



**THE ROLE OF THE BUILT ENVIRONMENT  
PROFESSIONS IN MEETING SOUTH AFRICA'S  
SOCIO-ECONOMIC DEVELOPMENT NEEDS**

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## 1. INTRODUCTION

It is generally recognized that the construction sector has a critical role to play in fostering economic growth and development in the formal and informal sectors of the South African economy. The sector is critical in providing the infrastructure that forms the basis for delivery in the economy. The Accelerated Shared Growth Initiative for South Africa (ASGISA), underlines that a GDP growth rate of 6% will be required to meet key socio-economic targets for the period (2004-2009). But, asgiSA also underlines that in order to meet such targets certain critical institutional constraints need to be addressed and it is in this respect that built environment professionals have a critical role to play.

The construction industry's ability to grow, and play its role in meeting such required socio-economic objectives is closely linked to the CBE's mandate, which includes increasing the number of registered professionals in the industry and ensuring that the professions that are part of the built environment reflect the required expertise.

The Council of the Built Environment Act (Act 43 of 2000), establishing the Council of the Built Environment (CBE), was passed in Parliament in November 2000 along with the suite of Acts regulating and re-establishing the seven built environment professions.

The challenge that lies ahead for the construction sector is also captured in the Joint Initiative on Priority Skills Acquisition (JIPSA). The initiative highlights certain constraints which include the following:

- a) The relative volatility of the currency;
- b) The cost, efficiency and capacity of the national logistics system;

- c) Shortage of suitably skilled labour, and the spatial distortions of apartheid affecting low-skilled labour costs;
- d) Barrier to entry, limits to competition and the limited new investment opportunities;
- e) The regulatory environment and the burden on small and medium enterprises (SMEs);
- f) Deficiencies in the state organisation, capacity and leadership.

The initiative also underlines that in order to meet the asgiSA targets the capacity in the built environment needs to be significantly improved. The policy states the following:

*The JIPSA Joint Task Team agreed on a target of 1000 additional professional engineers per year in the next four years. The majority of required skills are in civil, electrical, mechanical and chemical engineering. IPISA is focused on increasing the number of engineering and built environment professionals, technologists, and technicians emerging from universities and universities of technology, and supporting them from graduation to registering with their respective professional councils to encourage retention in the respective professions”.*

*JIPSA suggests an increase in the number of architects by 30% to 35% is required, while the number of quantity surveyors must increase by at least 65% to keep pace with the expected long term construction phase. (JIPSA)*

The industry will need to carefully assess programmes that can be implemented to meet such objectives. The CBE, as a regulatory body, will also in this process need to remain cognisant of its mandate which speaks to;

- Advising government on matters impacting on the built environment;
- Managing coordination between the councils to support matters of national interest;
- Enabling the recognition of new professions;
- Promoting the recognition of different categories within the professions;
- Acting as an appeal body for affected professionals and aggrieved members of the public.

In doing this, the CBE will ensure that the construction sector addresses South Africa's development challenges by ensuring effectiveness and efficiency of actions undertaken by professionals in the sector.

At the 2<sup>nd</sup> Southern African conference on sustainability in the Built Environment, the point was emphasized that the codes of ethics and morality of professionals does not exist outside a system of beliefs that describe a particular world view. Addressing development issues in a developing country context often needs the promotion of a change in paradigm. South Africa needs to develop professionals that can successfully deliver within the context of economic, environmental and social sustainability in a developing country context.

This ultimately means taking cognisance of the assumptions that are often made regarding the spatial placement of housing, the role of building standards in the delivery of projects and assumptions made regarding town planning and land ownership.

In formulating key performance indicators for development projects in the construction sector, there is often a difference between the performance indicators used by practitioners, and those used by a community. What matters for the development practitioner, is often the technical aspect of a

project, what matters to communities is often if the relevant participation process was followed.

Built environment professionals also need to adopt a new approach to the use of materials and energy use and generally integrating environmental outcomes in project design and management.

It needs to be reiterated that the role of the built environment professionals goes well beyond the promotion of economic growth. Architects, Landscape Architects, engineers have an important role to play in influencing the form of cities and for instance, the accessibility of households to employment opportunities.

Therefore, “business as usual” in the engineering and built environment and its related services will not address community needs. It is important that one reconsiders the services provided, the quantum of services delivered, and the extent to which these support rather than undermine existing community-based service delivery and management systems.

## **2. THE STRUCTURE AND SIZE OF THE CONSTRUCTION INDUSTRY**

The role of the construction sector in meeting national objectives is also influenced by its institutional structure and the contribution that it makes to the national economy.

The construction sector can be divided as follows:

- a) Building Projects
- b) Civil Engineering Projects
- c) Industrial and Mining

The construction sector also delivers its products in a uniquely changing project specific environment, and continuously involves different combinations of:

- Investors, clients, contractual arrangements and consulting professionals;
- Site conditions design, materials and technologies;
- Contractors, specialists, subcontractors, skills and workplace assembled for each project.

The sector stakeholders include building companies of varying sizes, consulting professional, material suppliers, private and public sector investors, different bodies of the state, the public and professional offering different levels of skills.

Whilst historically the sector was dominated by a number of large firms, preferential procurement initiatives have played a role in the creation of small and medium sized enterprises in the sector. The challenge lies in ensuring that start-up emerging contractors are provided with an environment that permits them to flourish and develop skills.

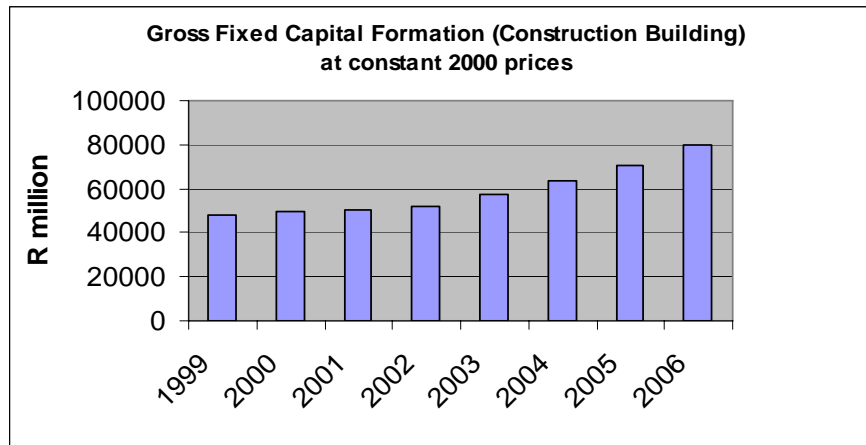
Following the lead provided by asgiSA, the built environment needs to carefully ascertain whether formal and informal barriers unnecessarily prevent new entrants from entering and growing in the industry. The structure of the construction sector is also dictated by numerous acts and regulations which ensure that the necessary attention is given to building quality, health and safety, the environment and the other socio-economic norms.

But, this institutional environment needs to reflect the changing expected outcomes for the Building Industry.

The gross capital formation of the construction sector (Civil Engineering) was R53.3 bn or 16,7% of total capital formation in 2006 . To this can be added a further R35.8 bn for residential buildings and R33.4 bn for non-residential

buildings. Thus, the total value of the sector is R 122 345 bn or 38,2 % of total Gross capital formation in 2006.

The real growth in construction related gross capital expansion is illustrated in the graph below:



Source: SARB

In 2006, the construction sector saw real growth of 14%, compared to 10% in 2005; this growth is also reflected in double digit growth in cement sales. In the medium term the sector will continue to be underpinned by strong public infrastructural expenditure. Public sector infrastructural expenditure increased 15.8% per year between 2003/04 and 2006/07. The planned R409.7 billion Medium Term Expenditure Framework (MTEF) budget represents an average growth rate of 14,2% in infrastructural expenditure per annum. Some 37% of the R409.7 billion will be spent by SOEs, mainly for power generation, transmission and distribution investments by Eskom and municipal distributors; and port, rail and pipeline investments by Transnet. This will also place a continued high demand for skills in the construction and engineering sectors.

Although total employment in the construction sector can only be roughly estimated, Statistics SA employment figures suggest that in 2006 the sector was responsible for 8% of total national employment; this is an increase from the 2001 contribution of 6%. It is also estimated that the construction sector employs one million people, with some 424 000 individuals employed in the informal

sector. Annual employment growth in the period September 2005 – 2006 was 9.5%, with employment in the sector increasing by some 390 000 people in the period 2001 – 2006.

In the first quarter of 2006 some 93 000 women were employed in the sector, an increase of 24% compared to same period in 2005. Furthermore the contribution of women to the total construction labour force increased from 9.2% as at March 2005 to 10.8% in March 2006. It should also be underlined that enterprises in the construction industry have committed to achieve the following targets by 2013.

- 10% economic interest held by black women;
- 10% participation by black women in voting rights;
- 20% black women at board level;
- 16% black women at executive management level;
- 16% black women in senior and middle management;
- 27% black women in junior management;
- 25% of the skills development spent on black people must be spent on black women;
- 20% of skills development spent on black management must be spent on black women;
- 35% of learnerships for blacks must be black women.

The present and expected growth in the sector will invariably place new challenges for the sector. It not only requires that more professionals enter the sector, but also that skills are developed at all levels of the skills ladder. Unfortunately, the promotion of skills development has been exacerbated by the fact that the poor performance of the sector in the 1980's resulted in the closing down of industry training institutions in the 1990's.

This is a situation that needs to be redressed.

Added to this, initiatives such as the expanded public works programme encourage appropriate labour incentives technologies to be applied to building processes and a change in thinking by built environment professionals.

The challenge facing the CBE is to ensure that an appropriate level of coordination exist between the six built environment councils and that this results in the construction sector playing the required role in producing economic growth and development.

### **3. THE COUNCIL OF THE BUILT ENVIRONMENT**

One of the objectives of the council of the built environment is to ensure that the professions in the built environment play a meaningful role in:

- Meeting basic needs
- Building the economy
- Democratising the state and society
- Developing human resources
- Nation building

In delivering its mandate the CBE closely interacts with, *inter alia*, the following institutions;

- The Construction Education and Training Authority to give effect to skills training development that is equitable and promotes the sustainable formation of the industry's skills base.
- Construction Industry Development Board 2001 to provide the necessary leadership for enabling regulatory environment and development framework that enhances the role of stakeholders in industry growth, delivery, performance and transformation.

- The Department of Public Works expanded the public works programme through the promotion of the EPWP.

Moreover, the CBE needs to ensure that its programme and initiative are reflective of, for instance, the Employment Equity Act, the Labour Relations Act, the Preferential Procurement Policy Framework Act and the Construction Education and Training Act, 1988, the council for the Built Environment Act 2000 and the Construction Industry Development Board Act 2000. Changes in the legislative environment provide new challenges to the CBE and the built environment professions as a whole.

The South African Construction sector also needs to take note of international standards when delivering projects, and this will grow in importance with the globalization of the world economy. But, it also means addressing the role of the built environment in a developing country context.

In meeting its objectives, the CBE will need to continue playing an active role in transforming the industry. This means focusing on the profile of students that enter the sector, and ensuring that more black professionals and woman are registered in the sector.

But in meeting its objectives, the CBE will need to ensure, with its stakeholders, that an appropriate focus is placed on the quality of the built environment professionals that are developed. Here the focus needs to be on the development of career path training programmes and ensuring that codes of conduct are adhered to.

Thus the challenges facing the CBE and professionals in the South African environment can be summarised as follows:

- Improving access to the built environment education programmes;
- Access to experiential training opportunities;

- Accreditation of programmes;
- Registration of professionals;
- Ensuring that built environment professionals remain relevant to the country's development needs.

The following two sections address two broad spheres which are of importance to the CBE, namely education and training and issues relating to the governance and management of the professions that serve the built environment.

#### **4. EDUCATION AND SKILLS DEVELOPMENT**

In increasing the number and quality of professionals in the built environment, the CBE will need to remain focused on ensuring that education and training courses are reflective of the required body of knowledge. This will require careful coordination between training providers, the different professional councils and employers in the private and public sectors. There is also a growing acceptance that education and skills training must encompass a careful mix of theoretical as well as industry-based training. This in turn places a responsibility on the professional councils to actively participate in this sphere of activity.

In addressing the training and educational needs of the sector particular attention will need to be given to:

- Promoting the sector in schools
- Changing the profile of graduates in the built environment
- Promoting the career ladder
- Monitoring and learnership
- Continuing Professional Development (CPD)

#### **4.1 Promoting the Sector at Schools**

Industry efforts to increase the number of new entrants in the sector need to start at the school level. An information campaign could be initiated that highlights the different components of the sector as well as career opportunities. Learners should be encouraged to follow subjects and are required to enter the built environment professional programmes.

#### **4.2 Changing the Profile of Graduates**

The challenge does not only lie in attracting potential graduates to enter the sector, but consideration also needs to be given to the composition of the student body.

In this regard the necessary attention needs to be given to the profile of students entering in the built environment courses, and there is a need to improve the pass-through rate on existing courses.

Research undertaken in 2003 by Dr. M Neluheni suggests that;

- 61% of all university of technology graduates were white males while African males made up 18% of this total.
- White females show a higher number of graduates in Architectural subjects as compared to other disadvantaged groups, very low graduates number in case of Indian females and Coloured males are evident.
- The proportion of architecture and engineering white male students who graduated in relation to enrolments is 22%, yet in the case of black males 1986 – 2003, only 8.4% of African Males were able to graduate – the emphasis must lie in improving this.
- There is a declining trend in the registration of white male students in the former technikon institutions of South Africa.

- During the period 1999 – 2003, South Africa experienced a highest loss in the number of engineers, followed by architects, land surveyors, technical draftsman and inspectors respectively.
- During the period 1999 – 2003 86% of the brain drain was in the category of engineers, 10% category of architects, 3% in the category of land surveyors and less than 1% from draftsman and technical inspectors.
- A declining trend in the number of registrations of white males in both universities and former technikon has been realized with a decline in the graduation movement for the latter and a constant trend for the former.
- Out of the total graduates only 23% have registered with professional councils.
- After 1994, the movement shift is more exit than entrants.

### **4.3 Promoting the Career Path**

The industry and related professional bodies need to put in place systems which permit individuals entering the sector to move to the highest professional echelons in the sector. This should include a system that permits potential professionals to register at different levels e.g. candidacy registration.

In addition, the focus on the recognition of prior learning (RPL) can play an important role in ensuring that individuals who have acquired the necessary work experience are able to move up the career and training ladder. The success of a RPL programme requires a careful coordination between the private sector, training institutions and accreditation bodies.

It also needs to be recognised that the sector needs to find new mechanisms that permit professionals from other fields to enter industry professional bodies.

The promotion of a professional ladder offers an opportunity to increase the number of graduates achieving professional registration, but it also plays a role in this field.

#### **4.4 CPD Programme**

It is of importance that registered professionals remain up-to-date with the changing body of knowledge and technologies through Continued Professional Development (CPD) programmes. This becomes all the more relevant if one considers that professionals in the built environment need to continually question whether existing delivery mechanisms applied are appropriate considering the changing socio-economic environment.

It should also be emphasized that with the existing skills shortage in the sector, professional bodies are coming under greater pressure to recognise skills from other countries. This also means that mechanism needs to be found that ensure that such professionals are recognised by the different councils.

Presently registered professionals can also play a role in promoting experiential learning opportunities. The success of university programmes similarly requires a continued interaction with the private sector. It is through such interaction that one can be assured that the body of knowledge lectured in learning institutions remains reflective of changing industry needs.

More specifically the CBE needs to encourage professional councils to take cognisance of changing demands promoted by government policy objectives and policies. This means emphasizing changing health, safety and environmental protection in built environment educational programmes. An effective CPD programme can play an important role in ensuring that this changing body of knowledge is transmitted to professionals.

## 5. CONCLUSION

The construction sector is an important employer in the national economy and has been targeted by asigSA and Jipsa as a sector that needs special attention.

The construction sector employs in excess of one million people, both in the formal and informal sectors, and the challenge lies in creating institutional structures that assist individuals to move up the professional ladder and which also ensures that the built environment profession is able to deliver to an ever-changing socio-economic environment.

The success of by built environment professionals to effectively meet required socio-economic outcomes will require a closer collaboration with other professions such as environmentalists, sociologists and anthropologists. It also means paying attention to issues such as the impact of HIV/AIDS in the built environment.

In conclusion, the role of the building professions in South Africa will be influenced by the Industry's ability to adapt to changes in the technological and social spheres.

The Council for the Built Environment has a central role to play in meeting these objectives through the numerous programmes developed with the professional councils of the built environment.

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