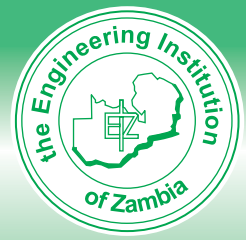


The Engineering Echo

A Publication of the Engineering Institution of Zambia



Issue No. 60 2022.



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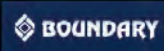
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EDITORIAL COMMENT



Eng. Prof. John Siame (D.Tech., FEIZ, REng., SAIMM)

The 60th Issue of the Engineering Echo of the Engineering Institution of Zambia (EIZ) carries stories that needs meditation among engineering professionals in Zambia. The stories are entitled "Be part of decision makers" and "Engineers important in developmental Programmes", where the Minister of Commerce, Trade and Industry Hon. Teg. Chipoka Mulenga is calling upon the need for engineering professionals to make EIZ powerful by making EIZ as part of the decision makers on all matters of engineering in the country, and the City of Kitwe Mayor, Her Worship, Mrs. Mpsa Mwaya echoed that engineering

professionals are important people who cannot be left out in developmental programmes that are taking place in the country because of the vital role they play in different engineering projects in the country. These sentiments were expressed to Southern and Northern Regions at their 2022 Annual General Meetings, respectively. It is encouraging that both government leaders offered the opportunity for EIZ to share its vision on how the country should be developing.

In answering to the requests from both government leaders, the 60th EIZ Engineering Council Chairperson and EIZ President Eng. Abel Ng'andu called on the engineering professionals to participate in all institutional activities and step up to offer themselves and be counted as some of the contributors to national development. The deliberately allocation of a huge number of resources towards Constituency Development Fund (CDF) from K1.6 million to K25.7 million which is meant to be invested in the constituencies by government should be of interest to engineering professionals. In this regard, the EIZ President

Eng. Ng'andu encouraged engineering professionals to take advantage of this opportunity and position themselves strategically to be a part of the people that will mentor, train and educate the people that will manage the resources.

According to EIZ strategic plan 2019-2023 objective No. 9 which states that "To provide professional advice to government and other stakeholders on engineering matters through research and development", we implore all engineering professionals to acquaint themselves with plans as contained in the said EIZ Strategic Plan 2019-2023. Our engagements with the government and other stakeholders would be productive ones if engineering professionals take advantage of the opportunity of the CDF allocation to constituencies by the New Dawn government. That is what we should all aspire for.

I wish you pleasant reading and congratulations to the editorial team that has made this publication possible.

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EDITORIAL CONTRIBUTION

Engineering Echo is your publication and is published for the enjoyment of all members of EIZ. Your contribution in form of articles, letters, comments, ideas or anything you wish to share with others will go a long way in meeting the objectives this newsletter is set to achieve. All news will be considered, however, the editor reserves the right to include, change or omit articles at his discretion.

For more information contact:

Cynthia Chiyabu Ngwengwe
Communication Officer
The Engineering Institution of Zambia
Tel: +260 211 255161/960 373 849
Email: cynthia.chiyabu@gmail.com

BE PART OF DECISION MAKERS - HON. CHIPOKA MULENGA

By Cynthia C. Ngwengwe



Members during the Southern Region AGM

There is need to make the Engineering Institution of Zambia (EIZ) powerful by making it part of the decision makers on all matters of engineering because government is committed in working with professionals that will offer solutions to many engineering challenges in the country.

Speaking when he officiated at the EIZ Southern Region Annual General Meeting, Minister of Commerce, Trade and Industry Hon. Teg. Chipoka Mulenga said if engineers decide to stay away from the development agenda of this country the country will continue being where it is today.

He said the country has seen massive investments in the infrastructure sector but engineering professionals are like a sleeping giant that has decided to not stand up and be counted.



Hon. Teg. Chipoka Mulenga

"When we look at our roads today, engineering professionals have no say on who does the roads and what the minimum standards of our roads should be, yet we drive on those same roads and we are the first ones to complain about their quality yet we should be the ones to set the standards and demand the right quality," he said.

Hon. Mulenga said the time has come when the engineering professionals need to make their voice heard by ensuring that no one is involved in any engineering activities without being certified by the Institution.



Members during the AGM

He said the Republican President has decided to embrace the profession very strongly and believes in the profession more than the professionals believe in themselves, and this is demonstrated by the appointments of engineering professionals to cabinet and other state organisations.

Hon. Chipoka said it is about time the profession realised its potential and rise to the occasion because nobody will make the profession be of value if professionals do not stand up and be heard.

"It will take ourselves to show relevance of who we are and to add our value; and that relevance will only be shown through platforms that we have today. Therefore, I urge all of us to believe in ourselves, in our profession and know that we can do this beyond what we have always done," he said.

He further said government has provided an enabling environment for engineering professionals and it is up to them to step up and be present because there is no opportunity that has presented itself than this one where engineering professionals have the loudest voice through the Ministers appointed on cabinet.

He said the Ministers will speak out but as they do so, they will need the support of the Institution to succeed because the Institution has the mandate.



Members registering before the AGM

"Let's not only look at engineering as a profession but also as a business that we have failed to realise value out of. Engineers should not always think of engaging in a business that is already existing but engineers should be innovative and mark the way of all businesses in this country. We should inspire ourselves not only to get jobs but set up businesses," he said.

He said engineers should take ownership of who they are, stand up and give direction to the government on how business should be done because the government is committed to having a private sector driven economy, and engineering professionals should be advisors on how best the government should implement projects.

"Under my Ministry, I will not engage and sit with investors on how best investments should be done in this country unless EIZ is on the table where I negotiate with the investors. This should not just happen within the country but even as we travel outside the country EIZ should be one of the stakeholders that should travel with government and negotiate on how best resources can be allocated for projects," he said.

He said government has deliberately allocated a huge amount of resources towards constituency development from K1.6 million to K25.7 million which is meant to be invested in the constituencies.

He further said this is an opportunity for engineers to position themselves strategically to be a part of the people that will mentor, train and educate the people that will manage the resources.

He called on the professionals to work together and complement each other because without one the other cannot survive.

EIZ President Eng. Abel Ng'andu said the 60th Council's emphasis is on promotion of entrepreneurship amongst engineering professionals in a bid to wipe away poverty in the Institution.

"Engineering professionals are the drivers of the economy and so we want to make sure that our members are uplifted and that is why we have submitted a document for minimum charge-out-rates before the Minister of Infrastructure, Housing and Urban Development Hon. Eng. Charles Milupi which will be prescribed into a Statutory Instrument for the minimum our engineering professionals should charge. The SI will also address the minimum salaries to avoid members being under paid," he said.

Eng. Ngandu called on the members to participate in all institutional activities and step up to offer themselves and be counted as some of the contributors to national development.

ENGINEERS IMPORTANT IN DEVELOPMENTAL PROGRAMMES - MWAYA

By Cynthia C. Ngwengwe



Her Worship Mrs Mpsa Mwaya

Kitwe Mayor, Her Worship, Mrs. Mpsa Mwaya has said engineers are important people who cannot be left out in developmental programmes that are taking place in the country because of the vital role of advising and input in the projects of construction or development as a whole.

Mrs. Mwaya said engineering plays an important role in the development of the country because majority of the projects have an engineering perspective in them and requires professionals such as engineers to handle.

Speaking when she officiated at the Engineering Institution of Zambia (EIZ) Northern Region Annual General Meeting held at Garden Court Hotel in Kitwe, Mrs. Mwaya said government is committed to working with professionals who will give professional guidance to the government.



EIZ Exco with the guest of honour during the AGM

"I know that the EIZ is working at improving the engineering profession in Zambia by ensuring that those practicing are registered with the Institution," she said.

I call upon the EIZ to continue working with the government in improving the public image of the engineering profession in Zambia.

She said government eagerly looks forward to working with the engineering professionals in various sectors of the economy.

Mrs. Mwaya said the onus is on the Institution to take advantage of the enabling environment that the government has created and ensure engineers are counted amongst those that contribute to the country's economy.



Members pose for a group picture during the AGM

Eng. Ng'andu called on the engineering professionals to play their part and give the right advice to the government in order to help develop the country.

He said there is need for all engineering professionals to work together and create an impact on the country's economy and infrastructure development.

At the same event the region had its Northern Region Executive ushered into office.

EIZ President Eng. Abel Ng'andu said it is encouraging that the New Dawn government is recognising the importance of the engineering professionals in the development of the country.

He said the Institution working alongside the New Dawn government will enable engineering professionals be involved in playing key roles in the development of infrastructure.

"We are happy with the progress so far in the appointment of engineering professionals as Ministers, Permanent Secretaries, Chief Executive Officers and Board Members on various key government organisations. This is good and shows the confidence the government has in the profession," he said.



Members follow proceedings of the AGM

EIZ CHALLENGED TO BE A VOICE ON ENGINEERING PROJECTS

By Cynthia C. Ngwengwe

Minister of Green Economy and Environment, Hon. Eng. Collins Nzovu has called on the Engineering Institution of Zambia (EIZ) to be a strong voice on all engineering projects and offer innovate solutions.

Speaking when a delegation led by the EIZ President Eng. Abel Ng'andu paid a courtesy call on him

at his office, Eng. Nzovu said engineering professionals must be solution providers and not wait for the Ministry or government to offer solutions.

"You are the professionals and the Republican President His Excellency, Mr. Hakainde Hichilema respects professionals and so we expect engineering professionals to be a voice on all engineering projects," he said.

He said he is aware that previously engineering professionals were not considered on most of the engineering projects but the new government wants engineers in the forefront especially on matters of climate change, renewable energy, bankable projects and carbon trading.



Hon. Eng. Collins Nzovu

He said his Ministry is ready to work with professionals and will support engineers and give preference to most projects in the country but that engineers need to take a lead.

The Minister also called on the Institution to work with the Ministry in coming up with awareness programmes as it is one of the key mandates for the Ministry.



Hon. Eng. Collins Nzovu during a meeting with the EIZ delegation

EIZ President Eng. Abel Ng'andu thanked the Minister for the opportunity and assured him that engineering professionals in Zambia were equal to the task and ready to work with the Government in developing the country.

Eng. Ng'andu further updated the Minister on the progress of the Charge out rates the Institution is working on to avoid over charge or under charging in the engineering profession.

"Engineers are at the epicentre of the developmental agenda and if there is ever a chance for us engineers to put ourselves at the epicentre of this developmental agenda, it is now. It is not a coincidence that I am at this Ministry but it is because government recognises that it needs engineers to address these problems," he said.

The Minister said his Ministry wants to come up with a symposium that will bring different minds together to debate and come up with innovative ideas and solutions that will address the many engineering challenges in the country.

"We need to have this Symposium before the Livingstone AGM so that the resolutions of the Symposium and actions to be taken can be shared during that meeting in April and as government and Ministry of Green Economy we are ready to support," he said.

Eng. Nzovu further urged the Institution to constitute a team of technical experts that will work closely with the Ministry in addressing issues of climate change and environment.

The Minister called on the Institution to speed up the process so that the rates can be effected and urged the Institution to always feel free to meet and engage with the Ministry.



Hon. Eng. Collins Nzovu (centre) with the EIZ delegation

MINISTRY OF WATER DEVELOPMENT AND SANITATION OPEN TO ADVICE – HON. MPOSHA

By Cynthia C. Ngwengwe



Hon Mike Mposha

He said it is law that for anyone to practice or set up an engineering organisation or unit, one should be registered with EIZ.

"We are aware that the Civil Service, including your Ministry, is not compliant with the law. We therefore want to take this opportunity through your office to appeal that you help the government and ensure that all engineering professionals in your Ministry and organisations affiliated to you meet this requirement," he said.

The Engineering Institution of Zambia (EIZ) is critical in advising government on matters relating to engineering in Zambia.

Minister of Water Development and Sanitation Hon. Mike Mposha said this when a delegation of the Engineering Institution of Zambia led by the EIZ President Eng. Abel Ng'andu paid a courtesy call on him at his office.

Hon. Mposha called on the EIZ to step up its efforts in providing the much needed advice to government particularly on engineering issues related to water development.

He said the Ministry remains open to advice on how the Ministry can improve on the ongoing and future infrastructure projects on water and sanitation in a more cost effective and quality assurance manner.

"The Ministry will ensure that engineering professionals are included on water utility company boards so that the much needed professional advice is given to the sector," he said.



Hon Mike Mposha with the delegation from EIZ

EIZ President Eng. Abel Ng'andu called on the Minister to help the Institution by insuring that all engineering professionals working in the Ministry of Water Development and Sanitation are registered with the Institution.

Eng. Ng'andu said EIZ will work with government to foster development in the country because EIZ is mandated with a number of activities in the Act, one of them being the registration of all engineering professionals, organisations and units and to regulate their practice.

He said it has become a common practice where people are not regulated and when people are not registered with EIZ its very dangerous because when they make mistakes they cannot be accountable to the Institution but if they are registered they will abide by the code of conduct.

Eng. Ng'andu further said even when engineering services are procured there is need to ensure that individuals and companies the Ministry engages are compliant because when such compliance is attained it will be easy to trace what members were doing.

Photo Focus



EIZ Exco pose for a group photo with Lusaka Mayor Her Worship Ms. Chilando Chitangala at her office.



EIZ Mentors after the programme was launched during the Northern Region AGM



Members of the Ethics and Integrity Committee making a presentation during the Northern Region AGM



EIZ staff after a Quantity Management System training in Chisamba



Members of the Publications and Editorial Committee with Reviewers after a reviewers camp in Chisamba



EIZ Management with Eng. Rhodnie Sisala after a meeting with him at Pamodzi Hotel



EIZ Management with Eng. Silan Mwenechanga after having a meeting with him at Pamodzi Hotel



Members during a Forum in Kabwe

Photo Focus



Members during a forum in Siavonga.



EIZ Ndola Branch during a CSR activity at Ndola Central Hospital where they made a donation of K12,000 towards repair of beds in the Maternity ward



EIZ members of staff on the Northern Region after making a donation to the women and babies at Kamfinsa Correctional facility on International Women's day



EIZ members of staff on the Southern Region after a tour and donation to the Levy Mwanawasa General Hospital Theatre during the International Women's day.



Members during the Northern Region AGM



EIZ President Eng. Abel Ng'andu and EIZ immediate past president Eng. Eugene Haazele during an interview on live radio



Minister of Commerce, Trade and Industry Hon. Teg. Chipoka Mulenga with the EIZ delegation after a meeting at his office.



EIZ President Eng. Abel Ng'andu with student engineering professionals during the World Engineering Day March past



Hon. Mposha with members from his office and the EIZ delegation

He went on to say that EIZ is a repository of engineering expertise in Zambia and it's against this background that the function of advising government on matters relating to engineering were included in the Act.

"We note with regret how in the past, public figures including politicians have either ignored or not sought for professional advice from EIZ and have ended up mismanaging water supply resources, sanitation and service delivery.

He said it has become a common practice where people are not regulated and when people are not registered with EIZ its very dangerous because when they make mistakes they cannot be accountable to the Institution but if they are registered they will abide by the code of conduct.

"This is very important because when such a member or company misbehaves by failure to deliver or misconduct themselves professionally they there will be recourse through the EIZ disciplinary committee whose sittings and judgement are guided by the Zambian judiciary," he said.

"We are at your disposal and encourage you to call upon us any time and we will gladly offer advise should you need it. To this effect we have put together some advisory notes which you may wish to consider as you begin steering your ministry to deliver government's agenda to achieve the sustainable development goal of providing safe clean drinking water and adequate sanitation for all," he said.

Eng. Ng'andu further said even when engineering services are procured there is need to ensure that individuals and companies the Ministry engages are compliant because when such compliance is attained it will be easy to trace what members were doing.

He said the Ministry does not have to suffer in the hands of non performing engineering companies and individuals because they can be reported to the EIZ disciplinary committee and they will be reprimanded in accordance with the law.

EIZ SHOULD BE INVOLVED AT INCEPTION OF INFRASTRUCTURE PROJECTS

By Cynthia C. Ngwengwe



Hon. Eng. Elias Mubanga

Minister of Small and Medium Enterprises Development Hon. Eng. Elias Mubanga has called on the Engineering Institution of Zambia (EIZ) to ensure that it is involved at the inception of infrastructure projects in the country and not just inspections of practicing licenses.

Speaking when a delegation led by the EIZ President paid a curtesy call on him at his office, Eng. Mubanga said engineering professionals must be in the forefront of what is happening in the country if the country has to develop economically.



Hon. Eng. Mubanga with the EIZ delegation

"If we seem not to be in the forefront of what is happening in this country economically then we are lagging behind while development needs to be attained in the country," he said.

He said he is aware that previously local engineering professionals were not considered while foreign professionals were considered to champion the development of the country.

"Government knows that engineers are able to perform and wants to ensure that they are part of the development of the country and EIZ is key in this agenda," he said.

The Minister also urged the Institution to ensure that infrastructure in the country stands the test of time.

He said his Ministry is ready to work with professionals and will support engineers and give preference local engineers in most projects in the country but that engineers need to take a lead.

The Minister urged the Institution to identify engineering professionals that can help contribute to the development of the country and bring them on board.

"I want the Institution to work on the gap between an engineer and an artisan because without an artisan an engineer cannot work. The Ministry will work with the Institution in skills training and we are already in talks with the Ministry of Mines to relook at the training facilities," he said.

EIZ President Eng. Abel Ng'andu thanked the Minister for the opportunity and assured him that engineering professionals in Zambia were equal to the task and ready to work with the Government in developing the country.

ENGAGING MORE WOMEN IN TVET

By Kafula Chanda



large proportion of the Zambian populace gets exposed to TVET.

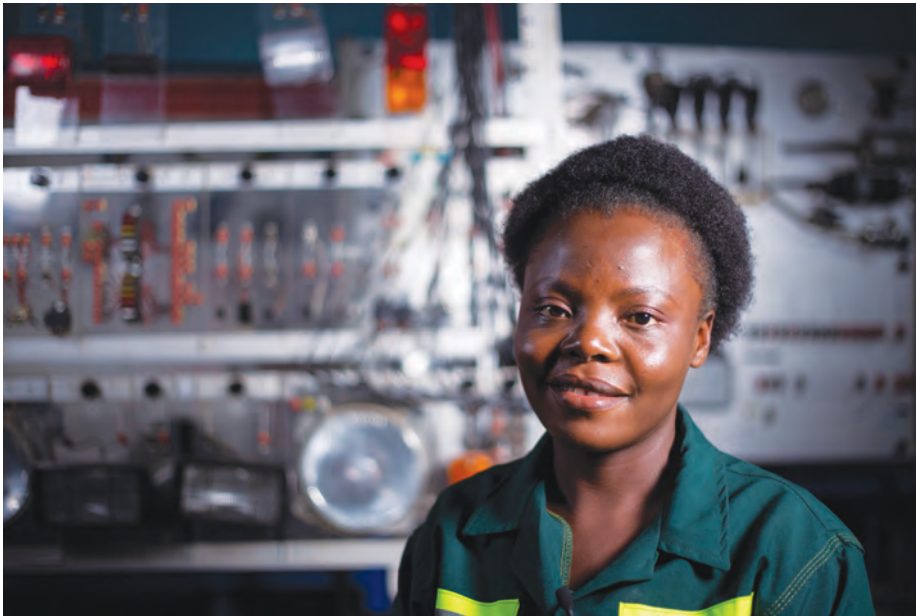
Despite having the capacity to contribute to sustainable development, the majority of women are misrepresented in education and vastly underrepresented in TVET, leaving them with minimal skills.

This might explain why training ensures equal chances and treatment for men and women in the work place.

Thus, it is the aim of the Zambian Industrial Training Academy (ZAMITA) Public Private Development Partnership PPDP project that young women are inspired to participate in TVET, if Zambia is to achieve sustainable development.

Globally, education has been regarded as the key to attaining sustainable development, with TVET serving as the master key. TVET is the most

feasible training programme for developing a cadre of creative and inventive persons with the necessary entrepreneurial potential for long term growth. It is essential that a



Chalwe Musonda Trade Test Level III Automotive Engineering Student

In Phase I of the project, the academy trained over 680 students in heavy equipment engineering at Northern Technical College (NORTEC) with a 13% percent increase in female enrolment from 1%. The training enabled young people to realise their full potential and was warmly received in the extractive industry.

engineering programmes at NORTEC by increasing female participation and creating enrollment opportunities for the vulnerable and physically challenged.

To address this gap, UNIDO in collaboration with NORTEC, launched a campaign in Zambia to

Due to Covid-19, the project was only able to visit six (6) target sites districts/chiefdoms across Zambia's provinces and execute gender-focused enrolment awareness activities in these rural areas.

A total of 1000 applications were received at NORTEC from these chiefdoms, and 180 students were shortlisted for the May 2022 intake, with 24 percent female representation as of September 2021.

This initiative expands on the Zambian government's pledge to grant 500 bursary spots to ZAMITA beneficiaries.

Chalwe Musonda, a female beneficiary now studying Automotive Engineering Trade Test Level III, feels that workshop practice is the most interesting aspect of her curriculum. "I would spend a whole day in the workshop simply exploring stuff."

Chalwe recalls that her parents and family persuaded her not to pursue automotive engineering since it is dominated by males before she enrolled in the academy. She applied because she knew what she wanted and wanted to be distinct from the rest of her family. "I would tell my fellow females not to be disheartened; if you know what you want, go for it," she said.

Enala Msimuko, another ZAMITA student who is pursuing a diploma in Automotive Engineering and was raised by a single mother, believes that women should gather strength, stand up, and believe that they can do engineering courses. "I am grateful for the chance to attend this institution. Because my parents couldn't afford to pay for my college, I never imagined I would have a shot at it. But when this chance arose, I was ecstatic, and I am now happy to be a part of this academy."



From (Left to Right) Emmanuel Sampa and Enala Msimuko ZAMITA Automotive Engineering Diploma Students

As a result, since the project's expansion to serve the country's workforce development in the transportation sector, the academy has placed a greater emphasis on the need to bring similar developments from Phase I into Phase II and help to close the gender gap in the automotive

reach the 10 provinces and raise awareness about student involvement. This intended to help the government provide bursaries to Zambia's most vulnerable and underprivileged youth in order to improve their participation in TVET courses at NORTEC, the academy's host institution.



Fred Wishikoti Nortec Trainer in Volvo Truck SA Workshop



Victor Mwansa Nortec trainer in Volvo Trucks SA Workshop

Enala believes that participating in the new curriculum would improve her life and drive her to new heights. The portion of her programme that she enjoys the most is disassembling and reassembling engines. "That's a lot of fun for me," she concluded.

"I am thankful to ZAMITA because I

come from a family that lives below the poverty line, which means we can hardly afford most of our basic requirements, and ZAMITA arrived at a time when my family was losing hope that I would be able to pursue tertiary education. ZAMITA and its partners, the Swedish Embassy in Lusaka, the Government of Zambia, Volvo Group, and UNIDO, provided

me with this chance to gain skills." Emmanuel Sampa who is pursuing an Automotive Engineering diploma, added his two cents.

The academy has been implementing rigorous staff development programmes in order to improve teaching methodologies and trainer abilities. Since the academy's Phase II, a total of 27 staff development programmes have been completed successfully. Local on-the-job training (OJT), international OJT with Volvo Trucks South Africa, Training of Trainers (TOT) with local experts, Virtual TOT with international experts, Pedagogical Training, Soft Skills programmes on smart interactive screens, and e-learning programmes are among the trainings conducted.

The staff development training sessions have involved a total of seventeen (17) NORTEC teaching members of staff from the automotive and heavy equipment departments.

Two NORTEC trainers recently completed a 10-day On-the-Job Training with Volvo Trucks in Johannesburg, South Africa, from the 18th to the 29th of October, 2021.

The project continues to organise staff development programmes to enable trainers to expand their expertise needed on advanced tools and equipment to effectively perform on modern automotive technology and its systems and ultimately deliver effective lessons to students.

The establishment of a link with Volvo's Truck division in South Africa for the purposes of technology transfer, curriculum updating, infrastructure provision, and staff development training has enabled the ZAMITA to empower more female learners with skills previously thought to be reserved for men.

ZWES CORNER



Eng. Chibesa Pensulo

Eng. Chibesa Pensulo is a 40 year-old Civil and Environmental Engineer. She is a graduate of the University of Zambia with Bachelor of Engineering degree in Civil and Environmental Engineering. She graduated in 2004. She did her secondary education at Fatima Girls' Secondary School in Ndola and was later accepted at UNZA in the School of Natural Sciences in 1999.

She decided to study Engineering because she was inspired by her father, the late Eng. Dr. Emilius Pensulo, who exposed her to his work throughout her childhood.

Her career began with a long internship in the GTZ (now GIZ) water sector reform programme, where she co-coordinated a water demand management pilot project in Lusaka. Upon completion of her BEng degree, she joined Lusaka Water and Sewerage Company as a graduate engineer. She later relocated to South Africa where she joined the Government, in the Department of Water Affairs, as a technical specialist in water services policy and strategy. During this time, she earned an Honours Bachelor of Science degree in Environmental

Management. In 2009 she started her MSc at Uppsala University in Sweden, where she studied Sustainable Development in order to complement her technical knowledge. Upon completion of her MSc, she joined Stockholm International Water Institute (SIWI), a policy institute that provides advisory services to governments on water management. During her time at SIWI, she managed capacity building programmes in water management in Botswana and Namibia.

In 2014, Eng. Pensulo moved back to Zambia to manage a UNDP project on improving early warning systems for floods and droughts. She later re-joined GIZ and served as an Advisor to the Water Resources Management Authority (WARMA). In 2018, Eng. Pensulo briefly worked as a consultant in the Climate Resilient Infrastructure Development Facility, a DFID-funded water infrastructure programme for the SADC region, before relocating to South Korea to join the Green Climate Fund (GCF).

At GCF, Eng. Pensulo is responsible for technical review of water project proposals requesting GCF financing. There is a wide variety of such proposed projects, spanning water supply, wastewater management, desalination, managed aquifer recharge, flood control and water storage infrastructure. As GCF is a climate fund, all the projects it finances must be designed to deliver climate change adaptation and mitigation benefits. Eng. Pensulo's role is to ensure the technical soundness and climate responsiveness of the proposed water projects.

How does she balance her work/family demands?

She trains and empowers others, both at work and at home, then delegates to them anything that she doesn't have to do herself.

Biggest challenges in her career life?

Civil engineering careers involve either a lot of travelling or a lot of relocating (or both), which can be stressful for families.

What can women do to adapt to the engineering environment, which is mostly male dominated?

It's not women who need to adapt to the engineering environment; it's the engineering environment that needs to be adapted to women. We can achieve this by being ourselves and not being afraid to speak up for our rights and needs.

Future aspirations?

Her aspiration is to establish her own consulting firm focused on climate change adaptation and sustainable development.

ZESCO ACHIEVING ENERGY EFFICIENCY THROUGH LED BULB ROLLOUT

By Martha Z. Phiri



ZESCO has successfully distributed over 1.3 million energy efficient light bulbs in the past three years, effectively saving about 100 megawatts from the national electricity grid.

This initiative forms part of ZESCO's energy efficient lighting exchange drive, a campaign that involves the exchange of old-style incandescent bulbs with energy efficient light emitting diode (LED) bulbs.

The ongoing installations of LED bulbs have been implemented in residential homes in Lusaka, Kabwe, Ndola, Kitwe, Mbala, Mpulungu, Mazabuka and Choma.

It is envisaged that by meeting the initial target of distributing four million LED bulbs, ZESCO will save up to about 118 megawatts.

Comparatively, the amount of electricity to be saved since the distribution started is equivalent to constructing a generation plant of similar capacity at a cost of not less than US \$300 million.

LED lighting enables energy savings of up to 80 percent on lighting for residential customers as they use less power per unit of light generated thereby reducing demand on generation resources and mitigating the impact of load shedding.

The goal for ZESCO is to reduce the amount of electrical energy required to provide the same service without altering customer needs.

LEDs have the cheapest operating cost and also have a lifespan of 30,000 hours, an equivalent of just over three years. Longer life-span means lower carbon emissions thereby promoting a clean environment thus saving the environment and enhancing energy efficiency.

LEDs last 13 times longer than incandescent light bulbs, hence reducing the requirement for frequent replacements resulting in increased savings. Additionally, LED bulbs emit brighter light in comparison to incandescent bulbs.

Additional benefits of LED lighting include improved voltage profiles, freeing up of system capacity, making available additional power for new connections, reduced energy bills for customers, and extended equipment lifetime which reduces maintenance costs.

LEDs are also one of the world's most energy efficient and rapidly developing lighting technologies. Although having an initial high cost as compared to alternative light sources they have numerous benefits and are cheaper in the long run.

Since 2011, ZESCO has established the Department of Demand Side Management with the sole purpose of integrating innovative strategies of planning, implementing, and monitoring activities and the electricity equipment designed to encourage power consumers to modify their level and pattern of electricity usage.

ZESCO Limited remains committed to providing reliable electricity to ensure all power disruption constraints are mitigated against, and urges all customers to promote the efficient utilisation of electricity and where possible, to use alternative sources of energy.

Remember that Energy efficiency can significantly help ZESCO manage times of high demand, ultimately making it easier to provide, efficient, effective and excellent service to you the customers.

EIZ COMMENDS ZWES

By Cynthia C. Ngwengwe



Group picture with the participants

The Engineering Institution of Zambia (EIZ) President Eng. Abel Ng'andu has commended the Zambia Women in Engineering Section (ZWES) for encouraging the participation of the girl child in engineering.

He said the essay writing competition aimed at ensuring that students acquired the necessary skills and experience required for contemporary writing, while thinking in line with what happens in their environments.

"The competition has brought collaboration and helped in bringing women in engineering together through sharing the achievements of women in engineering and technology around the continent hence achieving a diverse and inclusive engineering sector in the African continent, he said".

Eng. Ng'andu was speaking during an awards ceremony organised by ZWES in honour of Federation of African Engineering Organisations (FAEO)'s 2021 art and essay writing competition held in commemoration of the International Women in Engineering Day and the World Water Day respectively which falls on 23rd June and 22nd March every year.

He said competitions are important for the engineering fraternity in that they help students to develop fundamental skills which are necessary to nurture creative ideas to spur their interest in stem fields of study with focus in engineering.



Chibomba Chisala receiving her award from EIZ President and ZWES Chairperson



Lisa Mulambo receiving her award from EIZ President and the ZWES Chairperson

Eng. Ng'andu said the collaboration between FAEO and all engineering institutions promotes individuals to have equality of opportunity to succeed and to prosper, which welcomes and utilises the perspectives of all, and works to address the global challenges, as espoused in the sustainable development goals.

He said this collaboration enhances the ability to achieve an engineering profession, which attracts, retains, promotes, and welcomes the inputs of women and other under-represented groups in the engineering fraternity.

"Women are often under represented in the academic and professional fields of engineering, however many females have contributed to the diverse fields of engineering historically and currently therefore the need to increase the participation rate in such competitions, he said.

Eng. Ng'andu congratulated the two recipients of the awards for stepping up and participating in the art and school essay competition respectively.

"Seven-year-old Chibomba Chisala was the only participant from Zambia in the art competition and was amongst the top eight who drew a female engineer at work while Lisa Mulambo a student at the University of Zambia (UNZA) took part in the school essay competition on valuing water and came out first position beating other contestants from other countries,". He said.

And speaking at the same event ZWES Chairperson Eng. Ennie Muchelemba congratulated the two participants for taking part in the competition and emerging 1st and 8th positions respectively.

She said it was encouraging that the two girls took up the challenge to compete with participants from other parts of the African continent.

"As ZWES we shall continue to encourage the girl child to take up engineering as a career in the hope of increasing the number of female engineering professions in the country," she said.

The two participants were awarded during an awards ceremony held in Lusaka at the EIZ Head Office.



Members of the press during the awards ceremony

HELP GOVERNMENT COMPLETE PROJECTS – HON. KAPALA

By Abigail Hampande



Hon. Eng. Peter Kapala

Minister of Energy Hon. Eng. Peter Kapala has said the Ministry of Energy relies on engineering experts from the Institution to help identify and complete long overdue and abandoned projects.

Eng. Kapala was speaking when a delegation led by the EIZ Vice President Policy, Public Relations and National Development Eng. Charity Chola paid a courtesy call on him.

He said the Republican President His Excellency Mr. Hakainde Hichilema is committed in ensuring that abandoned projects are completed and therefore the reason for EIZ to form teams in each sector that would look at different projects.

Eng. Kapala said the Institution needs to be more proactive and take part in structuring programs that the ministry will be undertaking.

Meanwhile EIZ Vice President Policy, Public Relations and National Development Eng. Charity Chola Said EIZ stands ready to work with the ministry to realise Government's developmental agenda in the development of the nation.



Hon. Eng. Kapala with the EIZ delegation

She said EIZ is an Institution charged with the task of advising Government on matters of engineering and stands ready to support in aligning policies to environmental goals.

“EIZ has noted with interest the desire by the Government to enhance performance of the electricity sector in the Country through the expansion and diversification of the power generation portfolio, expansion of the transmission and distribution network, and increasing of accessibility to electricity especially for citizens living in the rural Zambia,” she said.

She called on the Ministry to consider reviewing the current Electricity Supply Industry model by leveraging on previous studies that were conducted and supported from multinational Organisations.

Eng. Chola said the Ministry should also address the misalignment brought about by the 2019 version of the Electricity Act and Energy Regulation Board Act to open access regime, rules and regulations for mini grid developers.

She said the Ministry should ensure conclusion and implementation of the cost of service study and address the impediments which are negatively affecting the Global Energy Transfer Feed-in Tariff (GET FiT) program.

Eng. Charity said the program stalled largely because developers raised concern about the general financial sustainability of the energy sector

with particular reference to the power purchase agreements between the developers and the off taker, ZESCO.

She further called on the ministry address operational issues affecting Indeni.

“EIZ is convinced that a re-engineered processing plant is the solution and the Institution stands ready to support the efforts of the ministry,”. He said.

Furthermore, she said there was need to develop and implement a clear policy on infusion of bio- fuels into the sector and assured the Minister that EIZ had expertise that has conducted several studies in this area that the Ministry can leverage on.

EIZ CELEBRATES WORLD ENGINEERING DAY

By Abigail Hampande



EIZ President pose for a group photo with the engineering students before the march past at the EIZ Head office.

The Engineering Institution of Zambia (EIZ) joined the rest of the world in commemorating the World Engineering Day which was held under the theme Build Back Wiser – Engineering the future.

World engineering day is celebrated on the 4th of March every year as a reminder of all the great things engineers around the world have done.

The Institution organised a number of activities to celebrate the day with the launch by the Minister of Infrastructure, Housing and Urban Development Hon. Eng. Charles Milupi who called on the engineering professionals to take charge and avoid certification of poor quality works.

Hon. Milupi said appropriate laws and administrative procedures would be applied effectively in order to safeguard public resources.

He said government's agenda cannot be achieved without the active participation and contribution of engineers in different sectors of the country's economy.

“I want to urge all engineering professionals to adhere to the ethical standards of the profession in line with the new dawn government’s policy directive given by His Excellency Mr. Hakainde Hichilema on procurement of engineering projects,” he said.

During the same week the Institution held a march past for engineering students which was graced by the EIZ President Eng. Abel Ng'andu who called on the engineering students to be innovative, creative, intellect and take advantage of opportunities in order to experience growth in their profession.

He said the biggest call in today's society is to embrace the advancement in technology as society progresses.



Students during the launch of World Engineering Day



Evelyn Hone students during the launch of the Student Chapter

“Engineering has always played an important role in the growth and the welfare of human beings in ensuring that the upcoming engineers and scientist are able to find solutions to critical challenges faced locally or globally,” he added.

The Institution also launched of the student chapters at Evelyn Hone College in Lusaka and Chikupi College.

During the launch of the student chapter, Lusaka Vice Chairperson Eng. John Harawa said student chapters are important in EIZ as students are the future engineering professionals to take up engineering positions.

Eng. Harawa said the launch of the student chapter was in line with the EIZ constitution, which provides for engineering student members of the Institution with a common interest in either a technical or a geographic area to organize into a chapter to enhance the

effectiveness and impact of the EIZ operations in a particular area and to centralize the system.

He said young people need to know how to generate new knowledge in order to meet the demands of the modern-day workforce, to practice professionally at and beyond the level of international standards.

He thanked the students for their dedication in EIZ, its activities, and students who would be representing the chapter for accepting to lead their fellow engineering students and for all the measures taken to facilitate the launch.

The Institution also conducted career talks in all EIZ branches.



Eng. John Harawa

THE ENGINEERING INSTITUTION OF ZAMBIA

FRAUD ALERT: EIZ REGISTRATION SERVICES

The Engineering Institution of Zambia is a statutory body enacted by the EIZ Act No 17 of 2010.

The Engineering Council and Management have noted an increase in “**EIZ AGENCY SERVICES**”. The EIZ would like to inform the membership, stakeholders and the general public that there are **NO AGENTS** appointed/contracted to provide services on behalf of the Institution.

All services including membership/practice registration & renewals for both engineering organizations and individuals are through the EIZ Secretariat. EIZ or its employees shall not be held liable for any loss or damage arising from transactions conducted by persons or institutions claiming to be representatives of EIZ.

Further it is prohibited to use the EIZ Logo minus the authorization of the Institution on all activities, adverts and media.

Issued by Communications Unit



THE ENGINEERING INSTITUTION OF ZAMBIA

EIZ HEADQUARTERS

Engineering House
Stand No. 2374, Danny
Pule Road, Showgrounds
P.O. Box 51084
Tel: +260 211 255 161

SOUTHERN REGION

Engineering House
Stand No. 2374, Danny
Pule Road, Showgrounds
P.O. Box 51084,
Telefax: + 260 211255161

NORTHERN REGION

Engineers' House
8 Kantanta Street,
P.O.Box 23385,
Tel: 260 212 230111,
260 212 222608

ADVANCING TECHNOLOGY FOR NATIONAL DEVELOPMENT

EIZ Membership Benefits

As an EIZ member, you are out there, inspiring businesses, setting standards and shaping the future of the profession. And we are here, helping you on your journey and providing you with the skills you need to keep up with the changing environment in readiness for the future.

Why your EIZ membership is so valuable

- **Monthly Continuous Professional Development (CPD):** A platform for knowledge and technology transfer through Conferences, Symposiums, Seminars, Trainings and Forums.
- **Stay ahead:** Our Echo magazine brings you industry news and insights-as well as the weekly digest.
- **Supporting you to be part of the world's largest and fastest growing Engineering body:** Our popular global networks where you can connect with other like-minded professionals are: Facebook, WhatsApp, LinkedIn and Website.
- **Take your career to the next level:** Providing for mentorship as well as the use of the EIZ Job portal to find your perfect role or next member of your team and encouraging the next generation of engineering professionals through Career Talks.
- **Benevolent Fund:** This is a fund set up by EIZ and registered under the Registrar of Societies for the purpose of providing support and assistance to members of EIZ who are in need.
- **Scholarships:** EIZ offers scholarships to students and members who want to pursue engineering courses from all local universities and colleges.
- **EIZ as an Arbitral Institution:** We offer arbitrators/mediators to help settle engineering disputes for our members and other stakeholders.
- **Engineering Professionals with Integrity:** We enhance the practice of engineering in a professional and ethical manner by ensuring that members abide by the Code of Ethics.
- **Move with Technology:** EIZ organizes and facilitates for Skills Competitions, Technical Tours and Workshops for its members
- **Shares:** Members have access to ownership of their institution through buying in the EIZ Properties PLC.
- **Insurance Cover:** Members paid up by the 31st December of each preceding year are entitled to Funeral insurance.