

# CONSTRUCTION SKILLS REQUIREMENT ISSUES IN ZAMBIA

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The construction industry in Zambia plays a pivotal role in the socio-economic development of the country. Being a labour intensive industry, competition between firms in construction depends on the quality of the workforce that companies employ. This paper presents a study that is intended to identify essential factors in the formulation and implementation of policies, training and retraining programmes tailored to deal effectively with the industry's labour resource requirements. The labour resource audit should serve as a first step towards the process of planning for future construction skill requirements. The study is capturing official details such as head count for trend audits as well as underlying factors obtainable from further qualitative probing to explain any quantitative trends.

Keywords: audits, construction, skills, training, Zambia.

## INTRODUCTION

To succeed in the global, knowledge-based economy, a country must be capable of producing, attracting and retaining a critical mass of well-educated and appropriately trained people (Ofori, 2000). Highly qualified people, defined as people having completed a post-secondary degree or diploma or its equivalent, are indispensable to an innovative economy and society and the construction industry in Zambia is no exception. The same case in point applies to basic and intermediate skills within any sector or economy (Bentall *et al.* 1999).

The construction industry in Zambia plays a pivotal role in the socio-economic development of the country. Its role ranges from providing infrastructure support to factors of production for other sectors of the economy as well as accounting for a substantial part of the Gross Domestic Fixed Capital Product. Therefore, the organization, efficiency, capacity and cost effectiveness of construction is of vital importance if the industry is to play its role. Ofori (2000) however, argues that most often the construction industry faces many difficulties ranging from internal weaknesses to external threats, which, affect and influence its performance. In developing countries these weaknesses and difficulties are exacerbated by the lack of sufficient skills and highly qualified people to developing needs of these countries. Being labour intensive, the industry in Zambia places heavy reliance upon the skills of its workforce. Availability of skilled labour, therefore, is a major factor in the quality of products offered and the confidence customers can have in the industry. However, the level of demand for skills is affected by the cyclic nature of construction workload. Fluctuations in output can have serious adverse effects on the construction industry's ability to sustain a skilled workforce.

This paper presents initial perspectives from a research focusing on the audit labour resource trends in the construction industry in Zambia in the context of changing economic trends within the country and the Southern Africa sub-region. The study is intended to identify essential factors in the formulation and implementation of policies, training and retraining programmes tailored to deal effectively with the industry's labour resource requirements. The labour resource audit should serve as a first step towards the process of planning for future construction skill requirements.

## BACKGROUND: ZAMBIA

Zambia is a landlocked country in the south central region of the African continent. Figure 1 shows the map of Zambia indicating the principal urban settlements in the country. Zambia has a gross land area of 752 600 km<sup>2</sup>. The country is irregularly shaped and shares a boundary with eight other countries. It is the world's third largest producer of copper. The total Gross Domestic Product (GDP) is estimated at US\$2.9 billion and the Gross National Income per capita placed at US\$300 (World Bank, 2003).



**Figure 1:** Map of Zambia

The total population of the country is approximately 10.08 million (World Bank, 2003), of which 3.4 million make up the total labour force, with a greater proportion of the labour force located in the more urbanized south. Overall, 60% of the population live in towns. The distribution of the labour force between sectors is as follows, agriculture - 85%, industry - 6%, services - 9%. The category of industry comprises copper mining and processing, construction, foodstuffs, beverages, chemicals, textiles, fertilizer, and horticulture. Construction therefore has only a

fractional share of basic, intermediate, and professional skills totalling approximately 20,000 to serve the development needs of the country.

## **THE ZAMBIAN CONSTRUCTION INDUSTRY**

According to Shakantu *et al.* (2000) the construction sector in Zambia consists of five main sub-sectors, namely, the design, assembly, manufacturing, supply and clientele. The Zambian construction industry deals with the delivery and maintenance of buildings and infrastructure such as roads, railways, airports, bridges, dams and power stations. The production process that facilitates the construction industry involves legal and institutional relationships among clients, architects, engineers, surveyors, planners, contractors, manufacturers and material suppliers.

Most road projects, work on the Copper mines, construction of city structures, bridges and dams in the pre-independence and post-independence era after 1964 were carried out by local construction companies (Turner 1995). Then, the necessity for high standards in construction works demanded skill and good workmanship. Availability of sufficient work for local companies had a positive effect of maintaining a highly skilled workforce. This enabled Zambian companies to expand their operations within the sub-region. For example, through expansion activities of Minestone - a wholly Zambian owned Company, Wade Adams, specialized in piled foundations emerged and established branches in Malawi, Botswana, Zimbabwe, Uganda, Zaire (now Democratic Republic of Congo), Mozambique, Angola and Ghana (Turner 1995).

### **The economic context**

At the beginning 1973, with increases in prices of oil and declining copper prices upon which the economy depended, Zambia underwent a prolonged economic recession. To compound matters, privatization embarked upon by the government in the 1990s led to the dismantling of parastatal companies which provided the bulk of work for the construction industry. The liberalization policies of the 1990s led to devaluation of the local currency that in turn resulted in a runaway inflation, leading to prices of construction materials skyrocketing. The unstable financial regime made the cost of borrowing locally to finance construction project prohibitive. With the introduction of cash budget during the same period, government expenditure on capital projects shrunk. The combined impact of all these factors throttled and significantly reduced investment in the industry. Consequently, since the early 1970s, construction in Zambia experienced a markedly high drop in the volume of work in almost all areas. The effect of reduced investment and work load resulted in loss of valuable experience at every level of the industry (Turner 1995). With very little workload on the market the industry's labour pool gradually moved into the informal local sector. While there has been a serious decline of skilled workforce on one hand, there has been no sustained replacement with trained artisans. Currently, there is no focussed industry effort on which the industry can base its planning for future skill requirements. With very little effort to systematically maintain the workforce even at its present levels, the industry is likely to see further erosion in its capability to offer services that can compete favourably in the sub-region. Golson (1995) has argued that given the state of construction in which both the human resource and plant capability have eroded to such a low point, should the industry recover, it would need massive investment in both areas to meet any increased workload.

Since the start of the structural adjustment programme of the Zambian economy in 1993, construction activities in the country have been centred on roads, water and

sanitation infrastructure and housing units. In road construction, labour-based methods are being applied, especially, on the feeder roads. Most of the construction activities for housing are on self-help basis, often making use of both skilled and unskilled manpower in the informal sector.

### **The gender context**

Although population statistics (CSO, 1999) indicate that women outnumber men (51:49), construction has for a long time been recognized as a male-dominated industry. However, more women are gaining skills in the industry, both at trades training institutes and institutions of higher learning, and also in construction project environments due to increased activities in the sector. For example, Real Value Added in the sector increased from ZK107.8 billion to ZK123.6 billion in 2000. This is especially evident in labour-based road construction in both urban and rural areas supported by Road Sector Investment Programme (ROADSIP) launched in 1997 and the Presidential Housing Initiative which started in 1999 and has active involvement of women.

### **Skills availability**

The construction industry is both diffuse and inadequately defined. There is absence in most countries of a single reliable source of labour force data on the industry (Agapiou *et al.*, 1995). Such information is essential for planning construction skill requirements and designing training programmes appropriate for the industry.

During glut periods, the practice of increasing remuneration as a response to shortages of skilled labour leads to companies head-hunting the little workforce available on the market from each other and consequently raises the cost of construction. The long-term option of establishing training programmes to solve labour shortages are rarely applied (Agapiou *et al.*, 1995). A proportion of the demand for labour can be satisfied from the unemployed construction workers, notwithstanding the losses caused by retirements and movements to other industries during recession. It is, however, unlikely that the construction industry's labour needs will be satisfied from the ranks of those out of employment alone – many no longer possess the necessary skills. Many skills are lost during recessionary periods. Also, numerous skilled operatives leave the industry and fail to return when work becomes available. Such skill losses create serious problems and have a direct impact on the rate of expansion of the industry.

Construction employers, therefore, may be able to put pressure on the government to invest in the most appropriate form of skilled labour if they have a clear understanding of the labour resource issues affecting the industry.

### **Policy Framework**

The relevant policy instrument is the National Policy on Construction Industry (1996) which is aimed at creating an enabling environment that will stimulate growth of the construction industry. The policy has specific objectives and strategies on capacity building in the industry in terms of institutional framework, human resource development and regulatory framework. In terms of institutional framework, the policy calls for establishment of the National Construction Council (NCC) and the Building Centre (BC). The NCC has been established to specifically:

- review and modify standards and legislation for the construction industry; and
- to monitor the development of the industry

The BC, which is meant to promote research and development and disseminate information in the industry, has not yet been established.

Another related policy instrument is the National Housing Policy (1996), which is aimed at providing affordable housing for all income groups in Zambia. A major objective to support capacity building is the allocation of a minimum of 15 percent of the national annual budget to support a sustainable housing development programme. This objective is far from being achieved as allocations to construction (roads, housing and other infrastructure) is of the order of 5 percent of the total GDP at constant 1994 prices (CSO, 2001).

## **THE NEED FOR TRAINING**

A major impediment to skills training is poor funding. According to the Technical Education, Vocational and Entrepreneurship Training (TEVET) Policy (GRZ, 1996), there is a provision for setting up training funds, but so far the modalities have not been spelled out. There have been some suggestions about a training levy, but several misgivings about this mode have been advanced. Sustainable financing of training can ensure continual supply of trained manpower for the industry.

Being a labour intensive industry, competition between firms in construction depends on the quality of the workforce that companies employ. Other than relying heavily on recruiting young people, construction employers may, in future, need to consider alternative sources of labour such as migrant workers, those out of employment, women and their current workforce. Probably with the exception of migrant workers, all the other groups taken together with young entrants will need to be formally trained to meet the construction industry's skills requirements. Construction employers tend to recruit their workforce from the locality of projects (Agapiou *et al.*, 1995). Therefore, appropriate recruitment, training and retraining strategies depend on local labour supply factors.

Construction employers need to adopt alternative recruitment strategies if they are to avoid future skill shortages. These strategies need to be tailored to the availability of particular labour sources including those under-represented in the construction industry. In the first instance, employers should consider upgrading the skills of their existing workforce.

However, this would depend on the availability of local training courses. The availability of financial incentives to train workers is also a factor influencing an employer's decision to train. Alternative recruitment options, including attracting construction craft-workers currently employed in other industries depend on relative opportunities available to these workers, and the ability of the industry to retain them for the future skills required. The trend to move away from direct employment of construction labour towards self-employment and labour only sub-contracting may, however, hamper employers' ability to train for future construction skills

## **RESEARCH OBJECTIVES AND APPROACH**

In order to achieve the aim, the research focuses on the following objectives:

- examine current government policy and expenditure with reference to training and retraining of the workforce in the industry;
- examine trends in outputs of institutions involved in training and retraining of construction industry workforce in Zambia;

- audit construction industry skills deficit via a survey of construction industry employers;
- examine levels of private sector participation in training and retraining programmes in Zambia;
- identify constraints to implementation of appropriate training programmes in Zambia; and
- assess current levels of skills possessed by construction worker in Zambia

### **Data collection procedure**

The approach normally employed by official sources to elicit data for such audits is through collating departmental returns of the estimates for the various sub-sectors within construction. This only results in head count without yielding extraneous data to explain the current status and potential future trend. The data in this study will be collected mainly through structured interviews and will cover Lusaka, Copperbelt, Southern and Eastern Provinces. The use of a structured approach should enable both quantitative and qualitative analyses to be performed with the collected data.

### **Data analysis**

The data from the structured interviews will be analysed by relevant descriptive statistics (tables and percentages). The constraint of descriptive statistics is to enable take up of the output from the study by policy makers in the public sector. The additional data of a qualitative nature that will arise from further exploration of each of the data points in the interview will be analysed using content analysis to identify any causative factors that could explain any trends from the quantitative analysis.

## **EXPECTED OUTPUTS**

For the work in this study to have some impact on the construction industry in Zambia, the output will have to be extended to policy makers and other official agencies related to the construction sector in Zambia. This will be achieved through two milestone activities:

- a workshop on “Construction Skills Requirement in Zambia” to disseminate the research findings among stakeholders such as relevant government departments, training institutes and the construction in its diversity; and
- a research report on “Construction Skills Requirement in Zambia” to help guide government policy on funding skills training programmes for the construction industry in Zambia.

## **BENEFICIARIES**

Beneficiaries of the research outputs will include:

- government planning units and policy makers on construction skills development;
- construction training institutes which may benefit from any improvements in funding that may result from the awareness created by the research;
- the construction industry in general, both public and private from improved skills of the construction workforce that may result if recommendations of the research are acted upon; and

- clients of the construction industry, both public and private, and the whole country from quality construction products that can result from a highly skilled workforce.

## **CONCLUSIONS**

The future effectiveness of the construction industry in Zambia depends on the quality of the workforce it educates and trains. This requires strong commitment from construction firms and the government to maintain requisite training levels. Appropriate training can only be developed if training needs are carefully identified. This requires interested parties in the industry to understand and anticipate the skills need of their workforce. This can only be achieved if they are in possession of detailed information on the availability of labour resources in the industry. Such information includes:

- the skills needed by professional and technical staff in both the public and private sector, elected local authority members and members of local strategic partnerships,
- the gaps and shortcomings in skills and capacity,
- how to develop mechanisms for sharing knowledge, good practice and experience of ways in which these skills can be provided across the country, and develop new approaches

These issues form the essential ingredients of a study that is currently underway to relevant details for policy makers in Zambia. The study is capturing official details such as head count for trend audits as well as underlying factors obtainable from further qualitative probing to explain any quantitative trends. The final output from the study will be reported in future ARCOM conference.

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