

VRA NEWS

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CHIEF EXECUTIVE COMMENDS STAFF FOR FINANCIAL GAINS



The Chief Executive

The Chief Executive of the Volta River Authority (VRA), Mr. Emmanuel Antwi-Darkwa, has commended staff for their collective efforts towards the significant progress made towards the Authority's financial recovery.

Mr. Antwi-Darkwa gave the commendation when he announced via circular 005/005 dated September 19, 2018 that the Authority's half year financial

performance had shown a positive turnaround pointing to an increase in revenue and a reduction in our administrative costs. He said, that had become possible following the collective resolve and commitment of the staff to refresh VRA and improve our finances.

Making reference to the Authority's Audited Financial Statement for the 2017 financial year, Mr. Antwi-Darkwa said; "While we made significant progress in our operations over the 2016 financial year, we still ended up with a net loss of about GHS600 million as a VRA Group; compared to the GHS1.2 billion loss incurred in 2016." He said, "Over GHS170 million of that loss was attributable to the operations of our subsidiaries and SBUs"; adding that, the need to avert this scale of yearly losses, was the motivation for Management's decision to adopt a strategy that would enable VRA overcome that challenge. This, according to him, instigated the development and implementation of the 3-year Financial Recovery Plan (FRP).

According to Mr. Antwi-Darkwa, as an organization, our commitment to fully achieve the targets set in the FRP is crucial for the survival of our business in view of the burgeoning competitive energy market.

He therefore urged the staff to keep up the momentum and work with diligence to ensure that not only did we meet our targets, but performed better at the end of the year.

WHY THE FINANCIAL RECOVERY PLAN?

The Authority's FRP is a three-year strategy by the Management to forestall the financial challenges that bedeviled the organization from 2012 and reaching

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**VOLTA
RIVER
AUTHORITY**

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CHIEF EXECUTIVE COMMENDS STAFF FOR FINANCIAL RECOVERY

unsustainable levels in 2014, following non-payment by customers, depreciation of the local currency, high operating costs, inadequate regulatory tariffs, low asset utilization, declining market share and low fuel efficiency of our thermal plants.

Rolled out at the beginning of the year, the FRP has a single purpose of facilitating VRA's financial repositioning and placing it on the path of sustained growth. The key objectives for the implementation of the FRP are to ensure:

As an organization, our commitment to fully achieve the targets set in the FRP is crucial for the survival of our business in view of the burgeoning competitive energy market.

- We keep our finance charges at less than 5% of our Electricity Revenues
- Increase our revenues by at least 5% in real terms
- Reduce our Administrative costs by at least 30% within a 2-year period
- Reduce our average thermal fuel cost per kWh by at least 5%

FINANCIAL RECOVERY PROGRAMME

The FRP is anchored on four main pillars: financial efficiency, increased commercial activities, enhanced internal processes and improved plant efficiencies, which are critical for our

successful business operations. The targets derived from the 4 pillars have been assigned to responsible operating departments and are being monitored by the Corporate Strategy Department.

In conclusion, it is the expectation of the VRA NEWS that all staff will continue to work harder by doing more in our quest to attaining more efficient ways of conducting our business. Let us be efficient and effective in the use of our resources; by leveraging on our IT infrastructure, especially with the use of skype for meetings and promoting a paperless environment as outlined in the “BRAISE” strategy. For, it is the only way to ensuring that we are able to build that “RESILIENT, SUSTAINABLE & GROWING MULTI-BUSINESS HOLDING COMPANY” that we would all be proud of.

CE URGES STAFF TO DRIVE THE “NEW VRA” AGENDA

Samuel deGraft-Johnson, CCU of GSD / Accra

The Chief Executive, Mr. Emmanuel Antwi-Darkwa has urged all staff to put their shoulder to the wheel to drive the agenda towards the “New VRA”.

Mr. Emmanuel Antwi-Darkwa made the comment when his entourage interacted with staff in the locations in what he refers to as “Town Hall” meetings.

Addressing the staff, the Chief Executive, expressed his unwavering confidence in them and their capabilities to drive the

efforts to turnaround the fortunes of the Authority. He stated that the “NEW VRA” was achievable if we could collectively adopt the right attitudes and approaches to conducting our business. He reiterated that adopting a commercial and private sector mentality was critical to the agenda and encouraged all to embrace that idea.

Taking his turn, DCE (E&O), Ing. Sarfo, also said, global change was affecting our business and was therefore imperative to re-strategise to remain relevant in the market. He

pointed out that; there is no difference between the power produced by VRA and those of its competitors. What will drive consumers to us (VRA) is the price. “Let us pick up the change and move forward,” he advised.

Manager, Budget, Mrs. Doris Ama Ocansey and Principal Finance Officer (Office of the Chief Executive), Mr. Clement Boakye, also took turns to make presentations on aspects of the Authority's finances to get the staff to appreciate the current state of affairs.

The CE's entourage included; DCE (Services), Ing. K. Ellis; DCE (Finance), Mr. Ebenezer Tagoe; Director, Corporate Strategy, Ing. Alfred Sackeyfio and Manager, Areas HR, Mrs. Glendown Sam-Appiah.

VRA RECEIVES ESG AWARD



VRA SUPPORTS NII OGLIE MODEL "1" BASIC SCHOOL

Isaac Ofori, National Service Person, CCS, Tema



Plant Manager presenting the Cheque to the Headmistress

The Kpone Thermal Power Station (KTPS) on behalf of the Volta River Authority has presented a cheque of four thousand five hundred Ghana cedis (GH¢4500.00) to the Nii Oglie Model "1" Basic School.

Making the presentation at the school's premises, Plant Manager of the Kpone Thermal Power Station (KTPS), Ing. Darlington Ahuble, stated that the donation was in response to request by the school for financial support to build a school canteen.

Speaking to the VRA NEWS after the event, the Information/Publicity Officer at Tema, Mr. John Chobbah, stated that "The support was motivated by the Authority's commitment to add value to the lives of the communities within its operational area and most importantly forms part of Management's strategy to extend its environmental footprints within its impacted communities." He cited that the school's canteen was one of the several other forms of assistance the Authority has provided for schools and institutions within its impacted communities.

Receiving the cheque on behalf of the school, the Headmistress, Seraphine Worwornyo congratulated the Authority for the kind gesture and assured the Management of prudent utilization of the funds provided.

Established in September 2014 by Nii Tetteh Oglie II, Chief of the Nmlitsakpo Division of Kpone Traditional Area, in memory of his predecessor, Nii Tetteh Oglie I. The school is the only public basic school sited, just about 500 metres away from the Kpone Thermal Power Station.

SONABEL Ready To Take More Power From VRA



Samuel deGraft-Johnson, CCU of GSD / Accra

facilitate the completion of the Ghana side of the West African Power Pool (WAPP) transmission line. He disclosed that currently, SONABEL was shopping around to see whether they could secure some Generator Sets that would inject some

40WM-50MW of electricity into their system by February next year. Speaking for the VRA, the Manager, System Planning Unit, Ing. Abdul

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Officials from SONABEL, the Burkina Faso Electricity Company have expressed their readiness to take more power from the Volta River Authority (VRA) provided VRA has the capacity to meet their demand. According to SONABEL's Mr. TAPSOBA, Manager in Charge of Dispatch, their request would only be possible if GRIDCo could



Mr. Hughes, Mr. deGraft-Johnson and Mr. Wahab in the company of Mr. Tapsoba in the Control Room

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SONABEL Ready To Take More Power From VRA

Noor Wahab, assured SONABEL that following the introduction of Independent Power Producers in to the sector, VRA currently has excess capacity and was therefore well positioned to deliver more power to

Burkina Faso, provided the transmission lines were completed. He expressed hope that GRIDCo would facilitate work on the lines to enable VRA push more power to Burkina Faso.

VRA DELEGATION ENGAGES WITH SONABEL IN BURKINA FASO

Samuel deGraft-Johnson, CCU of GSD / Accra



Mr. Abdul Noor Wahab in a group photograph with officials of SONABEL (Bagre Dam)

A three-man delegation from the Volta River Authority (VRA), led by Manager, System Planning, Ing. Abdul Noor Wahab, has engaged with officials of Société Nationale d'électricité du Burkina Faso (SONABEL).

The fact-finding visit was to afford SONABEL, operators of the Bagre Dam, provide VRA with firsthand information on this year's spillage, considering the reported havoc the spillage had caused in the northern regions of Ghana. Secondly, the visit was to enable VRA appreciate Burkina Faso's power system in order to position itself to meet their energy demands.

Briefing the VRA delegation, on a tour of the dam, SONABEL's Director,

Hydro Power, Mr. Millogo Founéme, stated that following high inflows this year, they had to undertake continuous spilling of the dam to avert a possible dam break. He said



Mr. Millogo making a point to Mr. Wahab at the intake point

the scary nature of the situation compelled them to operate all their four (4) spillways; spilling at a total rate of 700m³/s. This, in his view accounted for the extreme flooding experienced downstream. He stated, "currently we are spilling from a single spillway gate at a rate of 40m³/s, as the situation had normalised".

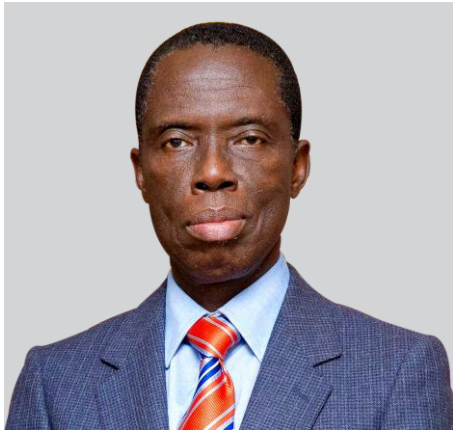
Responding to a question by Senior Information/Publicity Officer, Mr. Samuel deGraft-Johnson, on whether SONABEL pays compensation to affected flood victims, Mr. Millogo Founéme replied, SONABEL does not pay any compensation to the victims. He stated: "Rather, the Government of Burkina Faso provides the affected victims with relief items during such situations".



Water gushing out from the spillage gates at the Bagre Dam

Another member of the VRA delegation, Mr. Samuel Hughes (Principal Technical Attendant, Dam Studies) enquired from Mr. Millogo the possibility of VRA/SONABEL establishing an exchange programme to enable officials from the 2 institutions periodically exchange ideas on their dams' safety management. Mr. Millogo responded that it was a good idea and that SONABEL would officially write to VRA to initiate the programme.

NEW APPOINTMENTS



MR. GEORGE KORANTENG
Advisor, Change Management & Organization Matters.



MIRIAM L. DARKE (MRS.)
Director, Procurement



RICHARD AHENKORA-OSEI
Director, Investment



ANN SIAW (MS.)
Manager, Accra/Tema Area Procurement



MR. JOSEPH NKETSI AH
Manager, Monitoring, Compliance & Ethics



MR. HENRY DOKU
Manager, Contracts



CAN ELECTRICITY BE STORED?

Isaac Newton, the famous scientist, was said to have discovered the 'force of gravity' or force of attraction between two bodies by accident when an apple tragically fell on his head and dazed him momentarily.

But instead of blaming the witches and wizards in his house, as many of us in Ghana would have done with the help of some 'Men of God', he rather set himself thinking. Why did the apple fall? What made it fall?

He tried to find answers to these

questions and ended up making the discovery which is today being applied in science in important areas such as aircraft manufacturing, space exploration and even sports.

An incident that happened in Accra recently also set me thinking like Isaac Newton. A young school girl was electrocuted when she overcharged her power bank with electricity.

Though sad and unfortunate because an innocent life was lost, it rather gave me food for thought. What is a power bank? How does it work? Can electricity be stored?

Like Isaac Newton, I tried to find

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CAN ELECTRICITY BE STORED? → *Contd. from pg.6*

answers to these questions and what I discovered could easily turn round the ill-fortunes of the Authority if it could be applied.

Explaining the nature of the power bank to me, a brother who is an Electrical Engineer said, "In today's world, we use various electrical or electronic devices on day-to-day basis such as mobile phones and tablets".

"The problem with these powerful devices is that they consume a lot of energy and can drain their own batteries in such a short time. The power bank is an external battery charger or recharger which is used to energize these devices back to life and prolong their usage".

According to him, power banks come in different styles and specifications.

When buying a power bank it is advisable to pick one which has the output voltage and current equal to or higher than the battery or charger specifications of your electronic device.

If indeed electricity could be stored, then the Authority could benefit greatly by producing and storing electricity in power banks so that it could be retailed directly to consumers without relying on expensive power distribution lines or networks.

It would also eliminate the high incidence of theft of electricity through illegal connections since people would only consume what they would buy. Finally, it would reduce loss of revenue through transmission losses.

However, I was actually thinking of power banks being used to power our television sets, fans, air-conditioners, electric irons, radios, cookers, fridges and sound systems. In fact, all our domestic electrical appliances including the lighting systems.

I was even looking forward to the day when we would be using 'scratch cards' to recharge our electrical appliances.

Unfortunately, the exciting prospect of storing electricity so as to retail it to consumers without distribution lines is not going to be possible now since the power bank itself needs electricity to recharge.

So then we are back to square one.

HEALTH SERVICES HOLDS DENTAL SCREENING FOR LADIES ORPHANAGE/PURPOSE CHILD SCHOOL

Michael Danso, GS/CCU, Akuse



Dr. Dsane attending to one of the school children

Scores of school children from the Ladies Orphanage and Purpose Child School, near Bawjiase, in the Central region, have benefited from a one-day dental screening organised by the Health Services Department (HSD) of the Volta River Authority (VRA).

Briefing the VRA NEWS after the exercise, Head of Dental Unit, Dr.

Mary Dsane, said the outreach programme was organized in collaboration with the Avid Reader Book Club and the Child Evangelism Society of Ghana, as part of its Corporate Social Responsibility and quarterly Dental Outreach programme. According to her, "The occasion was used to treat the inmates from dental related issues as well educate patrons about their dental health and the effect it has on the entire body."

She indicated that the outreach programme was also used to educate them about the mandate of VRA; which is to generate electricity to stimulate socio-economic development of the country, as well as the other social services provided to our impacted communities".

Dr. Dsane indicated that the HSD has been collaborating with the Avid Reader Book Club since last year to carry out health screening during the

Annual International Book Fair and, "we usually attend to a population of 50 to 300 children at a time". She mentioned funding to procure keepsakes for the children and logistics as some of the basic challenges that confront their outreach programme and called for



VRA medical team in a photograph with inmates

support from well-wishers and philanthropists.



Process Risks Management

Researched by Ms. Beauty Esi Doh-Nani

Introduction

We discussed extensively in 2017 Operational Risks defined as: "The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events." The causes enumerated in the definition are processes, people, systems and external events. The previous articles in 2017 looked at 'External Risk Events' and 'People Risks' and their Management. This article focusses on Process Risks, which is one of the causes mentioned in the definition above.

What is a Business Process?

A business process is a structured set of activities that produces a business result. Business processes are well-defined and repeatable units of work that may include both human tasks and automation. They are generally the methodologies and procedures used in carrying out the day to day tasks to achieve results. They can be described as the vehicles that transform strategies into results as organizations capture their core business capabilities in processes that are carefully measured, managed and improved.

What is Process Risk?

Process Risk is a risk of loss resulting from inadequate or failed internal processes. It is a risk related to the execution and maintenance of transactions and the various aspects of running a business.

Incidents such as disruption in production due to machine failure or breakdown; failure in goods/service delivery or transaction; errors in data

entry, miscommunication, deadline misses, accounting errors, inaccurate reports, incorrect client records, negligent loss of client assets and vendor disputes are process risks that have the potential to bring financial losses in the form of legal claims against an organisation.

The following are a few common types of process risks.

Types/Causes of Process Risks

1. Process Quality Risk

In many cases, the quality of a process itself leads to the success or failure of work delivery. The process can pose challenges to smooth work delivery, causing safety hazards, prolonged cycle time, unnecessary delays or non-achievement of objectives. A poor quality process may not properly anticipate real world conditions and may break down with changes in the business environment. For example, a customer service desk process may work under normal conditions but may fail when call volumes spike.

2. Workplace Safety Risks

This refers to potential threats to human health and safety such as a physical accident or injury due to repetitive strains, improper sequencing and lay-out of workflow processes, faulty tools, human mistakes or violations.

3. Mechanical Failure

Breakdown of equipment can disrupt processes such as manufacturing or supply chain operations resulting in interrupted business and financial loss. A breakdown of a generation plant, for

instance, can disrupt VRA's power generation process and the result would be plant unavailability, if procurement of parts needed to fix the problem encounters challenges in the process

4. Human Error

Errors or oversights can result in low quality or failed processes leading to loss of resources. A procurement staff, for instance, may incorrectly enter an order that may execute at the wrong price or quantity, potentially representing a significant financial loss.

5. Information Technology Risk

This is the risk of technological errors or security incidents that disrupt or invalidate processes e.g. system failures (hardware or software). A breakdown in our internet connection can disrupt business e.g. e-mail transfers, accessing the oracle, HIMS, etc.

6. Infrastructure Risk

Infrastructure outages such as failure of basic communications linkages and power can trigger process failures. Breakdown in VRA intercom can hinder communication.

7. Bureaucracy or Red-Tapeism

These are excessive complex regulations or rigid conformity to formal rules that are considered inflexible and can delay, hinder or prevent action or decision-making. When there are so many processes in place that they restrain the very people, they are supposed to help, these may result in unnecessary delay or inaction and slow down work processes.

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Process Risks Management

Management of Process Risks

All operational activities in an organization occur in defined business processes. Risk management must be conducted within the context of business processes to achieve value preservation and/or value addition. This can be done efficiently by learning the core operational vulnerabilities of the organisation's businesses, setting and monitoring risk indicators accordingly and managing them.

Business process risk management must be contextualized by the nature of the activity being done. The following is the strategic risk management process steps to follow in managing process risks:

- i. Achieve an understanding of the organization's work processes.
- ii. Identify the risk areas.
- iii. For significant risks, identify factors that contribute to the risks and their effects.
- iv. Restate each generic risk to describe the execution risk more precisely for the particular process under study.
- v. Assess the significance of the risks.
- vi. Design appropriate controls that would give effective responses to the identified risks and Implement the controls.

Also, consider the following points:
Frequent Subjection of Most of the Work Processes to Process Hazards Analysis and Risk Management.

This is a systematic approach designed to identify and analyze hazards associated with work processes. It attempts to determine the failure points, methods of operations and other factors that can potentially lead to accidents or challenges in the work process. It analyses potential causes and

consequences, the equipment, instrumentation, human actions and other factors, which might affect the work process. Various risk identification instruments like Hazard Operability (HAZOP), Layers of Protection Analysis (LOPA), Failure Mode and Effect Analysis (FMEA), 'What If' and Fault-Tree Analyses are employed in this process.

Establish Risk Reporting and Risk Escalating Procedure.

There must be a clear risk reporting and risk escalating procedure, made available to employees to report all risks and near-misses in their operations for action. Staff must be encouraged to report challenges and risks in the existing work process; also question the status quo and propose new ideas.

Frequent Review of Work Processes
The systems and methods by which organizations accomplish specific goals differ dramatically. Some workflows are designed, while others arise naturally and evolve. Some organizational workflows seem more straightforward than others. Most often, when workflow processes are looked at in isolation, the processes appear quite logical and even efficient in acting to accomplish the end goal. It is in the interaction among other processes that complexities arise. Question the status-quo i.e. the relevance, quality, reliability and effectiveness of work processes. Create an open environment for staff to identify challenges, think and build to improve upon the existing work processes.

Incident Investigations

In the event of any real incident that occurred, it should be well investigated and the findings made available to everyone, which will serve as lessons learnt to prevent its

recurrence. Also, a register of all risks must be kept helping in future decision making.

Develop Safe Workflow Processes and Safe Working Environment

Design more robust business processes by building more than one layer of protection in the work process to serve as checks against process failures, errors, mistakes and fraud. Reduce human error by designing processes that are human-friendly and error tolerant.

Conclusion

Processes are supposed to help organizations scale up, improve efficiency of work but are exposed to incidents that can get out of control. Well-designed organizational workflow processes are not only about improving efficiency but are maps that direct work teams on how to accomplish a business goal. They help accomplish goals in a timely manner leading to work that is delivered more consistently, reliably, safely, and in compliance with standards of practice. Poor management of process risks can however, damage the credibility, reputation and finances of an organization.

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WOMEN EMPOWERMENT SERIES:

Driving the VRA Way: The First Female Driver in the Authority



*Karen Eyram Hayibor,
Legal Services, Accra*

It was a bright Monday morning in November, the sun was up and spirits were high as staff trooped into the Head Office to start their work day. It was one of those hot and humid days that made one seek the comfort of an air-conditioned room. I turned on my computer, prepared a cup of tea, ready to enjoy the coolness of the office when Mr. Ansah (Supervising Counsel) walked into my office and said “Good morning Eyram, I need you to file documents in the district court in Tema.” I promptly put in a transport request and per usual, thought nothing of the driver who would be taking me to my destination; it was a foregone conclusion that one of our beloved male drivers in the unit would be assigned the task of conveying me to Tema. One can then imagine my pleasant surprise when I was informed upon my arrival at the transport yard that a young lady with short curly hair would be my driver for the day.

She introduced herself as Dora, directed me to secure my seatbelt and gingerly maneuvered the car out of the compound. I observed the skillful way she handled the vehicle, she obeyed traffic regulations and didn't engage in road rage although she was cut off by an inconsiderate driver. You know one of those drivers who make you wonder if they were driving with TV licenses or birth certificates instead of a driver's license? Yes, one of those! Dora

focused on driving me safely to my destination although I was tempted to roll down the window and tell the other driver to go back to driving school. I engaged her in small talk on subjects ranging from our beloved VRA to the current political climate. It was through our conversation, that I learned that, she was one of the only two female drivers employed by the Authority. Let me pause here to add that never has there been women drivers in the history of VRA; never, ever. Dora Kobzie and Juliana Asante are therefore pioneers and should be celebrated as such.

Dora Kobzie, well known at the headquarters for her flawless driving skills and easy-going personality, started her professional driving career with the Metro Mass Transit Co. in 2012. Dora recounted the encouraging words of the then Manager of the Metro Mass Transit Co. who complained about the lack of female drivers and started a training program exclusively for women. Dora was part of the fortunate few selected for the program and upon completion she was assigned the Tema Community 1 route which she plied until her tenure with VRA.



Dora Kobzie, VRA's first female driver

Her inclusion on VRA's driving roster was almost prophetic: she saw a gentleman wearing a VRA shirt at a filling station and expressed her interest in working for the Authority as

a driver. Although he politely told her that he was not in a position to help her secure employment, she decided to pursue the matter. She also cited another incident that shaped her desire to work at VRA; she was once given a tour of the Dam on a trip to Akosombo. She recalled that seeing the turbines and the gushing water which produced the electricity that powered her home made her happy. She knew at that exact moment that she would work for a company that was the driving force of the energy sector in Ghana.

Today, Dora drives staff on varied routes and also operates the shuttle buses in Accra as assigned. When I asked her about the challenges she encountered in the course of her work, she simply smiled and responded rather profoundly, “challenges build you for the next step in life.” And that folks, is a lady on a mission destined for success. Dora extended her appreciation to her colleagues for

their support and dreams of being assigned as a personal driver in the near future.

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WOMEN EMPOWERMENT SERIES:

Juliana Asante, on the other hand started dreaming of working for VRA when she was in Junior High School. She made a decision to become a driver on her own accord and started driving in 2013 for the Metro Mass Transit Co.

She currently drives a school bus of the Akosombo International School and undertakes other driving tasks as assigned. Juliana stated that although she enjoyed working in her current position, as a female driver, she had the added pressure of proving she was as skilled as her male colleagues in carrying out assignments. She also stated that men should give the needed support to women ready to venture

into non-traditional fields such as driving.

The incursion of women into male dominated fields (such as driving) in the Authority heralds the wind of change and a clarion call for female staff to rally behind each other and break down barriers to their collective advancement. Empowering women to chart new territories and conquer male dominated fields has been at the forefront of social activism in Ghana for years. From the profound words of activists such as Dr. Kweggyir Aggrey who likened the education of the girl child to the education of a nation up to the new crop of feminists who are

flipping the script on toxic gender narratives, there is a drive to eliminate gender inequality and embolden women to venture unto paths formerly untrodden. The revolution is no less diminished in the Volta River Authority where women occupy prominent positions and continue to climb the proverbial corporate ladder.

The remarkable achievement of Dora and Juliana as the first female drivers in VRA serves as an inspiration for young women considering driving as a profession.

Way to go ladies!

“VRA WORKING TO ACCELERATE RENEWABLE ENERGY DEVELOPMENT” - ING KOJO ANTWI



Mr. John Chobbah addressing the audience at the B2B meeting

A Principal Electrical Engineer at the Engineering Services Department of the Volta River Authority, Ing. Kojo Antwi has stated that “The VRA was working at accelerating the development of renewable energy as part of efforts to ensure development in a sustainable manner.

Speaking at a session during the 3rd edition of the International Power Generation, Renewable Energy and

Electrical Expo (PowerElec) held at the International Trade Fair Centre, Ing. Kojo Antwi said, VRA is taking advantage of the country's huge renewable energy resource potential in the country to deploy around 250 MWP of solar and more than 150 MW of wind energy.”

Making a presentation at a session during the conference, Ing. Ebenezer Kojo Antwi, Engineering Service, stated that, the Authority is working to

accelerate renewable energy and convert its simple cycle gas plants into combined cycle mode. “We are working on converting our simple cycle gas plants into combine cycle plants and reviewing our operation to improve efficiencies and cut cost.

He continued that as part of the strategy to achieving the “NEW VRA”, VRA is also working to improve its operational and project implementation efficiencies as part of efforts to cut down cost. This according to him was evident in Management's decision to convert its simple cycle plants to combined cycle mode. He stated that the overall objective of these initiatives was to ensure VRA sustains its position as a market leader.

Mr. Antwi further reiterated the Authority's readiness to partner with the private sector in developing the Authority's projects. “We are open to developing some of our projects with the private sector,” he stated.

The three-day trade Expo which was held on the theme, “Making Ghana a “Power House” for the West African Sub-Region brought together over 100 exhibitors and international suppliers from across the world to Ghana to offer expertise, to address challenges in the power and construction sector.

CE'S TOWN HALL MEETINGS WITH STAFF IN PICTURES



Embracing the “BRAISE” Lessons from a retired Driver



Lawrence Quartey, CSR of GSD, Accra

Five years ago, I was fortunate to be chauffeured by one of the Authority's longest serving protocol driver, Sampson Onuma for a journey of about one and half hours. Interacting with him thought me so much about VRA than I could have gotten in a day's orientation programme.

Onuma, 55 then, brilliantly schooled me on the work culture and core values of the VRA in a way that amazed me. His lecture was simply a confirmation of the positive things I had heard about the Authority prior to becoming a staff. Sitting behind the steering wheel in his neatly tacked-in white shirt and eyes fixed on the road, he said to me gently, “Young man you're a new staff I suppose!” I responded yes. He warmly welcomed me and said I should count myself lucky. VRA he noted “Is a responsible organisation that places value on hard work and excellence.

My admiration of him intensified. Onuma only introduced himself to me as a driver. I became more curious and wanted to hear more from him. His demeanour and level of knowledge on the Authority's policies and procedures was unexpected. Onuma, who had served the Authority for nearly 35 years, painted a glowing image of VRA. To him, the VRA he came to meet aimed at nothing less but always seeking to explore and develop excellent performance. Would Onuma's gleaming testimony pass the test today if a survey is

conducted among staff on the “New VRA”? Are staff under the lens of the “New VRA” embracing the “BRAISE” strategy so they can tout it and find where they each fit towards its realization?

In April this year, the Chief Executive (CE), Mr Emmanuel Antwi-Darkwa led his Management Team to redefine the strategic objectives of the Authority during the commemoration of VRA's 57th anniversary. He shared six strategic themes under which he and his Team would push the wheels of the Authority towards what he termed the “New VRA”. The strategy popularly referred to as “BRAISE” aims broadly at restructuring VRA by making it a Resilient, Sustainable & Growing Multi-Business Holding Company.

The acronym “BRAISE” stands for Build, Nurture and Develop our Human Capital; Restoring our Finances; Advance Internal and External Business Processes; Improve Operational and Project Implementation Efficiencies; Sustain Our Position as a Market Leader; and Ensure Development in a Sustainable Manner.

Five months down the lane is a good time for staff to pause to assess their level of awareness on the new policy direction and see how they are bracing themselves to join the thrill of the new era.

Fortunately, we have seen consistent updates by the CE himself on progress being made to liberate VRA from the doldrums of financial quagmire. The latest update on our financial recovery is on the VRA portal. Commenting on our efforts so far, the Chief made a passionate appeal to staff saying: “let us encourage each other as we keep pursuing more efficient ways of carrying out our business... Our business environment is changing

rapidly so we need to run our business with a different mind-set...”

It is important that staff at various levels take keen interest in the programme by thinking, acting and behaving differently to align to the new direction to ensure its success. We must spend time and effort to shed off old habits and learn new processes in other to make progress.

This would require us to have a fair knowledge and understanding of the new direction and be in a dispassionate position to educate other colleagues and the external publics.

Corporate Strategy Department spearheading the policy should ensure that it identifies all departments/units and Strategic Business Units related to the change and what role they must play.

Another major issue we should consider is the communication strategy for the new direction. Lack of effective communication and employee involvement at every level of the organisation will pose many challenges to the success of the policy. When there is effective communication among all stakeholders, ownership of the change would be made possible. This is where the role of Corporate Communications becomes very useful.

An early development and communicating of a clear image of the “NEW VRA” is much needed. It is important to communicate why the change in policy and how staff would benefit. When this is well thought out and applied, it would resolve the resistance and confusion that may come up due to the uncertainty about the future.

Perhaps that is why I recalled Onuma's advice to write this article. I was amazed at his alertness to duty, knowledge and commitment to the Authority's business processes, even at his level. He was very clear in his mind what he was sharing with me and without a shred of doubt I believe that is the expectation of the Executive for the “New VRA”.



Key Facts

2 Bedroom Properties - Average Rents

Tema (Estate)	GHS 700 -1000/Mth
Tema	GHS 450-650/Mth
Dansoman	GHS 800-1200/Mth
Kasoa	GHS 500-600/Mth
Nsawam	GHS 400-600/Mth
Dome	GHS 650-1000/Mth
Adenta	GHS 800 - 1000/Mth

3 Bedroom Properties - Average Rents

Tema(Estate)	GHS 1500-2000/Mth
West Legon	GHS 800-1600/Mth
Kasoa	GHS 800-1000/Mth
Nsawam	GHS 700-900/Mth
Dome	GHS 1200-1500/Mth
Adenta / Oyarifa	GHS 700-1500/Mth
Baastona (Spintex)	GHS900-1800/Mth

Mortgage Interest Rates (Gh¢)

HFC Bank	26.2 %
Stanbic Bank	26 %
Ghana Home Loans	29 %
Fidelity Bank	32.9 %
Stand Chart	28 %

*Inflation Rate – 10.6 % as at February, 2018
(source: Bank of Ghana)*

*Contact:
Surv. Hilda Sekyi-Appiah(Mrs)
PLC: 728-122, Email:
Hilda.sappiah@vra.com*

HOME OWNERSHIP IS A STRONG ANCHOR FOR YOUR LIFE ...SPEAK TO SHLS NOW!

STAFF HOUSING LOAN SCHEME SERIES

WATCH OUT FOR THE LOAN MANAGEMENT SYSTEM!!!!



HOUSING LOAN AUTOMATED SYSTEM UPDATE

All Scenarios involving the application process have been automated. The pilot program is running to observe its effectiveness and overall performance.

The result of the User Acceptance testing has been encouraging. There has been massive collaboration and involvement with all stakeholders. Feedback from all work locations is receiving attention and the difference in the User Acceptance Testing and the live environment is being looked at currently.

Transitioning to automation is a continuing process and we are getting there. Look out for the live environment soon.

Use housingloan.vra.com to access the automated system

HOUSES /APARTMENTS FOR SALE	TYPE	PRICE	LAND FOR SALE/ LOCATION	PRICE	LAND SIZE
TEMA DEVELOPMENT CORPORATION	2BR	\$90,000.00	OYARIFA	GHS80,000.00	70X100
	3BR	\$180,000.00			
CLIFTON HOMES APARTMENTS (EAST LEGON)	3BR	\$300,000.00	ADENTA	GHC38,000.00	70X100
DEVTRACO	3BR	\$160,000.00	APOLONIA	GHC35,000.00	70X100
LAKESIDE ESTATES	3BR	GHC450,000	NORTH LEGON	GHC700,000	70X100
NEW LEGON	3BR	GHC500,000			
APOLONIA ESTATES	2BR	\$86,599.00	EAST LEGON (SERVICED PLOT)	\$120,000.00	80X100
DANPIAH ENTERPRISE	3BR	\$70,000.00	ABOKOBI	GHC30,000.00	70X100
GHS HOUSING	2BR	\$50,000.00			
	3BR	\$70,000.00			
SSNIT APARTMENTS	2BR	GHC150,000			
DANCITY PROPERTIES	3BR	GHC350,000			
ADENTA/OYARIFA	2BR	GHC250,000			
ABOKOBI	3BR	GHC250,000			

VRA provides first potable water facility at Korankye

Lawrence Quartey, CSR of GSD, Tema

Korankye, an impoverished community close to the heart of the Akosombo Dam, has for the first time, been provided with a potable and sustainable water facility, thanks to the Authority's social responsibility water and sanitation programme.

With more than 75% of its population infested with Schistosomiasis (Bilharzia) due to lack of clean water and poor sanitary facility for many decades, the community can now boast of a modern solar-powered mechanized water facility estimated at GH¢50,000.



The solar-powered mechanized borehole

The provision of the 5,000 litre water facility with nine pipe taps dotted around it, forms part of VRA's efforts to eradicate the disease caused by parasitic worms (also called blood flukes) that is globally claiming about 200,000 lives annually.

The project is VRA's contribution to Goal Six of the UN Sustainable Development Goals, which dovetails into the "New VRA's" strategic objective Pillar "E": - Ensuring Development in a Sustainable Manner, under the "BRAISE" acronym.

Ms. Shirley Habiba Seidu, Director, General Services, who handed-over the facility to the community on behalf of the Authority early September, expressed VRA's delight for coming to the aid of Korankye, especially when one considered their plight and the worrying statistics of the number of people infested with the disease.

She said the facility would provide potable water for the community and more importantly prevent them from using the unsafe water from the Volta River as their main source of water.

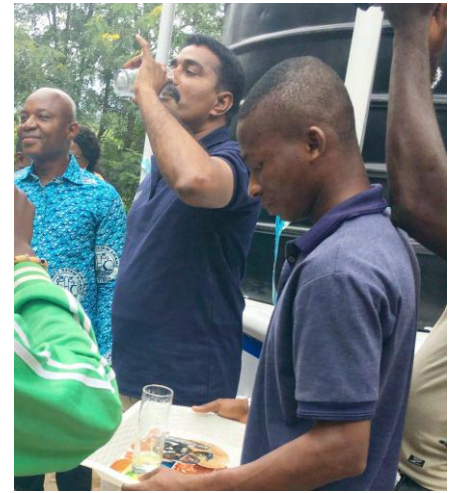
According to her, clean safe water was essential for all forms of life and the VRA would do everything possible to ensure that other deprived communities also get the needed help to save human lives.

She admonished the people of Korankye not to rely on water from the river for their households needs or bath in it since that was the only way to stop the spread of the disease and to eradicate it completely.

The District Chief Executive for Asuogyaman District, Mr Samuel Kwame Agyekum thanked the VRA for the water facility and said it was the second time the Authority had commissioned such a project in his district. The first was for the people of Sedorm, a settlement near Adjena.

He expressed hope that when more of such facilities were made available to other communities along the Volta Lake, they could go a long way to help eliminate the canker of the disease.

Project Maji Foundation, manufactures of the solar-powered



Mr. Babu Venu tasting the water from the facility

mechanized borehole facility, introduced it as part of a social responsibility initiative to provide sustainable potable water to rural communities across the world.

The Foundation's Country Director, Mr. Babu Venu said the facility has been designed to save people especially women from the drudgery of looking for potable water over long distances in deprived areas. He urged the community to maintain the facility in other for it to last them for a long time.

The Deputy Minister for Sanitation and Water Resources, Mr Michael Gyato, commended the VRA and Project Maji for their efforts in ensuring that the disadvantaged communities have access to a safe and reliable source of water.

The Assemblyman for Mpakadan Electoral Area, Mr Emmanuel Obani who spoke on behalf of the people of Korankye thanked the VRA and gave an assurance that the facility would be taken care of very well.

Apart from water and sanitation facilities, the VRA collaborates with the Ministry of Health to fight the disease through mass drug administration and community sensitization.

“MANAGEMENT TO CONVERT VRA THERMAL PLANTS INTO COMBINED CYCLE OPERATIONS” - CHIEF EXECUTIVE



Michael Danso,
Corporate Communications Unit, Akuse

Management of the Volta River Authority (VRA) is in the process of converting the Authority's thermal assets from simple cycle plants into combined cycle. It's capacity and generate revenue.

The thermal facilities earmarked for the project include; the Takoradi 3 (T3) Thermal Plant, Tema Thermal 1 Power Plant (TT1PP) and Kpone Thermal Power Plant (KTPP).

When implemented, the combined cycle technology would enable the Authority generate between 600-

700MW from installed steam turbines to recover heat emission from simple cycle generators and convert them into electrical energy at no extra cost of production.

The Chief Executive, Mr. Emmanuel Antwi-Darkwa, who made this known in a circular to staff said, “the planned expansion work is estimated to cost between 700-750 million dollars”.

He stated, Management is in discussions with the Government and industry players in the private sector to enter into a-joint partnership agreement with VRA for the realization of the policy.

He said a committee to be led by VRA with representation from the Ministry of Energy and Finance, would be constituted to provide oversight of the process whereas; a joint team of VRA/CENIT that was put together in the past would be revived to superintend the process and ensure value for money.

According to the Chief Executive,

the idea forms part of Management's strategic plan to transform and reorganize the Authority into a Resilient, Sustainable and Growing Multi-Bussiness Holding Company

He said “The advent of competition from Independent Power Producers (IPPs) and the impact of their presence on the Authority's future viability and operations, makes it imperative to convert all simple cycle plants into combined cycle mode in the next two years for financial sustainability”.

He said it is on this basis that the “Authority is in discussions with Government to transfer the ownership of the T3 Power Plant to us and subsequently repower it to operate in a combined cycle mode and also convert KTPS with private partners into combined cycle”.

In addition to that, “VRA is negotiating with SSNIT, owners of the CENIT thermal power plant to convert TT1PP into a combined cycle”.

LIFE SAVING FIRE TIPS FOR STAFF



Jerome Kodzo Doe,
Fire Supervisor-Tema
Thermal power Complex

An old adage says “Fire is a good servant but a bad master”. There is no fire that starts big, every fire starts small. It is therefore important that fires are managed from the initial stages by installing smoke detectors to alert you in your sleep and multi-purpose Dry chemical fire extinguisher to control and extinguish fires at the initial stages.

Preventable deaths occur due to the failure of occupants of premises to put in place precautionary measures. Many instances come to mind. The most recent is the story in which an SDA pastor at Dansoman lost his entire family through fire.

Fire experts therefore recommend the following measures should be put in place to promote fire safety in the home and in the office:

1. **Smoke Detectors:** Every household or office should install smoke detector(s). The smoke detector will alert you in the event of a fire outbreak by sounding an alarm while you may be asleep.

2. **Fire Extinguisher** Fire extinguishers are used to fight fires at the initial stages, with fire

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LIFE SAVING FIRE TIPS FOR STAFF

extinguishers you may be able to deal with any fire situation in the home or office; before the arrival of the Fire Service

Remember:

- * Kill a fire before it kills you
- * An extinguisher today will save you your life tomorrow
- * Buy smoke detector today to avoid been killed by fire in your sleep
- * Buy a fire extinguisher and smoke detector to save lives and properties
- * Fire is worse than an armed robber
- * Fire is a good servant but a bad master

ANCEE ORGANISES TRAINER OF TRAINERS WORKSHOP

A trainer of Trainers workshop geared towards enhancing the skills, technical capacities and attitudes of Trainers in the Anglophone power utilities has been organised at the La Palm Royal Hotel in Accra.

The three-day workshop was organised by the Association of Power Utilities of Africa (APUA) through the African Network of Centers of Excellence in Electricity (ANCEE) in collaboration with the Volta River Authority's VRA Academy.



Shirley Seidu (Ms.) in a group photograph with participants and facilitators



Mr. Dural-Tete receiving an award after the workshop

Addressing the gathering, Mr. Eric Mensah-Bonsu, Chief Learning Officer (CLO) at the VRA Academy, stated, “We always do capacity assessment gaps within the framework of ANCEE and APUA.” This according to him, was because after the rolling out of the training intervention, it was realized in the process that, there were skills gaps also in the area of those who offer the training, hence the Trainers workshop.

reading the Chief Executive speech, the Director General Services, Mrs. Shirley Seidu stated, “The ultimate objective of the Trainer's workshop was to enhance the performance of the energy sector and to intensify regional exchange by strengthening technical and managerial capacities in the various field. He noted that the training will provide Trainers with skills and tools for training other trainers at the national level in this regard.”

Mr. Duval Tetteh, a coordinator at ANCEE, stated that “The training sought to promote network for centers of excellence and share, encourage real life experiences among trainers as well as to strengthen their language skills and establish new training modules.”

promoting development and integration of the African Power Systems through the interconnection of networks, the exchanges of experiences and Know-how as well as the pooling of energy resources in a win-win approach for all members. The event was attended by participants from Ghana, Nigeria, Zimbabwe, Botswana, Gambia, Ethiopia, Namibia, Lesotho, Sudan, Rwanda, Liberia, Kenya, Angola and Libya.



Participants at a Session

It would be recalled that APUA was created with the purpose of

A SPECIAL 'RECIPE' TO MY FRIENDS ON NATIONAL SERVICE



Amewode Jemima, National Service Person,
CCS, Accra.

Fellow comrades, my congratulations are in order on this noble opportunity of having to undertake our one year mandatory National Service with the VRA.

How has the experience been so far? Well, I urge you not to bury your hopes but rather, see how best you can develop positive attitudes to adapt within this field and beyond. These are all part of the learning curve.

Our conduct plays an essential role in our day-to-day interactions with people. As we relate with others, let us take note of some virtues that would serve as a benchmark towards achieving our goals.

I believe we all aspire to garner some knowledge and chalk great successes during our first work experience. This will only materialize with extra efforts as Tim Coughlin beautifully puts it: 'work ethic must exceed the expectation level'. We therefore have a lot on our hand to bring these hopes into fruition. We must play the part of being humble, diligent, proactive, willing to take and accept constructive criticisms among others.

Now, let us catch some insight on a few of these virtues mentioned above!

HARDWORK is an essential element for all who aim high. Let us all practice the habit of working diligently and stepping out of our comfort zone. Do not be alarmed by others work pace, rather, set realistic and achievable goals for yourself, and work towards achieving them. Get involved, live and work according to the BRAISE. That and only that, can you contribute in helping the Authority transition into the NEW VRA.

Further, we need to employ **HUMILITY** in our quest to gather knowledge on the job. Fellow comrades, there may be a lot of hitches on the way, but let us not lose sight of this trait and resolve to pride in our dealings with all, both high and equals. Anytime you encounter a hurdle, remember that the world's greatest achievers all had humble beginnings.

Did you know that **GESTURES** speak about 90% of the kind of person we are? In case you are sitting on the fence, gestures are a form of non-verbal communication and have meanings, intentions and emotions. They easily tell our real intentions; they expose the wolves in sheep clothing. Therefore, I entreat us all to be cautious of our mannerisms when speaking, giving and taking instructions just to mention few.

SMILE, is the cheapest of all medications. Always adorn your face with this priceless expression. You never know, it just may brighten up someone's day.

DECENCY is the hallmark of excellence always bear that mind. **BE CURIOUS** in a positive way to learn more. Let us do our best to

discard complacency and strive to research, discover and learn new things that will help us improve in our daily activities. A great year of service is possible when one develops the need, and appetite to learn new and better ways to perform tasks. A learned fool they say is better than an ignorant fool. Never tire in taking up new challenges. The good book confirms this trait in Proverbs 18: 15, "An intelligent heart acquires knowledge and the ear of the wise seeks knowledge". Let us endeavor to go the extra mile and be willing to serve, remember it is **SERVICE**.

Colleagues, in conclusion, you may not have everyone cheering you on but one thing I can assure you is that, when you place all the above "eggs" in one frying pan they will make a beautiful omelet of **SUCCESS**.

Do not leave your Maker out of it take your prayers seriously! I wish us all the best as we emulate these Best Practices.

Good Business Leaders

create a vision,
articulate the vision,
passionately own the
vision, and relentlessly
drive it to completion

-Jack Welch-

E.A.K. KALITSI ENERGY AWARD INSTITUTED

Isaac Ofori, National Service Person, CCS, Tema



Mr. Kalitsi receiving the Instituted Award

The Eastern Regional House of Chiefs and Centre for National Culture, Organisers of the Eastern Star Awards/Paramountcy Trade Expo, as part of efforts to immortalise Mr. Erasmus Kalitsi have instituted the “E.A.K. Kalitsi Energy Award”.

The award ceremony which took place at Mac-Dic Royal Hotel, Koforidua, on Thursday, September 20, 2018 was

in recognition of his remarkable contribution towards the development of the country's power sector during his era as Chief Executive and Board Chairman of the Volta River Authority.

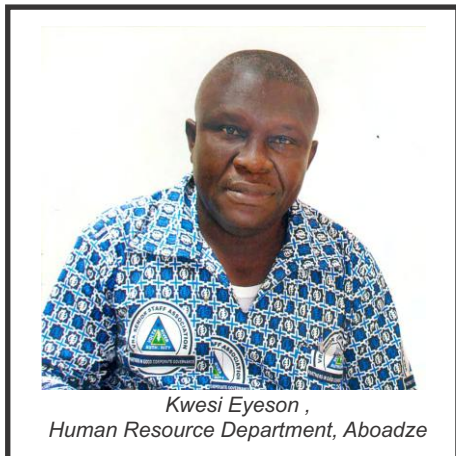
To do him the honours, Mr. Kalitsi was made to present the award to the first winners, Tropical Cables and Conductors Ltd., for its tremendous role in manufacturing standardized cables which aid in the transmission of electricity to various parts of the

country and beyond in the Power Sector.

The Trade Expo organised in collaboration with Media General (TV3) and the Graphic Communication group limited on the theme, “Contribution of Easterners to Ghana's Development. Our People, Our Brand.”, offered the VRA the opportunity to mount an exhibition booth at the Jackson Park to showcase the Akosombo Dam model, various generation portfolios and some potential renewable sites in the country. It also served as a platform to educate the people of Eastern Region on energy conservation measures in order to reduce power consumption in homes.

Present at the awards ceremony were the Eastern Regional Minister, Honourable Eric Kwakye Darffour, the Chief Executive of the Volta River Authority, Mr. Emmanuel Antwi-Darkwa, Mr. Ankomah Boateng of Technical Services, Akosombo, and Bellona-Gerard Vittor-Quao (Ms.) of the General Services (CCU).

EXCURSION TO ADA



Kwesi Eyeson ,
Human Resource Department, Aboadze

Before the construction of the Akosombo and Kpong dams, the Volta River flowed freely and swiftly into the sea at Ada, especially when in flood; and when the flood receded it left behind hordes of 'adodi', shrimps and crabs which the people collected and sold as their source of livelihood.

Today, the floods have disappeared

because the water is being regulated and the river no longer flows swiftly into the sea. This had resulted in the creation of sandbanks at the estuary leading to stagnation of the water and the development of disease vectors such as bilhazia.

This was why a dredging project was initiated at Ada to dredge the estuary to facilitate the free flow of the river into the sea.

The dredged sand had been used to

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EXCURSION TO ADA

create beautiful islands, which had been turned into romantic holiday resorts by investors along the river banks. The Ada estuary had now become a major source of tourist attraction in the country.

Historically, Ada's popularity dates back many years ago when European explorers passed through the estuary to explore the rest of Africa. Some also used the estuary to travel upstream to Akuse and Akosombo on their way to exploring the economic potentials of the Volta Basin.

Economically, Ada possesses large reservoir of salt, known as 'white

gold', in the Songor Lagoon. The Ada coastal plain is also used to grow crops such as watermelons, shallots, mangoes, tomatoes, cabbage and carrots.

There is absolutely no way you could visit Ada and come back without crabs and loads of fresh fruits and vegetables for the family.

There is no doubt you would also be treated to a meal of 'hot banku' and 'okro stew' with crabs after a guided tour of the estuary, which would make you yearn to return to Ada every year

As for me, Ada would certainly be the place I would have my 'pension

baby', if indeed I would be permitted to have one.



VOLTA HOTEL TO MIGRATE ONTO VRA'S IT INFRASTRUCTURE



Nathaniel Ekue Mensah, CCU,
GSD/Akosombo

The Management of the Volta Hotel Limited (VHL) has revealed plans to make use of Information Technology (IT) to transform its business operations in order to become competitive within the hospitality industry in Ghana.

Speaking at a day's training and sensitization workshop organized for staff of the Hotel in Akosombo, Mr. William Dumenyo, Manager (Finance and Administration) disclosed that the hotel has made the necessary arrangements with the Volta River Authority (VRA) to take advantage of its IT infrastructure in solving IT

challenges the hotel is bedeviled with. "Our expectation is that by the time we roll out this new system, we would be able to cut down processing time and also improve on revenue generation. We noticed that a lot of money which could have been paid in advance through online is not forthcoming as a result of the current system we are running." He said.

Mr. Dumenya disclosed that the Hotel spends over thirteen thousand dollars annually as IT support cost and is therefore optimistic that the migration to the VRA IT infrastructure would help the Hotel ensure that money saved would be used to enhance its operation.

Mr. Augustine Yao Gomashie, a Senior Network and Security Engineer of the VRA explaining the reason behind migrating the hotel to VRA's IT infrastructure said "it is to help the Hotel improve on its IT system as a subsidiary after a thorough system audit was carried out to assess their key needs."

He underscored the fact that "people

factor" is critical to the work the Authority is embarking upon hence the need to ensure that all staff at the Hotel are at same level of basic computer literacy to make the new system operate smoothly.

"This is one of the many sensitization workshops the Authority is carrying out to identify training needs of every staff and as we go on, we would ensure that we carry everyone along." He indicated.

Some staff of the Hotel who spoke to the VRA News were happy Management has taken the decision to incorporate IT into their operations. They believed whatever difficulty there might be regarding implementation could be overcome through training and learning to ensure that the new system does not only ran effectively but efficiently.

It is the expectation of the Management of the VHL that incorporating an efficient and effective IT system into its operation would help improve customer experience, boost performance and generate revenue.



Dr. Emmanuel Sowah, health Services, Accra

SUGAR: WHY IT IS SWEET POISON

Sugar is the name commonly given to the sweet-tasting, soluble carbohydrates, many of which are used in food. There are various types of sugar derived from different sources. Simple sugars are called monosaccharides and include glucose (also known as dextrose), fructose, and galactose. The "table sugar" or "granulated sugar" usually used as food is sucrose, and made of two monosaccharides; glucose and fructose. The average person consumes about 24 kilograms (53 lb) of sugar each year (33.1 kg in developed countries), equivalent to over 260 calories per person per day. There is increasing evidence that excessive intake of carbohydrates may have a role in the epidemic of obesity and insulin resistance. Low-carbohydrate diets on the other hand have been found effective at inducing weight loss, often with improvement in levels of fats in the blood. One of the mechanisms by which these are thought to happen revolves around the fructose content of carbohydrate-containing foods.

Fructose is found in many plant sources like honey, fruits, flowers, and root vegetables., and is one of the three basic forms of sugar that our body can use as fuel (the other two are glucose and galactose). It is also found in high-fructose corn

syrup (HFCS) which is derived from corn starch. It is broken down to form corn syrup, which is essentially 100% glucose. To make HFCS, enzymes are added to corn syrup in order to convert some of the glucose to fructose. It has high relative sweetness, being the sweetest of all naturally occurring carbohydrates. HFCS is mainly used in processed foods, cereals, baked goods, and some beverages, as well as in soft



drinks.

By its nature fructose intake does not lead to an increase in glucose and insulin levels in the blood because of its low glycaemic index (0.2 compared to that of glucose which carries the highest glycaemic index of 1.0). It was therefore considered for use in weight management. However, a marked increase in

fructose intake in the USA during the early 70s also saw widespread increases in weight. Whereas our ancestors had problems to find sugar (fruits at seasons and honey), agricultural and industrial developments have made sugar cheap and abundant.

This article will attempt to shed some light on how sugar endangers our health and the role fructose plays in all that. Studies suggest that it is the fructose content in added sugars, which may account for why sugary soft drinks are so strongly linked with many health effects.

Fructose differs from glucose in a number of ways:

- Fructose absorption in the intestine occurs by a mechanism different from that of glucose and its absorption is slower.
- Fructose is also transported into cells via a different transporter than glucose. Consuming glucose with fructose at the same time accelerates the absorption of fructose.
- Unlike glucose, fructose does not stimulate a substantial insulin release.
- When metabolized in the liver, it can provide glycerol, the backbone of triglycerides (fat), and increase fat formation.
- Some people may have an inability to completely absorb fructose when they consume large quantities. They suffer fructose malabsorption marked by bloating, flatulence, and diarrhea.
- In contrast to glucose, fructose is not essential for biochemical reactions. Thus, we can manage without it.

The body has the capacity to convert glucose that is taken in the

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SUGAR: WHY IT IS SWEET POISON

diet to fructose; and studies have shown that the harmful effects of glucose are largely due to the conversion of glucose to fructose.

The following are some of the ways research suggests sugar may be harming us:

Metabolic syndrome: Intake of fructose can induce all the features of the metabolic syndrome. Metabolic syndrome is a cluster of conditions — increased blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol or triglyceride levels — that occur together, increasing one's risk of heart disease, stroke and diabetes.

Reactive oxygen species (ROS):

The by-products of fructose metabolism have been found to generate reactive oxygen species. These are compounds with the capacity to cause injuries at the cellular level. Increased ROS production (termed oxidative stress) has been linked to the causation of various diseases, including cardiovascular disease (diseases of the heart and blood vessels), cancer and neurological disorders. They also overwhelm the ability of the liver cells to function.

Fructose is like alcohol: Fructose, in many ways behaves like alcohol (ethanol), another non-essential energy source. The range of diseases that ethanol causes, is quite similar to that caused by fructose, and both have chronic detrimental effects on long-term health. So those consuming lots of sugary drinks may be exposed to health risks similar to those consuming lots of alcohol.

Fructose promotes appetite and causes weight gain: Fructose reduces the body's resting energy expenditure which represents the amount of energy expended by a person at rest. This reduction means that we burn fewer calories at rest.

When animals and humans are administered fructose,

ATP (an energy-storing molecule in cells) depletion occurs within liver cells, and this makes the individual want to take in food.

High intakes of fructose can lead to the synthesis of fat, but at the same time it also fails to stimulate the production of insulin and leptin which is a hormone involved in the long-term regulation of energy balance. It signals the brain when we have enough fat stored, that we do not need to eat, so that the body can burn calories at a normal rate to keep us from starving or overeating. When leptin resistance occurs with high intake of fructose, the brain does not receive the leptin signal, and it erroneously thinks that the body is starving, even though it has more than enough energy stored. The result is that the brain signals the body and behavior in ways that make us regain the fat that it thinks we are missing. This includes eating more. The decrease in leptin production associated with chronic high fructose intake can have harmful effects on the regulation of energy intake and body fat.

Fructose also encourages food intake by stimulating dopamine within the brain in ways that increase appetite. The result is additional weight gain.

Fructose promotes obesity and insulin resistance:

Uric acid production is promoted as a result of the breakdown of fructose. Uric acid causes changes within cells of the body which stimulate fat accumulation independent of excessive caloric intake. It has also been found to promote obesity, fatty liver and insulin resistance. The role of insulin is to allow cells of the body to take in glucose to be used as fuel or stored as body fat. When insulin resistance occurs glucose is more likely to build up in the blood and

this can lead to too high blood sugar levels. Recent data show that glucose induces obesity and insulin resistance through its conversion to fructose in the liver. Insulin resistance is the name given to when cells of the body do not respond properly to the hormone insulin. It is the driving factor that leads to type 2 diabetes, gestational (pregnancy-related) diabetes and prediabetes. Insulin resistance is closely associated with obesity. Recent studies show that fructose-induced uric acid generation causes mitochondrial oxidative stress that stimulates fat accumulation independent of excessive caloric intake and insulin resistance without being overweight or obese. Put simply we do not have to consume more calories than we expend before we start to put on weight. Consequently, we may be laying down fat without having eaten more than we can expend.

When caused by fructose, insulin resistance is characterized by overproduction of lipids from the liver and intestines with resultant dyslipidemia (high cholesterol).

In conclusion it is important to note that the quantities of fructose required to produce the negative effects in the foregoing text are so high they are almost impossible to achieve through fruit consumption alone. Moreover the fiber content of fruit changes how your body deals with the sugars. Fruit also contains various phytochemicals that are good for our health. This article is therefore not meant to discourage fruit consumption but to draw attention to the fact that it is possible to consume harmful quantities of sugar in one's diet in the form of soft drinks, pastries and other confectionery.



**Renewable
Energy**

Come Partner us to make a Huge Difference!

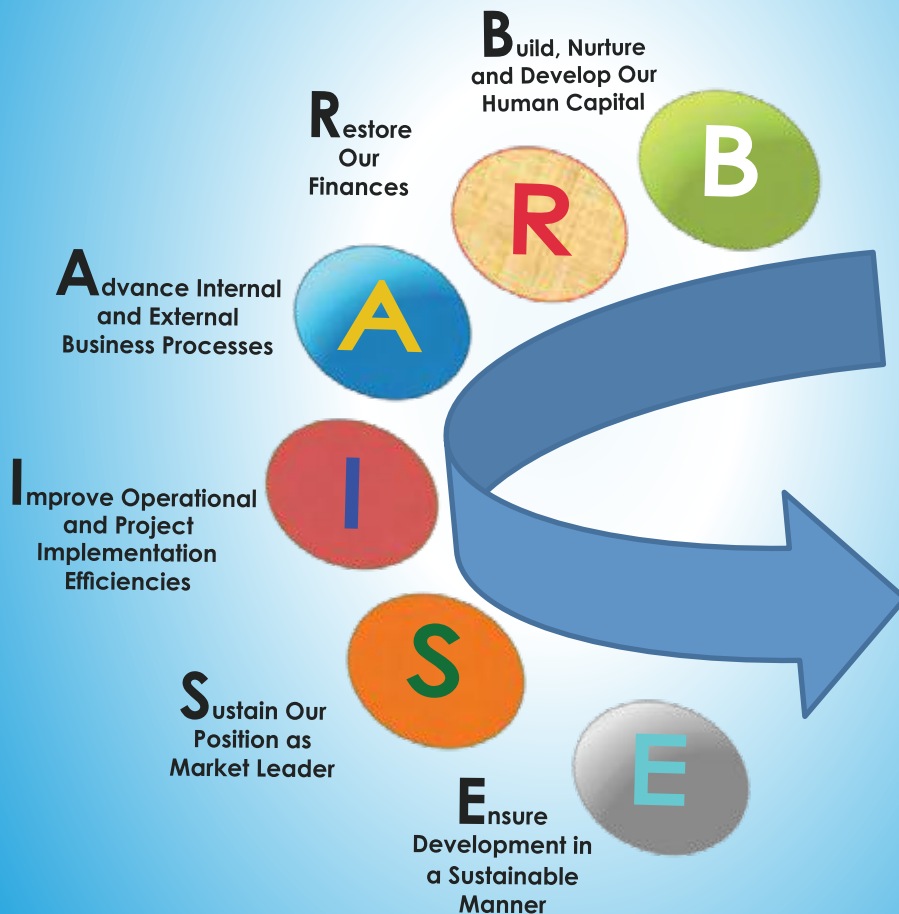
Our Mission:

The Volta River Authority exists to power economies and raise the living standards of the people of Ghana and West Africa. We supply electricity and related services in a reliable, safe and environmentally friendly manner to add economic, financial and social values to our customers and meet stakeholders' expectations.

OUR VALUES

- ☀ **Accountability**
- ☀ **Commitment**
- ☀ **Trust**
- ☀ **Integrity**
- ☀ **Teamwork**

OUR STRATEGY FOR "THE NEW VRA"



IN THE NEXT ISSUE:

- ◆ CE's Xmas Message
- ◆ Departmental Xmas Messages
- ◆ Stakeholder Engagement
- ◆ Safety Week Celebration

Please send your concerns, questions, congratulatory messages, issues, worries, suggestions, etc., to corpcomm@vra.com

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