to meet the projected demand. However the reality is that the construction sector has been able to absorb the increased construction investment of the immediate past primarily due to the significant spare residual capacity caused by a stagnating industry over the period 1998 to 2003. A secondary factor has been significant merger and acquisition activity among the larger companies and the introduction of new entrants to the sector, especially those entering the Johannesburg Stock Exchange (JSE) where the capital injection from public subscription has enabled the creation of additional capacity in the firm (FM 2007). However, this has impacted mainly on the larger contractors.

Anecdotal evidence suggests that the spare capacity has now been largely absorbed, and the prognosis for the continuing absorption of work within the current construction sector is not good, largely due to a shortage of skilled construction workers and engineers, and a tightening in the supply of cement and steel (AsgjSA 2007; CETA 2004).

However, another factor is manifesting itself, and that has to do with the number and size of construction enterprises in the South African construction industry. The Construction Industry Development Board (Cidb) was established by an act of parliament in 2000 to improve the performance of the construction industry.

One of its tasks is to administer a Register of Contractors (RoC): there are 9 grading levels and the grading is based upon financial and works criteria. The financial criteria include average annual turnover, track record and employable capital. Works capability assesses a contractor's track record and the number of qualified personnel in certain specialist categories. Registered contractors can only tender for work with a value

correlating to their category of registration. Table 3 below indicates the grading, the value of construction work to which each category is limited, and the number of contractors registered in each category.

Table 3: Grading and number of contractors registered

Grading	Value (R)	Total No Registered	General Building
1	200 000	25 206	17 396
2	500 000	2 944	1 607
3	1 500 000	1 059	543
4	3 000 000	1 326	510
5	5 000 000	698	212
6	10 000 000	494	168
7	30 000 000	259	67
8	100 000 000	75	18
9	Unlimited	70	20
Total		32 131	20 541

Source: Cidb, July 2007

The data above indicates that only 20 registered general contractors, or 0,097 per cent of all registered general contractors, qualify to tender for a major hospital. This is the same 20 general contractors some of whose order books were described earlier. Clearly, given the buoyant conditions in the construction industry and the state of the order books of the compliant contractors, the Department of Health is highly likely to experience great difficulty in meeting its strategic objectives with regard to its Hospital Revitalisation programme.

INTERVENTIONS

The Cidb is preparing a national strategy for sustainable contractor development under the banner of a National Contractor Development Plan (Cidb 2007). Central to this plan is the development platform created by the RoC and streamlined procurement practice. The plan relies on partnerships between clients and stakeholders to address the need for improved capacity in meeting growing construction demand to 2010 and beyond. The plan addresses a number of responses including:

- Targeted interventions based on the RoC
- Access to finance, information, knowledge systems and training
- Monitoring of growth and enterprise development
- Common approaches and the cooperative effort of organs of state and industry
- Cidb outreach to support contractor development

Current initiatives of the Cidb include notifying contractors of tender information, issuing practice notes to clients and practitioners with regard to best practice in procurement and delivery, issuing guidelines and manuals on labour based construction, and a code of conduct for all parties engaged in construction procurement.

Proposed interventions include establishing a Standard for Uniformity in Construction Procurement, and promoting a coordinated impact of the national contractor development programme. In addition, the Cidb will develop a recognition scheme for contractors who demonstrate performance, promote business to business linkages, and ensure that workforce skills and business management is an integral component of contractor development (Cidb 2007).

While all of the above interventions are laudable, they are clearly aimed at the emerging sector (Grades 1 & 2) with a view to ultimately moving as many as are capable up the grading ladder. However, the capability required for a reasonably sized hospital lies in establishing an integrated supply chain from Grade 7 (in some circumstances Grade 6) and up, and from Grade 6 down to Grade 3. It is here that specific interventions should be targeted.

The stagnation of the past with regard to construction investment had a number of consequences, one of which was to force the big national contractors into competing for global work (Cidb 2004). At the same time, the smaller contractors were able to feed off what little work there was at the local level. The segment of the industry that suffered most was the middle sized contractors, who were too small to compete internationally and too big to compete locally. This segment has a number of advantages: they show early signs of becoming dominant players in the general contracting business and appear to be more competitive than larger contractors due to the lower overhead structures (Cidb 2004). They demonstrate flexibility and show a better ability to respond to changes in the policy and economic environment. The Status Report (Cidb 2004) found them to be mobile and to have a large enough capital base to compete. Two specific interventions are proposed:

- Structure procurement strategically
- Introduce innovation and new technologies.

STRATEGIC PROCUREMENT

Demand volatility and intense competition are key factors in enterprise failure (Cidb 2004). Demand volatility is also a key impediment to investment in capital, both social (skills) and technological. Unfortunately construction procurement is project orientated: that is to say it seeks the prerequisite services only for the purpose of delivering the desired construction works. Time constraints and the need for profitability conspire against using the construction works for skills development and/or for trying out new innovations or applying new technologies. Unsurprisingly there is currently little evidence of process or productivity improvement and very little attention is paid to systematic performance improvement (Cidb 2004). Thus every project is delivered using the same delivery process but on a new site with new contractual relationships for a new construction work – a recipe for disaster.

Where volatility is removed, i.e., where work continuity is certain, social and technological investment does occur, as evidenced in the manufacturing sector. On the other hand, implementing a procurement system that constructs a 'package of construction works' over a period of time, with the necessary governance checks and balances, could remove volatility and encourage investment. Procurement used strategically could require the establishment of an integrated and partnered supply chain that:

- Establishes long term supply chain relationships
- Requires a maintenance contract across the life cycle of the construction work
- Extends industry capacity
- Transfers knowledge

The White Paper on the South African Defence Related Industries (DoD 1999) recognises the value to be achieved through establishing strategic procurement and acquisition policies. The White Paper notes that while defence-related industries are not a separate sector of South Africa's industrial base due to defence work being done across all sectors, consideration can be given to conducting an investigation to define and establish the industry as a 'cluster' of organisations providing goods and services to security forces on the basis that they are strategic or that they constitute a national asset. This provision can include research, design, development, production, assembly, test, evaluation, upgrading, procurement, export, import, maintenance, logistical support, human support or project management (DoD 1999). The White Paper also notes that the Constitution of the Republic of South Africa (Act 108 of 1996) does not prevent the implementation of a procurement policy by organs of state providing for categories of preference in the allocation of contracts. It does however require that national legislation provide a framework within which this policy may be implemented.

This paper posits that the provision of 'essential services', especially health services, is of similar importance as to warrant a similar 'cluster' approach being taken with regard to health-related industries.

INNOVATION AND NEW TECHNOLOGIES

"Research and development (R&D) in the construction industry by both the public and private sectors lags behind, often by an order of magnitude, R&D in other sectors" (Cidb 2004:34; CRC 2003). This paper posits that current procurement practices – for reasons stated above – are largely responsible for this unhappy circumstance.

A significant improvement in building process efficiency can make an important contribution to increasing building production levels (TNO undated). Sufficient evidence exists (TNO undated; Woudhuysen and Abley 2004) to confirm that the use of manufacturing-type technologies makes product innovation possible. Today the focus of industrial policy is towards providing long-term improvements in employment and wealth creation in South Africa, through the creation of a sustainable, internationally

competitive manufacturing base. In order to achieve this, industrial policy has shifted from demand-side incentives towards supply-side measures, which are designed to lower unit costs, and encourage firms to invest in products and processes. The supply-side support measure (SSM) agenda has several elements, which contain a range of strategies and programmes, one of which is technology promotion and innovation support.

These kinds of innovations automatically lead to process innovations and different forms of cooperation between the various contracting parties. The overarching objective is to create a new way of conceptualising building design that integrates technological innovation with manufacturing processes so that the outcome is more socially and environmentally responsible. Such an approach should be consistent with:

- Integrated Manufacturing Strategy (IMS) objectives, through a primary focus on manufacturing, i.e., creating a paradigm shift from on-site construction and assembly to off-site manufacturing and on-site assembly
- Building inter-operable and inter-changeable enclosures consistent with the Open Building Concept, i.e., innovating a flexible structural design concept using inter-changeable manufactured components (ManuBuild 2005)
- Whole building design i.e., integrating low energy and low material resource use with high operational performance (economic, social, environmental, technological, and ecological)

This paper suggests that the DoH will not be able to meet its strategic goals, both from a delivery and maintenance perspective, if it continues to rely on conventional construction delivery processes and technologies.

CONCLUSION

South Africa has successfully extracted itself from the downward economic spiral that characterised the last three decades: economic growth is now constant and is projected to continue growing.

Unfortunately, the construction industry was severely undermined by those poor economic conditions and finds itself now facing capacity constraints at the very time that Government needs to improve the delivery of socio-economic infrastructure.

In addition, the introduction of the Register of Contractors has placed additional limitations on the industry. While the reason for this is clear, and appropriate, it now behoves industry stakeholders – particularly organs of state – to restructure their procurement strategies to support integrated supply chains, long-term relationships throughout the construction and post-construction period, innovation, and new technologies, if it wants to achieve the strategic objectives around socio-economic infrastructure delivery and higher rates of economic growth.

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