

Editors Column

Welcome to our fifth publication for this year! In this edition we look at wildlife: focusing our attention on the new restrictions on the commercial ivory and how the global decline of wildlife is linked to child slavery. We also have an important and interesting article on environmentally friendly and reusable sanitary wear and we consider the revolutionary 'Internet of Things' and more

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.

Black Crystal Consulting (Pvt) Ltd
1 Fairbairn Drive
Mount Pleasant
Harare
Phone: +263 4 334361/ 307458

New Restrictions on USA Commercial Elephant Ivory and Rhinoceros Horn Trade 2014

World Elephant Day is celebrated annually on the 12th August. The new restrictions being imposed by the USA on commercial elephant ivory and rhino horn trade will affect the sale of Zimbabwean ivory and horn.

Q: The national strategy calls for additional restrictions on commercial elephant ivory and rhinoceros horn trade in the U.S. What commercial trade will be prohibited?

A: Nearly all commercial trade will be prohibited. Over the next few months, the U.S. Fish and Wildlife Service will undertake a series of administrative actions to stop virtually

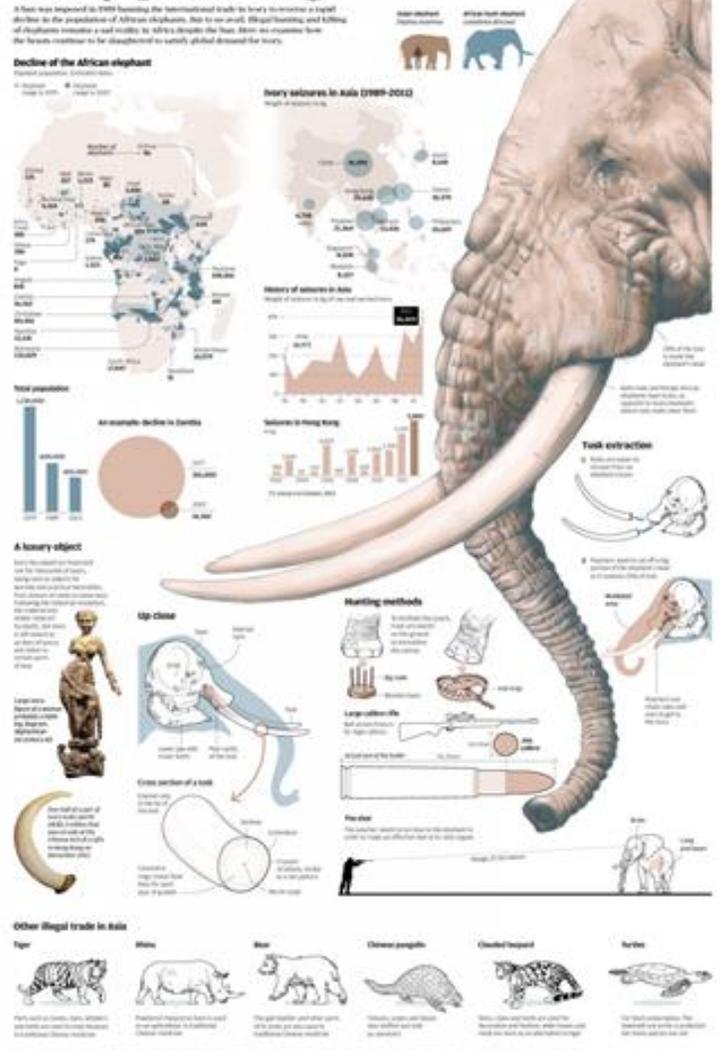
all commercial trade in elephant ivory and rhinoceros horn in the United States.

All commercial imports and exports and domestic commerce of ivory will be prohibited except a small and very strictly defined class of documented antiques. The seller and buyer must be able to provide proof that it meets all legal requirements.

Q: What commerce will be legal?

A: A strictly defined and narrow class of documented antiques will be legal. The seller and buyer must document that the antique meets all terms of the strict Endangered Species Act (ESA) statutory exemption. Only these documented antiques may be sold domestically, imported (except African elephant ivory, which is prohibited) and exported.

Ivory poaching



Q: If someone is considering buying elephant ivory or rhinoceros horn, or a product containing elephant ivory or rhino horn, what advice would you give them?

A: If someone is trying to sell you elephant ivory or rhino horn, or something that contains elephant ivory or rhino horn, demand documentation and consult with the U.S. Fish and Wildlife Service prior to purchase.

Q: What actions will the U.S. Fish and Wildlife Service take to strengthen control over the U.S. domestic elephant ivory market and when will these actions take effect?

A: Given the unparalleled and escalating threats to both African elephants and rhinos, we believe that a nearly complete ban on commercial elephant ivory and rhino horn trade is the best way to ensure that U.S. markets do not contribute to the decline of these species in the wild.

Q: How does prohibiting commercial use of antiques and other old ivory help elephant populations in Africa?

A: Illegal ivory trade is driving a dramatic increase in African elephant poaching, threatening the very existence of this species. It is extremely difficult to differentiate legally acquired ivory, such as ivory imported in the 1970s, from ivory derived from elephant poaching. Our criminal investigations and anti-smuggling efforts have shown clearly that legal ivory trade can serve as a cover for illegal trade. By significantly restricting ivory trade in the United States, it will be more difficult to launder illegal ivory into the market and thus reduce the threat of poaching to imperiled elephant populations.

Q: What is the U.S. role in the illegal rhino horn trade?

A: Approximately 2,800 rhinos have been poached in South Africa since 2008, a more than 7,000 percent increase compared to the previous 17 years. Most illegal rhino horn trade is destined for Vietnam and other Asian countries, where demand is driven by both traditional and non-traditional uses. However, the United States continues to play a role as both a consumer country and, increasingly, as a transit country for previously imported horns. The latter trend has been well documented in the Service's Operation Crash, an ongoing nationwide crackdown on illicit rhino horn trade in the United States that has already led to 15 arrests, nine convictions and the seizure of significant numbers of rhino horns.

Q: Why is the U.S. Fish and Wildlife Service taking these actions?

A: Last July, President Obama issued an Executive Order committing the United States to step up its efforts to

combat wildlife trafficking. The Executive Order created an interagency taskforce, co-chaired by the Department of the Interior, and appointed a Federal Advisory Council to galvanize efforts to work across the government and the conservation community to strengthen and expand our response to the wildlife trafficking and poaching crisis. As stated in the President's Executive Order, wildlife trafficking reduces the economic, social and environmental benefits of wildlife, while generating billions of dollars in illicit revenues each year, contributing to the illegal economy, fueling instability and undermining security. It is in the national interest of the United States to combat wildlife trafficking and ensure that we are not contributing to the growing global demand for elephant ivory and rhino horn.

This is an extract of the article. To read the whole article, follow this link: <http://www.fws.gov/wildlife-trafficking-questions-and-answers.html>

Global decline of wildlife linked to child slavery

New research suggests the global decline in wildlife is connected to an increase in human trafficking and child slavery. Ecologists say the shortage of wild animals means that in many countries more labour is now needed to find food. Children are often used to fill this need for cheap workers, especially in the fishing industry. The decline in species is also helping the proliferation of terrorism and the destabilisation of regions. According to a study in the journal, *Science*, the harvesting of wild animals from the sea and the land is worth \$400bn annually and supports the livelihoods of 15% of the world's population.



Children enslaved as fishing labour in the Brong Ahafo region of Ghana

"There's a direct link between the scarcity of wildlife, the labour demands of harvests and this dramatic increase in child slavery," said Prof Justin Brashares from the University of California, Berkeley, who led the study. There's a direct link between the scarcity of wildlife, the labour demands of harvests and this dramatic increase in

child slavery but the authors argue that the rapid depletion of species has increased the need for slave labour. Declining fisheries around the world mean boats often have to travel further in harsher conditions to find their catch. In Asia, men from Burma, Cambodia and Thailand are increasingly sold to fishing boats where they remain at sea for many years, without pay and forced to work 18-20 hour days. "Many communities that rely on these wildlife resources don't have the economic capacity to hire more labourers, so instead they look for cheap labour, and in many areas this has led to the outright purchasing of children as slaves." This exploitation also happens in Africa, where people who once found their food in the neighbouring forests now travel for days to find prey.

Children are often used by hunters to extract wildlife from areas that would be too costly to harvest. The researchers contrast the outcomes of the collapse of fisheries of the north east coast of the US and in the waters off Somalia.



The decline of fish stocks is increasing the need for slave labour to work on the boats

While in the US the decline was cushioned by federal subsidies to retrain fishermen, in Somalia the increased competition for fish stocks led to the rise of piracy. The rise in value of items like tiger parts and elephant ivory have led to an explosion of trafficking, by powerful groups to further their aims. The authors point to the Janjaweed, the Lord's Resistance Army, Al-Shabab and Boko Haram, which they say have all been involved in poaching ivory and rhino horn to fund terrorist attacks. Other researchers say there is not enough data to support this claim. Regardless of the strength of the evidence, the western response to these events has been to declare a "war on poachers". The authors believe that this is misguided, and is missing the bigger picture. The study says there are some approaches that can work. They argue that when local governments give fishers and hunters' exclusive rights to harvest some areas, social tensions can be reduced. They point to Fiji's

fishery structured around territorial use rights and in Namibia pro-active policies have helped to reduce poaching." The most important bit from this article, I think, is that we need to better understand the factors that underlie fish and wildlife declines from a local perspective, and that interdisciplinary approaches are likely the best option for facilitating this understanding," said Dr Meredith Gore, from Michigan State University who was part of the study. **The research was published in the journal, Science.** Article taken from Matt McGrath, Environment correspondent, BBC News. **Follow Matt on Twitter @mattmcgrathbbc.**

Zimbabwe's New Ramsar Wetland Sites

Last year, seven important wetland sites in Zimbabwe were added to the RAMSAR Convention's List of Wetlands of International Importance. The seven sites are as follows:

- Victoria Falls National Park,
- Mana Pools National Park,
- Monavale Wetland,
- Lakes Chivero and Manyame,
- Driefontein Grasslands,
- Chinhoyi Caves, and
- Cleveland Dam.

Accession to the RAMSAR List is recognised by conservation organisations and governments worldwide as an important step in helping to protect these vulnerable wetland areas into the future.

The World Wildlife Fund has been working with the Environmental Management Agency and the Ministry of Environment, Water and Climate in assisting with RAMSAR processes in Zimbabwe. Black Crystal is proud to say that we have also assisted in this process by providing scientific details of an Archaeology and Palaeontology survey that we undertook in the Chinhoyi Caves area. The information will be used to update the RAMSAR Information Sheet for Chinhoyi Caves.

The Internet of Things: Creating a Brave New World

The internet has already revolutionised the way we live and it set to transform our lives even further.

The Internet of Things (IOT) has been used for over a decade now and it is gathering momentum at an incredibly fast pace. The possibilities of IOT applications are endless as IOT enables devices to communicate to each other all

around the world without human intervention. The IOT are made up of integrated networks of sensors and embedded processors and systems which are being incorporated into all types of devices including household appliances such as fridges, coffee machines and washing machines. The IOT enables humans to be more in control of their daily lives, reduce costs, improve product design and services and make systems more efficient. In fact the IOT will probably give rise to the biggest transformation to the way we live since electricity was invented.

There are many sectors that are benefitting from IOT including medical, transportation, engineering, traffic management, road maintenance, home life, lifestyle and personal fitness and environmental issues. Inexpensive sensors send out little bits of data on a continual basis back to a central system for processing. For instance the IOT can help to reduce the usage and cost of energy at home and at work by monitoring and managing your usage by controlling your lights, heating and ventilation and send back information to the power generators. The process can reduce losses by working with the power generators to understand where transmission and distribution losses occur.

Environmental sensors can monitor temperature, radiation levels, air quality and pollution levels for regulatory compliance and also for health reasons. The IOT can assist in predicting the weather and then go onto inform and manage people in poor weather conditions. Transport vehicles can report parameters such as load weight, wear, and location and driver behaviour. This can be correlated with other data feeds to enable different applications such as optimising routes and collections thereby saving on time, fuel and atmospheric emissions. Carbon dioxide sensors can monitor and improve indoor building health and ensure efficient heating and lighting to reduce pollution. Moisture probes can be for precision agriculture.

The IOT is an enabler and the beauty of the IOT is that it is easy, relevant and relatively cheap to run and it can make previously complicated processes simplified. The rate of change will be breath-taking – far outstripping any technological change that we have ever seen. By 2020, according to Cisco, there will be 50 billion internet-connected devices with sensors and trackers contained in hip replacements to monitor performance, smart pills that monitor vital signs after we have taken them, parts fitted to a car that continue to send data back to the manufacturers to signal when a replacement is needed. It is expected that by 2025 the benefits of wearable technology will be

everywhere such as chips embedded in clothing will give real time vital medical signs.

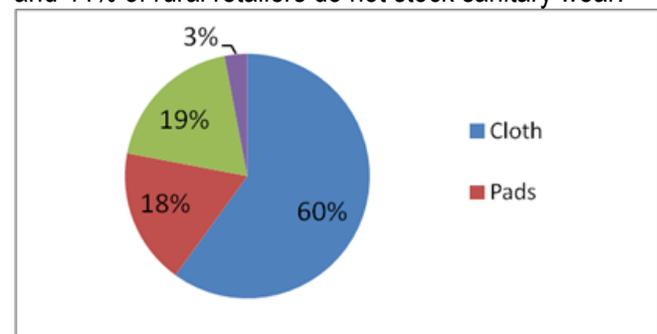
Are you treating the IOT as the new currency of the future?
Based on an article from Business Technology July 2014

New product in Zimbabwe: Re-usable Sanitary Pads



The Problem:

Did you know that sadly 20% of rural girls do not go to school during their period and 67% have spoilt their uniform at least once whilst 54% have been mocked, bullied and called names by boys because they were menstruating? The Menstrual Cycle is **not part of the primary school syllabus**. Stigmas, taboos, myths are riot and 44% of rural retailers do not stock sanitary wear.



What school girls are using to absorb their flow in 5 districts interviewed by Maranatha Consultants, contracted by SNV Netherlands.

It is important to note that this is not clean cloth, instead old rags – which they sometimes share with family members and used for years and years! Many rural girls and women don't own underpants. Disposable pads have only been in Zimbabwe since the 1980s and yet we have come to rely on them so much in families that earn enough money to buy them. The cheapest local disposable pads on the market in Zimbabwe cost a minimum of \$1 for 10 pads. On average women spend about \$2 a month on disposable pads or cotton wool.

The solution: My Pads

My Pads are produced by a manufacturer of 100% Zimbabwean re-usable Sanitary Pads who long for girls to be able to embrace their periods, and not to dread them. My Pads want women to be educated and honoured for bearing children and having periods! Their first customers who bought My Pads in February 2013, are still happily using their pads 18 months later.



My Pads have a Training Centre for Menstrual Hygiene for teachers and carers at orphanages so that girls have reliably trained support close to them. My Pads also links with other training organisations to give training directly to the girls and also train organisations how to make their own re-usable pads by providing them with ready-cut fabric to make their own pads.

My Pads are being a proactive company as they are employing an Inclusive Business model first established in 2008 by the United Nations. An Inclusive Business is a sustainable business that benefits low-income communities. It is a business initiative that, keeping its for-profit nature, contributes to poverty reduction through the inclusion of low income communities in its value chain.

My Pads have made the commitment to improve the lives and livelihoods of people through a commercially viable business venture that engages low-income people as manufacturers, consumers who are being provided with a healthy and cost effective product, producers, distributors who earn a commission on sales and suppliers of goods and services.

My Pads are being supported by SNV Netherlands and WASH activities. SNV has developed more than 140 Inclusive Business projects in Latin America, Asia and Africa working with companies in sectors ranging from agribusiness to renewable energy to food products, tourism, and commerce to construction, among others.

My Pads are working with the Standards Association of Zimbabwe (SAZ) in order to establish a standard for the

pads. (My Pads can hold more than 30ml of blood, so it is classified as a 'heavy flow' pad by the SAZ). They are also working with the Ministry of Education, Ministry of Women and Gender Affairs and Ministry of Health to promote re-usable pads.

The Benefits of Using Re-usable Sanitary Pads:

- *Environmental:*

- Manufacture of the pads is environmentally friendly than disposables;
- Less rubbish: 10 million pads are thrown away per MONTH in Zimbabwe. There is no need to burn or throw away secretly (rubbish collection so erratic, witchcraft, burying etc. is really hard for many communities). If each women used 20 pads per month that equals 240 year thrown away compared to 5 re-usable pads year;
- Less packaging: one packet per year, compared to 2 per month.!

- *Health benefits*

- The pads do not contain any chemicals which is kinder for your skin and they are
- Comfortable and discreet to wear

- *Cost*

- A pack of 5 pads costs \$5 so it is more economical to spend \$5 a year instead of \$24 on disposable pads

- *Easy to Use*

- No hot water is required. COLD water can be used to soak and wash the pads;
- Only a little soap is needed (green recommended);
- Pads are dried in the sun for at least 2 hours to dry and kill bacteria;
- No ironing is required;
- The pads can be used again ... And again ... And again If you change pads every 5 hours max, a pack of 5 pads lasts 25 hours – which gives time to wash and dry them before they are needed again;
- To save any embarrassment when drying them you can put a cloth over them/dry in a container/on a roof;
- If you delay before washing them don't let the blood dry out. Fold up the pad and store in plastic bag.

The way forward:

The way forward is the education of women, children men, teachers and community leaders and the myths, stigma and taboos associated with menstruation need to be overcome. Women need to open conversations in families

for girls to have support and men need to accept and help their wives and daughters to buy hygienic options. Sanitary products should be in our consumer basket – affordable, and a top priority of families. (Fact – in rural areas 85% of families own cell phones and buy airtime!).

The girl child should not be prejudiced by having to miss valuable time at school during menstruation every month.

My Pads is looking for retailers (shops/clinics/schools) to sell My Pads for profit so that they can be distributed all over the country and beyond.

Please contact: Jenny Wall, Director on (04) 744713 or 0779 639901 E-mail: jenny@my-pads.org
 Visit their website: www.my-pads.org
 Connect on Facebook: www.facebook.com/mypads
NB: Please note that the My Pads design and logo is protected by ARIPO (African Regional Intellectual Property Organisation). Please do not copy the design!

Cooking Shouldn't Kill

Nearly half of the world's population cooks over an open fire. Annually there are over 4 million deaths as a result of exposure to cook stove smoke. This makes it the fourth largest cause of death worldwide. Most of the victims are women and children. In Sub-Saharan Africa - 609 million cook over an open fire. The smoke will kill 574,000 Africans this year. 520,000 will be children under five years old.

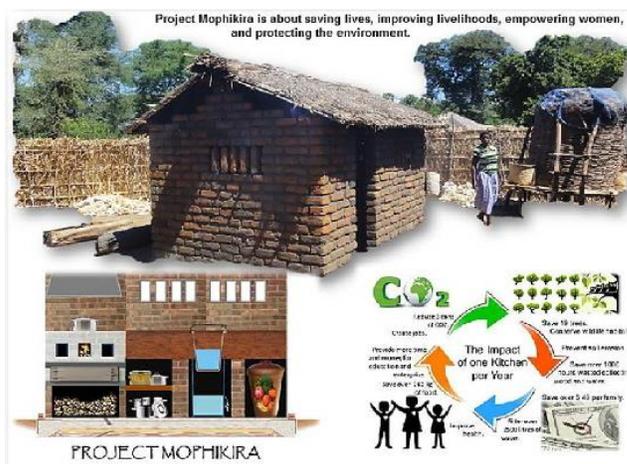
Deaths occur from pneumonia, chronic obstructive pulmonary disease lung cancer and heart disease caused by cook stove smoke, and millions more suffer from these ailments for years, as well as from injuries such as cataracts and burns. Women are predominantly the household cooks in most countries, and with their children swaddled to their backs or at their side as they cook, the entire family becomes victim to this silent killer.



Before they can even begin cooking, however, women will likely have spent hours searching for wood and other fuel sources. Children often accompany their mother on this

journey, which keeps them from attending school or earning an income. Such a nurturing act as cooking should not put lives at risk. Millions are spent on schools and clinics - however very little is spent on clean cook stoves which can mitigate the time spent in clinics by women and children and can ensure that children live beyond the age of five and can attend school. Clean cook stoves can have a transformative impact on women, as well as on their families, their communities and their environment. The numerous benefits include better health, increased safety, reduced poverty, cleaner air and a more sustainable environment.

This issue is being effectively addressed by Village Impact and Project Mophikira in Malawi, by Response Ability Alliance, where an 8 x 10 brick Mophikira (kitchen) have been built i.e. an 8 x 10 brick consisting of 3 raised pots, fire brick stove, water filter and clay larder/cooler to store food



The impact of one Mophikira has been found to immediately improve health and safety, save 19 trees a year, conserve wildlife habitat, prevent soil erosion, save over 1000 hours collecting wood and water, filter over 2500 litres of water, save over 260 kg of food, reduce over 3 tons of CO2 and save money spent on charcoal which could be better invested in education and micro enterprise.

So, why are not more clean stoves being used in Zimbabwe?
 See: http://www.responseabilityalliance.com/html/clean_cook_stoves.html and http://www.responseabilityalliance.com/html/food_and_energy.html

Thank you!!!