



ASSOCIATION OF SCHOOLS OF CONSTRUCTION OF SOUTHERN AFRICA

Exploring The Competitiveness Of The Zambian Quantity Surveyor On The Global Construction Market.

**Keynote Speech given by Matthew Ngulube at the 4th Built Environment
Conference**

Date: 18th May, 2009

Speech presented by Matthew Ngulube at the 4th Built Environment Conference

I don't have to tell anyone here that we are at the beginning of an information age at the threshold not only of a new way of executing projects but of a cultural revolution orders of magnitude greater than builders of the great wall of china, taj mahal, the great Zimbabwe ruins, leaning tower of pissa, the colloseum and Findeco House just to mention a few. This revolution may be sustained in the industry if we survive our global financial meltdown, our 20,000 nuclear weapons or our melting ice cap at the two poles of course caused by the global warming.

I am, as already introduced the current chairman of the quantity surveying chapter of the Surveyors Institute of Zambia. I represent at this meeting, 28 registered quantity surveyors, 13 practicing firms and hundreds of graduates of the School of Built Environment of the Copperbelt University who contribute to the construction industry in more than one way.

As we all well know the Association of Schools of Construction of Southern Africa (ASOCSA) attempts to be the professional association for the development and advancement of construction education in Southern Africa, where the sharing of ideas and knowledge inspires, guides and promotes excellence in curriculums, teaching, research and service.

The end result of this noble cause is supposed to be professionals that will be relevant to the construction industry. It will be impossible to achieve these well meaning objectives of ASOCSA without viable partnerships with professional bodies like the Quantity Surveying Chapter of the Surveyors Institute of Zambia.

When am finished with my speech, you will know the status of the quantity surveying profession in Zambia with regards to its competitiveness on the global construction market. Particularly, I will endeavour to ask the audience to judge us based on the facts I will highlight in my presentation.

BACKGROUND

The Quantity Surveyors Act Number 37 of 1995, which is an 'act to establish the Quantity Surveyors Registration Board' is the only available piece of legislature directly governing the Quantity Surveying Profession in Zambia. This act graduated from CAP 825 which was a joint act for Architects and Quantity Surveyors with the first recorded date of enactment being 1st June, 1949.

The dream of the lawmakers six decades ago was to enact a law that would register quantity surveyors and architects after a candidate attained 21 years, paid the prescribed fee, passed a qualifying examination and satisfying the minister of Local Government that he possess a relevant qualification, assuming the minister himself understands what is means to be a registered quantity surveyor.

The new and only piece of legislature for quantity surveyors i.e. CAP 37 of 1995 also prescribes the qualifications of registrations as follows:

- Resident in Zambia at the date of his application for registration
- Attainment of 21 years
- Applicant should hold a Bachelor of Science Degree in Quantity Surveying, Building Economics and Measurement or other equivalent qualifications approved by the board
- Completion of at least five years of a professional course from a university recognized by the Commonwealth Association of Surveying and Land Economy (CASTLE) whose foremost aims are encouragement of provision in commonwealth countries of adequate facilities for professional and technician education, transfer of technology throughout the commonwealth and constant updating of professional skills and application of rapidly advancing technologies to a wide variety of surveyors' functions
- Completion of two years of post graduate practical experience in full time employment under supervision of a registered quantity surveyor or in case of a

candidate practicing outside of Zambia, not less than three years working experience and a period of not less than twelve months in Zambia under the supervision of a registered quantity surveyor in private practice or government

I know for a fact that this gives the candidates aspiring for registration very little hope of registration.

The conspicuous absence in the qualification criteria are aspects related to the changing landscape of execution of projects and particularly developing a local quantity surveyor who will compete favorably with fellow quantity surveyors who are increasingly getting projects in Zambia.

We are in a situation today, where competitive advantage is measured by the prowess one has in the level of digitization and knowledge of the various tools of available information technology on the global construction sector. Like blind men in a room with an elephant, we cannot begin to imagine the eventual consequences as digitization and the Internet ignite a worldwide Cultural Revolution orders of magnitude greater than the dream our lawmakers six decades ago had when they attempted to prepare rules of operation for the Zambian Quantity Surveyors who, then, existed only in theory. At the very least these technologies will challenge traditional methods of quantity surveying, based on first principles, and obsolete technology currently used in Zambia. I will come to the impact of digitization on the Zambian Quantity Surveyor in a moment, but before I do I would like to dwell a bit on the subject of the Global Village and technologies for quantity surveyors available on the global market.

GLOBAL VILLAGE

Global Village is a term closely associated with Marshall McLuhan, popularized in his books *The Gutenberg Galaxy: The Making of Typographic Man* (1962) and *Understanding Media* (1964). McLuhan describes how the globe has been contracted into a village by electric technology and the instantaneous movement of information from every quarter to

every point at the same time ([http://en.wikipedia.org/wiki/Global_village_\(Internet\)](http://en.wikipedia.org/wiki/Global_village_(Internet))) . In bringing all social and political functions together in a sudden implosion, electric speed has heightened human awareness of responsibility to an intense degree.

Today, the term "Global Village" is mostly used as a metaphor to describe the Internet and World Wide Web. On the Internet, physical distance is even less of a hindrance to the real-time communicative activities of people, and therefore social spheres are greatly expanded by the openness of the web and the ease at which people can search for online communities and interact with others that share the same interests and concerns. Therefore, this technology fosters the idea of a conglomerate yet unified global community. Due to the enhanced speed of communication online and the ability of people to read about, spread, and react to global information very rapidly, McLuhan says this forces us to become more involved with one another from countries around the world and be more aware of our global responsibilities. Similarly, web-connected computers enable people to link their web sites together.

After the publication of *Understanding Media*, McLuhan starts to use the term *Global Theater* to emphasise the changeover from consumer to producer, from acquisition to involvement, from job holding to role playing, stressing that there is no more community to clothe the naked specialist.

The World Wide Web has become a vital tool in the construction industry in Zambia to a level where it is almost impossible to practice quantity surveying without it. Am reminded of my chief present here today, Mr Walusiku Lisulo, when he reminded me about the torture our senior quantity surveyors went through when typing Bills of Quantities using stencils and IBM computers.

There is technology available now to execute various services of the quantity surveying profession ranging from taking off through to preparation of the final account.

ROLES OF THE QUANTITY SURVEYOR

Quantity Surveyors are concerned with financial management, measurement and accounting on construction projects. They deal with detail and tend to be highly literate and numerate and possess computer and IT skills to enable them to fulfill their responsibilities. They work on their own or within teams of other QS's or multi-disciplined professionals. They can be employed by Contractors, Subcontractors, Trade Specialists, Architects, Consulting Engineers or other companies or organisations involved in the construction process.

They are usually involved right from the beginning of a project, when they prepare estimates and cost plans that list the labour and materials needed as well as the estimated costs. Contractors use these to prepare their tenders. Once the project is under way, the quantity surveyor continually monitors the actual costs being incurred, drawing attention to any variations from the estimate.

The traditional role of a quantity surveyor includes but is not limited to:

- talking to architects, engineers, builders, contractors, suppliers and clients
- studying architectural and engineering drawings and specifications
- preparing 'Bills of Quantities', which lists the individual components required to construct the project
- checking on changes of design to assess the effects on cost
- assessing and recommending payment to contractors during construction
- preparing monthly cash-flow forecasts for clients and tax depreciation schedules
- undertaking feasibility studies to assist in decisions about the worth of a project proceeding

Until comparatively recently, the person preparing the Bill of Quantities had a limited choice on how to convert the information on the drawings into a Bill of Quantities.

Traditionally the systems followed a procedure of:

- a) Taking off which is the process of measuring from the drawings and entering the dimensions on to specially ruled dimension paper.
- b) Squaring which refers to calculating and totaling the lengths, areas and volumes of the dimensions
- c) Abstracting which refers to collecting the totals from the dimension paper on to an abstract to produce a final total for each individual description; and
- d) Billing which was the process of reproducing the items from the abstract onto bill paper in draft form ready for typing.

This process would take one month on average for a medium sized project. This time for document production combined with the equally manual methods of drawing production would cost the client a lot in project implementation time and consequently in actual monetary terms of the overall project.

During the construction process, the quantity surveyor would manually add up the values to prepare interim valuations of work which, depending on the magnitude of the project would take anywhere between four to seven days per valuation.

QUANTITY SURVEYING SOFTWARE

The Quantity Surveying profession is one of the major beneficiaries of the information age revolution.

There exists on the market many software packages which have been able to improve the quality of service provided to clients and to produce information that was not previously available or was too difficult to obtain from manual systems. In some quantity surveying practices, information technology has progressed so far that they no longer see the necessity for extensive secretarial support, since most information and data is built into the software package itself.

Software like WinQs comes with a full package of libraries and particularly the latest version 1.9.0.0 which includes the adding of Appendix Bills after the final summary allowing a complete tender document to be produced from within WinQs i.e from the cover page through to the tender forms rendering use of word processors useless.

Other notable QS software include QScript PriMus-DCF (<http://www.primuscf.com>) and Masterbill which are common on the international market.

At an average cost of K 10,000,000.00, these software packages may be procured and will do the same quantum of work previously done by many consultants in a much shorter period and by one qualified quantity surveyor.

Other professionals in the construction sector equally have computer Aided Design packages which in some instances even have software packages that can directly compute quantities off a design.

It is now common to receive drawings in 'soft copy' from any part of the world with little or no detail in terms of dimensions. The modern Quantity Surveyor is expected to finalise the dimensioning and complete the billing all by himself.

INTERNATIONAL CONSTRUCTION PROJECTS

Average growth in the construction sector in Zambia reached 15.8 % per annum over the years 2005 through to 2008 despite growth in 2008 sharply declining to 5.0% from 20% in 2007. (budget speech 2009, Item 77,pp13). It is projected that growth would still be sluggish in 2009 because of the global economic downturn.

Of this impressive growth in the construction sector, a good portion is as a result of Foreign Direct Investment and the public-private partnership arrangements (www.zda.org.zm). Projects coming through these arrangements are usually packaged complete with foreign consultants including quantity surveyors.

In most cases documentation will have been done using modern computer software based on prevailing standard methods of measurements on the global construction markets.

The regulation locally is that all foreign consultants should enter into joint ventures with local consultants who are in turn expected to adapt to technology being used by the foreign consultants.

USE OF QUANTITY SURVEYING SOFTWARE AMONG ZAMBIAN QUANTITY SURVEYORS

Having dwelt on the issue of technology for a while, let me say what is now perhaps too well known to bear repeating: that most quantity surveying practices in Zambia are either backward in keeping up with available technologies or have not even thought of starting to use current available quantity surveying software. I say this not to discredit our well meaning members but to challenge fellow professionals to keep up with the prevailing technologies before we become victims of the global onslaught.

It is common nowadays to hear complaints of foreigners 'taking away' our jobs or architects and engineers doing quantity surveying work and yet we are ill equipped to execute and satisfy the modern age time conscious client.

It is not a far cry to imagine that the services being offered by quantity surveyors may eventually completely dematerialize and instead players in the construction will opt to get quantity surveying services on-line, a prospect I do not welcome, for obvious reasons of becoming irrelevant and being put out of business, but whose convenience in our decentralizing world is undeniable. What of the rapidly popular notion of e-tendering which is becoming a household word in the construction sector.

Beyond these obvious expectations the digital future for the Zambia Quantity Surveyor can only be speculative and it, in the prevailing conditions, remains up to the individual professionals to take up the challenge to digitise or fall on the wayside. The radically decentralised digital marketplace has already rendered traditional quantity surveying practices redundant.

The last thing a modern client wants is a quantity surveyor who will give unending excuses for delaying a project.

WHAT IS THE WAY FORWARD FOR THE ZAMBIA QUANTITY SURVEYOR?

It is clear that competitiveness on the global construction market by our quantity surveyors will depend on how quickly we embrace available technology in a coordinated and structured manner instead of hiding behind the protection of legislature.

My speech has dwelt on the 'invasion' by foreign Quantity Surveyors. I have deliberately left out the prospect of our quantity surveyors venturing into the foreign market because it can be a laborious exercise to find the courageous one among us.

In view of the foregoing and before I receive your judgment of our competitiveness, allow me to recommend the following way forward:

- a) Allowing competition among us quantity surveyors by encouraging deserving candidates to register and open firms will ensure that members aspire for newer technology to remain relevant or competitive on the construction market
- b) Formation of sustained partnerships with focused organizations like ASOCSA will ensure connection to prevailing trends of Quantity Surveying technologies on the global market through Continuing Professional Development
- c) Including basic knowledge of quantity surveying computer technology (particularly attained at tertiary education level) as a pre-requisite for registration.

I would like to thank Professor Theo C Haupt and the current office bearers for the opportunity given me to present this speech and I hope my presentation met your expectation. I thank the audience for being so attentive and supportive.

The one question I'll leave you with, however, is; do you think the Zambian Quantity Surveyor has what it takes to compete favourably on the global construction market?

I THANK YOU.