

Editors Column

Welcome to our third publication for 2014. In this issue we look at how poverty is affecting the environment and we bid farewell to one of our long standing staff members. We also have a look at one of the shows showcased at HIFA 2014: fashion using recycled materials. Art comes in many forms, in this edition we look at amazing photography which shows the wonderful miracles and symmetries of nature. Finally we discuss solar energy in Zimbabwe, this is an article courtesy of our guest writer, Professor Magadza.

We welcome your comments and environmental contributions which you may kindly send to The Editors on:

infor@blackcrystal.co.zw

Thank you and happy reading!



Environmental Consultants
Caring for the environment beyond today

Black Crystal Consulting is one of Zimbabwe's leading reputable companies offering a quality service in environmental and socioeconomic consultancy services. Black Crystal Consulting believes in ***caring for the environment beyond today*** to ensure that biodiversity is maintained and that natural resources are not depleted for the next generation to come.

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Green Corporate Award

Black Crystal would like to congratulate Lafarge Cement Zimbabwe for winning the 2014 Best Green Corporate Award which is organized annually by Environment Africa. The floating trophy and a certificate was presented to Ms Juliana Kundiona, the Lafarge SHE Manager, at the recent Annual General Meeting. Makorokoto!!!

Poverty and the Environment

Poverty and environmental degradation are inextricably linked. Natural resources are life sustaining (clean air, clean water, fertile soils, food, shelter, trees which turn carbon dioxide into oxygen) and they constitute the basic economic assets of hundreds of millions of people. Environmental problems such as soil degradation through erosion, overuse or use of chemical products, overgrazing, or salinization resulting from inadequate water management results in a loss of income base for many small farmers in Africa? Which leaves them living a life of poverty.

Poverty leads to deforestation through inappropriate use of wood and other resources for cooking, heating, housing and crafts, thus depriving vulnerable groups from essential goods and accelerating both the downwards spiral of poverty and environmental degradation. Insufficient access to education and to information make it difficult for poor people to manage available natural resources in a sustainable and sound manner, thus creating loss of livelihood opportunities and of biological diversity.



Air, water and soil pollution create health hazards in addition to damaging economic assets. Air pollution generated by inappropriate production techniques used by poor people out of lack of better knowledge or lack of capital to invest in environment friendly technologies, is also responsible for global warming and climate change which poor countries cannot afford to challenge. Water pollution - which results from insufficient access to information on proper management - makes soils sterilize, endangers fisheries, creates health problems, and takes a higher toll on the poor.

Poverty often confines poor people in rural areas to marginal lands, thus contributing to an acceleration of

erosion and an increased ecological vulnerability. Lack of resources in poor neighborhoods leads to inadequate waste collection and waste management with subsequent health problems. Improper use of energy resources leads to waste and higher energy costs that end up being unaffordable for the poor and further degrading the environment.

Universal access to basic education and vocational training, community information on sound agricultural methods, waste management, natural resources management and water resources management, are all essential in reducing poverty as well as in reducing the effects of poverty on the environment. Measures to stop deforestation and re-forestation programmes can secure a more sustainable resource base that benefits the poor. Local low cost production of fuel-efficient stoves and heating devices can go a long way in reducing the energy bill of low-income households while protecting the environment. International co-operation is needed to replace environmentally damaging production technologies with environment friendly ones, as well as to take care of the global community. Support to municipalities and community organizations, particularly in the field of waste management can create jobs and reduce the pressure on the environment.

Reducing poverty and fostering human development are fundamental prerequisites for achieving sustainable development. Growing inequity within and across countries is a troubling trend which, if not addressed soon, will lead to greater social conflict and an increasing rate of ecosystem deterioration. There is a need to address these issues in novel ways. We need to move away from conventional responses relying on the fruits of economic growth trickling down to the impoverished, to policy responses that embrace broader participation, greater opportunities and more empowerment of the poor in their own development process.

Black Crystal Staff news

The staff of Black Crystal were sad to see Ms Kala Antao leave the company after many years of service. We would all like to take this opportunity to thank Kala very much for the time that she has dedicated to Black Crystal Consulting both from a personal and professional level. Kala has been part of the team since she joined us back in 2009 as our Book-keeper when she succeeded in getting us organised by establishing

an improved accounting system for us. Over the years she also contributed to other roles including some interior design elements and 'making over' the office space.



Front row: Kala Antao on the left and on the right is one of the Black Crystal Senior Consultants, Susan L Childes. Back row: Sharon Waterworth, our Senior Consultant, Bright Govanayi, our Accountant and Ms Kerry Wilson, our new Bookkeeper

As with most companies in Zimbabwe we have been through some tough times economically and personally but Kala has always been dedicated and loyal. She stood by us and worked through all the difficulties. Kala is a kind and gentle, friendly and approachable person who cares about people and gives her time freely to help others such as the Brownie Camp that she successfully runs in Mount Pleasant.

Kala it was a pleasure working with you and we wish you every success with your new endeavours. The staff of Black Crystal would like to warmly welcome our new book keeper Ms Kerry Wilson. We look forward to working with you.

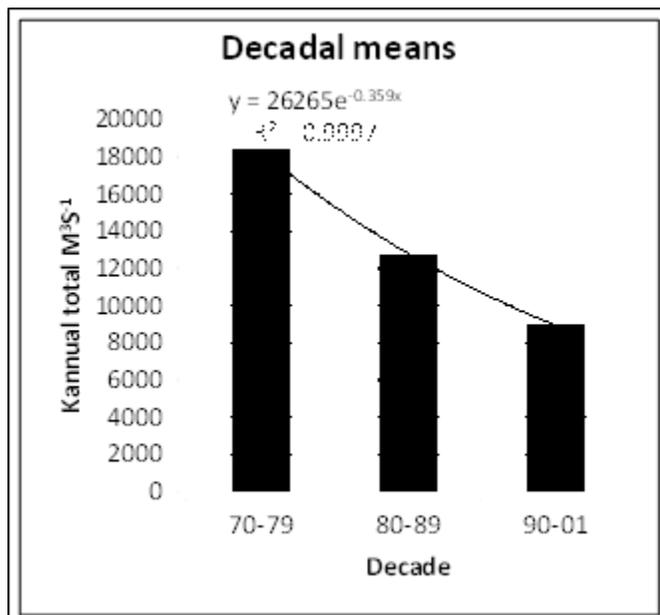
Zimbabwe Needs Solar Energy

Back in 2011 Prof C.H.D. Magadza, Fellow of the Zimbabwe Academy of Sciences wrote about the highly erratic nature of the electricity supply situation in Zimbabwe and then he went on to present various solutions. When we looked back at his paper we saw that identified one of the solutions as being the building of a hydro project in Batoka Gorge. We are proud to announce that Black Crystal, in collaboration with Environmental Resources Management of South Africa and Kaizen Consulting Zambia, have been awarded the Environmental Impact Assessment. So, one of

Professor Magadza's solutions is becoming a reality. But what other solutions did Professor Magadza identify?

In the 1990s, the Universities of Zimbabwe and Boulder Colorado undertook a study on the response of the hydro Kariba generating plant to global warming. It showed that with temperature increases in excess of 3oC Lake Kariba would regularly fail to supply sufficient water to maintain the then installed generating capacity from late October to March. This was amply demonstrated in the 1991/92 drought, when mean temperatures rose by 2oC in Zimbabwe. Since then Zambia has increased its generating capacity, but this does not create more water.

From observations, the Zambezi river discharge has been decreasing for the last thirty years at the rate of 35% per decade. (See graph). However, both countries see the option for increasing power output as the installation of more generators, a strategy that will probably work for most years in the near future, i.e. the next 25 to 30 years. After that, unless the climatic trends change to result in increased flows on a long term, the flow of the Zambezi will be inadequate to for the water demand created by the increased number of generators.



So then what then are our future options?

Options include:

- i. To increase our coal powered generating capacity but, this would increase our greenhouse gas (GHGs) contribution;
- ii. To go nuclear, but there are hazards (amply demonstrated by the Japanese and Chernobyl cases);

- iii. To cooperate with our SADC partners and develop the Congo basin;
- iv. To develop our renewable solar energy resources.

The first three of these options have disadvantages as they involve considerable capital investment, the emission of GHGs that would contribute to climate change and there is always the risk of potential nuclear accidents. Therefore, the best option is to develop our renewable energy resources.

Solar Energy

There are now thousands of cases in the world in which installed domestic solar systems actually feed into the national grid. In Europe and Australia, the government gives generous incentives for domestic solar power generation. Here in Zimbabwe we have a unique situation in which we have areas of high roof surface density in the high-density suburbs. A thousand solar units can be installed in a ten square kilometre area. If on each high-density house three KW80M panels were installed, the one dwelling unit would generate 2.4 KWh per day (assuming average of 10 hours sunshine). In a month, the household would generate 72 KWWhs, an amount generally not used in such households during the day. If such units were installed on 10 000 households, the total generating capacity would be 720 MWWhs; equivalent to what Kariba produces.

But there is a cost

If the solar panels were on a loan payable in say ten years, the monthly payment would be approximately \$7.50 for the panel and probably next to nothing for power consumption, after which the household owner would own his mini power station. Most panels now have a guarantee of 25 years. In the block between Mhembwe: Mutamba/ Shuramurova: Muwonde in Mufakose, an area of 0.01 sq. km there are twenty households, i.e. a generating capacity of 140 KWWhs. In a square kilometre then there would be 14000 KWWhs (1.4 MWWhs) per month. What is the total area of high-density suburbs on Harare? The total generating capacity for Harare, including Chitunwiza, would be in the region of 500 MWWh per month. Approximately double that if we include Bulawayo, Gweru and Mutare, then we have a potential GWh power station. The cost of building such a facility on conventional designs of either coal or hydroelectric dam would be simply prohibitive. In the low-density suburbs a larger number, say ten, panels could be installed per household. In addition, all industrial and institutional buildings, such as Universities

and schools, with large roof areas, could be recruited into the programme. For a modest outlay and the best environmental solution, we have powerhouses in our high-density suburbs that compare quite competitively with our high cost investment power stations; and there is no maintenance cost for the sun!

Courtesy of Prof C.H.D. Magadza

ENERGY SAVING TIP FOR WINTER

- Eliminate wasted energy by turning off lights in unoccupied rooms.
- By reducing that lingering time in the shower by a few minutes can save hundreds of litres of hot water per month. Cutting your showers will reduce your water heating costs significantly.

iSimangaliso's miracles - symmetry and patterns in nature

Nature abounds with the most incredible display of patterns and design. Artists and photographers, indeed anyone who has learnt to see rather than just look, will delight in the myriad forms in which each part of the mosaic is uniquely patterned, shaped or camouflaged. It is a never-ending journey of exploration and we invite you to join us as we unveil a fraction of what awaits you in iSimangaliso Wetland Park a World Heritage Site in South Africa – a land of miracles.



The majestic patterned hides of a giraffe, zebra, leopard, crocodile or tortoise immediately draw our eye. And then we begin to look for the hidden, the less obvious, or the wonderfully unexpected. Star trails at night, butterfly wings, tiny beetles, and the centre of a flower or the seeds in a pod. The texture of bark or the cracked dry soils before summer rains quench the thirsty pans.

Feathers and fronds, fossils and fallen leaves; grass waving in the breeze or glistening in the dawn light. The minute colourations of pebbles and shells; grooves in the beach sand made by gently receding waves, perhaps, or whistling winds across dunes, or the swish of long grass on soil. Tracks of tiny birds or crab claws reflections in wetlands, the perfect vee of birds flying in formation, the awe-inspiring splendour of a spider's web or a tailor ant's nest. Clouds trailing across a summer sky, or cast in the golden glow of daybreak or sunset. Dewdrops and dandelions, or speckles on an egg. Sunlight on water and ripples made by the wind.

And the magic doesn't end on the land. Beneath the ocean, iSimangaliso's unique aquatic wonderland is yours to explore and discover as well, with its exquisite patterns of countless creature corals, fish, nudibranchs and more. Go out and find your own miracles in this earthly heaven!

For you to participate you can join the 15th iSimangaliso Sodwana Shootout Festival from 7-12 July 2014. This annual photographic competition recently expanded to include a 'land' category along with the original underwater photography and videography, so absolutely everybody can find something to photograph. Fancy cameras are not a prerequisite as there are prizes for amateur enthusiasts as well. The festival includes a range of beach activities and evening entertainment, and promises to be a great family event.. Visit Sodwanashootout.co.za for more information or you can email info@isimangaliso.com. Media queries should be directed to Siyabonga Mhlongo at siyabonga@isimangaliso.com or +27716809792.

Legislation Corner

Cabinet is considering stiffer laws to deal with people and companies that deliberately pollute the environment through poisonous emissions, litter, discharge of effluent and land degradation, Environment, Water and Climate Minister Saviour Kasukuwere has said. He said this at a welcoming ceremony for Proudly Zimbabwean Foundation's Fungai Chiposi, who recently completed a 1 000km walk around the country on an anti-littering campaign. The walk was held under PZF's BIN-it Zimbabwe flagship programme and took Chiposi from Plumtree to Bulawayo, Gweru, Shurugwi, Birchenough, Mutare and then Harare. Kasukuwere said in Botswana and United States, the law was tough on polluters and there was need for such an approach in Zimbabwe

Trash queen

Recycled fashion and poetry with an environmental message, what's not to like. At this year's Harare 15th International Festival of the Arts (HIFA) after last year's successful 'recycled fashion' shows, the creators of 'Trash Queen' 2014 presented the theme 'a world without fossil fuels'.



During three different shows, over the HIFA period, models paraded along the cat walk in highly creative and unique fashion wear created by some of Zimbabwe's established and up and coming young designers. Over 15 models 'strutted' their stuff inside the purpose built Fashion Dome wearing spectacular outfits to the sounds of 'a world without oil' poetry playing in the background. Every outfit made its own statement using recycled materials sourced locally. As you can see there was a dress made entirely from used Buddie cards, others were made from old roller meal, washing powder, milk and dog food packets, discarded DVDs, CDs and video tape, yoghurts pots and ring pull tabs from cans.



The theme fitted well with the festival theme of: 'Switch on'. This year the organized added another dimension: an interactive feature which saw the models engage in a fashion walk about through the HIFA grounds.



In case you missed it HIFA is a 6-day annual festival and workshop programme that showcases the very best of local, regional and international arts and culture in a comprehensive festival programme of theatre, dance, music, circus, street performance, fashion, spoken word and visual arts. HIFA is now the largest cultural event in Zimbabwe and among the eight major festivals in Africa. Robert Grieg writing in the South Africa Sunday Independent said: "The Harare International Festival of the Arts is probably the best organised festival in the sub-continent and one of the most manageably diverse". Why not visit HIFA in May 2015 and judge for yourself.

Call for applications: Mainstreaming Climate Change in Development Planning and Implementation Course (Intake 2): The Development Reality Institute (DRI)

The Development Reality Institute (DRI) invites applicants to participate in a dynamic (4) week online course: Mainstreaming Climate Change in Development Planning and Implementation. The course is brought to you in partnership with African Capacity Building Foundation (ACBF), Global Development Network (GDN), United Nations Volunteer Programme (UNDP/UNV), Swedish International Development Agency, YETT, America Business Council Foundation, Ministry of Environment, Water and Climate and the Ministry of Higher and Tertiary Education. After

completion participants have access to a powerful Alumni Network with unlimited opportunities, including support to initiate innovative projects, mentorship from World Class Social Innovators and strong links to the market. DRI's "Climate Change Virtual School" won six international awards for exceptional content addressing climate change.

The course aims to build the capacity of development partners to interpret, comprehend and mainstream climate change in development issues within their communities. Its specific objectives are as follows:

- To educate participants on the danger posed by climate change and implications for action
- To spearhead discussion on adaptation strategies to climate change in Zimbabwe and Southern Africa
- To allow participants to share experiences on climate change, environment and development and the politics of global climate change
- To raise awareness on the climate proofing and mainstreaming tools that have been developed for mitigation and adaptation strategies.

The course is targeted at programme managers, policy makers, planners, community based leaders, opinion leaders, researchers and the general public. For more information and how to register please follow this link. The course is US \$50. Application deadline is 14 June 2014. The course commences on the 19th of June 2014.

For more information please contact Development Reality Institute, 21 Glenara Avenue, Eastlea, Harare. Mobile Number: 0773460466/ 0733732208

Email: moderator@driafrica.org

Website: www.driafrica.org

Foodmatters' welcomes Dr Vandana Shiva
 Food Matters Zimbabwe is a newly formed and expanding group of Zimbabwean citizens concerned about the food systems in Zimbabwe. They want consumers to have healthy and diverse food, produced in a way that improves rather than damages the soil and the environment in general, and for farmers to benefit more from the sale of this food than they currently do.

They see healthy food systems being closely linked to healthy and vibrant communities, and want to build a citizens' food movement that supports sustainable food systems: a movement of farmers and consumers.

Where: Book Café, 139 S. Machel Ave / 6th Street, Harare

When: Saturday 7 June 2014

Time: 2pm

Dr Shiva founder of the Research Foundation for Science Technology and Ecology and Navdanya network in India will speak on issues affecting smallholder farmers globally including food sovereignty, biodiversity, genetically modified organisms, sustainable farming methods and fair trade.

Please circulate this invitation widely to anyone who may be interested in attending. The discussion is free, and all people are welcome.



Recycle It

Committed to Reliable Service and a Greener Cleaner Harare

We offer 3 collection options

1. **Recycling**, 8 colour coded bags delivered per month, \$ 10.00 per month.
General household waste for City of Harare Collection
2. **General**, collection of any excess waste 10 Bags, \$ 15.00 per month
3. **General and Recycled**, collection of any excess waste 8 Bags & 4 colour coded bags, \$ 15.00 per month

We will collect once per week from your home or office.

STANDARD GREEN BAGS — ALL MATERIALS If you do not want to separate, all materials in these bags - for recycling option all non recyclable materials!		
BLUE BAGS — CANS Aluminum Cans, Tin Cans, Bottle Tops and Aluminum Foil	YELLOW BAGS — PAPER Books, Newspaper, cardboard boxes, juice/milk containers, etc.	
GREEN BAGS — PLASTIC All plastic bag, containers Bottles	RED BAGS — GLASS Glass bottles and jars	



To reduce landfill sites materials will either be reused by turning them into other products like woven bags or Dustbins from aluminum cans. Or recycled and broken down to a base material and then used to create new products like Tin cans turned into roofing material. Bio Degradables broken down to form compost.

We will send a monthly newsletter to keep you informed and tell you in advance of any new developments or changes to collection days due to Public Holidays.

CONTACTS

Please call Craig on 0773 226263 or Veronica on 0772 241075
 Email: recycleitzw@gmail.com

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Thank you!!!