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AND PROPERTY
VALUES**

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DUSK OF **CONCRETE
MARK STONES**

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BEYOND
SURVEYING**

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SURVEYOR

The Surveyor

The surveyor magazine is the official journal of the Institution of Surveyors of Uganda. It is an annual publication that voices out trends in the Surveying sector. The surveyor is widely circulated to readers, relevant stake holders in the built Environment, government bodies, professionals (*land surveying, quantity surveying, valuation*), insurance companies, banks, real estate developers, members of parliament, embassies, academic institutions and the general public.

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Call For Articles

The editor welcomes articles and photographs for consideration. The Articles should be professionally relevant. We accept articles on personal experiences, opinions, promoting the future of the professions, policy advocacy and technological advancement. All articles and photographs should be sent to publication.isu@gmail.com

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Joel Mukisa Mawerere (LS)

A Round of Applause!

It's time for a round of applause! That applause is meant for all of you professionals working in the built environment, the pioneers of national mapping agencies and firms, NGOs, learned societies in the private sector. "What for and why now? you must be wondering. Well, there are many reasons as to why we deserve a toast as professionals, but the main one I am referring to is the continuous support you render to the Institution of Surveyors of Uganda. With you we have grown in influence and numbers. A big clap for the special support rendered to the magazine team in the production of the fifth Issue of the Surveyor Magazine.

The year 2019/2020 has been a great year in the surveying community in Uganda. We have successfully registered more professional surveyors mentored by ISU onto the Surveyors Registration Board Register. We have also managed to have successful conferences and survey clinics as captured here.

In this issue, we share with you a special list of surveyors who are doing more than surveying to inspire us more than the normal motivation quotes we read elsewhere. These surveyors can be referred to as unique. Talk about unique, Turner & Townsend is celebrating ten years of professional services in Uganda and the team there has shared with us their success story in this year's magazine.

In this issue, significant events that have happened in this year have been captured in Pictorial form in a bid to avail more space for our members to write and share knowledge. "A mind that writes must gather knowledge whether after or before".

At a glance, this issue of the Surveyor magazine is one in a million because of the many knowledgeable contributors that have put ink on paper to share their experiences in technological advancement, Laws and policies, smart cities and so many subjects as you may discover. Read Along.

From the magazine team, we wish you a beautiful Pre-Agm and Agm conference in the coming year.

To all contributors, you are highly valued.

Merci Beaucoup.
Joel Mukisa Mawerere
Publications Committee Chair (ISU)

Well, there are many reasons as to why we deserve a toast as professionals, but the main one I am referring to is the continuous support you render to the Institution of Surveyors of Uganda. With you we have grown in influence and numbers.

President's Message

Dear Surveyors

I welcome you to the 5th Issue of The Surveyor Magazine. Once again, we celebrate the beauty, importance and the role of the surveying profession in Uganda. From our contribution to building smart cities to our key role in the upgrading and expansion of Entebbe International Airport, the surveyor's role continues to shine brightly. Beyond surveying, we profile three surveyors who are more than surveyors – a poet and novelist, the National Assistant Coach of the Uganda Under 19 Girls Cricket Team and a Soap and Detergent Entrepreneur showcasing that we can be much more than surveyors.

This year we have organized the surveyor's week from 2nd to 4th April, 2020 under the theme “*Smart Surveying Solutions for a Smart World*”, which demands that surveyors must provide S.M.A.R.T (Specific, Measurable, Achievable, Relevant and Time-bound) solutions to our clients. The week is to start with a one-day surveyors' clinic at the Constitutional Square on 2nd April, 2020. Thereafter the Pre-AGM conference and AGM were to take place at the Imperial Royale Hotel Kampala on 3rd and 4th April, 2020. .

A big thank you to all the members of the Institution for supporting the Council as we continue to move our profession forward. With your support we have grown the membership of the Institution, we are running more continuous development programs and are reasserting our role in the sustainable development of our country.

On the same note, we appreciate and are honored by the support of our sponsors – many of whom are also employing our members. Your support has helped the Institution to move forward.

To fellow surveyors and other readers, enjoy the articles in this issue. Kudos to our young editorial team for such a nice piece of work.

Happy reading, smile, network and become a SMART surveyor!

Dr. Ronald Ssengendo

President



Dr. Ronald Ssengendo FISU, RSU (LS)

*With your support
we have grown
the membership
of the Institution,
we are running
more continuous
development
programs and are
reasserting our role
in the sustainable
development of our
country.*



Judy Rugasira Kyanda, MRICS, RSU (VS)

SRB Chairperson Message

Fellow Surveyors,



It is with great pleasure once again, that I am part of this edition of The Surveyor. On behalf of my board members and myself, I pray you and your loved ones are all well and are managing to navigate through and around these turbulent and unprecedented times we are going through. This too shall come to pass.

Our second term of office has focused on building on the successes of our first term with specific reference to the structures, systems and processes we put in place as a board. This has now allowed us to concentrate on our core duties and mandate which is the regulation and control of the surveying profession, and to advise government in relation to these functions. With regards to regulation of the profession, we continue to conduct final assessments to a very high standards, and are pleased to say that the quality of surveyor coming through for final assessment is of a noticeably higher standard of competence and technical ability. We are also working on numerous guidelines and by laws which will greatly improve the general perception of registered surveyors in the market, by imposing stricter controls and requirements of firms and members of ISU and SRB.

As a board we feel that there is a lot of scope for us to weigh in and provide an advisory role on all matters surveying, where SRB as a professional body can make a huge difference in assisting various government bodies and agencies to fight cases of misconduct resulting from delinquent and both unauthorized and registered surveyors in the market. This will not only give us the prominence and relevance we deserve, but also greatly change the perception of surveyors which for a long time has been tainted by the actions of a few unethical members. As a result, we have all ended up being painted with the same brush.

My sincere gratitude goes to the Executive and Council (past and present) of the ISU for their continued support and collaboration in building and strengthening the surveying profession. It is indeed true that you cannot build a strong team on weak individuals, and I have no doubt that our profession will grow from strength to strength if we continue to nurture, train and develop strong members as we are currently doing.

Once again, and as I said in the last edition, we encourage surveyors to register as members of ISU and come

forth for registration as surveyors of Uganda, eligible to practice legally. The benefits and advantages of joining the ISU and achieving registered surveyor status cannot be over stated. It is an on-the-job qualification that signifies your expertise in your profession and gives you respect from colleagues and clients. Similarly, registration as a surveyor, and membership with ISU gives surveyors a networking platform since attending formal and informal networking events is a great way of making contacts and finding out more about the industry.

Finally, I want to also commend the team behind the Surveyor journal. As usual, I look forward to reading it from cover to cover, and am always amazed at the level of skill, competence and talent that is within our profession. The world is clearly our Oyster. It may not seem like it at the moment, but as the bible says in the book of Ecclesiastes 3:1-8, there is a time for everything, and this time or season, will come to pass. However, let not squander an opportunity, to learn from this season, to improve ourselves and adapt to the new normal. Tough times never last, but tough people do.

God bless you all, and God bless ISU.

Judy Rugasira Kyanda,
Chair, SRB

EVENTS & NEWS UPDATES

Fit For Future Committee (Fff) Makes Recommendations



David Wamani (LS)

The FFF committee has rolled out a report about the Institution of Surveyors of Uganda future. The anticipated report was gladly welcomed by the members of the institution prior to the presentation of its contents among which the recommendations were most strange.

The most significant recommendation was the adoption of the issues paper of August 2010 of the SRA funded by the world bank to the extent of each profession be provided for independently under different bills. This recommendation means that there will be three different professional bodies promoting, protecting and regulating each of the “previously thought” surveying professions. This committee rested this responsibility of the creation and registration of these bodies on the shoulders of the chapter chairs of the current governing council of the Institution.

The committee went further to suggest names for these bodies i.e. *Institution of Land and Geomatics Surveyors of Uganda (ILGSU) for Land surveyors, Institution of Quantity Surveyors of Uganda, (IQSU) for quantity surveyors and Institution of Certified*

Valuers and Appraisers of Uganda (ICVAU). The committee also advised the Quantity Surveyors and Land Surveyors to adopt the ICPAU model while the valuers are advised to adopt the VPO model recommended by the IVSC. The VPO model incorporates both regulatory body and professional development. These developments in the surveying fraternity will lead to a financial stress on the Institution of Surveyors of Uganda because the committee suggested that ISU should pay rent for the three new professional bodies for about six months minimum. The report also challenged ISU to notify SRB on the developments for its appreciation of the need for reforms.

However, at the end of the day, ISU will not break up but rather rebrand into council of built environment.



WORKING WEEK 2020

10-14 MAY

Smart surveyors for land and water management



The annual FIG Working Week is the premier conference in the community of surveying and geospatial professionals, combining the disciplines of land surveying, engineering, positioning and measurement, hydrography, remote sensing and photogrammetry, spatial information, cartography, construction and real estate and much more.

This years' program is underpinned by high-level presentations in three plenary sessions covering topics within the overall theme 'Smart surveyors for land and water management.' The specially invited presenters will set the agenda for each day, sharing insight into their own experience and pitfalls, as well as presenting their vision and predictions.

The plenary topics are:

Smart Surveyors

Rapid urban growth, smart energy, cleaner mobility, and 'land rights for all' are some of the challenges demanding



innovative surveying approaches and technologies. Sensing technologies, spatial data processing technologies and related approaches are already available. Use and improve them to become future proof, Smart Surveyors.

Integrated Land and Water Management

Without integrated land and water

management, coastal countries cannot sustain their agricultural and urban development. Climate change, though, increases the risks of sea and riverine floods and extended drought periods and complicates this management task. Unorthodox measures are called for. These measures will be discussed from a critical surveyor perspective.

Ten Years to Achieve Sustainable Development Goals

The countdown begins, only one decade to go to accomplish the Sustainable Development Goals. The SDGs are the blueprint to achieve a better and more sustainable future for all, and surveying professionals have a key role to play. How did we, as surveyors, contribute to ending poverty, improving health and education, reducing inequality, and spurring economic growth - all while tackling climate change and working to preserve our oceans and forests? In addition, what will be our role for the coming 10 years?



The RICS plans to launch a review of valuation practices in the “coming weeks”, with the aim of ensuring surveyors remain “relevant and trusted” in the eyes of the public.



The consultation, which will be published in the upcoming RICS 2020 Futures Report, will focus on valuation for financial reporting, and will cover the “changing public expectations over the independence of professionals, especially statutory auditors”, as well as environmental sustainability and the increasing use of AI in valuation.

RICS global chief executive Sean Tompkins said: “Fundamentally, this is about retaining this profession’s status as one of high-quality and trusted custodians of the built and natural environment.

“Throughout 2020, we will particularly be focussing on reviewing our ethical standards (or code of practice), educational requirements, and valuation standards (commonly known as the Red Book).” He did not outline any policies that would be included in the consultation.

According to The Times, the consultation will aim to minimise conflicts of interest by proposing a more frequent rotation of valuers, ensuring owners do not retain the

same valuers for extended periods. The RICS is also considering requirements for valuers to report to non-executive audit committees, rather than company directors, the paper reports.

The news follows the publication of the RICS’ first-ever mandatory requirements relating to lease negotiations. The new requirements, called ‘code for

leasing business premises’, do not detail how to reach the outcome of a lease negotiation, but do set out how to make negotiations “fair and balanced”. The requirements state that negotiations must be approached in a “constructive and collaborative manner” and that any commercial tenants not represented by an RICS member or other property professional must be recommended to obtain professional advice.

The requirements also state that terms of the lease on a vacant possession letting must be recorded in written heads of terms, stating that it is “subject to contract”, and summarise the identity of the premises, the length of term, any options for renewal or break rights, the amount of rent, and frequency of payment, among other details. The requirements cover new leases, lease renewals and extensions.

The professional statement falls in line with existing industry code, and are supported by Law Society, BPF, Retail Evolution, and the British Council for Offices and the Federation of Small Business.

“
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IGN FI Completes Uganda's Land Information System



IGN FI

Uganda's Ministry of Lands, Housing and Urban Development together with IGN FI, and supported by the World Bank, have organized a two-day international conference on 'Implementation of the National Land Information System: Sharing Experiences, Innovations and Good Practices.'

According to Uganda's Minister of Lands, Housing and Urban Development Betty Olive Namisango Kamyia, this is the second time Uganda was hosting such an International Conference on Land Information System in partnership with the World Bank to share experiences and showcase successes of Land

Information System implementation in Uganda.

The first time Uganda held a Conference of this nature was in February 2013, when the Ministry had commenced computerization of the Land Registry.

"Government with support from the World Bank under the Competitiveness and Enterprise Development Project (CEDP) has been implementing the National Land Information System (LIS).

"The National Land Information System has been installed and is operational in 22 Ministry Zonal Offices of Wakiso (Busiro and Kyadondo), Mukono, Masaka, Kampala (KCCA), Masindi, Kibaale, Kabarole, Mbarara, Arua, Gulu,

Lira, Mbale and Jinja, Mpigi, Luwero, Mityana, Kabale, Rukungiri, Tororo, Moroto and Soroti," said Kamyia.

Kamyia said the objective of establishing Ministry Zonal Offices and development of the Land Information System was to bring the Ministry's services closer to people who were formerly bearing all inconveniences and indirect costs of travelling frequently to the ministry headquarters in Kampala to access the services.

She said the NLIS was also established to digitally store and archive land Information for easy and timely access of information by both the service provider and the public for quick decision making.



"The other reasons for developing such a system were to detect and eliminate any possibilities of fraudulent practices in the land transaction process such as double titling, overlapping surveys among others.

"To improve the internal efficiency of Land Administration operations, provision of prompt, efficient, reliable and wide range of land services to clients, to efficiently and effectively disseminate land information to the public, to capture all the land tenure systems in the Land Information System, to increase revenue generation by the Land Sector and to provide more time for land administrators and managers to offer specialized consultation, sensitization and technical guidance both to clients and Land Management Institutions," said Kamya at Protea Hotel in Entebbe during the official launch and roll-out of the system.

Dorcus Okalany the Permanent Secretary Ministry of Land Housing and Urban Development said approximately UGX 710,414,507,637 has been generated from land-related transactions since its launch in February 2013 to June 2019. This revenue includes both the Taxable revenue and Non-taxable revenue.

She said the cumulative generation of this money, in revenue near completion of the project, represents an enormous 269% return on the US\$72 million investment provided as a World Bank loan.

Okalany added that other benefits include reduced cost of doing business as a result of quick retrieval of information and speedy land transactions, the reduced turnaround time for producing land title from 52 days to 10 days and reduced land transaction malpractices such as forgery and fraud.

"Elimination of unprocessed land registration transactions, since the LIS is premised on the principle of first in first out, safe storage of records and space-saving, which has led to better security of records by reducing possibilities of manipulation and elimination of manual system and problems associated to it, thus leading to efficiency and effectiveness in land

transactions which is essential for economic competitiveness all has been realized," said Okalany.

She said improved surveys and mapping which has eliminated overlapping surveys and double plotting, reduced land litigation cases as a result of improved security of land ownership and availability and quick retrieval of various land-related statistical data and reports on the types of land, area and ownership as and when required have all been achieved.

Okalany said the restoration of trust and confidence in the land registration system and establishment of two portals; one public portal for the general public and the other is a corporate portal for financial institutions, professionals i.e. Lawyers and Surveyors among others have all been achieved.

"These portals will be operational by end of April 2020 and both the public and professionals will be able to access land-related information online," she said.

The conference attracted experts from the World Bank, Sub-Saharan Africa and other parts of the World, who made presentations on land issues in their respective countries, shared experiences on land administration and implementation of Land Information System initiatives.

Countries including Burkina Faso, Democratic Republic of Congo, Chad, Senegal, Madagascar, Ecuador, Trinidad and Tobago and Ethiopia were all represented at the conference.

The Theme of the Conference was "Global Modernization of Land Administration: Making your Land Information System a Success".

The conference came at a time when the Government of Uganda had introduced a new National Land Information System (NLIS) with support from the IGN FI/IGN Consortium.

The Design, Supply, Installation and Implementation of the NLIS Infrastructure (DeSINLISI) fully integrates land administration, registration, valuation, surveying and physical planning.

It is a computerized system that has decentralized governance with 22 one-

"To improve the internal efficiency of Land Administration operations, provision of prompt, efficient, reliable and wide range of land services to clients, to efficiently and effectively disseminate land information to the public, to capture all the land tenure systems in the Land Information System, to increase revenue generation by the Land Sector and to provide more time for land administrators and managers to offer specialized consultation, sensitization and technical guidance both to clients and Land Management Institutions,"

Said Kamya

stop Ministry Zonal Offices (MZOs) now operational across Uganda.

By Paul Tentena

Extract from Busiweek.com

SPECIAL ANNOUNCEMENT



(CANCELED) Land and Poverty Conference 2020: Institutions for Equity and Resilience

March 16-20, 2020 | Washington, DC

The annual Land and Poverty Conference "Institution for Equity and Resilience" postponed to March 22-26, 2021.

IMPORTANT STATEMENT

The global situation with the spread of COVID-19 (coronavirus) has been developing rapidly over the last days with numerous new cases raising significant concerns at a global level. To ensure the health and safety of all of us and those around us, World Bank senior management has decided to cancel all major events and conferences until further notice.

It will thus not be possible for the 2020 Land and Poverty conference to be held as planned. The next Conference on Land and Poverty is tentatively scheduled to take place in Washington DC from March 22-26, 2021.

We regret this unfortunate turn of events, but appreciate your understanding and your continued support for our event.

With Best Regards
The Conference Team



Obituary

The Surveying fraternity has lost some influential members over the last year.

David Ntwatwa Kyagulanyi (FISU) who was a former president of ISU, former Chair Surveyors' registration Board and the first African Professional Chartered Quantity Surveyor in East and Central Africa and the first member of RICS.

Abel Bikandema (FISU) who was the Principal Partner at Bikandema and Company.

Joyce Nziru a graduate member of ISU who succumbed to Cancer.

VISION 2040 - THE SURVEYORS' INPUT

Uganda Vision 2040



Martin Otto (LS)

THE GOVERNMENT OF UGANDA RECENTLY PROPOSED REGIONAL CITIES IN THE COUNTRY. MARTIN OTTO, A DISTRICT STAFF SURVEYOR OF OMORO DISTRICT, SHARES THE LAND SURVEYORS' INPUT IN THIS PROJECT.

Uganda Vision 2040 proposed the elevation of the municipalities of Gulu, Mbarara, Arua and Mbale into regional cities alongside establishing strategic cities of Hoima (Oil), Nakasongola and Jinja (Industrial), Fort Portal (Tourism) and Moroto (Mining).

Other additions include Kabale, Entebbe, Masaka, Soroti, Wakiso, Lira and Kisoro. This was meant for effective administration and the need to bring urban services closer to the people. Unfortunately, most of these municipalities didn't meet the population requirement of 500,000 inhabitants according to the Local Government Act under Chapter 243,

although it was revised to 300,000, hence the proposed alteration of the municipality boundaries in order to engulf the required population which has brought so much excitement and anticipation to the surrounding peri-urban areas. For example, in Koro (outskirt of Gulu Municipality), there's a rush by several individuals to register their freehold interests before July 2020 because: they are uncertain about how the city status will affect their land rights, though they have hope that a Certificate of Title will provide them land tenure security; probably help them receive compensation as the rightful owners in case of any compulsory

acquisition and most importantly avoid any evictions. However, the lack of a physical development plan in most of these areas has resulted into piecemeal physical planning used to serve individual interests.

This kind of urban sprawl once resulted into sporadic and disorganized developments in Kampala's suburbs such as Rubaga, Kisenyi, Kawempe among others which were originally unplanned by the colonialist and the subsequent city authorities couldn't manage to plan for the rapid urban population. Furthermore, a 2015 World Bank Report on Promoting

Green Urban Development in African Cities estimated that 40% of Kampala's population lives in informal settlements predominately developed near wetlands without basic infrastructure such as water services, storm drainage, sewerage treatment and solid waste collection. Additional key findings reported that inadequate and ineffective planning was a key obstacle to providing the management required to protect the city's environment assets and secondly the existing land management system required significant financial outlays for public acquisition of land for infrastructure and service facilities which constrained delivery of sanitation, solid waste and drainage services.

How then can land/geospatial surveyors avoid repeating "Kampala's" mistakes when establishing the new cities? For starters, the land surveyors' key role in any city creation has predominantly been data collection

during reconnaissance and setting out infrastructures in the implementation stage. However, in light of the changing role of a land surveyor i.e. measure, model and manage. A Surveyor 2.0 envisioned by the International Federation of Surveyors (FIG) must now measure, interpret and represent spatial information as well as be a professional person who is highly skilled in administration and governance of land rights and is

foster community engagement.

I therefore expect the land/geospatial surveyors as the custodians of spatial data to: enhance comfort in these cities through eco-friendly infrastructure such as; efficient well-planned transport routes, improved walking and cycling routes, green spaces, good waste management policies and a business-friendly environment. Typically, the land/geospatial surveyors involvement in the Land Information Systems, notably cadastres, must also focus on the poor, the vulnerable and indigenous people in order to safeguard their land rights, manage land use and with the knowledge of the areas' topography underpin climate change adaptation and mitigation, provide solutions in the prevention and management of natural disasters by employing the available technological advancements in the areas of Geographical Information Systems (GIS) through simulation modeling and also embrace Building Information Modeling (BIM) to make informed design choices, minimize waste and complete projects on time. Finally, in Vince Lombardi's words; 'Perfection is not attainable, but if we chase perfection, we can catch excellence.' I Hope the new cities will be a model in Africa.

THE writer is a graduate member of the Institution of Surveyors of Uganda and a district staff surveyor of Omoro District.

How
then can land/
geospatial surveyors
avoid repeating
"Kampala's" mistakes
when establishing
the new cities?

capable of providing solutions to the development and use of natural resources. According to Leon Krier, 'A city is not an accident but the result of coherent visions and aims' and since it's widely accepted that a smart city must use the data they have to make work easier, life better, access faster and

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CALIBRATION, REPAIRS & SERVICING



THE DAWN OF DIGITAL AND THE DUSK OF CONCRETE MARKSTONES - USHERING IN A NEW ERA

WHAT IF ONE DAY YOU FOUND YOUR CADASTRAL DATA ON SITE? I MEAN YOU OBTAIN ALL THE INFORMATION ABOUT A PARCEL OF INTEREST ON SITE? WHAT WOULD IT BE LIKE IF YOU MARKED YOUR BOUNDARY USING A DIGITAL MARK STONE? FAHAD MUBIRU, A TECH GENIUS GIVES YOU THE FUTURE OF CADASTRAL BOUNDARIES.

Arguably the most dominant discipline of the Surveying Profession in Uganda is Cadastral Surveying. Majority of recent graduates, young surveyors, and fellows are essentially employed to resolve land disputes, determine land boundaries, subdivide new lots of land, and carry out topographic surveys and process titles on behalf of their clients. As surveyors

and land expatriates we are presented with a unique opportunity to advise our clients and drive the direction of innovation in the land sector.

For example, if a client is to be aware of where to set up a fence, without encroaching on the property of the neighbour he/she has to enlist a registered surveyor to carry out a boundary opening survey, produce a graphical representation of the piece of real estate. One important tool required to carry out this exercise is the boundary maker.

Boundary Makers

As surveyors we place the survey makers at major points on the land's surface to act as reference points when making legal descriptions of the property in question. This is of great importance to property owners, civil engineers, lawyers, architects, government rating agencies, banks and other key stake

holders that make use of the work we do in the field. However, little innovation has been done around involving the boundary markers to help make or work easier and improve the lives of the clients we serve.

Existing Types of Boundary Markers

Boundary markers today include iron pins, brass discs, wooden stakes, markstones and local land marks. Surveyors usually place the markers into the ground and secure them. Information is inscribed onto the markers that easily identify them; for example, the numbered markstones used by the ministry and other ministry zonal offices. Coordinates information is taken for each of the boundary markers, and it's unique to each individual point on the earth's surface. A surveyor is required to use labels approved by the governing agency and in some cases can use acronyms of the project name being undertaken by government.

Markers placed should not be moved.

In principal it should be illegal to remove or alter permanent survey markers. A property owner should arrange for a licensed surveyor to survey his property if he/she think there's a problem with his markers to avoid breaking the law.

The Digital Markstones and a new Frontier for the Modern Surveyor

I believe small things can make a big difference, by enforcing new standards of what a boundary marker should be: we can create an opportunity for surveyors to not only solve problems relating to land but also help in weeding out non-professionals that more than often

In principal it should be illegal to remove or alter permanent survey markers. A property owner should arrange for a licensed surveyor to survey his property if he/she think there's a problem with his markers to avoid breaking the law

do shady work in the field. With the support of the Government, surveyors can explore options of using the latest advancements in survey marker technology to create a state-of-the-art boundary marker that is locally made, durable, cheap and can store information about the parcel of land.

A digital mark stone mounted with an RFID chip can be driven into the ground. It is easy to use for traceability and identification of boundary marker location, facilities information management and utilities mapping with the help of a smart phone.

Functionality of the Digital Mark stones

- Direct Storage of Land Information recognizable from the marker
- Stake Field Information read by the Smart Phone
- No Battery, No Charge
- Weather Proof and Durable
- Easy to Find, Easy to install for fieldwork
- Strong Protection for the IC tag
- Earth Friendly and Recyclable material
- Variable frequency
- Utility Mapping
- Storage of

Description Cards.

"The only way to discover the limits of the possible is to go beyond them into the impossible." Visit the Hexagon group stall for more information.

A digital mark stone mounted with an RFID chip can be driven into the ground. It is easy to use for traceability and identification of boundary marker location, facilities information management and utilities mapping with the help of a smart phone.



QSPAST, PRESENT AND THE FUTURE

QUANTITY SURVEYING IS ONE OF THE MOST SIGNIFICANT PROFESSIONS IN THE WORLD TODAY. ITS EFFECT CAN BE LARGELY FELT IN THE CONSTRUCTION INDUSTRY HOWEVER SMALL A PROJECT CAN BE. DEANOLINE KEKIRUNGA, A GRADUATE IN THIS AREA SHARES WITH YOU THE ORIGIN, THE PRESENT AND THE FUTURE OF QUANTITY SURVEYING.



Deanoline Kekirunga (QS)

Quantity surveying (QS) is a construction industry profession that requires expert knowledge on construction costs and contracts. It involves managing all aspects of the contractual and financial side of the construction projects ensuring the projects are completed within the projected budget.

In many respects, people have been performing the roles and functions of the quantity surveyor long before the job title itself existed. Quantity surveying knowledge actually dates back to the Holy Bible *Luke 14:28 (NIV)*; "Suppose one of you wants to build a tower, will he not first sit down and estimate the cost to see if he has enough money to complete it?"

According to Kirkham (2015), the Quantity Surveying profession can date its roots back to the rebuilding of London after the great fire in 1666. Prior to that, Seeley (1996) says that masons, carpenters and other craftsmen used to be paid per day and so no need to estimate the quantity of the work done. However, during the reconstruction of the city of London, there was a requirement for a large amount of labour. This led to the decision to start paying each craftsman an amount equivalent to the quantity of work done. This required the exact

quantity of the work done by studying the drawings and specifications to measure the quantities of work elements to arrive at the cost of the whole building.

From then, there has been a lot of change in roles, names and way of doing work. Can you believe its 2020 already? One can easily get comfortable in their ways as time goes by and be left behind.

The quantity surveying profession has largely improved with the development of software applications and building information modelling (BIM), the process of measurement of quantities, cost estimation and other quantity surveying services are continually being automated. QS Professionals can now prepare bills of quantities using software such as WinQS or measure directly from 3D models using the BIM technology. This has made it easier to estimate, measure and design the costs of huge and more complex infrastructure projects.

In Uganda, people are slowly adapting the changes and switching from paper and scale ruler to use of software. The future of quantity surveying is promising as more software are being improved to reduce on the bulkiness of the work and ensure fast delivery.

Today the quantity surveyor is known by many other names such as building economist, cost engineer, construction accountant, contractual and procurement specialist.



Benon Okumu (MISU, RSU, VS)

BREXIT AT A GLANCE

THE IDEA OF BREXIT HAS VARIOUS IMPLICATIONS IN THE MANY SPHERES OF SOCIETY- AMONG THESE ARE; ECONOMIC, SOCIAL AND POLITICAL. BENON OKUMU (MISU, RSU, VS) A SENIOR GOVERNMENT VALUER AND REAL ESTATE EXPERT GIVES US A GLANCE AT BREXIT:- WHAT THE MEMBERS OF ROYAL INSTITUTE OF CHARTERED SURVEYORS ARE CONCERNED ABOUT.

The statement that the world is a global village literally means that whatever happens miles away will have an impact here either in real time or in the near future.

The decision by Britain in 2015 to leave the European Union (EU) – ‘Brexit’ received mixed reaction across the world with some viewing it as irrational while others think it is long overdue. Nonetheless, the British people have voted a new Prime Minister - Boris Johnson to steer them through the EU exit by ‘31 January 2020’.

Britain laid down several appeals referred to as ‘deals’ to be signed with the EU. It is expected that the Brexit will impact on trade and commerce, labor mobility and people’s identity amongst others; which should be well negotiated on.

In the UK construction and real estate sector is not spared. Fears and appeals are;

- uncertainty over renegotiation and the UK’s future relationship with the EU,
- currency and market volatility,
- potential delays in investment plans and reduced levels of investment,
- continued tariff-free market access to the benefit of the UK and EU,

- continued access to the workforce, professionals and researchers required,
- preserving the UK’s attractiveness for Foreign Direct Investment (FDI) and Research and Development (R&D),
- uncertainty in markets due to rise in populist policies, notably protectionism,
- availability of labour and skilled workers,
- ‘passporting’ of professionals and firms operating in the UK,
- Mutually beneficial trading arrangements for goods and services

With protectionism policies on labour mobility, Royal Institution of Chartered Surveyors (RICS) members are concerned that if not well negotiated, real estate members outside the UK will require additional membership with the likes of European Association of Real Estate Professions (CEPI) or European Property Federation (EPF) to be able to practice in the EU countries. However, RICS Chief Executive Officer - Sean Tompkins believes that the RICS’ position is ‘unequivocal’ given its high standards, professional qualifications and independent regulations that

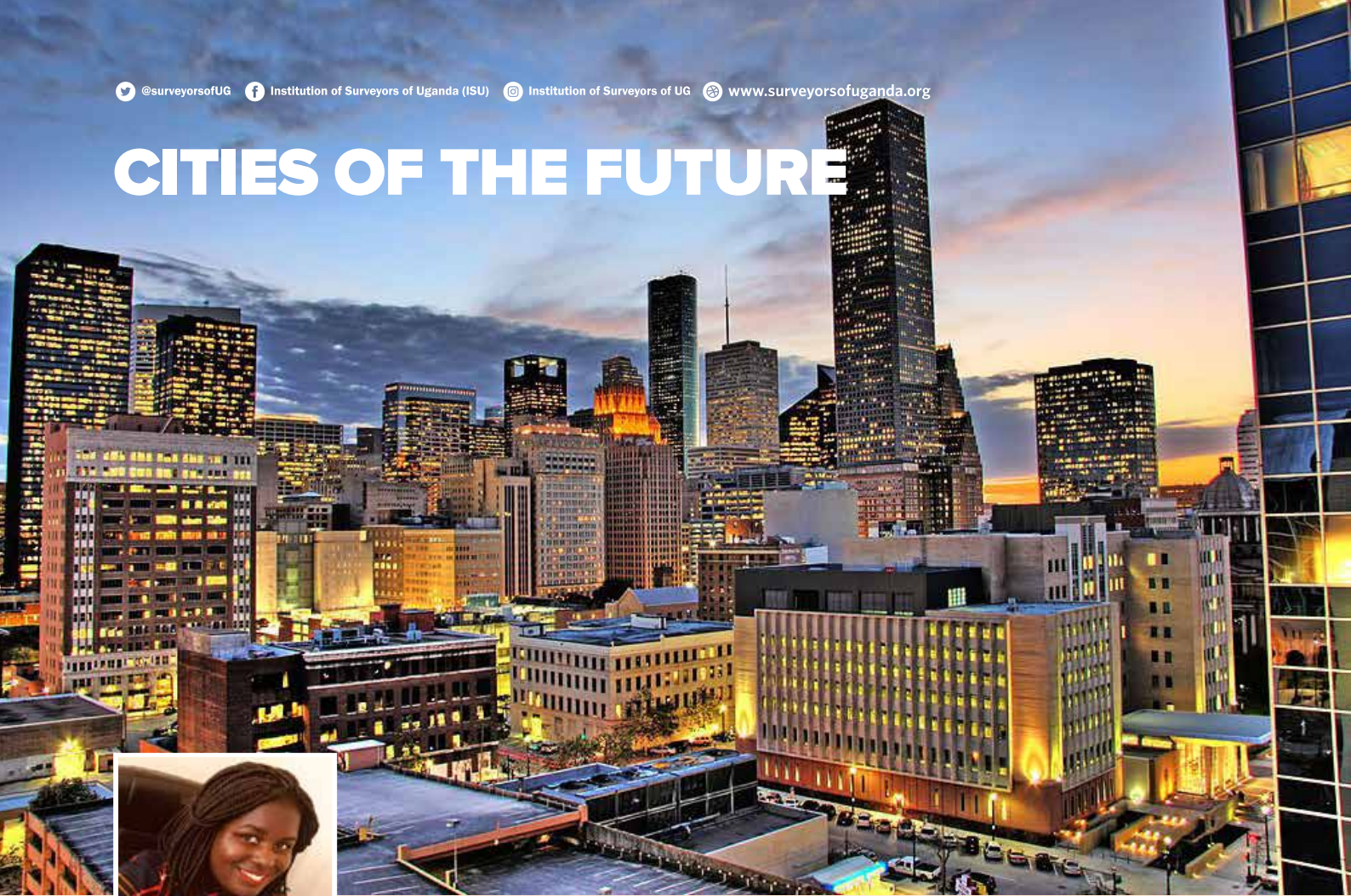
will continue to be recognized by the market regardless of the terms of the UK’s exit from the EU. RICS this year boasts of 130,000 members across the world with high level influence in national and international policies and laws.

Nevertheless, in the long run, it is predictable that, rival professional associations such as the European Association of Real Estate Professions (CEPI) and European Property Federation (EPF) that have also adopted International Valuation Standards will gain prominence and become global influencers of policies as RICS redefines its position post Brexit.

The writer is a senior valuer and real estate expert.

“ Britain laid down several appeals referred to as ‘deals’ to be signed with the EU. It is expected that the Brexit will impact on trade and commerce, labor mobility and people’s identity amongst others; which should be well negotiated on.

CITIES OF THE FUTURE



Christine Mawanga (VS)

THE FUTURE CITY IS A TERM USED TO IMAGINE WHAT A CITY ITSELF WILL BE LIKE, HOW IT WILL OPERATE, WHAT SYSTEMS WILL ORCHESTRATE IT AND HOW IT WILL RELATE TO ITS STAKEHOLDERS.

The Future city terminology conveys either environmental, social, economic or governance aims, or a hybrid of some or all of these elements of how the future city will look like.

However, the future of cities is used to describe a series of enquiries, reviews and investigations into the likely requirements of cities in the future, the roles they will play, the pressures and threats they will address, and the trends that will help cities adjust and succeed. It should be noted that the development of a city requires the availability of an economic base activity within the area which in turn attracts the secondary activities.

There is no clear picture of a future city but different visions have been drawn in line which have included; high densities of people, vertical and horizontal

zoning, an integrated system of public mass transport, public green space and water areas, adoptability of the city to changes in the environment, efficient utilization of natural resources and low environmental degradation and, human welfare and liveability for each city dweller. The above characteristics are similar to that of compact city structure with concepts of socio-economic sustainability.

The innovations have been developed to fit into the future city concept through process innovations, product innovations, technology innovations and customer service innovations. Innovations have included; Building Information Modelling to ease the accessibility of information during construction, operation and management of the properties by all professions, drone/robotic technology

during construction and management of the properties in order for fast delivery and to cut costs, 3D printing technology to address customization requirements, faster and higher quality of construction, environmental protection and reduction of construction costs, sustainable and smart transport in cities such as car and bicycle sharing system and traffic sensors, Internet of Things technology with green energy, urban gardens, flexible and liveable working environments, urban green and virtual stores.

Examples of developed/developing future city concepts include; Masdar City in Abu Dhabi

(UAE), a project to create the world's first low carbon/zero waste sustainable city, powered by renewable energy, and covering an area of more than seven square kilometres; Vauban in Germany,



However, the future of cities is used to describe a series of enquiries, reviews and investigations into the likely requirements of cities in the future, the roles they will play, the pressures and threats they will address, and then trends that will help cities adjust and succeed.

all houses are built to a low-energy consumption standard, all the homes produce a positive energy balance and transport is primarily by foot smart cities of Stockholm in Sweden, Amsterdam in Netherland and Singapore.

The Future city concepts in developed countries do not look exactly like those in Africa due to differences in geographical terrain and climate, differences in opinion on the desired urban lifestyle, different urban problems and differences in capital structure available to finance the future city concepts. Future city concepts in Africa are still developing with countries like Rwanda, Kenya, South Africa, Nigeria, Ghana, Morocco and Ethiopia taking the road in developing future cities for example Kigali City in Rwanda, Konza City and Tatu City in Kenya and King City in Ghana, Eko Atlantic City in Nigeria and the Mohammed VI Green City in Morocco. However,

issues such as; the type and strength of economic base that will attract developments, sources of finance for the city development, level of support from governments, political stability and willingness to change by the city population have affected the future city concepts in Africa.

In conclusion, the look, feel and function of the cities in Uganda in 2050 will depend on decisions taken today and in the near future by government and real estate

players. An inclusive approach involving all stake holders should be adopted so that a number of factors are integrated to come with the best model that fits into context while still enabling the desired future functions. Professionals need to be proactive, think globally, work closely with others, possess good and flexible leadership skills. In this regard, a question arises, what will be the future of real estate valuation? What will be the roles of a real estate valuer in the future cities?



SURVEYORS BEYOND SURVEYING



THE WORLD IS MOVING FASTER THAN WE EXPECT, IN ORDER TO REMAIN IN OUR CURRENT POSITIONS IN SOCIETY, WE HAVE TO MOVE AS FAST AS THE WORLD OR ELSE FASTER THAN IT. HERE IS A LIST OF SURVEYORS DOING MORE THAN SURVEYING IN THIS FAST- CHANGING WORLD.

1. Kabeho Rohi (QS)

Kabeho started practicing as an apprentice QS for Design Consults (2016/17). Currently, he practices with NIPE Contractors (full time) and as an Assistant QS for EDIAN construction (U) Ltd (part time)

Apart from Surveying, he is into Soap Making (Link Detergents (U) Ltd), Business Branding (Acquire Investments Ltd) and Poultry. He hails from a line of farmers thus poultry is an in-born passion. As for Business Branding, marketing has always been a passion since childhood.

He realized a deficiency of locally manufactured soap which motivated him to step out and make a difference.

His brand is known as Link Detergents. Link Detergents (U) Ltd makes the Myrrh™ BlueRose™ Hand wash, Smooth Detergent™ (ultra-cleanse liquid soap), Dish Wash™, Hand Sanitizers, ToiletKing™ and

WindowKlean™. Some of Kabeho's clients include Mr. Tasty Fried Chicken, Akorion (U) Ltd, Eagle Insurance among others. Find us at Plot 22-23 Zana, Opp. St. Noah PS.

In the sphere of Business Branding, Acquire Investments Ltd deals in Cutting-edge Branded Diaries, Calendars, Visibility Plagues, Banners, Brochures, Business Cards etc. Some of his clients include Housing Finance Bank, UWESO and TASO. Find us at Nasser Road Mall, Rm G10.

Kabeho argues that being a Quantity Survey strongly relates to the entirety of these fields. For instance, experience in Construction Contract management has enabled him to efficiently keep up with Link Detergents' and Acquire Investments' contracts.

In 5 years, he envisages himself as a big shot with deep expertise in the Quantity Surveying field.

He advises young people to go out there and make a difference. There is a lot of opportunity to go around for everyone. All you need is to get out of your comfort zone, make genuine friends and build relationships.

My main competitors are imported soap products. As for Acquire Investments Ltd, completion is not so tight-fisted because of our innovative branding.

Myrrh Group of Products
Plot 22-23 Zana
Opposite St. Noah Primary School
PO Box 26391, Kampala
detergentlink@gmail.com

Product Catalogue

ToiletKing
...for lovers of klean...
750ml 7200
Carton 62,000/=

BlueRose Hand Wash
...the scent of heaven...
500ml 5,800/=
Carton 58,000/=
5ltr 29,000/=

Hand Sanitizer
...kills 99.99% germs...
50ml 4000/=
Carton 40,000/=
1ltr 26,000/=

WindowClean
...let the sunshine in...
500ml 6200
Carton 56,000/=
5ltr 24,000/=

SMOOTH DETERGENT
...soap that redefines clean...
1ltr 3,500/=
5ltr 8,000/=
20ltr 28,000/=

Dish WASH
...ultra cleanser...
500ml 3,500/=
1ltr 6,500
500ml Carton 35,000/=
1ltr Carton 65,000/=
5ltr 24,000/=
20ltr 48,000/=

+256 704 297327
+256 750 025 615
+256 705 014 512

2. Mathias Mulumba (RSU, MISU, VS)

Mathias Mulumba has been practicing his profession since 2012. That's eight years straight as of January 2020. He started his career at Kampala Capital City Authority and is currently the chief Valuer at Buganda Land Board.

Mathias who is a writer (a poet, novelist and short story writer) also doubles as an editor on Wikipedia. He is one of the founding members of Wikimedia User group Uganda which strives to increase content about Uganda and Ugandans on Wikimedia.

Mathias has been a writer since childhood, for the greater part of his life. This means that he was a writer before becoming a valuation surveyor. He says he was inspired by the story telling and the books he was exposed to in his early childhood.

Mathias became an editor on Wikipedia in 2013. He then realized that few writers from Uganda had Wikipedia pages at the time something he changed. He has since created many more pages and improved those that didn't have enough details.

He has published 5 books so far, three collections of poetry, a novel and a short

story collection. Poetry in Motion which was published in 2012 was his first book. It is a project he worked on while at Makerere university while pursuing Bachelors of Science in land Economics. The second and third books, 'Rumblings of a tree', a poetry collection, and 'The Honking', a novel, were published in 2017.

This year 2020, Mathias has published his fourth and fifth books i.e. 'Poetry in Motion: revised edition', a collection of poems, and 'Blank walls: Obwenyi bw'emirimo', a short story collection with stories presented in English and Luganda.

These books are available at Aristoc booklex and BookPoint at village mall, and from him, the author.

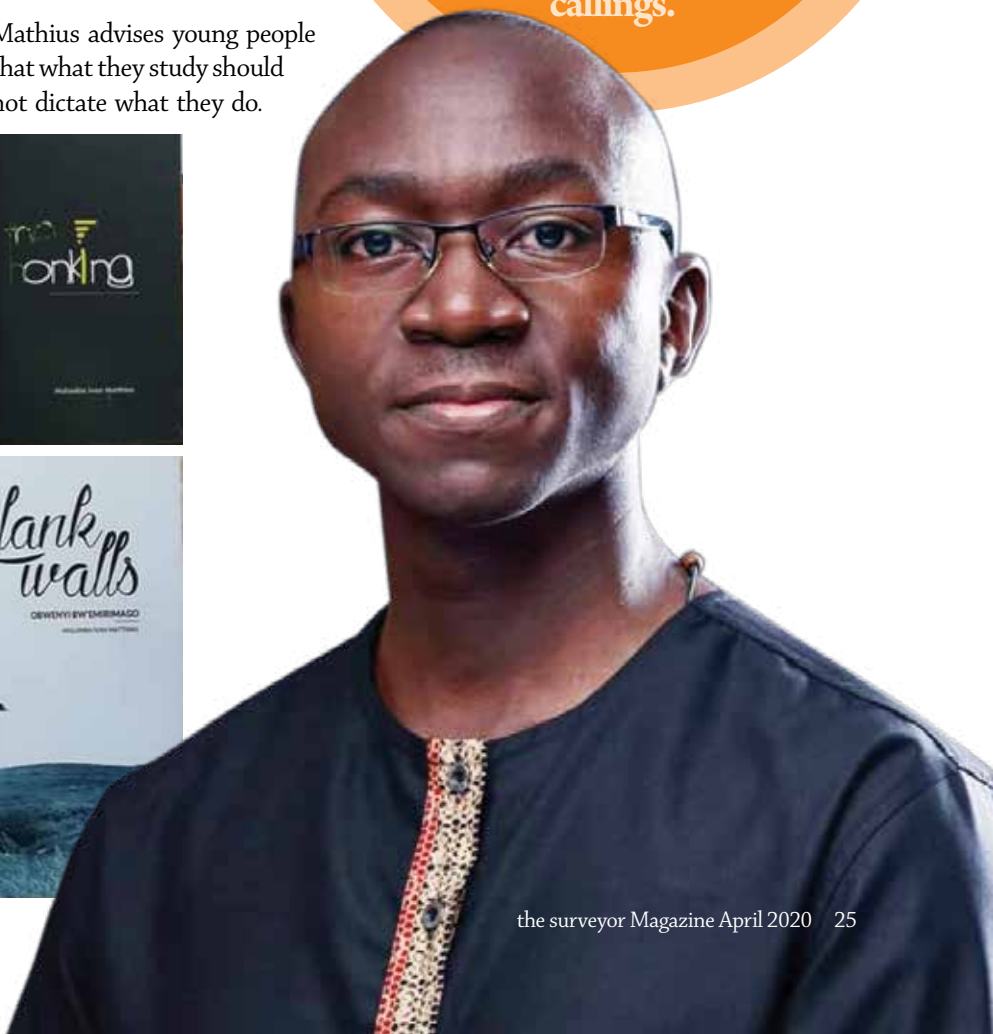
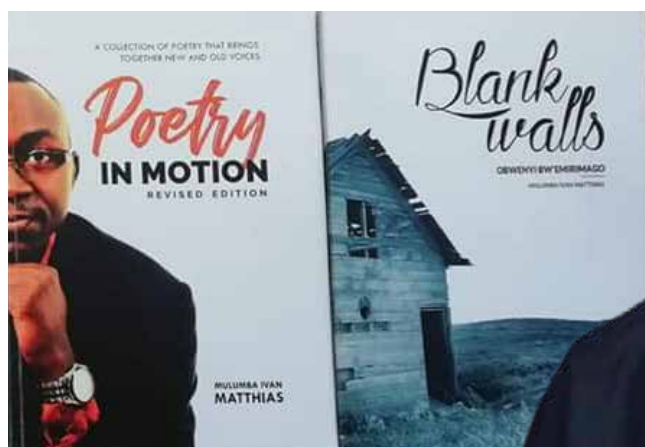
On several occasions he has written articles in newspapers (New Vision, Monitor and the Observer), about land and the field of valuation.

Mathias advises young people that what they study should not dictate what they do.

One can still practice one's profession and do something one is passionate about. What one needs is discipline and knowing where one's calling stops and what is expected of one, and where another begins.

He adds that they shouldn't be afraid of sharing what they do, even if it is not part of their profession. No one puts food on your table but you. Besides, we write the stories of our lives. They shouldn't let anyone hold the pen for them.

My main competitors are other writers for example New York Times best sellers get a lot of publicity since they are written by World famous authors, which overshadows our books. In the near future, I will have published more books, at least two more, and to have grown in my profession. I have learnt to balance the two callings.'



3. Naome Kayondo (VS)

Naome Kayondo Bagenda is a Valuation Surveyor currently working with the Ministry of Lands, Housing and Urban Development. She also doubles as the Vice Chairperson of the Valuation Surveying Chapter at the Institution of Surveyors of Uganda, a Rotaractor and the President Nominee for the Rotaract Club of Kampala Ssesse Islands.

Naome is also a National Cricket Player, an ECB (England and Wales Cricket Board) Level 2 qualified Coach, the Assistant Coach of the Uganda Under 19 Girls Cricket Team and the Director of the Little Stumps Academy.

Because of her



professional training, she is into the Real Estate sector with more energy in valuation surveying which she has practised for the past 6 years. She kick started her career at GIMCO Africa Ltd in Dar es Salaam, Tanzania before moving to East African Consulting Surveyors and Valuers in Kampala. After pursuing a Master's Degree in Real Estate, she then headed to Vals Consults before finally joining the Ministry of Lands, Housing and Urban Development in Uganda.

Besides Valuation and Real Estate, Naome is vivid in Sports and to be more specific, the elite game of cricket. The Genesis of her love for Cricket dates way back in her Senior One at Kings College Budo. She also participated in the first edition of the Girls Schools Cricket week where she was selected to join the Uganda Senior Women's National Team at a tender age of 12.

Naome has had the privilege to wear National colours and represent Uganda in other countries and under different cricket tournaments and versions of the game for example Twenty Twenty (T20) which is the short version and One Day Internationals (ODI) that is the long version. She has been a Captain of the National Side for about 5 years.

My highlight was winning the African T20 Qualifier in Namibia 2017 that made us African Champions and gained us a spot to compete in the Global World Cup Qualifier in Amsterdam in 2018.

While studying an MSc. Real Estate in Nottinghamshire in the United Kingdom, she was exposed to loads of English Cricket since she played for Nottingham Trent University Cricket Club and two other Cricket Clubs. she was also exposed to Cricket Coaching and trained with the England and Wales Cricket Board to become an ECB Level 2 qualified Coach.

In 2019, she returned from the United Kingdom and started coaching children and adults in the game of cricket. Midway through the year, she started up a cricket academy called The Little Stumps Academy (LSA) for children between 4 and 19 years. This academy introduces the elite game of cricket to kids,

develops their techniques and nurtures their cricket talent to get them to play at National Level. LSA uses a wholistic approach where it incorporates life skills in its programs as well as fronts academic excellence and education as primary and cricket secondary. At Little Stumps Academy they offer a number of services to include, One to One Coaching, School Coaching and they also run a number of programs like Saturday Morning Cricket Classes and Holiday Cricket Camps.

The first program at LSA was a holiday cricket camp in Sept 2019 and they had only three girls turn up. This was the greatest test to Naome as the Founder and it pushed her to think harder about how to grow the Academy. The Academy has worked with over 30 children and the numbers are still growing.

Naome also runs cricket sessions for adults called the Cricket Master Batters and it basically provides the platform to learn cricket with a huge fun theme incorporated in it.

Her sporty and cricket side positively feeds into the Valuation work experiences and her professional engagements in the Real Estate Sector in many ways which include Learning over 17 years to balance the two aspects on addition to setting her priorities right. The Valuation career is first then cricket playing, coaching and the Academy business comes second.

Through the game of cricket, she has developed leadership skills and teamwork abilities that easily cut across.

In the next five years, she envisions a thriving Valuation career with deeper engagements in the Ugandan Real Estate Sector and also being a Chartered Valuer with the RICS. She also sees herself continuously playing for the Lady Cricket Cranes Team, Head Coaching both the Uganda Under 23 Ladies and Under 19 Girls Teams and a well-established, elite and executively functional Little Stumps Academy.

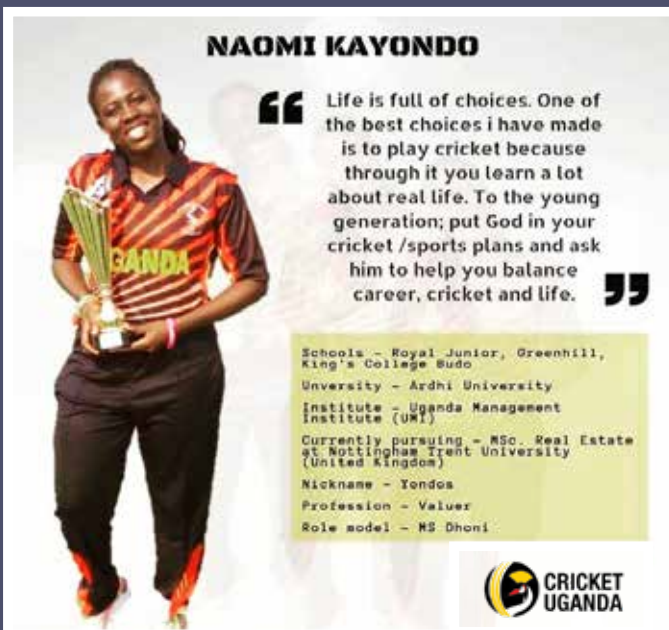
Her message to the young is always follow your heart, never give up on something you are passionate about. There is great need to set your priorities right and then passionately follow up on them. With weighted allocation of time to these priorities, work at them diligently and the Lord shall greatly bless the works of your hands.



*ICC Africa Women's T20 Qualifier in Dar es Salam, Tanzania
December 2012*



Nottingham Trent University Cricket Club,



Champions Lady Cricket Cranes Squad at the ICC T20 Africa Women's Qualifier in Namibia, September 2017



1st Runners up Trophy held by the Manager,



Making my debut for the Lady Cricket Cranes Team, December 2002



Coaching some of the youngsters at the Little Stumps Academy Saturday Class at Lugogo Cricket Oval, January 2020



Turner & Townsend



10 YEARS OF TURNER & TOWNSEND LTD UGANDA.

Turner & Townsend is a global consultancy business which specialises in programme and project management, cost management and consulting across various sectors. In layman's terms, the company assists throughout the lifecycle of a project that is, from inception through to the operation phase. Turner & Townsend's project experience covers Real Estate, Infrastructure and natural resources sectors.

In 1946, Turner & Townsend was founded in the United Kingdom with the aim of delivering outstanding value to clients, communities and markets. Our vision is ultimately to be the leading capital programmes professional service provider to owners/operators in real-estate, infrastructure and natural resources.

With 110 offices in 40 countries around the world, Turner & Townsend has a strong global presence. On the African continent, Turner & Townsend operates in 9 countries and the office in Uganda which started its operations in 2010, was Turner & Townsend's East African flagship office. This means that Turner & Townsend will mark 10 years of success in Uganda this year.

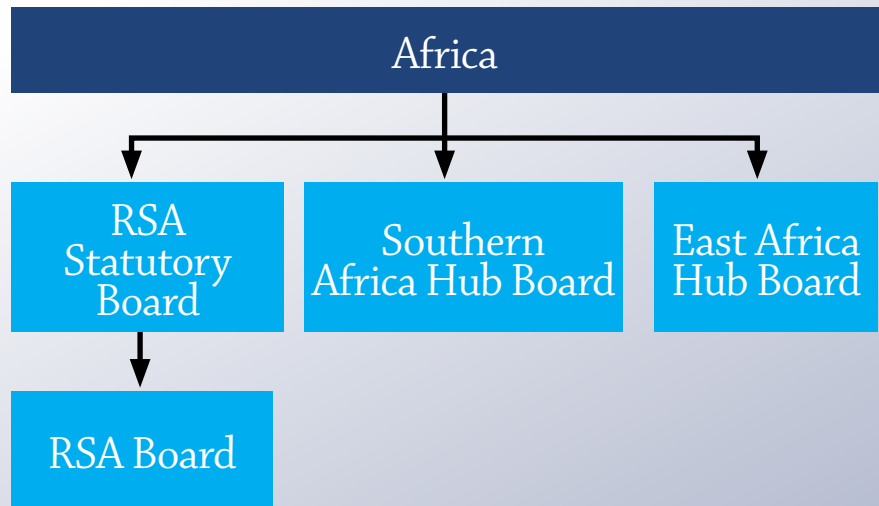
Having access to these extensive global resources ensures that Turner & Townsend offers a diverse team of professional Project managers, quantity surveyors, building economists, facilities managers, commercial managers, business intelligence analysts, arbitrators, quantum experts, procurement specialists and so on to ensure quality on all these projects.

Organizational Structure.

Turner & Townsend is a global organization with clear organizational structures in all its business units and regions. The Africa organizational structure is illustrated in the image below:

The East African Regional business hub is led by John Rogers. Ms. Elizabeth Natukunda (Royal Institute of Chartered Surveyors), heads the

Uganda and Rwanda business unit. Her career within the construction industry spans over a period of 15 years.



Projects Under Turner & Townsend Name.



Toyota Uganda Aftersales Support Centre- Uganda.

- Greenfield Brewery Mbarara- Uganda.
- Kasamene Oil Field Lake Albert- Uganda.
- Toyota Uganda Aftersales Support Centre- Uganda.
- International Specialist Hospital- Uganda.
- Jinja Bridge Project- Uganda.
- Tatu Waters- Kenya
- Brookhouse School- Kenya
- Australian High Commission- Kenya
- Wilson Airport Business Park- Kenya
- Barclays Plaza- Kenya
- Garden City- Kenya
- Actis- Tanzania
- Aga Khan Health Services- Kenya
- Black Rhino Group- Kenya, Sudan
- Kabale international Airport - Uganda.



Kabale international Airport - Uganda.



Country Director
Elizabeth Natukunda (MRICS, QS)



Associate Director
Barbra Mugenyi (MISU, RSU, QS)

Success Story

Having operated in Uganda for many years, Turner & Townsend opened its office in Kampala at the end of 2010 to further support our clients in the East African region. The office commenced with two people; the current Director, Elizabeth Natukunda and current Associate Director Barbra Mugenyi providing Cost Management services in the Real Estate sector. However, over the years the office has grown both in number from 2-28 people and in terms of the services provided;

Project Management, Procurement and Contract Advisory Services.

In addition to that, Provision of consultancy services in Infrastructure sector has been included in the list of services offered. The most recent win has been the appointment as part of a Consortium to provide technical advice and assistance to Uganda Investment Authority, as well as liaise with other stakeholders throughout the duration of Kampala Industrial Business Park in

Namanve.

The Project comprises of the rehabilitation of the existing infrastructure, enhancing services and opening up additional areas of the park to attract investors. Turner & Townsend will support the Consortium Lead in Project Management and Document Control. In addition, we will lead the Contract/Claims and Surveying aspect of work packages.

Turner & Townsend has a strong culture of CSR globally. All the activities undertaken must speak to at least one of the following criteria;

- Great place to work

Integrity in the industry Environmental stewardship

- Community value

These activities must be a full day activity and is mandatory for all staff to participate. Turner & Townsend's most recent

activities was a fundraising for the Nsambya Children's home which fulfilled the community value criteria.

In addition, a Job Shadow Programme was initiated. This programme entails selected students spending a day shadowing senior members of staff to get an idea of the work that is done. Students have the opportunity to learn and be mentored.



Success Contributors

- A diverse team
- Availability of global reach backs with a vast experience and knowledge in various construction sectors
- Strong management team
- Embracing technology through Building Information Modelling.

Building Information Modelling (BIM) is the process of intrinsically developing the model during design and construction, then using this model to support the operation of the asset. It is a digital representation of physical and functional characteristics of a facility, creating a shared knowledge resource and forming a reliable basis for decisions during its life cycle, from earliest conception to demolition.

As Turner & Townsend, in addition to applying BIM to core services such as Project Management and Cost Management through tools such as CostX, WinQS, and Dimension X, we have a number of specialist BIM consultancy services including:

- Strategic implementation and planning of BIM
- BIM assurance services (model, data standards, compliance

and completeness etc)

- BIM process development
- Information management and BIM leader roles
- BIM software / hardware implementation support
- Procurement advice under a BIM environment
- Migration of live projects to BIM
- Facilities management strategy and implementation in BIM

Challenges faced over the years

- Resourcing
- Economic, social, political stability of the regions in which we operate is paramount.
- The need to constantly adapt to the advancement in technology to improve our business processes

Mission, Vision and Way forward

Our mission is to deliver outstanding value to our clients, markets and communities. Our work on high-profile programmes for major clients has given us exceptional knowledge, which we transfer between regions and sectors to define best practice and drive thought leadership.



REDAH® INFORMATICS

Introduction

REDAH's seed was sown in 2012 when two of our founders questioned why it was difficult to access authentic property market information in Uganda. In 2015 we set about designing a solution for real estate information management; a database to assist anyone with real estate as a key input into their business to make sense of the real estate market. With a working prototype on hand, we registered the company and our first copyrights in 2017. Since then, our interactions with industry players have reinforced the need for information management, market analytics, and, risk profiling. We maintain the overarching mission to deliver solutions to the challenges of access to reliable real estate information within the ultimate objective of providing authentic market reference information.

Mission, vision and way forward

Our vision is to be the leading facilitator in developing transparent and efficient property markets. To that end our mission is to simplify access to, handling, understanding, and use of real estate information; developing tools that create structure and deliver efficient access to real estate information.

REDAH is a homegrown solution to the peculiar challenge of access to authentic real estate information in Uganda. In as much as REDAH is addressing a challenge that is peculiar to Uganda, our solution has global reach and similarly applies to other countries with similar challenges in Africa. We will export this solution to countries with similar challenges. We have partners in Kenya and Zambia who have been instrumental in introducing us into the wider African landscape.

Services offered

We offer real estate information management services. As a Real Estate Data Analytics Hub we provide value and risk monitoring for the real estate market. We help valuers, lenders, land acquisition consultants, and governments optimize property information to generate reliable market insights, monitor and de-risk portfolios, fast-track compulsory acquisition, and maximize revenues.

Our solutions include support to:

- Valuation and advisory services providers
- Collateral monitoring
- Access to land management
- Property tax administration support

Challenges faces over the years

Being a pioneer in real estate information management in Uganda, we have to work doubly hard to influence the mindset of stakeholders in the industry to embrace data and analytics as essential to business success. This process is painstakingly slow especially because one must align decision makers from different backgrounds who view the benefits and risks from their different professional perspectives.



REDAH® INFORMATICS

Relationship with industry stakeholders

REDAHs solutions are applicable to a diverse range of stakeholders in real estate – surveyors, bankers, consultants, and government entities. Our engagements are not only with individual players but also with industry associations and leaders. Engagements with the Institution of Surveyors of Uganda, Uganda Bankers' Association, Bank of Uganda, Ministry of Lands Housing and Urban Development, and the Ministry of ICT and National Guidance have helped to spread the message that there is a homegrown solution to the challenges we are facing in our real estate industry.

Through ISU we presented to the Valuers, through the UBA we have presented to the Executive, CEOs Forum, the CFOs and Heads of Finance, and to the Heads of Credit of the banks, and to Bank of Uganda. Through MoICT&NG/NIISP we presented to the President of Uganda at the ICT expo. It is important that we continue to leverage these relationships to spread the message far and wide.

Ingredients to Success

We live by integrity, collaboration and agility. We must be trusted to do what is right always and in the interest of our clients and partners. If it is important to our clients, it is important to us. Therefore, we will collaborate with them to create products that work for them. Not only that but we must also act, must think and act fast in order to help our clients meet their business goals.

We understand that it is important for the surveying industry to maintain a good reputation and public image if its members are to earn respect and thrive in business. To that end we are offering complementary use of our software to members of the Institute of Surveyors of Uganda. Using REDAH, real estate professionals will optimize real estate information to generate reliable market insights, and optimize workflows to mitigate risk and deliver timely services.

Message and profile of management

Being a start-up, we maintain a lean structure. Our strategic focus is guided by a board comprised of four founders plus an independent Chairman with a background in finance and banking. The founders also perform the management function which helps them to maintain that important link between discovery of market needs and linking them to our raison d'être. This founding team is comprised of four surveyors – a registered valuer, a valuer with GIS & Software development expertise, a land *cum* valuation surveyor, and a quantity surveyor. Our roles are split assigned along the functions of chief executive, technology, commercial and operations officers which align with each ones key competencies. Non-core functions for administration, accounting, legal and IT production work are outsourced.

Business Associates

- National ICT Innovation Support Programme
- AMC Limited
- Continuum Financial Group
- Pearl Systems (Zambia)
- Professional Digital Solutions (Kenya)
- Proptech Uganda

UPGRADING AND EXPANSION OF ENTEBBE INTERNATIONAL AIRPORT PROJECT



Richard Lutaaya (AISU,LS)

ENTEBBE INTERNATIONAL AIRPORT IS LOCATED ON THE NORTHERN SHORE OF LAKE VICTORIA, APPROXIMATELY 40KILOMETERS SOUTHWEST OF THE CAPITAL CITY, KAMPALA AND 3KILOMETERS SOUTHWEST OF ENTEBBE TOWN. THE GEOGRAPHIC LOCATION OF THE AIRPORT, AS DEFINED BY THE REFERENCE MIDPOINT OF RUNWAY 17/35, IS 00002'26.93"N, 032026'25.95"E.

The Government of Republic of Uganda secured a loan of USD 200M from the Chinese Infrastructure Financing Institution (Exim Bank) for the Upgrading and Expansion of Entebbe International Airport Project (Phase 1).

The project objective is to increase the passenger terminal's capacity from the current 410 arriving and 320 departing passengers to 930 arriving and 820

departing passengers during peak hours. The airport renovation will also increase the availability and frequency of international flights. The Project is a Design and Build Contract which was awarded to China Communications Construction Company Limited (CCCC) by the client (Uganda Civil Aviation Authority -UCAA) for contract period of five years with the original contract commencement was on May 10th 2016

and completion is slated for May 9th 2021. According to the works contract dated 8th October 2014, the contractor (CCCC) committed to implement the works in accordance to the contract constraints. The scope comprised of:

- Geotechnical and hydrological investigations.
- Detailed engineering design for the agreed works.
- Construction of the agreed works.

Depictions showing scope of the project works



The New Cargo Centre 1



Strengthening and expansion of apron 1



Strengthening of apron 4



Strengthening of runway 17/35 and runway 12/30 and associated taxiways

The project contract agreed works include;

- Construction of the New Cargo Centre.
- Construction of the New Passenger terminal building
- Strengthening of runway 17/35 and associated taxiways.
- Strengthening and expansion of apron 1
- Expansion of Taxiway A
- Strengthening apron 4
- Rehabilitation of apron 2
- Construction of a new Water supply system, Fire and associated facilities
- Exploration and design and Strengthening of runway 12/30 and associated taxiways.

As it is a Design and Build Contract, CCCC contracted a design consultancy company COWI A/S in 2014 for the Geotechnical and hydrological investigations along with Detailed engineering design for the above agreed works.

In 2017, Uganda Civil Aviation Authority engaged Dar-al-Handasah consultants to

carry out consultancy services for design review and construction supervision of the project works.

Roles of the Surveyor on the Project

Being the first major international airport upgrading and expansion project in Uganda, it brought so many encounters that were very interesting and fascinating which provided us a lot of experience concerning airport construction and development. Through briefings and trainings, we were exposed to new terms such as taxiways, aprons, aerodrome & airplane reference codes, taxiway holding points etc....as well as new communication style used when operating on the airside of an airport.

Generally, the major surveying works included:

Reviewing the contractor's primary and secondary Benchmarks on the site as well as carrying out monthly survey control checks to ensure they are within the desired accuracy limits specified by ICAO.

Conduct weekly field monitoring of settlement on the 7m cargo apron embankment area during the consolidation phase through precise double line levelling to verify the field performance of the embankment.

Monthly quantification of the materials at site.

Set out the new Cargo Building lay out to

guide the excavation works and eventual implementation of the structural details as well as monitor the verticality of the walls and steel columns. Set out Fuel pipelines, water hydrant lines, Sewage lines, storm waterlines, drainage channels and associated utilities.

Checking and Approving Contractor's setting-out works that is construction staking and level setting out checks. Setting out the marking lines on the finished apron, taxiway and runway pavements to guide the enhanced marking of the mentioned pavements as specified by ICAO.

As-Built survey of finished pavements and other structures for purposes of providing support data to the Measurement Engineer/Quantity Surveyor as may be required for purposes of verifying contractor's works.

Do proper documentation of all survey data collected and store it for future purposes. Carry out Topographical Survey works on runway 17/35 to aid in the detailed design review of the contractor's shop drawings.

Review the last aeronautical surveys done by Fugro Survey B.V. (1997) and Air Traffic and Navigation Services (ATNS,2002) and advise the client accordingly. Aeronautical surveys are typically carried out at international

airports, military bases and airfields. Under this kind of surveys, a number of Geomatics core proficiencies are utilized such as engineering surveying, geodesy, GIS, advanced mapping, remote sensing and photogrammetry to come up with final deliverables such as aeronautical obstruction charts, geographical coordinates of all the aerodrome Navigation aids (NAVAIDS), runway and taxiway entities etc. Navigational Aids (NAVAIDS) are a form of marker, signal or device that aids an aircraft by guiding and navigating it to its destination. They provide point-to-point guidance information or position data to aircraft in flight. Examples include Instrument Landing Systems (ILS), Distance Measuring Equipment (DME), Non-Directional Beacon (NDB) or Doppler VHF Omnidirectional Range (DVOR).

Finally, there are opportunities for internship for student surveyors and field trips organized under ISU and the project is still ongoing and is at 51.28% progress.



Setting out some of the survey data



A photo taken during one of the site visits



Andrew Kasumba (VS)

WHERE ART THOU?

THIS YEAR WILL MAKE A DECADE SINCE THE ENACTMENT OF FINANCIAL INSTITUTIONS REGULATIONS IN THE U.S.A THAT CAME TO BE DUBBED THE DODD FRANK REGULATIONS. ANDREW KASUMBA ASKS WHERE ART THOU?

These remarkably were intended to avert any future occurrences of the tragedy that was the 2007 financial crisis. Behold, Lehman brothers fell! 15th September 2008 saw the \$600 billion asset investment firm bow to the frailty that had eaten the financial market. The US witnessed the largest bankruptcy filing in history. The semblance of growth that had shortly shown in the subprime mortgage market was clearly manifesting as only fictitious.

The bubble had burst. The borrowers were defaulting on their mortgages a lot more out of concession rather than choice refusal to pay. Reality was: the monies that were the values of the collateral real property no longer made sense. Asked on whether it all could have been averted, legendary value investor Warren Buffet said: 'No one saw it coming!' Perhaps it was that sweet dream you pray never comes to an end. A lay man may be justifiably baffled. Where were the professionals? Where were the regulators? Where were the underwriters? These questions will forever linger on however irrational they may appear.

Similar questions still show up in retrospect to the Greece debt crisis. At one point, you had the state connive with professionals to 'cook' figures, to forge stats that falsified their financial health. Shrewd – they thought! Well, that was before investors (lenders) would be treated to a realisation that the government couldn't pay up. Alas! They abandoned it! It was fast on its knees until IMF's and the European Union's really unconventional intervention.

Where were the many professionals there? If you were a financial advisor in government or the private sector, kids would later on rightly ask: where were you?

In the build up to all such occurrences non-surprisingly, one common thing usually happens, people with responsibility coil in their shells. You hardly hear any voices of dissent or are they lost in the craze of the fickle enjoyment of the deceptive good? In all fairness, outcomes do not mind the answer to the former when they cause all to groan in the result regardless of where they stood.

When the bug is on a spree, it bites all! As with Dodd Frank, after the sob, authorities look for a way to right the wrong. Even more outstanding, as is the

logical expectation, laws are enacted, regulations are made. We can only try as much sometimes! These themselves however too breed a thread of contention, whatever the motivations are. Back home, maybe such was the motivation for the thought of crafting of the Valuers' Bill or something of that ilk. The thought that in so many things in our country, valuers could play a rather invaluable role-one that required an organised legal and progressive cohort. In any case however, if this was never part of the initial motivation, there still exists an opportunity for us all to contribute to an etch of prints in the sands of time that we'll have an answer to that remarkable question- 'where were you?'

One in a series of sumptuary laws in ancient Rome barred poor people from wearing purple garments. Outrageous, right!? Well, the rationale was to curb profligacy and the display of fickle wellness by what was then considered the 'poor-class'. The point is: there will always be a motivation for each law enacted. It is only imperative that your voice counts or we'll have a semblance of that archaic Roman code. We may choose to cower away and be wrought in a fog of lamentation thereafter or get in the middle of the thing. All of us! And I now dare ask: Where art thou? Yeah, where're you? Suffice to admit, it's been a rich and heavy cock-tail of suggestions so far; only that maybe the next time we get to meet, it be echoed to all of us as we deliberate: *thou shalt not be fake!*

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Assk Ladies pose
for a group photo



Association of
Student surveyors
Kyambogo
Annual Dinner

When food is ready



RSU Solomon Arinaitwe
offers guidance to
Kyambogo Students



RSU. Andrew Nyumba
and students share the
cake moment



Assk Lads pose for a group photo



Best Dressed Female Student Surveyor



Valuation Surveyors, Class of 2020 having a memorial photo



Godwill Nabudere the student Rep receives a certificate of appreciation



Urban and Rural development;
experiences from China workshop



ISU/ICEC conference 2019

Surveyors
Conferences
and CPDs



ISU Pre AGM
conference 2019



RICS Mediation workshop 2020



ISU Student member
award winners



ISU Eastern regional conference 2019



Council
committees
retreat 2019

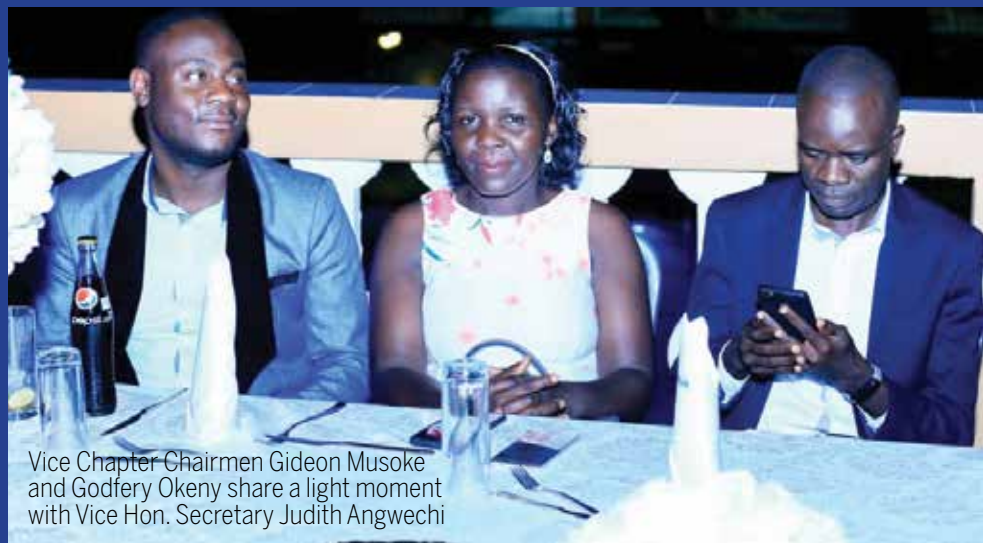


ISU Northern regional conference 2019

MASS President
and his Board



Makerere
Association of
Student surveyors
Annual Dinner



Vice Chapter Chairmen Gideon Musoke
and Godfery Okeny share a light moment
with Vice Hon. Secretary Judith Angwechi

Dinner time



Surveyors
have got
talent





Cake cutting with
chapter chair
Nyumba Andrew

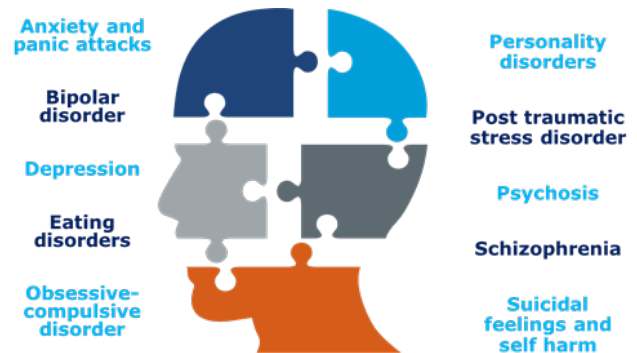


Vice Hon. Treasurer
Eliot Ankunda with the
student surveyors

THE MENTAL HEALTH CRISIS IN CONSTRUCTION: HOW TO SAFEGUARD WELLBEING

WORKING IN THE CONSTRUCTION INDUSTRY CAN BE A GRATIFYING EXPERIENCE.

HOWEVER, ITS' FAST PACED AND HIGH-PRESSURE ENVIRONMENT MAKES IT ONE WHERE ARE MORE LIKELY TO EXPERIENCE WORK-RELATED STRESS AND OTHER MENTAL HEALTH ISSUES. WHAT IS MENTAL HEALTH?



Mental health is the state of someone who is “functioning at a satisfactory level of emotional and behavioural adjustment”

According to World Health Organisation report on mental health in Uganda; One percent (1%) of health care expenditures by the Ugandan government health department was specifically directed towards mental health in primary care.

Ministry of Health also purposes to ensure that their Mental Health programme increases access to primary and referral services for Mental Health, prevention and management of substance use problems including tobacco, psychosocial disorders and common neurological disorders such as epilepsy.

What is wellbeing?

The UK government defines wellbeing as ‘a positive physical, social and mental state. Mental wellbeing does not have a single universal definition, but it does encompass factors such as:

- The sense of feeling good about ourselves and being able to function well individually or in relationships
- The ability to deal with the ups and downs of life, such as coping with challenges and making the most of opportunities
- The feeling of connection to our community and surroundings
- Having control and freedom over our lives
- Having a sense of purpose and feeling valued

What are the causes of mental health crisis in construction

- Work pressure due to deadlines
- Working on remote sites that are far away from family or support system

Immaculate Nabuggwawo Mary (QS)

- Financial uncertainties

Common signs of negative mental well being

- Lateness and absenteeism;
- Decreased productivity, for example taking longer to complete a task and struggling to multi-task;
- Lack of self-confidence;
- Lack of enjoyment;
- Agitation and volatility (with potential conflict); and
- Isolation/withdrawal;
- Feeling overwhelmed/un-enthusiastic to start/complete tasks.

Ways to safeguard wellbeing

- Getting professional help if you need it
- Getting physically active
- Learn something new; skill or habit
- Do something you enjoy
- Eat healthy
- Staying positive
- Getting enough sleep
- Reframe unhelpful thoughts
- Make time for yourself

Steps Employers can take to support mental wellbeing

- Deliver mental health training; half or one day awareness course
- Train line managers and supervisors in what to do when somebody mentions a mental health issue
- Provide employees with good working conditions and ensure they have a healthy work life balance and opportunities for development
- Develop effective people management between managers and their subordinates

Sources of mental health services in Uganda

- Lifebank Foundation Uganda
- Butabika Hospital
- SAS Clinic
- Kampala Mental Health Clinic
- Mental Health Uganda Foundation

The writer is an assistant quantity surveyor at Turner & Townsend ltd

One percent (1%) of health care expenditures by the Ugandan government health department was specifically directed towards mental health in primary care.

THE MUTATION OF THE TORRENS SYSTEM AND THE OPPORTUNITIES FOR SURVEYORS

The need to stay abreast with the changing trends in any field cannot be emphasized enough. The land sector presents an even more urgent need in this regard. This can be traced in many aspects including, the population explosion, the need for modernized agriculture, expanding real estate business and the urge to industrialize the economy. This

has created an astronomical demand for land which has soared over the past few years. Not even the scramble and sharing of land in 1900 comes close to what Ugandans have to deal with now. The named factors have caused a fundamental change in the way land rights were previously known and guarded.

In Uganda, land rights are primarily protected through registration based on the Torrens System. This system was imported from Australia almost

wholly with no major amendments or changes to reflect the Ugandan context. At its core, the Torrens System has a central register of land in which all land rights are recorded including proprietorship, leases, subleases, easements and mortgages among others. The central register is meant to make land transactions simple, secure, open, reliable and fair. Basically, all the good attributes one can find in a land conveyancing system. This is juxtaposed with the rudimentary deed system which required exhaustive inquiry in land transactions to the root. The root being the initial owner of the land (*who is not a subject of our discussion in this article*). The Torrens System has two principles that is; “title by registration” and “indefeasibility of title”. The former bars recognition of interests unless they are registered and the latter is to the effect that a person(s) whose name(s) appears on the register is the true and only owner(s) of the land and their interest cannot be defeated by any adverse claims and this, the government guarantees. This is meant to protect the registered interests against the unregistered ones.

The only scenario in which indefeasibility is defeated is in cases involving fraud which can be visited on the current registered proprietor, misdescription of land or boundaries, registered interests prior in time to those of the current registered proprietor for example in cases where land previously registered under Mailo tenure is again registered under leasehold/freehold tenure, or notice actual or constructive of any unregistered interest. A quick look at these issues leads one to a conclusion that a registered proprietor is fully protected.

With the ever-changing interpretation of laws relating to the land, however, this isn't necessarily the right conclusion. This is partly attributed to a multiplicity of laws that govern land which sometimes have a contradictory effect. The Registration of Titles Act cap 230 envisages that protection of unregistered interests shall be by caveats lodged on the register. This as you may know falls within the first principle of title by registration as explained above. However, the Land act (*as variously amended*), for example, recognizes spousal consent and makes any transaction in land which is primarily the residence of a couple or the land from which the family derives sustenance non-transferable unless and until the requisite consent of the other spouse is obtained. This may include tenements, farmland and agricultural land from which the family derives survival. It is to the effect that for such land to change hands, one has to obtain written consent of the spouse (*who is in fact not a co-registered proprietor*). In a country where polygamy is widely and legally practiced and registration of marriages a thing of a few, then, securely transacting in land becomes an uphill task. Stories are told of hired spouses for purposes of completing land transactions by fraudsters which vitiates the affected land transaction.



Edrisa Kabiswa (MISU, RSU, LS)

The second issue which is also related to the problem of multiplicity of laws dealing with land transactions is in regards to lawful and bonafide occupants of land. Lawful occupants refer to those who came to the land by the authorization of the land owner including those that purchased the land whereas bonafide occupants are those that had occupied and utilized the land uncontested by the registered owner for at least 12 years prior to the enactment of the 1995 constitution or people settled on land by government. The Land act provides that non registration of these interests shall not prejudice the owners of the same. This is in direct contradiction of the first principle of registration.

The Physical planning Act 2010 and the National Environment Act 2019 also have drawback effects on the rights to land as the former makes registration of land dependent on fulfilment of some planning conditions which are sometimes illogical. These include

provision of standard road widths and alignment in areas which are densely populated where a single applicant may not have any control over the rest of the area hence making their registration aspirations a futile venture.

The National Environment Act 2019 bars registration of land in some ecologically sensitive

areas. This is so challenging in a way that many times, these areas are not mapped and their determination depends on the imaginative positions of the officers in charge of environmental protection.

Another consideration is the interpretation that judges attach to the prevailing law which has also broadened the due diligence required before buying land. It should be noted that land is not bought in the same way, for example, vegetables are! This means that a prospective purchaser of land must satisfy that there are no recognizable unregistered interests. To this, they are expected to visit the land to be bought, open boundaries to ensure that it reflects a picture the same as is recorded in the

certificate of title, ask neighbours who they know as the owner and also investigate whether the registered proprietor is also the owner of developments on the

land. Failure to carry out the above checks invalidates someone's claim of being a "bonafide purchaser for value without notice".

This effectively means that one cannot transact in land by just the exchange of a Certificate of Title with money the way many banks were previously transacting in as regards mortgages. Any departure from the strict requirements of due diligence will invalidate ones registered interests in the subject land if contested.

The Torrens System, as we have seen, has fundamentally changed from the basic two principles of registration and indefeasibility of title to a host of other considerations. Whereas the Torrens System has suffered, the opportunities for land surveyors have soared. They are required to do much more than confirm boundaries of land which has been their reserve for ages. They can venture in such activities as carrying out thorough background checks on land before purchase at a handsome remuneration by the intending buyer. Survival in this very competitive segment of land transactions requires one to update their knowledge of the ever-changing dynamics in land. As the saying goes, "only those who can learn, unlearn and re learn" will be able to survive in this environment where one mistake can cause a closure of a firm of 20 years standing due to the hefty penalties for professional negligence.

The writer is a registered surveyor of Uganda and a law student at Makerere University.

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REAL ESTATE INVESTING - AN OPPORTUNITY FOR SURVEYORS



*Hadija Naggayi
(Student member ISU,
Makerere University)*

**WHERE ARE YOU PUTTING
YOUR MONEY? IS IT IN THE
STOCK MARKET, BANKS
OR PAPER ASSETS?
HADIJA NAGGAYI, A
FINAL YEAR STUDENT
OF LAND SURVEYING AT
MAKERERE UNIVERSITY
TAKES YOU THROUGH
REAL ESTATE INVESTING**

In the journey of life there is no path to success, excellence or prosperity that is as straight as a properly laid down ruler. No matter which side of the journey you want to take east, west, south or north, you are meant to counter face valleys and mountains.

As surveyors, we all gladly acknowledge that its our career that we chose from a variety. There should be no limitations to how far our other abilities can take us. Thus, surveying as a career should be the foundation from which we can involve ourselves in other activities which could be our hobbies, interests, talents among others such as sports, acting, entrepreneurship among others.

One of the neglected opportunities that is in line with our profession is real estate investment.



Real estate investment refers to setting aside money obtained from different sources such as own money, from banks, hard money (*money obtained from money lenders*), sellers' money, subject to deals or private money. Despite the merits and demerits of each of the sources, the best among them is private money. This is because it is usually tax free and also penalty free.

A good mindset is one the key qualities of a successful real estate investor and fear is the commonest thing that keeps many real-

estate investors from taking action and being successful. To a successful real estate investor, FEAR stands for Face everything And Rise and otherwise it stands for False evidence Appearing Real. We really need to overcome the negative side of fear and embrace the opportunity.

When it comes to real-estate investments, never dust-off humble beginnings and the sky is never a limit, you are the limit. Among the real estate investment opportunities are single family house, wholesaling deals, condominiums, developers, commercial space such as offices, shopping malls, retail shops etc. but it's better to focus on one area and work your muscles out to become so good at it. As surveyors, it is easy for us to know the value and location of the different property which makes real estate a way to go because of the added advantage we have over other individuals who have little or no knowledge about real estate necessities.

There are various ways to locate real estate deals which include the MLS (*multi listing service*) which involves asking from and connecting to a realtor, and firms (*people that you know*), bandit signs (*signs posts pinned up illegally or in legal areas*) and tired landlords (*individuals tired of struggling with tenants*).

A good mindset is one the key qualities of a successful real estate investor and fear is the commonest thing that keeps many real-estate investors from taking action and being successful

You and me were born sales ladies and gentlemen, take time to reflect on the excuses you want to give, do they earn value? Its of essence to know your sail because the same wind blows on everyone.



SUSTAINABILITY AND PROPERTY VALUES.

SUSTAINABILITY CAN BE DEFINED AS A DYNAMIC EQUILIBRIUM IN THE PROCESS OF INTERACTION BETWEEN A POPULATION AND THE CARRYING CAPACITY OF ITS ENVIRONMENT SUCH THAT THE POPULATION DEVELOPS TO EXPRESS ITS FULL POTENTIAL WITHOUT PRODUCING IRREVERSIBLE, ADVERSE EFFECTS ON THE CARRYING CAPACITY OF THE ENVIRONMENT UPON WHICH IT DEPENDS.

The carrying capacity of a biological species in an environment is the maximum population size of the species that the

environment can sustain indefinitely, given the food, habitat, water, and other necessities available in the environment

For the Royal Institution of Chartered Surveyors (RICS) the principle of sustainability seeks to balance economic, environmental and social objectives, at global, national and local levels, in order to meet the needs of today, without compromising the ability of future generations to meet their needs. It is about leaving the world

a better place than we found it and about securing our long-term future, by following the four main tenets of sustainable development which are;

- Protection of the environment;
- Prudent use of scarce resources;
- Promotion of access to services for the benefit of all; and
- Production of a healthy local economy, including high levels of employment.

A sustainable building strives to minimise the consumption of energy and resources for all phases of the life cycle of buildings from their planning and construction through their use, renovation and to their eventual demolition. It also aims to minimise any possible damage to the natural environment. This can be achieved through lowering the energy demand and the consumption of operating materials, utilisation of reusable or recyclable building products and materials, extension of the lifetime of products and buildings, risk free return of materials to the natural cycle and comprehensive protection of natural areas and use of all possibilities

A sustainable building strives to minimise the consumption of energy and resources for all phases of the life cycle of buildings from their planning and construction through their use, renovation and to their eventual demolition.

Kemigisha Julie Itu (MISU, RSU, VS)

Schumann 2010).

The obvious financial benefit of a sustainable building is the saving in energy, cost, repairs and maintenance costs and waste reduction leading to lower operating expenses.

Operating expenses are typically paid by the tenant (*net lease*) and in some cases the landlord. A net lease provides no direct benefit to the owner although the tenant will benefit from lower operating costs. A tenant with a net lease who rents space in a sustainable building with associated savings in operating costs may be willing to pay a higher rent per square metre if the tenant can identify long term savings. On the other hand it can be argued that tenants will pay lower rent for inefficient non sustainable assets due to extra allowance needed for the additional indirect costs. The property owner of a sustainable building may additionally save repairs and maintenance costs due to the use of less and better integrated engineering systems.

Besides the above-mentioned savings, there are a number of intangible benefits which cannot be described through the change of construction or user costs. An example is a healthier employee with fewer absences and better productivity due to better air quality and lighting. Such a building thus may provide a company (*tenant*) with a competitive cost advantage, help it meet its corporate responsibility targets and improve its standing with investors and customers. The relation between employee productivity and building design/operation is however very complex to measure and the financial impact of healthier and more comfortable sustainable buildings is more difficult to assess in part because the costs of poor environmental quality (*such as lower productivity, higher absenteeism*) may simply be hidden.

Sustainable buildings may also be subject to marketing benefits as sustainability provides an opportunity to market the sustainable building as differentiating from competing buildings from an investor's perspective or promote the sustainable lease as benefiting the tenant's image. An occupant's decision to rent a building may depend on its sustainability which can therefore have an impact on the demand of buildings.



When designing buildings and their technical installations, care

must be taken to ensure that the demands on functionality and design are fulfilled, health and comfort are guaranteed during the period of their use, costs for energy, operation and maintenance are minimized, the building can be operated with only low cleaning costs, or is partially self cleaning (*such as roofs and facades*) and the costs for inspection, maintenance and operation are kept at a low level. These items can be economically performed whilst also conserving resources and the environment thus generating as little user dependent traffic flow as possible.

A sustainable building is called that because of; the higher efficiency of using energy, water, and other resources; reducing waste, pollution, and environmental degradation and Protecting occupant health and improving human productivity.

A key question arises, "But how does Sustainability affect property values and why should I be concerned about this as a valuer?"... To determine the theretical impact of sustainability factors on value, it is necessary to analyse the features and characteristics of sustainable properties in order to derive the resulting general economic and financial advantages. (*Berit*



Benefits Of Green Buildings

Environmental Benefits



Green Buildings are inherently designed to make the best use of natural resources. A Green Building is much more friendly to the environment than a normal building.

Economic Benefits



The overall cost of a Green Building is less as compared to a normal building because it uses less resources like energy & water. It also increases the value of the property.

Social Benefits



Green Buildings are very good for the health of entire eco-system that occupies it. They also decrease the load on local infrastructure.

Sustainable buildings also should have a longer economic life due to less depreciation and lower volatility on Market value due to less environmental and marketability risk. Sustainability features have the ability to varying degrees to slow depreciation and obsolescence (especially physical, functional and/or economic obsolescence) in a building over the long term. This leads to reduced risk premiums.

Benefits to tenants/occupiers may also be apparent when a commercial building is located closer to the labour market resulting in environmental effects such as transport cost savings. Furthermore, a building may require lower embodied energy due to the use of local construction materials instead of imported materials. These benefits are

difficult to measure accurately but they may be attributes that stakeholders can identify and be willing to pay for.

A sustainable building may also have reduced vacancy risk due to higher

These benefits are difficult to measure accurately but they may be attributes that stakeholders can identify and be willing to pay for.

attractiveness of the building from an occupant's perspective. Since the building is attractive to the occupants, there will be lower cases of it being vacant because whichever tenant comes in won't want to leave anytime soon. In addition to this, there's the reduced risk of tariff changes for energy, water supply and disposal and lower risk changes in the market.

Therefore, from the above, it can be clearly seen that sustainability features affect the various inputs used in valuation of real property using the three main approaches as per IVS (Market, Income and Cost approach). Therefore, I strongly believe that it's a key factor that needs to be taken note of while carrying out property valuations.

The writer is a registered valuation surveyor.

THE OBLIQUE IMAGE CAPTURE OVER KAMPALA.



Oblique Product



Ivan Bamweyana (MISU, RSU, LS)

AS SURVEYORS, WE ALWAYS MAKE USE OF AERIAL IMAGES. THESE AERIAL IMAGES GIVE US AN EAGLE EYE OF THE EARTH AND ITS CHATTELS AND FIXTURES. HOWEVER, KAMPALA CAPITAL CITY AUTHORITY HAS MOVED BEYOND THIS TO HAVE IMAGES PROVIDING MORE THAN AN AERIAL VIEW OF THE CITY. IVAN BAMWEYANA, A GIS EXPERT TAKES YOU THROUGH THE PROCESS OF ACQUIRING THIS IMAGE, ITS USAGE AND IMPORTANCE.

In 2019, between the months of June and August, Kampala Capital City Authority (KCCA) carried out an oblique aerial survey over Kampala Capital City. This is the first 3D aerial survey and representation of a city outside South Africa in Africa.

With Funding from the World Bank, KCCA Contracted AAM Geomatics a South African based international company to provide the aerial solution. AAM boasts of over 15 years in delivering such geomatics solutions around major cities in the world.

Oblique representations are in simple terms visualizations from an angle. In this case an aerial oblique Image was taken. In a quick review, the types of

aerial photographs are; vertical, low oblique and high oblique. With vertical, the optical axis is 90 degrees in the nadir direction, the tilt angle is zero (0), meaning the vertical axis and the optical (camera) axis are aligned. In the low oblique the tilt angle (between the vertical axis and the optical axis) can be stretched to 30 degrees but no horizon is covered. In the high oblique the tilt angle is stretched between 30-60 degrees and the horizon can be visualized. In the case of Kampala, a low oblique Image was used.

Unlike the generic vertical photographs, the oblique solution delivered for Kampala is a multi-perspective view, with enough sides of the buildings to interrogate. In the property valuation process oblique imagery is useful in

determining structure use by allowing views of the various elevations. It also allows views from various perspectives to enable appraisers to determine obscured features. For example, a 3D oblique image can reveal if a structure is a closed garage or an open car port. A valuer also is able to differentiate shelter loadings from roof tops, garages from dwellings, storied buildings from non-storied buildings. This in essence enables a city increase on the property tax collected, by lowering the cost of collection and maximizing coverage.

Through AAM geomatics, the project mobilized a piper clutter PA-31-350 Chieftain aircraft with a MIDAS 5 Oblique camera system. The camera system has; Applying trimble GPS/IMU,



The project team and the camera system used



gamble, 5 NIKON D800 Single Lens Reflex (SLR) cameras; the Nadir camera has a focal length of 50mm, the four oblique cameras (North, east, west, south) have a focal length of 85mm. The camera system is calibrated focal length, lens and radial distortion as well as multi camera synchronization.

Weather detail is very important to an aerial survey; weather statistics regarding forecasts, cloud cover, sun percentage and sun angle as well as precipitation are very informative on when to actually mobilize for data collection. The reconnaissance on the weather parameters indicated June 24th to July 26th as the most ideal, however the project did experience a continuum of challenges including; bad weather; bad sun angles, clouds cover (with the exception of cirrus clouds, other cloud formations like stratus, cirrocumulus, cumulonimbus and altocumulus could not enable the process), cloud cover with rain-rain with no cloud cover. This spatial anomaly of weather parameters stretched the project up to late August. The military and airport clearances; the Ugandan air space is manned by the Civil Aviation Authority (CAA), but for such an exercise, clearance from ministry of defence and UPDF were paramount given the security sensitive installations in the city. Press conferences to create awareness to the city populace were also conducted.

The site planning envisioned; 250 square Kilometres coverage, East-West flights (North south flights produced long transects that created area illumination effects and disoriented the oblique's calibration), 91 Strips, 30% Side laps, 60% End lap and total length of 802Km. Seven (7) UTM control points were identified to orient the survey.

Six effective individual flights

were conducted out of 15 attempts. The images are stored direct on an onboard camera memory system of one terabyte. Upon landing, these images are taken off, quality assured and histogram adjustments made. The Images have a foot print 300m -350m by 400m-450m, depending on the height and the angles. The resolution also varies between 5cm-9cm.

The immediate advantage of oblique imagery is the possibility to view elements that are generally occluded in the vertical views by masts, vegetation or higher structures; there is an additional perspective on objects such as road edges, lower building parts like verandas, and drainages. Furthermore, the determination of the vertical component of point ground coordinates is more accurate, due to a more stable stereo geometry. Additionally, the higher degree of image overlap, typical for oblique projects, favors dense point cloud generation, true-orthophoto production and 3D reconstruction. By these means, 3D point clouds, and DSM can be measured at a known resolution, which corresponds to the GSD of the original imagery. This presents an enormous advantage to controlling urban monitoring, this explains the growing number of requests by municipalities for aerial photogrammetric flights using oblique cameras.

For a city oblique imagery has a range of advantages including; 1) In the civil department, all planned changes in the buildings are reviewed and documented. In the past, a person was sent to document it on-site; 2) The analysis of the building structure and

it's compliance as a basis for planning activities, and the determination of the number of floors and building heights (benefits the urban planners and building engineers; 3) The mapping of terrestrial and vertical traffic signs, which are very clearly recognizable in the images; 4) With respect to more efficient cartography and map updates, oblique Image software simplifies

This presents an enormous advantage to controlling urban monitoring, this explains the growing number of requests by municipalities for aerial photogrammetric flights using oblique cameras.

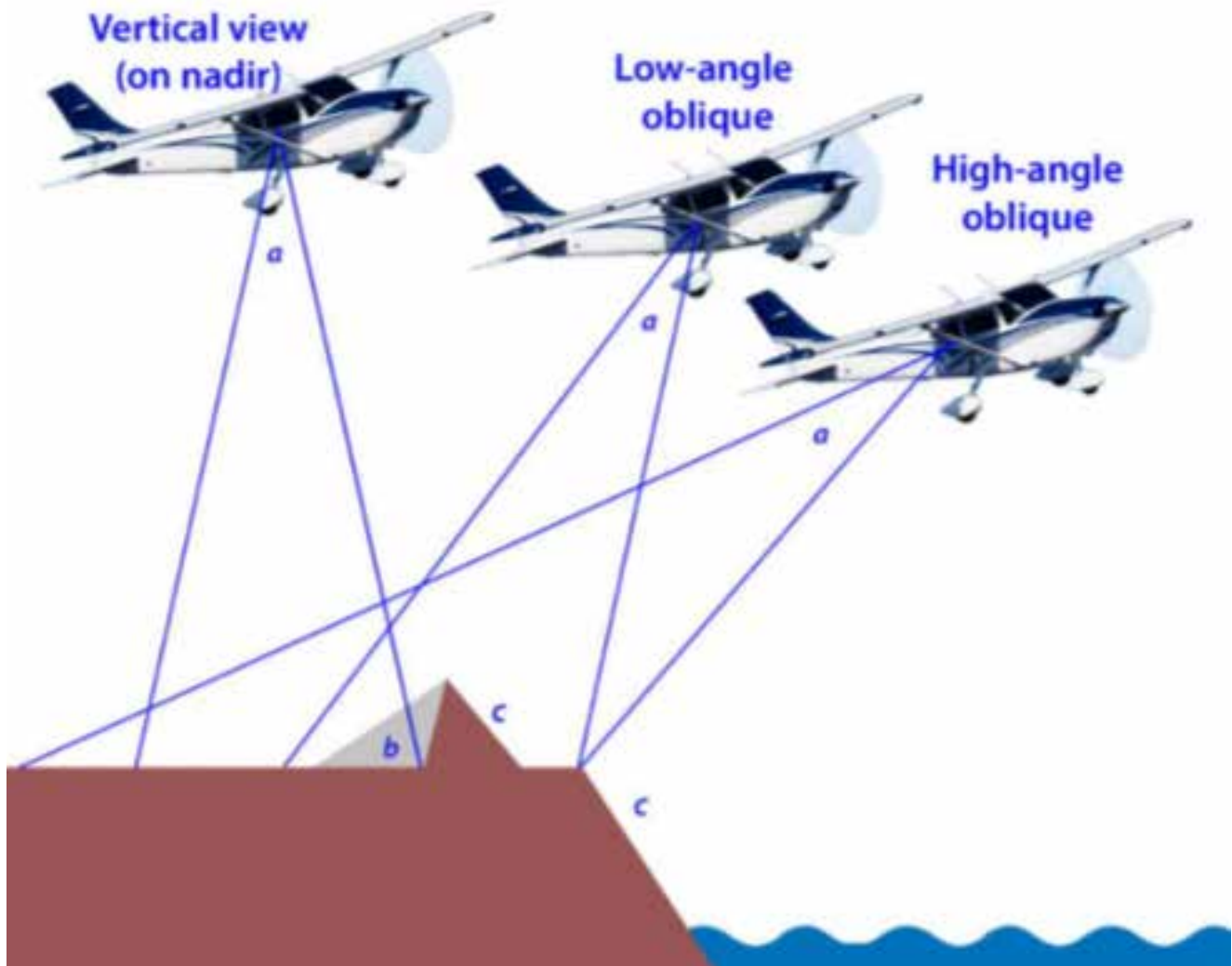


Illustration of the vertical, low oblique and high oblique

the recognition of the map elements by enabling the overlay of existing vector information (e.g. cadastral datasets) on the images. 5) In the fire protection assessment of industrial complexes and the neighbouring buildings, the oblique aerial images make it possible to check fire safety regulations and to determine escape and evacuation routes, to document suitable methods of entry, hard-standings and movement areas, etc. Back in the municipality office, it can therefore be quickly clarified whether the requirements are met; and 6) with proper planning and execution, the oblique imagery results for city planning purposes and location marketing can be

The immediate advantage of oblique imagery is the possibility to view elements that are generally occluded in the vertical views by masts, vegetation or higher structures.

used in the preparation of virtual tours.

To the land surveying fraternity, this presents increasing demand on the skill set in the present market. Whereas diversification has rested majorly in

cadastral surveys and engineering surveys. Platform based surveys like aerial surveys are increasingly forcing themselves on the agenda through such technology as UAV (Unmanned Aerial Vehicle) surveys, LIDAR and oblique image capture. For Uganda, it should also be noted that, surveys such as these are not enclosed in explicit policy frameworks so as to attain a standardized output. Therefore, whereas the solution may be exciting to the end user, the technical terms of reference that guide acquisition are still highly derived and dependent on the expertise with in the project team.

The writer is a registered surveyor of Uganda.



Ireeta Albert (LS)

THE CERTAINTY OF THE ANOMALY

JUST LIKE DEATH FOLLOWS LIFE ON EARTH, ANOMALIES FOLLOW SURVEYORS.

I wish I had been told about this at school, but then again, school is not meant to fill your head with things; it meant to equip you with an open mind.

So, what is this anomaly? Dictionary.com defines an anomaly as a deviation from the common rule, type, arrangement, or form. In survey, it is not any different; anything that does not conform to the normal path or outcome is an anomaly. An example is, you acquire a print from a client and find that the shape or distance on ground is different from that on the print, that is an anomaly. We shall explore more examples as we proceed but I hope this clears the air on what an anomaly is in surveying.

The problem with anomalies in surveying is that they come at a cost. There is a short-term cost and there is a long-term cost. This is the point where it gets interesting. Most surveyors look at the short-term cost and make their decision based on this.

It is truly a dilemma when your rent is due and you encounter an anomaly because then you have to debate between your landlord and the client, who are you most loyal to? Others would argue that is between surveying and the landlord while others would argue that it is a debate between life and death itself. Death? You must be thinking that this is plain drama. However, on a day when you have opened boundaries in Apaa on the banks of River Zoka, then you will realise that surveying may not be surgery but can be a key determinant in whether a certain resident life or dies. When this death and destruction comes; unfortunately, it does not discriminate against surveyors and their equipment.

So, what should a surveyor do when faced with an anomaly? This is the question every surveyor should ask themselves. We

shall not go into the causes of anomalies; because, since time immemorial, it has been established that any human run system is liable to error. So, keeping with the title, anomalies are inevitable and in the next paragraphs, I will attempt to prescribe a way forward when the inevitable happens.

The first prescription, is one many would prefer, walking away. It is a terrible choice and this is why. There are two things that happen when you walk away. You will dodge a bullet but may step on a landmine instead. You'll cultivate a reputation as a surveyor whose work never gets completed because the client is not interested in the intricacies you are going through after paying some money. This client will tell everyone interested in listening how a certain surveyor took his or her money and ran away. The matter is worsened by the fact that someone else will inevitably pickup from where you left and will get the work done. Then comes the worst part, you lose an opportunity to gain experience in resolving such an anomaly.

This brings me to the second option. This is the part where your communication and negotiation skills come into play, convincing the client to chip in on the matter. This is why it is good to involve the client at every step (at least every critical step) of the process so that they can appreciate the effort going into the process. Another reason is that when "bad news" comes, you know how to communicate

it because of your relationship with the client. Such a client, is more likely to cost share or meet the cost of correcting the anomaly. Notice the use of the term cost sharing. This is because the surveyor is not entirely free of fault in the whole process. The fault of the surveyor is under costing the project. You can argue all you want but the client will most likely see it as such until you've convinced him or her otherwise.

The third option is to correct the anomaly at your cost. You can view this as a cost of learning because after you are done with this, you are definitely a more knowledgeable surveyor than you were before. This enables you to handle other similar cases going forward and gives you an edge over surveyors that decided to walk away. This also enables you to gain the trust of your clients who in turn become your marketers. This good reputation then gives you liberty to charge a better fee which the clients will pay willingly because they are confident that you will get the work done once a payment has been made. This fee covers earlier incurred costs of fixing anomalies and caters for similar costs in the future when they arise. The only downside to this is you have to have some "loose change" to take care of some costs like returning to the field which could be as far as 100 miles away.

In conclusion, the circumstances will always dictate the response but it is extremely important for a surveyor to think about the short term and long-term effects of how she or he responds to an anomaly.

Others would argue that is between surveying and the landlord while others would argue that it is a debate between life and death itself. Death?

GLOBAL TRENDS THAT WILL AFFECT LAND MANAGEMENT



Akoragye Ronald (VS)

LAND MANAGEMENT IS A GLOBAL PROBLEM ESPECIALLY IN THE SUB SAHARAN REGION. THERE ARE GLOBAL TRENDS THAT AFFECT IT. RONALD AKORAGYE, A GRADUATE MEMBER OF THE INSTITUTION OF SURVEYORS OF UGANDA SHARES THE GLOBAL TRENDS LIKELY TO AFFECT LAND MANAGEMENT.

Land and Management is the process by which a country's resources are put to good use. Over the years, Land has continuously appreciated in value because of the fact that it can't be increased. Although land increases in value in money terms, it's starting to lose its sustainability due to the following trends:

1. Demographic changes
2. Economic development
3. Climate change
4. Increased consumption and inefficient use of land

Demographic Changes; Uganda's population is 42.86million. (World Bank, 2017). This is twice what it was 20 years ago, by 2050, it will be twice what it is today. The increase in population raises serious doubts on the capacity of land to sustain the demands of a rapidly increasing human population; increased demand for products and services for living. The demand for agricultural products alone will double.

Although Uganda's urbanization is low compared to the global trends, it's slowly gaining pace. Many people are emigrating to cities and less people are staying in rural regions and this has led to a fast growth of cities without any planning thus slums.

Results are no access to sanitary water, no waste infrastructure, no transportation, no education and work and no security. Slum dwellers have often very little tenure security and therefore little interests in developing the region they are living in.

Economic Development; In 2019, President Yoweri commissioned over 20 new factories. This is a sign of economic growth; however, these industries are linked to carbon credits and this demands for more land to grow more trees for carbon offsetting.

With poor and outdated land regulations these industries and other developments that need land will cause more harm than good.

Climate changes; In Kabale where I grew up, we used to have two seasons; wet and dry, now it's different, this is a sign of climate change. Generally, Uganda is being affected by climate changes and this is evidenced by the rise in surface temperatures, landslides/mudslides, droughts, glaciers melting, floods and rise of sea levels. Affected areas and its land become long or short term not usable.

Increased consumption and inefficient use of land; Bugoma forest reserve was given up for sugarcane growing, a case that

proves the tendency we are adopting of deforesting areas for intense cultivation or settlement. As I said earlier, the fact that we are creating more industries, we should be preserving these reserves to help in carbon offsetting.

In summary, change is factor of life and if you don't change, change will change you, all the above trends are lacking a sustainable land use strategy to harmonize their effects. Regions that detect these trends early enough can take counter measures that are often only effective with political support for example instruments in financing to implement land management strategies.

It is important to reduce or even stop inefficient and unsustainable land use through land management; Land management is a knowledge-based process that provides administration, regulation and instruments to meet rising food, living and resource demands for preserving sustainable livelihood and environment. Land management can enable sustainable, economic and social development while maintaining or improving ecological functions.

In the next issue, I'll write about sustainable Land Management and its applicability in Uganda.



Nakato Sylvia Nabiseere (Student member ISU, QS)

THE ARTS AND TIPS OF NETWORKING AT EVENTS

Arriving by yourself at an event can be a little uncomfortable. You look around the rooms so that you can find company but everyone looks happily engaged in a conversation. So, you end up sitting alone, probably feeling left out. Well, this may seem a little odd but it happens to many people. This reaction is completely natural.

These events however enable one to acquire the right professional contacts that can help expand one's business and open doors to new opportunities. These are some tips for traversing at social events and making the most of your time there:

Be yourself. Networking events are meant as starting points for relationship building. You have to be yourself such that you do not start off these fresh relations with lies. Try not to be the person you think others want to meet. Be genuine. You're most likely to stay in touch with the people you connect with when you are real.

Join in. There is nothing wrong with joining a conversation and waiting for a natural break in the chat to introduce yourself. In certain cases, the people who are already speaking will enjoy the interruption because it lends them a chance to meet someone new. Should you sense that you have entered into a serious discussion, it is okay to courteously excuse yourself.

Ask great questions. One of the great ways to get to know someone else is to ask them sincere and thoughtful questions. It is always good to walk away from a conversation after allowing the other person to speak more than you did. They feel great about the conversation and you'll have gotten to know a lot about that

person. This will help you in planning and executing your follow-up more considerably.

Be specific. The more specific you can be about what you do and what others can do to help you, that is if they ask, the better. For instance, tell them the names of a few specific firms you are looking forward to work with. This will help you get honest



responses.

Be involved. Maintain eye contact with the person you are talking with. Nod your head and tilt your body towards them when they are speaking. These small signals go a long way towards making them feel like you care, which helps you to build rapport and trust, the foundation on which you can do business later.

Give the other person a reason to care. You should ask yourself why the person you are speaking to should care about what you are saying. Plan your conversations accordingly. You only have a short time to make an impression and you try to make it favorable.

Set sound expectations. Firstly, understand what you are to do at an event. For instance, you may want to meet three new people or to meet two specific people. These are reasonable expectations and you have to pre-plan to set these goals. Make it a target to achieve the goals you have set.

Take notes. The people you're going to meet will give you their business cards. After having a good conversation with them, take

notes on their business card after they walk away or immediately after the event. This will help you to be more specific in your follow-up.

Treat people like friends. You cannot go to a friend, interrupt his conversation, hand over a business card, talk about yourself and then walk away, just like that. Treat new networking relationships as you would treat your friendships. Build the bond and the trust in these business relationships.

Share with them. It is said that sharing is caring. If you are willing to share your contacts and resources, others will be more likely to help you as well. You should however develop a sincerity in your giving nature without expecting something in return.

Consider the network. When you meet people, it is important to remember that even though they cannot help you directly, they can lead you to someone else in their network who probably can. Try meeting people that are already connected to the ones who actually need.

Treat connecting like a puzzle. When you ask great questions and consider how you can help others, you'll naturally start to draw connections between who you are talking to and others in your network. Offer to make these connections. There might be someone else who has the same target client industry, or maybe you know that a contact of yours is looking for the service the other provides. Encourage both parties to follow up with you after they meet so that you can hear what came of their interaction.

Limit yourself. Do not try to meet as many people as possible in the room. Focus on making just a few solid connections. People can sense when you are simply speaking with them to grab their card and go. These short interactions will not be memorable and therefore work against you. Aim to meet a few people and begin a meaningful discussion.

Become a regular. Networking is a lot more fun when you become consistent. Always fix time to attend the events such that people get used to you, avoid being a once in a while kind of person.

You are now set to stun your next event and hopefully form some significant relationships in the process. Do not forget to talk to strangers.

The writer is a student member of ISU.



YOUNG SURVEYORS NETWORK - UGANDA REPRESENTED.

THE AFRICAN YOUNG SURVEYORS NETWORK ORGANISED THE 2ND YOUNG SURVEYORS MEETING IN DAKAR-SENEGAL. OUR VERY OWN MICHELLE NAGAWA, A STUDENT OF LAND SURVEYING WON A GRANT TO PARTICIPATE IN THIS MEETING. HERE IS HER EXPERIENCE.

Every opportunity in our lives comes as a result of hard work. When you put in effort, then can a reward be achieved. Yes, this article could be filled with my Senegal-Dakar experience but how about those with The Amsterdam experience or Nigerian experience. The constant is; they are all wonderful experiences. The knowledge attained, the networking and opportunities availed as being a grant winner are immense. In a continent of thousands of young surveyors, four of us were chosen from the following countries; Nagawa Michelle-Uganda, Oluwafemi Olaiya- Nigeria, Leonie Boih-Addo-Ghana and Derrick Demeveng-Cameroon. Once we engaged with the young surveyors; key question was "How did you guys get to be selected?". Coincidentally this was the same question from my fellow classmates after finding out I had won the FIG YSN grant.

I believe we plainly put it in the following 3 components; YOUR ATTITUDE and PASSION towards the profession, YOUR FIELDWORK EXPERIENCE and your SKILL SET. Attitude and Passion entails how you view the profession as a sustainability asset for our Built environment. What would it add on the SDGs, if you can answer questions like that; then you indeed would be an asset to the Young Surveyors Network easing the process of FIG offering you their support as you make yourself the best version there is. Secondly is the Field work experience. Class notes and books are all good, that won't be denied: but hands on experience has always given you a better chance in the professional and competitive world because everyone will trust your word on various issues with proof that you have actually practiced.

Michelle Naggawa (Student member of ISU, Kyambogo University, LS)

2ND YOUNG SURVEYORS AFRICAN MEETING

“CONNECTING THE GENERATIONS FOR OUR COMMON FUTURE”

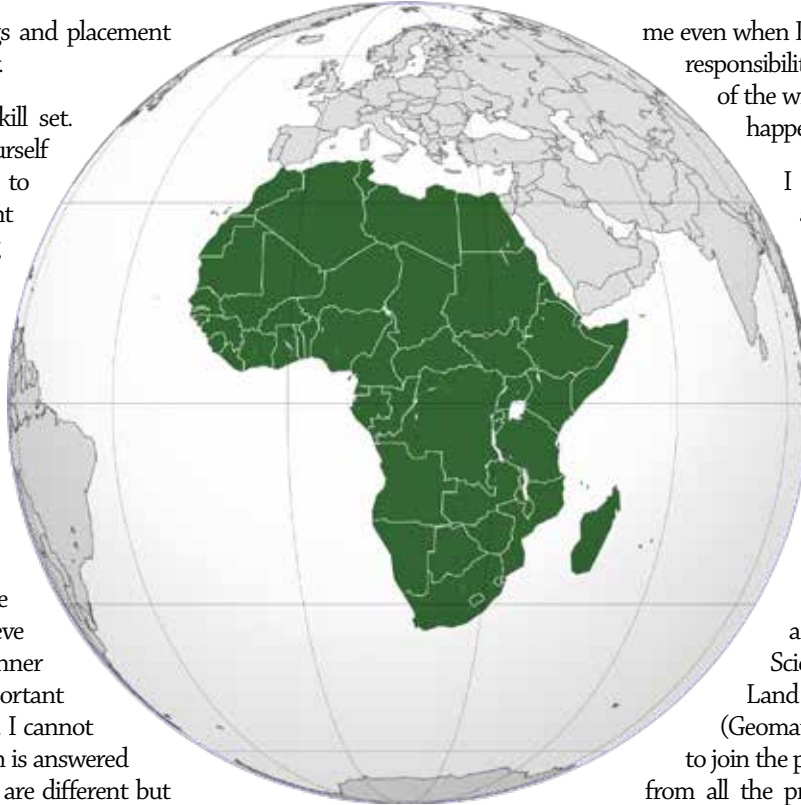
HELD IN CONJUNCTION WITH
EGF
UNIVERSITIES CONFERENCE

DAKAR, SENEGAL
(KING FAHD PALACE HOTEL)

25 - 26 NOV 2019

Hence take all the trainings and placement opportunities very seriously.

Last but not least your Skill set. How have you availed yourself out in the world in order to gain a skill or two? It might not have to be the Surveying skill. That is a must have! Focus should be on the most ignored for example communication skills, writing skills. If simply put, "How does your RESUME look like? Are you proactive? Those are some of the simple points I will hint because once you have some or most of these plus much more, then I believe you will be the next grant winner and hey BELIEF is very important and PRAYER tops them all. I cannot not plainly say this question is answered in this manner because we are different but one thing is for sure, we are all capable of such opportunities if we try. I can summarize all this by simply laying out the fact that I didn't undermine the opportunity availed to



me even when I felt overwhelmed with responsibilities, I prayed to be one of the winners and God made it happen.

I did travel; made amazing friends, learnt new cultures, had my adventures at the sea, chaired my very own session around the Common Future, a book I recommend we all read, and got a new perspective of my profession. I am proud each and every day that I made the decision to pursue a Bachelor's degree of Science in Surveying and Land Information Systems (Geomatics). I am also excited to join the professional world, learn from all the professionals I will have a chance to interact with and endeavour to make our profession better each day. Thank you to my family and friends, ISU, FIG and all that keep believing in me.



Michelle receives her certificate from FIG YSN

SMART SURVEYORS SMART APPS TO HAVE



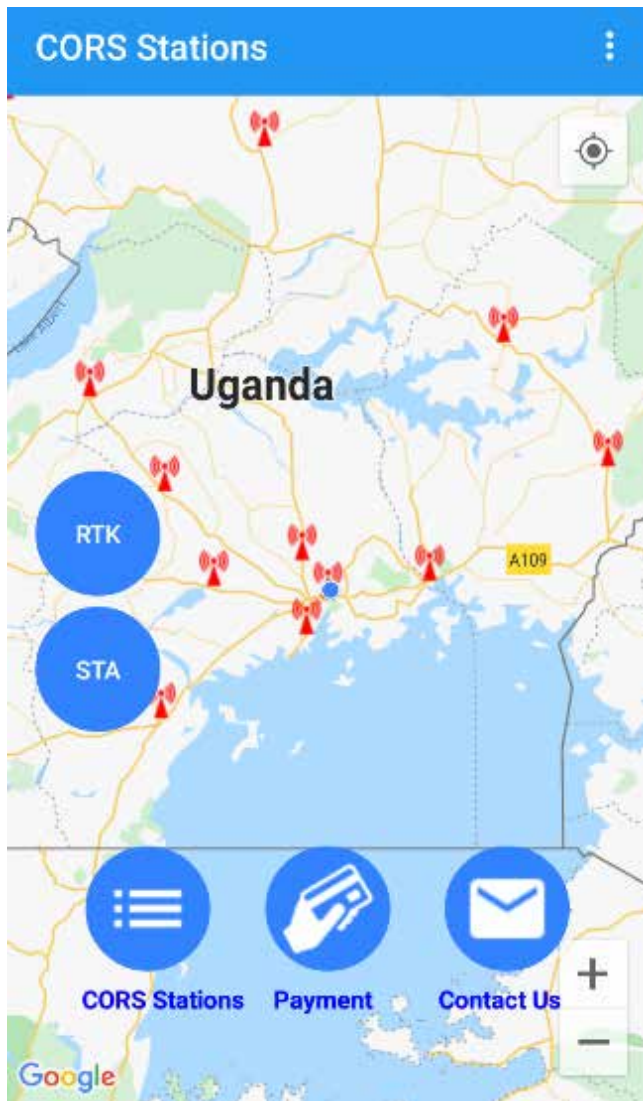
Jonathan Katamba (LS)

With the current trend in technology, there is no doubt that mobile phones are evolving to be the next great thing the human race has had. Phones have replaced cameras, radios, music layers etc. even in surveying, this is true, mobile phones are the future of surveying.

Here are some of the simple yet powerful mobile phone apps available for surveyors.

1. My Cors

This app helps one to find the nearest Cors station to your location. It gives you the distance to it and other detailed information. All Cors stations are displayed on a base map. The RTK and STA keys enable the display of approximate radius of the base station in RTK and static mode. *The app is found on google play store.*



2. COMPASS

Very useful for orientation when in the field, having its reference to the True North. A surveyor can use it as he/she would use a conventional compass. It's very sensitive and reliable.

62 Institution of Surveyors of Uganda

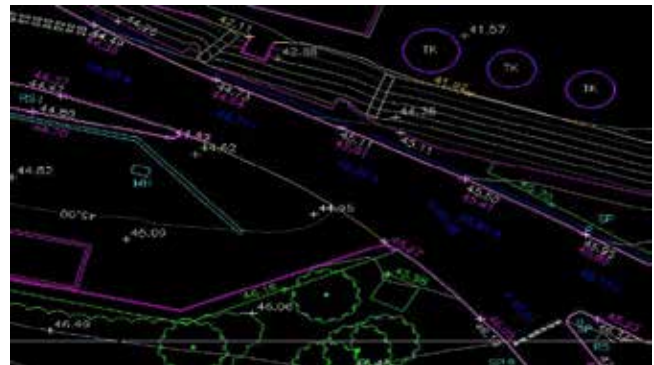


3. UNITS CONVERTER

It's a neat and quick way to switch through units. With a variety of engineering units like length, area and volume. Say goodbye to the days of fidgeting to tell clients their area in acres, hectares, sq meters sq feet, etc

4. CAD READER

A very good app used to display and edit your CAD drawings on the go with just your phone. Has great functions like measuring the length between points, adding and removing elements, changing element colour, switching on and off layers and other basic features.



5. KINGSOFT OFFICE

I particularly chose this App because of its ability to open and correctly display CSV files unlike other conventional office apps. It also handle word documents, PowerPoint, pdf, excel. It also allows for editing to enable a surveyor remove or add points to his point file.

6. TELEGRAM

By far this is the best app that has happened to surveyors. It's the email killer since it allows you to share all sorts of files for example dwg, dxf, excel, word, ppt etc. All this through a WhatsApp-like social app. No need to sign in and sign out. With a bigger limit to shared files, Telegram Is the easiest way to share file across mobile phones at any distance since it uses the internet. Its number of users grows daily thus you can be sure to find people you know who are using the same service.

All the apps listed above are free and readily available on the various platforms like play store for Android and IOS markets. Paid version with advanced functions is also available at a small fee.

The writer is an operations manager at eaglecors ltd.

BUGANDA LAND BOARD (BLB)

The only hub for land-related services



Buganda Land Board

BLB's VISION
Every piece of land as an asset
to the registered owner

BLB MISSION
Ensuring sustainable and optimum utilization
of land, secure tenancy to achieve financial and
economic independence for communities

EMBRACING DIGITAL SERVICES

The Corona Virus has changed the world in all aspects.
To ensure social distancing and convenience, we have
enhanced our digital platforms to offer the following:

- Online Kibanja registration on:
www.bugandalandboard.or.ug
- Online lease application on
www.bugandalandboard.or.ug
- Mobile Money Payments
- Free chatroom on www.bugandalandboard.or.ug
- WhatsApp chats on 0708363742

Over time, we have come up with
innovations aimed at safeguarding
people's land. One such innovation
is the Land Electronic Card whose
advantages are listed above.

Benefits of the BLB LE Card

- Enhanced security
- Accurate people identification.
(Palm Vein pattern based
identification)
- Automated
documentation.
- Real time information
to stakeholders.(client
notifications via sms & emails)
- Reduced fraud in a most high-
tech system through the use of
Palm vein System and LE-card.
- Storage capacity is
highly trusted
and secure.



BLB's board chairman Eng. Martin Kasekende
(R) hands over a land title to a client

Buganda Land Board (BLB) is
a Corporate body mandated
by the Kingdom of Buganda
to manage its land. This land
comprises an estate that is in the
excess of 1,000 square miles that is spread
throughout the kingdom.

We are a professional organisation
offering a number of services in the land
management value chain right from land
registration to issuance of lease titles.

WIDE NETWORK

With the head office at Masengere
building Mengo, we have nine branches in
Katwe/Muganzirwazza, Nansana, Ndejje,
Masaka, Mpigi, Mityana, Kyaggwe, Njeru
and Luweero. We also have many service
centres aimed at bringing our services
closer to the people we serve.

From mass sensitizations to regular TV
and radio talk shows, we have ensured that
we sensitize our clients about land-related
matters.

BUSINESS SERVICES

Because of our extensive experience
in land management, we introduced an
external business wing that serves clients
who need land-related services on land
other than that of the Kabaka.

This wing is well equipped to offer
conveyancing, client-tenant relationship

services, and any other related service.

We also have the **Lease Access Financing
Initiative (LAFI)** aimed at helping people who
want land titles but don't have money to go to a
given financial institution and obtain a loan using
their kibanja as collateral. The bank gives the
money to BLB to process a title which stays with
the bank until the client repays the loan. Over
1,400 people have so far benefitted.

We have also introduced a fast track service
aimed at providing express land-related services
to clients in urgent need of land documentation.

THE BLB FAST TRACK SERVICE

- In a bid to meet our customer needs
especially after the CoronaVirus Pandemic,
Buganda Land Board introduced "The Express
Surveying" and "The Express Titling" services
and products.
- This package offers fast track, specialised
and flexible services that are consistent with
Buganda Land Board policies.
- We can now survey and process your title in as
little as two weeks at a relatively higher rate
than the normal prices.
- These services are optional and do not affect
BLB's standard code of practice time scales.



A BLB
surveyor
at work

***The criteria for making mobile money and Bank payments at BLB

AIRTEL MONEY	MTN MOBILE MONEY	BANK
Dial *165# Select Option 4 (Pay Bill) Select Option 9 (Others) Enter Business Number (530700) Enter Reference (Busuulu or File Number) Enter Amount Enter Pin	Dial *165# Option 4 (Payments) Option 4 (Goods and Services) Enter Merchant Code (BLB) Enter Reference (Busuulu or File Number) Enter Amount Confirm with Pin	Stanbic Bank Account NO: 9030005607948 Account Name: Buganda Land Board Bank of Africa Account No. 01190930000 Account Name: Buganda Land Board

Buganda Land Board 1st Floor, Masengere Building. P. O. Box 14205, Kampala -Uganda Tel: 0393 263741/2, 0414 271 921,
Toll Free: 0800 140 140 E-mail: info@bugandalandboard.or.ug Website: www.bugandalandboard.or.ug

Facebook: Buganda Land Board; Twitter: @bugandalandb

#staysafe #fightCovid-19 #wearmask #sanitize #socialdistancing

Extent to which land laws have brought controversies on **ownership of Mailo Land**-case study of Malungu LCI, Nkandwa S/C, Kyankwanzi District



Matovu John (LS)
District Staff Surveyor-
Kyankwanzi District

Land Ownership

Kyankwanzi district is in the northwestern frontier of Buganda kingdom overseen from Singo county seat of Mityana district, within the central region of the Republic of Uganda covering a total area of 2,455.3Km². The district has a multiplicity of economic activities ranging from crop husbandry; livestock keeping and charcoal-making among others.

Article 237 of the Constitution of the Republic of Uganda, 1995 as amended vests all land in the citizens of Uganda and states that the land shall be owned under four tenure systems namely: customary, freehold, mailo and leasehold. The bigger proportion of the land in Kyankwanzi district is of the mailo tenure which is either on the blue page status or existent on the register occupied by peasants who have certain recognized rights protected by law and custom.

Background to the rights of Peasant Holders

On titled/registered land, there are usually other people occupying and utilizing the same land other than the landlord. These people are the peasant holders with recognized rights protected by the law from being illegally evicted (*Hancock, 1942*).

Just like in the ancient times the peasant cultivators in Buganda kingdom had certain recognized rights which were protected by law and custom (*Busulu and Envujo Law*). These rights were non-transferable and they were permanent and heritable. The *Busulu and Envujo Law* of 1928 provided for the protection of these



Mr John weighs in on land law to the general public

rights in a way that no peasant holder was to be evicted save for public purposes or through an eviction order from a court decision which arose from a dispute heard/ tried by court, and the court granted compensation for improvements and unaltered tenancy status even in mailo land ownership change.

In the past the peasant did not live in constant fear of eviction. In the event that he observed proper obligations to his chief and maintained correct social relations with the village members, he was accorded permanency of tenure. The security of tenure was subject to the requirements of the chief and the needs of the other members of the community. It was not the security of tenure on land that was important but the undisturbed membership of the society. Within this society there was constant movement of the members either because the needs of the group necessitated the movement or because good agricultural practices advocated for it.

The Current Law Responsible for Duo Ownership on Mailo Land

With the enactment of section 59 of the Registration of Titles Act, Cap 230, unlike with the land law of 1908 where there were no proper cadastral

surveys to demarcate the boundaries, the present land law created a fully operational land administration system with a guarantee of a title for which a land owner enjoys adjudicated boundaries.

Now, after an estate has been surveyed and the owner has secured a mailo certificate, he has a form of property that no one can take away from him, at least without compensation. The system of registration therefore makes the mailo land owner able to sell or mortgage it at will.

Article 237 of the Constitution recognizes these peasants who are occupants on land as a lawful and a bona fide occupant who are protected against evictions as long as their existence on the land happened unchallenged and payment of the annual nominal ground rent is prompt.

Status Quo of the Ordinary Peasant in the Little Known Malungu Village.

In reality the communities of Malungu settling on mailo land live in speculation and fear on the assumption that their leaders are in position to resist any unlawful evictions. Seemingly available land is occupied by the locals without undertaking any search or inquiries on the ownership

status of the land. It is very usual to be approached by different claimants on the land alleging ownership over mailo land.

The law (*Registration of Titles Act, section 181*) provides that the occupant is under obligation to physically search for the land owner for negotiations but it is challenging to the occupants as they are subjected to uncertainties resulting from the non-genuine members of the public.

The occupants cannot on the other hand risk remitting annual nominal ground rent in fear of being conned by the unscrupulous perpetrators portraying as owners of the land thus abandoning their legal obligation. These perpetrators every time issue unique eviction threat and usually with threats to destroy their farm crops. Occupants who are law abiding and interested in fulfillment of ground rent obligations are left helpless and not certain of where to deposit the ground rent fees. The fees cannot be deposited on the local government account as the controlling authority has no constitutional mandate over mailo land.

References: W. K. HANCOCK
Survey of British Commonwealth Affairs, 1942

GNSS SURVEY TO CM ACCURACY



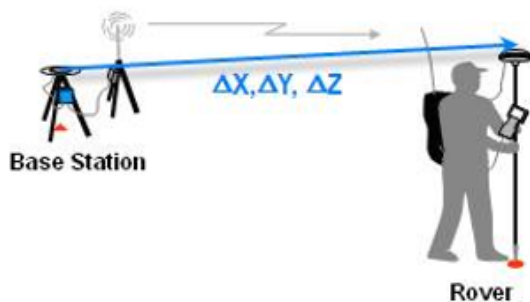
THE ROLE GNSS PLAYS IN OUR DAILY LIVES IS GROWING DAY BY DAY. IT HAS BEEN APPLIED IN NAVIGATION, SECURITY, AGRICULTURE AND SO MANY OTHER WALKS OF LIFE. IN THE SAME SPIRIT, ITS ROLE IN SURVEYING CANNOT BE IGNORED. PHILLY MASEREKA TAKES YOU THROUGH SIMPLE Q&A ABOUT GNSS TECHNIQUES AND HOW TO SKIP PITFALLS WHILE USING GNSS FOR SURVEYING PURPOSES.

Philly Masereka (LS)

How to do a GPS survey to centimetre accuracy

Site Survey using RTK; The method of choice for a centimetre-accuracy site survey is RTK (Real Time Kinematic). RTK involves the use of 2 GPS receivers (stationary Base Station and a Rover) communicating together via a radio link. The base station must be located such that it will have a clear view of the sky and a continuous line-of-sight to the rover. The precision of the Rover position relative to the Base station is dependent on baseline-length so it is desirable to keep the baseline as short as possible (<10km). RTK performs Real Time Phase Differential and computes the 3D vector (DX, DY, DZ) between the rover and base antennas. Base Station coordinates and both antenna heights need to be entered to compute ground coordinates at the Rover.

How does RTK work?; Data from the Base Station (either raw GPS data or RTK corrections; there are different RTK approaches) is sent in real time via radio to the Rover. With a sufficient number of common satellites visible at both GPS antennas, a “FIXED” solution of centimetre-



RTK (Real-Time Kinematic)

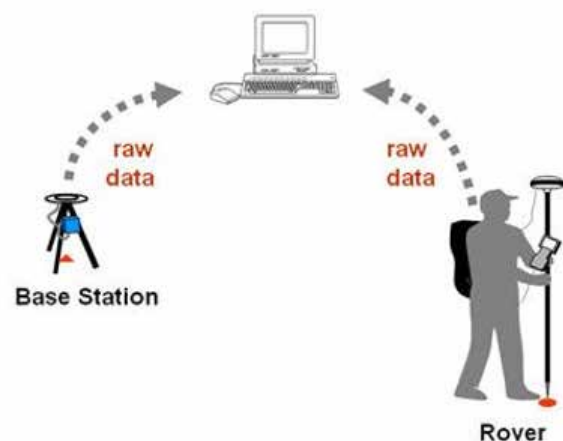
level precision can be calculated. If there are insufficient common satellites, a “FLOAT” solution of lower precision (a few decimetres) is calculated. You can try waiting for a “FIXED” solution or re-initializing the system but these may not be successful as most often the FLOAT solution is due to poor satellite visibility at the Rover. RTK systems are available in dual-frequency and single-frequency versions. Dual-frequency systems deliver greater precision, faster and over longer baselines than single-frequency systems.

Your choice in equipment will ultimately depend on your budget, expected baseline lengths and precision needs. See manufacturer’s specifications. Here are typical horizontal precisions (RMS) you can expect for various baseline lengths under ideal conditions:

Horizontal precisions for various baseline lengths

	1KM	10KM	30KM
Dual-Frequency	~ 1 cm	~ 2 cm	~ 4 cm
Single-Frequency	~ 2 cm	~ 4 cm	Too long

Do I need to do post-processing?; It is recommended (but not essential) to have Phase Differential Post-Processing software. If your Rover loses radio-communication with the base (due to an obstruction or to excessive distance) you could still produce corrected Rover positions by post processing. Set your base station to record raw GPS data during the entire RTK survey. If the rover loses the radio link, record raw data at the rover (as per manufacturer’s recommendations) and perform Phase Differential Post-Processing along with the



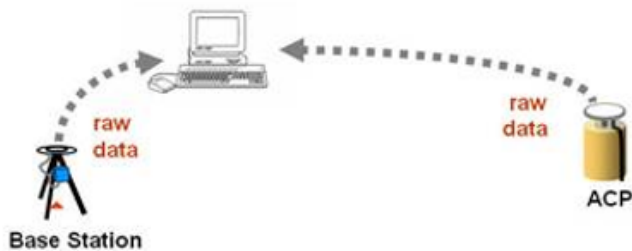
Phase Differential post-processing

base station raw data.

Phase Differential Post-Processing could be used alone instead of RTK to do a site survey (it’s the same GPS equipment minus the radio link) however the user would lose the advantages of RTK (feedback on equipment performance and final results in real-time).

How can I determine accurate Base Station coordinates?

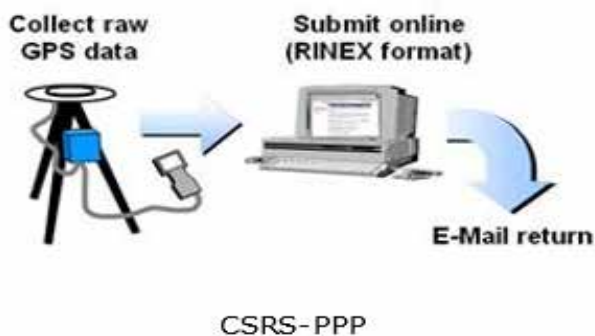
1. One method commonly used has been to tie the Base Station to an ACP (Active Control Point) using Phase Differential Post-Processing



Phase-Differential post-processing to an ACP

Because precision is dependent on distance, this method is recommended only if the ACP is nearby (within 30 km^{***}). Good Base Station coordinates could then be attained with a relatively short observation period. ^{***}Please note that 30km is a general guideline only. Distance/ Observation Time/ Precision will depend on the equipment and the software used. See software manufacturers' recommendations. We know some scientific software is capable of providing a precision of a few cm's over a 100-200 hundred kms if used properly.

Base Station coordinates will be in the same datum as the ACP so the user must ensure the ACP coordinates and datum are correct.



2. A fast-growing number of GPS users are using single point positioning services such as NRCan's CSRS-PPP.

CSRS-PPP; CSRS-PPP is an easy-to-use, free online service that can provide accuracies that rival Phase Differential Post-Processing. CSRS-PPP ties you to the precise GPS satellite orbits and produces corrected coordinates of a constant "absolute" accuracy no matter where you are on the globe, regardless of proximity to a CACS station. Here are typical horizontal accuracies (RMS) you can expect with Static CSRS-PPP:

Static CSRS-PPP Horizontal accuracy table

	2-3 hrs. of observation	12-24 hrs. of observation
Static CSRS-PPP (Dual frequency receiver)	<5 cm	<1 cm
Static CSRS-PPP (Single frequency receiver)	<50 cm	N/A

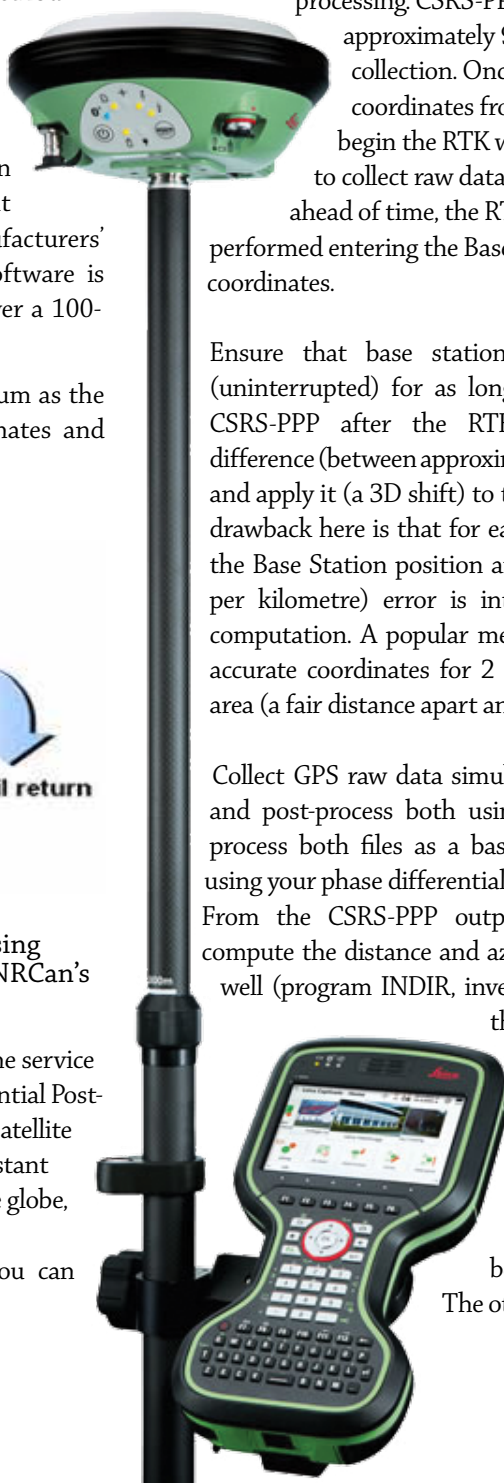
When should I use CSRS-PPP; Before or after the RTK survey? It is preferable to compute your base station's coordinates before starting the RTK work. You could setup the base station ahead of time and collect raw data (for anywhere from 2hrs to 24hrs depending on accuracy required). Leave the base station in place. Transform the raw data to RINEX and submit it for Static CSRS-PPP

processing. CSRS-PPP can process the data approximately 90 minutes after data collection. Once you have your accurate coordinates from CSRS-PPP you can begin the RTK work. If it is not possible to collect raw data and run CSRS-PPP ahead of time, the RTK survey can still be performed entering the Base Station's approximate coordinates.

Ensure that base station raw data is recorded (uninterrupted) for as long as possible. Run Static CSRS-PPP after the RTK survey, compute the difference (between approximate and PPP coordinates) and apply it (a 3D shift) to the entire survey. A minor drawback here is that for each ten meters of error in the Base Station position an additional 1ppm (1mm per kilometre) error is introduced in the baseline computation. A popular methodology is to establish accurate coordinates for 2 points within the survey area (a fair distance apart and inter-visible).

Collect GPS raw data simultaneously at both points and post-process both using static CSRS-PPP. Also process both files as a baseline (distance, azimuth) using your phase differential post-processing software. From the CSRS-PPP output coordinates you can compute the distance and azimuth between points as well (program INDIR, inverse solution). Comparing

these results can serve as quality control plus you now have 2 geodetic control points to choose from. Make one of them the main Base Station location; the survey will be anchored to this point. The other point can be tied with



the Rover during the RTK survey (as an additional check) and used as a back sight for traditional surveying. What essentials do I need to know about CSRS-PPP? Raw GPS data is usually logged in a format (ascii or binary) that is proprietary to the GPS manufacturer.

All manufacturers should provide software to transform their raw data to the RINEX format (Receiver-Independent Exchange, the recognized standard for raw GPS data). You must ensure the RINEX file header contains the correct antenna height, instrument serial#, antenna serial# and antenna type. These can be entered either during the reformatting process or manually using a text editor (RINEX is an ascii file). The most common errors relate to antenna height (error measuring antenna height or not properly identifying the antenna type in the RINEX header). CSRS-PPP processing can be done in two modes: Static or Kinematic. Static produces one corrected averaged single point, Kinematic produces a corrected track. Output coordinates can be in

either NAD83(CSRS) or ITRF/WGS84 minimum duration of observation: Under ideal conditions it takes an initial period (typically 60 to 90 minutes without loss-of-lock) to get initial convergence. Static accuracies of approx. 5cm (dual-frequency receiver) and 20-50cm (single-frequency receiver) can be attained.

Under less than ideal conditions, one should increase this period. Longer observations: With dual-frequency receivers (only) accuracy will continue to converge/improve if you observe for a longer period (make sure not to lose lock). Dual frequency receivers can attain approx. 1cm accuracy with 12 - 24 hours of data in static mode. You don't need a huge amount of data; keep your files small by logging at 5, 10 even 30-sec intervals. GPS receivers are not all created equal so it's impossible to generalize. Test your equipment at a known location, compare your results with the published coordinates and look at the graphs for speed of convergence in all 3 orientations (lat, long height).



A SHARED ECONOMY UGANDA'S PERSPECTIVE



Emmanuel Akandwanaho (Student member ISU, Makerere University, VS)

To fully understand the concept of a shared economy, you need to view it through the lens of optimal use of the available resources (Sharing space).

Your first space is hopefully your home. If you are a service industry

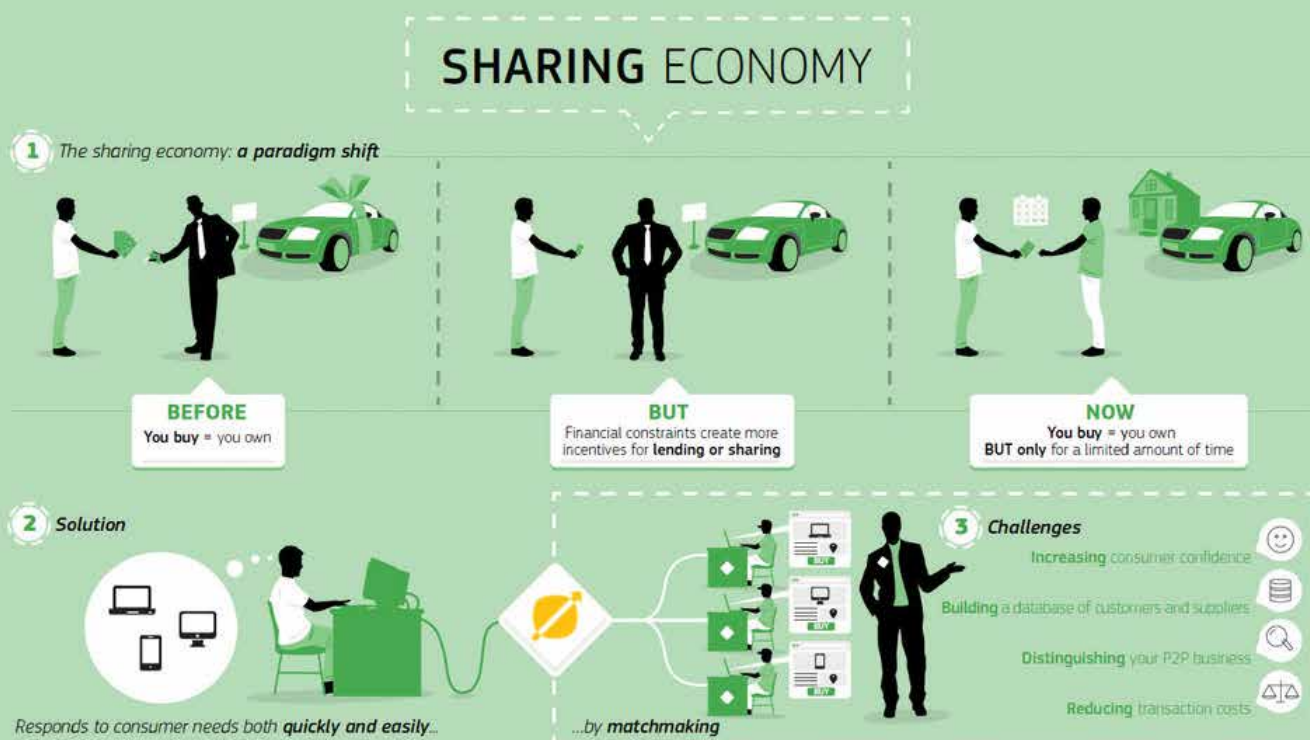
worker, your second space is likely to be your company's office. You are now increasingly likely to do work in a third place, or a whole range of third places. This could be a coffee bar, a hotel, a park or a train – a shared, social space.

The sharing economy is, an economic model defined as a peer-to-peer (P2P) based activity of acquiring, providing or sharing access to goods and services that are often facilitated by a community-based online platform.

The 'Sharing Economy' - sometimes also referred to as 'Collaborative Consumption', or 'the Access Economy' - represents an economic revolution built around an economic philosophy that space and capital goods are better shared. The concept of the sharing economy started to emerge in the early 2000s and has been applied in most developed countries. For example; USA and China which are characterized

by high consumption rates. This signifies a rigorous competition for the available resources and the need to devise new methods on how to ensure equitable distribution amongst the general public. This has been addressed through the provision of systems that embrace innovations. The best-known examples are Uber and Lyft, Airbnb, WeWork and Zipcar.

For developing countries like Uganda whereby most people have not yet advanced to the use of digital tools, leaves this whole analogy of sharing economy a virgin territory that can be exploited. Africa is no longer a "dark continent" ever since Mo Ibrahim dared to set up a telecommunications company at a time when most people in Uganda didn't have either access to mobile phones or money to pay for the call bundles. If you were



born before the 1990s, you probably understand the joy brought when Celtel came into the market. More opportunities can be created in this shared economy especially real estate in areas of hospitality, office space and retail space.

The Real estate industry is regarded as one of the most rigid sectors that hasn't changed much in the fourth Industrial revolution of IoT, unlike the finance industry which has been massively disrupted by the FinTech innovations. Despite the introduction of blockchain, database systems and online booking platforms, the system doesn't seem to have made any difference as people still prefer to rely on the services of real estate agents (Brokers).

However, with the emergence of PropTech, there have been gradual changes that have revolutionized the hospitality business, housing rentals and led to the birth of new trends such as; co-working and co-living.

a) Short term renting and Co-living.

A clear form of expression of the shared economy in hospitality space is, of course, Airbnb, which was launched in the autumn of 2008 at the peak of the global financial crisis. Its founders, Brian Chesky and Joe Gebbia, who had both recently graduated from the Rhode Island School of Design, were unable to find a job. When an industrial design conference came to town, they realised a commercial opportunity to make extra money by taking in a few boarders who were coming to the conference but did not want to pay for an expensive hotel. So, they built a website, bought some air mattresses, and played host to three people for the weekend.

Now we can understand why a number of people are renting with their own home space on Airbnb, even without the common middleman (broker), to earn an extra dollar from the unused homerooms. With this trend, short term renting has been made easy. For example, I can travel to Jinja for week's workshop and instead of sleeping at the hotel, I can opt to sleep at Wasswa's place

(a stranger) at a discounted fee. And I can still have a wonderful experience. and Wasswa is able to earn an extra income. Another example; Kato stays in China but he has a home in Mbarara and Wakiso which are fully used. He can decide to rent out some rooms in his houses which are not in use to earn an extra income from foreigners who may jet into the country to either tour around or for diplomatic reasons.

The best reward from this sharing economy is the ability to link demand to supply. You know quite well that it takes time for property broker/owner to find a potential and willing tenant and the same can be said for when you are looking for the right house to rent due to insufficient information between both parties.

Another outcome is co-living. Co-living is a new kind of modern housing where residents with shared interests, intentions, and values share a living space where they're almost like a big family. Co-living is built on the concept of openness and collaboration, with the residents often sharing similar philosophical values. And a combination of factors has led to an interest in this type of living space, including a lack of housing opportunities, the cost of independent accommodation and raising finance to purchase, plus a growing interest in lifestyles not dependent upon long-term contracts.

I recall vividly, two years back, Anthony a Friend of mine referred me to a colleague who wanted a partner to stay in an apartment which contained two bedrooms, a kitchen and a bathroom. The agenda behind this is rent sharing. And most of this applies to young people especially University students who are not yet financially stable to afford a whole unit. But this method can still be cost saving. I know of an old man in Kikoni, Makerere who has turned his own home into a home for students that can't afford to leave the place even after graduation. His main bungalow, flat and other semi-attached houses are always occupied year in and

year out and even the garage was turned into a room. This old man is earning his residual income and this shows some of the benefits of a sharing economy in Uganda.

b) Shared workplace and co-working.

The third place (or third space) is the social space separate from the two usual social environments of home ('first place') and the workplace ('second place'). Examples of third places are environments such as cafes, clubs, public libraries, or parks.

Optimising workspace is a second example of the shared economy being applied to real property. Co-working is built on the opportunity to create third places which support collaboration by workers from different backgrounds to encourage knowledge-sharing, innovation and user experience. For example: at Aderok Real Estates, office space is shared with another quantity surveyor. This doesn't only apply to office space but retail space. In Kisenyi, a city suburb, most retail traders especially those selling agricultural products prefer to share space to overcome the high rental charges.

Today, most people have turned their homes into workplaces to levy the daunting monthly rent off their balance sheets. Talk of organizations and hubs like Kafeero Foundation Village which provide workspaces to young developers and start-ups. As of now, a new facility is being constructed at Nakawa Business school, fully funded by the Ministry of ICT to provide free workspaces for various startups.

Could this be the reason to why most office spaces in malls and urban places are still vacant? The truth is that the rent paid for a space near or around the CBD is extraneous compared to the turnover of the business unless it is an established and renowned organization or government firm. For SMEs, co-working would be the best option at the moment to overcome the overwhelming operational costs to keep in business.

The writer is a student of land economics at Makerere University.



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