



# The Energy Regulator

## *Newsletter*

AN ENERGY REGULATION BOARD NEWSLETTER

January - October 2012



● Energy week 2012



● Earth Hour campaign



● ERB in the community



● Infrastructure tours

# Editorial

**D**ear Readers,  
Welcome to the latest  
edition of **The Energy**

**Regulator Newsletter**. With the ushering in of the new Government the Energy Regulation Board (ERB) has embarked on a sensitisation campaign to ensure that policy makers are up to speed with key issues in the energy sector. To this effect, the ERB conducted a workshop for Members of Parliament (MPs) who turned out in large numbers, thereby affirming the importance of the energy sector. Readers can get more details on this workshop in this issue.

The ERB values the role played by the media in disseminating information to the public. Without this important function it would be a tall order for the regulator to single-handedly relay information to energy consumers. As such, the ERB supports the annual MISA Zambia Media Awards an important initiative which helps to build capacity and reward outstanding works. Therefore, the ERB sponsored the Energy Category by providing prize money. Details on this event are featured in the magazine.

One of the key functions of the ERB is to monitor for compliance by utilities to standards and guidelines. The ERB conducts technical audits of infrastructure in the energy subsector to ensure compliance. Apart from ensuring safety of consumers, such audits also help in identifying challenges and solutions in the sector. Readers are invited to join one of our engineers Richard Banda and his team on an inspection trail.

The ERB is privileged to work with dedicated, energetic and passionate volunteers running the affairs of energy Consumer Watch Groups (CWGs) in 11 districts. Through these men and women, working on a voluntary basis, the ERB continues to hear about amazing experiences from the consumer front. The CWG members deserve to be commended for always going the extra mile in the quest to provide an invaluable service to the energy sector. Details on their contributions and number of complaints handled are featured in this issue.

The ERB is on the move to extend its outreach and accessibility to energy consumers. A third ERB office was opened in Livingstone in April this year after the Head Office in Lusaka and the Northern Region Office in Kitwe. Apart from the tourist capital, our new office's regulatory arm extends to the rest of Southern Province as well as Western Province. Details on these activities plus many more in this issue!

Enjoy!

**Kwali Mfuni**  
**Communications Officer**



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# ERB confers with MPs on energy



*Hon. MPs at the workshop facilitated by the ERB at Parliament building*

As a people-driven organization, the Energy Regulation Board (ERB) recently engaged the peoples' representatives by conducting a workshop for over 100 Members of Parliament (MPs).

Against the background of the current power shortage in the country and occasional fuel challenges experienced in some parts of the country, the meeting was very opportune. The MPs obviously shared this position going by the excellent attendance and active participation. The workshop was half day and was held on 18<sup>th</sup> July 2012 at National Assembly.

A total of 106 MPs, out of the full establishment of 150, participated in the workshop underlining the importance of the energy sector to the economic and social wellbeing of the country.

In addition, to highlighting processes involved in pricing energy products and services, the ERB also

outlined its role and functions in the energy sector.

The MPs also used the opportunity to interrogate the regulator on a number of issues pertinent to their constituencies such as the frequent load shedding, scarcity of fuel in some parts of the country as well as high fuel prices compared to some neighbouring countries.

The Deputy Speaker of the National Assembly Hon. Mr. Mukondo Lungu officially opened the workshop on behalf of the Speaker of the National Assembly Hon Mr. Patrick Matibini. Hon Matibini emphasised the need to increase access to electricity in view of the low access particularly in rural areas where only about 3% of the population access electric power. He observed that this would reduce dependency on wood fuel and mitigate against climate change.

Hon. Matibini noted the various upcoming electricity projects which would leave behind the days of power shortages.

He lamented the high cost of petroleum products in Zambia which had an adverse impact on the cost of doing business in the country. The speaker wondered if the existing petroleum infrastructure was adequate to meet the national requirements. "There is need to establish national strategic fuel reserves as a measure towards ensuring security of supply in the country," Hon. Matibini said.

The Speaker however commended the introduction of Uniform Pump Prices (UPP) and promotion of alternative power sources such as solar. He noted that the UPP promotes investment in rural areas, but was quick to call for measures to promote the establishment of filling stations in rural areas for consumers to enjoy the initiative.

He observed that alternative sources of energy were an important mitigation measure against the current power shortage.

# The Dawn of Renewable Energy in Zambia

By Kwali Mfuni



*Solar cooker: Suitable for slow cooking foods such as beans, rice and dry fish.*

Recycling is a familiar word in environmental circles globally, yet few people imagine energy can be renewed. The general thinking is that one can only recycle or renew solid objects like plastics and wood. For countries like Zambia, which are endowed with abundant energy, recycling or renewing resources like energy is somewhat a remote issue. The Energy Regulation Board (ERB) wants to correct this view through the promotion awareness programs on renewable energy. In June 2011, the ERB facilitated a forum on the status of Renewable energy in Zambia.

The forum was well attended

considering that renewable energy is not widely used in Zambia and yet it can positively contribute to meeting energy needs in everyday life. Renewable energy does concern all of us one way or another.

Historically, Zambia had sufficient and excess energy installed capacity. This was because the population was low and there were relatively fewer industries tapping into the available power. As such, there was no pressure to look at renewable energy as an alternative. The onset of the industrial revolution coupled with population migration to the city for greener pastures, saw the demand for energy gradually

increase to levels outstripping the installed capacity.

With the upsurge in power demand it soon became obvious that there was need to consider alternative sources of energy. Renewable energy is generated from natural resources which cannot be depleted. The National Energy Sector Report (2008) lists renewable energy as solar, mini/micro-hydro, biomass, geothermal and wind.

Renewable energy is the energy for the future. It provides opportunities for increasing energy access to cleaner energy forms, it can contribute to job creation, assist in mitigating gender imbalances and best of all, it has less negative effects on the environment compared to conventional energy systems because it can be employed in adapting and mitigating climate change.

Considering the numerous benefits of renewing energy, the Government promoted investment and the use of renewable energy. The Ministry of Mines Energy and Water Development (MMEWD) along with key stakeholders like the Energy Sector Advisory Group (ESAG), research Institutions, line Ministries, donors and the private sector; has been assigned the responsibility of developing guiding principles to allow tapping of this valuable resource. To date, this has been achieved and seen the notable birth of guiding documents such as the Sixth National Development Plan, Annual Work plans and the MMEWD strategic plan among others.

Other types of renewable energy sources identified were combustion and gasification, bio-methanation, extraction and processing for transport and House Hold energy. Aside from Government, UNDP

has also taken an active role in promoting the use of alternative renewable energy. The UNDP has developed renewable energy programmes such as:

- **Renewable Energy and alternative development programme**

The main objective of this programme is to expand the use of renewable and alternative

energy in the country's energy mix.

- **Bio-fuels development programme**

The main objective of this programme is to increase the use of bio-fuels as a substitute to mineral fuel.

- **Biomass / Woodfuel management programme**

The main aim was to develop a rational and implementable approach to improve sustainability of biomass energy and raise end user efficiency.

For more information on the Renewable Energy forum, visit the ERB website on [www.erb.org.zm](http://www.erb.org.zm)

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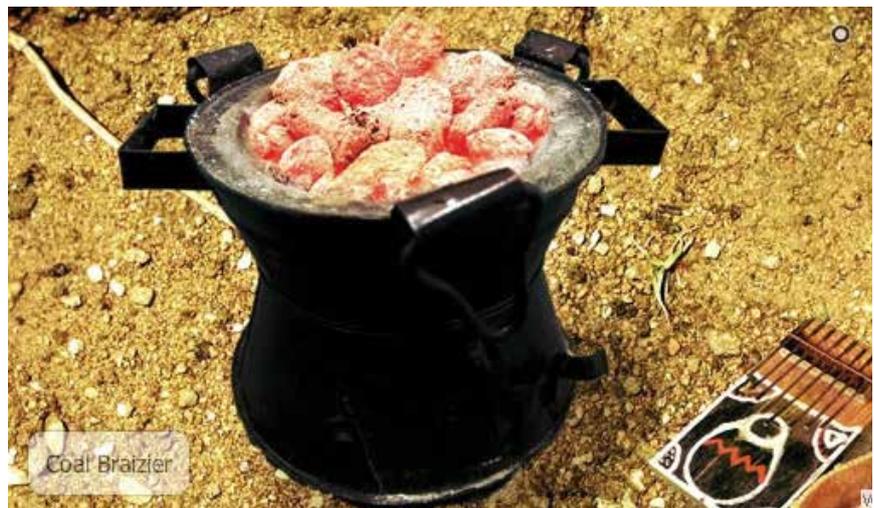
# Maamba Collieries Limited to operate the first coal-fired thermal power plant

By Kwali Mfuni

Zambia's energy needs are entrenched in hydro generated power, which is not surprising considering that the country is well endowed with water resources. Over 99% of the electricity in Zambia is hydro based. Hydro generated electricity is rated among the best in the world as it is 'clean' energy and relatively cheaper to operate compared to other electricity generation methods like nuclear, wind and geothermal among others.

However, in order to provide for reliable power in the country, it is necessary to develop alternative energy sources apart from hydro electricity. This will ensure security of supply in the event of drought or indeed any other calamity that poses an adverse risk to hydropower generation. The Energy Regulation Board (ERB) among other stakeholders is supporting measures to extend the country's energy mix beyond hydro electricity.

Against this background, the intention by Maamba Collieries Limited (MCL) to develop Zambia's first ever coal fired thermal power plant is welcome news not only for the energy sector but the country as a whole. MCL intends to construct and build Zambia's first coal fired thermal plant at a cost of about US\$650 million. Once operational



the power plant will contribute about 265.5MW to the national output. This is only slightly less than the current demand by the mines which stands at about 300MW. The MCL thermal power plant is therefore a major undertaking which is expected to significantly contribute to the country's energy needs.

Construction of the project is expected to start this year. MCL will design, finance, construct, commission, own, operate and maintain the coal-fired power generation plant to be located at Maamba town. In addition, two single circuit 330kV lines will be constructed from the power plant

to the ZESCO system at Muzuma substation. ZESCO is expected to construct, test and commission the interconnection facilities in line with the Development and Connection Agreement and in order to provide for transmission of the generated power. It is anticipated that the project will be completed and commissioned by 2014.

Apart from diversifying the country's energy mix, the MCL Thermal Power plant will also help meet the local energy demands.

The ERB has granted regulatory approval for a Power Purchase Agreement (PPA) between MCL and ZESCO for a period of 20 years.

# ERB Investigates Kabwe Infant Electrocution Incident



*In the field: ERB Engineer Electricity – David Mpundu interviews locals on the electrocution incident*



*The guy wire - supporting the ZESCO cable near the communal toilet.*

Electricity is an important source of power for many activities both at domestic and industrial level. However, electricity can be lethal if not properly handled or managed. Sadly, a tragedy befell a family in Kabwe's Katondo compound when their nine-month-old baby girl, Priscilla Mulenga, crawled over a live ZESCO cable.

According to media reports and eyewitness account, the child died shortly after crawling over the cable which had been hanging in her parent's yard. The death of the child sparked protests among the local residents, who accused the power utility of neglecting to rectify the fault, which they claimed was reported to ZESCO. However, further enquiries revealed that the local ZESCO office did not receive such reports as there was no written report or record of the said faulty cable.

Following media reports, the ERB conducted investigations which revealed that the cable was located next to the communal toilet shared by about three house-holds; while the cable was a low voltage ZESCO cable supplying electricity to a

neighbouring house. The premises where the cable was positioned was in fact not electrified. Owners of the property where the incident occurred, Mr. and Mrs. Raphael Chileshe narrated that tenants knew about the risk involved and avoided contact with the cable at all costs.

Mr. Chileshe claimed that although the faulty cable had been reported to ZESCO and follow ups made, nothing was done. This position was also supported by the Chairman of the Resident Development

Committee Mr. James Phiri.

According to ERB findings, the electrocution was caused by failure of the guy wire sectional insulator; and failure of the insulation service line when it came in contact with the guy wire. The ERB further noted that ZESCO did not inform the regulator about the electrocution accident as stipulated in the utility's electricity distribution license.

Members of the public are encouraged to report all faulty electrical infrastructure to ZESCO and keep a record of such reports.



*David Mpundu chats with the tenants at the premises*

# ERB opens office in Livingstone

By Kwali Mfuni



Left to right: Mr. Sitali looks on as Hon Zulu and Hon Mwaliteta cut the ribbon

**M**osi-oa-Tunya – “the smoke that thunders” is the local name of the famous Victoria Falls located in the southern Zambia. This world famous tourist attraction is the key feature of the city of Livingstone responsible for attracting much investment, particularly in tourism sector.

Livingstone city, the tourist capital of the country has an estimated population of about 114,600 (UN). The city has also witnessed increased social and economic activities, which include tourism, farming, trade and transportation . With increased economic activity comes the increased need for quality energy services and products. In recognition of this fact the Energy Regulation Board (ERB) opened an office in the tourist capital on 12<sup>th</sup> April 2012.

Mines, Energy and Water Development Deputy Minister, Charles Zulu, MP accompanied by

the Provincial Minister for Southern Province Obvious Mwaliteta officially launched the office.

Mr Zulu said that opening of ERB Livingstone Office was in tandem with Government policy of decentralizing provision of services from the Lusaka to other parts of the country.

“The new ERB office is important for residents in Livingstone and surrounding areas because the regulator’s services can be accessed locally, while on the other hand the ERB will promote enhanced quality energy products and services in the area,” he said.

The deputy minister urged the ERB to address pertinent energy issues in the area such as consumer complaints and illegal fuel vending, a common vice due to the proximity of Livingstone to neighbouring countries.

Mr. Mwaliteta commended the ERB for responding to energy consumer needs in the area by opening the office.

“The opening of the office is also opportune in view of the World Tourism Conference to be jointly held by Zambia and Zimbabwe in 2013 with Livingstone being the Zambian focal area,” he said.

Earlier, ERB Executive Director, Mr. Butler Sitali disclosed that the regulator found it necessary to open an office in Livingstone in the wake of an increase issues in the area.

“I am pleased to let you know that the opening of Livingstone Office will enable the ERB extend its services and outreach to the rest of Southern Province as well as Western Province. This will definitely help to improve the efficiency of the ERB in addressing energy issues,” said Mr. Sitali.

Through the Livingstone office, the ERB will continue with its mandate to resolve consumer complaints and monitor the efficiency and performance of energy utilities.

Other functions include:

- Promoting competition in the energy sector through development and implementation of appropriate rules in collaboration with the Consumer Protection and Competition Commission;
- Designing standards which help to monitor the quality, safety and reliability of energy products and services in collaboration with the Zambia Bureau of Standards; and
- Formulating measures which protect the environment in collaboration with Zambia Environmental Management Agency.

Other dignitaries present at the event included the civic leadership, Government heads, regional security heads.

# Energy Week 2012

By Kwali Mfuni



Left to right: Then ERB Director, Infrastructure and Operations Regulation Mr. James Manda, Assistant Director - Department of Energy Mr. Charles Mulenga, Hon. Yaluma and ZESCO Managing Director Mr. Cyprian Chitundu

In June this year, the Energy week was commemorated in Lusaka, Kitwe and Livingstone under the theme – *Conserve Energy for a brighter tomorrow - Go Green.*

This event was spearheaded by the Ministry of Mines, Energy and Water Development (MMEWD) and was held for the first time in Livingstone. All the events held simultaneously in three provinces were characterised by community meetings, drama performances and media campaigns. In Livingstone,

an exhibition was held at the Civic Centre, while Levy Junction Mall hosted the Lusaka event and the Shoprite premises in Kitwe.

As per tradition, the main highlight was an exhibition in Lusaka which was launched by the then Minister of Mines, Energy and Water Development Christopher Yaluma.

The exhibitions in Kitwe and Livingstone and were launched by Energy Deputy Minister Mr. Charles Zulu, MP and Southern Province

Minister Mr. Obvious Mwaliteta, respectively.

Launching the Lusaka exhibition, Mr. Yaluma urged members of the public to consider available alternative energy sources as they would help mitigate the recurrent power shortages the country was experiencing.

At the exhibitions energy consumers were interested in the features of energy saving bulbs and raised safety issues. It



ERB staff participating in the march past to commemorate Energy Week



Hon. Yaluma touring energy exhibits accompanied by Mr. Chitundu and Mr. Manda

was made clear that the bulbs are not carcinogenic due to minute quantities of mercury found in them compared to ordinary fluorescent tubes which have long been used in the country.

Also on exhibition were alternative energy sources such as solar power as well as environmentally friendly cooking and lighting systems provided by various suppliers.

On display at the exhibition, was a wide variety of literature on Zambia's energy sector and environmentally friendly ways to use energy.

Although the Energy week has been commemorated in Zambia since 2008, the 2012 commemorations were rather spectacular and public meetings well attended.



*ERB staff participating in the march past to commemorate Energy Week*

Some of the companies that exhibited included ZESCO, Davis & Shirliff, Livingstone Institute

of Business and Engineering Studies, Zambia Environmental Management Authority and the Zambia Bureau of Standards.

# ERB approves Power Purchase Agreements

*By Kwali Mfuni*

Recent developments in the electricity sub sector in Zambia is welcome news for both domestic consumers and businesses countrywide. In particular, the ERB approved Zambia's first thermal plant and also granted regulatory consent for ZESCO to access an additional 170MW from Itezhi-Tezhi Power Corporation (ITPC) and Ndola Energy Company (NEC).

Under the approved Power Purchase Agreements (PPAs), ITPC will generate 170MW and NEC will generate 50MW at the estimated costs of US\$230 million and US\$65 million respectively. The ITPC will construct a hydro power plant to take advantage of the available water resources at Itezhi Tezhi dam, while NEC will construct a Heavy Fuel Oil (HFO) powered thermo plant, which is a new power generation source in the country.

The two power plants will help

mitigate the power deficit currently being experienced in Zambia, especially at peak hours. The peak demand currently is about 1580MW while available generation capacity stands at about 1401MW and installed capacity is 1739MW. With the new plants coming on board installed capacity levels would increase to 1900MW.

The additional power plants will help meet the country's ever-increasing load by contributing additional power to the national output. With additional power access to electricity in rural areas, which currently stands at about 3%, is bound to increase.

The NEC will contribute to improving the country's energy mix as it will use Heavy Fuel Oil (HFO) to generate electricity. The NEC plant which will be located adjacent to INDENI Petroleum Refinery in Ndola for ease of access, will also free storage space currently used to store HFO.

INDENI has had to stock-pile HFO (a by-product from the refining process) due to limited demand in the country.

The 50MW plant also presents an alternative energy source to the national energy mix, which predominantly relies on hydropower. For Zambia, 50MW will go a long way in easing the power deficit. For example, the additional 50MW alone would be sufficient to power three provincial centres such as Chipata, Mansa and Kasama, which require about 15MW each at peak periods. Although the plant will be located in Ndola it will make available additional capacity that will enable ZESCO reduce on load shedding in other districts.

ITPC is jointly owned by Tata Africa Holdings of India and ZESCO, while NEC is a subsidiary of Concordia Energy Group of Mauritius.

# Zambia's Grid Code - 'missing link' for private investors

By Kwali Mfuni

At one time in Zambia the word 'electricity' was synonymous with ZESCO Limited - then the sole company that dealt with anything related to electricity. However, since the liberalisation of the energy sector in 1995 under the Electricity Act, ZESCO's monopoly in the energy sector ended.

This change was reinforced with the creation of the Energy Regulation Board (ERB), which provided for participation of the private sector. The main objective was to promote investment and provide for more players and wider access to electricity. However, despite all these measures there has been little investment in the electricity sub sector. This is especially evident when compared to the petroleum sub sector, which has close to 30 players compared to the five or six at the inception of the ERB in 1997.

A number of factors have contributed to the lack of investment in electricity generation. The major deterrent has been the astronomical costs associated with establishing an electricity power generation station, which coupled with the low tariff, has made Zambia unattractive to potential investors.

However, with the program to migrate tariffs to cost reflective levels and the establishment of the Grid Code, Zambia is on course to becoming an attractive destination for new power generation projects. This is evidenced by the growing number of power initiatives currently under way such as Kariba North Bank Extension Power Corporation (KNBEPC), Maamba Collieries, and Itezhi-tezhi Power Corporation Limited among others.

In order to promote the participation of the private sector in the Electricity Supply Industry (ESI) a number of measures have to be put in place such as clear procedures on regulation of the sector and operations of the grid system in Zambia.

To this effect, the ERB embarked on a project to establish the Zambian Grid

Code, which would guide operations of the electricity transmission system. The Grid Code has been the 'missing link' for potential investors, who after establishing the viability of generating electricity in Zambia, needed to know the procedure on how they would get the generated power to customers.

The main purpose of the Grid Code is therefore to ensure that all parties in the electricity transmission system perform their functions in order to ensure safe, secure and reliable operations of the interconnected power system. This ultimately helps to promote transparency in the sector and thereby attract structured investment.

"Simply put, the Grid Code guides the operations of the electricity system much the same the highway code is the official road user guide for Zambia," said ERB Executive Mr. Butler Sitali.

"Imagine if there was no highway code, no road signs, road markings and so forth, there would be chaos. Similarly we are trying to regulate behaviour in our transmission system," he said.

Apart from legally establishing the technical requirements for the connection and use of the electrical transmission system, the Grid Code provides other benefits, which include the following:

- Assures the customer that the service provider operations are transparent and non discriminatory;
- Assures the regulator that service providers operate in a transparent and fair manner;
- Assures the service provider that customers will honour their mutual Grid Code obligations; and
- There is reduced perceived risk by potential new investors.

The Grid Code establishes responsibilities and obligations of all the players and gives assurance to the regulator that service providers

operate in a transparent and fair manner. As such, all parties in the sector are required to be compliant with the Grid Code.

This is in order to promote buy-in and ensure that all stakeholders accept and appreciate the value of the Grid Code. The process to develop the grid code commenced in 2003 and was developed in consultation with various stakeholders. This included a technical team comprising local experts from electricity generation, transmission, distribution, customers, the academic fraternity, ERB and the Government of the Republic of Zambia.

Consultations were held with key stakeholders in the electricity sub sector, the mining sector, Government among other stakeholders. The committee worked with a consultant to incorporate best practices from global experts.

Core International, a consultancy firm provided technical assistance and global perspective to the project. The consultant team comprised seasoned and experienced experts in various related fields. As a demonstration of the type of technical assistance that went into the development of the first Zambian Grid Code, one of the consultants, Vinod Shrivastava has wide global perspectives – was born in India to a poor family. He is a self-made man, educated in Europe and the US, with a wealth of work experience ranging from a US fast food outlet to NASA.

The consultant team brought over 40 years work experience in energy, technical, engineering and other relevant fields to the development of the first Zambian Grid Code. With the input of the technical Committee, Government and other stakeholders the Grid Code is expected to deliver on its intended objective.

The project was funded by the Swedish International Development Agency (SIDA) at a total cost of Swedish Kronor 12 million or K9.2 billion equivalent.

# ERB okays ZESCO/CEC Tariff

By Kwali Mfuni

**M**ining is one of the major economic activities in Zambia. It is therefore not surprising that the mining industry is the largest consumer of electricity power in the country.

The mines used 45.87% of the power in 2009 and 54.29% in 2008. *Energy Sector Report 2009 – Energy Regulation Board*

Therefore, the approval by the Energy Regulation Board (ERB) to allow a 30% in ZESCO's Bulk Supply Tariff to Copperbelt Energy Corporation (CEC) for 2011, has a significant impact on the financial status of the electricity subsector. This is particularly important because electricity tariffs have been revised annually since 2008 to attain cost reflective tariffs for all customer categories except the mines.

A Cost of Service Study, sponsored by the World Bank and Swedish International Development Agency/Aid, which was conducted in 2006 revealed that tariffs for all customer categories were below cost. Subsequently, the ERB has approved three tariff increases between 2008 and 2011 for ZESCO's regulated

customers except the mines.

The mining tariff could not be revised due to a stabilisation period that had been agreed on at the last mine review in 2008 when the tariff was adjusted by 35%. The mines negotiated for a stabilisation period from 2008 to 2010, during which there was to be no change to the mine tariff.

At the end of the agreed stabilisation period, in December 2010, ZESCO Limited and CEC Plc engaged in talks to revise the Bulk Supply tariff to cost reflective levels. The two entities agreed on a 30% tariff increase for 2011 and are yet to conclude negotiations on adjustments for the period 2012-2015. The parties however, applied to the ERB for regulatory approval of the agreed tariff adjustment for 2011.

ZESCO advanced a number of reasons for tariff increase which included the following:

- Increase in inflation which had resulted in increased operation costs at levels higher than the available revenue;

- Depreciation of Kwacha by 52% for the period 2000 to 2010 during which the Kwacha depreciated from K3112 per US\$1.00 to K5000 per US\$1.00;
- Increase in the cost of machinery and equipment used in the electricity industry; and
- Capital requirements to fund generation projects, transmission and distribution infrastructure in order to meet the rising demand.

On its part, CEC indicated that the revision of the mining tariff had been necessitated by the need for capital to maintain infrastructure and increased operational costs coupled with planned new generation projects.

The new generation projects include Kabompo and Luapula River Hydro Power Projects which when operational will help meet the current and projected power needs of the mines. CEC reported that most of its customers were appreciated the need for cost reflective tariffs. The mines had indicated support for the proposed mine tariff, provided that additional funds are utilised to improve power quality on the Copperbelt.

## ERB sponsors MISA Zambia – Media Energy Award



ZNBC's Joshua Jere receiving his award from Information and Broadcasting Services Permanent Secretary, Amos Malupenga.

**T**he Energy Regulation Board (ERB) is happy to be associated with the Media Institute of Southern Africa (MISA) Zambia Media Awards, an important national media event.

In what is becoming a tradition, the ERB sponsored the energy category for the 10<sup>th</sup> Annual MISA Zambia awards held at Protea Hotel in March this year. Joshua Jere of ZNBC won the energy awards in the television category, Chiwoyu Sinyangwe of Post Newspaper in the print category and

Arnold Tutu of Radio Phoenix in the radio category.

"The media fraternity is an important partner in information sharing with energy consumers in the country. As such, the ERB engages the media at various levels and fora which includes sponsoring media awards which recognises and rewards excellence and effort in journalism," ERB Executive Director Mr. Butler Sitali said.

The event was graced by Information and Broadcasting Permanent Secretary Mr. Amos Malupenga, US Ambassador to Zambia Mr. Mark Storella and British High Commissioner to Zambia Mr. James Thornton. Mr. Malupenga challenged MISA to extend the awards beyond the media fraternity to include deserving Zambians who have contributed to enhanced media freedom in Zambia. He also challenged MISA to develop programs which invest in

the capacity of journalists hence improve reporting standards in the country.

The US Government's support to the Media awards was propelled by their recognition of the critical role the media performs in providing the Zambian citizenry with information on issues affecting them. Ambassador Storella says the US Government views the media as a key partner in many issues such as HIV/AIDS. PEPFAR Zambia, a US funded project working to mitigate the effects of HIV/AIDS sponsored the HIV/AIDS awards category.

The British Ambassador Mr. Thorton, commended Zambian journalists for their sacrifice and dedication to promote public information access through tools like newspapers, radio, TV, the world wide web including bloggers. He encouraged journalists to cultivate the role of always providing a voice for ordinary citizens.

Other sponsors of the 10<sup>th</sup> MISA Zambia Annual Awards were Ministry of Gender and Child Development, Airtel Zambia, Electro Commission of Zambia, ZESCO Limited, European Union, Diakonika and Zambia Information and Communication Technology Authority.

# Working towards electricity safety

By Kwali Mfuni

**R**ichard Banda is an engineer at the Energy Regulation Board (ERB) and his 'to-do-list' includes assessing the state of electricity infrastructure in the country.

Richard and other electrical engineers at the ERB inspect energy infrastructure for compliance to ensure public safety as well as continued supply of the much-needed electricity countrywide. Electricity is Zambia's most important energy, which could be fatal if not properly handled.

ERB engineers are alive to both the dangers posed by electricity as well as the country's high reliance on this energy source. Electricity accounts for 99% of the energy used in Zambia. All the major industrial activities including the mines are highly dependent on electricity. Against this background, Richard and his colleagues know that they have to do a diligent job to protect people from danger and avoid power blackouts.

A typical inspection starts with a plan drawn up in the office before the team sets out for field work. The ERB conducts both scheduled and un-scheduled inspections, to keep energy utilities on their toes. The regulator's operations are usually divided in two sections, the Northern and Southern part of the country. Richard's team is in charge of the Northern part of the country, which also includes the Copperbelt Province, home to most of the copper mines in Zambia as the name suggests; North-Western Province, an upcoming copper mining province, Northern and Luapula Provinces.

Richard and his team set out on field trips covering extensive parts

of the country inspecting various electricity infrastructure dotted along a selected route. The type of infrastructure inspected changes the further one gets from the national grid, from hydro power to diesel infrastructure. This is common in most outlying areas which are usually not connected to the national grid. The team has a checklist of items inspected at each point. A typical checklist mainly looks into safety issues with regard to workers on site as well as residents living close to the infrastructure; general maintenance and the status of transformers.

"Safety issues are important in order to avoid accidents that could either affect the staff and surrounding areas or indeed cause a power black out," says Richard.

He said maintenance of equipment and the transformer makes the difference between a safe environment and a hazardous environment that could either result in a fire outbreak or electrocution.

These matters are usually standard for all the types of energy infrastructure inspected by Richard and his team. The engineers also inspect mini hydropower stations

that are common in the Northern part of the country.

In the first half of 2011, the ERB engineering team inspected the Northern Region. Most of the energy infrastructure in the area is ZESCO property. ZESCO is the largest power generation and distribution company supplying almost all the power in the country. The Copperbelt Energy Corporation (CEC), which services most of the mines accounts for the rest. Richard and his team observed that despite a general improvement in the maintenance of electrical infrastructure, there were inadequate safety measures and lack of fire detectors at most ZESCO substations and distribution points.

Generally, it was established that ZESCO infrastructure had improved, with new generator sets having been installed in some districts. The main challenges noted were inadequate maintenance and adherence to safety standards at some sub stations. This was of concern to Richard and his team because it poses a danger to the staff as well as residents. Ultimately it could also lead to power loss. Results of the technical audits conducted in the northern part of the country in 2011 were as follows:

## Copperbelt Compliance Levels

TRANSMISSION SUBSTATION	% COMPLIANCE	DISTRIBUTION SUBSTATION	% COMPLIANCE
Luano	70	Kafironda	59
Mpongwe East	69	Kansuswa	72
Mpongwe West	67	Skyways	74
Munkumpu	68	Chambishi Primary	59
Kitwe CSS	81	Mwambashi	67
Chambishi	84	Chati	66
		Luangwa	79
<b>Average</b>	<b>73</b>		<b>68</b>

### Northern Province Substation Compliance levels

SUBSTATION		% COMPLIANCE
1	Kasama	59
2	Lualuo	73
3	Mpulungu Main	40
4	Mbala	58
5	Luwingu	68
6	Mpika Main	69
7	Nakonde Main	71
8	Chinsali Main	62
9	Mporokoso Main	58

Average % Compliance 62

### Luapula Province Substation Compliance

SUBSTATION		% COMPLIANCE
1	Mansa	47
2	Musonda T-off	60
3	Samfya	45
4	Mwense	52
5	Kawambwa 1	62
6	Mbereshi 1	63

Average % Compliance 54.8

### North Western Province:

#### a. Substation Compliance

TRANSMISSION SUBSTATION		% COMPLIANCE
1	Kansanshi	91
2	Lumwana	91

Average % Compliance 91

#### a. Distribution Substation Compliance

DISTRIBUTION SUBSTATION		% COMPLIANCE
3	Kasempa	67
4	Solwezi Main	59

Average % Compliance 63

#### b. Gensets Stations

GENSETS STATIONS		% COMPLIANCE
1	Mwinilunga	61
2	Mufumbwe	63
3	Kabompo	55
4	Zambezi	51
5	Chavuma	59

Average % Compliance 58

Inspections for the Northern Region were concluded after a long field trip at the end of which Richard and his team had covered over 2000km. Richard Banda has a sense of satisfaction that his work is contributing to protecting lives and reducing national blackouts.

# The Symbolism of World Earth Hour

By Kwali Mfuni & Cephas Moonga



*Clad in ERB sponsored T-shirts- Miss Zambia with school girls after a tree planting exercise to commemorate Earth Hour*

One night every year people across the world are asked to give up 60 minutes of light to mark the importance of responsible energy use for the earth's continued wellbeing.

The Energy Regulation Board (ERB) joined the World Wide Fund for Nature (WWF), Ministry of Lands, Environment and Natural Resources, ZESCO Limited, Lafarge Cement, Zambia Environmental Management Agency and other stakeholders to commemorate World Earth Hour which was observed on 31<sup>st</sup> March 2012.

Earth Hour is the largest global campaign organised by WWF. It is intended to inspire individual action to adopt environmentally sustainable actions with regard the use of energy. During Earth Hour, individuals, households, communities, Governments and business organizations, in essence everyone with the exception of sensitive sectors such as health and security are invited to switch off non-essential lights for one hour in March every year.

While Earth Hour involves switching off non-essential lights to conserve energy, the symbolism behind it goes beyond energy conservation for an hour as the campaign aims to educate people to avoid wasteful consumption by conserving energy and other renewable natural resources.

The Earth Hour campaign is therefore intended to change people's mindset by drawing attention to individual actions which when combined can have a great impact on energy consumption patterns. Switching off lights that are not in use at home or the office seems like a small thing but it actually amounts to huge amounts of power saved if thousands do it. Earth Hour provides an opportunity to educate people to reduce their energy consumption and save on their energy bills.

This is the essentially the principle behind the Demand Side Management campaign which is being spearheaded by ZESCO and supported by the ERB among other stakeholders. The campaign promotes the responsible use of power by energy consumers in the country. In addition, it informs the energy user that they can control their power use and ultimately money spent on energy. This translates into power saved which means reduced load shedding - a 'win-win' situation.

The Earth Hour campaign in Zambia has received massive support from energy stakeholders the public and private sectors. The hospitality industry has also identified energy as one the costs which can be managed sustainably with the introduction of energy-saving bulbs and improved energy utilisation.

# Stakeholders Tour Energy Facilities

By Kwali Mfuni



Part of the construction works at KNBEP

The liberalisation policy of the early 1990s saw the creation of an agency to regulate the energy sector in Zambia. Specifically, the Energy Regulation Board (ERB) was handed a passport to carry out its functions under the Energy Regulation Act of 1995 Chapter 436 of the Laws of Zambia. The ERB however, only commenced operations in 1997, following the promulgation of Statutory Instrument Number 6 of 1997, the Energy Regulation Act (Commencement Order) of 27th January 1997.

A quick count confirms that the ERB has been in existence for 14 years. Since then a number of awareness programs have been conducted to educate stakeholders on the role of the ERB as well as key energy issues. One of the tools that have been used to sensitize stakeholders is familiarisation tours to various energy infrastructures. This has helped many stakeholders appreciate the significance of the sector to national development. 'I didn't know that it takes so much to generate electricity,' is a common reaction by many stakeholders after touring a power plant.

As such, tours to energy sites have always been an important part of the ERB outreach programs with stakeholders.

The year 2011 was no exception, the ERB organised a tour for some representatives of the business and commercial sector to the power extension project in Siavonga specifically, the Kariba North Bank Extension Power Project and petroleum infrastructure at Tazama Pipelines and Indeni Oil Company Refinery in Ndola. The tour, which comprised about 10 stakeholders, started with a meeting on operations and factors impacting the energy sector. The meeting, which was held at the ERB offices in Lusaka, focused on issues affecting the business and commercial sector. Issues identified included the pricing of petroleum products in Zambia with reference to prices in neighbouring countries; Possible measures to reduce the cost of fuel in the country and the licenses issued by the ERB.

In responding to stakeholder concerns, ERB Director Economic Regulation Dr Mushiba Nyamazana, explained that the price of fuel in the country was mainly influenced by two external factors specifically the price of petroleum products on the international market and the exchange rate of the Kwacha to major world currencies like the US Dollar. He added that taxes charged on petroleum products sold in the country also had an impact on the local price of fuel.

However, Dr. Nyamazana dispelled the perception that Zambia had the most expensive fuel citing Malawi as an example of a country with similar conditions where prices are higher.

He pointed out that Zambia had no access to the ocean like some of the countries where fuel was considerably cheaper. This scenario is also compounded by the fact that feedstock also had to be transported from Dar-es-Salaam in Tanzania to the refinery in Ndola covering a distance of about 1,714km.

Stakeholder representatives were interested in several issues related to petroleum such as feedstock composition, the Uniform Pump Price (UPP), investment in the storage of fuel, promotion of competition in the sector energy sector. However, some of the questions by the stakeholders were best answered through the field tours.

## **Kariba North Bank Extension Power Project**

The stakeholders toured the Kariba North Bank Extension Power Project (KNBEP) in Siavonga a project, with an expected power output of about 600MW and the largest hydro-power project to have been developed within the sub region in the past 35 years.

Mr. Aaron Nyirenda the Project Director at KNBEP updated stakeholders on the status of the project which is expected to be completed by 2013.

Mr. Nyirenda said the project was being financed through a loan provided by ABSA of South Africa and Exim Bank of China. ZESCO had provided seed funds for the periods when funds were not available from the donors.

"This project is a milestone for Zambia as it will contribute towards meeting the country's energy shortfall, which ZESCO had predicted in the mid 1990s," he said.

The team was taken to the project site currently under construction by the Contractor - Sino Hydro. Female members of the team were allowed underground for the first time by the contractor. The team was informed that Sino Hydro customarily does not allow

women to the construction site for safety reasons .

The stakeholders toured the water intake point, access tunnels, penstocks and the massive machine hall, reminiscent of a huge cathedral.

While the stakeholders were impressed with scale of work and the project in general, they wondered why measures had not been put in place to avert the power shortage, since it had been anticipated.

#### **Petroleum infrastructure Tour**

The tour of petroleum infrastructure on the other hand was an eye opener into the potential, possibilities and perceived difficulties that Zambia has to grapple with in meeting demand both local and beyond.

Many stakeholders described the tour to both Tazama Pipelines and Indeni Oil Refinery as enlightening. This was particularly true for the refinery where stakeholders learnt that the plant was actually producing a higher yield of

products after the pull out of the equity partner. In addition, Indeni management also disclosed that the refinery was still viable and could perform even better with a few modifications. The team learnt that the current refinery production of 850,000 MT/year was closer to the designed capacity of 1.1million MT/Y than 400,000 MT/year in 2005 when there was an equity partner. This was also true for the number of shutdowns, which had reduced to 50 days in 2011 from 120 days in 2005.

Stakeholders were impressed with the opportunities offered by the refinery particularly against the perception that it was a drain on national resources with some calls for it to be shut down. Measures to improve the refinery include installation of an isomeriser and a hydrotreater estimated at US\$10million and US\$15million respectively.

The isomeriser helps to reduce the temperatures at which refining takes place and in the process prolongs the refinery life. The hydro-treater is used in the production of lighter products such

as kerosene, JetA1.

At Tazama pipeline, stakeholders learned that programs were underway to improve the country's storage capacity which would also improve security of supply of fuel stocks. The group was taken on a tour of the pipeline infrastructure by senior management led by Tazama Managing Director Mr. Largeman Muzelenga.

Infrastructure toured by the group included the 40 million litre reserve storage tank that was recently rehabilitated at the Ndola Fuel Terminal. Mr. Muzelenga told stakeholders that plans were underway to construct other storage facilities at Lusaka, Mpika, Mongu and Solwezi.

The stakeholder delegation comprised representatives from Zambia National Farmers Union (ZNFU), Zambia Chamber of Commerce and Industry (ZCCI), and the Zambia Association of Manufacturers (ZAM), and individuals with an interest in energy among other stakeholders.

## CWGs – VOLUNTEERING TO SAFEGUARD CONSUMER INTERESTS

By Kwali Mfuni

For over a decade, the Energy Regulation Board (ERB) has continued to provide consumers in the energy sector with an opportunity to address complaints. The ERB conducts consumer education and information awareness programs to help consumers resolve complaints pertaining to energy services and products.

It would be difficult to extend this service to other parts of the country without the energy Consumer Watch groups (CWGs) on energy, which are present in districts. The CWGs are voluntary community based groups set up by the ERB to act as the regulator's link between consumers and utilities. They are an important outreach tool for consumer protection as well as regulation against the background

of limited ERB physical presence in the country. The CWGs are present in Kabwe, Lusaka, Chipata, Mongu, Livingstone, Ndola, Kitwe, Chingola, Solwezi, Mansa and Kasama.

A workshop, whose main objective was to share strategies as well as updates on the activities of the CWGs was held in Lusaka from 3<sup>rd</sup> to 4<sup>th</sup> April 2012.

Officially opening the workshop, ERB Executive Director Mr. Butler Sitali commended the CWGs on their efforts to reach energy consumers in their operation areas. This was demonstrated by the number of complaints handled at CWG levels which has been steadily increasing over the years. The main CWG outreach activities apart from handling

consumer complaints, includes community awareness programmes. Meetings are conducted where information is shared through popular theatre, song and dance.

At the workshop, CWGs reported on their various activities which mainly focused on complaints handling, and awareness promotion in their areas of operation. Livingstone CWG reported enhanced activities with the opening of the ERB office in Livingstone.

Chipata CWG shared pointers on establishing beneficial relationships with key stakeholders such as the civic authority. "We have a good working relationship with the local civic authority and regularly work with them in awareness programs," the group reported.

Solwezi CWG explained how their critical role brought about the installation of a high voltage power line from Kansanshi Mine to the town area. This initiative helped reduce load shedding in the town which had been a persistent problem in Solwezi town.

Ndola CWG viewed a bio gas project plan by the Ndola City Council which when completed will help reduce pressure on the national power output and contribute to reduced load shedding.

The number of complaints handled by CWGs from January to June 2012 is 1,433, out of which 972 were resolved. During the same period ERB officers received 103 complaints out of which 54 complaints were resolved.



Mr. Sitali, ERB staff and CWG members at the workshop venue

# Consumer Rights Day Celebrated



Hon. Sichinga flagging off the march past

Zambia has since 2008 joined the rest of the world in commemorating the World Consumer Rights day celebrated on 15<sup>th</sup> March. This year's event was held under the theme: *Our money, our rights: campaigning for real choice products and services.*

The World Consumer Rights Day (WCRD) in Zambia traditionally brings together consumer organizations, Government agencies, regulators and the private sector. Activities usually include a march past, media programmes and a public gathering where stakeholders share plans, experiences and activities aimed at protecting consumer rights. This year's events followed a similar pattern and kicked off with a march past which was flagged off by the Minister, Commerce, Trade and Industry, Mr. Bob Sichinga. The march commenced from Lusaka's



ERB staff observe consumer rights day

Addis Ababa Drive roundabout and was concluded at Kamwala Market where a number of speakers and entertainment was lined up. Speakers at the event included Hon Sichinga and Consumer Units Trust Society (CUTS) International Chairperson Ambassador Love Mtesa.

Mr. Sichinga emphasised the need to enshrine consumer rights in the Zambian Constitution as they were fundamental. He noted that the existing consumer legislation points to Government's commitment towards providing for consumer wellbeing. Mr. Sichinga however, bemoaned the low implementation rate of such legislature.

CUTS International Chairperson Ambassador Mtesa made a passionate appeal for Government to protect consumer rights.

Participants at the Lusaka event included Competition and Consumer Protection Commission, Ministry of Commerce Trade and Industry, Energy Regulation Board, Zambia Bureau of Standards, Zambia Information Technology Authority, Zambia Weights and Measures and CUTS International.

On the Copperbelt, the event was also observed at Kitwe's City Square. A march was flagged off by Kitwe District Commissioner Mr. Mwape Kasanda.

The main objective of WCRD is to promote the rights of consumers with regard to various goods and services. It is used as a publicity event to educate consumers on their rights and increase stakeholder involvement in protecting consumer rights and guard against market abuses and social injustices.

*The WCRD has been celebrated since 1983. Former US President John F. Kennedy has been a source of inspiration in promoting consumer rights since his 1963 declaration to the US Congress when he said:*

*"Consumers by definition include us all. They are the largest economic group, affecting and affected by almost every public and private economic decision. Yet they are the only important group... whose views are often not heard"*

*The UN has adopted guidelines for Consumer Protection outlined as eight basic consumer rights which include the rights to:*

- **Satisfaction of basic needs** - to have access to basic, essential goods and services: adequate food, clothing, shelter, health care, education, public utilities, water and sanitation
- **Safety** - to be protected against products, production processes and services which are hazardous to health or life
- **Information** - to be given the facts needed to make an informed choice, and to be protected against dishonest or misleading advertising and labelling.
- **Choice** - to be able to select from a range of products and services, offered at competitive prices with an assurance of satisfactory quality
- **Be heard** - to have consumer interests represented in the making and execution of government policy, and in the development of products and services.
- **Redress** - to receive a fair settlement of just claims, including compensation for misrepresentation, shoddy goods or unsatisfactory services.
- **Consumer education** - to acquire knowledge and skills needed to make informed, confident choices about goods and services, while being aware of basic consumer rights and responsibilities and how to act on them.
- **Healthy environment** - to live and work in an environment that is non-threatening to the wellbeing of present and future generations.



Sister D in action

# New Energy Minister

Former Transport, Works, Supply and Communications Minister Yamfwa Mukanga is the new Minister for Mines, Energy and Water Development. Mr Mukanga who is also Kantanshi Member of Parliament (MP) moved to his new portfolio in August 2012 following a cabinet reshuffle. He took over from Mr. Christopher Yaluma, MP for Malole, who held the position since September 2011. The Energy Regulation Board wishes Mr Yaluma every success in his new appointment and welcomes Mr Mukanga to the energy sector. We look forward to working with him in regulating the energy sector for enhanced national development.



Hon. Mukanga

## SADC Regulators trained in Lusaka

By Kwali Mfuni

A senior government official has called for strengthened regulatory capacity as a condition for the growth, adoption and utilization of renewable energy technologies in Zambia's energy mix.

Former Minister of Mines, Energy and Water Development, Mr. Christopher Yaluma made this observation at the Regional Electricity Regulators Association (RERA) training on Renewable Energy for 81 regulators from Zambia and the sub region held in Lusaka from 26 to 30<sup>th</sup> March 2012.

RERA is a regional body for the Electricity Supply Industry (ESI) operating within the SADC area. Its main objectives include capacity building and information sharing; Harmonisation of ESI policy, legislation and regulations as well as cross border trading.

In a speech read for him by Deputy Minister Mr. Charles Zulu, Mr Yaluma observed that the training had been appropriately structured to address licensing and grid integration of renewable energy technologies.

"I note that Zambia through the Energy Regulation Board is formulating an off-grid regulatory framework which will incorporate



Delegates at the RERA training

"renewable" to the national energy mix. This is in addition to a feed-in tariff policy framework being developed by Government which will also promote the adoption and utilization of renewable energy," said Mr Yaluma.

ERB Executive Director, Mr. Butler Sitali speaking on behalf of RERA and the ERB thanked cooperating agencies for sponsoring the training workshop.

"Support from the cooperating partners made it possible for more delegates to participate as they were not required to pay any course fees. I therefore wish to commend SATH and USAID for their continued support to the training of regulators in the sub region," he said.

Mr. Sitali said in a bid to continue building regulatory capacity, RERA has partnered with training institutions, regulatory associations

and cooperating partners. To this effect RERA collaborates with cooperating partners such as the National Association of Regulatory Utility Commissioners (NARUC) of the USA, the Management Programme in Infrastructure Reform and Regulation at the Graduate School of Business at the University of Cape Town, the African Forum for Utility Regulators (AFUR) and the Southern Africa Power Pool (SAPP).

The training was conducted under the auspices of the Southern Africa Trade Hub (SATH), the United States Agency for International Development (USAID) and ERB.

The majority of the workshop participants were Zambians with the others drawn from the sub region. The objective of the training was to enhance understanding on renewable energy generation and regulation which can contribute to sustainable and secure energy for Africa particularly against the background of power shortage common to most African countries. The Rural Electrification Authority is also working with partners and other stakeholders in the solar sector in order to increase access particularly in rural areas.



*Special touch: ERB ladies had reason to smile on International Women's Day when Executive Director Mr. Butler Sitali surprised them each with a red rose flower. Left to right: Receiving the flowers are Foster Banda, Administrative Officer, Anne Kamaki, Human Resources Officer and Niza Bwalya, former Human Resources Officer.*

## ERB supports special needs school

This year, the Energy Regulation Board (ERB) ladies made a donation to Munali School for Children with Special Needs in commemoration of International Women's Day.

Speaking on behalf of the ERB ladies, then Head Economic Regulation Fossil Fuels, Mrs. Pethel Phiri noted with humility the school's heroic efforts in caring for children with special needs amidst many challenges.

"The ERB ladies were inspired and resolved to supplement the school efforts by donating towards the school's needy areas," she said.

Mrs. Phiri on behalf of the ERB team handed over 70 mattresses, six flash doors and cleaning detergents.

The Head Teacher Mr. Makuba Felix Kaite received the items on behalf of the school and thanked the team for the generous gesture. He further disclosed that the school

was in great need of lockers, kitchen utensils, toilet facilities in the school and dormitories as well as an improvement in the water supply.

Meanwhile, back at office, ERB Executive Director Mr. Butler Sitali personally congratulated the ERB ladies on their special day and surprised them with a red rose each!

# ***ERB at the Copperbelt Mining, Agriculture and Commercial Show 2012***



*Congratulating the overall quiz winner*



*A show-goer completes a questionnaire*



*Visitors besiege the ERB Stand*



*Eager show-goers at the ERB stand*



*A young enthusiast joins a traditional dance troupe*



*Quiz winners wait to receive their prizes*