









LAND SURVEY

PROFILE 2 0 1 7

- INSTITUTION OF -

INSTITUTION OF -SUVEYORS OF -UGANDA (ISU)





















LS CHAPTER NEWSLETTER, ISSUE 2. MARCH 2017

TABLE OF CONTENTS

Editor's Notes	
Chairperson's Notes	2
Vision - Mission - Objectives Of the LS Chapter	3
News Briefs	4
Upcoming Events	8
Early Registration A possibility and a reality	10
Interview; Profile of Dr. Byamugisha	16
Land surveying facts and history of surveying in Uganda	18
Interesting facts about Land Surveying	18
History Of Surveying In Uganda (Part Two)	20
International Geomatics Registration By RICS	29



Welcome to our second newsletter of the ISU Land Surveying Chapter. Our first issue was very well received by members and a wide range of stake holders who advised on a number of improvements to be made. Once again, we are bringing you up to date with the latest developments within the surveying discipline the most significant being the profile of the Surveyors who have managed to become registered surveyors of Uganda at such young ages! We give you the details of their lifestyles and how they have managed to reach such great heights in the profession.

Additionally, look out for the phenomenon carrier paths taken by

Dr. Frank Byamugisha which are not limited to Land Surveying, but also include economics and agriculture. For each one of us, the sky is indeed the limit!

Furthermore do not miss out on the interesting facts as regards to Land surveying that surprisingly you did not know about. The issue also includes a continuation of the History of surveying in Uganda.

In conclusion, let me take this opportunity to thank each one of you for your continued support and of course the amazing editorial team for the unrented efforts towards the development and compilation of this issue. May the almighty God richly bless you.

Editorial Team

- 1. Constance Banura
- 2. Saakwa Isaac
- 3. Kitutu Joel
- 4. Akatukunda loan
- 5. Joel Mawerere

Chairperson's Notes



Dr. Ssengendo Ronald

Welcome to the 2nd Issue of the ISU Land Surveying Chapter e-newsletter. Once again kudos to the editorial team for an amazing job done. As we begin 2017 there is a lot that the ISU Council has in store for this year hence in this Issue the calendar for the Continuous Development Programs is presented. Please take note of the dates and themes of the CPDs and ensure that you attend at least two CPDs in order to obtain the minimum number of CPD points as per the ISU CPD Policy.

In particular plan to attend the 2017 Annual General Meeting, which this year will be proceeded by a one-day conference whose theme is "The role of surveyors in sustainable development of the country". The Conference and AGM 2017 will take place on 28th – 29th April, 2017 at the beautiful Imperial Golf View Hotel, Entebbe. Let us all plan to be there.

A number of activities/milestones have been achieved by the LS chapter since our 1st e-newsletter. Most important are:

- The MRA negotiations were completed in November, 2016. The final MRA for Land Surveyors in the East African Community is only awaiting approval by the EAC secretariat.
- 13 land surveyors were registered by the Surveyors Registration Board in November, 2016
- 7 land surveyors were promoted to Professional Associate Membership of ISU by the ISU Council
- 17 senior land surveyors were elected as Fellows of ISU by the ISU Council
- For the 1st time ever a Ugandan land surveyor (RSU Wafula Robert) was chartered by the Royal Institute of Chartered Surveyors (RICS)

These milestones have continued to generate interest in the profession and we are convinced that we are on the right track to redeeming the image of the surveyors.

As we begin 2017, we promise to continue our efforts by organizing more CPDs, sensitizing the public on the role of surveyors in nation building, exploring ways of building a strong financial base for ISU and encouraging all surveyors to become members of the Institution.

Enjoy this issue and please continue to share with us your thoughts on how we can improve this publication.

Vision

To Become the Centre of advancement in Land and Built Environment Management and act as a prime mover for sustainable development in the region

Mission

To secure the acquisition & facilitate the advancement of professional knowledgeso as to become a respectable professional Organisation championing growth & ensuring adherance to ethics enforcement of sector regulation, promoting research & innovation as we contribute to sustainable development

Objectives

Research:

To provide information on issues that develop and improve the surveying profession.

Adaptability:

To keep an eye on the changing world and how land surveyors can adopt.

Ethics:

To educate and remind surveyors to adhere to professionalism as a key in building land surveying.

Compiled by By Saakwa Isaac & Joan Akatukunda,



1. ISU Land Surveying Chapter CPD workshop was successfully held on 14th and 15th October 2016 at Silver Springs hotel, Bugologi under the auspices of the Surveys and Mapping Department, and the Ministry of Lands, housing and Urban Development. The theme for the workshop was Fit-For-Purpose Land Administration.

Issues discussed included among others:

- I. Opportunities & Challenges for the Survey Profession in Supporting Uganda's Prosperity Drive. Land surveyors were encouraged to orient themselves in a manner that will make them fit into and harness from the prosperity drive.
- II. Systematic Land Adjudication and Certification (SLAAC) Program in Uganda Participants were informed about the SLAAC
 - Definition A Program Coordinated by MoLHUD, One of the sub-components of CDEP (Competitive Enterprise Development Project), an alternative approach to Sporadic Adjudication/Certification, not the first time this is implemented in Uganda, implemented as early as 1950s
 - Project Goal To secure tenure rights of land owners and users though systematic adjudication, demarcation, mapping of the land parcels, recording and issuance of certificates of titles
 - Target Issue at least 800,000 land titles for rural land and at least 100,000 titles for peri-urban and high-value rural land
 - Project Components
 - Component 1 Mobilisation, Preparation and Sensitisation-involves preparatory activities, such as mobilization, sensitisation, survey of parish boundaries, extension of survey controls (where necessary), reviewing the physical development plans, training of adjudication teams and preparation of tablets or survey equipment.
 - Component 2 Peri-Urban Systematic Adjudication, Demarcation and Recordationinvolves all activities necessary for the adjudication, survey, demarcation and recordation of land rights for Peri-Urban Areas or High Value Rural areas.
 - Component 3 Rural Systematic Adjudication, Demarcation and Recordation-involves all activities necessary for the adjudication, survey, demarcation and recordation of land rights for Rural Areas.
 - Pilot Field Equipment Non traverse based, Operational in hot and wet weather, Light and frugal on power consumption, Very user friendly (Peri Urban -Quasi RTK, Rural-Tablet/Data Logger)
 - Progress Ntungamo, Masaka, Soroti, Iganga, Mbale, Kakumiro, Jinja, Sheema (3550 Title Certificates issued as of 15/10/2016)
 - Program to roll out to the rest of the country after the pilot phase

III. Fit – For – Purpose

- Paradigm change from what land surveyors can do, to what is actually needed by customers/ clients
- Land surveyors need to provide products that are fit for the specified purpose, within the required time, at an affordable cost, without compromising quality standards and surveying norms. Therefore, there's need to revise how land surveyors do their work.
- Fit-For-Purpose-Land Surveying is an essential component in implementing an efficient and effective Land Administration to foster Uganda's development.

2. Advanced GNSS short Course

The Institution of Surveyors of Uganda in conjunction with SURVNET (U) LTD and SINOGNSS COMNAV TECHNOLOGY LTD organized a four-day training from 19th-22nd November 2016 at Silver Springs Hotel, Bugolobi on the Principles, Technology, Applications and GNSS Concepts for Land Surveyors and Technical Professionals.

GNSS stands for Global Navigation Satellite System, and is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. This term includes the GPS, GLONASS, Galileo, Beidou and other regional systems

Precise Point Positioning (PPP) is one of the applications of GNSS where a single GNSS receiver is used in the determination of positions precisely. A single GNSS receiver means there's no need for local base stations and for simultaneous observations on both rover and base receivers. It promotes ease of use for the user and minimises the effect of a noisy station on to the network. Also, PPP uses precise GNSS orbit and clock data products to substantially reduce the errors in GNSS satellite orbits and clocks.

The challenges though with this method include long initialization time, more than 20 minutes for the float position to converge to cm-accuracy, limited use in real-time applications and the ambiguity terms of the undifferenced carrier phase observations which are no longer integer; PPP is based on the ionosphere free observable.

PPP can be used in GIS mapping, Geo-hazard monitoring, General positioning in engineering and navigation, Control densification especially in remote areas and Geophysical and geodetic monitoring.

A rapid and automated use of CORS networks are implemented in many post-processing services, a user does not need to worry about the processing tasks involved. A user sends their data, usually in RINEX format, to the service provider, a solution is computed and the estimated coordinates are sent to the user via email and both relative positioning and PPP are supported by the different tools.

The following were the web based positioning tools that the participants were exposed to: Online Positioning User Service- OPUS, Scripps Coordinate Update Tool- SCOUT, AUSLIG's Online GPS Processing Service- AUSPOS, Canadian Spatial Reference System Online Global GPS Processing Service- CSRS-PPP.

3. The following are the land surveyor who got registered in 2016;

ISU council requested LS Chapter to provide amendments to the survey regulations to be forwarded to MLHUD come up with a committee that would come up with new regulation to share with government.

The following are the members.

- I. RSU Wafula Robert. (Chairperson)
- II. Mr. Ogwang. (Secretary)
- III. RSU Nambooze Florence Bbale. (Member)
- IV. Mr. KabiswaEdirisa (Member)
- V. RSU Adweo Mary (Member)

4. The following land surveyors were promoted to Professional Associate Membership of ISU

- I. Mr.BagumaJoabMicheal, AISU
- II. Mr.EkurutoiOrena Herbert, AISU
- III. Mr.Lubega Brian, PAISU

- IV. Mr. Mawangwe Jonathan, AISU
- V. Ms.Namubiru Juliet, AISU
- VI. Mr.Okwana Daniel, AISU
- VII. Mr. Wanyama Peter, AISU

5. The following senior land surveyors were elected as Fellows of the Institution of Surveyors of Uganda

- I. RSU Wana George, FISU
- II. RSU NansubugaSumini, FISU
- III. RSU Kizito Bashir Juma, FISU
- IV. RSU Nanozi Fiona, FISU
- V. RSU Asiimwe Christine, FISU
- VI. RSU BaigaAlaisa Mohammed, FISU
- VII. RSU Kamegero Erialsabirye, FISU
- VIII. RSU Serwambala Ivan, FISU
- IX. RSU Mugisha Frank, FISU
- X. RSU Samuel Nathan Ssebunya, FISU
- XI. RSU Paul Idude, FISU
- XII. RSU Zzimbe Elvis, FISU
- XIII. RSU Onen Paul, FISU
- XIV. RSU Nviiri David, FISU
- XV. RSU Kataabu Simon, FISU
- XVI. RSU MitandaHumphery, FISU
- XVII. RSU Wafula Robert, MRICS, FISU

6. The CPD on Pathway to Professional Associate Membership of ISU was a success. Surveyors who attend were able to acquire knowledge in the following.

- Preparation of the critical analysis.
- Key concepts; Regulation and chartered status and benefits,
- Global Professional and ethical standards,
- RICS Processes and steps.
- RICS Pathways and routes.
- Competencies and mentorships.

REGISTERED LAND SURVEYORS 2016

103	275	Musinguzi Denis	BSc. (Surv); MISU	Rafa Geomatic Solutions Ltd P.O. Box 201, Hoima	0704229393/07823193 94 denisakiiki@ yahoo.com
104	276	Bukenya Swaibu	BSc.(Surv); MISU	Swissplan Uganda Ltd. P.O. Box 36124, K'la	0783929394/ 0703065715 bukenyasb101@gmail. com
105	277	Ssentamu Abdulhakim	BSc.(Surv); MBA;MISU	Uganda National Roads Authority P.O. Box 28487, K'la	0775722267/ 0704163161 ssentamuhakim@yahoo. com
106	280	Ngabirano Emmanuel	BSc.(Surv); MISU	Bimo (U) Ltd P.O. Box 36248, Kampala	0772409707 engabirano@yahoo.co.uk

	I				
107	281	Idude Paul	BSc.(Surv); LLB,PGD(UMI),PGD LP(LDC), MSC(Stockholm), MBA(ESAMI); MISU	Land & Property Facility (U) Ltd. P. O. Box 36408, K'la	0772445127 pidude2003@yahoo.com
108	285	Eriamu Sam	BSc. (Surv &LIS); MISU	SEF Geomatics (U) Ltd P.O. Box 147, K'la	0773350750/077582929 5 eriamusam@ gmail .com
109	287	Nagasha Christine	BSc. (Surv); MISU	Standard Gauge Railway-MoWT P.O. Box 27756 K'la	0755888076
110		Mubiru Elisha	BSc.(Surv & LIS); MISU	Erisam Associated Surveyors Ltd. P.O. Box 7373, K'la	0782461012/ 0700135389 erisam@gmail.com
111	290	Kibuule Joseph	BSc.(Surv); MISU	SIM Engineering consult P. O Box 12517, K'la	skibuule@gmail.com
112	291	Ariho Anthony Barigye	BSc. (Surv); MISU	ZWE Consulting Ltd P.O. Box 9363, K'la	0787 043336/ 0754310545 ariho. tony@zweconsulting.ug
113	292	Kaggwa Denis	BSc. (Surv & LIS) MISU	EPSC (U) Ltd P.O. Box 71318, K'la	0774162153/ 0701474461 denikaggwa@gmail.com
114	293	Kumbu Arthur Andrew	BSc. (Surv); MISU	GOPA International Energy Consultants (U) Ltd	0773188167/ 0704188167 arthurkumbu@gmail.com
115	294	Isabirye Mubaraka	BSc.(Surv & LIS); MISU	LandPoint Ltd P.O.Box 25264, Kla	0776291312 mubarakisabirye@yahoo. com

UPCOMING EVENTS

#	Theme	Topics	Venue	Fees	Comments	CPD Points
	AGM & Conference The role of a surveyor in sustainable development	Keynote address Achieving Vision 2040 – the role of land professionals Keynote address Running Surveying as a business – lessons from the legal profession	Imperial Golf View Hotel - Entebbe	Conference Package without accommodation = 150,000 Conference Package and accommodation for 1 night = 250,000	28th – 29th April, 2017	12 CPD Points
7	ADVANCED GNSS - SHORT COURSE (Maximum number of attendees is 30 only)	 i. Fundamentals of GNSS operation ii. Geodesy and Satellite Orbits iii. Satellites and Control Segment iv. GPS Receiver Basics v. GPS Antennas vi. GPS Applications vii. Error Sources and Models viii. Measurements and Positioning ix. Differential GPS Overview x. Differential Error Sources xi. Positioning Modes (Static, RTK, Kinematic etc) Precise Point Positioning 	Silver Springs hotel- Bugolobi	=/000'009	26th – 29th June, 2017	24 CPD Points
m	ADVANCED GNSS - SHORT COURSE (Maximum number of attendees is 30 only) Resettlement Action Plan for Infrastructure projects	 i. Key concepts; RAP and its components, ii. Role of the surveyor in RAP, iiii. Professional and ethical standards in RAP, iv. Processes and steps, v. Legal frameworks and social safe guards, vi. Participatory RAP. 	Silver Springs hotel- Bugolobi	150,000/=	18th August, 2017	6 CPD Points

4	Project management	:	Key concepts; Project, project and its	Silver	=/000'008	27th - 28th	12
	of large survey and		environment,	Springs		October, C	CPD
	construction projects	: <u>:</u>	Project cost management,	hotel-		2017	Points
		i≡	Project programming for time and scope	Bugolobi			
			management				
		. <u>≥</u>	Project procurement management,				
		>	Project risk management,				
		<u>.</u>	Project quality management				
		∠ij.	Project monitoring and Evaluation				
		×	Preparation of technical reports,				
		. <u>×</u>	Preparation of inception reports.				

EARLY REGISTRATION, A POSIBILITY AND A REALITY.

I recall during my low school, my teacher used to start off her English lessons with a new word. One early morning she place her books on the teachers table, held a piece of chalk and wrote "FALLACY" on the BB (Blackboard).

She told us 'Fallacy is a misconception resulting from incorrect analysis or reasoning' for example, the Sun rising and the Sun setting is a fallacy.

Some surveyors still have a misconception that early registration is not tangible so in this issue we have short interviews with the some of the earliest registered surveyors has of 2016. Hope the information they share will reveal the possibility and reality of early registration.



Gideon Musoke, DSS Kiboga District, Registered at 26.

Gideon proves the point that it takes the shortest period possible to be RSU. At only 26, he set the record as the youngest qualified surveyor to be registered.

In this profession, his most boring point in life is the office time. He would rather spend an entire lifetime picking field data, listening to views people of different cultures have when it comes to land. He is definitely a more outdoor surveyor than indoor.

Gideon's choice of equipments varies depending on the assignment just like most surveyors but in his own words, he says "I like the differential GPS positioning." GPS is his favorite equipment. He

finds it amazing for the fact that much can be achieved in the least time possible.

Being a Christian, he is thankful to God for making him serve the nation in the surveying profession. This is because he preferred engineering to surveying to the extent of trying to change course which didn't succeed.

As a very ambitious person, in a period of five years, Gideon intends to pave way for the younger surveyors by giving them a chance to serve their nation in the position he holds now and hopefully, also run his own consultancy.

Advice to young people.

Young surveyors should strive for excellence and professionalism in whatever they do. They should not get swallowed up by the monies that seem readily available in the profession but should aim at quality delivery of services.



Baguma Brian RSU at 28.

What do you enjoy most about surveying so far?

It's about its multi-disciplinary engagements. Land Surveying is embraced in quite a number of professions like Engineering (Electrical, Highway, Structural), Architecture, Physical planning, Social and Environmental, Valuation and Geology. Each task comes with unique challenges and approach.

What are your favourite tools to use?

What areas of the profession are you least enthusiastic about? Cadastral surveying

If you could go back in time what would you do differently to prepare for a career in surveying? I would emphasize on physical planning because surveyors especially those in cadastral surveying play a vital role to the planning profession. Surveyors prepare site plans for planners to approve yet we get little knowledge regarding physical planning and principles.

What advice do you have for young surveyors?

They should be patient and put forward sourcing knowledge and career development before scrambling for money.

What future do you envisage for surveying in Uganda in the next 5 to 10 years?

The future for surveying in Uganda is bright but for only those who easily welcome and absorb into change and technology

Where do you see yourself in the next 5 to 10 years?

I look forward to having a big network of associate surveyors working with Spot Surveyors & Engineering Consultants. I am looking forward to partnering with other Engineering professionals so that I can realize the full meaning of our company name.



ISABIRYE MUBARAK, Managing Partner, Land Point. RSU at 28.

Mubarak enjoys his job for only one reason, surveying cuts across many sectors of human surrounding and directly impacts on the positive economic advancement of any country. He confesses that Global Positioning Systems tools would be preferred by any surveyor (including him) operating within quality and time constraints ignoring high costs of purchase or hire. Secondly, Mubarak considers the "Legendary" Tape measure. He points out clearly with the highest degree of sincerity that a tape measure is the most user friendly, available and not-about-to-go obsolete tool. He adds that this tool cuts across all the three chapters of surveying.

Mubarak is also less enthusiastic about desk based fields of surveying such as GIS, Remote sensing and photogrammetry.

About the future of the profession, he predicts a reduced number of self proclaimed surveyors. This is because of rapid changing technology in the profession. He points out that technological advancement is too challenging for untrained persons to copy up with.

In the near future, Mubarak promises to triple his current status of recognition in the surveying field and clientele base.

Advice to young People.

"I vehemently encourage young surveyors to embrace and appreciate the changing technological advancement in the profession" says Mubarak. He further encourages them to directly participate in possible fields of professional research.



KIBUULE JOSEPH, SIM ENGINEERING CONSULT, RSU AT 28,

Joseph enjoys travelling which is an ingredient of surveying. Since he is a traveler, he feels the joy of interacting and meeting people of different backgrounds from whom he learns a lot. Due to technological advancement in surveying, he dreams of using a Drone (UAV) in the field. However, RTK Gps and Total stations are his most favorite tools. "I can't imagine myself using a theodilite again." Says Joseph.

Joseph somehow regrets not having enrolled for short courses in GIS. He instead took on Networking Courses.

Basing on history, He believes that if lawmakers and surveyors are not hidebound, the future of surveying is boundless. "In the future, bureaucratic processes will be eliminated thus time and costs for surveys will be reduced significantly." Joseph says. He sees the surveying fraternity expanding and being more solid under the full

control of the Institution.

In the next five years, the younger star plans to grow his company and lobby for bigger contracts such as power lines. "In this growth, the company will provide jobs for some of the young surveyors." Then someday, he sees himself surveying on the moon.

Advice to young people.

He advises young surveyors to register with ISU as soon as possible. He urges them to work hand in hand with their supervisors paying much attention to what they are told. "Fear God/Allah and strive for what you want in life.



TUGUME IVAN, RSU AT 29, Managing Director, Land map consults.

Challenges are part of every survey job, but Ivan gets the fun out of the unique challenges each survey job poses. The fun comes in when he combines both the state of art technology and the old school work just to uncover facts and retrace history. On the other side, surveying has lifted him to rub sholdes with high profile people in the country especially when seekin his professional opinion.

He loves the total station and gps too. He has used the total station from the times of university to date-that's a whole lot of experience with the TS. He uses the GPS mostly to solve his control problems.

He confesses that though most mailo surveys are tedious and

disturbing, when he takes his time and brains on them, he finally gets the relevant checks. This brings him jov.

He regrets having attended biology classes at A level. Surveying has rendered all the biology he went

through as'wastage of time'. He admits that he would create more friends in all spheres as they are potential clients today.

In the years to come, he believes surveying will be a very organized profession with high numbers coupled with the EAC integration.

His nearby future is centered on becoming a senior consultant in the profession. He plans to attain fellow status of the mighty Institution of Surveyors of Uganda, become a chartered surveyor and also a private specialist in monitoring and evaluation of big infrastructural projects and programs funded by the international donor agencies and governments.

Advice to young people.

"Consider youself lucky to be in the surveying profession. Do the right things. Continuously adhere to the principles of the profession as much as possible. Join ISU early. Be honest to your clients."



Muhimbura Alvin RSU AT 29,

Where do you work?

Am the district staff surveyor for Sheema District, Acting District staff surveyor-Mbarara District and I also do some consultancy works for some of the top surveying and engineering firms working in the East Africa region

What do you enjoy most about surveying so far?

I enjoy the exposure that comes with our profession, I have been able to move to most African countries all thanks to surveying

What are your favourite tools to use?

I still love my Leica total station but as technology dictates I have of late adopted to CHC-RTK, is very handy and make surveying especially cadastral very easy and pretty fast

If you could go back in time, what would you do differently to prepare for a career in surveying?? If I could go back in time, I would ensure I learn computer programming and improve on my GIS skills. Sometimes you get a challenge and a quick computer program comes in handy and since I didn't perfect this programming skills I have to do it the hard way. Then with GIS, surveying and mapping in general becomes ones of those enjoyable games

What advice do you have for young surveyors?

The advice I have for young surveyors is that they should stick to the professional standards. Professionalism pays handsomely over time. I also strongly encourage them to become active members of ISU and peruse registration with SRB. It is very possible

What future do you envisage for surveying in Uganda in the next 5 to 10 years?

With the mutual recognition agreement soon coming into play and amendment of the survey act, surveying will hit unrivaled heights like never before. Surveying will once again rank high among the most rewarding professions in Uganda

Where do you use yourself in the next 5 to 10 years?

I should have completed my PhD, should have attained the Fellow institute of surveyors' status and the rest will be God's will



SSS MLHUD (Lira Mzo), SLS at SEF GEOMATICS (U) LTD. Registered at 29.

Just as most Registered surveyors of Uganda, Sam has a vast expeience in the profession, from the times of Surveco up to now. To him, every fieldwork is a vacation i.e. going places is his thing. It is for this reason that he has accumulated immense knowledge about surveying.

Check his field car, a steel tape is one of the equipments that you will always find in his possession even if he doesn't intend to go for fieldwork. Besides the tape, he is addicted to the Sokkia Total Station.

At only 30, he is focused on chairing the land surveying chapter of the mighty Institution of Surveyors of Uganda, a position he will use to inspire many young surveyors. Advice to young people.

Study more physics, mathematics, geography and entrepreneurship. In other words, not to waste time with HISTORY.



Arthur Kumbu Andrew, Consultant Surveyor GOPA International Energy Consultants. RSU at 29.

This gentleman had less knowledge about surveying at the time he joined university. In his understanding, he knew surveying was just about demarcating land and producing land title for it. After a notable period in the profession, he can't tell which areas in the profession he is enthusiastic about because he is comfortable with all the major areas now.

Besides the adventure part of the profession, Arthur enjoys surveying for one more reason i.e. unpredictability. To him, however simple a survey task can be, it comes with its own challenges. This unpredictability brings him joy and satisfaction especially after pulling off a difficult assignment.

Arthur doesn't have a tool you can say it's his favorite. "My favorite tool depends on the type of assignment.", he points out. "For small assignments for, a tape and Total Station can do me good, for big engineering projects, an RTK GPS is faster and can help me save a lot of valuable time."

Advice to young people.

I encourage them to embrace the profession with both arms. If you love the profession, it will be reflected in the work you do and how you treat and relate with your clients. Definitely it will be quality work. And this is what sells you as a professional and thus creating a long lasting legacy as a surveyor.

Secondly, I encourage them to be impartial while executing their works. They should also exhibit a high level of integrity and humility while dealing with the public (clients). Remember, the client is the key for us because it is him who feeds (pays) us in the end. On a personal note, there is nothing more satisfying as a surveyor than a client appreciating your work. This is what "sells" you as a surveyor to the public.



ADWEO MARY, Rsu at 30.

Call mary old school, but her favorite tool is a total station. "I like the totality of the total station." She explains. She is also lists GIS among the list of her favorite tools. She advises all government agencies to embrace GIS.

She definitely loves the broadness of the profession. She has most experience in Engineering, Cadastral, GIS and management. The profession quenches her travelling thirst. It has secured her a network of contacts with some of Uganda's leading surveyors who have mentored her and developed her. Mary points out that Cadastre requires a lot of improvement

both in policy and regulation because of its crowded space both by professionals and unprofessional players.

She sees a bright future because of one; the great leadership at ISU especially the land survey chapter which is making deliberate efforts in that direction. Two; with worldwide advancement in technology, she sees us embracing technology in our surveys, only hoping we do not lose on quality data. In a few years to come, Mary will probably be a chartered surveyor. She also sees herself as a project manager and an authority in engineering surveying and GIS manager.

Advice to young people.

"Surround yourself with the right mentors and supervisors, have career and personal development plans which could range from getting that extra academic paper, getting registered, to starting that farm and whichever your passion is.



Florence Nambooze, Chief Surveyor (External Business), Buganda Land Board. Registered at 31.

In a male dominated profession, she stands out and further poses the greatest competition for anyone for any surveying job. The list of her computer skills is endless starting from Microsoft office, Arc and Surfer GIS, Eagle point Engineering software, AutoCad to SPSS 16.0 among others. The same goes to other key qualifications besides Msc in Geo Information Science and Technology and Bsc in surveying.

According to Florence, if she is given chance to go back in time to prepare for her career, she says she would invest more time in finding out what surveying is. What a surveyor does. She adds that she would

visit more land offices and authorities so as to get more and better insight on the process of mapping.

Florence's favorite tool is the GPS. She recognizes it as a standard in surveying techniques. She explains further that with it, we can get 3D information. There is no need for intervisibility hence reducing the need to cut traverse lines.

Being at the top of her career and profession at large, she believes that with bodies like ISU, the

general public and other professions will get to know more about surveying and the need for surveying. She also sees better, more accurate and less laborious methods of surveying being employed. In the next five years, she sees herself with more professional and educational advancement. She says she will be in a senior management position in the Institution of Surveyors of Uganda. Advice to young people.

Keep yourself uptodate. Just because you have got a diploma or even a degree doesn't mean yo have reached the helm. Invest in more reading and research. Newer and better methods are coming up each day. Join and engage in ISU and other professional bodies' activities.

Profile Of Dr Byamugisha Frank.



It's a pleasure to share with you Dr. Frank Byamugisha First, share with us your education background.

- Phd in economics, land titling and economic development, University of East London.
- Masters of Science in land surveying, school of surveying, University of East London.
- Master's degree in agricultural development economics, macroeconomic policy, Australian National University.
- Bachelor of Science in Agriculture, Makerere University Kampala.

Career path:

- Currently working as an Independent consultant.
- World Bank; operations adviser and lead land specialist to Africa.
- Assistant secretary Department of Treasury and Finance Papua New Guinea

The latest and hottest topic in Uganda's land surveying chapter is 'fit for purpose' land adjudication. You have helped implement it a number of countries, what is your take on this particular system and how is it beneficial to the land surveyors currently working in Uganda?

It is very important because it a methodology that enables the surveying and registration of many parcels of land in a very short time compared to the traditional survey methods. It is currently the best method for Uganda that currently has over 20 million unsurveyed land parcels.

Opportunities;

- It is beneficial to the land surveyors in Uganda as they will be a part of the contractors and will have to be bid for the project. However, they will have to partner with the foreign companies that have the experience and capacity to handle the project.
- Foreign companies will rely in local surveyors to do the fieldwork since they understand the local

situation better and understand the local languages.

- SLAAC is the registration of many parcels of land and with this registration, the parcels will produce second and third level transactions that will have to done by the private surveyors using traditional survey methods.
- If the first phrase of SLAAC is executed well, development partners like the World Bank will be prepared to undertake survey and registration of another 10 million parcels of land which will provide more opportunities for the private surveyors.

Challenges;

The private surveyors in Uganda need to organize themselves and get into a bargaining position with the foreign companies in order to submit winning bids. International companies will bring in the experience and equipment, however, the private surveyors can negotiate with the Ministry of Lands so that they can be able to tap into the World Bank money to get the capacity to run the project. The Ministry hasn't worked out the dynamics of this, but will hopefully do so in future.

How can the private surveyors prepare for SLAAC since currently most of our survey firms have one registered surveyor?

Local firms should develop their internal partnerships before partnering with foreign companies. There is no reason why we can't have a partnership of five firms. Partnerships are tricky, one needs to first access whether it will work out before joining one, but they can be made for the duration of the project and be dissolved after.

Such internal partnerships would increase the competiveness and if the partnership works out, it can help in bidding for more contracts both in and outside Uganda.

The partnerships do not necessarily have to be with Ugandan firms, they can be survey firms in Kenya, Tanzania, all around East Africa.

We've heard about the opportunities that SLAAC has to offer, however, as a country are we ready for this particular project?

Yes, Uganda is ready to embrace SLAAC.

However, public awareness has to be done so that the general public is made fully aware of what the project is all about to avoid confusion. They will need to made fully aware of the rights as pertaining the project.

What challenges do you foresee in Uganda?

- There's a danger of politicizing the project. MPs might try to claim the project as their own so as to gain more political support while others may discourage it by misinforming the public and dismissing it as a plot to steal land from the general public.
- Private may not be willing to accept the SLAAC payment rates.

With the implementation of SLAAC the assumption is that it will boost, how viable is this assumption and what impact does this project have on our economy?

Very viable.

SLAAC gives the land owners confidence that the land is theirs and gives them documentary evidence that can be presented in Courts of Law in case of any disputes or wrangles, without necessarily spending lots of money.

It also gives the land owners that the land belongs to them and will be theirs for a long time and this encourages them to set up more permanent structures or plant crops that are long lasting like trees, coffee etc.

With the documentation provided, land owners can use that to obtain credit from financial institutions since 80% of the loans given out are against collateral security.

The land surveying profession in Uganda is still a growing profession, what, in your opinion, are the areas that still need to be addressed?

- Surveyors still have a mentally of making quick and easy money without adhering to the standards sometimes.
- Corruption both in the public and private sector.
- There are not enough surveyors left behind in government.

What do you think have been your biggest achievements so far?

- Contributing to the systematic land administration in Thailand, which was the basis of the 1998 Land Act.
- Contributing to the systematic land administration in China, Ghana, Ethiopia among others.
- Revamping the private sector of the Ministry of Lands between 2004 and 2005.
- Helping revive the Institute of Surveying in Entebbe.

What advice do you have for the young professionals in this chapter?

- The sky is the limit. The opportunities are incredible, just go for it.
- The only hindrance might be the political environment but you have the liberty to change that.

GREAT OPPORTUNITIES AWAIT!

Land Surveying Facts & History Of Surveying In Uganda

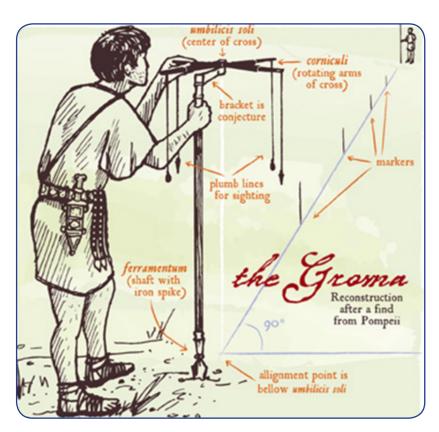
Interesting Facts About Land Surveying

Did you know.....

• Surveying is an old profession which originates from ancient Egypt to about 3,000 years ago.

Did you know.....

- In the past, every surveyor used a specific surveying tool that would differ him/her from other surveyors?
- Or that the first president of the United States, George Washington was a known surveyor and map-maker?
- If you want to find out more interesting facts about surveying continue reading.



Did you know.....

 In Greece and Rome, surveyors were people held with exceptional esteem, as they were responsible for the straight angles and perfect lines that shaped the remarkable buildings and coliseums that are still present today. They used a simple surveying tool called Groma.

Did you know.....

 Also, Greeks and Romans invented an early surveying tool called Groma, which was a long staff with a cross bar that served to measure right angles and straight lines. Groma is believed to originate from about 400 BC in Mesopotamia, which is today's Iraq.

Did you know.....

 The biggestbreakthroughinsurveying technology occurred in 1773 when Jesse Ramsden, an English mathematician and scientific instrument maker, invented a circular dividing engine. The first quality circular dividing engine allowed the manufacture of very accurate mathematical and scientific instruments and tools. Also, Jesse Ramsden published a Description of an Engine for Dividing Mathematical Instruments in 1777.

Did you know.....

• Captain James Cook is one of the most famous surveyors in the world, because he is one of the first who sailed into every ocean and surveyed all the areas he discovered. He used a set of surveying equipments – a brass telescopic, a theodolite and small station flags. Captain Cook is also one of the first English to step on every major continent in the world and the first to cross both the Antarctic and Arctic Circles.

Did you know.....

 The 40 thanniversary of Sydney Opera House was celebrated with a 3D model of its interior and exterior. It is one of the few famous building with a developed 3D model. The Scottish team of surveyors used quality digital surveying equipments and the result of the surveying provided the most comprehensive information of the Sydney Opera House, which serve for better maintenance and preservation.

Did you know.....

• The first president of United States, George Washington, began his remarkable career as a surveyor, map-maker and soldier. He began to work as a surveyor's assistant in 1748 at the age of 16, but after only a year, he became a surveyor for the newly created frontier country of Culpeper. There he gained a reputation as an honest, fair and dependable person.

Did you know.....

• In addition to George Washington, Abraham Lincoln, John Adams, and Thomas Jefferson were all Land Surveyors before taking office as the President of the United States?

Did you know.....

Land Surveying is spoken of in the Bible?

Here are just a few examples:

You shall not move your neighbor's landmark, which the men of old have set, in the inheritance that you will hold in the land that the LORD your God is giving you to possess. **Deuteronomy 19:14 (ESV)**

Cursed be anyone who moves his neighbor's landmark. And all the people shall say, Amen.

Deuteronomy 27:17 (ESV)

Do not move the ancientlandmark that your fathers have set.

Proverbs 22:28 (ESV)

And the one who spoke with me had a measuring rod of gold to measure the city and its gates and walls. The city lies foursquare, its length the same as its width. And he measured the city with his rod, 12,000 stadia. Its length and width and height are equal. He also measured its wall, 144 cubits by human measurement, which is also an angel's measurement.

Revelation 21:15-17 (ESV) Information Source

By; Jason Greenfeld information and Providence Land Group. Visit www.interestingreality.com/interesting-facts-surveying www.providencelandgroup.com/html/did_you_know.html

History Of Surveying In Uganda (Part Two)

By Joel

Introduction

Most welcome to part 2 of the history of the Surveying in Uganda before we cover in our final part of the history, below is a list of what was in our part 1.

- Pre-colonial times.
- Colonial times.
- Early training of surveyors.
- Post-colonial surveying.

History Of Surveying In Uganda (Part Two) Private survey practice

Since the colonial times, the survey of land by private companies has endured to date. On31 May, 1939, the Survey Act 1939, chapter 232 came into law with an objective to provide for and regulate the survey of lands in Uganda. The commissioner of lands and surveys was given powers to at any time authorise the carrying out of any trigonometrical or topographical survey or any other survey which, in the opinion of the commissioner, was necessary. For any general survey to be carried out in any area, notice of the survey specifying the local limits of the area affected was to be published in the Gazette before the undertaking of the survey. The commissioner and his or her subordinates (called government surveyors) were assigned the responsibility of controlling and carrying out any survey under the Act

The same Act provided for the establishment and membership of the Surveyors Licensing Board which was to consist of the commissioner as chairperson and not less than three other members. The duties of the board were; to make arrangements for the examination of persons seeking to be licensed as

surveyors in accordance with the Act; to issue, on the payment of the prescribed fees, a licence to any person to whom a licence may be granted in accordance with the Act; to keep a register of licensed surveyors; and to take disciplinary proceedings against licensed surveyors.

The Surveyors Registration Act 1974, Chapter 275 followed, coming into existence as law on 13 June, 1974. This newer Act provided for the establishment of a Surveyor Registration Board whose main function was to provide for the registration of surveyors and for other matters connected there with.

The board was given powers to regulate and control the profession of surveyors and the activities of registered surveyors within Uganda, and to advise the Government in relation to all surveying matters.

The same act provided for the establishment of a professional association of Surveyors in Uganda under Section 15, most recently known under the new name of the institution of Surveyors of Uganda (ISU), with a primary objective and purpose to promote, maintain and protect the standards of the surveying profession in Uganda. Currently, the Institution is comprised of members under three broad Surveying Disciplines: - Land Surveying, Quantity Surveying and Valuation Surveying.

Current survey education

In 1966, the University of Nairobi (UoN) started a fully-fledged land surveying course i.e. BSc. Engineering (Surveying and photogrammetry). The 1st African Ugandan to do the degree course was Prof. Sherura (RIP). Taught at the same university, he did his masters and PhD in Britain before returning to the same university as a lecturer. He didn't return to practice surveying in Uganda.

1968 saw the 3rd intake for the surveying course. This lot included three Ugandans namely, Balaam Mubbala, Dathankiwanuka and Wilson Mwalye (RIP). Wilson later became the 1st indigenous Ugandan photogrammetrist. Another Ugandan - Simeon Bukenya K. Kyaluzi later joined UoN and later attained MSc. then went into private practice.

Other students had been trained in Mathematics and Physics at MUK or STS, Entebbe then joined UoN for the BSc. Surveying. Popular among these were AgwayaEnyiku, Achuku Cyril and Banigwa. Some of them advanced their studies in the UK before returning to practice as surveyors in Uganda. This includes Bakashabaruhanga (RIP). Another notable figure from STS, Entebbe to the UK was William Bakibinga (RIP) who rose to the rank of commissioner of Lands and Surveys. His son - Prof David Bakibinga served as deputy vice chancellor finance and administration MUK.

Notable among the surveyors that studied in UoN is John Musungu who finished his degree in 1976 and is arguably one of the most accomplished and experienced land surveyors in Uganda having worked in Kenya, Britain, Middle East, the Americas and Uganda among other countries.

Surveying in Makerere University started in 1989 and the 1st Uganda female surveying student – Joyce Gunze Habaasa (Terrain Consult) was in the 3rd lot. Subsequent lots saw an increase in the number of females though this number remains low to this day both at university and in the work environment. Kyambogo University followed and most recently, Ndejje University.

Some outstanding females in the surveying profession include Asiimwe Christine (Kampala Capital City Authority) and BaigaAlaisa Mohammed (Dynamic Land Projects Ltd.) who were inspired by among others, the current vice president of ISU – Chris Tembo.

Technological trends

The changing trends in the surveying profession have seen a transition from Plane-tabling and the use of the surveyor's steel band and theodolite, to EDMs/total stations and lately satellite/GPS technology for field data collection. The Most recent technology employs drones/UAVs for aerial surveys. In the olden

days of surveying in Uganda, computers were people with log tables who later on used calculators, then digital computers which over time improved in processing power and offered visualization capabilities.

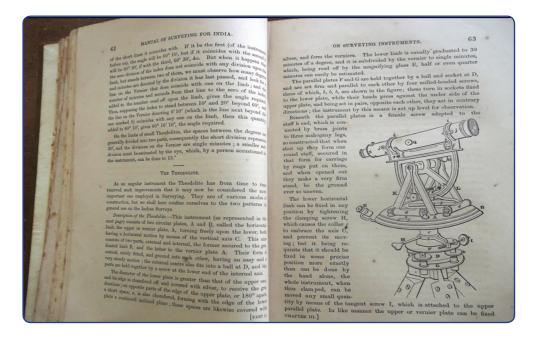


Figure 1: Description of the theodolite in the Manual of Surveying for India, 1875.

With tremendous computer innovations, surveying and mapping software for easy processing of survey work have been developed. Some of these technologies have enabled doing most of the work in the field e.g. robotic total stations, and mapping functionalities – CAD, terrain modelling, and GIS operations/analyses. Internet revolution has also eased data sharing/ exchange.



Figure 2: A computer-aided drawing of the plan for a housing estate.



Figure 3: A computer-aided drawing of the 3D rendering of a housing estate.

Impact of land surveying in Uganda

Since the commencement of land surveying in Uganda, many lands have been surveyed. Many urban areas are continually surveyed to this day. Systematic demarcation of land by government has greatly improved land transactions. Private surveyors have tried to fill the gap of lack of sufficient manpower to ably conduct surveys though the need for more surveying professional is steadily rising. By surveying land and processing titles, people have gained security of tenure over their land, with some able get loans from banks easily. Proper surveying of lands in Uganda has in a way helped to scale off some of the land related conflicts especially boundary disputes.

The future of land surveying

Some surveyors are apprehensive about the future of land surveying due to the current challenges faced especially by the private surveyors e.g. poorly established survey controls and bottlenecks of the current LIS used in checking surveyors' field output. This is the case with Joseph Serunjogi (Geo-Earth Consultant Surveyors). He believes that if nothing concrete is done to salvage the profession, they it will surely die. This same voice is echoed by Caleb Mwesigwa (Meridian Surveyors) and Dr. NasaniBatungi (Plansurveys& Mapping Consultants) who are both Fellows in ISU, reminisce the "good old day" of surveying.

However, the Acting Commissioner, Surveys and Mapping department, Entebbe - Wilson EbunyuOgaro is optimistic about the future of surveying. He is quick to point out a number of areas currently being worked on, and the plans the department has in regards to bettering the surveying profession. These include:

LIS, re-establishment of survey control marks, densification of survey network, base mapping, revising the survey regulations, fostering cooperation between ministry of lands, housing and urban development and private surveyors and creating synergies with especially academic institutions to support CPDs for both government and private surveyors.

Increasing use of World Wide Web for sharing of data/information, real-time/dynamic maps, integrated geographical information systems (servers), advanced computer rendering of surveying

and mapping visualisations – 3D cities, geographically-based search and navigation engines, cloud computing are but a few of what the future has in store for the land surveying profession.

Going back into time, and peering into the future it's inevitable to see surveying continually evolve to meet the needs of the ever demanding world. Whereas the surveying profession waits in earnest expectation for what technological innovations and inventions have to offer, the world is yet to see how surveying will solve the seemingly endless land issues in Uganda.

INFORMATION SOURCES

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1.	Balaam Kintu Samuko Mubbala	Geomaps Africa	FISU
2.	Caleb Mwesigwa	Meridian Surveyors	FISU
3.	Dr. NasaniBatungi	Plan surveys & Mapping Consultants	FISU
4.	Dr. YafesiOkia	Ministry of Lands, Housing & Urban Development	FISU
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Chartered Surveyor is the description (protected by law) of Professional Members and Fellows of the RICS entitled to use the designation (and a number of variations such as "Chartered Building Surveyor" or "Chartered Quantity Surveyor" or "Chartered Engineering Surveyor" depending on their field of expertise) in Commonwealth countries, Ireland and globally. Chartered originated from the Royal Charter granted to the world's first professional body of surveyors. Chartered Surveyors are entitled to use "MRICS" or FRICS after their names. Which stands for Member or Fellow, Royal Institution of Chartered Surveyors.

The word Chartered is synonymous with the word Registered that is commonly used in Africa, America and Australia. Chartered Surveyors, can work anywhere in the world, thanks to the RICS highest professional and ethical standards that commands public trust and confidence. Clients around the world are demanding greater certainty and seeking professionals who work to the highest professional, ethical and technical standards.

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Additionally, a lot of employment opportunities for surveyors (Land, Valuation and Quantity) are available in Middle East countries. These jobs pay between US\$ 3,000 – Over US\$20,000 per month. Believe me, this is way above what majority of surveyors with say 3 – 10 years' experience earn in Uganda/East Africa. This is therefore, a great opportunity can be harnessed by our young and mid-career surveyors with no phobia for staying overseas. What is imperative to note is that without RICS certification, it's very hard to get these jobs, because clients' know that RICS professional qualification demonstrates that you work to the highest standard of excellence and integrity. Given below are the other benefits of being chartered;

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Pathways and Routes.

A pathway can be simply defined as areas of expertise under which you want to be chartered while a route isthe minimum requirements to be met before one can be admitted. Pathways include but are not limited to the following; Building Surveying, Commercial Property, Environment and Facilities

Management.Others are; Geomatics (including Hydrographic), Valuation, Project Management and Quantity Surveying etc.

RICS routes to membership.

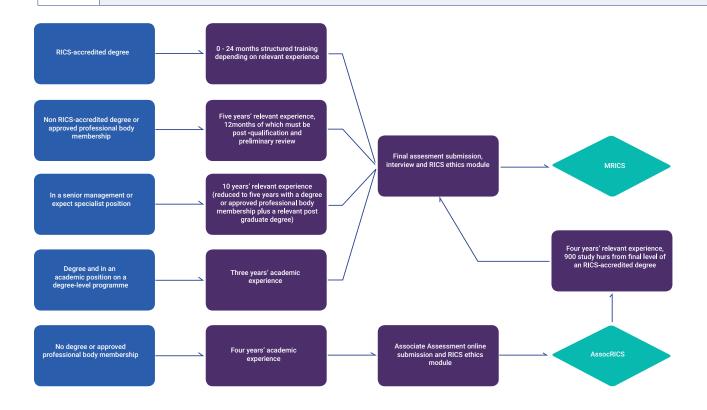
Routes | Route 1: RICS-accredited degree.

Route 2: Non RICS-accredited degree or approved professional body membership.

Route 3: Senior professional route.

Route 4: Degree and in an academic position on a degree-level programme.

Route 5: No degree or approved professional body membership.



Source: RICS

Route 5 can be applicable to Diploma holders with 4years' experience.

In our next issue we shall discuss the different competencies required under the Geomatics pathway.

Love you ALL

Robert WAFULA, MRICS, RSU

Chartered Surveyor; Royal Institution of Chartered Surveyors (RICS). Registered Surveyor of Uganda (RSU).

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