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WORLD ENVIRONMENT DAY

Only One Earth



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WELCOME

...to the 12th Issue of the Green Business Gazette.

FOR many years, the environment was neglected as a facet which would self-correct, despite unending damage. Consequently, society found itself in the middle of strife due to climate change and resource scarcity. As famine abounds and water stress increases across the globe, there is growing realization that we cannot wait any longer.

World Environment Day (WED) is celebrated on 5 June each and every year and this year 2022 the focus is on the fact that we only have one planet and we must take good care of it in order to avoid being in dire straits.

Everyday life revolves around the environment. Food is grown on the vast plains of lands that are offered by nature, Textiles come from growing crops such as cotton. Fossil fuels such as petrol, diesel and jet fuel come from the deeper precincts of the earth's crust.

As humanity becomes more sophisticated, the demands for more products is growing. As a result of the situation, an environmental crisis continues to brew. It is high time that we realize that we have one planet. If it is damaged, there is no replacement or Plan B.



Mining should be sustainable and address environmental justice. It should facilitate rehabilitation of damaged land. Construction should adopt green building codes and be environmentally friendly on materials. The journey to sustainability may take long to be realised, but it is a necessary path which we must tread.

The action starts at individual level and cascades at family level and furthermore at community level. At the same time, we cannot leave our little children from the discourse. The future is in our hands and we must begin to change the narrative. Procurement should lean towards cleaner products and those which are more sustainable.

At all levels of government, private sector, civil society and communities, we must come together and save our environment. As we mark world environment day in the month of June, let it be a time for renewed commitment to success on the green trajectory.

Enjoy your reading experience.

Tawanda Collins Muzamwese
EDITOR-IN-CHIEF

GREEN BUSINESS GAZETTE

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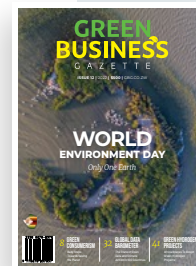
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ON THE COVER

→ We Observe the 5th of June, World Environment Day

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GREEN CONSUMERISM

— BABY STEPS TOWARDS SAVING THE PLANET

■ Innocent Nhire

More people than ever are coming out in support of the planet, and this support is going beyond voicing their concerns but with their purses and wallets. Individual decisions such as the car one drives, the food one eats can be perceived as mere drops in the ocean, in solving the ecological disasters the planet is facing but these are adding up to the groundswell of change. This rising tide has been captured by the World Wildlife Fund for Nature, which captured a 71 percent rise in interest for sustainable goods. Even in the midst of COVID 19 this interest continued to grow.

Waking Up to the Urgency

This public refocus on green consumerism comes on the back of a recent rise in activism and public discourse about the environment. People are waking up to the reality that is facing our planet. The possibility of losing 1 million natural species is real and people are conscious of this. The destruction of grasslands, forests and important ecosystems is not a play matter for many. Amidst these dystopian realities, a pocket of consumers is making the decisions to purchase green products. It is their own contribution to halt the slide to precipice.

The Hurdles Consumers Face Going Green

Each day citizens are faced by a number of hurdles in their attempts to go green. Many are aware of what environmentally friendly options are available. Others make assumptions that greener products are of lower quality than the conventional goods offered presently. Whilst others are skeptical about the extent to which these products are actually green in the substantive sense. Those that try to seek greener products experience high costs as well as limited availability. Going forward it is important to make available products and instill consumer confidence. Business leaders have already seen where the winds are blowing. More importantly they can already see the profits to be reaped by companies who are quickly adaptable and flexible to change.

New Markets Are Opening Up

This rise in consumer demand for green products opens up new markets, especially in food, fashion, pharmaceutical, cosmetics industries. It also is an opportunity for companies to enhance their brands, build trust, while improving their bottom line during this shift. An example is that of sustainability activities spearheaded by HP. These increased the sales of the company in 2019 by over US\$1.6 billion. Research done by the New York University's Stern Centre for Sustainable Business from 2013 to 2018 indicated that the number of sustainable products increased by 5.6% as compared to products which were not. Companies who would want to embark on this journey have to take care of their supply chain. More importantly it would be important for the playing field to be levelled, which takes a change in policy.



Governments Are Taking Notice

Increasingly governments are taking notice of this. According to the Economic Intelligence Report (EIR), growing pressure and awareness globally have helped to produce a wave of policies and laws. A good example can be seen in the increase in legislation which restricts single use or hard to recycle plastic items. As of 2019, 127 nations had enacted such laws. These successes have galvanized the movement of green consumerism. At the moment, more than 2 million are calling for a historic global treaty on marine plastic solution.

Going Green, Turning Challenges into Opportunities

Manufactures and brands have identified this emerging trend and

have been devoting resources to develop greener, more sustainable products, reducing waste in packaging and giving better options around end use as well. Although consumers are driving this shift in demand for greener products, brands are also educating them on possible options that can be made around sustainable choices. Nike for example has a fly knit technology that reduces waste on the factory floor. Adidas on the other hand has pledged to use 100 percent of recycled polyester in their products by 2024. These are some international contributions being made to end ocean plastic dumping. Those brands who have not seized opportunities around this kind of sustainability will realise the added difficulties placed on their customer loyalty in the long run. Going forward, this trend, will most likely continue as consumers opt for brands which satisfy their beliefs towards sustainability.



GREENING THE BOARDROOM — WHY CEOs MUST CARE FOR THE ENVIRONMENT

■ Wadzanai Manyame

Everyone wants to be a leader, but no one wants to be a captain of a wrecked ship. It is important that one leaves a positive mark and set a trend that other leaders might want to emulate. This is the time for that, as the world is making a transition in terms of business operations and delivery towards a sustainable net zero future. A leader who runs or manages a prestigious company that's operating to satisfy all facets of the environment which are physical, social and economic will safely raise their head to say, 'I am the CEO of such a company, this is what we have achieved, this is what we are working on and our main goal is to ensure service delivery that satisfies our clientele and at the same time protecting and giving back to the environment. We are stewards of the environment.'

Whilst the one who runs an organization that is constantly making headlines of pollution, stakeholder disputes and manufacturing of non-environmentally friendly products will crawl and hide their face because then they will have to answer to be public as to why there is an increase in unstable extraction of raw material, all forms of pollution emanating from their manufacturing organizations as well as how to manage the waste from the end product. It will be providing answers for such questions, which on its own will be bad publicity. Business could be lost, and the organization might be on the verge of being a sinking ship if the captain of the ship does not look to greening his boardroom.

In an era where the world has become more environmentally conscious CEOs must take strides to care for the environment through adopting green practices throughout their operations, from raw material extraction right up to disposal of the end product after use. We are past the stage where arguments are held to justify climate variability and change being said to be a mirage. Where some business leaders still argue environmental disasters as being coincidental or where businesses can get away by putting on a façade of green practices and environmentally friendly products which will not be true. A situation now being termed as greenwashing.

Consumers are becoming more environmentally aware by the day. Environmental awareness is being promoted at all levels, from as early as five years, when a child starts going to school. After experiencing disasters such as the Pomona dumpsite fires, typhoid and cholera outbreaks, Cyclone Idai, water shortages due to polluted water sources and the general nuisance litter in residential areas and towns trends are changing. Consumers tend to be a bit skeptical as to where they shop from, the type of products they buy and where they get their services from. The question one could ask themselves is, how and where am I going to dispose of this when I am done using it? Going for a product with a recyclable or reusable packaging would then be a good idea. More sales and more profits for those with reusable and

recyclable packaging. A question I would then ask a CEO seated at the top chair of his boardroom is, "Do you think your product is selling at this very moment? If so, why?"

It is of uttermost importance that I mention that a positive trajectory, though still gradual, is being noted in this dimension as some of the leading corporates' CEOs are taking a stand to channel their organizations towards green practices. In August 2019, at a CEOs roundtable in America, the business leaders acknowledged that for the world to tackle challenges such as climate change and inequality the business community has to play a critical role. They also highlighted that business is no longer meant to maximize shareholder profits only but to also drive the sustainability issues that are important to the future success of their businesses. It is clear that CEOs are thinking about where their companies fit into society and where



their companies will stand in the future. The main question business people always ask when posed with an idea of pushing for environmental management is, 'What is the business case? What do we benefit from it?' Here are a few reasons why CEOs must green their boardrooms:

1. Maximizing profits through reduced costs;
2. Gaining market share and becoming an industrial leader;
3. Employer image improvement;
4. Attracting more investors;
5. Instilling consumer confidence in the products and services.

I will still argue that it is good to look at the numbers and business case of everything but with environmental management there is no dodging sometimes. The fact remains, some resources are finite and need proper management and pollution can bear unending repercussions which might cost the business more. Imagine a beverage company disposing untreated effluent into a nearby river source that could contaminate its boreholes from which it takes large amounts of water required to make its juices. Costs will not only be from compensating the affected nearby communities but to the business itself where large amounts of money will be needed to treat the water or even outsource the resource.

The environment is a closed cycle one which gives back what you feed into it. It is the primary provider of resources and also the sink for all that would have been left from what would have been consumed, be it solid, liquid or gaseous. If well managed it continues to carry the burden and providing its services with no detrimental effects but if handled poorly environmental incidents are experienced. The environment has the ability to regulate and react with certain elements to try and minimize negative effects but only to a certain extent. Examples include its ability to decompose waste, absorb and neutralize certain chemicals and gases but some streams of waste do not decompose and some chemicals and gases do not degrade or cannot be neutralized. The continued disposal of such leads to accumulation of unwanted material which then leads to different forms of pollution and contamination, which have ripple effects on the environment branching off to businesses. Likewise, the continued careless extraction of raw materials leads to depletion of resources which will also be required in the future to continue running the same organizations.

All these are things CEOs have to consider in their different boardrooms. It might be good today, business might be booming and profits flowing in in large percentages, but will it still be good tomorrow? What should be done to make sure that it will still be as good tomorrow as it is today?



SCHOOLS' ENVIRONMENTAL CLUBS VITAL FOR CHILDREN'S SUSTAINABLE LIVING



■ Peter Makwanya

The impacts of climate change have strained children's educational programmes, mostly in developing countries due to their low coping mechanisms and being under resourced. Schools around the world are at the epicentre of extreme weather events, such as flash floods, cyclones, hail, strong winds, destroyed school buildings, learning materials, roads and bridges. These make it extremely difficult for school children to stay in school and continue to learn. For these reasons, Zimbabwean schools have made climate education part of the schools' curriculum. Besides indoor learning activities, schools have also introduced climate protection activities in the form of environmental clubs. These clubs are aimed at cultivating, environmental participatory behaviour, stewardship, eco-living endeavours, resilient buildings and instilling environmental consciousness, at tender age groups. To catch them young, they say.

School children are very important

stakeholders in the environmental discourse of climate change mitigation and adaptation, yesterday, today and future developments. This is done, not in isolation but within the framework of sustainable development goals (SDGs), particularly goals number 4 (Quality Education) and 13 (Climate Action). Schools have realized that quality education cannot only be achieved in the classroom rudimentary hence the need to marry theory with practice as they participate and showcase in a variety of clubs of their choice.

School children need to participate and be actively involved in communicating their own initiatives and raise awareness of environmental issues as part of their lifelong learning, skills-based practices and networks. This helps improve their knowledge, information base and local conditions. Therefore, it is the aim of these clubs that children's participatory cultures and behaviours be able to promote environmental consciousness, green living, appreciation of surroundings, sustainable knowledge attainment and environmental

stewardship. A variety of these clubs are aimed at conditioning children to participate in child friendly adaptation programmes through, composing, documenting and presenting poems on environmental conservation and climate literacy, record themselves and sharing them with the world via different social media platforms.

The school children are engaged in a variety of resilient building tasks like environmental debates, where they lock horns and compete annually for prizes. This is aimed at situating school children at the heart of sustainable developing, realizing that they are communicators of risk and drivers of change in their communities. Participating in environmental poetry, debates, songs, drama, games and schools' related environmental projects, like tree planting, nutritional gardens, composting, among others, is the only way they can express themselves to the world as they are often marginalized from the official decision-making processes with regard to environmental conservation and management.



Schools environmental clubs are of utter most importance because for quite a long time, environmental issues have been articulated from the adult perspectives leaving children to be mere passive participants and onlookers.

Children are not just participating in isolation but it is within their rights to participate as they are guided by the Convention on the Universal Rights of the Child. Furthermore, due to their vulnerability status to climate change, children need to be made a core-part of community-based initiatives. Children's participation in environmental clubs, in the communities they live is always a child centred approach, according to their needs, desires and aspirations rather than child labour.

These environmental clubs are part of quality education, vital in playing a key role in giving children the knowledge and tools they need to mitigate and adapt to the impacts of climate change. This is to prepare them for the future on how to address the factors that cause environmental challenges. These are foundational skills necessary to prepare for the 21st century living. Children need to participate in schools' environmental clubs more because they are currently faced with numerous environmentally related problems such as the Covid-19 pandemic and climate change and variability induced disasters.

The Covid-19 pandemic and the natural disasters drove many families into isolation, poverty and starvation as many stopped working or were denied the chance to hustle and eke a living. In this regard, children were the most affected, not only physically but also educationally,

psychologically, socially and mentally. This affected their chances to play outdoors, engage in childhood games, interacting with nature as a natural laboratory and marrying theory to practice.

For these reasons, UNICEF estimated that, about 150 million children have been driven into poverty. This was due to volatile, erratic and half-backed schooling itineraries since the start of the pandemic in 2020. Lack of active schooling, play and games, especially outdoors meant that, there was the diminishing of child friendly environments, the element of play and games, not only games in general but also green games, with many intrinsic motivations and sustainable co-benefits. Environmental or green games are designed for learners to solve and overcome environmental challenges they encounter in life. Games that promote environmental consciousness, were missed by learners. These games have the greatest potential to educate, inform and inspire children to appreciate their environment as the natural laboratory and cradle of learning.

Children also need to participate in reading clubs in order to fight against the death of the reading culture. The yester year culture of reading has been gradually affected by new media technologies hence reading clubs would help to revive the dying community of practice. In this regard, reading becomes powerful and purposeful, where children not only read to learn but also about nature and everyday life including enjoyment.

It is also important and significant for schools to note that, besides environmental debates and participatory cultures, they need to go a step further and organize environmental expos, where children can show case their creativity and innovations as ways of safe guarding and realizing resilience.



HARVESTING THE SUN IN HWANGE

■ Calvin Manika

At the end of April when other areas in Zimbabwe are receiving last rains and preparing for the winter, Enock Ncube sits under a tree shade trying to take cover of the sunrays and sweltering heat. The temperatures are so high and nauseating but for Ncube and other Hwange residents they have lived by this almost all the days of their lives.



T

his area is very hot region, not only in summer but throughout the year. Coal mountains are seen burning in the evening, you hear of underground coal seams too. We have no vegetation here, even our exotic trees struggle. It's hot especially after light rains. You need to have consistent heavy rains, maybe for 3 consecutive days to cool off the temperatures," says Ncube.

Hwange in the South-West of Zimbabwe joins other areas like Kariba, Beitbridge, Chiredzi and Lupane in receiving high temperatures during the day, with short period of cold during the winter. The Hwange case illustrates the paradox of Africa, a continent where relatively little is harvested from the sun although solar radiation abounds. A few solar projects have sprung up in the last few years on other parts of the continent, and interest in building new projects has been growing steadily in Zimbabwe.

Speaking to the Green Business Gazette, Hwange Rural District Councillor for Lukosi Ward, Ishmael Kwidini said in order to fight climate change, there is need to shift minds from fossil fuels like coal to smart solar energy.

"We have a lot of sun in Hwange; we can harvest it and convert it to solar energy. It reduces the effects of climate change and also creates employment to the locals who are earning little from subsistence farming," says Kwidini.

Power shortages remain common throughout Africa mainly in urban areas; with the majority of rural areas including those which houses power generating plants, without electricity. Independent Power Producers (IPPs) called for protection from the Government on access to foreign currency in order to implement their projects.

Hwange has a 5MW photovoltaic solar plant in Mabale, Dete area. The work on the plant includes the construction of a 28km 33Kv transmission line. The first phase of the project, which costs US\$7, 3 million, is expected to go online in August this year. The company is being funded by Old Mutual which further got a license to expand the power plant by an additional 10MW.

The Hwange initiative indicates that instated of being at the receiving end, Zimbabweans are making an effort to combat climate change. Climate finance remains the biggest challenge despite a pledge by developed countries to finance climate action projects in the 'South'. According to the World Bank, market fragmentation, high transaction costs, perceived risks and the cost of capital are some of the obstacles holding back private investors.

“As the price of photovoltaic panels continues to decline on the international market and as solar projects start generating profits, new renewable energy markets will have a greater appeal for private investors,” says the Bank.

The Chief Finance Officer of Solgas Energy, Tafadzwa Muchinda said challenges in accessing foreign currency from the RBZ auction system to operationalise projects remain the biggest hindrance.

“We were supposed to have finished construction 9 months from November 2020. But, the flowing of funds has been limiting us and we have been struggling to get money from the RBZ auction system as IPPs,” says Muchinda.

His Excellency Honourable President Mnangagwa while commissioning the Solgas solar plant said; that was the third plant in the country to contribute electricity to the national grid.

“We encourage private players to play an important role in local investments. Local entrepreneurs can take the opportunity to support government on critical issues like electricity generation. There must be an increase in the use of renewable energy. Install solar panels on rooftops, car ports and other places to promote a green economy,” said His Excellency Honourable President Mnangagwa.

The commercialized adoption of solar energy harvesting spans a variety of applications that provide astounding amounts of energy to the world. Photovoltaic (PV) solar panels use the sun’s power to create a flow of electricity. This is the most widely adopted method of harvesting solar energy today.

The sun produces a broad spectrum of radiation of many different wavelengths, including infrared. This spectrum efficiently transfers energy to bodies that can absorb it. Solar energy harvesting technology is increasingly utilized as an alternative to electricity generated by fossil fuel. Across sub-Saharan Africa, only a couple of countries, such as Togo, provide uninterrupted electricity supply all year round.

Other solar plants in the country which are yet to be on the national grid are Chiredzi solar plant, in Masvingo Province. The power station is designed to have capacity of 90 megawatts, developed in two phases of 45 megawatts each. Its output is expected to be sold directly to the Zimbabwe Electricity Transmission and Distribution Company (ZETDC).

UN Climate Action says financial resources and sound investments are needed to address climate change, to both reduce emissions, promote adaptation to the impacts that are already occurring, and to build resilience.



"The benefits that flow from these investments, however, dramatically outweigh any upfront costs," says UN Climate Action in a statement.

UN Environment Programme notes that climate finance is critical in addressing climate change because large-scale investments are required to significantly reduce emissions, notably in sectors that emit large quantities of greenhouse gases. According to October 2019 data from the World Bank,

the world will need to make significant investment in infrastructure over the next 15 years - around US\$90 trillion by 2030.

There has been a surge in interest from companies and some major investors in adopting sustainable business plans that are compatible with the Paris Agreement goal as decision-makers recognize the vast growth opportunities ahead in the global transition to a decarbonized economy by 2050.



CAPITAL MARKETS TO REJECT UNSUSTAINABLE BUSINESSES

■ Tendai Guvamombe

Capital markets are part of the emerging global markets that are part of a financial system concerned with raising capital by dealing in shares, bonds, and other long-term investments. Essentially, capital market is a financial market in which long-term debt (over a year) or equity-backed securities are bought and sold in contrast to a money market where short-term debt is bought and sold. In other terms wealth of savers are then channeled to those who can put it to long-term productive use, such as companies or governments making long-term investments.

Over the years, the advent of green investments took place coupled with the goal of bolstering sustainability. This has instituted a paradigm shift in shaping the face of businesses at global level. Given such a scenario the business landscape has never been the same. Capital markets' business of the day are primarily concerned about raising capital and investments for business organizations with long-term investment plans. Sustainability becomes key at all levels of engagement. Sustainability walks along with having long-term investments that leverage on green solutions or that strive on embedding environmentally friendly solutions in the modus operandi.

Given the current global trends, capital markets will surely become more defiant in dealing with businesses that lacks sustainability, long-term investment plans and eco-friendly solutions. Going green is the major benefit of working capital solutions. Most corporate organizations in the United States of America (USA) will have their mottos influenced by a famous quote of Arnold Schwarzenegger, a legendary actor and Governor for California. In his words he reiterated that the future is going green. "The future is green energy, sustainability, renewable energy," he said.

The United Nations Development Programme (UNDP) in 2020 spotlighted green solutions as a necessity in making COVID-19 recovery efforts more effective in the Arab States region. This became the case of countries and companies in the Arab States region as they made significant efforts to shift beyond oil and towards sustainable energy solutions. This was vindicated by the establishment of the

2019 Arab Future Energy Index (AFEX) and this became fundamental in highlighting the trends. Energy Efficiency and independence instituted economic resilience for recovery from COVID-19 among other ongoing crises. According to the Arabic Future Energy Index (AFEX) this was key for the region in the processes to enhance Nationally Determined Contributions (NDCs) under the Paris Agreement.

Elsewhere, the just transition mode to a green economy can help address climate change, rising inequality, health and economic impacts of COVID-19. These are some of the sustainability issues which predetermine a business plan's acceptance with Capital markets. Newest investments are now pointing towards Carbon Trading. The system will have companies getting credits or certification of their verified carbon removal and their positive impact on biodiversity.





ELECTRIC VEHICLES, A BLESSING OR A CURSE?

POSSIBLE FUTURE CHALLENGES



■ Wadzanai Manyame

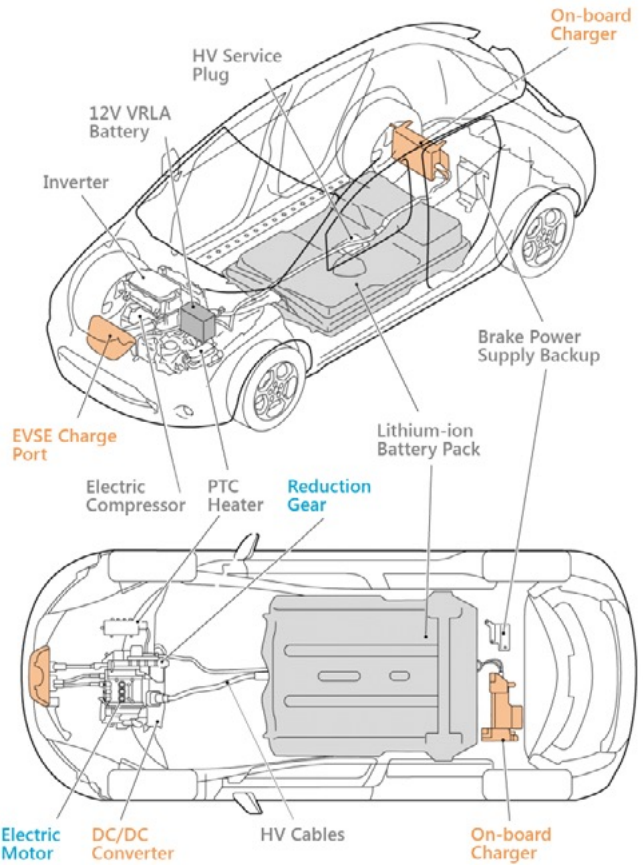
Electric mobility is the key to a more sustainable transport system. It has been welcomed with open arms. The production and sale numbers are increasing and the trend is meant to continue as the world is advocating for a cleaner transport system. Following the Paris Agreement, the world is working towards achieving a minimum global temperature increase of 1.50C by the end of the century. This is being done by working to reduce the amount of greenhouse gases released into the atmosphere. The transport system which falls under the energy sector according to the IPCC nomenclature, contributes a significant amount of greenhouse gas emissions into the atmosphere. These emissions come from the burning of fossil fuels for cars, trucks, ships and different modes of transport used across the world. Approximately 90% of the fuel used in the transportation sector is petroleum based which mainly includes gasoline and diesel. The dawn of electric

vehicles has provided a possible solution for the transport sector to be clean and greener, but a question I would ask is, 'How clean is this new solution?' Are we not just shifting the problem from one focus area to the other? It is imperative that as a new adoption is being made one gets to weigh the pros and cons before contributing to what can turn out to be a disaster. A revelation yet to be revealed in the latter.

Electric vehicles come with an increased demand for electricity as a resource to power the vehicles. The International Energy Agency (IEA) has said the global EV fleet will reach about 130 million by 2030. This means an increased need to generate more electricity to meet demand within the transport sector. An average of a 15% increase in electricity demand due to electrical vehicles can be calculated from the different projections being made across the globe. The implications of this increase are tricky for a world that is working towards phasing out one of the

cheapest forms of electricity, that is, coal powered thermal energy. Zimbabwe for example still relies heavily on thermal power and yet it cannot meet its electricity demand for domestic and industrial purposes. One can imagine what would happen if half the population are to own electric vehicles. A total fallback to harnessing electricity from all possible sources of energy be they clean or dirty. Remember, there are other socioeconomic targets countries are pushing for their own benefit such as industrial growth and uplifting of livelihoods and these have to be met.

There are different types of batteries that can be used to power electric vehicles but lithium-ion batteries are the heart of every electric vehicle as they have proved to be durable and of high performance. Lithium is attracting attention now more than ever.



The amount of lithium required in industry is increasing and is likely to double as the demand for electric vehicles continues. This will not only put pressure on the mining industry but on the environment as the mining giants work towards achieving a balance in the supply and demand curve. Increased demand for lithium is likely to exacerbate environmental degradation. A situation where increased greenhouse gas emissions will be a ripple effect. Deforestation, loss of farming land or land for other uses, over exploitation of natural resources, a lithium rush triggering illegal mining, displacement of people, are some of the issues likely to arise as new lithium mines get established as a means to ensure the availability of the mineral.

Just like any other machine, the vehicles will at some point malfunction and stop running. The metal will become scrap. What will become of the lithium batteries? How is the waste going to be managed? Lithium toxicity to the environment and humans is low because it does not bioaccumulate, but it may present teratogenic effects if one is exposed to it in large amounts. Despite it not being a chemical of serious concern in terms of bioaccumulation, the batteries might become a nuisance if not disposed of properly. Recycling is one option to consider and studies to prove the possibility of recycling lithium are being done. Findings so far have shown that the ability of secondary lithium to be reused in batteries is uncertain. The quality of recyclable batteries is questionable and it is an area that still needs work. Efforts still need to be made to devise technologies to recycle used lithium and reduce the amount of secondary lithium to be accumulated in the environment, in the future.



Electric mobility so far is proving to be the way to go. Electric vehicles seem to be of more benefit to the environment that they will be harmful. However, a proactive approach must be engaged with every turn this adoption takes. The highlighted possible challenges identified so far seem manageable if operations are done in a sustainable manner from cradle to grave. This could be all or there could be more, only time will tell as new challenges unravel if there are any.



DEFORESTATION, A THREAT TO BIODIVERSITY AND VIABLE MOPANE WORM BUSINESS

■ Calvin Manika

Rufaro Mahaka travels from Kwekwe to Gwanda, a distance of 316 kilometres in one direction every year to harvest mopane worms. She has been doing this for the past 15 years and has been making a living which has seen her children going up to tertiary level. The business is thriving for Mahaka because mopane worms have a ready market in Kwekwe due to many artisanal miners but, deforestation is changing the trends in the yields of mopane worms, amancimbi in Ndebele and madora in Shona, every year. A concerned Mahaka says; it might affect them in a near future if unabated.

"Of late, we are seeing many of the trees are being cut down which can affect our business. We have already witnessed low harvests in these last years. It takes time for the trees to grow and every tree is special to us, because that is the source of the product which gives us business," says Mahaka.

Matabeleland South in Zimbabwe is known for Mopane trees and its worms which create a hive of activity every year. Mopane worms (*Imbrasia belina*) are usually harvested in smaller quantities for relish, but not all parts of the country have the edible insects, which

creates a demand for them. Matabeleland South areas like Gwanda, Mangwe and Mazwi have forests full of mopane trees. During the mopane worms harvest time, a range of forests is turned into a bustling industrial area as the harvest, processing and drying is done there, especially by the small-scale harvesters. Mopane worms can last for many months if they are properly processed.

Tonnes of mopane worms are loaded in sacks and containers before taken away to different warehouses, manufacturing plants and supermarkets and others for the street markets for business. On the street, a cup of mopane worms goes for a \$1, while it fetches more than that price in a supermarket and upmarket setting. Mazwi community constructed the Matobo Processing Centre for packaging, storing and selling the mopane worms. The project buys mopane worms from the community members and packages them for sale to urban markets where the prices are higher. A hub of similar nature was commissioned also in Beitbridge, the Rovhona Raita Mopani Caterpillar Processing Centre.

The unregulated and illegal cutting down of trees by wood poachers and clearance of land for other uses is resulting in the depletion of the valuable mopane trees, threatening the business of mopane worms. The decline in mopane worms' population is attributed to the charcoal vendors coming from other provinces.

Of late, Zimbabwe is facing power outages resulting on the high demand of charcoal and firewood in towns and major cities, with near forests in towns cleared for residential expansion, firewood poachers are travelling miles to cut the trees. This is affecting the mopane worms harvest in Matabeleland South.

Mopane worms only feed on mopane worm leaves. In their absence, they are left to die of hunger. According to the Global Forest Watch, Zimbabwe had 1.06MHa of tree cover, extending over 2.7% of its land area in 2010 but, in 2020, it lost 6.22KHa of tree cover, equivalent to 2.84Mt of CO2 emissions.

Deforestation can directly lead to biodiversity loss when animal species that live in the trees have their habitat destroyed, cannot relocate and are forced to become extinct. Mopane trees are under pressure from communities as they are being cut for timber, poles, construction materials and firewood. Hundreds of mopane worms' gatherers also contribute to deforestation as they cut down the same mopane tree for easy access of the worms whilst some also cut then down for firewood during their camping which can be for weeks or months.

Dried mopane worms have high protein content with 65.8% dry weight crude protein content and 53.3% dry weight digestible protein which make them to be on high demand. Tourists coming to Zimbabwe consider them as healthy snacks. Mopane worms have been considered a critical food security resource as people living in mopane woodlands depend on the worms both as a food source and as an income generating resource, especially in the drought prone areas of Matabeleland South.



Fortunes Felix Matutu, a forester, says there is need to empower local authorities so that they can collaborate with the Forestry Commission in implementing the provisions of the Communal Land Forest Produce Act (Chapter 19:04).

"This can be achieved through the development of supportive statutory instruments and local level by-laws to support the Act, which might soon find itself overtaken, by new developments because of emerging socio-economic dynamics, which are defining new social parameters in the management, and utilization of forest products and services," says Matutu.

Stakeholders in the business says afforestation and improving the processing of the mopane worms will also improve their economic value and prospects of increased exports to nearby South Africa and Botswana with ready markets.



Mopane Worms Enterprises, a company dedicated to commercial farming of edible insects says the edible insect's industry gives Zimbabwe the greatest opportunity to grab a huge market share.

"In 2017 Zimbabwean meat export were US\$758 000.00 according to Forestry Commission and Matabeleland South produced an estimate of mopane worms valued at US\$630 000.00. Mopane worms have potential to transform communities. There is huge window of opportunities to explore food, animal feed, agro-tourism, and foreign currency,"

ENVIRONMENTAL COURTS AND TRIBUNALS — CAN AFRICA IMPLEMENT?

■ Tawanda Collins Muzamwese

Deviance in the area of environmental management and sustainability often goes unnoticed and the remedies which are available sometimes are not deterrent. In different parts of the world there is a growing pattern of establishment of Environmental Courts and Tribunals (ECTs).

Disposal of raw sewage, pollution and natural resource offences can be accommodated by ECTs. Their development could also assist environmental issues to be covered especially given the fact that there is a backlog in most African jurisdictions of cases. Environmental issues are not yet at the prime of the legal equation to get maximum attention.

Various development partners and international NGOs have started providing capacity building to legal authorities, judges and lawyers to facilitate litigation in the area of environment and sustainable development. Given its technical nature, there is need to build capacity in existing judges to grasp keep sustainability concepts.

However, the fact that sustainability issues can be

vague and subjective, the burden of proof is also presenting complications. So what have other countries done? How can this be mainstreamed?

Success stories of contaminated land disputes that have been compensated and pollution cases taken through class action of communities are classical examples of environmental justice. As the middle class continues to grow and industrialisation progresses, a range of environmental disputes may arise. It is high time that African begins to give an ear to such cases and provide a platform for settling issues.

Constitutions in many African countries now recognize environmental rights and duties. Therefore, platforms to exercise those rights should be granted and facilitated. Hope remains that sustainability will have legal remedies for the aggrieved.

As pollution becomes worse in many countries and health complications arising from externalities continues to grow, environmental justice is a necessary step towards sustainability. The first port of cost is to equip courts to be able to deal with green disputes.



THE STOCKHOLM+50 SUMMIT: ZIMBABWE CIVIL SOCIETY BRIEFING NOTE

by Rodger Mpande (Acting Director Regional Environmental Organization (ZERO)

Introduction:

June 2-3, 2022, marks the 50 year anniversary of the United Nations Conference of Human Environment held in 1972 where 122 countries attended and adopted a series of principles on the environment. It is critically important for the Zimbabwean Non State Actors to reflect on the outcomes of the Stockholm +50 Conference Resolutions and draw up a framework of Action that will guide input towards the achievement of Agenda 2030. This article presents a background history on how, where and when the international community, through the United Nations General Assembly agreed on the theme of the international meeting ' Stockholm + 50 : a healthy planet for the prosperity of all - our responsibility, our opportunity'. As countries strive to recover and reset from the COVID 19 pandemic and global lockdown, Stockholm +50 provides a series opportunities to: *a) build relationships of trust for the strengthened cooperation and solidarity (including by reimagining our futures together through engagement, knowledge sharing and learning b) accelerate system wide actions needed to recover and build forward from the pandemic through collective action, and creating fiscal space to support just transition to low carbon, circular, nature positive and resilient development, c) connect and build bridges across agendas in order to strengthen the environmental dimensions of the 2030 Agenda and sustainable development and d) rethink conceptions and measures of progress and well being to provide a new compass of collective welfare.*

1972 Stockholm Conference on Human Environment

Amid the Cold War in the 1960s, neutral Sweden, which was not a member of NATO was motivated to propose an international conference that deliberated on the environment. Due to its geography and increasing pollution issues, Sweden was particularly vulnerable to environmental problems. In addition many countries were at war and decolonizing themselves but international cooperation was crucial. In spite of the global politics at that time many countries, including the Soviet Union and United States all supported the Swedish proposal proposal. Thus in 1968, the United Nations General Assembly agreed to convene in 1972, with one of primary aims being to establish a declaration on the human environment. In 1971, the General Assembly effectively created a 27 nation Preparatory Committee for the Conference, whose goal was to produce a declaration concerning the ' rights and obligations of citizens and Governments with regard to the preservation and improvement of the human environment. Thus in 1972....., the Stockholm Conference was held, a major topic at the conference was institutional expansion, which resulted in the creation of the United Nations Environmental Program (UNEP). The Conference was adopted a declaration with 26 principles. While the reception of the Stockholm Declaration generally positive through the UN member states, some countries were critical about the practicality of its implementation. Lack of funding was a major challenge to implementation, as UNEP, the institution created to coordinate and promote environment cooperation was under funded relying on voluntary financial contributions from a few countries.

However, the implementation of the Stockholm Conference led the creation of action plan that consisted of mainly the three pillars: a) An Earthwatch Program to identify the problems of international significance, b) recommendations concerning environmental management, and lastly supporting measures such as education, training and public information. Furthermore the implementation of the Stockholm Conference resulted in the enactment of various international conventions such as waste dumping in oceans, preservation of heritage sites and limiting international trade in certain wildlife species.

Regarding the positions on Non State Actors the Stockholm Conference

was met with protests from a variety of groups amongst them scientists and other radical groups. These protests set the norm for alternative environmental ideologies that have shaped the current international environment settings. An important point that need mentioning is the capacity of non -state actors from the developing countries, was still under developed.

The Rio Declaration 20 years after the Stockholm Conference

In June 1992, the United Nations Conference of Environment and Development (UNCED) met in Rio De Janeiro to reaffirm and build onto the Conference of Human Environment. On the basis of the Stockholm Conference which had a set a standard for future international environmental conference, the Rio Declaration, adopted 27 principles and reaffirmed the building blocks of the Stockholm Conference . The main aim of the Rio Declaration, which was a step forward from the Stockholm Declaration was to create, clarify and rearticulate principles that states can incorporate into their domestic legislation. The goal was that if enough states included the Declaration domestically , it might lead to the Declaration transforming into the international law norms. Indeed a majority of UN member states have domesticated most of the principles outlined in the Rio declaration. In addition almost all UN members have adopted the three international conventions adopted at the Rio Summit : the convention on Drought and Desertification (UNCCD), the climate change convention (UNFCCC) and biodiversity convention (UNCBD).

By now three international conferences have been held to review the implementation of the Declaration: 1997, 2002 (World Summit on Sustainable Development) and 2012. The outcomes from the Rio declaration have been encouraging and most UN members states have seen a remarkable improvement in environmental management.

The Stockholm+50 Conference, 50 years after the Human Environment Conference

So 50 years after the 1972 Stockholm Human Environment Conference the UN General Assembly has agreed to convene an international meeting entitled ' Stockholm +50: a healthy planet for the prosperity of all- our responsibility, our opportunity' in Stockholm on 2 and 3 June 2022, during the week of World Environmental Day. The meeting will commemorate the 50 years since the convening of the Un Conference on Human Environment. The meeting is also designed to accelerate the implementation of the Sustainable Development Goals during the Decade of Action including through the sustainable recovery of COVID 19 pandemic. The international meeting will comprise an opening segment including a commemorative moment dedicated to the United Nations Conference of Human Environment as well as four plenary meetings, three leadership dialogues and closing segment. The leadership dialogue will be designed to be collaborative and multi stakeholder with a focus on recommendations that contribute to the environmental dimension of sustainable development to accelerate the implementation of commitments in the context of decade of action and delivery of sustainable development, including a sustainable recovery from the COVID 19 pandemic.

Zimbabwe will be represented at the meeting by the Minister of Environment, Climate Change and Hospitality supported by key government officials, including non state actors. The Zimbabwe Environmental Laws Association (ZELA), Regional Environmental Organization (ZERO) and National Association Non Governmental Organization (NANGO) will make a report back meeting and facilitate the long term implementation program based on the resolutions adopted at this international meeting.

Further details can be obtained from the three organizations.



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ECOVISION

EcoVision, a woman-led Water Engineering powerhouse of the 21st century is breaking all barriers to ensure safe drinking water for every Zimbabwean. The Award-Winning company who recently received a silver medal award for having the best Mining and Engineering exhibit at the ZITF has worked with multiple corporates and water utility companies in Botswana is looking to break the Zimbabwean market through engagements with Local Authorities as well as corporates like hotels, mines, schools and hospitals.

In an interview, the EcoVision CEO Ms. Cleopatra Ngwenya reiterated that there is a dire need for technological advances in Zimbabwe's water industry and EcoVision is the future of water in Zimbabwe. "Our freshwater resources are finite, and they are under increasing strain due to drought, floods, pollution, population development, and competition from multiple users (e.g., ecosystem protection, drinking water, agriculture, energy production, recreation). Technology innovation can help us handle our water concerns and move us toward a more sustainable future while also boosting economic growth. EcoVision aspires to be a catalyst for promoting and supporting technological innovation in order to conserve and sustain our water resources." She said.

Green Hortus (Pvt) Ltd, t/a EcoVision is an entirely Zimbabwean owned and registered company that provides sustainable total water management services, supplies the highest quality potable water & waste water treatment products and water disinfectants. The company is at the forefront of the water treatment business, delivering safe, controlled, and cost-effective water management technologies to their clients.

EcoVision's experience and technological resources have grown to encompass their own-brand line of water treatment products, which their clients can recognize. Their products include smart water disinfection systems which are most applicable to councils and municipalities, water softeners

for industries operating with hard borehole water and reverse osmosis systems for manufacturers and water bottling industries.

Ms. Ngwenya further spoke about the need to eradicate Cholera in Zimbabwe. "A cholera pandemic struck Zimbabwe in 2008-2009, resulting in 98,585 recorded cases and 4,287 confirmed deaths, making it the country's worst and deadliest outbreak ever. The original epidemic was noted for having a high cumulative case fatality rate (4.3%) that lasted a long time (10 months). EcoVision's water treatment solutions are not only eco-friendly, but are also aimed at eliminating this deadly disease as well as remove Zimbabwe from the list of countries that are prone to Cholera."

One of the most important aspects of the National Development Strategy 1 (NDS1) is increasing access to potable water from 77.3% to at least 78.3% by 2025 and water storage capacity from the current 15.423X10⁶ mega liters to 16.979X10⁶ mega liters by 2025. This improvement can only be sustained by improving water supply technology which will be made possible by adopting the technology in which EcoVision specializes that is in-line with NDS 1 "Rehabilitation and development of basic water storage facilities such as treatment plants will be prioritised during the NDS1 Period. This will include implementation of analytical studies, technical support, and capacity building for institutions with responsibilities of water resource management"

EcoVision's water disinfection technology uses Chlorine dioxide as a disinfectant instead of the traditional chlorine which is currently used by most if not all Local Authorities in the form of either chlorine gas or HTH granular chlorine. Their Chlorine Dioxide disinfection technology has been tried and tested and is being used in several countries as primary oxidant as well as disinfectant. Countries in which the technology is being used include Italy, Germany, Qatar and Botswana became the very first African country to use our Chlorine dioxide disinfection technology"

AFFLUENCE

The greatest danger to mother earth?

■ Innocent Nhire

A thorough analysis of the environment has surprising findings; that affluence is the biggest threat the world faces. This is one of the conclusions by a team of scientists from the United Kingdom and Australia, who mention that the top world priority must be tackling overconsumption. Their report titled, *Scientists' Warning on Affluence*, explains that the best approach to sustainability has to be focused on radical lifestyle changes, instead of hoping for more efficient use of resources. Reliance on technology to solve environmental problems falls short and a reduction in consumption and lifestyle changes alongside structural changes is more effective.

A growing global challenge

It is now agreed across the globe that the planet is facing an ecological tipping point. At least half of the global GDP is tied to natural resources, according to the UN. On top of that millions of jobs depend on nature, there are billions of people who have a strong connection to and substantially rely on natural medicines and remedies. In addition, the utilization of reforestation and tree planting programs has the potential to reduce the impact of global emissions and help to meet the Paris Agreement's goal to maintain global temperatures increases below 1.5°C.

Call for systemic changes

The threat of man-

made environmental harm was highlighted at the COP 26 in Glasgow, in 2021. The World Economic Forum Global risk report also put the anthropogenic environmental harm in its top 10 risks. According to the report, the main problem is that any gains in environmental protection offered by technology and resource efficiency have been outpaced by growth of consumption. The report has asserted that it might be the right time to rethink the conventional ideas on supply and demand. In capitalist societies from which the majority of the world now resides, the theory has been that consumer needs drive the economy with businesses merely providing that which is on demand. However, the reality of capitalism in the 21st century is much more complex, with some economists contending that growth itself is the problem.

Time for a great reset

Change has been called for, especially in the way the world is operating under capitalism. Writing shortly before World Environment Day, the Forum's founder and executive chairman, Professor Klaus Schwab, called for a great reset of capitalism in the wake of the coronavirus pandemic. His vision of the great reset includes creating a stakeholder economy, where the market pursues fairer outcomes for all, underpinned by changes to tax, regulatory and fiscal policies, and new trade arrangements. Schwab



also calls for investments that advance shared goals, such as equality and sustainability. This is something that is already taking place in parts of the world where economic-stimulus programmes are being enacted.

In addition, Schwab urges us to address health and social challenges with the innovations made possible by the Fourth Industrial Revolution. That means more public/private collaboration in pursuit of the public good. The pandemic has devastated families and brought major economies to a standstill. By directing resources into new and improved systems and processes, rather than shoring up the existing ones, Schwab believes a lasting change for the better is possible. This belief is echoed in the scientists' report, which mentions that, affluence is actually dangerous and leads to planetary-scale destruction. A statement that was passed by co-author Julia Steinberger, a Professor of Ecological Economics at the University of Leeds.

"To protect ourselves from the worsening climate crisis, we must reduce inequality and challenge the notion that riches, and those who possess them, are inherently good."





CORPORATE SOCIAL AND RESPONSIBILITY – WHAT’S IN IT FOR BUSINESS?

■ Simbarashe Machisa

“It’s not the strongest species that survives, nor the most intelligent, but the most responsive to change”, said Charles Darwin. Business leaders must understand that we are now living in an environment that is ever changing. Cultures are changing and the way of work is changing. The business world is in a never-ending cycle. The macro dynamic legal, technological, social environment are continuously changing. Organizations that are embracing corporate social responsibility have a bright future and those that are not doing anything to embrace noble initiative will be overcome by events or will be obsolete.

Corporate social responsibility (CSR) is a form of management that is defined by the ethical relationship and transparency of a company with its stakeholders. CSR informs establishment of corporate goals that are compatible with the sustainable development of society, preserving environmental and cultural resources for future generations, respecting diversity, and promoting the reduction of social problems. There are many factors that influence this association. This include organizational values, the relationship with stakeholders, the external environment, competitive context, internal resources, the ideologies of top management and community expectations. The competitive advantage that stems from social responsibility can be seen through the direct influence of its resources, creating an improvement in reputation and image, the retention of exceptional people, employee motivation, aggregate value, better economic performance provided by social responsibility aligned with corporate strategy, innovative and efficient projects and better environmental performance.

A business leader must recognize that when their firm is in operation, they produce pollutants that affect the external environment which will lead to negative conflict with the community members, so to avert this uncertainty the organization should engage all relevant stakeholders and discuss the project with them. Issues to consider include greenhouse gas emissions; discharge of effluent or pollutants into water bodies, loss of biodiversity; land degradation, poor business behaviour towards customers, waste management and depletion of natural resources due to its production processes.

PRINCIPLES OF CORPORATE OF CORPORATE SOCIAL RESPONSIBILITY (CSR)

There are three principles of corporate social responsibility and these are explained in detail below:

- **Sustainability**
- **Accountability**
- **Transparency**

Sustainability

Sustainability implies that society must use no more of a resource than can be regenerated. The organization is part of the ecosystem of a wider social and economic system implies that these effects must be considered, not just for the measurement of cost and values created in the present but also for the future of the business. Sustainability should consider the rate at which depletion of resources consumed by the organization in relation to the rate at which resources can be regenerated. Business today should aim towards sustainability by increasing efficiency in the way in which resources are utilized. Sustainability has three aspects of performance namely: economic, social and environmental.

Accountability

This implies a reporting to external stakeholder of the effects of actions taken by the organization and how they are affecting those stakeholders. This acceptance of responsibility is recognition that external stakeholders have the power to affect the way in which the organization runs its operations. They also have a role in deciding whether such actions can be justified. Accountability necessitates the development of appropriate measures of environmental performance and reporting of the actions of the firm. Characteristics of accountability reporting include, engaging all interested parties on their needs and expectations; interested parties' issues of concern, consistency, reliability and accuracy.

Transparency

Transparency as a principle means that the external impact of the actions of the organization can be ascertained from the organization's reporting and pertinent facts are not disguised

within reporting. Transparency is of particular importance to external users of such information as these users lack the background details and knowledge available to internal users of such information.

Intangible Benefits for business (Corporate Social Responsibility)

- Improved relations with regulators and relevant stakeholders
- Improved morale among workers that can lead to higher productivity
- Enhanced business or brand image which will lead to increased sales
- Better community relations
- Health and safety benefits
- Ease of attracting investors
- General improved image and relationship with stakeholders

It has been seen that Corporate Social Responsibility (CSR) has gained prominence in recent years. It has also changed in nature as different issues have become more prominent. A stakeholder managed organization attempts to consider the diverse and conflicting interests of its stakeholders and balance these interests equitably. The motivation for an organization to engage in stakeholder management are that it improves financial performance, social and ethical performance. To be able to adequately manage stakeholder interests it is necessary to measure the organization's performance. The main principle behind the concept of corporate social responsibility (CSR) is sustainability. Consequently, most of the activities that are covered by CSR are necessary for the survival of the business. Nowadays, there is an 'unwritten' rule that businesses must pass on their success to the world through CSR. Since the advent of CSR, businesses are forthwith judged in terms of their ability to be good corporate citizens. Businesses that find it hard to fulfil their social responsibilities as corporate citizens have trouble marketing themselves to the world. Furthermore, CSR is an essential agenda for both upcoming and existing businesses.





DEFORESTATION IMPACTS LIVELIHOODS

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CLIMATE FINANCING AND ECONOMIC FRAGILITY IN AFRICA

Tendai Guvamombe

The Economic Fragility Index for Zimbabwe was marked at an average value of 104.75 index points with a minimum of 99.1 in 2021 and a maximum of 114 in 2009. The latest value from 2021 is 99.1 index points. For comparison, the world average in 2021 based on 173 countries is 66.40 index points. The index further asserts that in every five (5) countries around the world, four (4) fragile states are found in Africa. Southern African countries are part of the 193 nations that embraced endorsement of the 2015 Paris Agreement on Climate change and have tremendously done justice in delivering the much-needed policy legislation around low carbon pathways to meet the global targets.

However, the differences in terms of economic progressions between the global north and south have been a subject to debate. Nexus 1 countries also known as the developed world have achieved considerable steps in terms of industrial development. This outpaced the global south in terms of development and globalization. Today, the climate change phenomenon is calling for combined efforts in a more collective and sustainable manner to achieve the projected 1.5 degrees Celsius limit in global temperature increase.

The climate change predicament does not choose gender, race, colour, creed and even level of development. Judging by the level of atrocities poised by climate vagaries around the globe, it is now evident that the phenomenon is real. The developed world consented to honour its pledge by a constant flow of climate change funding mechanism towards the developing world. The idea around climate financing for the global south is to achieve the collective efforts towards climate justice. Since the Paris Agreement was entered into force, a number of climate change financing institutions have been channeling huge funding resources towards the global south.

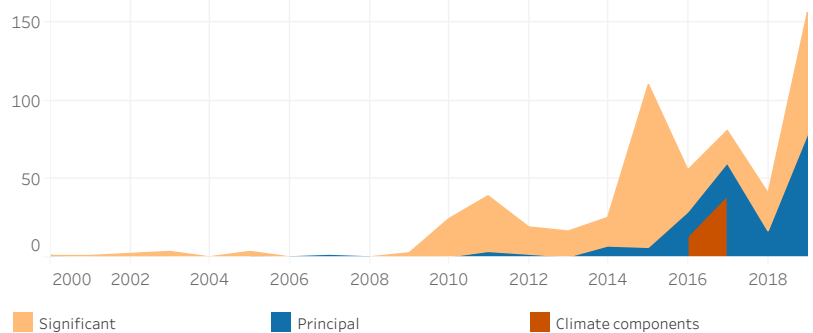
Climate-Related Development Finance Partner Country Perspective

Commitments, USD million, 2019 constant prices

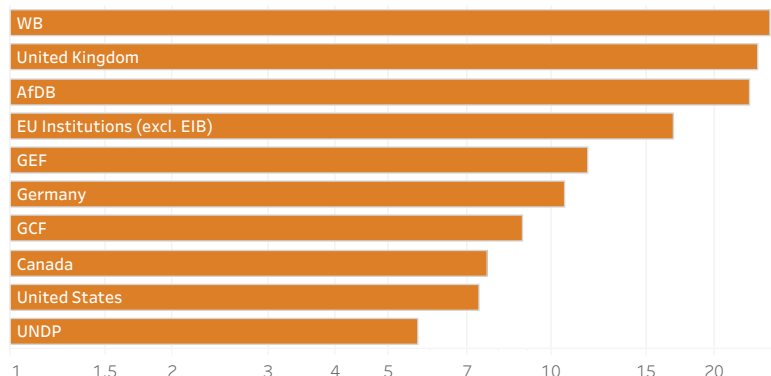
Measure: Total Climate
Year: 2019
Recipient Region: All
Recipient: Zimbabwe

Objective: All
Provider Type: All
Provider: All

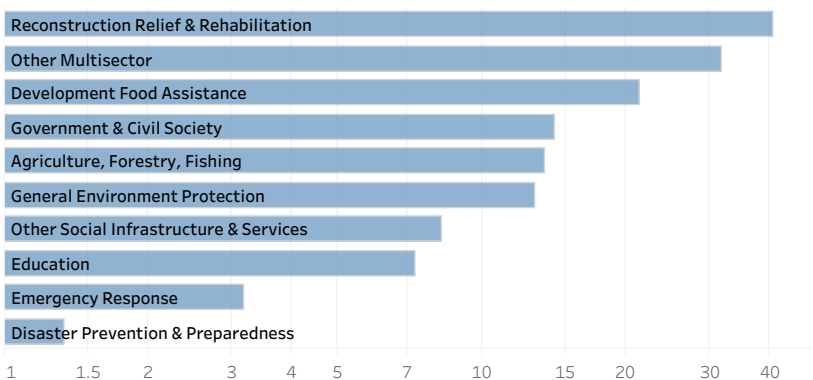
Total Climate-related development finance, 2000-2019, Recipient region: All, Recipient: Zimbabwe, Provider type: All, Provider: All



Top 10 Providers, 2019, Recipient region: All, Recipient: Zimbabwe, Provider type: All, All providers



Top 10 Sectors, 2019, Recipient region: All, Recipient: Zimbabwe, Provider type: All, Provider: All

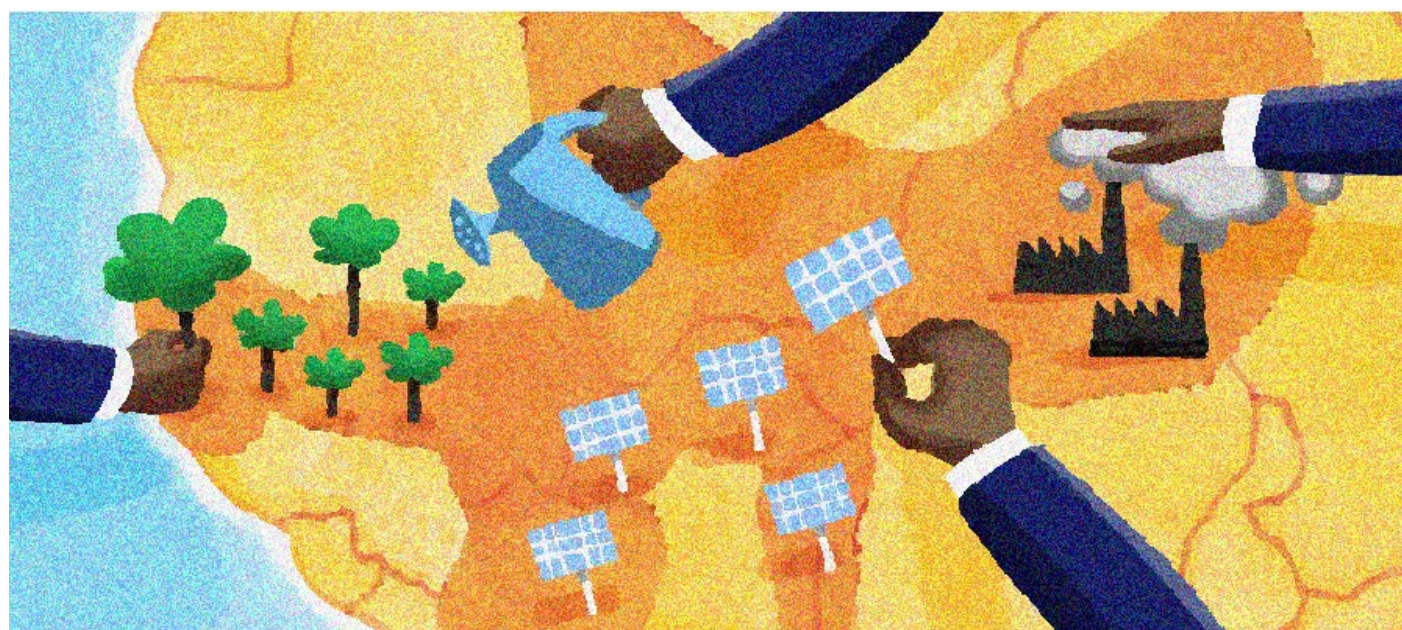
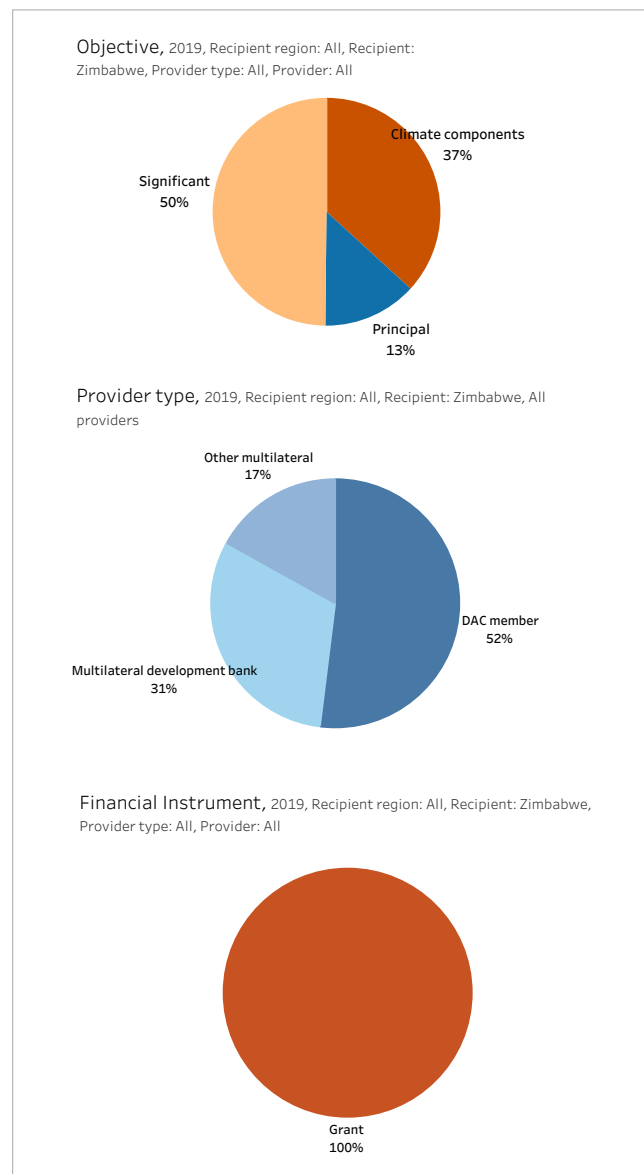


Amid all this the greater proportion of the funding mechanisms are coming in the form of debts. It is against this backdrop that some civic societies in Africa have raised a red flag in weighing just transition in the context of economic fragility. Basically, the civic societies are concerned about Africa's ability to pay back climate financing debts yet facing economic doldrums hence economic fragility. Some of the possible worries were tabled at the civic stakeholder engagement recently held by Reyna Trust in Harare, Zimbabwe. The engagement dubbed the "National Budget Analysis on Climate and Environment: All Stakeholders Sustained Dialogue" mapped recommendations for the Government of Zimbabwe to adopt solid measures in pursuit of strategic climate financing mechanisms.

Reyna Trust frantic personnel Sydney Chisi reiterated that Africa is faced with two scenarios of climate change vagaries and economic fragility. The disbursement of climate funds will further widen the foreign debts that have been a major attribute for Africa, causing it to remain in a fragile state.

"We need to remind our governments that the foreign debts are accumulating. Before climate financing we were already having accumulating debts in other areas. Now that we have the global north channeling huge funds towards global south it is now quite obvious that the debts will continue to accumulate. This means that, we are borrowing and at a time when our economies are in a fragile state." Chisi advises that it's high time governments and African negotiators face the reality of the moment in pursuit of climate justice. Holding the global north accountable for the current unprecedented climate phenomenon will be relevant and key.

"It is high time our governments face the reality. We cannot continue to borrow at our own costs. climate justice has to prevail and be justified. The best measure is to hold the biggest emitters accountable to the current climate change scenarios affecting the global south." Thereby making them pay for them.

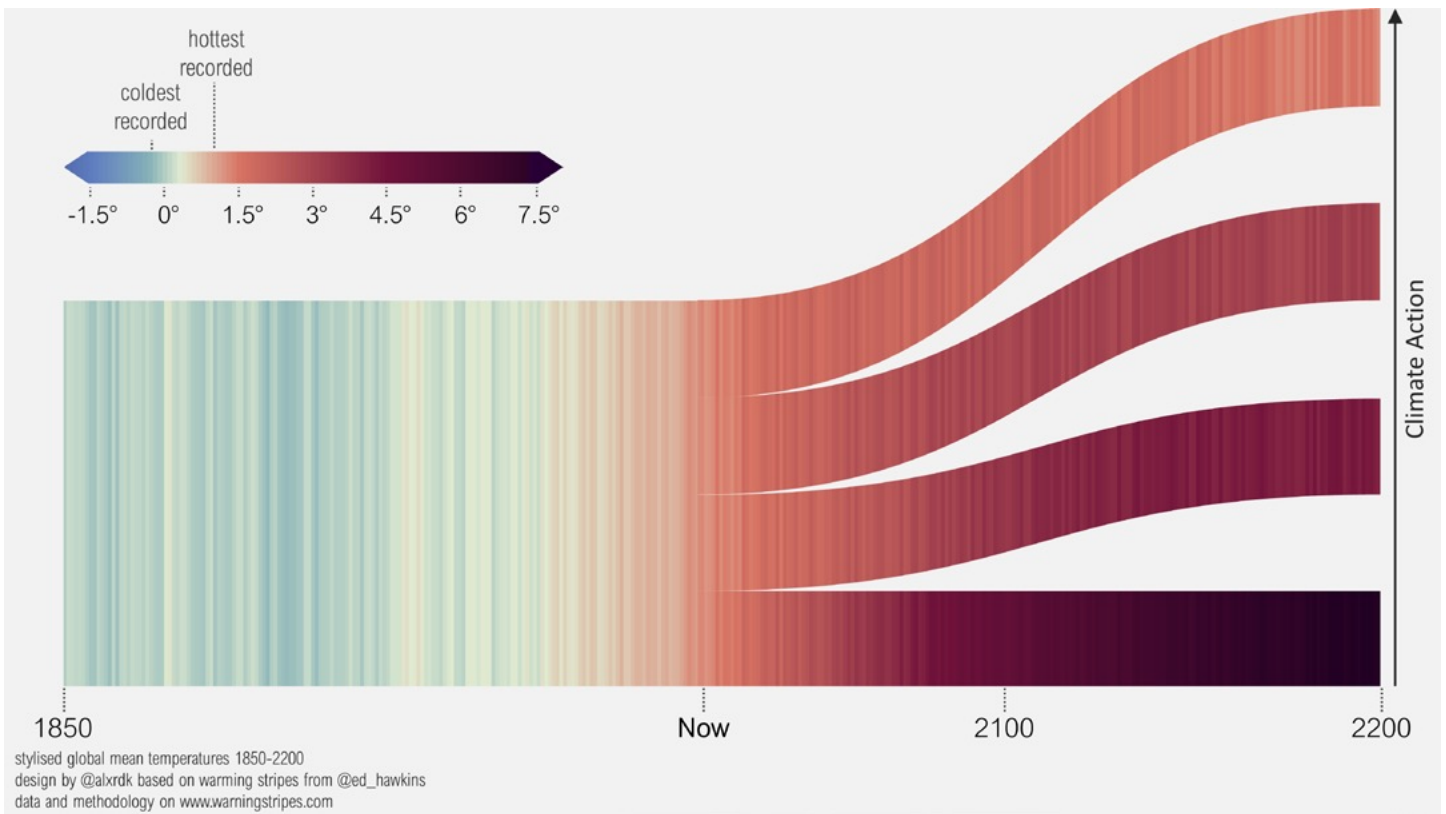


GLOBAL DATA BAROMETER AND LAND PORTAL PUBLISH BENCHMARKS ON STATE OF OPEN LAND DATA INCLUDING CLIMATE ACTION IN MORE THAN 100 COUNTRIES

■ Wallace Mawire

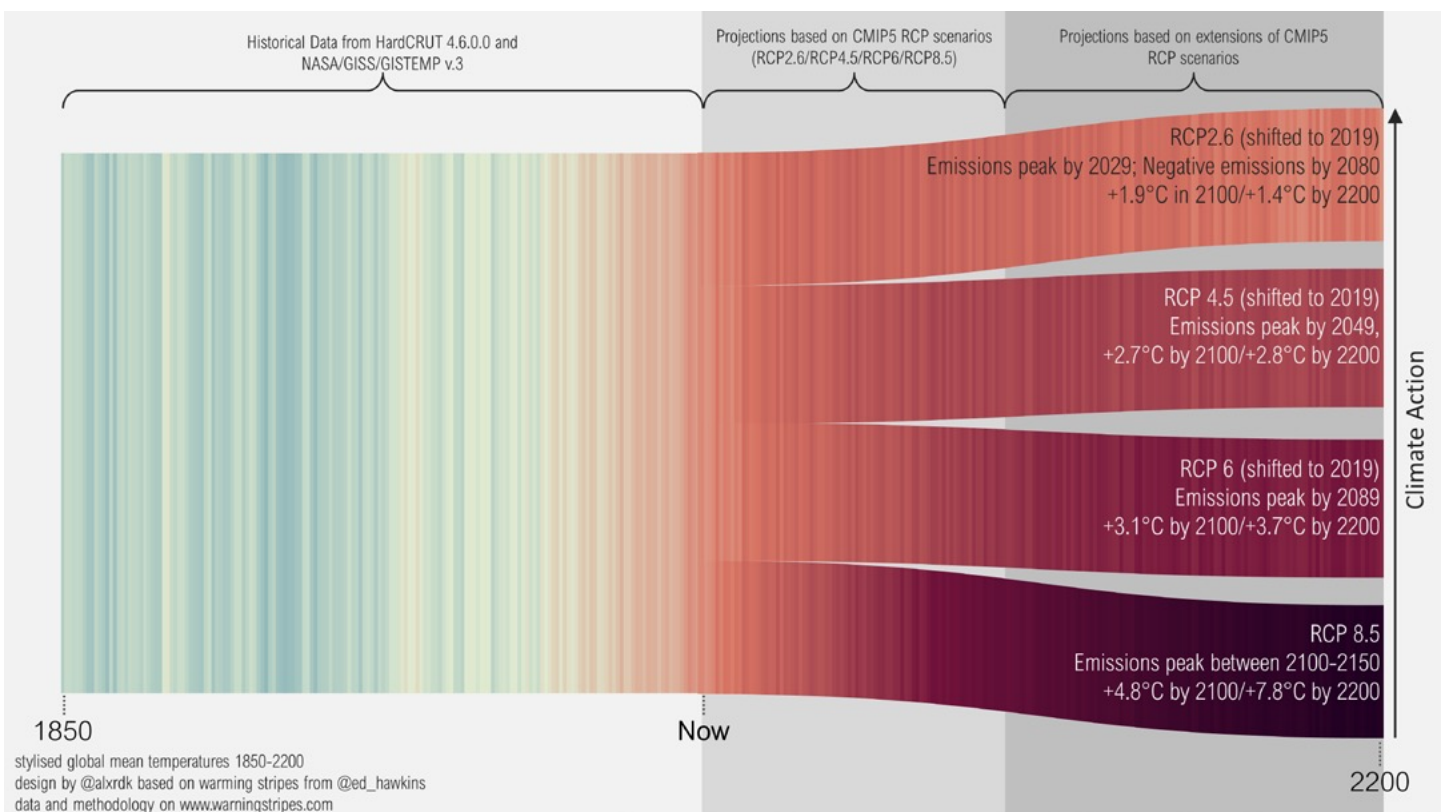
The Data for Development Network, Latin American Open Data Initiative, and the Land Portal Foundation have launched the land module as part of the Global Data Barometer project, a global index study that helps the land and open data communities to identify countries where land data is lacking or can be improved and also points to positive examples that can be replicated.

The Land Portal co-produced the Land Module, which complements our existing State of Land Information (SOLI) research methodology. While the GDB Land Module provides a global benchmark and a set of globally relevant and comparable indicators, the SOLI research and reports dive deep into the state of a country's open land data. Together, these complementary tools inform the land community's work to improve access to land data and increase transparency.



The GDB Land Module focuses on land tenure and land use, as well as on uses of land data to support work on gender and inclusion. The selection of specific datasets is designed to capture different aspects of data availability and use. The GDB land module provides a composite score for all land indicators by country, averaging scores of all the indicators.

It is reported that New Zealand tops all other countries by a wide margin, with a score of 95.57%. On the lower end of the spectrum of countries that fully reported on the survey, Mozambique scored 9%. Sixteen countries reported no data, while 32 countries reported data for two or fewer indicators.





a variety of sectors, providing justifications and supporting evidence for their answers. The GDB is a global index study intended to be a time series, repeated every two years.

“The Land Portal Foundation saw the Global Data Barometer as a major opportunity to create a baseline of land data openness around the world, and to identify and incite governments and other stakeholders to improve land information systems,” said Laura Meggiolaro, Land Portal Team Leader. “We are proud to be a part of this important initiative, which serves as a beacon for land data as a public good.”

It is added that the average score for the use of gender data in influencing land policy is 11.76%. Generally, 51% of respondents indicated that data and evidence are not used for making policy. Only 2% of respondents indicated that there is widespread evidence of data being used for policy making. It is reported that in the countries where land data is available online, it is almost exclusively available because of government-led action. Only 2% of respondents indicated data is available but not as a result of government action.

The barometer says that if progress is to be made in opening up land data, governments must be consulted and play a primary role in mandating and supporting open data. The report says that opening up data processes benefits both the government and public with improved efficiency and service delivery.

The GDB assesses the state of data across nine areas, called modules, including Land, governance, capabilities,

climate action, political integrity, public finance, procurement, company information, health and Covid 19.

The report says that unsurprisingly, the land module scored the second lowest 25 out of all the modules, confirming the poor state of land data and the need for continued action. The GDB was achieved by a team of more than 100 researchers and the implementation of an expert survey.

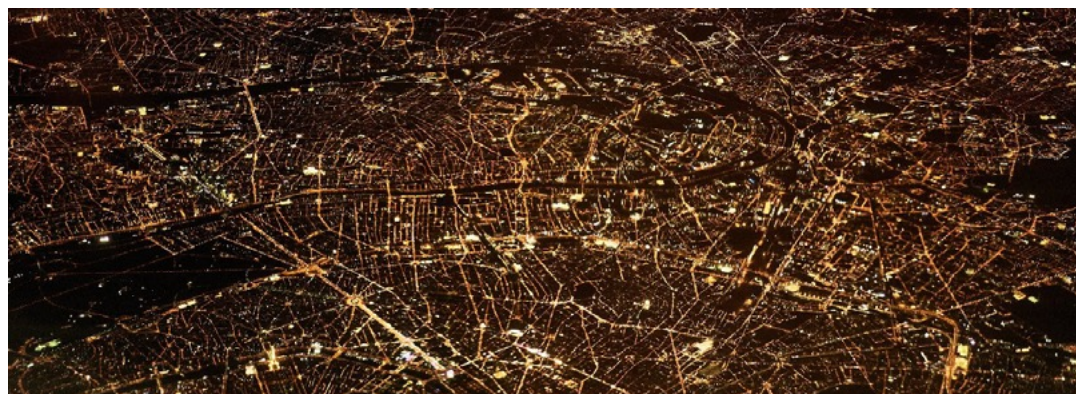
The researchers, drawing on local sources, online resources, and in-depth dataset assessments, provide evidence on the governance, capability, availability, and use of data for public good across

The Land Portal Foundation was established to create, curate and disseminate land governance information by fostering an inclusive and accessible data ecosystem. Over the last decade, the portal has evolved from a simple information gateway to become a knowledge broker, a resource base, a vibrant online community of users and a trusted voice within global land governance.

The Global Data Barometer is a collaborative project of the Data for Development Network (D4D.net) to provide a new benchmark and the essential data needed to drive a fuller understanding of the state of data for development, open data implementation, and data justice around the globe.

The GDB is the result of the efforts of over 100 researchers and a network of regional research hubs around the world. The design of the GDB builds on the previous editions of the Open Data Barometer, but takes a broader look at data sharing and use for the public good, including giving additional attention to issues of privacy and inclusion.

The Barometer measures the state of data in over 109 countries in terms of governance, availability, capability and use for the public good. It is reported that all results of the Barometer will be open access to support use and re-use of data for research, practice, and national actions.





ENVIRONMENTAL MANAGEMENT SYSTEM BENEFITS

■ Simbarashe Machisa

The Environmental Management System (EMS) standard ISO 14001 is developed by International Organization for Standardization (ISO). ISO 14001 standard is made up of five key elements as environmental policy, environmental planning, implementation and operation, checking and corrective actions and management review. This standard is designed and developed to help the organization to establish management processes which control and improve an organization's environmental performance. This is done through minimizing or eliminating the environmental impacts from activities, products and services being offered. The system also helps to reduce legal risks by ensuring compliance with other requirements related to environmental management. The standards also facilitate the business to evaluate and improve their environmental performance.

B

usiness leaders must adapt to the dynamics of an over changing environment.

The environmental awareness level is increasing due to a range of factors as for example, market pressure, social responsibilities, company image, operational efficiency, and customer requirements. An

environmental management system is used to guide organizations be they small or large on management of environmental. Businesses should implement such systems to maintain compliance with environmental regulations, lower environmental costs, reduce risks and improve environmental performance.

Why it is important for business to adopt EMS?

The environmental management system provides organizations with a framework to protect the environment and respond to changing environmental conditions in balance with social-economic needs.

There are financial and operational benefits that result from implementing a sound environmental management system. The system supports good governance and leadership for every organization to achieve sustainability.

Mauszak Flejsman recognizes the external benefits listed below:

- Raising attractions in the eyes of investors (Shareholders) as well as improving the image of the company which can give rise to successful business negotiations
- Raising competitiveness on the internal and external market by deepening the trust of customers and contractors
- Improving the conditions of the natural environments
- Increasing market share by meeting the market requirements of “caring for the environment”
- Improving relations with local community
- Possibility of maintaining old customers and gaining new ones.

Benefits of implementing EMS on Small to Medium Enterprises (SME) or large organisation

- Easy obtaining permits or licenses
- Increase morale
- Minimising waste
- Economic use of raw material and energy
- Gain a competitive advantage
- Reducing the risk of environmental accidents and emergencies
- Resources for planning and setting of targets.
- Preventing incidents that result in liability e.g., Fine, Injuries, Property damages, substandard products
- Improving cost control
- Improve the overall image of the business
- Increase business credibility for investors, partners, financial institution, and public.
- Designing more environmentally friendly products
- Satisfying investor criteria and improving access to capital
- Enhancing image and market share
- Conserving input materials and energy
- Improving relations between industry and government
- Promoting environmental awareness among external providers and all persons doing work under the organization’s control
- Maintaining good public and community relations; Internal and External stakeholders

Implications of not conforming with EMS

- Lack customer confidence
- Loss of revenue on fines
- Poor communication
- Property damages
- Loss due to injuries and or fatalities
- Low employee’s morale
- Bad corporate image
- Litigation



Processes of implementing EMS

- Planning
- Implementation and operation
- Checking
- Management Review
- Environmental Policy
- Continual Improvement
- Based on the ISO 14001:2015 model for implementation.

Business leaders must demonstrate commitment with respect to the environmental management system and ensuring that the system is embedded into the strategic directions and the context of the organization. Make sure that resources are available that support the environmental management system. Every business leader has a duty to scan the external environment and put solutions that are sustainable for the organization and the country at large. The management system helps companies to monitor and control any negative impacts on the environment. As with most management systems the main objective of an EMS is to allow relevant information to be conveyed effectively through an organization. The EMS contains the organizational structure, responsibilities, practices, procedures, processes, and resources for determining and implementing environmental policy. Finally, small to medium enterprise (SME) must formalize and regularize their processes in line with standards or system requirements for them to upscale their business. Therefore, business leaders that do not implement standards are at high risk of losing business due to substandard product or services and non-compliance to legal and other requirements. Today’s business is being driven by ISO standards, hence organization must standardize their processes and be certified by accredited bodies such as the Standard Association Zimbabwe (SAZ).

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THE NEGLECTED LINKS BETWEEN DIET AND CLIMATE CHANGE

■ Chiedza Nzembe

Now more than ever, there is a need for a shift in everyone's attitude towards the environment. There are shifts in terms of transitioning towards sustainable sources of energy, company policies, national and international laws and technological advancements that advocate for the protection of the environment and curbing climate change. There is a subject contesting hot interesting debates when it comes to climate change and that is the link between diet and climate change. There is obviously a direct link between climate change and the choice of diet one chooses if you think in terms of the number of resources (energy, water, labour, transportation, land) injected to produce that food until the moment it is on your table.



V egetarians and vegans argue that their diet is better for the planet whilst meat-eaters find facts to counteract these arguments to say, it does not make a difference. Cattle farming is under scrutiny because it is said to have a huge negative environmental impact and contributes significantly to climate change. This is largely due to the intensive resource consumption and methane gas release from cattle. According to the University of California Davis (2019), livestock is responsible for a whopping 14.5% of the global greenhouse gases! That is a lot for one business sector. There is also a very high demand for meat production as determined by people's choice of diets. That makes one wonder, how is my diet influencing climate change? Is there a better choice of diet for the environment? What can one do at an individual level to reduce their diet carbon footprint?

Food production requires high resource input. These resources are taken from the planet as raw materials and processed. Processing these raw materials requires land, energy, water, labour, and transportation. If this chain of production lacks sustainability, the environmental consequences are costly financially and economically, for the planet and our wellbeing. Our diet has massively changed over the years, we are able to get ready-made food easily with little to no energy investment to prepare it. That means an extra mile within the production chain to make it readily available and easier to prepare.

Climate change is affecting many parts of our lives, differently according to geographic location. Different parts of the world are having to cope with the constant changes that come with the impacts of climate change. If we look at the northern parts of Africa where desertification is progressing monstrously, there is also famine, war, and displacement. That results in further marginalization of populations such as women, and children. In the pursuit of survival, there is a higher chance that they are exploited, and their human rights are put on the back burner. Child labour in agriculture and food production due to climate change as influenced by our diet choices is grossly neglected. There are many companies worldwide that have been accused of exploiting child labour. The chocolate industry and the palm oil production industry have been accused of such. The United States of America under the U.S Department of Labor maintains a list of goods and their source countries which are believed to have been produced via child or forced labour. This list is publicly accessible. Given the availability of resources, this is something that could immensely benefit developing nations. It just means more informed decision making when it comes to one's diet and using it as an instrument of change for the planet and humanity.

With that said, our diet choices go beyond just putting food into our mouths. We cannot progress together in this case towards the mitigation of climate change when there are still marginalized populations in this world. I feel that they are being left behind in being part of the solution and awareness. Ultimately, we are stuck in a cycle of simply moving forward and backwards. Despite there being initiatives to end this such as the Sustainable Development Goals (SDGs), the progress is painfully slow. Big companies and small to medium enterprises within agriculture and food production still find ways to exploit children and women for cheap labour to attain larger profit margins.

Furthermore, diet indirectly influences climate change through deforestation. Countries such as Brazil and Argentina are some of the largest producers of soya. According to Greenpeace, in Brazil over the last 20 years, the soya industry has quadrupled.

To produce soya, vast amounts of rainforest are cleared to accommodate farming space. The industry keeps growing because there is a high demand for soy products to feed animals as well as humans. Not only are rainforests hotspots of biodiversity but are homes to indigenous people, carbon sequestrators, and habitats, and act as climate change regulators. They are one of the very important keys to solving the climate change crisis. Agriculture also happens to be one of the backbones of economic growth for many countries. Due to these economic growth benefits, the implication of agriculture on the environment is often ignored. Keep in mind that these forests are cleared for other reasons such as timber, mining and urbanization besides agriculture putting them under more strain.

This is happening worldwide on different continents not only in these two mentioned countries. You can imagine the collective impact of deforestation on the planet because of the indirect and direct demand for many food products. To add more to that, without dismissing partisan vegans, vegetarians and meat eaters' arguments about whose diet contributes more to climate change, I feel without time investment towards research and informed decision making about where the food one is eating comes from and the



processes engaged, there is no difference. Consumers have the power to choose to support companies that source most or all their products sustainably. That can help to create a shift where more food retailers and producers choose to conduct their chain of production in environmentally friendly ways.

Moving on, scientists estimate that about 50 to 80% of oxygen production comes from the ocean plankton, photosynthesizing bacteria, drifting sea plants and algae. The ocean is a source of

nutritious foods, raw materials, and source of livelihoods. The ocean is however increasingly threatened due to overfishing, water pollution and climate change to mention a few. The ocean acts as a solar radiator, releasing all the heat required for atmospheric circulation and absorption of carbon dioxide storing it for millions of years, therefore, regulating the climate. The fact that sea levels are rising, ice frozen for aeons is melting and species on the brink of extinction shows that this magical ecosystem that has been disturbed is dying a slow death.

Overfishing as influenced by increased food demand adds to climate change. Many industrial fishers take more than what is needed killing small fish that should be left to reproduce and creating food waste. This is the same for rivers. Some of these fishing companies are after huge profit margins, not environmental sustainability.

Unfair distribution of food in different parts of the world means there is food waste and famine. Food waste is a menacing problem in our everyday lives in both developing and developed nations.

Most people don't care to think twice about the amount of energy that went in to produce the leftover food in their plate and where it goes after they feel full. Every year there is a world combined 1.3 billion tons or a shocking 216 666 666 African elephants of food waste! First, every input of raw materials, labour, energy, and transport invested is thrown away when food is wasted. Secondly, more inputs are injected into food production to cover the parts of the world with food insecurities and famine. Thirdly, to cater for the unfair distribution of food due to the impacts of climate change and inadequate resources in some parts of the world, we turn to Genetically Modified Foods (GMOs) and artificial fertilizers. These "advancements" give maximum profits, with very little input to produce unhealthy food and damage to the soil. Lastly, when food waste is not disposed of properly it notoriously emits methane gas into

the atmosphere which is one of the leading GHGs causing global warming. Surely, 1.3 billion tons of properly managed food would go a long way in feeding marginalized populations around the world. Take only what you need and encourage others to do the same.

Based on the discussion above clearly, diet extends to more than what we eat. There are so many aspects of this topic that can be explored but ultimately when talking about climate change, every bit of information, every small change from individual to a global level is enormously important. In synopsis, as consumers, we hold the power to influence a shift towards sustainability through the structure of food demands from companies. That in return helps to mitigate climate change, eradicate child and unfair labour exploitation, reduce unnecessary expenses and give peace of mind.





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AFRICA BRACES TO ADOPT GREEN HYDROGEN PROJECTS

Wallace Mawire

Green hydrogen is becoming a hot topic of discussion globally in terms of alternative renewable energy forms and the African continent is positioning itself to take an active role in the promising industry. Africa Solar Industry Association (AFSIA) is the reference association for solar professionals in Africa. The association is headquartered in Kigali, Rwanda and carries out solar-related activities and programmes across Africa. Its regional coverage stretches from Egypt to South-Africa and from Cape Verde to Madagascar.

AFSIA promotes solar power in the African region from large scale grid-connected projects to off-grid solar home systems, through hybrid systems including solar water pumping, solar stoves or solar water heaters. It also organizes networking opportunities for solar professionals and gives them access to the right information and the right network to expand their business and

strengthen the solar industry across the continent. According to AFSIA, several landmark projects on green hydrogen have already been announced and started across the African continent. AFSIA said that Africa is in a special position where it could benefit twice from green hydrogen. On the other hand, Africa is anticipated to become a major global production hub for export of green hydrogen.





Green hydrogen could also be used for local production of green ammonia and green fertilizers which the continent is currently importing in mass quantities.

In 2021 AFSIA organized its first green hydrogen e-conference and the event attracted more than 1,000 participants. The association said that the green hydrogen market has significantly evolved. The e-conference showcased the latest developments, key market players and technologies available for green hydrogen in Africa. Energy experts agree that the provision of cleaner energy sources at lower cost to power the African economy is central to African countries competitive positioning in the global market. The experts added that the health and environmental costs of polluting fuel sources such as fossil fuels and diesel, coupled with the increasing costs to provide secure electricity supply for economic activity across many sectors of the regional African economies places a burden on the economies that is holding back the growth potential of the continent.

On a global perspective, due to the Russia-Ukraine conflict, the European Union has proposed a gradual embargo on Russian oil and India is facing unprecedented heat waves, putting lives, crops and power supply at risk in the country, according to the South African Energy Storage Association (SAESA). According to SAESA, the economic growth case for Africa is clear. SAESA says that dealing with poverty is non-negotiable and is an immediate term imperative. The health and environmental cost of dirty development is even clearer in

South Africa where an additional ZAR 1.00 per kWh for health costs is experienced. The unserved energy cost in South Africa is R1 billion per stage of load shedding, per day as per statistics released by SAESA. The association adds that the massive investment in diesel as a dirty, costly option to shore up potential growth is evident and not sustainable rated at \$0.30 per kWh for the fuel alone, which is approximately double the average cost of grid electricity.

SAESA adds that storage with renewables provides an immediate, viable solution including decentralized solutions with storage as a viable standalone option. This makes new energy options possible focusing on technology, ownership, financing, energy system transition and creating jobs as the sector grows. As for the potential adoption of green hydrogen in Africa, SAESA says that hydrogen has been used for several decades by industrial companies because of its great convenience as fuel stock with regards to storage and transport. Due to the continued decrease in cost of renewables, the potential for green hydrogen is now growing exponentially and opening new avenues for its use. The success of green hydrogen will be linked to its production cost and Africa is ideally positioned to play such a major role in the global industry as the continent enjoys some of the best renewable energy resources in the world.

An e-conference held by the African Solar Industry Association on 23 to 24 March 2022 provided an opportunity for the best experts in the industry to deliberate on the

potential of green hydrogen for economic growth in Africa. It also helped to specify the fundamentals of green hydrogen and its advantages to the global economy, identifying the potential for green hydrogen production on the African continent; addressing the status of development of the green hydrogen ecosystem globally and in Africa; highlighting key success factors for rapid development and growth of a green hydrogen ecosystem in Africa; discuss current challenges faced by African countries to embark on green hydrogen production and proposing mitigation strategies; highlighting the role and impact green hydrogen can have on African nations and identifying the role of the solar industry in building a strong green hydrogen industry in Africa.

Professor Dr. Ad van Wijk of Future Energy Systems in the Netherlands said hydrogen is necessary to decarbonize hard to abate sectors and will become the global carbon-free energy carrier to store and transport cheap solar and wind electricity all over the world. Dr. Christoph Rövekamp, Head of Division, Energy and Hydrogen for the Federal Ministry of Education and Research in Germany in a deep-dive on Germany's green hydrogen agenda with Africa said that Africa's energy transition will be crucial to the global achievement of the Paris Agreement's pledges. He outlined activities embarked on by the German Ministry in Africa which include Science and Technological Cooperation (STC-Agreements) in Egypt and South Africa, MoUs in Morocco, Tunisia and Ghana, bilateral calls in Egypt, Morocco, Tunisia and South Africa.

'African countries can benefit from creation of domestic hydrogen economies and replacing energy imports,'

- Vincent Oldenbroek

Rövekamp says that the Ministry is on the move together with quite a few partner states on the African continent. It uses the entire range of options for action, from scientific and technological cooperation (STC) agreements to MoUs. German also has a National Hydrogen Strategy adopted by the Federal Government in June 2020. It is a coherent framework for the generation, transportation and use of hydrogen also encouraging relevant innovations and investment. The strategy sets out the steps that are needed to meet the German climate targets, create new value chains for the German economy and foster energy policy cooperation at international level. The strategy also supports international Research and Development Energy partnerships and cooperation. It was developed by Ministries of Economic Affairs and Energy; Transport; Environment; Economic Cooperation and Development; and Education and Research.

The Federal Ministry of Education and Research (BMBF) supports basic and application-oriented research in the fields of renewable energies, sustainable energy systems and green hydrogen technologies and its strategic focal areas are on capacity building, research, development and innovation including scientific exchange. According to Rövekamp Research and Development projects have been embarked on in 32 African countries with a focus on the western and southern regions. Another initiative is the Beacon project H2 ATLAS-AFRICA. Hydrogen is both an energy carrier and a source of energy and can be produced from a wide variety of energy sources, generated via electrolysis,

using renewable energy and water and produces significantly lower carbon dioxide emissions than other pathways.

The H2 ATLAS-AFRICA initiative seeks to create a database to develop a green hydrogen-driven economy to support sustainable development and contribute to the fight against climate change in both Sub-Saharan Africa and Germany, according to Rövekamp. The main indicators of the initiative include renewable energy potential estimation data, renewable energy resources such as solar, hydro, wind and biomass promotion focus, including hydrogen generation and valorization data, just to mention a few.

The German Ministry also has a graduate school programme on green hydrogen with a new scholarship scheme for students from all 15 ECOWAS countries, an international Master's Degree in Energy and Green Hydrogen Technology, 24-months' programme in partnership with Forschungszentrum Jülich and RWTH Aachen University including preparing and training a new generation of interdisciplinary professionals capable of proposing adapted solutions to the ongoing energy crisis in West Africa. Vincent Oldenbroek is the Secretary General of the African Hydrogen Partnership (AHP), the only continent-wide African association covering fuel cells, hydrogen, related chemicals and carriers outlined initiatives being embarked under the partnership. AHP is incorporated as a non-profit Private Company Limited in the Republic of Mauritius. Mauritius is a non-aligned country ideal for building constructive

relationships across the entire African continent, according to AHP.

The vision of the partnership is to establish hydrogen economies in Africa and to promote, support and accelerate the deployment of green hydrogen and fuel cell technology, improve access to clean energy and mobility in Africa and treatment of political, legal and tax issues on a Pan-African basis.

Oldenbroek said that green hydrogen economies in Africa can replace importation of fossil fuels and chemicals such as ammonia and methanol, create new export markets of hydrogen and derived chemicals and products such as ammonia and carbon dioxide free steel. 'African countries can benefit from creation of domestic hydrogen economies and replacing energy imports,' Oldenbroek said. According to him, Africa has a tremendous potential to decarbonize itself and the world. It has the resources to make renewable, minerals such as Platinum Group Metals (PMGs), space and green field opportunities, new domestic and export markets involving a young population. He added that there is potential to create hydrogen landing zones and full hydrogen eco-systems around areas of metropolises, ports, mining zones, trading hubs and routes.

Great potential to create hydrogen landing zones is reported to be available in countries such as Morocco, Egypt, Nigeria, Ghana, Ethiopia, Djibouti, Tanzania, Rwanda, Kenya, Uganda, South Africa, Namibia, Botswana, Zimbabwe, Zambia and the Democratic Republic of Congo (DRC).



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5. Jump Ring Earring Concept
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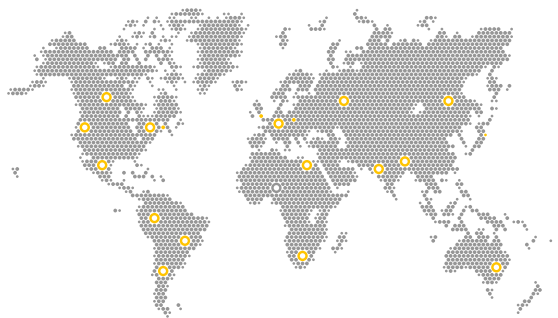


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