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The GRID

The Kenya Electricity Transmission Company Newsletter

5,000+MW PROJECTS KICK OFF

NARI CONSORTIUM GETS MENENGAI SOILO CONSTRUCTION CONTRACT

KENYA TO EXPORT POWER TO BURUNDI

KETRACO RUNS IN THE WILD

KETRACO'S TRANSMISSION NETWORK

Editor's Note

It gives me great pleasure to welcome you to our 3rd issue of the Grid. In this issue, we shall give you insight on our Suswa substation, which is scheduled to become our largest substation, as well as regional power which is covered in the stories about Ethiopia Power as well as the East African Power Pool among others.

We shall introduce you to Fernandes Barasa, our Chief of Finance and give you a first-hand encounter on the trials and tribulations of fieldwork from one of our engineers, George Maina.

We have also delved a little deeper on the impact kindness and CSR can have in people's lives. You can read about this in The Green Thumb as well as Your Moral Compass in the leisure section.

As always, we welcome your opinions, compliments, criticism, ideas or any other feedback you may have for us, which can be channelled to any member of our editorial team.

Happy reading!

Raphael Mworia
Editor

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Dear readers,

I am happy to welcome you to this our third issue, and for us, our first issue with our new Chairman of the Board Dr. Kenneth Sigilai who joined us earlier in the year.

It has been quite a busy year here at KETRACO and we are eager to tell you all about it: We are now digital, having automated our QMS and attained a Tier II Communication licence that gives us rights to lease out fibre optics that is a component of our transmission lines.

I am also happy to report that we have signed in our first contractor for one of the projects aimed at evacuating the 5000+MW, the Menengai-Soilo project, whose details are on page 8. In addition we have energised our Rabai, Malindi and Garsen substations, feeding much needed power to the coastal region. And as always, our small family has continued to give back to society through various volunteer initiatives nationwide that have left a mark in the lives we have touched.

I hope that as you read through the articles we have prepared you will have a little more insight into electricity transmission and our company.

Welcome,

Eng. Joel Kiilu
MD, KETRACO

KETRACO TO LEASE FIBRE

Z. Asmani

The Kenya Electricity Transmission Company, KETRACO, is now licensed as a 2nd tier Network Facilities Provider. The company can now start commercialization of its excess fibre optic cable by leasing out fibre as either lit or dark fibre.

On 8th September 2014, the license was issued by the Communication Authority of Kenya, following its application earlier in March. This cost the company Ksh. 15,000,000, attaining a licence that is valid for a year, and will need to be renewed in June 2015.

KETRACO comes in to reinforce the existing fibre optic network. Currently, the Government of Kenya has laid a terrestrial underground cable called National Optic Fibre Backbone Infrastructure (NOFBI) through the Ministry of Information, Communication and Technology, that is on its second phase, whose objective is to connect all county headquarters. Other Internet Service Providers (ISPs) like Liquid, Access Kenya and Safaricom have laid underground cables, while KETRACO and Kenya Power have overhead lines.

KETRACO's fibre optic technology is Optical Ground Wire (OPGW), which is strung along the power cables on high voltage transmission lines. This makes it much safer than what is currently in the market, the underground cabling, which is susceptible to frequent cuts either intentionally or unintentionally.

Other advantages include the fact that the fibre cable is already strung and the clients will simply lease it. This translates to great savings for the clients as they will not have to invest in additional infrastructure. They can focus their resources in their core business.

Furthermore, every link of the transmission line the company is building has fibre optic cables, usually 48 cores. This includes the interconnecting transmission lines with neighboring Uganda, Ethiopia and Tanzania, offering wide coverage. Currently, KETRACO has close to 800km of fibre optic. This is set to grow to over 5000km by 2017. KETRACO's main clients will be the Communication Authority of Kenya and licensed ISPs. When the company leases these lines they will naturally be connected to the undersea cables in Mombasa. These cables connect Kenya and the rest of the world. Currently there are a number of undersea cables terminating in Mombasa which includes TEAMS, Eassy, SEACOM and Lion2. These lines can in future be further connected even beyond to countries like Rwanda.

As yet, the company is still weighing its options: to lease either lit or dark fibre. The most profitable model is selling capacity / bandwidth as lit fibre. However, the choice is determined by several factors such as the level of investment in equipment, equipment type and the risks involved, as well as the level of revenue expected.

Dark fibre (unlit fibre) is unused optical fibre laid along a specific route/transmission line that are currently in place but not in use. It does not carry data.

Lit, on the other hand, refers to the use of light which enables the carriage of data communications. Electronics and equipment are used to light the fibre. It is fibre optic cable that has been connected to a port on a piece of telecommunications equipment, and has equipment to control light-waves.

Generally, fibre is used for communication in different ways such as internet, telephone, CCTV, in the military for communication and industrial networks like robot control. Kenya's potential of fibre optic is quite large, which could lead to meaningful revenue for the Company. The increased usage and penetration of internet in Kenya and the region requires fast connectivity and this is the only medium that can offer this as reliable and fast internet connectivity. Projects such as the laptop project and the devolved government services require reliable fibre connectivity.

However, in the short term the company may not make a lot of money because of the learning curve factored in initial connections. But in the medium and long term, when the company will have constructed over 5,000km of transmission lines, the fortune is expected to grow exponentially.

ISO SYSTEM AUTOMATED

Z. Asmani

In a bid to remain tech-savvy, and keep up with the rising demands of an ever evolving corporate environment, KETRACO's ICT department recently automated the Company's entire ISO Quality Management System (QMS). This was accomplished through a series of trainings this June on the Q-pulse and Mind Genius programmes that were conducted by Gael Ltd, the company that developed the softwares.

The Q-pulse programme will enable KETRACO to manage quality, safety and risk effectively. This programme puts in place a system to manage data that is in the form of documents and records.

As a result, there will be elimination of document duplications and time wastage spent retrieving ISO related documents stored in files and cabinets.

In addition to document control, the system will also facilitate better planned and executed audits, and their corresponding actions (Corrective Action / Preventative Action (CAPA)). Incident reporting and analysis such as customer feedback in the form of complaints and compliments, as well as the management of assets, employee development, and supplier performance, have also been integrated in the system to ensure that as many facets of QMS are catered to.

As for MindGenius, it is a compliance management software that enables users to chart out their thoughts and ideas in an attempt to ensure every aspect of planning is incorporated in the execution. Together, these two programmes form a professional platform from which the company can build up on the continuous improvement of its QMS.

However, only a limited number of staff members will have access to the system, and fewer still will have rights to manipulate the system in terms of uploading and updating information. Therefore, access rights have been issued to the company's ISO champions. These are representatives from every department who handle ISO related matters for their respective departments. They include the Management team, the company's first set of internal auditors as well as the newly trained second set of internal auditors.

With the two programmes in place, implementing the QMS, for both the auditors and auditees, will become an increasing easier process.

Ministry of Energy and Petroleum

PLAN FOR POWER

...as we bring down your costs.

As power costs come down with the additional 5000+MW being injected into the grid, please share with us your investment plans so that we can deliver affordable electricity to you on time.

Visit: www.ketraco.co.ke

KETRACO Rural KNEB Kenya Power ERC KenGen GDC

A joint agency effort to provide adequate, reliable & affordable power for national development.

L-R Shaking hands-PGC of India Personel Director Mr. R Singh exchanges a signed contract with KETRACO MD for training Graduate Engineers in India

28 GRADUATE ENGINEERS TRAIN IN INDIA

S. Naliaka

On 13th October, the Kenya Electricity Transmission Company Limited signed a contract with Power Grid Corporation of India Limited to train 28 Graduate Engineers in both Electric and Civil Engineering aspects for a period of ten (10) weeks in Delhi at a cost of USD 490,000.

This training is part of KETRACO's efforts to build its capacity by undertaking a thorough exposure of electricity transmission aspects to new Graduate Engineers as they join the Company.

At the end of the training, the Graduate Engineers will have been exposed to world class electricity transmission infrastructure that is currently not available in the East Africa region. Of note are the high voltage transmission lines of up to 1200kV that are currently available in India and China. This team will also be the first group dedicated to Operation and Maintenance for transmission lines of the capacity of 400kV and above in Kenya.

"At the end of 10 weeks, the trainees will be conversant with all aspects of electric power transmission. This includes System Control and Load Dispatch, Power Quality Management, and aspects of High Voltage Direct Current which KETRACO is pioneering in the region through the implementation of the 400kV Ethiopia-Kenya transmission line project among others," noted KETRACO's MD Eng. Joel Kiilu.

KETRACO signed a Memorandum of Understanding with Power Grid Corporation of India Limited on 12th April 2011 with an objective of mutual benefit to both countries in power transmission. This is the second lot to be sent for training in India.

Power Grid Corporation is the central transmission utility in India, responsible for the development of high capacity transmission systems across the country. The company has also trained Engineers in Power Transmission for capacity building from Sri Lanka and Malaysia among other countries.

ENERGY COMMITTEE VISITS COASTAL PROJECTS

7th of July 2014 saw KETRACO host its first ever site tour for Members of the Parliamentary Committee on Energy, Communication and Information in a bid to inform them of the progress the company is making and garner their support for future projects.

Eng. Anthony Wamukota (with megaphone) addresses the MP's at Malindi substation

The tour, which commenced with a company brief at the Whitesands Hotel in Mombasa presented by the company MD Eng. Joel Kiilu, lasted 2 days with the MPs learning first-hand about the transmission process. Those present learned not only about the 2 ongoing coastal region projects, (Rabai-Malindi-Garsen-Lamu and Mombasa-Nairobi) but also got a chance to learn about electricity generation from diesel, when they visited the Rabai Power plant in Rabai. The very involving tour included site visits to Rabai and Malindi substations which were already energised and serving the Coastal region.

At the end of tour, the committee's chairman Hon. Jamleck Kamau expressed his gratitude to the company for taking the time to arrange for the very informative sessions, and pledged the committee's support in helping KETRACO fulfil its mandate.

KETRACO PARTICIPATES IN THE FIRST LADY MARATHON

S. Naliaka

Did you know that over 5,500 women in Kenya die annually due to pregnancy and birth related complications? And in 2012 alone, over 100,000 children below the age of five died before their first birthday? Did you also know that in the same year, there were over 13,000 new HIV infections among children, of whom 62% did not access life-saving medication?

The health of mothers and children, particularly newborns, is closely linked. Research by World Vision International has shown that if a mother dies, her child is ten times more likely to die before the age of five than a child whose mother survives. Poor nutrition, preventable diseases such as malaria or HIV and AIDS and poor access to antenatal care contribute significantly to pregnancy related complications. Sad, isn't it?

It is with this in mind that Kenya's First Lady, Mrs. Margaret Kenyatta, committed to champion a campaign named ***"BEYOND ZERO"*** to eliminate new HIV infections among children and keep their mothers alive. This is a five year strategic framework to accelerate progress in HIV control and promotion of maternal, newborn and child health in Kenya.

It is with this goal that KETRACO supported the cause through participating in the First Lady Half Marathon that was held on 9th March 2014. The company entered a corporate team of ten staff members including the Managing Director and one Director of the Board. "For KETRACO participating in the marathon is not just running to finish the race but drawing attention to challenges faced by disadvantaged Kenyans to end preventable deaths," said the MD after completing his 10km Race.

KETRACO MD Eng. Joel Kiilu (R) and NARI Group Corporation's Rep of Africa Mr. Chen Chao during a contract signing ceremony on 2nd April 2014

1ST 5,000+ MW CONTRACT SIGNED

On April 3rd2014, 9:00 am, KETRACO contracted its first company for the construction of the 5,000+ MW power project.

A consortium of NARI Group Corporation (NARI) and China Construction Civil Engineering Ltd (CCCE) signed a contract in the 2nd floor boardroom to become the contractors of the government funded 13km 132kV Menengai-Soilo transmission line project.

Present for the contract signing was KETRACO's MD Eng. Joel Kiilu, Chief Manager, Planning and Construction Eng. (Dr.) John Mativo, Company Secretary Duncan Macharia, the project's lead engineer Eng. Samson Akuto, Head of Corporate Communications Raphael Mworia, Head of Supply Chain Department Peter Njehia and Graduate Engineer Titus Mwaura. Also present were Chen Chao NARI's Africa's representative, Chang Yu NARI's Commercial Manager, Song DeMing CCCE's Vice President and Cao Shou Zeng CCCE's Project Manager.

NARI, China's government owned company tasked with handling the state's grid (KETRACO's equivalent in China), has an international track record. "We have constructed grid projects amounting to 900GW in China and 50GW in Brazil, and are the biggest equipment and system provider in China." stated Mr. Chao.

Eng. Kiilu congratulated the consortium on winning the tender, and charged them with making an impression on this their first project with KETRACO. "It is a small project, only 13km long, and you are a strong team. Therefore we are expecting that you will finish earlier than the commercial operation date for this project," he added.

NARI thanked KETRACO for the opportunity and promised to spare no effort in meeting the targets set.

"We have constructed grid projects amounting to 900GW in China..."

KENYA LOSES MILLIONS FROM INFRASTRUCTURE VANDALISM

S. Naliaka

The dream of achieving cheaper and more reliable electricity for Kenya may be delayed because of underground electricity transmission cable vandalism at the Nairobi National Park. The cable is part of the 220kV section of the 482km 400kV Nairobi-Mombasa line (Athi River to Embakasi section) and is rated 334 MVA (1600Amps). The loss of 123m of bond, coaxial and single core cables as well as link boxes copper is equivalent to Ksh.10,086,000 and was destroyed on 7th August 2014 at about 7.00pm. The vandals' interest in the cable are the copper strands which are of little value compared to the cost of damages on the whole cable.

Piece of the vandalised underground cable.

The 482km 400/220kV Mombasa-Nairobi transmission line's civil works which are being undertaken by Voacom for Siemens Kenya is nearing completion and commissioning, but this has been slowed down by vandalism of the said section. Confirming the incident was the Voacom Supervisor, Mr. Joseph Wakhisi who went to check on previously vandalized cables at a terminal tower and reported the case at the Mombasa Road Police post. So far, the project has experienced four underground cable thefts and vandalism between December 2013 and August 2014, but the first three cases have since been rectified at a high cost.

"This is a major blow for the Energy Sector as it will greatly affect the evacuation of the last 70MW of the planned 280MW from Olkaria through the Olkaria-Suswa- Isinya transmission line project," noted Eng. Joel Kilu, KETRACO's MD. "It is a great loss to the country and in future, contracts may be expensive because the contractors will have to include the vandalism risk to their quote," he added.

The cable, the first 220kV, is custom made for KETRACO by LS Cables of Korea. The portion that was damaged has to be further cut and re-joined by use of special machines. The delay from these repair works is expected to run until September and the total loss to the country per day is about Ksh.25 Million.

To prevent further occurrences, Siemens Kenya, who are the main contractors, have come up with mitigation measures that include increasing the number of guards and having armed Administration Police officers patrolling the area day and night. "We have also agreed to backfill all open areas (snaking areas) in order to reduce the risk of further theft and/or damage," added the Siemens Kenya Manager Mr. Tony Bikoko.

"...This is a major blow for the Energy Sector as it will greatly affect the evacuation of last 70MW of the planned 280MW from Olkaria..."

The cable which runs a total of 6.8km out of the 100km 220kV ring was necessary because it falls within the Nairobi National Park as well as in the Jomo Kenyatta International Airport's flight path area. It was also necessary to preserve the National Park's aesthetics.

KETRACO HOSTS EAPIC

By Namara Sande

The East African Power Industry Convention (EAPIC) took place at Safari Park Hotel on the 3rd and the 4th of September this year. KETRACO along with Kenya Power, Kenya Electricity Generating Company Limited (KenGen) and the Ministry of Energy and Petroleum were the host utilities. Other sponsors for the convention were PWC, Siemens, Aurenco, Koncar, Sicame, TCL Power, Aecom, DNV-GL, Hexing and Omicron.

The convention is East Africa's longest running and leading power exhibition. The aim of EAPIC is to accelerate regional growth with sustainable power supply.

Major players in the energy sector came together at this forum and exchanged ideas at the technical workshops. In addition, players in the energy industry showcased their products and services.

The first day of the convention kicked off with the opening of the exhibition which had 47 stands. KETRACO was represented at one of the stands; enabling people at the exhibition to come and understand more about electricity transmission.

The technical workshops touched on energy efficiency, financing, grid integration of renewables in sub-Saharan Africa, benefits of re-injection in geothermal systems and power supply flexibility for Kenya.

The second day saw a continuation of exhibitions, as well metering and generation visitor tours at the exhibition floor. The technical workshops conducted touched on clean sustainable energy, maintenance of secure reliable energy supply and the commercial aspect of electricity transmission after the completion of interconnectors. The convention ended on a light note with a prize give-away and lunch.

Eng. Joel Kiilu, a featured panelist during the opening session of the convention, explained a few things about KETRACO and its involvement with the convention:

1) Let's start with some highlights in the history of KETRACO: What are you most proud of?
   I am most proud of being able to build a team (KETRACO) that works together and cares for each other. The team has grown from 3 to about 300 staff members with least turn over.
2) What do you regard as the most important projects for the company right now?
   All our 40 or so projects are important to us. However, in terms of economic importance, I prioritize them as follows:
   a) 400kV Mombasa-Nairobi Transmission Line
   b) 500kV Ethiopia-Kenya Transmission Line
   c) 400kV Loiyangalani- Suswa Transmission Line
   d) 400kV Olkaria- Lessos- Tororo Transmission Line
   e) 400kV Suswa- Isinya Transmission Line
3) How do you envisage to integrate Independent Power Producers (IPPs) into the grid?
   KETRACO will construct transmission lines to evacuate supply from the IPPs, for example the 300MW wind power from Lake Turkana, as well as via the Lamu-Kitui- Nairobi East and the Menengai- Soilo Transmission Line projects. In other cases where there is a delay in financing, KETRACO will allow IPPs to construct evacuation lines as part of the project but we take over operation of the projects that is Kinangop Power, Kipeto Power and Agil Power.
4) Delivering a reliable and increased power supply is part of the country's Vision 2030, what do you see as the main challenges to this goal?
   One of our greatest challenges is developing adequate, reliable and inexpensive supply. This is expected to be achieved in the short medium term to pump 5,000 MW to the existing power generated in the country. This challenge will be overcome by building enough infrastructure for the evacuation, transmission and distribution to the grid. Also, developing requisite demand to avail this energy to drive down the cost. Other challenges include inadequate financing within the time frame for evacuation infrastructure, the period of time set to establish 5000+MW projects and wayleave acquisition is also quite brief.
5) Will the grid be able to accommodate the increased power supply?
   The existing grid will not be able to accommodate increased power supply. In light of this, as a ministry we have carried out feasibility studies and have come up with the requirements in terms of increased transmission lines to evacuate power, transmission lines to strengthen the system, for reliability, as well as substations and distribution systems that will adequately accommodate the increased supply.
6) How important is regional cooperation in this process?
   Regional cooperation is necessary so as to facilitate the grid integration. This will enable the region to share/ tap the competitively generated energy. This will most likely drive down the cost of electricity in the region and the size of the grid will resort to a reliable system which will also be in a position to encourage connection with green energy i.e. wind and solar energy.
7) Why did you decide to partner with EAPIC?
   EAPIC is a very important player in the region in the power industry. This convention brings all players together so as to understand what is happening in the region and this becomes a major input in power planning by the regional states. EAPIC also plays a major role in providing a forum for the energy players to learn from each other.

KETRACO ATTENDS THE 20th EAPP MEETING

By Samson Kamau

The 20th Eastern Africa Power Pool (EAPP) Steering Committee (SC) extraordinary meeting took place in Addis Ababa, Ethiopia on 23rd and 24th April 2014 at Siyonat Hotel. This was followed by the 9th Council of Energy Ministers' (CEM) meeting on 25th April 2014 at the Hilton Hotel, Addis Ababa. In the SC meeting, Kenya was represented by a team from KETRACO led by our MD & CEO Eng. Joel Kiilu. The rest of the members were Mr. Joe Ager, Chief Manager, Corporate Services and Mr. Samson Kamau, Manager, Commercial Services.

In the CEM meeting, the Ministry of Energy and Petroleum was reprsented by H.E Mrs. Catherine Muigai Mwangi, the Kenyan Ambassador to Ethiopia and Djibouti and the Permanent Representative to the African Union (AU), the Intergovernmental Authority on Development (IGAD) and the United Nations Economic Commission for Africa (UNECA).

EAPP is a regional organization based in Addis Ababa. It was formed in 2005 by ten countries namely: Kenya, Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Rwanda, Sudan, Tanzania, Uganda and Libya. The main objective of EAPP is to promote power trade between the member countries. In 2006, EAPP was adopted as a specialised institution for energy system connectivity by the Common Market for Eastern and Southern Africa (COMESA).

The SC and CEM meetings had representatives from Kenya, Burundi, Democratic Republic of Congo, Egypt, Ethiopia, Rwanda, Sudan, Tanzania and Uganda. These countries are represented by their respective utility institutions in the SC meetings. In Kenya representation is drawn from KETRACO, KPLC and KENGEN.

The 20th SC meeting agenda was;

1. Selection of the new Secretary General
2. Finalise the approval of the proposed additional budget over the approved 2014/15 budget and submit recommendation to CEM
3. Review development partners proposal on support to EAPP
4. Update on EAPP Permanent Secretaries ongoing activities
5. Update on final HR – Governance document
6. Review and finalize draft agenda for CEM meeting

The CEM meeting confirmed the appointment of Mr. Lebbi Changullah of Tanzania as the new EAPP Secretary General and affirmed their political support to the work of the EAPP Permanent Secretariat. They also recognised the SC commitment in having vibrant regional organs and the work done by the Human Resource Technical subcommittee. The CEM chairmanship is normally on rotational basis. The Chairmanship passed from Tanzania to Burundi after a brief election.

From left to right Mr Samson Kamau , Eng Joel Kiilu, H.E Mrs Catherine Muigai Mwangi, Mr Joe Ager and Joseph Mokoit, an employee of the Kenyan Embassy during the steering committee meeting.

KETRACO RUNS IN THE WILD

S. Naliaka

As part of giving back to the society, KETRACO, through KenGen, participated in the 2014 Great Dams Race which was held on 14th June 2014 at Masinga Dam, the main reservoir in the Seven Forks cascade.

The main aim of the marathon was to provide an opportunity for all the participants to acknowledge the importance of the dam to livelihoods and contribute towards environmental awareness and conservation in the Seven Forks area. The marathon also aimed at raising funds for community projects including expansion of Schools' Green Initiative Challenge project from 82 schools to 200, establishment of a family woodlot programme targeting 500 homesteads in Masinga, set-up of 4 community tree nurseries in the area, implementation of community environment and energy saving awareness campaigns and initiation of a bee keeping project as an alternative to logging and charcoal burning.

To support this initiative, KETRACO entered a team of 10 who participated in the half marathon and the 10km corporate race.

The participants got a chance to run along the scenic backdrop of Masinga Dam and Mwea National Reserve and also experienced the rugged savannah terrain just to appreciate an environment outside the busy streets of Nairobi. After the marathon, the team toured the Seven Forks Dams where KETRACO's 224km, 132kV Kindaruma-Mwingi- Garissa line begins.

This being an annual event, the team is psyched up to participate in the 2015 edition.

...funds will be used for implementation of community environment and energy saving awareness campaigns.

HEADED TO THE TOP (FCPA BARASA'S JOURNEY)

By Z. Asmani

The Grid sat down with FCPA Fernandes Barasa and talked about his journey to leadership.

"I had very humble beginnings," begins FCPA Fernandes Barasa, KETRACO's Chief Manager, Finance and Accounts. A jack of many trades, FCPA Barasa is also a family man, a mentor, a sugarcane farmer, Vice Chairman of the Institute of Certified Public Accountants of Kenya (ICPAK), a member of Mumias Progressive Society and the choir patron for the Holy Spirit Catholic Church, Bulimbo Parish in Matungu sub-county, Kakamega County. He has a wealth of experience in Accounting, Risk and Financial Management, and holds a Bachelor of Commerce (Accounting) and MBA in Finance Degrees from Kenyatta University.

ICPAK Vice Chairman FCPA Barasa (L) and Chairman Benson Okundi share a light moment

Family Guy

"My dad was a civil servant in the Ministry of Agriculture, and mum a housewife," he continues. FCPA Barasa is the second born in a family of seven, three girls and four boys. He attended Naitiri Boys' High school in Bungoma, and thereafter did his Bachelor of Commerce, Accounting, and MBA in Finance at Kenyatta University.

"My parents taught me many values that I try to practice to this day. We were brought up as staunch Catholics. Humility was very important. We were taught to respect people of age."

Today Mr. Barasa is a husband and father of four boys. He lights up when he talks about his family. "My lovely wife Dr. Janet Nasambu Kassilly is a Senior Lecturer at Masinde Muliro University in Kakamega. My eldest son Keith, is in form 2 at Booker Academy. He is the quiet one. Thorne is 10, a remarkable boy. He wants to go to Harvard when he is older. He is currently in standard four at Mumias Central Primary School. Then there is Christian who is three and Shaun is two. We are a football family. Avid supporters of Arsenal and Chelsea."

Renaissance Man

It seems he was always destined to work in Finance. "I liked it from high school. I was the best in Business and Commerce studies, and I liked numbers. I was so comfortable dealing with them. In primary school I was very good at math and I interpret my issues in numbers."

Before he graduated with 2nd class honours in 1997, he was a student leader, a hostel representative, a member of the Young Christian Association and an alter boy (mass server) at the university's Catholic Church. He worked hard during his years in the university, pursuing his degree and CPA papers simultaneously. By the time he graduated, he was already a Certified Public Accountant. And, with the many positions he held at the university, he had made many meaningful connections that opened up doors for him even after his studies.

FCPA Barasa (R) during a recent ICPAK meeting in Mombasa

"My first employer was Kenya Airways. There I was an Assistant Accountant. Coopers and Lybrand had offered me a position as an Audit Trainee which I was to start immediately after graduating. But I wanted KQ, who had also offered me a position, because I preferred to work for a corporate entity."

"Thereafter I worked with East Africa Reinsurance, then later joined Kenya Tea Development Agency, KTDA, for eight years. There I was an Accounts Manager for four years, Head of Treasury for three years and later Head of Factories for a year. And now here I am in KETRACO," he narrates.

His love for Finance led him to join ICPAK immediately after university in 1998 and he has since diligently worked in the organisation, raising in the ranks. During an ICPAK meeting held on 18th June 2014, the ICPAK Council elected FCPA Fernandes Barasa as the new Vice Chairman.

Ms. Nancy Mumo (HR & A) hands FCPA Barasa a gift for new born Shaun in 2012

"ICPAK is about service. Members proposed me for the services I have offered and I got overwhelming support. Now I am aggressively headed for the chairmanship," he explains with a smile on his face. "I am keen to be ICPAK Chair in June 2015. This dream is like the Nile. Unstoppable! I cannot shy away when I am almost there."

FCPA Barasa began pushing for change in 2005 when he was a panellist of The Excellence in Financial Reporting (FiRe) Award evaluating entries. He was the Convenor of the ICPAK task-force of the Education Committee that came up with The Practical Experience Framework for Professional Accountants in compliance with International Education Standards (IES 5).

He was also the Convenor of the Training and Development Committee in 2011, and proud to have organised the first African Congress of Accountants that was held at K.I.C.C, Nairobi in November, 2011 that was graced by the then President H.E Mwai Kibaki and the then Deputy Prime Minister and Minister for Finance Hon. Uhuru Kenyatta.

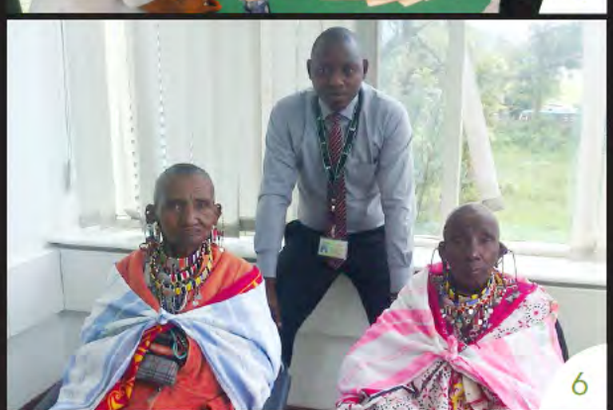
Besides being the Vice Chairman, FCPA Barasa is the Convenor of the Strategy Committee and a Co-Convenor of the Member Services Committees of ICPAK.

"Being in such a body instils credibility, integrity and professionalism in a person. It makes you walk the talk. My involvement with ICPAK gives me personal satisfaction. I get to achieve my career goals, serve society through my profession and as a bonus, KETRACO gets positively profiled wherever ICPAK is involved."

In addition to the positive profile, he has used his influence to get things accomplished on behalf of KETRACO.

continued on pg 17

1. Energy Sector meets the President at State House. L-R: Hon. Ochillo Ayacko (MD KNEB), Eng. Joel Kiilu (MD KETRACO), Dr. Fredrick Nyang (Ag. Director General ERC), Dr. Silas Simiyu (CEO GDC), Eng. Joseph Njoroge (PS MoEP), Dr. Ben Chumo (MD Kenya Power), H. E. President Uhuru Kenyatta, Charles Tanui (MD Kenya Pipeline), Davis Chirchir (CS MoEP), Albert Mugo (MD KenGen) and Ng'ang'a Munyu (Ag. CEO REA)
2. Mr. Davis Chirchir, CS MoEP, shakes hands with KETRACO's Chairman Dr. Kenneth Sigilai during the 2014-2015 Performance Contract signing. Witnessing are KETRACO's Director Ms. Esther Nkatha and MD Eng. Joel Kiilu.
3. September born staffs celebrate their birthday. L-R: Front row: David Matolo (Finance), David Thuo (Technical), Reginah Kemboi (Administration) and Samson Kamau (Corporate Services) Back row: Joel Ombati (Technical), Moses Makhoha (Administration) and Erick Audi (Internal Audit)
4. Social Economist Celestine Kaseve informs Sultan Hamud MCAs about the Mwingi–Kitui-Wote-Sultan Hamud project during a workshop held in Sultan Hamud.



1. (L-R) Company Secretary, Chief Manager Legal Services, Duncan Macharia, Chief Manager Human Resources and Administration, Agnes Ongadi and Chief Manager Finance, FCPA Fernandes Barasa with a guest during the cocktail event sponsored by KETRACO at the EAPIC seminar
2. (L-R) David Kariuki (ICT) hands over the Company's donation to a representative from the First Lady's Marathon campaign.
3. Chairman Dr. K. Sigilai (R) hands over a prize to a winning journalist, Peterson Thiong'o, during the Energy Journalism Excellence Award Gala at The Stanley Hotel On 17th April 2014
4. KETRACO staff (Raphael Mworia (R) and Rachel Nungari (L)) answer community inquiries concerning the Mombasa-Nairobi Line, during the KETRACO- KCDA tree planting launch held in Rabai earlier in the year
5. (L) Garissa Township MP Hon. Aden Duale, (2nd L) Eng. Joel Kiilu, (R) Garissa Governor Hon. Nathif Adam ride the first excavator at the Garissa substation site during the substation launch.
6. (Centre) Evans Nzangi (Legal Services) with Project Affected Persons who visited KETRACO offices to inquire about the wayleave acquisition process.
7. KETRACO staff and representatives from Inter-consumer Limited present their donation to the residents and administration of the Beloved Daughter's Safe House during a visit to the home in October.

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Hurdles Faced

A man who clearly enjoys what he does, FCPA Barasa says the job is not without some challenges. "Cash disbursement from the exchequer is sometimes delayed," he explains. "This makes it difficult for us to plan as a department, and this distracts us from pursuing key strategic issues. Instead we end up looking for which funding needs will be prioritized over which. But now that we have the Fibre Optic licence, I'm confident this will stabilise our revenue streams."

"Implementation of the withholding tax law on official aid-funded projects where payments are done directly by the development partners is another challenge which keeps me awake. Administration of this tax regime on the part of implementing agents (KETRACO) for example is a nightmare taking into account the fact that the company is liable for non-compliance with the provisions of the Income Tax Act Cap 470 and yet remittance of funds is done by a different entity (financiers)."

"The lack of a robust ERP is also a problem. We are currently relying on a temporary ERP which has some inherent challenges. I am glad that we are procuring a robust ERP that will facilitate execution of our increased company operations and this will improve our Risk, Project and Financial management and ultimately lead to overall organisational efficiency."

In addition, sometimes he feels pulled in many directions with the many responsibilities he has to meet for family, church, work and ICPAK. "ICPAK members have demands. They voted you in, so they expect you to perform as they would like. Sometimes I have competing initiatives from KETRACO and ICPAK. But KETRACO always comes first."

To ensure that there is a balance, he schedules most of his other obligations for the weekends and evenings. "My family is up country. I mainly see them on the weekend. You see, they are very settled there with school, work and the farm. They would not like to become city people."

"ICPAK meetings are held very early in the morning and are very focused, lasting no longer than two hours. We also schedule them quite early giving everyone time to arrange their calendars. The retreats happen on weekends. That's when we deal with the major issues."

"Above all, I get a lot of support from our CEO, Eng. Kiilu. He appreciates why this is important and allows me time when need be."

He is also a mentor to many young professionals who from time to time seek him out for guidance. "I mentor some accountants from KTDA as well as university students. ICPAK has a strong mentorship programme through which we encourage very many on the right moves for their careers. Some even come here, KETRACO offices, to speak to me. It is hard to say no, you have to give them some of your time."

"My advice to them is what I would advise any young professional, in any field. Your integrity should be unquestionable. Humility is important. It will help you get a lot from your mentors and leaders. If you want something, you must work for it. Nothing is for free. This is the only way to make a difference so go the extra mile. And work smart, not hard. This means using minimum resources to get a lot."

And for leaders, FCPA Barasa had a few choice words for them too. "Be a good listener. This helps solve problems better, it builds people's confidence in you to hear them out. When you are a leader, be a leader, not a follower. Demonstrate your leadership and lead by example."

To get all his activities accomplished, he has developed the habit of getting up by 5am and goes to bed no earlier than 11pm, daily. To relax he works out at Nairobi Club or reflects on his favourite book: The 48 Laws of Power by Robert Green.

THE GREEN THUMB

Z. Asmani

"I cannot put to words how much this project has helped us! We were just a bunch of unemployed youth desperate for a way out," were the touching words of Kinarani Youth Group's Chairperson Kahindi Karisa Baya.

During a visit to Rabai to check on the seedlings that KETRACO donated in 2013, the KETRACO team got a chance to visit, and evaluate the activities of the various farming groups that received seedlings donated by the company and distributed by the Kenya Coconut Development Agency (KCDA).

On the 28th of May this year, the group rose early and headed to Mida, a few kilometres from Malindi town, where they visited the BahaVizho farming group, the recipient of 60 coconut seed nuts during the 2013 seedling distribution exercise.

John Changawa, Chairman of the group, reported that the group nurtured the 60 seed nuts, and sold them as seedlings at market rate making Ksh. 60,000. With Mr.Changawa's guidance, they decided to plough back the proceeds, went to KCDA and bought 4,150 seed nuts at a subsidised rate, and repeated the exercise again and again, every three months. Now a year later, the group's bank account holds a little over Ksh. 200,000, the proud property of 14 farmers who hardly had a cent to their names.

"This is becoming a profession for us, not just a mere hobby to pass our days, while we worry about meeting our basic needs," stated Mr.Changawa as he took the visiting KETRACO group to farms where the bought seedlings had been planted. "We have to supervise the farmers to ensure that the seedlings are not wasted. We teach them what we were taught by KCDA, monitor things like spacing between planted seedlings and mulching, and follow up with them from time to time. Some have been negligent, where we found the seedlings died. We do not want that. We put so much effort at the nursery that finding that the farmer dismissed what we advised is almost painful for us."

The growth story was retold in Rabai later that day when the group visited with the Kinarani Youth Group. Received by the Chairperson and his assistant, Arnold Juma, it was evident that the impact the few seedlings donated was no small matter to these young men. Like the BahaVizho group, they too ploughed back their proceeds from growing and selling the 4,500 seed nuts they received. "It was our first time, and we made such a loss, with 500 nuts not making it to seedlings," explained Kahindi. "But we sold the 4,000, ploughed back the money, then came up with a growth plan."

KETRACO team with members of the BahaVizho group at the tree nursery in Mida

From their second sale, the youth group bought a plough which they now rent out to farmers who need it. They also made a deposit to have tap water connected to their nursery to ensure the survival rate of their plants is raised. Furthermore, they paid their first deposit towards owning a motorbike that they have on loan. The motorbike is used to transport seedlings to farmers and is further used as a *boda boda* collecting what they need to service the loan.

Being a visionary group, their ingenuity did not end there. "We were given a solution to our problem, which was unemployment. We now think of what else this region needs, and how we can make money from supplying that need. We had to go quite a distance to get petrol for the *boda boda*, so the group decided to have a small petrol keeping venture where we sell to other *boda bodas*," explained a proud Kahindi.

"I was hopeless, being a nuisance to my parents, sitting around frustrated, looking for a way to earn some money. Then KCDA approached us and Kahindi told them we could handle the project. They told us we had to be taught first, and had to prove we can make something of the donation. We have never looked back," stated Arnold.

In addition to checking the sustainability of recent re-afforestation exercises, this year KETRACO's environmental sustainability exercise spanned several counties across the country. The mission was to focus on tree planting exercises that would go above and beyond restoring the negative effects of bush clearing along the wayleave corridor.

With this goal in mind, the exercises took place in Rabai, Makindu, Nairobi, Garissa and Kisumu. These areas were selected to serve the Rabai-Malindi-Garsen-Lamu, Mombasa-Nairobi, Nairobi Ring, Kindaruma-Mwingi-Garissa, and Olkaria-Lessos-Kisumu projects respectively.

A total of 26,000 seedlings were planted and distributed in the aforementioned regions. For the first time the company got to influence young minds by conducting some of these exercises in primary schools in Kibwezi, Garissa and Kisumu.

TREE PLANTING EXERCISE IN KISUMU

By Namara Sande

The KETRACO team was yet again on a tree planting mission on 27th June 2014 in Kisumu. The team intended to plant 2,000 seedlings.

It was a warm day and the energy in the air could be felt at the Kenya Forest Service (KFS) headquarters, a few kilometres away from Maseno. The team and KFS officials were set to plant the seedlings in Nyamingia and Ngutu Primary schools.

Mr. MacDullah, the Deputy KFS Zonal Manager, Kisumu, informed the team that KFS had chosen these two primary schools because they were certain that the students and administration would take care of the seedlings and nurture them.

The students at Nyamingia Primary School were very excited to get into the tree planting process. Mr. MacDullah and Sulea Naliaka (Corporate Communications) gave them a small talk about taking care of their seedlings and treating them as their own precious belongings. Each member of the KETRACO team present planted trees with the students.

Next the KETRACO team and KFS officials headed to Ngutu Primary School, where they were received with equal enthusiasm. The children were quite eloquent and they expressed their excitement to plant the trees. The school is situated on a hill with rocky terrain where the sun blazes consistently, and they were eager to get trees that would eventually turn to some shade. Here too, the team and the students planted the trees together.

The visit at Ngutu Primary School proved to be quite humbling,as the Head Teacher requested the team to talk to the students. The female members of the KETRACO team talked to the girls on the importance of staying in school among other topics, while the male members had a similar talk with the boys in a different class room. This successful exercise marked the end of tree planting exercise for the financial year.

KETRACO was represented by the following volunteers: Internal Audit-Eric Mutwiri; Corporate Communications-Sulea Naliaka, Zaituni Asmani and Namara Sande; HR & Administration- Enosh Owiti, Marion Kimani and Fanis Mayeku; ICT- Robert Kiogora; Legal- Bethel Kanaiya; Finance-Rose Gichuki; Security Services - Henry Mogere.

THE RABAI-LAMU LINE

AS EXPERIENCED BY A MEMBER OF THE PROJECT IMPLEMENTATION TEAM

CAMCEE Camp in Malindi

The Rabai-Malindi-Garsen-Lamu (RMGL) project commenced construction in February 2012. The project started with a feasibility study that showed a need for a transmission line that would meet the electricity demand for the coastal region, as well as that of future projections of infrastructural demands the region was bound to have; Coastal factories needed power, particularly those developed for salt and coconut processing. The Lamu Port and South Sudan Ethiopia Transport (LAPSSET) corridor project also needed power. At the time, its main power supply was from as far as Mpeketoni and quite low at 33kV, yielding to too many fluctuations by the time it got to Lamu.

This project was designed to evacuate power from the Rabai Power Plant in Rabai, transmitting to Lamu, via a 220kV line that is 328km long. The project comprised of building substations at Malindi, Garsen and Lamu as well as an extension substation at the existing substation in Rabai.

Reinforcement projects (substations) were put in place in Malindi and Garsen to work as a backbone for the line as well as boost power supply to these two regions.

Currently, construction work on the line is complete and Rabai, Malindi and Garsen substations are energised.

The project consultant is Parsons Brinckerhoff (PB) and the contractor is CAMCEE China.

The Grid spoke to Eng. George Maina, one of the project Engineers, who had a most interesting account of his experience during the project's implementation.

What was different about this project from any other you are involved in?

So far, no other project has had the contractors build their own office and living space prior to project construction. CAMCEE built all their amenities in one location, like a camp. They built on rented land. The space is large enough that PB, the consultant, had their offices there too.

In Malindi the site is on County Council land. We are always encouraged to use government land as much a possible so as not to affect too many people.

Why was this handled differently from other projects?

The decision to have a camp was driven by CAMCEE management. It is also a large continuous project. Our other projects are fragmented in different areas, which have the contractors moving from point to point.

Who covered the cost for the camp?

The cost was tagged in the contract document. It was all in the plan all along.

What was your personal experience on this project?
Civil Engineers usually work outdoors. So I was mentally ready for the rough roads and sun.

Out there we came across a lot of snakes. When you excavate you find snakes, and there were times there was no path to get to where we were going. One time we found a snake on the way and we killed it by running over it back and forth, back and forth. We wanted it dead!

I remember in Witu Forest we came across buffalos. No one knew if they would charge at us. We wondered if we would die here.

However, we had good will with the community. They really wanted us to succeed. Evidence of this is that there were no Right of Way issues apart from the large ranch owners where they did not want the compensation money at all.

What other challenges did you face?
This project has been affected by the highest number of skirmishes. There were skirmishes around Tana Delta, Lamu and Garsen. We were also greatly affected by heavy rains that flooded tower foundations, despite the weather patterns we had factored in during the design phase. This led to very slow progress and we had to ask for extensions on the set completion date of December 2012.

There was also the language barrier. The Chinese speak little English and no Giriama, the Giriama speak no English and little Swahili. Communication among all three parties, us, the contractor and the community, was very tough, but somehow we managed.

Were you ever caught up in any of the skirmishes?
The fights never really targeted us. The communities focused on each other. This gave us little assurance, but we all fear dying. Who knew if we were destined to die in Lamu or Garsen.

The skirmishes in Tana River were traumatising. It really affected us. I feared going on site at times. But, because of the strict time lines that had to be observed we had to be brave and forge on. But in Mpeketoni it was different; we had to stop work completely.

It seems to have been a very tough time, were there any good moments?
Of course. I got to interact with cultures very different from my own. I learned their good ways which I will carry with me. It broadened my social scope.

Also, working with CAMCEE, PB and the Local Administration went so well. There were no issues.
The project's success is a triumph. We accomplished our objective.Malindi and Watamu have fewer power fluctuations, no blackouts. Now there will be enough power.

I like to say that we are lighting homes. The small industries that now have power will uplift lives. This is my most important triumph; that lives will change for the better.

What are some of the lessons learned that you will carry to other projects?
There was minimal skills transfer to the locals, which I feel was a bit of a let-down. The contractor provided even some of the unskilled labour which denied the local potential employment. In other projects we leave this for the community so that they own the project as one that has come to benefit them.

I also have a greater appreciation for the need for peace. Believe me, I am now a peace ambassador wherever I go. And it goes without saying that we are now braver then we were before this project.

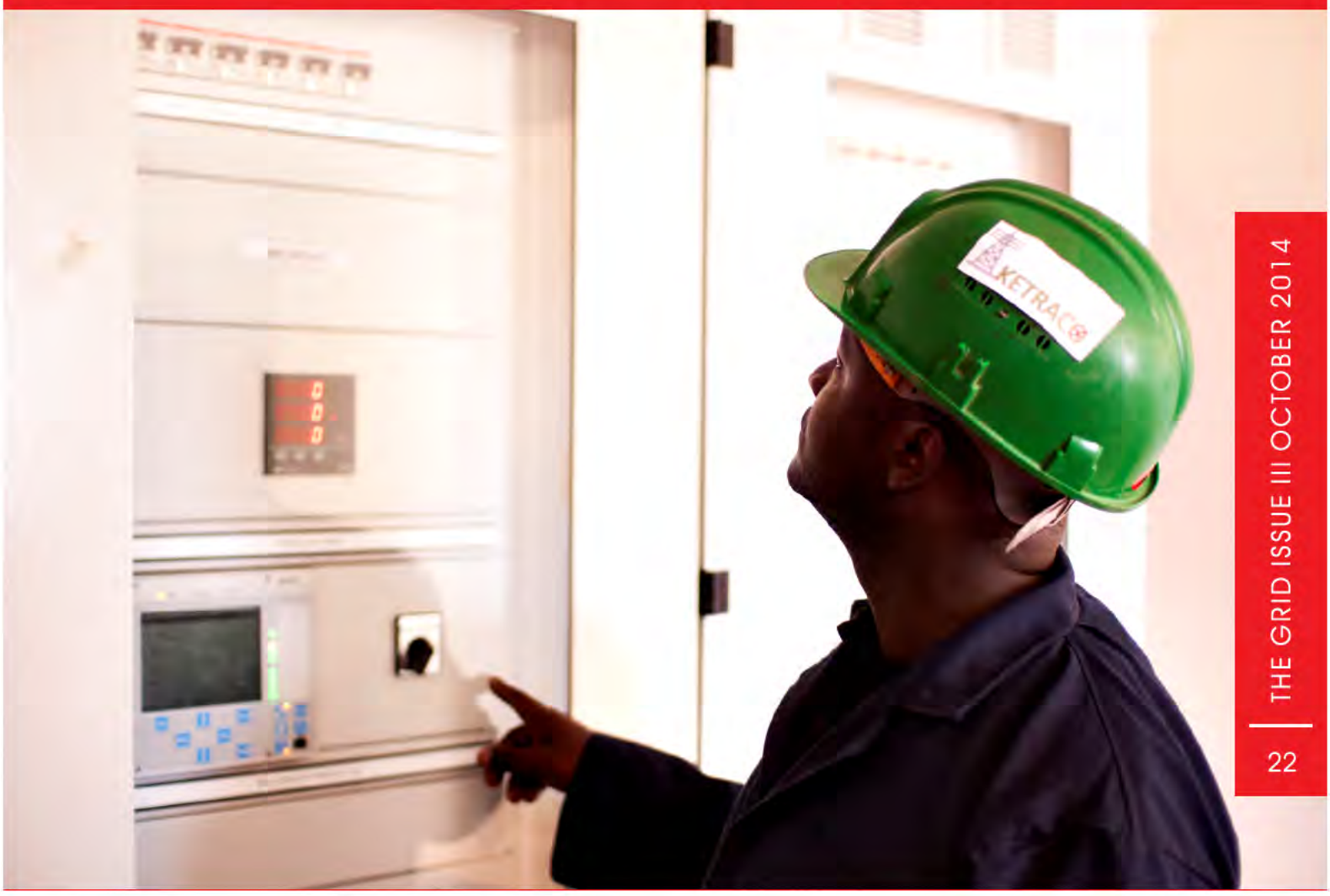
Now that you are wrapping up the project, is it easy to move on?
After working in a region for so long, you make friends. There are families that got used to you and you grew attached to them. But you must move on. New friendships will be built wherever you go.

SAFETY TIPS

By Caleb Mango

While working in forests, parks, game reserves and bushes (wilderness) there are many perils one faces. Next time you are planning a field trip or excursion, have the following safety tips in mind.

- Always carry a first aid kit. You should also take first aid training before getting to work in forests and bushes
- Avoid going into the forests/bushes/parks alone. You need to be at least two just in case of an emergency
- At all times you should know every member of your team in the field trip and where he/she is within the forest/bush. This means that you should not be far away from your team as this might make it difficult to assist each other in the case of an emergency
- Do not go into forests without at least two forest rangers from KFS
- Do not go into parks and game reserves without at least two rangers from KWS
- Park your vehicle in a way that it cannot be blocked by another vehicle for ease of exit during an emergency.
- Do not discard cigarettes, matches, and smoking materials from moving vehicles, or anywhere in the bush/forest/park as it might lead to wilderness fire. Be certain to completely extinguish cigarettes before disposing of them.
- Have with you plenty of bottled water and plan meals for your field trip ahead of time. Also take along extra food for in case you end up stranded for a long period of time.
- Beware of bush/forest dangers including wild animals, snakes, bees, uncovered pits, wildfires etc.
- Do not go to the bush/forests/parks with open shoes. Wear protective clothing and footwear to protect yourself from any danger
- Consider having everyone carry a whistle for signalling anger or calling for help in case of an emergency
- Remember to stay calm in the event of an emergency.



ETHIOPIA AFRICA'S LARGEST POWER EXPORTER

By Namara Sande

Ethiopia has become the electricity powerhouse in Africa. Ethiopia's potential power production capacity from hydro as well as geothermal, wind and solar energy may be more than 60,000MW, according to official estimates. Therefore, there is surplus power for the country to export throughout the African continent.

According to www.trust.org, Ethiopia provides 100MW of electricity to Sudan and up to 50MW to Djibouti. The 283km Ethiopia-Djibouti transmission line is a 230kV line that enables Djibouti to import up to 60MW of electricity and has eased its reliance on fossil-fuel power plants and generators.

The 296km, 230kV Ethiopia-Sudan transmission line exports power to Sudan. This U$41million project, funded by the World Bank, has three sections of transmission lines in Ethiopia which connect with a line in the Sudanese border city of Gedaref.

In Kenya, the proposed Ethiopia-Kenya electrical transmission line is well underway. The 500kV transmission line connecting the Kenyan and Ethiopian grids is expected to be completed by the end of 2016 at a cost of up to U$1.26 billion. It would make Kenya the largest buyer of Ethiopian power at an eventual 400MW, and could allow Ethiopia to export up to 1,600MW to countries further afield.

In addition, Ethiopia has been undertaking preparatory works to export electricity to Yemen via Djibouti. The country also plan on supplying electricity to Somalia.

In a nutshell, as part of a $22billion African Union backed project to develop a pan-continental electricity highway by 2020, Ethiopia basically plans to increase its power exports to Djibouti and Kenya and establish grid links to South Sudan, Democratic Republic of Congo, Uganda, Rwanda, Tanzania and Yemen. It may also extend its power supply to northern and southern Africa.

Power demand in Africa will rise by 150,000MW between 2007 and 2030, according to the International Energy Agency. Ethiopia recognizes the African continent has abundant potential resources of solar, hydro, oil, gas, coal and geothermal power that can meet this demand. The Eastern Africa Power Pool is estimated to possess a potential capacity of 45,000MW from hydro alone, a geothermal potential of 10,000MW and an estimated 1.3 million MW from wind. Ethiopia plans to spend U$12 billion over 25 years to improve its power-generating capabilities. Ethiopia has five other hydropower dam projects being built, some funded by the World Bank.

According to www.tigraionline.com, the country has drafted a master plan which aims to boost power exports from 223MW a year to at least 5,000MW. This ambitious plan aims to transform the country into one of the top, and cheapest, power suppliers in Africa. Moreover, Ethiopia hopes to provide cheap supplies of power to a region short of electricity and much-needed industrial production.

Gibe III Dam in Ethiopia

According to www.sudantribune.com, the Eastern African state also plans to build Africa's largest Geothermal Power Plant. The country has signed an agreement with US firm Reykjavik Geothermal to build a giant U$4 billion geothermal farm project. Mihret Debeb, CEO of Ethiopian Electric and Power Corporation's (EEPCO) said the geothermal power plant, which will have a power generating capacity of 1,000MW will be used for domestic consumption and further exportation to neighboring countries.

EEPC will purchase the energy generated by the

project. The geothermal farm project will be built under two phases with the initial 500MW phase expected to be completed by 2018. The whole project will be completed and fully go operational by 2021.

Besides hydro-power plant projects, the country also wants to invest heavily in wind and other green projects. One among these green projects is the Ashegoda Wind Farm Project which was built by Vergnet SA, a French company that won the contract in October 2008. The wind farm, built in the northern Tigray region, has a capacity of generating 120MW of electricity. In conclusion, it is evident that Ethiopia may just be the dominant power exporter in Africa for many years to come.

KENYA TO EXPORT POWER TO BURUNDI

By Namara Sande

President Pierre Nkurunziza of Burundi was on an official visit to Kenya this year. He met with President Uhuru Kenyatta on the morning of June 6th 2014 at State House Nairobi where the Burundi leader affirmed his country's commitment to the East African Community (EAC) and its agenda which involves injecting energy into the EAC integration process. President Kenyatta and the Burundi leader agreed that they have a lot to share as members of EAC and also as partners in development. Kenya could possibly benefit from this partnership because it has been noted that the Burundi energy sector is a growing industry with a lot of potential. Consequently, in the future there might be an opportunity for Kenya to export power to Burundi.

According to www.energypedia.info, hydropower is the most important technology for power generation in Burundi, representing 95% of the total national generation capacity. Most of the electricity supply is generated by seven REGIDESO hydroelectric plants with a combined installed capacity of 30.6 MW. This energy is transported from the plants through elevated lines of average voltage and distributed to the customers by lines of low voltage. The levels of transport voltage in Burundi are 110kV, 30kV and 10kV.

Two plants deliver 85% of the national supply: Rwegura (18MW) and Mugere (8MW). Burundi also benefits from imports from the regional hydro plants of Rusizi I and II, which are operated by La Société Nationale d' Electricité (SNEL) and La Société Internationale pour l' Electricité de Grands Lacs (SINELAC), respectively. Currently, these imports account for 40% of the electricity consumption.

Hydropower plants in Burundi have shown declined performances of 19% compared to 2005 due to reduced volume of water as well as down time for maintenance and cleaning works. The supply deficit currently varies between 12.9MW during the wet season and 23.5 MW during the dry season when the country's main hydropower plants are running at reduced capacity. At least 40% of small and micro hydro plants are out of service or in urgent need of being rehabilitated. This has led to poor electricity production at national level as well as at the regional

Rusizi II is located in Bakivu in the DRC.

hydropower plants (Rusizi I and II). In 2006, the electricity production from these plants was 152,056 MWh whilst the consumption was 105,077 Mwh. Rusizi II is located in DRC and is in a poor state and currently produces 36MW; which supplies electricity to three regional countries.

The deficit in the power supply leads to frequent outages. A large percentage of firms in Burundi have their own back-up generator, or share access to one. This electricity deficit cuts into business profits and reduces the ability of local businesses to compete in regional and international markets. Moreover, the impact of power cuts is considered one of the key hurdles to economic growth.

In addition, the lack of maintenance has led to technical and non-technical losses of 20-30%. Technical losses have occurred due to the poor condition of the network, the high voltage and medium voltage stations, and the low voltage distribution posts. The numbers of power interruptions are high both on Low Voltage and on the High Voltage/Medium Voltage (HV/MV) backbone network. The losses represent 30% of produced energy.

Burundi exploits slightly more than 10% of its hydroelectricity (32 MW) and the demand for electricity is expected to continue to rise steadily as the economy improves. Therefore, it is safe to say the nation is in need of imported power. Hydropower is the single largest generation source for grid electricity in Kenya providing some 677MW of the total installed grid capacity. Burundi faces severe constraints in electricity supply and Kenya could be the solution to their electricity deficit.

The Kenyan government has already outlined plans to add over 5,000 MW of generation capacity by 2017 to the existing 1,664 MW. It is estimated that the high voltage power lines to be added to the existing 3,767 km network will cost about Ksh. 200 billion shillings and it will expand power generation immensely. KETRACO is about to complete working on a new 400kV power line linking the port city of Mombasa to Nairobi that would extend to western Kenya and onward to Tororo in Uganda. A 500 kV link between Ethiopia and Kenya is also under construction.

Kenya also plans to build a 700-800 MW natural gas-fired power plant and a 900-1,000 MW coal power plant. Therefore, all this additional energy can serve Burundi in the future via the planned East African Power Pool and the power exported from Kenya can help cut shortages tremendously.

ADDING VALUE TO SOURCING

By Peter Njehia

Companies have begun to mention their sourcing practices on their packaging to make their products more attractive to customers. This is a trend that is one of the best things to ever happen to procurement. It gives you the opportunity to be viewed as one of the most valuable contributors to your organization's success.

There are four sourcing options that an organization may consider to be of competitive advantage:

1) Sourcing Locally/Domesticated Sourcing

Some consumers prefer products that support local business or that invoke a sense of patriotism. If you can find the best, or an equal-to-the-best supplier in your county or another country without inflating the price that your organisation would have to charge, that can help the organisation have a competitive advantage.

2) Sourcing Ethically

Some consumers want to know that harm is not imposed on others in order to have access to the product or service for which they are exchanging their money. Therefore, organisations develop ethical sourcing standards to keep their supply chains free from unsafe working conditions, underpaying workers, use of child labour, and other unsavoury practices in order to appeal to those consumers as well as to supply on the basis of 'do what is right'.

3) Sourcing Sustainably

An increasing number of consumers want to ensure that their purchases are not detrimental to the environment. In many cases, you have the option to purchase materials that support environmental sustainability through supplier's commitment to reforestation, biological diversity conservation, use of recycled materials and more. By choosing more environmentally friendly options, you help your organisation appeal more to these consumers.

4) Sourcing Competitively

Of course many consumers still choose to buy one product or service instead of others for one reason, because it is the lowest priced option available. That is not to say that those consumers should stop, only that it is a fact that they do. An organisation's ability to compete based on lowest price is constrained by the cost of the product or service.

CONTEMPORARY BUDGETING

By Dennis Kengere

Budgeting is a critical element for both an individual and any business entity.
Many organizations have faced constraints and demands for improved services. The case is more complicated for state organs, with revenues continuing to decline at a time when demand for services is increasing. The ability for these organs to adequately budget and forecast both income and expenditures is stretching beyond the limits of both personnel and supporting systems.

As a response, modern organizations have embraced new ways of budgeting. The budget process is increasingly being seen as a tool to promote corporate accounting ability and effectiveness, rather than simply as a vehicle for allocating resources and controlling expenditures. The traditional budgeting process was typically believed to be a high effort and low value adding process, with typical characteristics like:

- A disconnect between strategy, budgeting and performance management as no offline ownership for budgets existed
- Budgeting cycles that were too long, requiring multi-levels of approval
- Overly detailed budgets that focused on data collection rather than synthesis, analysis and interpretation of data
- Straight lined budgets where seasonality was ignored
- Lack of budgeted balance sheet or cash flow statements, and
- Inadequate system support

Despite these sustainability challenges, budget shortfalls give rise to a separate problem, the demand for a major rethinking and extensive analysis of proposed budgets. The demand for increasingly broad and detailed analysis requires that budget development, publication, analysis, and execution be integrated to a degree that legacy systems do not support.

In contemporary budgeting, managers are provided with the flexibility to utilize resources as required, in return for their commitment to achieve certain performance results. Contemporary budgeting has translated to effective planning of many company's operations and served as a monitoring tool, coordinating actions and initiatives between the various organisational units.
Generating a sound budget means looking beyond your own walls. It is important to mention that streamlining the budgeting process alone, without "fine-tuning" the budgeting system and the budget control points will render only a fraction of the expected benefits. As a result today's Management Accountants use complementary skills with specialized experience in different types of budgeting (activity based budgeting, zero based budgeting, strategic budgeting, budgeting on a rolling basis) to provide hands-on support to management team in order to accomplish effective process transformation, insuring the development of realistic financial performance goals and budgets. This is achieved through regular variance analysis (actual versus budget), reports interpretation and analysis, design of standard budgeted versus actual reconciliations reports, behavioural issue resolutions and on-going system trends.

Common myth: you have to be in debt to budget.
A more popular misconception is that budgets are only for people who are in real financial trouble; individuals who are severely in debt or currently living way beyond their means. While it is true that such circumstances require a budget overhaul (or more likely, implementation) the truth is that everyone can benefit from budgeting.

OUR MORAL COMPASS

By Erick Audi

Please read this and think about the story. Many a time we do not think about the people around us whether in a bus, at home or even on the street.

A mouse looked through the crack in the wall to see the farmer and his wife open a package.
"What food might this contain?" the mouse wondered. He was devastated to discover it was a mousetrap. Retreating to the farmyard, the mouse proclaimed the warning, "There is a mousetrap in the house! There is a mousetrap in the house!"
The chicken clucked and scratched, raised her head and said, "Mr. Mouse, I can tell this is a grave concern for you, but it is of no consequence to me. I cannot be bothered by it."
The mouse turned to the pig and told him, "There is a mousetrap in the house! There is a mousetrap in the house!"
The pig sympathized, but said, "I am so very sorry, Mr. Mouse, but there is nothing I can do about it but pray. Be assured you are in my prayers."
The mouse turned to the cow and said "There is a mousetrap in the house! There is a mousetrap in the house!"
The cow said, "Wow, Mr. Mouse. I'm sorry for you, but it's no skin off my nose."
So, the mouse returned to the house, head down and dejected, to face the farmer's mousetrap alone.
That very night a sound was heard throughout the house; like the sound of a mousetrap catching its prey.
The farmer's wife rushed to see what was caught. In the darkness, she did not see it was a venomous snake whose tail the trap had caught.
The snake bit the farmer's wife.
The farmer rushed her to the hospital, and she returned home with a fever.
Everyone knows you treat a fever with fresh chicken soup, so the farmer took his hatchet to the

farmyard for the soup's main ingredient.
But his wife's sickness continued, so friends and neighbours came to sit with her around the clock.
To feed them, the farmer butchered the pig.
The farmer's wife did not get well; she died.
So many people came for her funeral, the farmer had the cow slaughtered to provide enough meat for all of them.
The mouse looked upon it all from his crack in the wall with great sadness.
So, the next time you hear someone is facing a problem and think it does not concern you, remember that when one of us is threatened, we are all at risk. We are all involved in this journey called life. We must keep an eye out for one another and make an extra effort to encourage one another. One of the best things to hang onto in this world is a friend.

WORD SEARCH

Do you know our substations? See how many you can find in the grid of letters below:

M	Q	T	O	R	O	R	O	Z	R	O	N	G	A	I	B	X
O	R	A	B	A	I	F	L	G	F	N	A	R	O	K	J	E
M	Y	U	F	Z	K	D	K	L	O	M	U	M	I	A	S	R
B	J	J	S	D	I	Q	A	O	C	H	E	M	O	S	I	T
A	B	D	X	I	S	K	R	I	K	G	H	T	S	A	M	K
S	V	M	R	N	I	R	I	Y	I	A	W	E	N	D	O	E
A	C	Q	E	A	I	Y	A	A	G	I	T	H	A	M	B	O
G	E	K	K	K	H	S	H	N	A	M	A	N	G	A	T	Z
D	T	A	I	I	O	L	N	G	Z	C	K	E	M	O	L	S
X	H	R	S	R	M	E	I	A	I	F	S	P	A	E	D	O
V	I	B	U	A	A	S	S	L	A	M	U	O	L	O	S	K
N	O	A	M	M	B	S	H	A	O	A	S	L	Q	A	Y	A
M	P	N	U	N	A	O	I	N	P	Z	W	N	P	J	T	H
K	I	E	K	A	Y	S	A	I	A	V	A	D	J	C	C	C
O	A	T	A	N	S	V	R	D	F	I	K	I	E	N	I	A
Q	O	M	J	Y	O	B	A	J	E	S	R	N	A	K	V	M
B	R	W	I	U	N	D	M	H	L	I	L	Y	F	L	R	E
R	T	I	A	K	D	A	E	A	D	O	M	A	B	K	R	N
E	U	N	D	I	U	G	R	S	O	L	T	H	O	I	P	E
H	M	G	O	G	Q	A	U	S	R	O	A	U	M	T	A	N
N	V	I	Q	S	K	R	G	I	E	B	D	R	E	U	L	G
F	S	J	D	I	G	S	A	R	T	J	W	U	T	I	T	A
D	A	C	H	A	F	E	L	R	B	H	S	R	Y	C	G	I
K	I	T	A	L	E	N	U	A	T	I	X	U	J	M	H	C
K	O	N	Z	A	T	R	T	G	S	A	N	G	O	R	O	K

Mombasa
Githambo
Machakos
Ortum
Bomet
Sondu
Suswa

Konza
Lamu
Chemosit
Mwingi
Menengai
Lessos
Kitui

Narok
Rabai
Namanga
Kisumu
Nanyuki
Olkaria

Rongai
Galu
Kieni
Kajiado
Kisii
Ishiara

Mumias
Nyahururu
Kitale
Loiyangalani
Homabay
Meru

NEW ENGLISH WORDS: THE AGE OF KETRACO

By Raphael Mworia

Language is versatile and living. As the users of a language discover new things, new ways of doing things, they coin words either by extending the use of existing words or creating new ones altogether. At other times we use acronyms that later get their own life and become bona fide words. The world of technology and fashion probably contribute the largest number of new words, but the internet has also given forth a respectable tally of words to the English language. Since KETRACO was established in December 2008, new English words have joined the lexicon and daily use. Here below are some of them:-

1. **Selfie**- is an informal noun (plural selfies) meaning a photograph that one has taken of oneself, typically one taken with a smartphone or webcam and uploaded to a social media website. The word gained mainstream exposure recently when US President Barack Obama and UK Prime Minister David Cameron posed for a self-portrait with Helle Thorning-Schmidt, the Danish Prime Minister during Nelson Mandela's memorial service in Johannesburg.
2. **Buzzworthy** – an informal adjective; chiefly North American, which means something likely to arouse the interest and attention of the public, either by media coverage or word of mouth.
3. **Me time**- is an informal noun meaning time spent relaxing on one's own as opposed to working or doing things for others, seen as an opportunity to reduce stress or restore energy. Example, "Schedule some me time when you get home".
4. **Phablet**- is a noun meaning a smartphone having a screen which is intermediate in size between that of a typical smartphone and a tablet computer. The word is a blend of the words phone and tablet.
5. **Twerk**– is an informal verb used to mean dance to popular music in a sexually provocative manner involving thrusting hip movements while on a low, squatting stance.
6. **Bitcoin**- is a noun meaning a digital currency in which transactions can be performed without the need for a central bank.
7. **Yolo** - abbreviation for "You Only Live Once" (used to justify doing something that is expensive or not sensible, or to encourage someone to do something similar).
8. **Crowdfunding**- is a noun meaning the practice of funding a project or venture by raising many small amounts of money from a large number of people, typically via the internet.
9. **Frack**- Coined in November 2013, is a verb used in mining to mean injecting liquid into (a subterranean rock formation, borehole, etc.) at high pressure so as to force open existing fissures and extract oil or gas.
10. **Soft launch**- is a noun meaning the release of a new product or service to a restricted audience or market in advance of a full launch.
11. **Zero day**- is an attack that exploits a previously unknown vulnerability in a computer application.
12. **Bridezilla**- is a noun used informally to mean a woman whose behaviour in planning the details of her wedding is regarded as obsessive or intolerably demanding.
13. **Glamping**- is a noun meaning a form of camping involving accommodation and facilities more luxurious than those associated with traditional camping.
14. **Phubbing** -is a noun meaning the act of snubbing someone in a social setting by looking at your phone instead of paying attention.
15. **Poshitis**- is an informal noun meaning back pain as a result of carrying a big bag fashionably, in the crook of the arm.
16. **Afropolitan** -is a noun meaning a cosmopolitan African; an African who has a background which is varied in culture and geography.
17. **Green–collar** adjective of, relating to, or involving actions for protecting the natural environment e.g. green–collar jobs.

Technology changes constantly and therefore generates new words all the time. Some of the more recent ones that have become a part of our everyday converstaions include: Blog, cyberspace, cybersecurity, Netbook, HDMI, OLED, LED, LCD, Tablet, jailbreak, BYOD- Bring Your Own Device: the policy of allowing employees or students to bring their own computing devices to work, college etc and use them on the organization's network, apps: an application programme designed for a particular purpose on a computer or mobile phone operating system, and stage-phoning:- the activity of talking on a mobile phone in an animated and deliberately audible manner, especially in order to impress people, to mention just a few.

Locally we have new words like M-Pesa, Mututho, Jirongo, which are coined from either new technology or persons associated with certain actions or seasons.

Do you have any new or unique words you can share with our readers?

RECIPE: ROUND STEAK WITH GRAVY

By Namara Sande

Who doesn't love steak? For all those meat lovers out there, here is a short recipe to make round steak with gravy that can save you a trip to a restaurant. It already sounds so yummy just thinking about it. You can make this sumptuous meal in less than two hours and dish out four servings.

Source: chefjonestv.blogspot.com

Ingredients:

For the round steak

- 1 to 1 1/2 kilograms beef round steak
- 2 tablespoons flour
- 2 tablespoons vegetable oil
- Salt and pepper
- 1 cup beef broth
- 2 teaspoons dried parsley flakes, or 2 tablespoons fresh chopped parsley
- 1 teaspoon sugar
- 1/2 teaspoon dried leaf thyme

For the gravy:

- water
- 3 tablespoons flour
- 1/2 teaspoon of gravy

Preparation:

Round steak

Cut round steak into serving-size pieces and dredge in flour.

Put the round steak in hot oil in the pan under medium heat.

Season with salt and pepper; add beef broth, parsley, sugar, and thyme.

Cover and transfer to oven. Bake at 350° for 1 1/2 hours, or until the round steak is tender.

Remove round steak to a serving platter.

Gravy

Measure the pan juices into a large measuring cup; add enough water to make 1 1/2 cups. Return juices and water to pan.

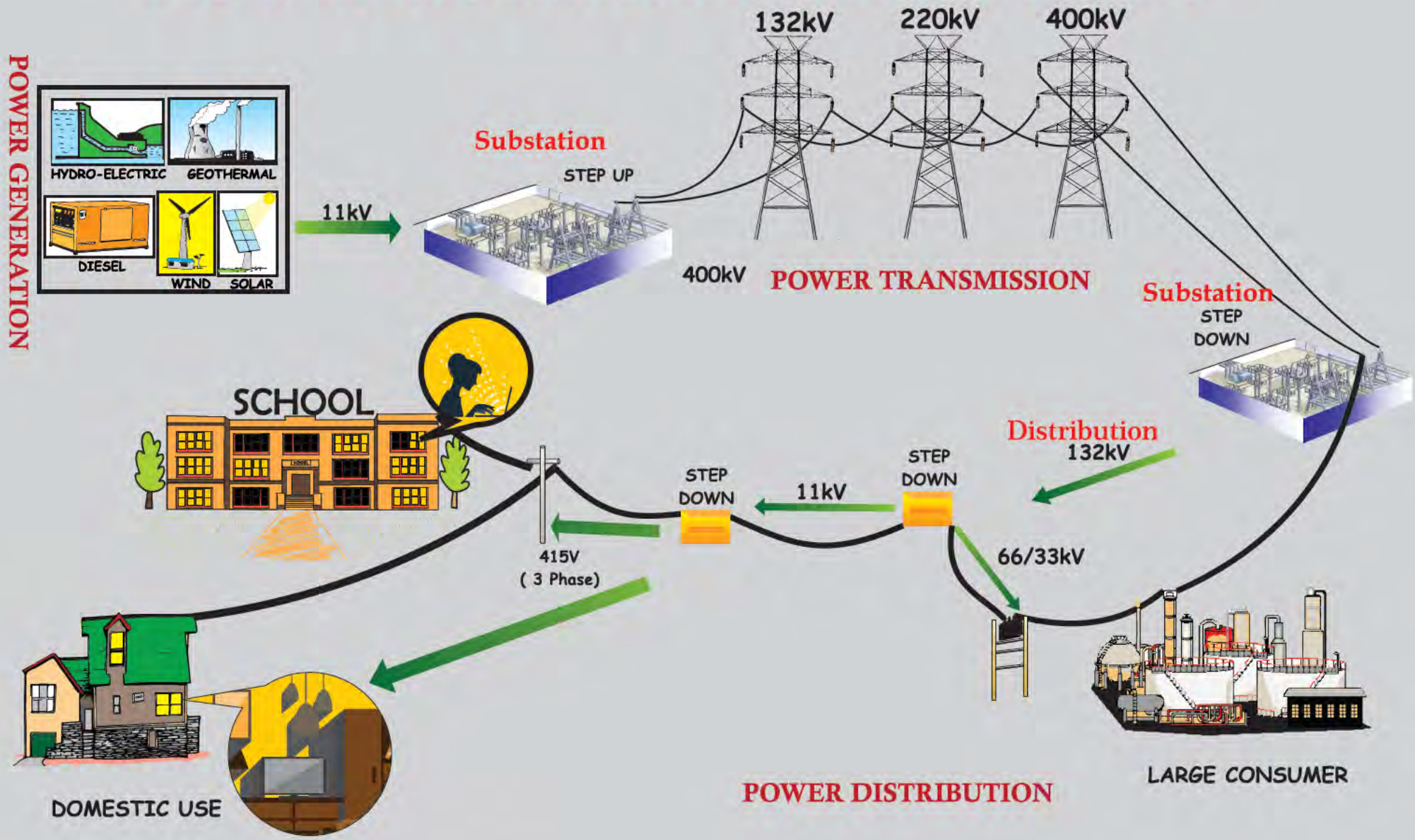
Combine 3 tablespoons of flour with 1/2 cup cold water; stir it with fork or whisk until smooth. Then stir this into the pan juices and add the gravy.

Cook over medium-low heat, stirring constantly, until thick and bubbly.

Serve the gravy over the round steak.

Source: http://southernfood.about.com

HOW ELECTRICITY GETS TO YOU



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