

Environment Quarterly

Kwartaalike Omgewingsverslag

Tikologo ka Kotara

Mupo nga Kotara



**SA firefighters help Canada
DFFE assists damaged schools**



forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA



Department of Forestry, Fisheries and the Environment

2023

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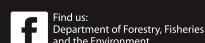
ENVIRONMENTAL DAYS

02 February	World Wetlands Day	08 June	World Oceans Day
03 March	World Wildlife Day	17 June	Desertification and Drought Day
21 March	International Day of Forests	31 July	World Ranger Day
23 March	World Meteorological Day	September	National Arbor Month
22 April	Earth Day	16 September	Ozone Day
14 May	World Migratory Bird Day	19 September	International Coastal Clean-up Day
22 May	International Day for Biological Diversity	September	South African National Parks Week
05 June	World Environment Day	21 November	World Fisheries Day

PUBLIC HOLIDAYS

1 Jan	Sun	New Year's Day	16 Jun	Fri	Youth Day
2 Jan	Mon	New Year Holiday	9 Aug	Wed	National Women's Day
21 Mar	Tue	Human Rights Day	24 Sep	Sun	Heritage Day
7 Apr	Fri	Good Friday	25 Sep	Mon	Heritage Day Holiday
10 Apr	Mon	Family Day	16 Dec	Sat	Day of Reconciliation
27 Apr	Thu	Freedom Day	25 Dec	Mon	Christmas Day
1 May	Mon	Workers' Day	26 Dec	Tue	Day of Goodwill

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About the back cover image:

Kgalagadi Transfrontier Park

Kgalagadi Transfrontier Park is a vast wildlife preserve in the Kalahari Desert region of Botswana and South Africa, bordering Namibia to the west. It's characterized by red dunes and dry rivers. Wildlife includes migrating herds of wildebeest and springbok, plus predators like raptors and black-maned Kalahari lions. Various lodges and wilderness camps offer game-viewing drives and guided walks with park rangers.



To use this QR code conveniently you must have a smartphone equipped with a camera and a QR code reader/scanner application feature.



Editorial: Hope for a greener future



Dear Valued Stakeholder,

It is my absolute pleasure to welcome you to yet another exciting edition of the Environment Quarterly. As always, the team and I pride ourselves in bringing you a magazine full of important, excellent developments within the environment space.

This month we celebrate International Mandela Day as well as the fire-fighting efforts made by the Working on Fire Team. With the fire season

upon us, it is critically important for us as caregivers of the environment to sustain all life on earth by being responsible in our behaviour in that we do not negligently start unnecessary fires. Our story on page 4 shines the spotlight on the fire fighting efforts employed by the Working on Fire team. So successful has this team been in putting out local fires that they have been trusted by the Canadian government to assist during fire season.

Back home, Minister Barbara Creecy continues to address the issue of climate change which, as we all know, is one of the pressing issues of our time. Governments, subject-leaders and policy makers all over the world continue to come together to find solutions in addressing climate change or at least reverse its effects on human population and biodiversity loss. On 28 July, Minister Barbara Creecy delivered a statement at G20 Environment and Climate Sustainability Ministers Meeting in Chennai, India.

The Minister said the importance of the G20 is the momentum it can create for common ambition in tackling these existential challenges for humanity. You can read the full speech on our website www.dffe.gov.za

Our senior writer, Mr Zibuse Ndlovu pens his views on a wind farm in Port Elizabeth and the contribution towards a cleaner and more sustainable future. Read the story on page 8.

In sad news, Mpumalanga was hit by devastating storms in recent months resulting in some schools losing essential infrastructure and equipment. Deputy Minister Makhotso Sotyu responded to a call by the province to assist the damaged schools by providing necessary equipment to ensure ongoing learning at the schools. You can read the story on page 13.

We hope you will enjoy this edition and follow us on our social media pages for the latest environment news.

'Till next time, let your green light shine!

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Meet our team

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Find more information on: www.dffe.gov.za or call 086 111 2468



WORLD RANGER DAY 31 JULY

What is a Ranger?

Rangers are often referred to as being the front line of conservation. They are the foot soldiers, the boots on the ground, and the first or final line of defence protecting much of the world's wildlife from the many threats all around them.



What is World Ranger Day?

World Ranger Day is observed on 31 July every year. It is an International Ranger Federation initiative in collaboration with The Thin Green Line Foundation to commemorate rangers killed or injured in the line of duty and to celebrate the work rangers do to protect the planet's natural treasures and cultural heritage.



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SA fights Canadian fires

By Veronica Mahlaba



Above: A team of 200 firefighters and 15 managers from the Working on Fire Programme dubbed MZANSI1 left South Africa on 03 June 2023 to the province of Alberta, Canada. **Image by Working on Fire.**

South Africa has sent 428 firefighters to Alberta, Canada to fight and suppress fires. These firefighters are divided into two teams namely, Mzansi1 and Mzansi2. This is the fifth deployment by Working on Fire (WoF) team to Canada. The firefighters belong to the WoF Programme, which is one of the flagship programmes that are within the Department of Forestry, Fisheries and the Environment.

The request for assistance came from the Canadian Inter-agency Forest Fire Centre (CIFFC) in terms of the existing Memorandum of Understanding (MOU) between Canada and South Africa. Alberta has already experienced more than 550 wildfires this season resulting in significant damage to property and infrastructure, and displacing thousands of people. Evacuation orders have been put in place in many areas. The MOU, signed in 2019, provides for the exchange of wildland fire management resources between South Africa and Canada. It was put in place following two earlier deployments to Canada to suppress wildfires in Alberta and Manitoba.

Minister Barbara Creecy extended her best wishes to the team as they embarked on their deployment. "You go to Canada to raise the South Africa flag and share your expertise and camaraderie with colleagues from other Canadian provinces to save lives, homes, businesses and large swathes of vegetation," said Minister Creecy. WoF addresses the prevention and control of wildland fires to enhance the sustainability and protection of life, poverty and the environment through the implementation of Integrated Fire Management (IFM) practices. The Programme is a government-funded, initiative aimed

at creating jobs and alleviating poverty. It focuses on Integrated Fire Management in South Africa. WoF firefighters are recruited from marginalised communities and trained in fire awareness and education, prevention, and fire suppression skills.

What causes fires?

According to Global Forest Watch in South Africa, the peak fire season begins in mid-June and lasts around 23 weeks. Santam stated that almost 99% of all fires are caused by human negligence. They are mostly caused by electrical faults or carelessness. Cigarettes, matches and lighters, candles, heating appliances and open braai fires can all cause fires if not carefully monitored. Additionally, environmental factors such as changing weather patterns and urban spread increase the risk of fires. The South-Eastern wind coupled with high temperatures make ideal conditions for wildfires to run rampant.

Unforgettable Knysna fires

As per the Council for Scientific and Industrial Research (CSIR), the worst wildfires to date were those which swept through parts of the Garden Route in the Southern Cape in June 2017. Knysna and its surrounds bore the brunt of these devastating fires. According to CSIR, 7 people were killed, more than 1,000 structures were destroyed, 500 houses were damaged, thousands of people were evacuated, with 1,533 families and 134 businesses being directly affected, and critical infrastructure like power lines, was damaged or destroyed.

Not all heroes come wearing capes

WoF provided the bulk of the firefighting resources and was made up of 485 firefighters in 22 teams. The firefighters convened in Knysna to provide much-needed firefighting assistance to local fire authorities. The firefighters were from the Western Cape, Free State, North West, Eastern Cape and Gauteng.

The firefighting resources provided by Working on Fire made up 63% of the total firefighting resources deployed in the Knysna fires. Eleven fire trucks, six crew buses and 12 light delivery vehicles were dispatched by WoF to assist in the firefighting efforts and to help evacuate more than 8 000 residents to safe areas. Working on Fire also dispatched 17 pilots, four spotter planes, four helicopters and two Air Tractor AT-802 water bombers that provided critical aerial firefighting resources. Working on Fire aerial resources flew 238 flying hours and did an astounding 1 900 water drops (an estimated 2,4 million litres of water). The South African Airforce also provided 12 pilots and Oryx helicopters who flew 86 hours and made 878 water drops in support of Working on Fire aerial operations.

Firefighters are always ready to provide a sterling service of saving lives, animals, property and the environment to its people in South Africa and more than prepared to

assist in other countries. WoF employs young men and women who have been fully trained as veld and forest firefighters. They are stationed in more than 200 teams throughout South Africa, to help stop the scourge of wildfire which costs the South African economy billions of rands annually.

Tips from Santam to prevent the dangers of fire during this season:

- Always extinguish fires and safely dispose of hot ash, coal and cigarettes.
- Always work in an open, clear area when working with power tools.
- Ensure that your electrical appliances are correctly wired.
- Keep the area around your home clear of flammable materials.
- Only burn rubbish on cooler, wind-still days, provided you have a burning permit.
- Never leave an open fire unattended.
- Only use fireworks and Chinese lanterns far from areas prone to fire.
- Register with the Fire Protection Association for enhanced security - failure to do so will have a court automatically assume you are guilty of negligence in the event of a liability lawsuit.



Above: MZANZI2 Hotshots left for Edmonton, Canada on 15 June 2023. The firefighters are working hard to extinguish fires.



About the contributor: Veronica Mahlaba

Ms Veronica Mahlaba is a Senior Communication Officer in the Chief Directorate: Communications at the Department of Forestry, Fisheries and the Environment.

Boitu declares war on waste

By Dimpho Matlanato



Above: Environmental Control Officer Ms Boitumelo Dlamini at a clean-up in Polokwane. **Image supplied.**

1. What is your position and what does it entail?

I am an Environmental Control Officer in Chemicals and Waste Management. My position entails development and implementation of capacity building and awareness raising programmes in general waste to strengthen the capacity of government, industry and civil society on implementing sound waste management principles.

2. How did you become interested in this work?

In primary school, I was part of an environment club called Lengau Conservation Club in the then Bophuthatswana government. The programme focused on environmental education including anti-litter campaigns, biodiversity conservation, etc. My passion for environmental issues was ignited then whereby I got to learn about ecological principles

and understanding the need to conserve and use natural resources wisely for our own benefit and thus improve the standard of living.

3. What do you find most challenging and rewarding about your work?

The most challenging part about my work is the lack of co-operation from communities especially around curbing illegal dumping as we see reoccurrence in some areas.

The most rewarding part of my job is when community and non-governmental organisations come together to conduct awareness campaigns and clean-ups and bring us on board to work and support them with material. This shows that our work is recognised and the messages we are spreading are changing the mindsets of people.

4. What inspires your clean-up activities?

The inspiration behind clean-up campaigns is basically the fact that we only have one planet and if each one of us does our bit, we can combat the environmental challenges of our time and achieve better results. Also, the mandate of the Department as per Section 24 of the Constitution is to ensure that everyone has a clean environment which is not harmful to their health and wellbeing and it is through partnerships with municipalities, NGOs, Industry, etc. that we will be able to realise this and conserve the environment.

5. What has been your remarkable moment on a clean-up campaign?

The most remarkable moment is always seeing community members coming out in numbers to participate in a clean-up. It is so encouraging and good to witness this as it is everyone's responsibility to ensure that we all live in an environment that is clean and not harmful to our health.

6. What do you think is the biggest waste threat and how can South Africans play their role in curbing it?

Solid waste, specifically packaging waste including plastic. We all know that plastic takes years to decompose and takes up landfill space. It also threatens aquatic life when it finds its way into the rivers and oceans. The National Waste Management Strategy 2020 puts emphasis on the need to re-use, recycle and recover waste. South Africans can play a role by ensuring that they avoid littering and start separating their waste at source to avoid contaminating the recyclables and that we can have a better recycling rate as we divert more waste away from the landfill sites.

7. With your years of experience, what recycling mistakes have you seen people make?

- Not taking advantage of their local recycling programme.
- Not doing their homework to identify recyclables available in their areas.
- Fearing to approach relevant stakeholders for assistance.
- Not considering legal requirements for recycling.

8. Are recyclers getting enough support from both government and private sector?

We provide training for recyclers in partnership with industry, province and municipalities to capacitate

them on entrepreneurial opportunities available in waste as well as legislative frameworks in the sector. During these trainings, we also work hand in hand with other stakeholders such as Petco, Polyco, and PlasticSA, just to name a few, who support ordinary recyclers. We also work with Small Enterprise Development Agency and National Youth Development Agency who provide education on business side and funding opportunities available.

9. Are there any success stories you know of where real people's lives in recycling were changed because of that support?

Yes, there are a lot of success stories on the ground as result of the initiative mentioned above. Some of them have even won awards in the sector.

10. What message do you have to the coming generation in the waste sector?

The waste sector is recognised as one that provides opportunities for value recovery, beneficiation, job creation and economic development. As such, the country is moving from a linear economy based on production, consumption and disposal to a circular economic position that prioritizes on recovery, reuse and recycling.

The coming generation should take advantage of such and participate in recycling programmes in their local areas and tap into the recycling industry.



The power of wind

By Zibuse Ndlovu

The Grassridge Wind Farm is a 61.5 MW wind farm comprising of 20 Vestas turbines. It is situated on Addo Road (R 335) within the Nelson Mandela Bay Municipality in the Eastern Cape and has been fully operational since June 2016.

As we made our way down the winding dirt road, my heart was filled with a sense of anticipation and wonder. The sun was just beginning to rise over the rolling hills of Addo Town, casting a warm, golden glow over the open fields, valleys, and shrub-covered hillsides of Gqeberha (Port Elizabeth).

My collaborator and I had come for the Biodiversity Stewardship Conference held in the area. On the way to the conference is the Grassridge Wind Farm, a modern marvel of engineering and innovation that promises to deliver a cleaner, more sustainable future. As we approached the wind farm, I was struck by the sheer scale of the turbines that towered over the landscape, their majestic blades slicing through the morning air with a gentle whoosh, and reaching towards the sky as if reaching for a heavenly chorus.

As I made my way through the fields of indigenous trees and shrubs that surrounded the wind farm, seeking clear view to capture the moment, the beauty and majesty of the landscape was impossible to ignore. The turbines seemed almost at home amidst the rolling hills, their sleek, elegant design blending seamlessly with the natural contours of the land.

But it's not just about the beauty of the wind farm or the elegance of the turbines themselves. It's about the impact that this technology has on the world we live in, from reducing our dependence on fossil fuels to improving air quality and slowing the pace of climate change.

As the world grapples with the effects of climate change, wind turbines have emerged as a beacon of hope, a shining example of how we can harness the power of nature for the greater good. These towering giants offer a clean, sustainable source of energy that does not harm the environment or contribute to polluting our air.

However, despite their clear advantages, wind turbines often face resistance in some communities over concerns about their impact on wildlife, aesthetics, and noise levels.

The Department of Forestry, Fisheries, and the Environment (DFFE) Control Environmental Consultant for Mitigation Research and Analysis: Mr Thulasizwe Masuku says "Wind Turbines are far less harmful to the environment than currently used energy systems. "This is simply because the wind which is required for producing energy does not have harm to the environment through the production of greenhouse gas emissions as compared to the mainly used coal power plants."

"It is vital for policymakers to integrate the social and economic issues when formulating policies. Policies should be clear and must address realistic issues. Wind energy aims to contribute to the transition to a low-carbon economy. The public should educate themselves on the need for wind energy as well as the necessary skills that may contribute to greater job creation within the industry. It is important to invest in any wind energy related projects to be prepared for future changes," says Mr Masuku.

Despite these challenges, wind energy continues to grow in popularity as a clean and sustainable source of power. In many parts of the world, it is already cost-competitive with fossil fuels, and as technology continues to improve, it is likely to become even more affordable and efficient.

"Sustainable development includes the use of environmentally friendly resources during production to avoid negative impact on the environment. Rapid growth is shifting towards the use of renewable energy sources. Wind energy usage should therefore increase in the future," says Mr Masuku.

The main components of a modern wind turbine include the blades, the rotor, the generator, and the tower. The blades are designed to capture the wind and turn the rotor, which is connected to the generator. The generator then converts the mechanical energy of the rotor into electrical energy that can be used to power homes and businesses. The tower supports the entire structure and raises the turbine high above the ground where the wind is stronger and more consistent.

One of the biggest advantages of wind turbines is that they produce electricity without producing any greenhouse gas emissions or other pollutants. This makes wind energy an incredibly clean and sustainable source of power. In addition, wind turbines are extremely efficient at converting wind energy into electricity, with some of the most advanced turbines achieving efficiencies of up to 60 percent.

Another advantage of wind turbines is that they can be installed in a variety of locations, from rural farms to urban rooftops. They can be used to power individual homes or entire communities, and their modular design allows them to be easily scaled up or down depending on the energy needs of the area.

The DFFE's Control Environmental Officer: Industrial & Sector Emissions Management, Ms Lerato Moja says South Africa is heavily reliant on fossil fuels (e.g. coal, heavy fuel oil, natural gas and nuclear energy) to generate electricity: "Most of the power generation plants in the country use coal to generate power. When coal is combusted, pollutants such as Particulate Matter (PM), Sulphur Dioxide (SO₂) and Nitrogen Oxides (NO_x) are released into the atmosphere. The air pollution negatively impacts the environment and public health."

"Power generated by wind turbines does not release any pollutants into the atmosphere. Introducing wind energy cannot solve the air pollution problem on its own. As a cleaner alternative, it would require phasing out or relying on fossil fuels. The reduction of air pollution can be realised when coal fired power stations implement cleaner technologies so less pollutants are released to the atmosphere," says Ms Moja.

The Grassridge Wind Farm, and other farms like it, seem to be a symbol of the growing movement towards renewable energy, a beacon of hope in the fight against climate change and air pollution. By harnessing the power of the wind, these towering turbines generate clean, sustainable energy that can power entire communities.

Source:

<https://www.grassridgewindsofchange.co.za/>

<https://www.energy.gov.za/files/windenergycampaign/impactofwindenergyfactsheet2.pdf>

<https://www.energy.gov/eere/wind/how-do-wind-turbines-work>



Above:Currently, the global climate is changing much more rapidly as a result of global warming, leading to, among others, changes in rainfall and snowfall patterns, more frequent floods and droughts and increased frequency and intensity of extreme weather events.



Above:The concept of using wind as an energy source is not a new one. Windmills have been used for centuries to grind grain and pump water.

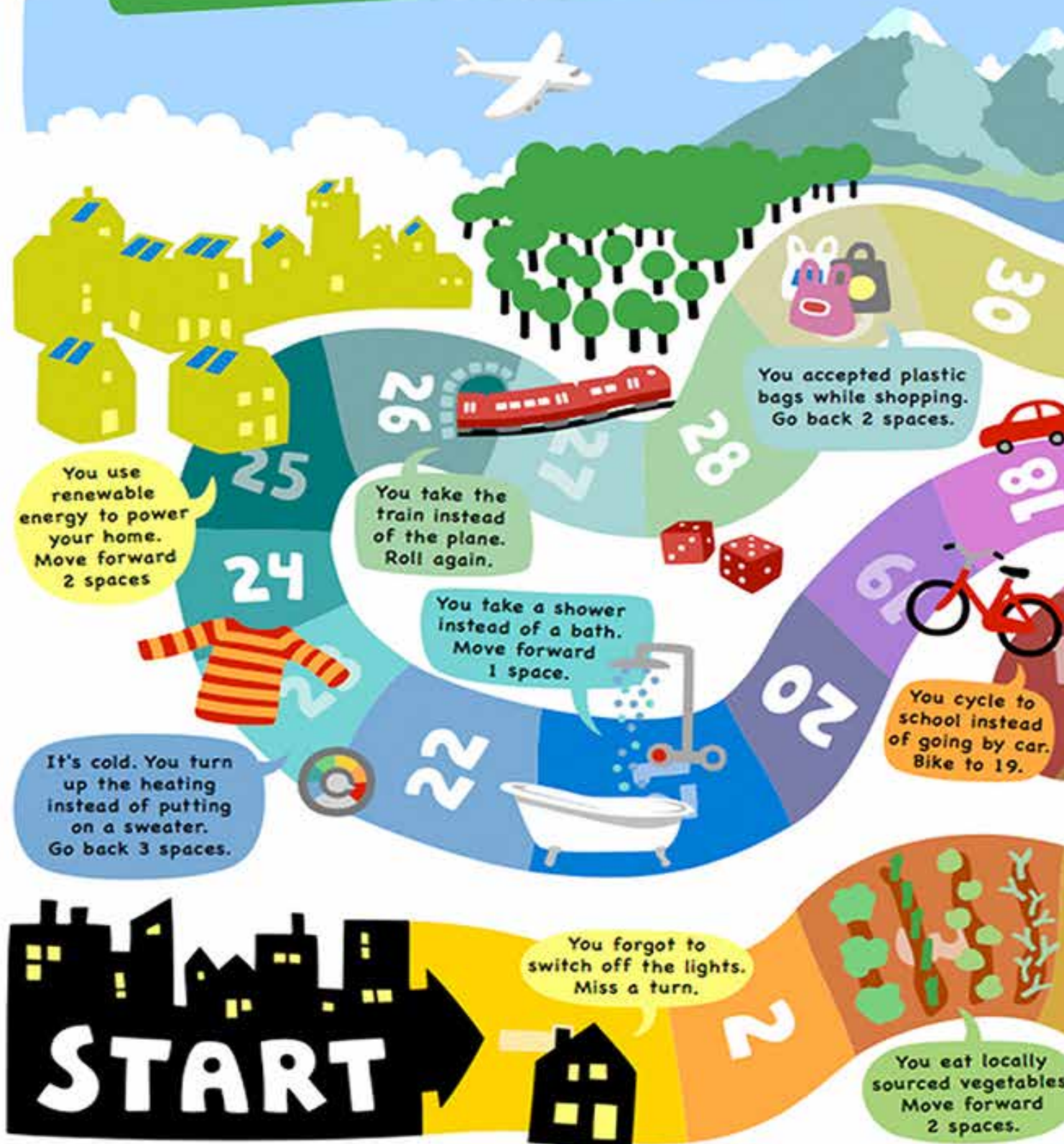


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Climate Change

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Schools grasp enviro careers

By Dimpho Matlanato



Above: Learners from Ratlhahana Secondary School, Mabothe Secondary School, Mmamethhake Secondary School, and Mmanoka Secondary School attending the career expo.

Learners from Mmamethhake in Mpumalanga were part of a career expo aimed at exposing them to environmental careers as a path to follow after school. The expo was jointly held by the Department of Forestry, Fisheries and the Environment, the South African National Biodiversity Institute (SANBI), South African Weather Service (SAWS), Government Communication Information System (GCIS), Motor Industry Ombudsman of SA (MIOSA) and Council for Debt Collectors (CFDC) on 29 May 2023.

Assistant Director for Stakeholder Engagement, Cooperation and Public Awareness, Mr Kagiso Letsebe said the aim was to educate learners and equip them with knowledge on careers in the environment sector to consider after matric.

"Some learners are unsure about what to study after matric, so it is critical to have such expos that help fill the gap by educating and exposing them to all environmental career opportunities from different departments," he said. Maths teacher from Mmamethhake Secondary School, Mr Rabalao said the timing of the expo was ideal as learners are in the process of applying for university admission and he is grateful to have different Departments come through to educate their learners.

"The timing of the career exhibition is great because some of our matric learners are deciding which careers to pursue," he said.

Following the presentations, learners had the opportunity to interact and consult with various exhibitors from the Department. Ms Cecilia Tlhake said she was not aware that the environment sector featured prospects for learners interested in studying media-related courses.

"I learned something new today. I wish more schools were invited here to learn about the various opportunities in the environment sector. I thought opportunities were limited to people who only did science and maths, but today I learned that I can work as an environmental journalist with the language subjects I am currently doing," she said.



Above: Learners engaging with officials from the Department about environmental career opportunities.

Damaged schools receive donations

By Veronica Mahlaba



Above: Donation drive - Four schools in Mmamethake, Mpumalanga received school supplies from DFFE.

Four schools in Mpumalanga that were severely affected by storms earlier this year received school supplies from Deputy Minister Makhotso Soty.

The Deputy Minister accompanied by the Mayor of Dr JS Moroka Local Municipality, Cllr Nomsa Mtsweni, donated school supplies to four local schools in Mmamethake during the drive.

The storms damaged schools, leaving learners without essential school supplies. The Deputy Minister's Youth Month Outreach Programme forms part of the Departmental Youth and Environment Month activities. The outreach programme aims to encourage communities to take charge of their environment. The goal is also to inspire and educate learners about the importance of environmental science and foster a passion for environmental conservation among the younger generation.

The Deputy Minister donated stationery, eco-school desks, school shoes, school bags, solar lights, waste bins, gardening tools and water tanks.

"I know that the Department of Education has come through to assess and fix some of the infrastructure. However, they can't work alone to recover all the damage the storm caused in the schools. We understand the plight that the educators and community are facing, and we agreed to lend a hand because there is one government and where we can assist, we do. We brought eco-desks, stationery, school shoes and bags amongst many other essential supplies that we know

the schools and learners need," the Deputy Minister explained.

As part of the Ten Million Trees Programme, the Deputy Minister with the Local Mayor planted trees at Diphere Primary School and Reatlegile Youth Advisory Centre to commemorate Environment Month. About 200 trees will be planted in Dr JS Moroka Local Municipality.

Mayor Nomsa Mtsweni was all smiles and expressed how happy she is that the Deputy Minister delivered on her promise to come through and assist the schools and learners. "We are grateful for this contribution. It will make a huge difference in the lives of our learners and make the difference to the state of the environment our educators work under. We also promise to protect all the supplies you provided, so that more learners benefit from them in the future. Your Department is one that we know responds to our cries at local level," expressed Mayor Mtsweni.



Above: Deputy Minister Soty officially handing over school supplies to the Mayor of Dr JS Moroka Local Municipality, Cllr Nomsa Mtsweni at Diphere Primary School.



Above: Trees we also planted in schools and 200 trees will be planted around Dr JS Moroka Local Municipality as part of the Ten Million Trees Programme.

Ocean conservation key to growth

By Paul Sigutya



“It is our duty to safeguard the oceans due to their crucial importance for the well-being of our planet” said the Minister of Forestry, Fisheries, and the Environment, Ms Barbara Creecy.

The Department led World Oceans Day (WOD) and SA Agulhas II Open Day under the theme: “Planet Ocean: Tides are Changing,” from 8 to 11 June 2023. The programmes were aimed at raising awareness about the importance of ocean conservation and inspire young learners to pursue careers in marine science.

Minister Creecy said that it was our obligation as a nation to safeguard our oceans and that we should continue our dedication to collaborating with local and international partners to guarantee the enduring preservation of our oceans and marine life.

The WOD campaign serves as a platform for governments, private sector entities, non-governmental organisations, and individuals to collaborate and drive positive change for shared ocean resources.

The campaign’s primary objective is to unite people worldwide around sustainable ocean management practices, emphasising the need for ocean conservation and encouraging actionable steps towards this cause. The SA Agulhas II, a state-of-the-art Polar Research and Supply vessel, played a central role in the WOD programme. As South Africa’s premier research vessel, it has been instrumental in supporting the country’s involvement in Antarctica and the sub-Antarctic Islands, conducting vital research related to the Southern Ocean and national interests.

As part of the WOD celebrations, the DFFE hosted a Career Day for learners on 8th and 9th June, providing learners with an opportunity to learn about careers in marine science, the oceans’ importance, and their role in daily life.

Addressing the learners, the Minister stated, “The DFFE offers 1500 bursaries annually to learners that pass Matric with excellence and provides learnerships via the Groen Sebenza project.” The Career Day programme was in collaboration with 20 organisations that exhibited their marine science research work and bursary opportunities. Minister Creecy expressed excitement about hosting public open days on board the SA Agulhas II research vessel once again, noting the vessel’s previous visits to Gqeberha, East London, Durban, and Dar-es-Salaam in Tanzania. These visits offered members of the public a first-hand experience of the crucial research conducted to enhance our understanding of the ocean environment.

Over 2300 members of the public had the chance to tour the SA Agulhas II, further enhancing their understanding of South Africa’s efforts to monitor, research, and protect the oceans and marine life.

Through initiatives like World Oceans Day and the SA Agulhas II Open Day, the DFFE aims to inspire more South Africans to actively engage in protecting our oceans and contribute to a more sustainable future.



Exploring careers in marine science

By Paul Sigutya



Above: Kanyisile Vena - Scientific Technician in Analytical Chemistry

Choosing a career in marine science offers both personal and professional rewards. With a variety of career paths, you can have a global impact, shaping the future of our oceans and combating climate change", says Zoleka Filander, a scientist specialising in Offshore Benthic Ecology at the Department of Forestry, Fisheries and the Environment (DFFE).

Marine science is a multidisciplinary field encompassing various aspects of oceanography, marine biology, ecology and conservation. It offers a wide range of career opportunities, from conducting research on marine organisms to working in marine conservation, environmental management, or even policy-making.

Responding to the question of how a career in marine science benefits humans and the planet, Kanyisile Vena, a Scientific Technician in Analytical Chemistry at DFFE says, "The information from exploring the Ocean can help us understand how we are affecting and are affected by the changes in the Earth's environment, including changes in weather and climate."

Choosing the right subjects in high school is essential to embark on a career in marine science. While specific requirements may vary among tertiary institutions, some subjects will give you a strong foundation for further studies in marine science.

Mathematics is a crucial subject for marine science, as it helps develop analytical and problem-solving skills needed for data analysis and research. Physical Sciences introduces you to the fundamental principles of physics and chemistry, which are important in understanding oceanography, marine chemistry, and marine geology. Life Sciences form the cornerstone of marine science by providing an understanding of ecosystems, organisms, and their interactions, which are vital in marine biology and ecology. Geography offers insights into the physical and human aspects of the Environment, and it helps

understand coastal processes, climate patterns, and the relationship between human activities and marine ecosystems.

Achieving good academic performance in Grade 12 is generally recommended for admission to universities offering marine science programmes. While specific grade requirements may differ, aiming for high grades in the 70% or above range in Mathematics, Physical Sciences, Life Sciences, and Geography will increase your chances of being accepted into these programmes. South Africa has various universities offering marine science programmes, like the University of Cape Town, Rhodes University and Nelson Mandela University, which provide marine biology, oceanography, and related fields. Their courses cover subjects like marine ecology, marine conservation, marine pollution, and fisheries science. The institutions provide hands-on fieldwork and research experiences; students can access nearby coastal ecosystems.

In addition to academic performance, universities also consider extracurricular activities, such as volunteering at marine conservation organisations or participating in environmental initiatives, as they demonstrate your passion and commitment to the field.

The more researchers we have, the more the people can study and cover the area required to be studied, monitored and reported to authorities. Policymakers can then develop policies and interventions that will help to keep the integrity of the Environment and keep it sustainable, says Mthuthuzeli Gulekana, a Science Manager at the DFFE.

Embarking on a career in marine science opens doors to a world of discovery, adventure, and conservation. Whether you envision yourself researching marine biodiversity, studying coral reefs, or working on sustainable fishing practices, the field of marine science offers a wealth of opportunities.

To facilitate the pursuit of marine science studies, the Department of Forestry, Fisheries, and the Environment provides bursaries to learners. For detailed information on the application process, please visit <https://www.dffe.gov.za/careers/bursaries>.



Above: Zoleka Filander

Promoting social cohesion in communities through cycling

By Jenitha Badul



Above: Training-to-ride bicycle under the supervision of a professional trainer.

In celebration of Youth Month, as part of the awareness-raising efforts linked to the Non-Motorised Transport (NMT) Programme, the Department of Forestry, Fisheries and the Environment (DFFE) together with Donor-Partner the South African – German Financial Cooperation through the KfW Development Bank (KfW) and in partnership with Polokwane Local Municipality hosted a cycling event in Polokwane on 15 June 2023.

This event was specifically targeted at schools located in close proximity to where the infrastructure developments are undertaken. On the day, children from 5 schools were invited to participate in a number of fun activities and were also provided with the opportunity to ride bicycles (a first for a number of learners), under the supervision of professional trainers. The children were also educated on various aspects linked to road safety. Each school also received a total of ten bicycles, helmets, bicycle repair kits and bicycle racks. The schools have been encouraged to incorporate cycling as part of their physical education and life orientation programmes. It was interesting to see how well learners understood the potential benefits of cycling for themselves, their communities, and as well as for the environment. One Grade 6 learner from Noordskool remarked “I like cycling, because it helps keep my body healthy, it also helps our environment and planet by reducing pollution.”



Above: Concentration is key – need to listen to the trainer before you can get the wheels turning.

About the cycling programme

The Programme is a National Greening Legacy Programme of the 2010 FIFA World Cup. The Programme is aimed at developing bicycle routes, parking facilities and invariably avoid carbon emissions, improve air quality, with the intention to change the mindset of society on the perception of cycling and walking. Phase 1 of the NMT Programme was completed in 2016 with infrastructure developments undertaken in the City of Johannesburg (Orlando, Soweto), eThekweni Municipality, and Polokwane Local Municipality (PLM), respectively.

Phase 2 of the Programme commenced in 2017, building on the successes of Phase 1 and continued with the pilot municipalities of Phase 1. Phase 2 was inclusive of infrastructure development, legislative support, and advocacy, respectively. With specific reference to eThekweni Municipality, the programme has provided advocacy support to eThekweni Municipality to establish and upgrade cycling academies in four communities (i.e., Wentworth, Cornubia, KwaDabeka and KwaMashu). The Cycle Academies are each equipped with a cycling track, stadium style seating, bicycles and helmets of various sizes to accommodate children of all ages. Each academy also has two coaches, who not only teach the children how to cycle, but, also transfer valuable skills on how to do basic bicycle repairs. The coaches play an integral role in the lives of the children as mentors and serve to inspire and guide the children to unlock their full potential, despite the challenges children in these communities face on an ongoing basis.



Above: Winners deserve medals: Following the cycling events, each learner was presented with a medal.



Above: Winners deserve medals: Following the cycling events, each learner was presented with a medal.



Above: In partnership with Polokwane Local Municipality, and through the support from the KfW Development Bank for the NMT Programme the DFFE has secured a donation of 50 bicycles.

Presidential Imbizo - uThukela

Pictures by Erica Mathye



On Friday 30 June, President Cyril Ramaphosa led a Presidential Imbizo to uThukela District, KwaZulu-Natal.

As part of the Imbizo, communities had an opportunity to speak to the President on key service delivery issues.

The President was accompanied by members of the Executive from the national, provincial and local spheres

of government. Communities knew in real time which actions or interventions will be employed to address their concerns and issues they raised.

The DDM Imbizo offers members of the public to access government services within their proximity through mobile services and exhibition rendered by multiple government departments and agencies including Home Affairs, SA Social Security Agency, etc.





All aboard the SA Agulhas

By Paul Sigutya



The SA Agulhas II is a huge, nine-deck ship, dwarfing every other boat in sight as it sits majestically in harbour. The gigantic ship is owned by the South African government's Department of Forestry, Fisheries and the Environment, and is of a class referred to as "icebreakers". It is capable of sailing up to and around the South Pole, navigating treacherous Antarctic waters with relative ease. Over 134m long, the ship has been at sea since its maiden voyage in 2012. As you go aboard the ship, mounting a steep-rising steel staircase that delivers you to deck number five, you have four decks of the ship now below you, and another four above. Our tour guide on the day, Mr Floyd Chauke, tells us about the core functions of the Agulhas.

Floyd is a Deputy Director for Health and Safety in the Department of Forestry, Fisheries and the Environment, based in Cape Town. He explains that the ship is an offshore supply vessel that is also capable of driving and conducting scientific research. Professionalism and efficiency characterise the crew of the ship, from the most senior to the most junior officers, and this has earned them the respect of their peers in international waters.

The Agulhas features advanced technology which enables ease of navigation and safety of passage out at sea, with both automatic and manual steering being necessary to complete its various expeditions. It is specially designed to supply South African research stations in the Antarctic, as well as to carry out scientific research. A single trip aboard the ship can take up to 35 days, and the presence of fully-equipped facilities such as an onboard hospital and canteen are necessary to keep the crew healthy and well-nourished.

Being a huge, mobile research facility as well, there are several scientific laboratories on-board where this work is conducted. On any given trip undertaken by the Agulhas, the crew would also consist of oceanographic, marine and offshore scientists engaged in conducting this research and using the on-board labs in the course of doing so. The ship is capable of carrying up to three helicopters at a time, and in addition to these helipads the Agulhas also has cargo space for caterpillars, all of which are needed in the course of conducting research and delivering supplies.

An interesting fact about the Agulhas II is that the ship is dedicated to the memory of the iconic jazz and traditional blues singer Miriam Makeba. On board, on the seventh deck, the ship houses the luxurious, spacious Miriam Makeba Lounge, adorned with stunning colour and black-and-white images of Mama Afrika, as the legendary singer and anti-apartheid activist was fondly called worldwide. This is where the crew and passengers can occasionally relax, as evidenced by the bar and exquisite entertainment areas that form part of the lounge.

As a national asset, the SA Agulhas II has made provisions for the general public to come on board and see the ship's extensive facilities firsthand, and become better informed about the important work the ship makes possible. There are two open days per annum set aside for these public viewings, with one day being reserved for schoolchildren and the other open to the general population.

Your Enviro Highlights

School advances through DFFE donation



On 22 June 2023, the Department visited Siyamukela Primary School in Mpumalanga, to monitor and evaluate the progress made in constructing a wall for the water tank and growing a vegetable garden with funds won last year at the Arbor Day schools awareness competition held in Shabalala area, and to further see what the Department could do to help the school become better and cleaner. **By Dimpho Matlanato**

DFFE interns against substance abuse



To commemorate Youth Month, and lost lives due to drug and alcohol abuse, DFFE interns wore black attire on 2 June 2023. The interns stood outside the building holding placards and reciting poems to encourage staff to join the fight against substance abuse. **By Dimpho Matlanato**

DFFE meets Finland Government



Above: The Deputy Minister of Forestry, Fisheries, and the Environment, Ms Makhotoso Soty met with her counterpart from Finland, Mr Petri Peltonen, Deputy Minister, Economic Affairs and Employment, on 26 April 2023, in Pretoria. The Two Deputy Ministers met as part of the Mission by the President of Finland to South Africa. The event took place after the meeting of Heads of States that took place at the Union Building on Tuesday, 25 April 2023.

The two countries' Deputy Ministers agreed on future cooperation on circular economy, strengthening the engagement on circular economy in forestry. They also agreed to work on regulatory instruments to manage the export of waste, supporting green industries, particularly the SMMEs with their sustainable consumption and production. **By Zibuse Ndlovu**

DFFE hosts Protected Areas workshop



Above: The Department of Forestry, Fisheries, and the Environment hosted a consultative workshop on the implementation of the 30x30 Protected Areas, Target 3 of the Kunming-Montreal Global Biodiversity Framework 2023, on 06 June 2023, in Boksburg, Gauteng.

South Africa as a party to the United Nations Convention on Biological Diversity, is a signatory to the framework which consists of four goals and 23 action targets. In SA, the Global Biodiversity Framework will be implemented within the four goals of the White Paper on Conservation and Sustainable use of SA's Biodiversity, namely conservation, sustainable use, fair and equitable sharing of benefits. **By Zibuse Ndlovu**

Minister bolsters biodiversity conference



Minister Barbara Creecy opened the 5th Global Conference on Biodiversity Finance hosted in Cape Town, from 09 – 11 May 2023. The conference had delegates from 41 member countries with approximately 200 delegates attending. This came after the adoption of the Global Biodiversity Framework. The conference brought together member countries, government representatives, private sector, experts, and academics to explore opportunities, finance solutions and investments for member countries under the United Nations Development Biodiversity Finance. **By Veronica Mahlaba**

Waste pickers speak integration



Waste Picker Integration is the creation of a formally planned recycling system that values and improves the present role of waste pickers. For this purpose, the Department hosted a Waste Picker Integration Workshop, co-hosted by United Nations Industrial Development Organization, South African Local Government Association and the University of Johannesburg on 4 May 2023. The Workshop was held to build on the strengths of the existing system for collecting and revaluing materials. Amongst the speakers was Mr Luyanda Hlatshwayo, a representative from African Reclaimers Organisation, a Waste Picker, as key partners in the design, implementation, evaluation, and revision of the integration guideline. **By Veronica Mahlaba**

Climate experts meet to discuss mitigation strategy



Above: Participants from 20 Anglophone African countries who are responsible for reporting their efforts to reduce greenhouse gas emissions under the Paris Agreement showed up for the workshop hosted by the Department of Forestry, Fisheries, and the Environment on 16 May 2023, in Pretoria.

The workshop's objective was to provide the national mitigation teams with useful information to facilitate their reporting to the UNFCCC under the Paris Agreement. The workshop was co-organised by The Partnership on Transparency in the Paris Agreement and The Capacity Building Initiative for Transparency Global Support Programme. **By Zibuse Ndlovu**

Caring for our environment

Start a home garden

YOU CAN **PLANT YOUR OWN FRUIT AND VEGGIES** IN A HOME GARDEN. YOU WILL BE HELPING THE ENVIRONMENT AND SAVING MONEY AT THE SAME TIME!



Make your own compost

PUT LEFTOVER FOOD IN A **COMPOST HEAP**. YOU CAN USE COMPOST TO GROW NEW PLANTS. MAKING COMPOST ALSO REDUCES SPACE USED FOR LANDFILLS AND CREATES HEALTHY SOIL.



Plant indigenous

PLANT **INDIGENOUS SPECIES** OF PLANTS. THEY USE LESS WATER AND PROVIDE FOOD AND HABITAT FOR ANIMALS.



Reuse

USE A **GLASS DRINKING BOTTLE** THAT CAN BE WASHED OUT AND USED AGAIN. IF YOU USE ITEMS THAT CAN BE REUSED, THIS RESULTS IN LESS WASTE.



Reduce . Reuse . Recycle . Recover



Are you making a difference?

Section 24 of the South African Constitution states:
"Everyone has the right to an environment that is not harmful to their health or well-being."

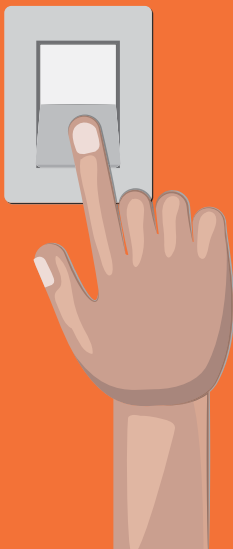
Become a Waste Picker

START **WASTE PICKING** TO MAKE MONEY. WASTE PICKERS COLLECT RECYCLABLE MATERIALS TO RESELL TO BUYBACK CENTRES.



Reduce power use

WHEN YOU EXIT A ROOM, **ALWAYS TURN OFF THE LIGHTS**. USING ELECTRICITY CREATES POLLUTION. YOU WILL CREATE FAR LESS POLLUTION IF YOU SAVE ELECTRICITY.



Don't use plastic

PLASTIC BAGS HARM ANIMALS AND THE ENVIRONMENT AND TAKE YEARS TO BREAK DOWN. USE YOUR OWN **CANVAS BAG** INSTEAD OF PLASTIC BAGS.



Save water



SAVING WATER IS EXTREMELY IMPORTANT. ALL LIVING SPECIES NEED WATER TO SURVIVE. ALWAYS **TURN OFF YOUR TAP** WHEN YOU'RE FINISHED AND FIX ALL YOUR PLUMBING **LEAKS**.



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