

The Quantity Surveyor

Covid, construction and climate change: “The COVID-19 pandemic has introduced new challenges for the sector. While the full impact of the pandemic will probably take years to manifest, the circumstances have already forced the industry to adapt, with renewed focus on operational resilience, new technologies, affordability and sustainability”. **Pg.10-12**





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PHOTO BY ALEX PAGNELIELLI



Lemmy Clement Matselele
Editor

Quantity Surveying Before Covid-19 (BC) and After Disaster (AD)

has a silver lining. The pandemic brought about a new normal that led us to discover new ways of doing business. Who knew we could embrace the idea of working from home and quickly adapt to new technologies like Zoom, Google Meet etc. to enable us work remotely and have productive engagements without having to meet physically?

As professionals, I hope we have picked up valuable lessons to enable us grow and thrive through the season.

In this issue of the journal,

we bring you a variety of well packaged articles about the Quantity Surveying practice in the country. For The Junction, we sat down with Tom Ayebare Rukundo, a Quantity Surveyor working with the Petroleum Authority of Uganda (PAU) as the Manager of Economic and Financial Analysis. He advises young Quantity Surveyors to seek specialised knowledge in order to venture into other avenues of the profession.

Under The Convo, our regular panel of professionals discuss the positive side of the pandemic towards the construction industry.

We have also introduced an insightful new section – “Tech Link” where we shall be sharing about exciting new construction products and technology available both locally and across the globe with their associated cost information.

Finally I'd like to invite and encourage all members to participate in the success of this publication by submitting articles. All articles on construction experiences, opinions on new developments and technological advancements in the industry are highly welcome. Email your articles to ssenyondotom@gmail.com.

God bless and enjoy!
Lemmy Clement Matselele
Editor.

2020 has been such a capricious year in many ways. Especially because of the effects coronavirus pandemic which sent hard hitting shock waves across the construction industry, from the biggest to the smallest players. But like they say – every cloud

ORGANISATION INFORMATION

ABOUT

The Quantity Surveyor is a quarterly publication of the Institution of Surveyors of Uganda-Quantity Surveying Chapter. The Quantity Surveyor as a platform is dedicated to communicating to its members, related built environment associations and the construction industry at large on issues that are relevant to Quantity Surveying, Cost Engineering and Project management

DISCLAIMER:

The views expressed in this publication are not necessarily those of ISU and, while every reasonable effort has been made to ensure the accuracy of all content, ISU will have no responsibility for any errors or omissions in the content.

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Bank of Uganda State of the Economy September 2020 Report.

On September 22, 2020, The Bank of Uganda released the state of the Economy September report. Some of the key highlights included;

- The COVID-19 pandemic and the impact to economies by the measures put in place to mitigate its spread.
- The global economic growth projection with the Sub-Saharan Africa (SSA), growth being projected to decline to minus 3.2 percent in 2020 down from 3.1 percent in 2019

•Core inflation is expected to peak at 6.1 percent in the first quarter of 2021, while headline inflation could peak at 6.2 percent. In the medium term, the inflation outlook depends primarily on the speed and strength at which demand and supply recover.

•On annual basis, the Shilling appreciated by 0.4 percent in August 2020. Going forward, the exchange rate is likely to remain stable on account of matched corporate activity; with a bias towards depreciation due to COVID-19-related

market uncertainty. BOU purchased USD 47.4 million for reserve buildup in July and August 2020 relative to a target of USD 504.2 million in FY 2020/21.

The details of the report can be accessed via the link below.

<https://www.bou.or.ug/bou/bouwebsite/bouwebsitecontent/publications/StateofEconomy/publications/StateOfEconomyReports/2020/Sep/State-of-the-Economy-September-2020.pdf>

FIDIC launches new Strategic Plan for 2020-2024

In September, FIDIC launched the new strategic plan for the years 2020-2024.

The new Strategic Plan sets out expectations for FIDIC's activities over the next four years and for the first time the plan places a greater emphasis on FIDIC's priorities, with goals and outcomes and their effects on industry, member associations and wider industry all considered.

The new 2020-2024 Strategic Plan takes an outcome-based approach across ten key areas which are detailed in the plan.

A copy can be downloaded via the link below. https://fidic.org/sites/default/files/strategic%20plan%202020_2024_design_OK_FINAL.pdf

Updates in Professional Membership: QS Chapter

The ISU Council at its first meeting dated Friday 25th September 2020 considered and promoted the following members to Fellow Membership of ISU.

- RSU Brian Pliers Ashabahebwa
- RSU Proscovia Tibagala
- RSU Duncan Tayebwa
- RSU Irene Laker Kitara Luguza
- RSU Solomon Kaigia
- RSU Maery Mungati Bisiikwa
- RSU George Akule Ndei
- RSU James Henry Okema
- RSU James Cornelius Mujunga

The 18th Board at their 4th

Membership and Registration committee meeting interviewed applicants on Wednesday 7th October 2020 and Ms. Proviaus Tusiime Kiyimba satisfied the requirements for Registered Surveyors of Uganda (RSU).

The 18th Board at their 3rd Membership and Registration committee meeting interviewed applicants on Wednesday 15th July 2020 and Mr. Ivan Buhinza Kiiza satisfied the requirements for Registered Surveyors of Uganda (RSU).

ISU congratulates the above members on attaining their new professional statuses and looks forward to their contribution in taking the surveying profession, professionally forward.

Tullow Receives Government approvals for \$575 million sale of Uganda assets to Total.

In a statement published on 21 October 2020, Tullow Oil plc (Tullow) noted that the Government of Uganda and the Ugandan Revenue Authority have executed a binding Tax Agreement that reflects the pre-agreed

principles on the tax treatment of the sale of Tullow's Ugandan assets to Total. The Ugandan Minister of Energy and Mineral Development has also approved the transfer of Tullow's interests to Total and the transfer of operatorship for Block 2. The statement further noted that, with all the Government-related conditions to closing having been satisfied, Tullow expects the transaction to close in the coming days after completing

certain customary pre-closing steps with Total. Tullow will provide a further update once the transaction has closed and funds have been received. On closing, Tullow will receive \$500 million consideration and a further \$75 million when a Final Investment Decision is taken on the development project. In addition, Tullow is entitled to receive contingent payments linked to the oil price payable after production commences.

AAQS General Assembly

The Africa Association of Quantity Surveyors (AAQS) held its General Assembly in Johannesburg South Africa (and Virtually via zoom) on 20th October 2020.

The following members represented ISU at the General Assembly.

Delegates

Mr. Samuel Bayo

Dr. Nathan Kibwami

Mr. Cornelius James Mujunga

Observers

Ms. Pamela Nalule

Mr Akandwanaho Emmanuel.

At the General Assembly, Mr Obafemi Onashile was elected as the new AAQS President, replacing Mr David Gaitho and

Mr Victor Odongo was re-elected as the Vice President Eastern Region. More information on the new council will be shared in due course.

ISU wishes the new council well in their deliberations.

AAQS Merit Awards.

As a member institution of AAQS, ISU took part in the AAQS Merit Award nominations. The ISU Governing Council nominated;

- Mr. Emmanuel Male for the Merit Award for Outstanding Service.
- Mr. Nathan Behangana for the Merit Award for Service to the Quantity Surveying Profession
- Ms. Patience Namugenyi for the Africa Graduate Gold Medal Award.

On 20th October 2020 at the AAQS General Assembly only two awards

(Merit Award for Service to the Quantity Surveying Profession and Africa Graduate Gold Medal Award) were announced. Mr. Nathan Behangana emerged winner and Ms. Patience Namugenyi was first runner up in the respective categories. The ISU Governing Council Congratulates Mr. Nathan Behangana and Ms. Patience Namugenyi upon this achievement

The ISU Governing Council was informed that it was not possible, within the limited time available, for the assessment process for the Merit Award for service to the Quantity Surveying Profession (where Mr. Emmanuel Male is a nominee) to be completed before the General Assembly. The AAQS assessment panel, has been tasked with completing their deliberations as soon as possible and once the assessment is completed and a report prepared, the same will be shared with us.

1st VIRTUAL ISU AGM

Due to the unprecedented Covid-19 Pandemic, ISU was left with no option but to conduct the first Virtual AGM which successfully took place on 25th September 2020 at Imperial Royale Hotel Kampala. Attendance was hybrid with over 600 members on Zoom, GoTo Meeting Platforms and 21 members attending in Person.

Highlights

- Presentation of Last AGM minutes and the Annual Report 2019
- Virtual Election of New Student Representative Mr. Emmanuel Akadwanaho from Makerere University and recognition of the Out-going Student Rep- Mr. Godwill Nabudere.
- Recognition of New Members of the proposed Hydro-geological Chapter.
- Recognition of 17 Fellows from different chapters with whom 7 were Female Surveyors.
- Fair well of the Program Development officer Ms. Rittah Nakasawe who resigned from her position.

Introduction of New secretariat Staff Ms. Sarah Owembabazi Program Officer/ Head of Secretariat and Ms. Hellen Nabakooza the Membership Service Officer.



ISU Contributes to the National Taskforce On COVID-19

As part of ISU's Corporate Social Responsibility, the Institution raised Shs10,000,000 towards the COVID-19 response in Uganda. On 24th April 2020, RSU David Mulindwa and Ms. Rebecca Kasule presented our contribution to the Cabinet Minister in Charge of General Duties in the Office of the Prime Minister, Hon Mary

Karoo Okurut. The COVID-19 National Taskforce was set up by the President of Uganda under the office of the Prime Minister of Uganda. The committee which reports directly to the president of Uganda is mainly composed of government ministries, departments, and agencies, including Health, Tourism, Security, Works and Transport, Information and National Guidance, Kampala Capital City Authority, Foreign Affairs, Internal Affairs and private sector.



PHOTO BY CHRISTIAN FREGNEN

29th Council Members

1. President	Dr. Ronald Ssengendo	7. QS Surveying Chapter Chair	RSU Cornelius. J. Mujunga
2. Vice President	Dr. Nathan Kibwami	8. Land Surveying Chapter Chair	RSU David Mulindwa
3. Hon Secretary	RSU Norah Njangali	9. Valuation Surveying Chapter Chair	RSU Andrew Nyumba
4. Vice Hon Sec	RSU Judith Angwech	10. Technician Representative	Henry Businge
5. Hon Treasurer	RSU Michael Wateya	11. Student Representative	Emmanuel Akandwanaho
6. Vice Hon Treasurer	Elliot Ankunda	12. Immediate Past President	RSU. Richard Masereje

Council Committees

COMMITTEE	MEMBERS	COMMITTEE	MEMBERS
Membership, APC and Education Committee	RSU Richard Masereje (Chair) RSU Diana Nanziri RSU Robert Wafula RSU Fiona Nanozi RSU Tom Ssenyondo RSU Racheal Pamela Nalule	Young Surveyors Network	RSU Gordon Niyibizi (Chair) Mr. Okello Ambrose Ms. Ampaire Mercy Ms. Nakato Sylvia Nabisere
Disciplinary Committee	Dr. Nathan Kibwami (Chair) RSU Solomon Kaigia RSU Kabiswa Edrisa Dr. Lydia Mazzi RSU Angutoko Kizza Innocent RSU Juliet Oyella	Lady Surveyors Taskforce	RSU Florence Namboozee Bbaale (Chair) Dr. Lilian Mono Nansamba Rose Lillian Nakabinga Ritah RSU Hellen Mpano
Professional Standards and Development Committee	RSU Joseph Biribonwa (Chair) RSU Dorothy Natukunda RSU Ashabahebwa Brian RSU Laker Irene Kitara Luguza RSU Asimwe Christine RSU Bashir Juma Kizito	Quantity Surveying Chapter Committee	RSU Cornelius Mujunga (Chair) RSU Pamela Nalule (Vice) RSU Tom Ssenyondo (Secretary)
Publications Committee	Mr. Mawerere Joel (Chair) Mr. Ssekiranda George Mr. Tumwine Phillip Mr. Businge Henry Ms. Kemigisha Julie Itu Mr. Matselele Lemmy Clement Ms. Biira Jackline	Valuation Chapter Committee	RSU Nyumba Andrew (Chair) Ms. Kayondo Naome (Vice) Ms. Ampaire Mercy (Secretary)

COMMITTEE	MEMBERS	COMMITTEE	MEMBERS
Social Affairs and Events Committee	RSU Eliot Ankunda (Chair) RSU Geoffrey Mukwaya Mr. Elong Samuel Ms. Nakalanda Joan Mr. Nabudere Godwill Ms. Amoli Regina Mr. Mutumba Bashir Mr. Masereka Philly Ms. Muhimbo Flavia Mr. Bukomeko Steven Mr. Banura Ernest	Land Surveying Chapter Committee	RSU David Mulindwa (Chair) RSU Samuel Eriamu (Vice Chair East), RSU Geoffrey Okeny (Vice Chair North), RSU Gideon Musoke (Vice Chair Central), Ms. Barbara Agume (Secretary)

All is well that ends well – variations!

“The consequences of variations may be quite detrimental not only to the project budget but also to the project duration and spirit of cooperation and good faith”

The construction industry is one of the leading sectors in Uganda and the world at large, with variety of projects strewn all over the place ranging from simple residential developments to mega and multimillion projects. Those in line with the construction process or are familiar with it tend to come across the term ‘variations’ for one reason or the other. The term ‘variations’ in construction contracts usually refers to a change in the original scope work that may be initiated by the Architect, Client, design discrepancy or otherwise. Alternatively it may be defined as any form of alteration or

modification of the design, quality and quantity of Works shown upon the Contract Drawings, Bills of Quantities or the Specifications.

A variation in essence may involve the omission of work or additional work. A change in the nature of work is the omission of some work and the addition of some other work. However just like Isaac Newton stated that “for every action there is an equal and opposite reaction”, so construction is no exception to this rule because variations in majority of the cases are directly proportional to the cost remedies they accrue in the due course of putting up a project

“

for every action there is an equal and opposite reaction.”

”

and their settlement.

With construction in full gear, the tastes and preferences of the clients tend to change over time and as time progresses, the temptation to change the earlier drafted plan/proposal creeps in and further pursuit of these new ideas renders an alteration of the envisaged plan resulting in variations. In the same spirit the Architect or Engineer may identify a flaw or better alternative in design which perhaps upon completion is going to affect the aesthetics of the structure, compromise the structural integrity of the building, limited space among other reasons. With these being some of the few obvious reasons, no professional would take the back seat and sit comfortably until the alterations to rectify them have been achieved.

That said the contractor cannot be ruled out of the picture of variations because he is the direct implementer of all project associated works yet majority of the times a sight and sniff of the variation in the lens of the contractor is seen as an avenue of getting more money from the contract. And this has partly has been attributed to the stiff competition in the industry that has forced contractors to submit



PHOTO BY FLORAINE VITA

bids projects with minimum profit margins in order to stay in business. In addition, the complexity of the projects coupled with limited resources has caused some contractors to view variations as one form rescue in this challenging era.

The consequences of variations may be quite detrimental not only to the project budget but also to the project duration and spirit of cooperation and good faith. A case in point is a variation civil suit involving UBC and one of the leading Contractors in Uganda, irrespective of who benefited from the judgment at the end of the day, from the time an intention to sue was served up to the date of passing judgment, there was time lag over 7 years. All the aggrieved parties lost priceless time as well as money during that period owing to variations that went bad.

Another similar example was in the United States where a contract to provide an estimated 840 cords of

wood at a specified unit price. In that case, only 40 cords were actually required and although the contractor had cut 880 cords, he had done so before the contract was signed. The US Supreme Court held that he was only due compensations for the 40 cords required.

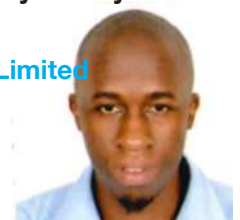
This is a typical example of where a good faith effort to perform a contract resulted in damages for one of the parties due to a variation in quantity estimated.

However as the saying goes that “wonders never cease” and so won’t the variation in construction because in reality there can only be few contracts of any size in which the subject matter of contract when completed is identical in every respect with what was contemplated at the outset. As such variations are inevitable in even the best planned contracts.

Nevertheless variations if handled and managed aptly both at design

by insertion of specific clauses enabling changes to be made to the contracts, thorough definition of work scope, adequate time for design, thorough site condition survey etc. and at execution stages, timely submission of variation request, prompt negotiations with employer, not proceeding with variation until a variation order is issued among other reasons. These never ending and disruptive claims whose genesis is variations amongst the Client, design team and the contractor will perhaps someday subside or may be avoided leaving all parties contented on project commissioning because all is well that ends well.

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“The COVID-19 pandemic has introduced new challenges for the sector. While the full impact of the pandemic will probably take years to manifest, the circumstances have already forced the industry to adapt, with renewed focus on operational resilience, new technologies, affordability and sustainability”

The infrastructure sector finds itself at crossroads amidst disruptions in global trade, shifts

in capital availability, evolving social and environmental priorities, population growth and rapid urbanization. Climate change is happening now – we already see the consequences of a warmer planet. The decisions we take now and

along a narrowing window over the next few years, will determine how adverse these consequences will be for the generations to come. Infrastructure systems play a direct role in nearly all of the top 15 sectors that produce greenhouse gases globally and have the single largest influence over three of the top six sectors; power plants, commercial buildings and

residential buildings. Together, these sectors account for more than one-third of global emissions. Only money, which is involved in every sector, has a greater influence on climate change. The way we build our infrastructure is therefore critical to climate change risk response planning.

The transition to low-carbon, climate-resilient infrastructure assets remains a key aspect of this response. It is estimated that about 70% of the increase in future greenhouse gas emissions will come from infrastructure that is yet to be



Covid, construction and climate change

built!

The COVID-19 pandemic has introduced new challenges for the sector. While the full impact of the pandemic will probably take years to manifest, the circumstances have already forced the industry to adapt, with renewed focus on operational resilience, new technologies, affordability and sustainability. Successful infrastructure delivery demands close alignment and collaboration between varied stakeholders, each with its own agenda and interest. No single player acting alone can effect real change in the sector.

The pandemic and climate change

PHOTO BY ALEXANDER POPOV

are both global problems, and in responding to the former, there is an opportunity to build resilience for the latter. Although COVID-19 has put so much stress on the industry, global demand for infrastructure means the sector remains as essential as ever and will have to respond accordingly. Players need to understand the how the pandemic has changed the industry and position themselves for the rebound when it comes.

Any infrastructure-related stimulus package to mitigate the effects of the pandemic should ideally be focused on activities that reduce carbon consumption: advancing the shift from fossil fuels to renewables; incentives for cleaner, greener construction methods; and the promotion of environmentally friendly modes of transport. In other words, recovery efforts can create an opportunity to advance the sustainability agenda. The largest portion of capital should be allocated to investments with a positive environmental impact.

In response to increased pressure from a range of stakeholders, many infrastructure investors, public and private alike, are strengthening their environmental, social and governance focus, and are increasingly looking to environmentally sustainable assets. In addition, several standards and frameworks have emerged to integrate climate-related factors into investment decisions and redirect capital to environmentally sustainable projects. For instance, in Uganda, the Environmental and Social Management Plan as well as the Environmental and Social Performance Security have become mainstream and key requirements on

infrastructure projects.

In as much as population growth and rapid urbanization pose huge challenges to the world, they also offer huge opportunities for the construction industry to transform its image and reputation, and begin to deliver sustainable infrastructure and services, that are efficient and carbon neutral. The industry has to develop the capacity to minimise the environmental impact of its activities, and develop buildings, infrastructure and services that are sustainable and enhance the quality of life and wellbeing of end users and the community.

Investing in infrastructure is a long-term commitment that is very difficult and expensive, if not impossible, to reverse. As a result, infrastructure investment decisions can lock patterns of development for decades and have major implications for the reduction of greenhouse gas emissions, both now and in the long term. For example, simply building more highways as the only response to the growing number of cars is likely to lock a country into a future of long-term high-greenhouse gas emissions. Such simplistic approaches and lack of forward-looking, systematic infrastructure planning has worsened the threat of climate change. For so long, countries and cities have tried to solve a single infrastructure problem at a time, without thinking about how it impacts on, and is impacted by others. As a result, we perpetually try to fix the negative consequences of our inadequate solutions of the past. Yet, integrating urban, regional and transportation planning can reduce urban sprawl and reduce the demand for and dependence on

transportation methods that produce greenhouse gases.

Infrastructure exists and functions in a highly interdependent set of systems. For example, a thermal power plant requires water for cooling, while water supply systems require electricity to run the pumps. The ability to fully comprehend and model such an interdependence by aligning design and investment in clean technology is needed to effectively reduce the contribution that such systems make to global greenhouse gas emissions and increase the stock of sustainable infrastructure.

For building construction, there is need to start delivering buildings designed to reduce energy consumption, conserve water, reduce pollution and protect human health. These must meet the three pillars of sustainability. Economic sustainability through ensuring optimum allocation of inputs, as well as environmental and social sustainability through avoiding waste and reducing pressure on the natural environment from demands for resource-intensive building materials, right from extraction through to manufacturing and delivery to sites. Economically sustainable buildings that emphasize efficient resource allocation, lead to cost reductions which can be passed on to end users in lower rents. Equally, socially sustainable buildings emphasize the well-being of end users, which brings benefits to productivity, hence economic growth and development. This is particularly the case where materials and labour are sourced locally to provide employment and income generating opportunities for local communities. The social sustainability pillar places



emphasis on wider participation by all project stakeholders working as a team. This has implications for construction as well as post-construction maintenance and affordability costs, which fulfill some attributes of both environmental and economic sustainability.

For example, possibly high refurbishment or correction costs are avoided, where all stakeholders are involved, as projects are delivered to customer satisfaction. Similarly, upholding the social values and rights of the end users and construction workers in particular, fulfils social sustainability attributes. Adequate welfare facilities and working conditions for construction workers not only facilitate the building of social sustainable buildings, but also, leads to productive workers likely to remain in construction.

Pursuing sustainability in the construction sector through recognizing and embedding the interdependencies of the 3 pillars from the very start is beneficial to individuals, the industry and the

environment.

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By; RSU Pathias K. Akabanjuna.
(Construction Management Specialist, KOICA Uganda)



Quantity Surveyors: Are you ready?

What does Uganda's oil industry have to offer the QS profession? From his oil and gas background as a QS, Peter George shares his thoughts.

In April 2019 I was honoured to be invited to give a Presentation to the ISU's Pre-AGM Conference held at the Imperial Royal Hotel in Kampala. The theme of my Presentation was designed to give the ISU membership an insight into the opportunities which the Quantity Surveying professional has to offer Uganda's nascent oil industry based upon my own personal career journey.

Like many of my peers in the 1970s I became a Quantity Surveyor after leaving school and began my career in the building and civil engineering sector of the Construction industry with employers who encouraged staff to obtain academic qualifications via day-release at local academic institutions and technical colleges throughout the UK.

From these early beginnings, and purely by accident, my Employer at the time presented me with the opportunity to work on various pipeline projects which were being constructed throughout the length and breadth of the UK following the discovery of vast quantities of natural gas in the North Sea.

From pipelines my career



progressed to include refinery and petrochemical projects, offshore oil/gas platforms, subsea productions system and subsea pipelines, floating production, storage and offloading vessels (FPSO's) and all things related to hydrocarbon discovery, development and distribution. This period of my career included working offshore on a hook-up and commissioning project on the Zakum field (UAE) and also a maintenance and upgrade project on the Forties

field (UK).

Since my time as a novice quantity surveyor in the oil/gas industry in the UK my career has taken me to over 50 countries and given me the opportunity to establish and develop my own consultancy company – BWS International Ltd.

Whilst I freely admit that I have been very fortunate in being able to become so involved with the international oil/gas industry, however, in Uganda I believe the Quantity Surveying profession, led by the ISU, has a unique opportunity to engage itself and its members in the oil industry from its very beginning.

This is a truly exciting time now that the 'Tilenga', 'EACOP', 'Kingfisher' and 'AGRP' projects move ever closer to FID (the Final Investment

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The QS's cost value
reconciliation and contractual
skills are invaluable tools when
used...”

Decision) opening up so many different routes for the QS profession to shine and develop itself for the future.

To enter this new world you will need to shed a few traditions and learn to accommodate a few changes in your everyday working life such as:

- As a quantity surveyor you must recognise your capability to fulfil roles such as a Cost Engineer, Contracts Administrator, Project Controls Engineer, etc – do not be put off applying for such positions as a QS can easily master these tasks based upon their existing training and experience.

- As a quantity surveyor do not think that your lack of knowledge of piping, electrical, instrumentation, etc is a problem. The measurement of all these disciplines is simply lineal plus the extra over enumeration of various fittings and fixtures so not nearly as complicated as measuring earthworks, buildings finishings and assorted “labours”, etc.

Probably the most exciting part of a quantity surveyor’s working life will

be the administration/ interpretation of the bespoke contracts and subcontracts which the oil industry typically adopts. Whether you are working for the Client/the EPC contractor or the local subcontractor this will be where money is made or lost and it will be where the QS profession can truly make its mark at a local level by identifying, registering, recording and evaluating the cost of the inevitable changes to the scope of work or specification. Furthermore, the same skills will be applicable to evaluating claims for delay and disruption due to design changes, late delivery of materials, access problems, etc. The QS’s cost value reconciliation and contractual skills are invaluable tools when used in this context.

In addition to the above there will be opportunities to utilise your IT skills and develop cost reporting, cash calls, contingencies, etc for these large projects and to ensure that the input data is not only well defined but also, more importantly, realistic. The ramifications of a technical change in the oil/gas

industry can be absolutely huge in terms of programme and budget impact.

At BWS International we have taken the decision to open a subsidiary company in Uganda (BWS Consult Uganda Ltd) to allow us the opportunity to not only introduce our experience of international oil/ gas projects but also to utilise the local expertise which is available in Uganda for the benefit of the QS profession, the Ugandan construction industry and of course BWS.

I would very much like to hear from ISU members, both individuals and companies, who would like to embrace this challenge.

Thank you for taking the time to read this article.



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Construction Delay Analysis – Application of Time Impact Analysis Technique

“Due to delays that are unavoidable during the different stages of construction, there are a number of delay analysis techniques used to analyze and quantify the extent of the delay event to the project completion date.

Twena John Wycliffe explains some of the options available. ”

A Construction delay can be defined as time overrun or extension of time to complete the project. Therefore, a delay is a situation when the actual progress of a construction project is slower than the planned schedule or late completion of the projects.

The time for performance of a project is usually of the essence to the employer and the contractor. This has made it quite imperative for contracting parties to analyse project delays for purposes of making right decisions on potential time and/or cost compensation claims.

Proving a delay is not an easy task and may be time consuming process

especially in the mega/complex projects with thousands of activities, lots of details and interfaces with the involvement of many stakeholders.

They are three main types of delay events that any construction project is likely to interface, namely

I.Non- excusable–Non-

compensable delays (NN); Events for which the contractor assumes the risks of costs and the time consequences involved, hence contractor culpable events

II.Excusable - Compensable delays (EC)]; Events for which the contractor is entitled to both time extensions and recovery of extra cost consequential upon the delay

III.Excusable-Non-compensable (EN) Events for which no party has control over or bears the risks involved for example Force majeure events such as Pandemics like COVID-19

“ This article sets out to re-visit what the QS does and what extra values they can do to improve their services in order to benefit the client.”

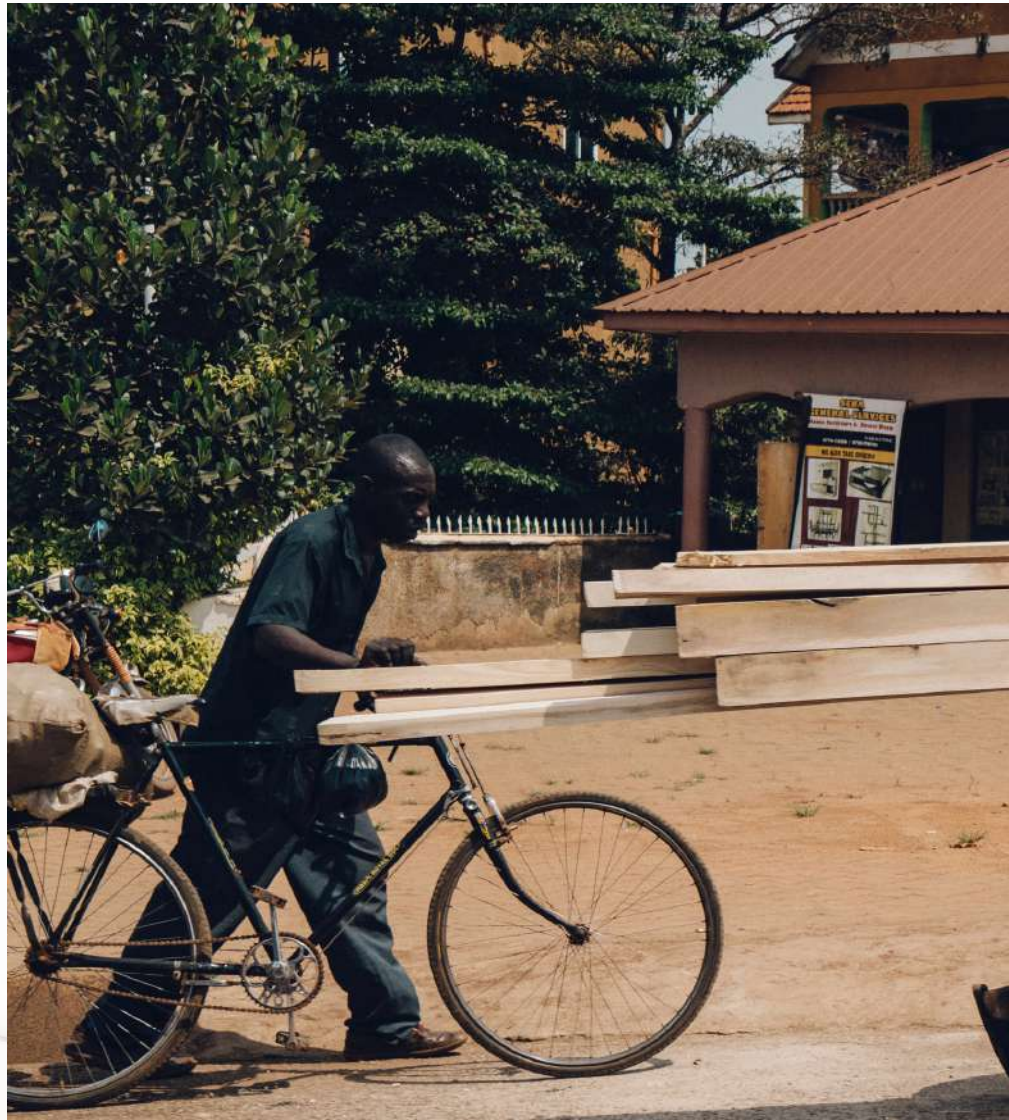
Due to delays that are unavoidable during the different stages of construction, there are six delay analysis techniques used to analyze and quantify the extent of the delay event to the project completion date as recommended

**by the Society of Construction
Law Delay and Disruption
Protocol, namely**

- I. Time Impact Analysis
- II. Impacted As Planned Analysis
- III. Time Slice Windows Analysis
- IV. As planned versus As built window Analysis
- V. Retrospective Longest Path Analysis
- VI. Collapsed AS Built Analysis

Delays occur due to employer culpable events or even own contractor's culpable events or events that occur out of any one's control (force majeure events). Employer culpable events include but not limited to:

- I. Delayed site Access
- II. Late drawings and or instructions from Engineer
- III. Unforeseeable physical conditions
- IV. Impediment or prevention caused by Employer's personnel
- V. Incorrect setting out of data
- VI. Fossils
- VII. Inspections, uncovering no fault established
- VIII. Additional and / or delayed testing
- IX. Adverse climatic conditions
- X. Unforeseeable shortages in the availability of personnel and / or goods caused by epidemic or government actions
- XI. Variations
- XII. Delay by Authorities
- XIII. Suspension (not due to Contractor's fault)
- XIV. Unspecified or unauthorized use of works by Employer
- XV. Cost of remedying defects at no fault of contractor
- XVI. Expenditure of Provisional sums
- XVII. Changes in Legislations or Applicable government laws



- XVIII. Contractor's entitlement to suspend works due to Employer's actions
- XIX. Employer's Risks
- XX. Force majeure

Accordingly, any of the Employer culpable events as highlighted can be analyzed using "Time Impact Analysis Technique". The writer employs the Time Impact Analysis technique for his day to day duties and will particularly focus on this method in this Article.

The Time Impact Analysis technique involves introducing a delay event "e.g. Force majeure -COVID-19 Pandemic" sub-networks termed as Delay fragnets"

into a logically linked Baseline programme and recalculation of the Updated programme per a specified status date or data date using CPM programming software (Microsoft project, Primavera p6, TILOS Linear Programming software). In order to determine the prospective impact the delay event would have on the critical path and project completion date.

Time Impact Analysis method is highly recommended method by the society of construction law Delay and Disruption Protocol since the EOT application is made contemporaneously, not the "wait and see" approach which is highly discouraged.



structure) contracted by ABC contractor was to take 9.5 months with the start and end date of January 01, 2020 and October 19, 2020 respectively per the Baseline Programme. However, in the course of completion of Ground floor works, the Government (Ministry of Health, Ministry of Transport and Works) issued restrictions and guidelines termed as Standard Operating Procedures that rendered Continuity of Works on site Impossible due to the Pandemic Out break – COVID -19. There was a suspension of construction site operations, a ban on public and private transport, and mounted a nationwide curfew. As a consequence of such restrictions, the Contractor requested Extension of time (April 01, 2020 to May 05, 2020) The contractor required to issue an impacted programme. This is how the Time Impact Analysis method would be employed in such a scenario.

Table 1 illustrates Contract Schedule of Activities with Completion date of October 19 2020 (Summary Extract from Baseline Programme)

Time Impact Analysis” is a method used to determine the extent of the impact that a delay or change order will have on the overall project timeline. This is a forward analysis since it focusses on the impact of events that have already occurred or presently occurring

Delay fragnet is a sequence of new activities that are proposed to be added to the existing schedule. The fragnet shall identify the predecessors to the new activities and demonstrate the impacts to successor.

There are three general steps in performing a Time Impact Analysis:

I. Develop a model of the impacted or changed work in the form of a fragmentary network, or fragnet.

II. Identify which schedule update to impact. Generally, the appropriate schedule should be the last accepted schedule status prior to the date of the impact. The most recent approved schedule is preferred because it represents the manner in which the project was being completed at the point in time when the change becomes known. This schedule update is often referred to

as the “unimpacted schedule” in the analysis and serves as the reference point from which the delay will be measured.

III. Create the impacted schedule. This is done by inserting the fragnet into a copy of the unimpacted schedule identified in the previous step. After inserting the fragnet, the CPM schedule is recalculated. The completion date of the impacted schedule is then compared with that of the unimpacted schedule to determine the effect of the change. The duration of the delay results from this comparison.

For Example. The construction of 3 storied apartments (shell

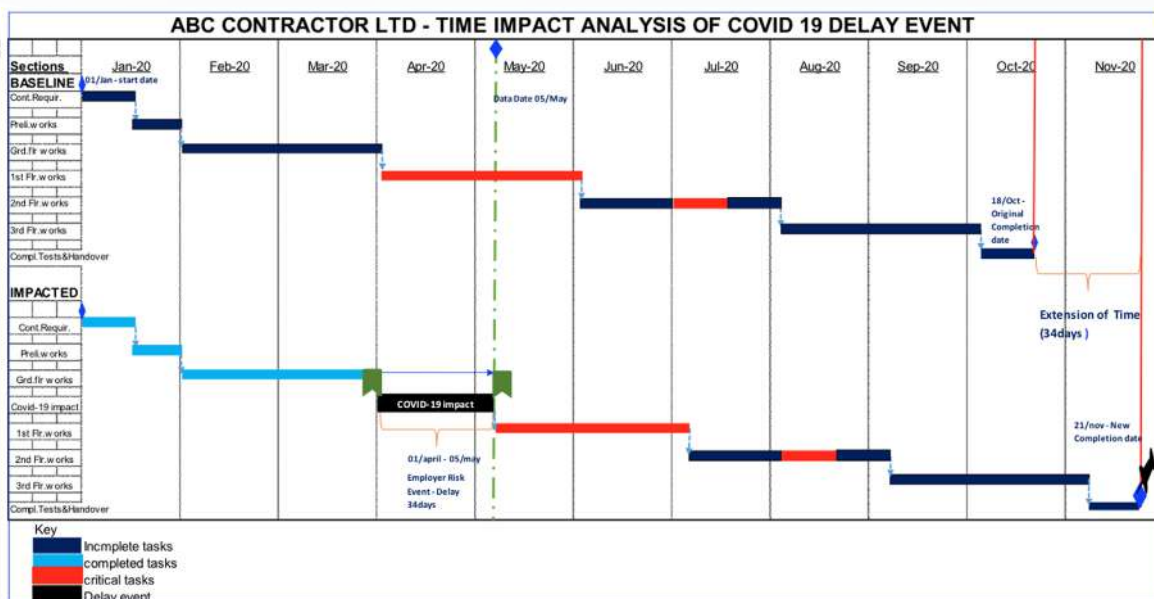
Summary of Schedule of Activities

#	WBS	Baseline Start	Baseline Finish	Duration(Months)	Remarks
1	Contractual Requirements	1-Jan-20	16-Jan-20	0.5	Non-Critical
2	Preliminary Works	17-Jan-20	1-Feb-20	0.5	Non-Critical
3	Ground Floor Works	2-Feb-20	2-Apr-20	2	Non-Critical
4	First Floor Works	3-Apr-20	2-Jun-20	2	Critical
5	Second Floor Works	3-Jun-20	2-Aug-20	2	With Critical Sections
6	Third Floor Works	3-Aug-20	2-Oct-20	2	Non-Critical
7	Completion, Testing and Project Handover	3-Oct-20	18-Oct-20	0.5	Critical
Total Contract Duration				9.5	

Table 2 illustrated the Time Impact Analysis to Activities affected as a consequence of COVID-19 Pandemic

ABC Time Impact Analysis of Delay May 2020																			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Delay Event Ref.	WBS	Task ID	Task Name (Delayed)	Cause of Delay/Responsibility	Data Date	Delay Event Duration		Baseline No.1		Actual Start Date	Planned Finish date (immediately before delay)	Planned Finish date (immediately after delay)	Planned Project Completion Date (Immediately Before delay)	Planned Project Completion Date (Immediately after delay)	Dealy Quantification				Type of Delay
						Start Date of Delay (Days)-T*	Projected End of Delay (Days)	Planned Start	planned Finish						Total Delay/ Impact on Task Finish Date (Days)	Net Critical Delay/ Impact on Project Completion Date (Days)	Cummulative Non-critical Delay (Days)	Cummulative Critical Delay (Days)	
															M-J	O-N	Q-P		
E001	First Floor Work	A10	Concrete works	Presidential Directives on Prevention of Covid-19	5-May	1-Apr	5-May	3-Apr	2-Jun		2-Jun	6-Jul	18-Oct	21-Nov	34	34	0	34	Critical
E002	Second Floor Work	A20	Concrete works	Presidential Directives on Prevention of Covid-19	5-May	1-Apr	5-May	3-Jun	2-Aug		2-Aug	5-Sep	18-Oct	18-Oct	34	0	34	0	Non-Critical
E003	Third Floor Work	A30	Concrete works	Presidential Directives on Prevention of Covid-19	5-May	1-Apr	5-May	3-Aug	2-Oct		2-Oct	5-Nov	18-Oct	18-Oct	34	0	34	0	Non-Critical
E004	Completion, Testing and Hand Over	A40	Inspections/Handover	Presidential Directives on Prevention of Covid-19	5-May	1-Apr	5-May	3-Oct	18-Oct		18-Oct	21-Nov	18-Oct	18-Oct	34	0	34	0	Non-Critical
Total Critical Delay To-date (Days)																34			

Figure 1 A graphical representation of the COVID-19 delay event and its overall impact to the project completion date



By Twena John Wycliffe
Professional Associate Member, A.I.S.U
No.560 Freelance Quantity Surveyor



Are we ready?

"We need a change in our work ethic. There is a laxity in professional urgency in how we provide services to our clients. The concept of value of time is not well indoctrinated in the Uganda market."

The world as we know it has evolved and developed from time immemorial through innovation and invention. It is happening in various spheres such as religion, family, education, government, media, arts and business. This leads to the introduction of new skills and in due time expertise in various fields of operation. The construction industry is no exception. The movement of growth has gone around the world and now the focus is on Africa. This is where everyone is looking to benefit.

The construction industry in Uganda has adopted some Information Technology (I.T) software solutions to advance its cause with great effect. Architects and Engineers have used ArchiCad, Revit, Atlantis and AutoCAD to mention but a few. Quantity Surveyors have used Masterbill, QS Plus, CostX, DimensionX, WinQS and Microsoft Excel among others. The software solutions being used by the Architects and Engineers are generally compatible with each other making work easy especially when there are changes to be made. This has not been the case when it came to the software solutions used by the Quantity Surveyors.

In Uganda, not many Quantity Surveying Consultancy firms and building construction companies have invested in software solutions

for their businesses apart from the use of Microsoft Excel. It has the advantage of being very user friendly and diverse in application. Some of the software solutions in the industry are limited in application and yet expensive to purchase and retain use over time. This is because there is an annual subscription fee. Microsoft Excel is free so long as you are using a Microsoft Windows software powered computer. The construction industry in the developed countries have used the various software solutions mentioned earlier and work with firms and companies that do also. There has been a synergy that has been built between practitioners in those nations concerning software use. Clients and Employers have also seen the benefits of these solutions and expect work to be submitted within the confines of these programs.

In the recent past, the construction industry has seen the

introduction of Building Information Modelling (BIM). The developed countries have embraced this technology and are using it, achieving high quality standards, reduced time on professional input from consultants and reduced overall cost of projects.

In Uganda, many Surveying Consultancy firms are either sole proprietorships or partnerships (with not more than three directors). These consultancy firms or partnerships do not have more than twenty associates. On the contrary many of the Consultancy Firms in developed countries have numerous partners and various offices around their countries of incorporation or around the world. All the partners and a good number of their associates are highly qualified.

Big budget projects require professionals with the relevant and sufficient expertise to execute the works outlined in the Terms of Reference (ToR). The foreign consultancy firms meet this vital requirement. I have the experience of foreign companies submitting bids with highly experienced personnel able to perform the tasks required on the project while the local firms only have the advantage of being Uganda incorporated. Buy Uganda Build Uganda (BUBU) being their ticket for consideration.

The experience of the foreign firms in terms of scale and complexity of scope of works is more superior to our local firms. What may be a big project in the local firm's portfolio may be considered small for the foreign

company.

There is an issue I have with the perception many Ugandans have when they consider fellow countrymen. I have seen and experienced preference to favour foreigners. This needs to change, though in certain instances I do not blame them because we have not presented ourselves as worthy candidates for that treatment. The construction industry I think has not been immune to this though I should say that this is changing. The inferiority complex MUST go.

We need a change in our work ethic. There is a laxity in professional urgency in how we provide services to our clients. The concept of value of time is not well indoctrinated in the Uganda market. Professional time is not strictly tagged to fees paid by the client. Billable hours is not strictly adhered to and/ or followed in Uganda whereas this is the norm in the developed countries. Efficiency is therefore affected.

University students have problems getting placements for industrial training let alone work once they have graduated. This sets them back in their career and professional development. This is not the case in the developed countries. Practitioners in the Surveying fraternity in Uganda do not exceed five hundred (500) in number while in other nations the figure goes well over five thousand (5,000). I think we can do better.

The recent worldwide pandemic has not made anything easier. Everyone has had to rethink LIFE. What really matters to you? It

has made many rethink business strategy especially in terms of operations (work from home or come into the office and observe the Ministry of Health Standard Operating Procedures?). Stable and consistent internet connection/ services in Uganda are being demanded.

The focus is NOW on Africa, Uganda. Are we ready?

Your personal relationship with GOD should be the most important.

We need to embrace BIM and other software solutions in our firms. Nothing good of value is cheap. Let us pay the price and stand to be counted.

Collectively raise our professional game so that it is only expertise being discussed. The matter of fees is sorted by the scale of fees adherence by the membership. No undercutting.

Surveying firms need to begin thinking of forming Memorandums of Understanding or Joint Ventures to bid for the big budget projects. There is a growing need to consolidate capacity in order to compete. Other professionals like lawyers have done it. I know that some firms locally have embraced this idea.

By GOD, it is OUR TIME to SHINE. Selah.

"When men are cast down then thou shalt say, There is lifting up; and he shall save the humble person."

By Philip Kaheru
Managing Director –
Ethereal Associates Ltd



Professional and Ethical Standards

It is required by Quantity Surveyors to be able to justify their own actions at all times, and demonstrate their own personal commitment to abide by ethical standards to maintain the integrity of the profession.

The Institution of Surveyors of Uganda (ISU) is the body that regulates the activities of all survey in Uganda like Quantity Surveyors, Land Surveyors and Valuation Surveyors. The ISU is tasked with promoting, advancing and safeguarding the profession of Surveying in Uganda. Its mission is to promote basic professional Surveying Practices that can enhance the quality of services under the various surveying disciplines in Uganda.

Behaving ethically is at the heart of what it means to be a professional; it distinguishes professionals from others in the marketplace.

As a globally recognised professional body, everything The Royal Institution of Chartered Surveyors (RICS) does is designed to effect positive change in the built and natural environments.

Through RICS' respected global standards, leading professional progression and their trusted data

and insight, they promote and enforce the highest professional standards in the development and management of land, real estate, construction and infrastructure. Their work with others provides a foundation for confident markets, pioneers better places to live and work and is a force for positive social impact.

RICS professionals demonstrate their commitment to ethical behaviour by adhering to five global professional and ethical standards.

The Five Ethical Standards

1. Act with Integrity

Be honest and straightforward in all that you do. This is one of the five professional and ethical standards. This standard includes, but is not limited to, the following behaviours or actions:

- Being trustworthy in all that you do.
- Being open and transparent in the way you work. Sharing appropriate

and necessary information with your clients and/or others to conduct business and doing so in a way so they can understand that information.

- Respecting confidential information of your clients and potential clients.
- Don't divulge information to others unless it is appropriate to do so.
- Not taking advantage of a client, a colleague, a third party or anyone to whom you owe a duty of care.
- Not allowing bias, conflict of interest or the undue influence of others to override your professional or business judgements and obligations.
- Making clear to all interested parties where a conflict of interest, or even a potential conflict of interest, arises between you or your employer and your client.
- Not offering or accepting gifts, hospitality or services, which might suggest an improper obligation.
- Acting consistently in the public interest when it comes to making

decisions or providing advice.

2. Always provide a high standard of service

Always ensure your client, or others to whom you have a professional responsibility, receive the best possible advice, support or performance of the terms of engagement you have agreed to. This standard includes, but is not limited to, the following behaviours or actions:

- Be clear about what service your client wants and the service you are providing.
- Act within your scope of competence. If it appears that services are required outside that scope then be prepared to do something about it, for example, make it known to your client, obtain expert input or consultation, or if it's the case that you are unable to meet the service requirements, explain that you are not best placed to act for the client.
- Be transparent about fees and any other costs or payments such as referral fees or commissions.
- Communicate with your client in a way that will allow them to make informed decisions
- If you use the services of others then ensure that you pay for those services within the timescale agreed.
- Encourage your firm or the organisation you work for to put the fair treatment of clients at the centre of its business culture.

3. Act in a way that promotes trust in the profession

Act in a manner, both in your professional life and private life, to promote you, your firm or the organisation you work for in a

professional and positive way. This standard includes, but is not limited to, the following behaviours or actions:

- Promoting what you and the profession stand for – the highest standards globally.
- Understanding that being a professional is more than just about how you behave at work; it's also about how you behave in your private life.
- Understanding how your actions affect others and the environment and, if appropriate, questioning or amending that behaviour.
- Fulfilling your obligations. Doing what you say you will.
- Always trying to meet the spirit of your professional standards and not just the letter of the standards.

4. Treat others with respect

Treat everyone with courtesy, politeness and respect and consider cultural sensitivities and business practices. This standard includes, but is not limited to, the following behaviours or actions:

- Always being courteous, polite and considerate to clients, potential clients and everyone else you come into contact with.
- Never discriminate against anyone for whatever reason. Always ensure that issues of race, gender, sexual orientation, age, size, religion, country of origin or disability have no place in the way you deal with other people or do business.
- As much as you are able, encourage the firm or organisation you work for to put the fair and respectful treatment of clients at the centre of its business culture.

5. Take Responsibility

Be accountable for all your actions – don't blame others if things go wrong, and if you suspect something isn't right, be prepared to take action. This standard includes, but is not limited to the following behaviours or actions:

- Always act with skill, care and diligence.
- If someone makes a complaint about something that you have done, then respond in an appropriate and professional manner and aim to resolve the matter to the satisfaction of the complainant as far as you can.
- If you think something is not right, be prepared to question it and raise the matter as appropriate with your colleagues, within your firm or the organisation that you work for, with RICS or with any other appropriate body or organisation.

References

1. *Institution of Surveyors of Uganda, About us, Available at <https://www.surveyorsofuganda.org/> and <https://ug.linkedin.com/company/institution-of-surveyors-of-uganda>*
2. *Royal Institution of Chartered Surveyors - (RICS) Upholding Professional Standards, Available at www.rics.org*



Compiled by Angella Naluwenda
Graduate Quantity Surveyor

THE CONVO

The coronavirus pandemic has sent hard hitting shock waves across the whole construction industry, from the biggest to the smallest players. Any positives realised...? Some have highlighted the improved creative and collaborative approach in solving construction issues.

In this issue of The Convo, a team of professionals discuss the positive side of the pandemic towards the construction industry.

The Discussion: There has been a lot of talk about the negative impacts of Covid-19. In your view, what are the positive aspects for the construction industry?

EW: Hey the silence is too loud. How about this? If Covid meant that we can now work from the village next to our goats and cows and caused the death of traffic jam in the city, won't that be a good thing?

BPA: Yeah, one-way drive is deemed human in many negative occurrences and so this Covid-19 situation. However, Covid-19 has forced a rapid paradigm shift in construction business. It has left the construction industry in particular and the economy at large to operate on the principle of essentiality. Talk of essential teams, working in shifts and working from home. These practices have forced an element of effectiveness and efficiency which has for long been a key objective in construction business.

On the other hand, this life and death situation has forced many practitioners to adhere to the usually neglected health and safety guidelines.

It's also worth noting that while most of site-based workers stayed on sites missing their loved ones back home, site security improved by a great dimension.

Stealing of materials reduced since transport has been a challenge due to a lengthy lockdown and or quarantine. Again, small hardwares and black markets that would consume the stolen materials were closed, not forgetting that very few stakeholders had the willingness and capacity to spend during this uncertain period. Stealing a bag of cement would mean one has to carry it on one's head for a good number of Kms, check in at several roadblocks, and past curfew hours. Just a rough picture of this whole thing is a burden big enough to cause plan abortion.

professional Quantity Surveyor may inter-change to market himself/the profession in the marketplace. IT haters have also had their fair share of Covid-19. Many practitioners now know what Zoom, MS-teams, WhatsApp, Skype, Facebook and the like are, and how to make good use of these apps in order to ensure successful project delivery.

EW: Many have written about its impact on the Contract, Supply Chains, Workers, Regional trade etc and the arguments are the same. But

on a lighter note, many have joked that what the CEOs of companies could not do has been done by the Virus. And that is digital migration. Zoom, google meet, Skype etc have made a big impact in connecting people during this period. This will continue and become what we are now calling the 'new normal'. Just last week, we managed to join QSS across the continent in a webinar about BIM. We are about to enter another chapter in technology and more, bigger and better than we have seen before. We are seeing the death of distance. And soon drones will be able to do site inspections and report the progress on site.

RN: Covid 19 has had many negative impacts on the construction industry. However, some positive aspects have come up like the digitalization and move towards technology. Professionals in the construction industry have learnt that you can work digitally, and share data and information without meeting physically by using technologies like zoom, Skype, etc.

The idea of working from home which was treated with scorn previously is now being embraced. The issue of 'social distancing' has made some construction companies think of other ways of achieving the required productivity without having all the workers going to site. It may therefore hasten the drive towards modern methods of construction and off-site fabrication.

Full names of the COVO team.

EW: Emmanuel Wamalwa, FISU

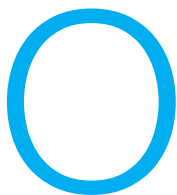
RN: Rose Lillian Nansamba, MISU

BPA: Bryan Pliers Ashabahebwa, FISU

Uganda's Public Infrastructure Projects:

Does the public have a “right-to-know” and/or does government have a “duty-to-warn”?

“Disclosure of information related to public infrastructure projects needs to be sufficiently legislated so that a good system is put in place. As with most things in Uganda, however, such an effort requires political will that reconciles competing values and interests”



n 6th July 2020, a picture partially showing a sculpture being erected on Kiira

Road in Kamwokya, was uploaded to the WhatsApp group for the Quantity Surveying (QS) Chapter of the Institution of Surveyors of Uganda (ISU). The subsequent discussion revealed that we were not certain of the client and the contracted consultants and building contractors / sculptors. The consensus though was that rework was inevitable because quality was being compromised. But, what if life-threatening issues also emerged from such work? Would the public have been duly warned and, relatedly, do they have a right to know all information related to this noble project?

In principle and under the Access to Information Act (2005) and the

Regulations (2011), the public has a right to access information related to public infrastructure projects but in practice, the process of filling out forms and paying access fees creates unnecessary bureaucracy. Therefore, information that should be easily accessible, remains inaccessible in Ministries, Departments and Agencies (MDAs) of government. Yet, research shows that government-mandated disclosure of information about and in public infrastructure projects improves compliance to quality, health and safety standards and, remedies vices such as graft. So, why isn't disclosure utilised for change?

To try and answer the above questions, we should define disclosure. According to the Oxford Dictionary of English, disclosure is the “action of making new or secret information known”. Disclosure in public infrastructure projects can be considered as the “efficient and effective action of making relevant public information known using the most accessible process”. It should be known that, ordinarily, the conceptualisation and implementation of public infrastructure projects is often done with minimal, if any, consultations with the public. The few

exceptions are usually those projects that are receiving counterpart funding or loan financing from external/foreign partners. Otherwise, existing laws and regulations do not have an iron-clad requirement for professionals, materials suppliers and public sector client entities to reveal information that reduces risk on infrastructure projects and establishes an accountability mechanism to the public.

The revelation of risks always affects the reputation of any organisation and Uganda's public sector is no exception. However, in environments where transparency is prioritised and disclosure is utilised, credibility is enhanced and the public places a higher premium on the; persons involved, products used and, processes-in-play. Disclosure therefore reduces risks because the public makes its own judgements on matters related to cost, quality, health and safety. Additionally, a good disclosure system engenders improved service quality and reduces graft.

However, with the increasing advances and use of information and communication technology, there is hope that Uganda can create a platform for establishment

of disclosure systems of public infrastructure projects. Well-designed disclosure systems that employ information dissemination strategies should be able to improve understanding of the projects and enable improved project management. Currently, public discourse of these projects mainly arises when there is a social media posting of a calamity or an unexplained incident. A case in point is the soil that eroded into the Entebbe Express Highway on the same day that the picture of the sculpture was posted.

So, disclosure systems are necessary but equally as important is the way the information is communicated. This is primarily because public access to information must be balanced with privacy, security and political interests, which means that any level of disclosure does require a careful thought process and on-going oversight. Yet, it is for this very reason that disclosure is likely to encourage innovation especially where people or firms are rewarded for new and improved products and services. Consider the 1996 amendment of the Freedom of Information Act of the United States. This law requires that new public records be made available electronically within a year of their creation and that agencies establish electronic reading rooms to make frequently sought records generally available on the internet. If this was in place in Uganda, it would be easier for the QS Chapter members to access online information on the “sculpture project” and, even better, read up some more on related projects in electronic reading rooms!

Does the public have a “right-to-

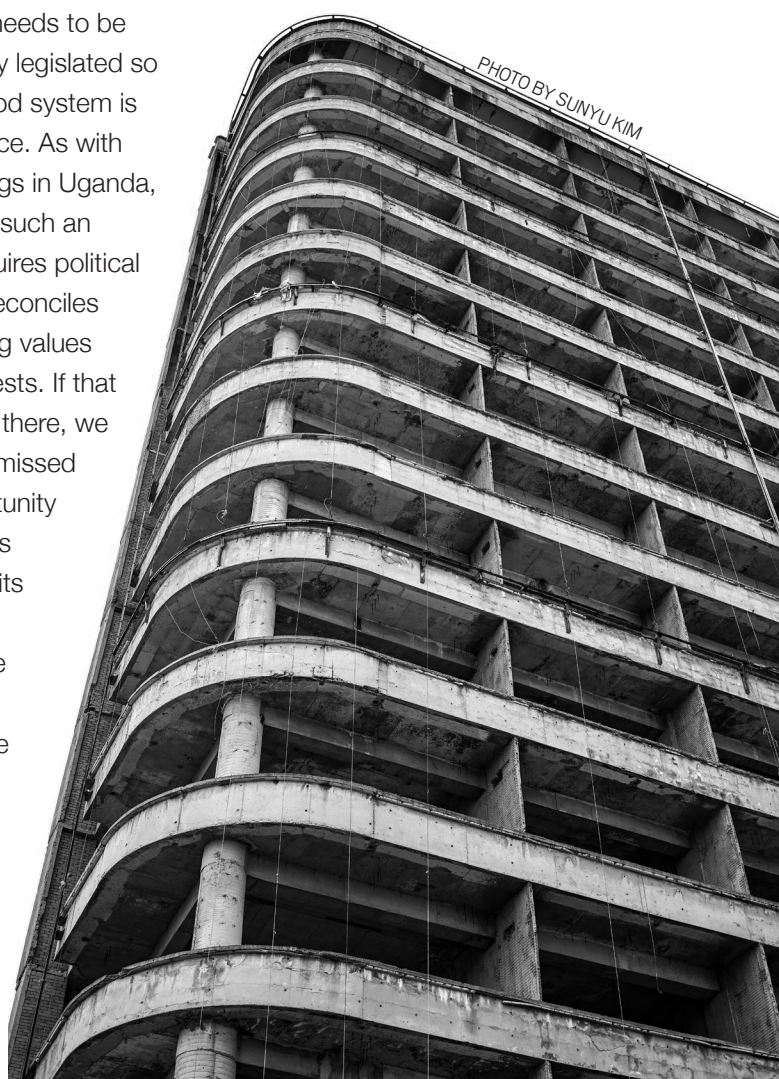
know” about the “sculpture project”? Yes, it does. Does the government have a “duty-to-warn” the public about risks associated with the project? Yes, it does. Unfortunately, current disclosure systems are ineffective and inefficient (signboards in use now are not enough – a discussion for another day!). They are not even helpful in aiding government decision making or at best changing our societal behaviour. Do we know how unit rates for construction of educational institutions, healthcare facilities and public road networks are derived and used in the budgeting process? Maybe not. Why isn’t disclosure utilised for change? Graft.

So, disclosure of information related to public infrastructure projects needs to be sufficiently legislated so that a good system is put in place. As with most things in Uganda, however, such an effort requires political will that reconciles competing values and interests. If that will is not there, we will have missed an opportunity to harness the benefits of a good disclosure system. Disclosure would be a good tool for constant curative change

measures in our built environment. Sadly, the QS fraternity and ISU body are likely to keep discussing public infrastructure projects with minimal information available to them. The sculpture is likely to be an eyesore in the end.



Dr. Muhumuza J. Kakitahi
Partner CCELAM NK & Associates



Waffle Slab Construction

Waffles are innovative precast concrete elements used as an alternative to maxpans in the construction of lightweight suspended slabs. They are made using proprietary technology from Stone dust, Cement, Quarry stones, Wire and Water.

Waffle slabs significantly reduce cost of suspended slab construction especially because less steel, formwork and concrete is used in their construction.

They also offer the following additional advantages over maxpans slabs and solid slabs;

1. Reduced amount of concrete in slabs compared to solid slabs.
2. Offer additional strength to slabs due to their arched

shape therefore reducing the amount of steel reinforcement.

3. Require less amount of form-work and scaffolding.
4. Require minimal labour force to fix.
5. Reduce time of constructions considerably.
6. Require no additional plastering to the underside.
7. Reduce overall cost of construction.

On the Ugandan market currently, they are available in the following sizes and at the respective average prices;

Item	Description	Size	Price Each (US\$)
1	Standard	900x900mm	35,000
2	Long	900x1040mm	37,500
3	Half Long	450x1040mm	31,000
4	Half Standard	450x900mm	27,500
5	Quarter	450x450mm	21,000

These Waffles are manufactured and supplied by; Ssenaki Waffles Manufacturers Ltd
Kakiri Town Council
Tel: (256) 704 527473
E: ssenakiwaffles@gmail.com
Web: www.ssenakiwafflesmanufacturers.com
Compiled by Lemmy Clement Matselele



PHOTOS OF WAFFLE SLAB CONSTRUCTION

The Junction with Tom Ayebare Rukundo

1. Firstly, congratulations on your new role and position at Petroleum Authority of Uganda (PAU). Tell us, who is Tom Ayebare Rukundo and how did you find your way to PAU.

Tom is a humble Mukiga and farmer from Kabale. He is engaged and has one son.

Professionally, he is a seasoned practitioner with experience in cost, financial and economic aspects of Uganda's Petroleum and Infrastructure Development sectors executed in Uganda, France and U.K.

Currently, he works with the Petroleum Authority of Uganda (PAU) as the Manager Economic and Financial analysis where he heads the department. He also provides technical support and consultancy services to African Governments looking to enhance the fiscal and policy aspects related to revenue generation, National content and sectoral linkages. In this effort he has supported the South African and Namibian Governments among others. He possesses a Master of Science in Oil and Gas Economics from University of Dundee obtained with Distinction and a Bachelor's Degree in Quantity Surveying from Makerere University where he graduated with Honours on the Dean's list.

I joined the PAU after previously working with the Petroleum Exploration and Production Department (PEPD) of the Ministry

of Energy and Mineral Development as a Cost Engineer. I recall the position was very competitive when it was advertised in the National newspapers in 2013 and was honoured to have been selected out of over 70 applicants. My previous experience from National Housing and Construction Company Limited as a Quantity Surveyor and later Senior Quantity Surveyor and the Uganda National Roads Authority as a graduate intern gave me the edge over most of the other applicants. Within the PAU, I was honoured to rise from Cost Engineer to Senior Upstream Cost Engineer to my current role as a Manager.

2. Briefly tell us more about PAU and the solutions it offers the petroleum sector in Uganda

The PAU is a statutory body established under Section 9 of the Petroleum (Exploration, Development and Production) Act 2013, and in line with the National Oil and Gas Policy for Uganda which was approved by Cabinet in 2008. The PAU's mandate is to monitor and regulate the exploration, development and production, together with the refining, gas conversion, transportation and storage of petroleum in Uganda. With the vision of being a leading petroleum regulatory agency, the Mission of PAU is to regulate and monitor the petroleum sector in order to create lasting value for society and contribute to Uganda being a sound

investment destination.

Among other things, the Authority enforces transparency and fairness in the procurement and employment within the industry. In this effort all goods, services and inputs are sourced from the National Supplier Database managed by the PAU. Admission is free and transparent for all enterprises on our website and I encourage all member firms to register. Additionally, we have the National Oil and Gas Talent Register from which the International Oil Companies operating in the country source their personnel and registration is free on our website. Lastly, we also foster the linkage of the oil and gas sector to other sectors of the economy to ensure broad based economic growth; through the demand and opportunities that will be brought about by the development phase of the oil and gas projects.

3. For our readers, can you please describe your new position and your areas of responsibility?

I'm humbly honoured to serve as the Manager Economic and Financial analysis. I head the department overseeing the regulation of the economic and financial aspects of Uganda's Petroleum sector. The department's core mandate is to ensure that all economic and financial analysis required to aid regulatory decisions are accurately undertaken. It exercises its roles



across the Petroleum value chain; Upstream, Midstream and some elements of downstream; in the different phases of the respective project lifecycles. The objective of my role is to maximise the economic and financial benefits to the country from our oil and gas resources. The mandate is wide as I'm sure you can imagine and involves participating and advising in negotiations on fiscal terms for our contracts, analysing our resource portfolio to estimate the take due to government and ensuring that envisaged take is realised as well as working to link the oil and gas sector to the broader economy. This is done in collaboration with the respective sector players to ensure the demand created from the investment of the US\$ 15 – 20 Billion in the development phase is equitably spread throughout the economy to facilitate broad based economic growth.

4. The recent lowering of the price of oil has reduced the amount of planned drilling projects in many parts of the world. What are your thoughts on this in Uganda's context?

It is important to note that the current dip in prices is not a new



phenomenon. You will recall there were similar price dips in 1970, 1985, 1998, 2003, 2008 and 2016. The international oil prices fluctuate for different reasons such as wars, increased demand and most recently COVID-19. Prices will continue fluctuating because when prices are low, consumption of crude oil continues but limited investment is made to replace the oil consumed and yet crude oil is finite and exhaustible. Hence when demand increases in future, the prices will rise as there is limited capacity to increase supply due to low investment.

The International Oil Companies are aware of this. Some of them that are not well capitalised will be adversely affected and swept out of business by low oil prices while those that are well capitalised will

use this opportunity to invest now and reap when prices are higher since the cost of investment is low during this period. The players we have in Uganda are following this script basing on the fact that the crude oil resource we have here is cheap to develop and large enough to fully commercialise through an export pipeline and a refinery. This is evidenced by the announcements by our Head of State and the Total CEO and Chairman on the conclusion of the Host Government Agreement and plans to take the Final Investment Decision by the end of the year. Additionally, we anticipate the pipeline to be a game changer for the region and unlock major investments in the search for petroleum resources within countries like Rwanda, Tanzania, the Democratic Republic of Congo among others.

5.Looking at the differences between the petroleum sector and the traditional construction sector, how transferable are the key skills of a quantity surveyor between the sectors?

In my view, the skills are very transferrable as they are geared towards infrastructure development. In my experience, most infrastructure projects have the same basic elements however there are a number of differences in how they are measured depending on the sector. Knowledge of these intricate differences is what makes one stand out.

Personally, I was lucky to have participated in the Front-End Engineering Design (FEED) studies (or Basic Engineering) for our biggest project, Tilenga, undertaken in Paris and London. My experience and skills as a Qs came in handy in many areas especially the value engineering (Cost and Process Optimisation).

That being said, we need to take deliberate steps to make the skills we impart on the future generation and ourselves more relevant to other sectors, like Petroleum, and not entirely rely on the construction sector. For example, I recall studying costing utilising the Engineering Standard method of measurement in fourth year and with a limited scope of coverage. This has to change if the profession is to adapt to capture the opportunities in the different infrastructure projects being developed in the country and region.

6.We have seen you being recognised and being a keynote speaker on several platforms. What does this truly mean for

you as a person and as a young professional in Uganda.

It is an extremely humbling experience for me as a young professional and a farmer from Kabale. I'm always reminded by my fiancée that my knowledge, skills and experience are what is being recognised and not me as individual. This helps keep me humble and grounded.

I hope it also presents a challenge to other young professionals out there to step up and seize the opportunities that may exist before them.

7.What do you see as those key skill sets that a manager needs to acquire to enable them to do their job successfully?

Timely and precise communication, effective delegation, team building, strategic thinking and accountability. These are some of the critical aspects one needs. However, different skill sets are required at varying levels of management. It has been my experience that at lower level management, your technical skills help you succeed. As you begin to rise, your human resource management skills and conceptual skills begin to take centre stage with the conceptual skills being critical as you get to the top. Overall, it is important for one to be able to effectively adapt to the role they find themselves in.

8.What advice would you give a young quantity surveyor that is looking to venture into other avenues of the quantity surveying profession?

I would say start acquiring specialised knowledge, skills and

experience in those avenues as soon as you can. Your knowledge, skills and experience are what will set you apart in whatever aspect of life you venture into. Therefore, interest alone is not enough, one must go the extra mile to acquire specialised knowledge, skills and experience.

For example, my research paper for my Bachelors was based on assessing the impact the Oil and Gas sector would have on Uganda's economy. At the time, I did not know much about the sector however I was curious enough to attempt. I recall I did not perform as well as I expected in the research but that did not deter my interest. Fast forward, I was employed by UNRA and subsequently National Housing and resigned after being promoted in National Housing to join the Petroleum Exploration and Development Department in the Ministry of Energy and Mineral Development as a Cost Engineer. The moral of the story is to follow your interests no matter where they take you and seek excellence in all your endeavours. We are blessed to live in a time when information on any aspect is readily available and therefore we have no excuse not to pursue an area of interest.



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↓ ISU contribution to the National Covid-19 Task Force



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