

Editors Column

Welcome to our fifth publication for this year in which we mainly focus on climate change. We report on the recent Climate Change Concert and present some facts on climate change and health and outline the latest thinking on installing solar geysers in our homes and new builds. We also have a look at the latest news on Kariba dam. We are pleased to announce the publication of a new major photographic book and discuss the importance of archaeology and museums. Lastly, we cover the recent alternative mining indaba.

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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The Importance of Archaeology and Museums of Natural History

Archaeology can be defined as: "the scientific study of the human past". It is the means whereby we are able to extend our knowledge of human history beyond the limits

of written records. It can also be defined as: "the study of past human behavior through the systematic recovery and analysis of material remains or objects". These objects, called artifacts, can be as small as a button or as large as a building. Either large or small, they are the evidence of past cultures. These artifacts are proof of those before us and serve as a physical connection to our past. Archaeology is divided into prehistoric and historical archaeology.

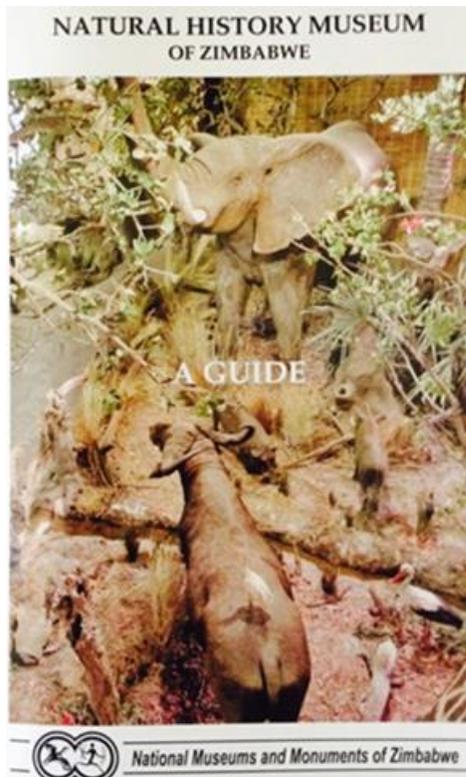
Prehistoric archaeology is the study of cultures that did not have a written language. Although prehistoric people did not write about their culture, they left remains such as tools, pottery, ceremonial objects, and clues to their diet. Historical archaeology studies the remains of cultures for which a written history exists. Historical archaeology examines records from the past that include diaries, court, census, tax records, deeds, maps and photographs. Through combining the use of documentation and archaeological evidence, archaeologists gain a better understanding of the past and human behavior.



One of the goals of archaeology is to understand how and why human behavior has changed over time. Archaeologists search for patterns in the evolution of significant cultural events such as the development of farming, the emergence of cities, or the collapse of major civilizations for clues of why these events occurred. Ultimately, they are searching for ways to better predict how cultures will change, including our own, and how to better plan for the future. Archaeology is not only the study of these broad issues but also provides a history and heritage to many cultures. Nothing would be known of the cultural developments of prehistoric peoples if it were not for archaeology. Archaeological sites are extremely

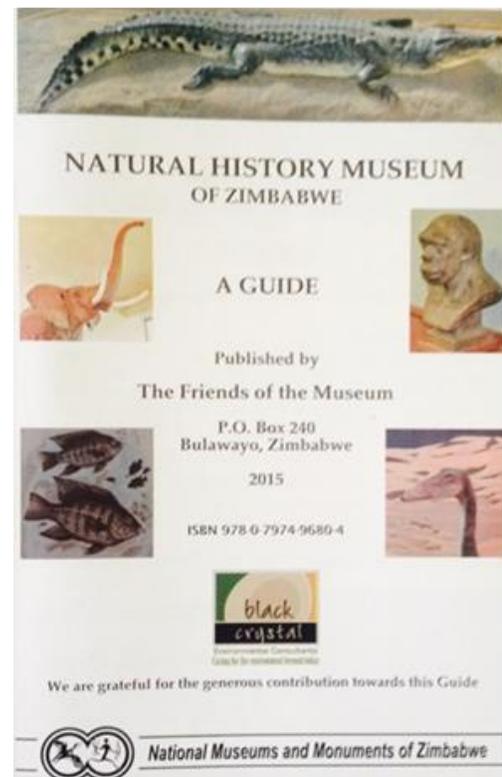
important and are non-renewable resources; once they have been destroyed or excavated before a trained Archaeologist gets to the site, they are lost forever and cannot be replaced. The loss is significant. In the end, archaeology isn't about artifacts or excavations or exhibits, it's about people! Our decisions about the future are based on the lessons we learn from those who came before us.

therefore be instrumental in helping the local economy in terms of supplying a passing trade as well as offering local people employment. They are also instrumental to research programmes in this country. For many people undertaking research, museums provide an unrivalled wealth of information and resources as well as access to archives, scholars and highly trained professionals.



Black Crystal Consulting understands and acknowledges the importance and significance of archaeology in Zimbabwe and the world over. One of our consultants, Mr. Robert Stewart Burrett is a qualified Archaeologist, holding a Master of Science in Archaeology with the University of Witwatersrand in Johannesburg, South Africa.

Museums of natural history are an important place to display past events, cultures and they provide a unique interactive experience of getting up close to things we usually only see in books, newspapers or on the television. Imagine seeing a dinosaur skeleton on TV in comparison to seeing it in a museum! The perception you get of something from a second-hand source is often completely different to the one you get when you see something with your own eyes standing before you. Museums are also a significant factor in attracting tourists to an area and can



At Black Crystal as we understand the importance of archaeology, culture, natural history and museums it was our pleasure to give a donation towards the newly published: "Natural History Museum of Zimbabwe: a Guide" published by the Friends of the Museum.

LEGISLATION CORNER

New protection for Archaeological and Cultural Resources

With respect to protecting archaeological and cultural matters in Zimbabwe a new ministry has recently been introduced entitled: Rural Development and Preservation of National Cultural Heritage which will be headed by Minister Abednigo Ncube.

News On The Climate Change Concert

The Zimbabwe Council of Churches was part of the Pan African coordinating team in the 'We-Have-Faith: Act Now for Climate Justice' campaign running in Southern and East Africa, and the 'ACT Now for Climate Justice' campaign which is a global campaign. It seeks to bring together faith communities, women and youth to mobilize the public across Africa for climate justice, creating awareness on Climate Change and collecting one Million signatures for a petition aimed at encouraging world leaders to urgently act on Climate Change.



The Campaign involved ten cyclists from Zimbabwe who cycled from Plumtree to Kariba last month. Nine countries participated in the cycling event. The Zimbabwean cyclists were handed the baton stick from Botswana and they in turn handed it to Zambia until it gets to Kenya.

As part of the awareness a concert was held on the 23rd of September 2015 at the Harare Gardens which was punctuated with song, dance, prayer and worship. The "We Have Faith Now" organization is in partnership with Act Alliance, Pan African Justice Alliance, Oxfam and the Norwegian Church Aid.

The objectives of the Campaign

Main Goal:

To strengthen the Pan-African voice through mobilization of one million Climate Justice Petitions across the continent and support youth and faith leaders to engage and influence COP21.

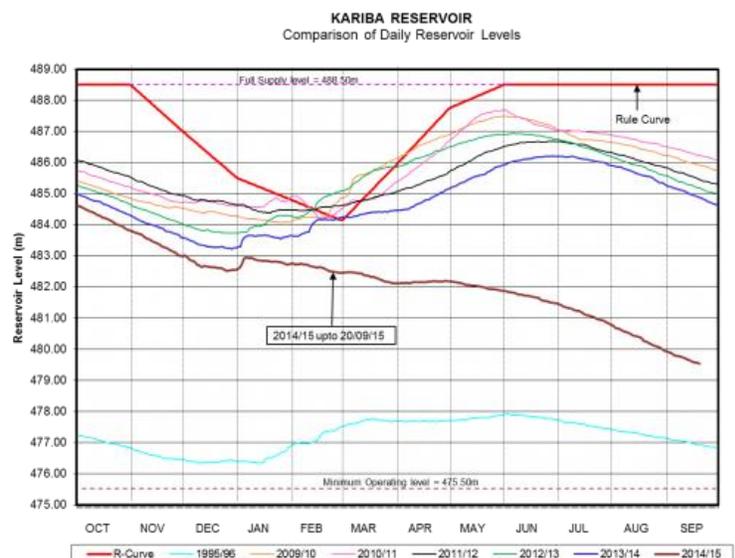
Objectives:

- i. To mobilize communities across the African continent, raise their awareness on climate change and support their engagement with COP21 policy discourse through collection of one million signatures and planting one million trees.
- ii. To support African Youth and faith leaders to influence their national governments' position towards COP21, as well as influencing the same process in Paris, France

For more information please contact Sarah Mwandiambira (sarah@zcc.org.zw) or on 0773412034 or 0773 885 929

Low Water Levels at Kariba Dam

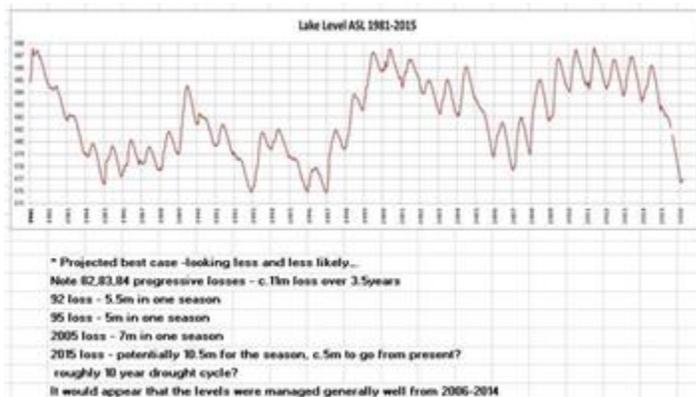
The Kariba Dam is a hydroelectric dam in the Kariba Gorge of the Zambezi River basin between Zambia and Zimbabwe. The dam stands 128 metres (420 ft) tall and 579 metres (1,900 ft) long. The dam forms Lake Kariba which extends for 280 kilometres and holds 185 cubic kilometres of water. The Kariba Dam was designed to supply 1,626 megawatts (2,181,000 hp) of electricity to Zambia (the Copperbelt) and Zimbabwe, generating 6,400 gigawatt-hours (23,000 TJ) per annum. Each country has its own power station on the north and south bank of the dam respectively. The south station belonging to Zimbabwe has been in operation since 1960.



Kariba Power Station is the biggest power plant in Zimbabwe with an installed capacity of 750MW. In recent years, the lake has unfortunately been experiencing a decrease in water levels. The Lake levels continue to drop

as a result of low lake inflows coupled with high turbine outflows. This has resulted in a decrease in power generation for the two countries. Currently, in some areas of Zimbabwe there has been no power for up to 18 hours a day for days on end. In a statement, Zesa Holdings said generation from Kariba Power Station would be reduced to 475MW from the normal 750MW until the dam levels have risen to the requisite levels. The Kariba Lake was created and designed to operate between levels 475.50m and 488.50m with 0.70m freeboard at all times.

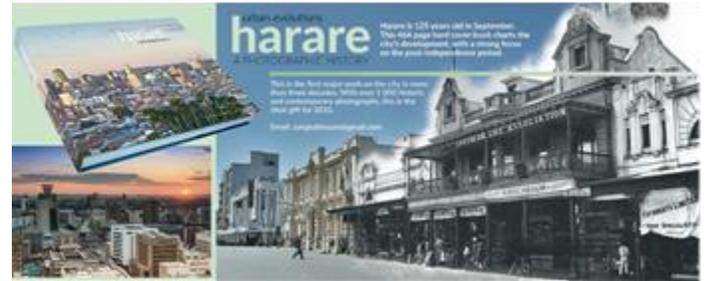
The lake levels closed the week at 479.53m on 20th September 2015, which is 5.35m lower than the level recorded last year on the same date. In a statement last week, the Zimbabwe Power Company (ZPC) said the water level at Kariba was 1% below the previous year's level of 485,91 meters above sea level following lower water inflows into the dam during the 2014/15 hydrological year.



Zimbabwe is now working on building power projects in the next five years that require \$5 billion investment and include solar, hydro and thermals. Zesa is working on the extension of Kariba South, which will add two units of 150MW each at a cost of over \$350 million. Sino Hydro will carry out the expansion, which will be completed in 2018. Sino Hydro also has a contract to carry out the \$1,3 billion expansion works at Hwange Power Station. The expansion would add 600MW to the grid made up of two units of 300MW each. The project is expected to be completed in 2018.

Stop Press - New Book Launched

Mr Rob Burrett of Black Crystal Consulting and Mr Jonathan Waters are pleased to announce that they have just published a first major photographic book on the City of Harare. The book has a hardback cover and contains photographs printed on high quality paper. It comes highly recommended!



If you would like to purchase a copy, cost USD60, the book is available from the following outlets;

- Lovely Linens, 14 Aintree Road, Highlands
- Fallon Butchery, Avondale
- New Zanj, 2 Wexford Road, Avondale

Government Launches Solar Water Heating Programme

HARARE – Government today launched the national Solar Water Heating Programme (SWHP) which aims to install and retrofit 250 000 solar geysers over the next five years.

This comes as government has begun making legislative amendments to ban the use of electric geysers in the country. The change will mean that all new housing programs will have to ensure that solar heater are fitted to every new house before connection to the grid, with incentives being put in place. Launching the program the Minister of Energy and Power Development, Samuel Undenge said that “Electric geysers account for as much as 40% of a domestic household’s electricity bill on heating water. It is estimated that there are 250 000 to 300 000 electric geysers in the country. If all these are retrofitted with solar geysers, the country may achieve a power saving in the range of 300MW to 400MW which in itself is a virtual power plant. The power saved can be channeled to other productive sectors of the economy. In response to my ministry’s proposal for installing solar water geysers, cabinet directed my ministry to embark on the SWHP program. This is supported by ZIMASSET and

government's mandate to increase the share of renewable energy in the national energy supply mix. Our country provides a perfect arena space for solar heating projects given the fact that we have access to over 3000 hours of sunshine per year".

Source: www.finxzimbabwe.com

Zimbabwe Alternative Mining Indaba

The Zimbabwe Environmental Law Association (ZELA), Zimbabwe Council of Churches (ZCC) and Zimbabwe Coalition on Debt and Development (ZIMCODD) hosted the 2015 edition of the Zimbabwe Alternative Mining Indaba in Bulawayo from the 23rd to 24th of September 2015. The Zimbabwe Alternative Mining Indaba is a platform for community members, government, policy makers, civil society and mining companies to dialogue on mining related issues that are relevant to the national context. The ZAMI presents an open platform for an all stakeholder dialogue on the socio-economic opportunities and challenges presented by the mining sector in Zimbabwe.

The theme for this year's ZAMI was "Creating shared value in the mining sector through engagement with people, business and government". The 2015 Indaba was held with a view to create dialogue, engagement and shared commitment towards reform in the mining sector so as to ensure positive and inclusive development outcomes. The topics that were covered included; business and human rights; local enterprise development; artisanal and small scale mining, the experiences of Community Share Ownership Trust Schemes and environmental management issues among others. The meeting was attended by community members from mineral resource rich areas, mining companies, parliament, government departments, traditional chiefs, Rural District Council (RDC) Civil Society Organizations (CSOs) and the media.

The ZAMI has been organized since 2012 and has exuded tremendous growth to become one of the most influential public interest annual national meetings for facilitating open dialogue on mineral resource governance. Various stakeholders with an interest in the mining sector that

range from communities affected by mining operations, resource rich local authorities, legislators, traditional chiefs, civil society organizations, media, mining companies, small scale and artisanal mining and government departments participate in this important annual gathering. Furthermore, the ZAMI is also a national process feeding to the regional movement of the Alternative Mining Indaba



The mining sector continues to be touted as the anchor and backbone to Zimbabwe's economic growth and poverty reduction initiatives. The Zimbabwean Agenda for Sustainable Socio-Economic Transformation (Zim Asset) (2013-2018), the government's economic blue print, is equally optimistic about the role that mining can play in contributing to sustainable socio-economic development. In addition, the Ministry of Mines and Mining Development in its 2011-2015 strategic plan, acknowledges "the mining sector has been identified as the core pillar in the country's economic and social turn around and development plans".

The objectives for this year's ZAMI are:

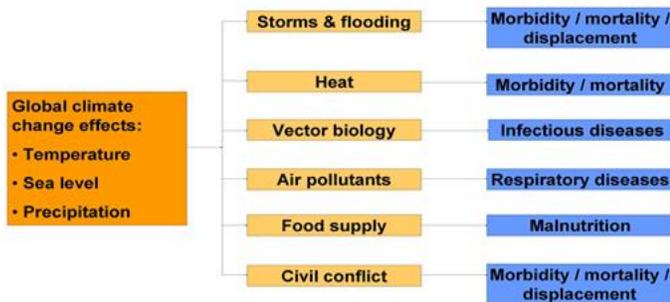
- To provide an alternative space for stakeholders to discuss some of the opportunities and challenges in Zimbabwe's mining sector and the impacts of mining on community livelihoods, human rights and environmental sustainability among others; and how these can be addressed;
- To create a platform for engagement among mining companies, government and civil society, the media and the communities affected by mining operations;
- To discuss the on-going legal reforms and developments in the mining sector

Facts On Climate Change and Health

Climate change refers to any significant change in the measures of climate lasting for an extended period of time.

In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer. It is now widely recognized as the major environmental problem facing the globe affecting the planet on which we live and the health of humans

Potential Impacts of Global Climate Change on Human Health



Over the last 50 years, human activities – particularly the burning of fossil fuels – have released sufficient quantities of carbon dioxide and other greenhouse gases to affect the global climate. The atmospheric concentration of carbon dioxide has increased by more than 30% since pre-industrial times, trapping more heat in the lower atmosphere. This has led to rising sea levels which is only one of the many negative impacts caused by climate change. Rising sea levels are increasing the risk of coastal flooding and cause population displacement.



The resulting changes in the global climate have bought a range of risks to health including the following:

- Deaths from dehydration caused by extreme high temperatures
- Changing patterns and distribution of infectious diseases.

- As more than half of the world's population now lives within 60 kilometers of shorelines, floods can directly cause injury and death, and increase the risk of infection from unclean water and vector-borne diseases.
- Population displacement could increase tensions and potentially increase the risk of conflict.
- More variable rainfall patterns are likely to compromise the supply of fresh water. Globally, water scarcity already affects 4 out of every 10 people.
- A lack of water and poor water quality can compromise hygiene and health. This increases the risk of diarrhea, which kills approximately 2.2 million people every year, as well as
- Trachoma (an eye infection that can lead to blindness) and
- An increase in malaria cases the world over. Currently malaria is one of the biggest causes of death in the world.

So please join in and act against climate change before it is too late.

Source: http://www.who.int/features/factfiles/climate_change/facts/en/

Highly recommended viewing

We encourage you to watch this highly informative video on: www.youtube.com/watch?v=1WFtCadCm84

It is of a presentation given by Prof Johan Rockström, an internationally recognized scientist on global sustainability issues, at a recent event staged by the International Institute for Applied Systems & Analysis (IISA) in Austria. The IISA conducts policy-orientated research into problems of a global nature. Prof Rockström is Executive Director of the Stockholm Resilience Centre and teaches natural resource management at Stockholm University.

In 2009 he was awarded the title of "Swede of the Year" and in 2012 and 2013 he was ranked the most influential person on environmental issues in Sweden. He is a member of the UN Sustainable Development Solutions Network, and is in great demand at international events for his knowledgeable and excellent presentations.

Ref: Business Council for Sustainable Development Zimbabwe

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Thank you!!!!