

Environment Quarterly

EzemVelo Ngenyanga Ntathu • Mbango wa kotara • Mupo nga Kotara



**President Ramaphosa calls
for a cleaner South Africa**

**Sharpeville wins
war against waste**



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



environment CALENDAR



JANUARY

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- 2 February World Wetlands Day
- 3 March World Wildlife Day
- 23 March World Meteorological Day
- 22 April Earth Day
- 12 May World Migratory Bird Day
- 22 May International Day for Biological Diversity

- 5 June World Environment Day
- 8 June World Oceans Day
- 17 June World Day to Combat Desertification
- 18 July Nelson Mandela Day
- 31 July World Ranger Day

- 16 September International Day for the Preservation of the Ozone Layer
- 19 September International Coastal Clean-up Day
- 22 September World Rhino Day
- 2-6 September National Parks Week
- 21 November World Fisheries Day

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





Dear Valued Stakeholder,

The 1994 Uhuru delivered universal franchise we all enjoy today and will exercise on the 8th May when elections are held to elect the next administration. This democratic dispensation also brought with it our world-acclaimed constitution that extended the right to a clean environment to all South Africans – for current and future generations.

This right, like all the constitutional rights, carries with it responsibilities each of us must embrace and should always remember each time

the temptation to pollute lurks in our minds. Our planet is loaned to us by future generations and we owe it to them to deliver it to them in impeccable conditions.

President Cyril Ramaphosa recently led the launch of a landmark programme to mobilise all South Africans to become environmentally conscious and act together in partnership with government to solve global and national environmental challenges.

So the launch was not only epoch-making, but also heralded a new regime of waste management in our country, with the President leading from the front.

In this edition we also report from various provinces that heeded President Ramaphosa's call and engaged in clean-up activities across the country.

The waste generated not only impacts on the land we occupy, but also has devastating effects on the oceans. We address the issue of plastic pollution in this edition and how it contributes to marine pollution.

Globally, plastic production has reached new highs, with over 320 million tons now being produced annually. It has been estimated that between 4–12 million tons of plastic are added to the ocean each year.

South Africa, as a responsible global player, is also mulling this question in light of the impact of plastic to our environment, marine species and our oceans' health.

We also report on our celebration of the World Wetlands Day earlier this year. The day is celebrated annually on 2 February, with the aim of heightening public awareness on the value of wetlands and their vital contribution to human wellness.

Our celebrations this year took place under the theme: "Wetlands and Climate Change." The theme demonstrates the importance of wetlands as the planet's most effective carbon sinks or storage that signify unrealised potential for climate mitigation and adaptation. Climate change is seen as a major threat to the survival of species and integrity of ecosystems on a global scale.

Climate change is already the single greatest threat to development and prosperity in Africa, including South Africa. In Page 29 we delve into this issue and its impacts on human health.

So the successful hosting of the PAGE Conference earlier this year should be understood as part of our transition towards a green economy

Albi Modise

Head of Communications

Meet our team

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It's time to GO GREEN in school

Our recycling pledge:

AS PUPILS:

- WE WILL TEACH OUR FAMILY AND FRIENDS ABOUT RECYCLING WASTE.
- WE WILL BRING OUR RECYCLABLES TO SCHOOL.
- WE WILL SEPARATE OUR RECYCLING INTO BINS.

AS A SCHOOL:

- WE PLEDGE TO LEAD BY EXAMPLE.
- TOGETHER, WE WILL REDUCE, REUSE, RECYCLE AND RECOVER.



I RECYCLE

The 4 RS can help us to find better ways to manage our litter:

- 1 REDUCE** – CUT DOWN THE AMOUNT OF LITTER WE PRODUCE (E.G. BUY PRODUCTS IN BULK THAT ARE MADE FROM RECYCLED MATERIAL AND USE CANVAS BAGS INSTEAD OF PLASTIC PACKETS FOR SHOPPING).
- 2 REUSE** – FIND WAYS TO USE THINGS AGAIN THAT WE WOULD NORMALLY THROW AWAY, RATHER THAN BUYING NEW THINGS (E.G. OLD TYRES CAN BE USED TO GROW FLOWERS AND WE CAN REUSE PLASTIC OR GLASS BOTTLES INSTEAD OF NEW ONES, WHICH USE UP MORE RAW MATERIALS).
- 3 RECYCLE** – RECYCLE THE RUBBISH THAT CANNOT BE REUSED. COLLECT ALL YOUR RUBBISH, SORT IT INTO ITS DIFFERENT CATEGORIES (PAPER, GLASS, METAL, PLASTIC, OTHER), AND THEN PUT IT IN THE CORRECT RECYCLE BINS OR TAKE IT TO A BUY-BACK CENTRE. IT IS THEN USED TO MAKE NEW PRODUCTS (E.G. ALUMINIUM FROM USED COLD DRINK CANS CAN BE RECYCLED TO MAKE OTHER ALUMINIUM PRODUCTS).
- 4 RECOVER** – CONVERT WASTE INTO RESOURCES (SUCH AS ELECTRICITY, HEAT, COMPOST AND FUEL) THROUGH THERMAL AND BIOLOGICAL MEANS.

What is recycling?



Recycling means taking the materials from products you have used and using them to make new products.

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."

Why should I recycle?

Because it takes:

- Fewer resources
- Less money
- Less energy

And it causes less pollution.



Recycling at School



PAPER
(CARDBOARD, NEWSPAPERS, AND MAGAZINES)



GLASS
(CONTAINERS, JARS AND BOTTLES)



METAL
(FOOD AND DRINK CANS)



POLYSTYRENE
(WHITE TAKEAWAY CUPS AND FOOD CONTAINERS)



PLASTICS
(BAGS, CONTAINERS AND BOTTLES)



TETRA PAK
(FOIL-LINED CONTAINERS/ CARTONS, E.G. MILK AND JUICE BOXES)



WAXED CARDBOARD



CHIP BAGS



FOOD SCRAPS



LOLLY WRAPPERS

Pack a waste-free lunch

WE PLEDGE TO SAVE OUR PLANET'S RESOURCES BY PROMOTING A CULTURE OF RECYCLING.

REDUCE:

- BE WASTE-FREE

REUSE:

- REFILLABLE DRINK BOTTLES
- REUSABLE LUNCH BOXES, FORKS, PLASTIC BAGS, SPOONS AND KNIVES
- CLOTH NAPKINS

RECYCLE:

- FOOD SCRAPS
- PAPER BAGS
- GLASS BOTTLES
- ALUMINIUM CANS



Remember to separate your waste at source!

Daisy for President



Eight-year-old Daisy Ngedle became an internet sensation when the letter she wrote to President Cyril Ramaphosa on leadership went viral on social media, with many people already hailing her as the future president of South Africa.

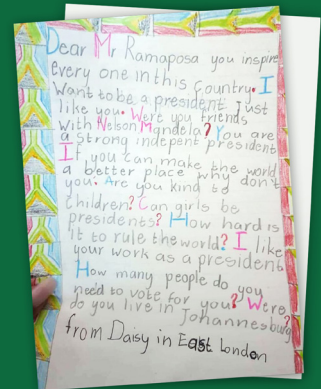
In the beautifully decorated letter, Daisy asks the president if he thinks young girls can be presidents, to which the President replied "Yes" because "girls can be anything they want in the world today."

On Friday 08 March during his visit to East London where he was launching the Good Green Deeds programme which also occupied the top spot on social media trends list, the president and his delegation made a turn to Daisy's school in

East London where the little girl sat cheerfully around her friends and teachers. She told President Ramaphosa that if she were to become president, she would make sure all the children went to school and that they had food to eat. The president said he was happy to have gained a friend in Daisy whose name signifies a flower.

Daisy's mother, Ms Zenande Ngedle said she didn't imagine that a letter written by her eight-year-old in pink and green crayons would take the country by storm. "Daisy is always so pleasantly surprised to meet strangers in the streets who warm up to her and want to take photos with her. I think one day this will all make sense to her but for now she's just being a kid," said Ngedle.

By Erica Mathye



EPWP meeting highlights strides in the sector



Members of the National Sector Coordination Committee in the Expanded Public Works Programme (EPWP) Sector gathered for their quarterly meeting to highlight some of the great strides the sector has made. The team was proud to announce that cabinet had approved the next phase of the EPWP programme which would run for the next five years and produce more job opportunities for young unemployed South Africans.

By Salome Tsoka

DM hands over uniform and school desks



Above: Leshman Secondary School Learners receiving school uniform from the Department of Environmental Affairs.



Above: Deputy Minister, Ms Barbara Thomson shows dignitaries how to go green.



Above: It was all smiles as Grade 11 Learners of Leshman Secondary School in KwaZulu-Natal learned about environmental careers.

The Deputy Minister of Environmental Affairs, Ms Barbara Thomson handed over gardening tools, school uniforms and 150 school desks to Leshman Secondary School in Bulwer, KwaZulu-Natal on 22 February 2019.

"These desks are made from unwanted alien trees that are sucking more water from the ground. Initially these trees were cut down and burnt, so the former Minister Kader Asmal came with this idea to use these trees to make desks, coffins and benches," the Deputy Minister said.

This act of generosity was driven by the lack of necessary resources at Leshman Secondary School. The principal Mr Zolile Molemela wrote a letter to the Department requesting assistance with the procurement of new desks. "It is difficult and painful to give a child school work and there are no resources like desks to execute that task. Results are expected to improve now as things are gradually falling into place for our school," said Mr Molemela.

The Deputy Minister urged learners to consider enrolling for Environmental courses after high school.

By Kokeiso Modiba

3rd PAGE Conference a boost for SA and rest of the continent

South Africa's hosting of the 3rd Partnership for Action on Green Economy Ministerial Conference in Cape Town on 10 -11 January would, according to Minister of Environmental Affairs Nomvula Mokonyane, advance the agenda of inclusive growth, and the adoption of a low carbon and climate resilient economy, domestically and on the African continent. The SA conference, attended by more than 500 delegates, included 15 international Ministers/Deputy Ministers of Environment, Finance, Business, Science and Technology and Development who participated in robust discussions on tools and strategies for shaping greener economies and meeting the Paris Agreement requirements.

Overall the SA conference was an opportunity for member states to reinforce their commitment to transition to a green and sustainable economy. It was also an opportunity to demonstrate implementation of the tools and strategies required to accelerate, scaling up and sustaining of the momentum to broaden green economy principles in the heart of socio-economic and environmental planning frameworks. As Minister Mokonyane commented at the opening session, its relevance lay in an impetus for strengthening and leveraging partnerships for resource mobilisation that could catalyse the implementation of the Sustainable Development Goals (SDGs).

"It comes at a time when there is increasing understanding among decision-makers from public institutions and the private sector, that economic and financial policies and practices must play a far greater role in advancing the transition to green growth. "A cleaner and greener world demands a move away from 'business as usual' to an ambitious and just transition." The Minister assured that South Africa's vision of transitioning towards a green economy was embraced at the highest political level, through the National Development Plan's Vision 2030.

By Loraine Tulleken

Photo by Salome Tsoka



Above: Minister Mokonyane with the Director-General of Environmental Affairs, Ms Nosipho Ngcaba, (Left), Acting Executive Director of UN Environment Ms Joyce Msuya and the High Commissioner for SA in Nairobi, Ms Koleka



Changing to a better, greener future

By Salome Tsoka



Above: President Cyril Ramaphosa leads by example in picking up litter and preventing waste pollution in areas around East London. The President was in the province for the launch of the Good Green Deeds programme which encourages people not to litter.



Above: Community members with the official waste Mascot, Billy Bin during a Gauteng clean-up of the Church Square Park in Sharpeville.

We have become the “throwaway generation”, these were the words of President Cyril Ramaphosa as he addressed the thousands gathered at the Sisa Dukashe Stadium in Mdantsane on 8 March 2019 for the much anticipated launch of the Good Green Deeds Campaign.

The campaign is an initiative that seeks to change people’s attitudes and behaviour towards responsible management of waste and in keeping their neighbourhoods clean, green and safe.

President Ramaphosa highlighted how South Africa was a beautiful country but the littering, illegal dumping and pollution were hampering its appearance.

“Littering, illegal dumping and the pollution of our air, our streams, our rivers and our oceans have had negative effects on our health, our quality of life and on the very appearance of our country.

“We have become the throwaway generation. Instead of putting litter into waste-bins, we toss it out onto the streets. Instead of managing our waste, we dump it in places it is not supposed to be. Instead of flushing dirty water into a sewerage system where it can be treated, we throw it

into our rivers and streams, and even into the sea.

“All this makes our planet sick, and it makes us sick. It makes our children sick. It is time for change,” President Ramaphosa said.

The Good Green Deeds Campaign seeks to mobilize all sectors of South Africa to become more environmentally conscious. Speaking in an SABC interview, Department of Environmental Affairs (DEA) Minister Nomvula Mokonyane said this campaign was a call to action for all South Africans to keep their neighbourhoods clean as everybody has a role and a responsibility to play.

“This is a partnership with everybody which says that let it (this campaign) start in my home, in my community, let it start in the streets of my neighbourhood so that when municipalities come and collect they also do not have a burden of having to separate the waste. Therefore changing the mind-set becomes one of the most critical issues of this campaign,” Minister Mokonyane said.

Clean up campaigns took place in various parts of the country supported by provincial government as well as local municipalities who worked together with a number of volunteers who came out in numbers to take part in the nationwide initiative.

President Ramaphosa took part in a clean-up campaign in Buffalo City while a number of other clean-ups took place at taxi ranks in East London and King William’s Town as well as in KwaDikela and at eBuhlanti beach and estuary.

While Minister Mokonyane led the clean-up campaign on the morning of the Good Green Deeds campaign launch by cleaning the area near eBuhlanti beach. Working together with DEA stakeholders such as the Working on Fire team, SANBI team, EPWP workers as well as Miss Earth, Minister Mokonyane braved the rain and wind to clear litter which poses a major threats on South African beaches and marine life.

Every year thousands of tons of marine litter find its way onto our coast, most of which ends up in our oceans with devastating effects to our sensitive marine ecosystem. South Africans are thus encouraged to separate their waste at the source and manage it through the 4Rs which include the reuse, reduce, recycle and recovery of their waste.

Communities are also encouraged to make use of available infrastructure such as buy-back or drop-offs centres as well as separation of waste receptacles and recycling bins provided by municipalities.



About the contributor: Salome Tsoka

Ms Salome Tsoka holds a BA Degree in Journalism from the University of Johannesburg and has been writing for as long as she can remember. She is an intern in the Chief Directorate: Communications and has a unique passion for writing captivating stories.

Billy Bin unveiled at Good Green Deeds launch

By Salome Tsoka

President Cyril Ramaphosa unveiled Billy Bin, the cheery green mascot who is passionate about keeping the environment clean during the national launch of the Good Green Deeds programme at a packed Sisa Dukashe Stadium in Mdantsane in East London on 08 March 2019.

President Ramaphosa said Billy Bin would be a constant reminder to all South Africans that the responsibility to keep South Africa clean lies with them.

The President also took a moment to pay tribute to late Minister of Environmental Affairs Dr Edna Molewa who passed away last year and also credited her for being behind the Good Green Deeds concept.

"We are here today to launch a national campaign to mobilise citizens, business, industry, labour and civil society at large towards a common goal – cleaning up South Africa. By performing just one Good Green Deed a day, you can make all the difference.

Whether it is in recycling your waste, or conducting clean-up activities in your street, your neighbourhood, school, or municipality, you must be the agent of change we want and need," he said.

President Ramaphosa took part in a clean-up campaign in Buffalo City while a number of other clean-ups took place at taxi ranks in East London and King William's Town as well as KwaDikela and at eBuhlanti beach and estuary.

A series of other clean up campaigns also took place across the country in places like Galeshewe, Mahikeng, Umsunduzi, Ladybrand, Polokwane, Sharpeville, Manenberg and Mamelodi.



Above: President Cyril Ramaphosa unveils the Good Green Deeds mascot, Billy Bin at Sisa Dukashe Stadium in East London.

President Ramaphosa further stated he hoped that the Good Green Deeds campaign will be embraced with vigour and enthusiasm in all municipalities around South Africa.

"So, let us commit today, right here and right now, that we will each do one Good Green Deed a day, for the sake of ourselves, for the sake of others, and for the sake of our country," he said.

President Ramaphosa called on young people to be at the forefront of the campaign.

"We want you, the young people of this country, to take the lead in being part of ward-based environmental education and awareness raising. We want you to be at the forefront of clean-up campaigns; and to gain exposure to municipal environmental management functions as a source of attaining work experience," he said.



President launches Operation Phakisa Chemicals and Waste

By Salome Tsoka



Above: President Cyril Ramaphosa launches Operation Phakisa on Chemicals and Waste Economy at the East London ICC which is set to create 127 000 new direct and indirect jobs.



Above: President and CEO of Samsung Electronics Africa, Mr Sung Yoon pledges R27 million towards e-waste management initiatives in the country.

Moments prior to the national launch of the Good Green Deeds programme at the Sisa Dukashe Stadium in Mdantsane in East London, President Cyril Ramaphosa stopped by the East London International Convention Centre on 08 March 2019 to officially launch Operation Phakisa on Chemicals and Waste Economy.

Phakisa has a number of detailed action plans which are set to deliver results by 2023. These include increasing the total contribution of the waste economy from R24.3 billion to R35.8 billion and creating 127 000 new direct and indirect jobs.

The plans also include providing support to 4,300 SMMEs with 70% targeted at youth and at least 30% targeted at women; and ultimately seeing more than 20 million tonnes of waste diverted from landfills.

President Ramaphosa was taken through a series of presentations detailing some of the outcomes of the Chemicals and Waste Phakisa which reflected some of its initiatives with defined targets in industrial, municipal solid waste, chemicals and waste minimization work streams.

"Today we are seeing the Phakisa project, particularly in the environmental affairs chemicals and waste management sector coming to life.

"I was particularly impressed by how small medium enterprises can be created in their thousands to work in the waste management sector. This is an important sector that we can create which can contribute enormously to the GDP of our country," he said.

President Ramaphosa further stated that partnerships between government and the private sector will be instrumental in the success of the Phakisa initiatives.

A number of companies pledged to support the green economy initiatives with a contribution of up to R1.4 billion. Amongst the pledges were Vodacom South Africa, the South African Breweries, Unilever, Sasol, PRASA and PETCO.

Coca-Cola Beverages South Africa and Coca Cola Peninsula Beverages said they were committed to being a part of the solution and pledged to invest R227 million over the next three years to stimulate recycling industries.

President and CEO of Samsung Electronics Africa, Mr Sung Yoon said the global electronics giant would pledge R27 million towards e-waste management initiatives in the country.

"We as Samsung, embark on a journey to put the planet first. We believe the work of the Department of Environmental Affairs will have a very lasting effect on the current and future generations," Mr Yoon said.

"Phakisa has a number of detailed action plans which are set to deliver results by 2023. These include increasing the total contribution of the waste economy from R24.3 billion to R35.8 billion"

KZN heeds presidential call to keep South Africa clean

By Gaopalelwe Moroane
Photos by Benedict Mlaba

Over 2 000 volunteers from seven wards in Msunduzi Municipality in Pietermaritzburg heeded President Cyril Ramaphosa's call to keep South Africa clean and pick up litter in areas across the country as part of the Good Green Deeds campaign which was launched across the country on Friday, 08 March 2019.

Leading the KwaZulu-Natal leg of the launch was Msunduzi Municipality Mayor, Councillor Themba Njilo who launched the campaign in Ward 14, in Willowfontein.

One of the biggest issues that the municipality faces is illegal dumping and as part of the day's proceedings, the mayor cleaned up a site that had been riddled with illegal dumping for what communities claim to be a very long time. As well as picking up litter and sorting it for recycling, lorries and tractors were utilised to clean up the site, which is located just metres from Willowfontein River. The official Good Green Deeds mascot, Billy Bin, was handed over to the municipality.



Above: Msunduzi Municipality Mayor, Councillor Themba Njilo, hard at work leading a cleanup at one of seven of the wards, in the municipality as part of the Good Green Deeds campaign launch.

Premier commits to keeping Gauteng clean

By Zibuse Ndlovu

“Every Thursday there will be a Good Green Deeds Campaign in Gauteng, working towards keeping Gauteng and South Africa clean.” These were sentiments shared by Gauteng Premier, Mr David Makhura during the mini launch of Good Green Deeds in Sharpeville, at Emfuleni Local Municipality on 08 March 2019.

“The areas cleaned today must remain clean, and illegal dumping spots should be turned into community parks,” said Mr Makhura.

Mr Makhura assured his community that the province would distribute 20 000 dustbins in Emfuleni. The Good Green Deeds programme will bring economic value to the country by diverting waste away from landfills. The programme will also provide considerable social, economic and environmental opportunities for the country, including job creation and enterprise development.



Above: Gauteng Premier, Mr David Makhura and Mayor of Emfuleni, Councillor Gift Moerane hard at work with Sharpeville community during campaign.



Above: Sharpeville community getting ready to do Good Green Deeds at Emfuleni Local Municipality. Premier David Makhura committed to distributing 20 000 dustbins in the area.

Turning trash into treasure

By Erica Mathye

Photo by Veronica Mahlaba



They say one man's trash is another man's treasure and Ms Phumeza Ceshemba from Mdantsane in East London has found just the model to create wealth from waste. In 2017, this mother of two opened a recycling plant in Mdantsane where she recycles and pelletizes plastic material for business. Her message to ordinary South Africans is to "wake up and think of waste management as a lucrative vehicle for creating work opportunities, keeping the environment clean and enriching future generations."

Ms Ceshemba is the owner of Afriwaste in Mdantsane, East London. Her recycling plant employs 17 men and women from impoverished communities whom she says she is training for business in waste. "My goal is to see these very same men and women progress into good citizens who practice good green deeds in their daily lives but more than that, I want to see them running their own businesses in recycling".

Afriwaste collects and recycles an average of 120 tons of plastic waste every month from landfill sites, homes and grocery supermarkets. Of the recycled waste, 100 tons of pellets are sold back to business for the manufacturing of furniture such as tables and plastic chairs.

Afriwaste uses innovative technology and machinery for recycling and pelletizing the plastic. Ms Ceshemba spoke to the Environment Quarterly on the eve of President Cyril Ramaphosa's visit to her plant on 08 February and shared her insights on business as well as nerves about meeting South Africa's first citizen. The President made a turn at her plant before heading to Sisa Dukashe stadium in East London where he was launching the Good Green programme which is about encouraging behavioural change for every South African to Reduce. Reuse. Recycle. Recover.

"To have my business profiled at a national level is extraordinary. Meeting President Ramaphosa is both exciting and nerve wrecking. When I opened the business two years ago, I wanted to contribute in waste management and keep my community cleaner. I'm excited to be recognized as an agent of change that the president has taken notice of," Ms Ceshemba said. President Ramaphosa and his delegation spent some time talking to the workers at the factory and looking at its functions and operations.



Above: President Cyril Ramaphosa visits Afriwaste, a recycling plant in Mdantsane which is owned by Ms Phumeza Ceshemba.



About the contributor: Erica Mathye

Ms Erica Mathye is the Deputy Director: Editorial Services at DEA. Before joining the Department, she worked as a journalist, literature editor and sub-editor for various publications. Her interests include travelling and spending time on Pinterest looking for home improvement ideas.

From humble beginnings

Like most people, Phumeza says she always had a dream of one day leaving her day job to start a business and she identified opportunities in waste. "Waste was a natural call for me because my mother was a waste recycler.

"She used to collect steel and plastic drums from homes and landfill sites and resold them as basic household pots and buckets. She employed rural women to help her in her business," says Ms Ceshemba.

She started Afriwaste two years after she submitted a comprehensive business plan to the Industrial Development Corporation for funding.



Above: One of the machines inside the Fort Jackson AfriWaste Plastic Palletisation Plant, that collects, sorts, washes and sanitises plastics for companies that produce products that are made of plastics.

"The waste industry is more than just about emptying your rubbish bag at home and it's more than waste pickers. This is a dignified industry that has the potential to create wealth and plenty of jobs for our people. What we need are more people of colour entering into this space as waste recyclers and converters who produce an end product from any waste," she says.

On Good Green Deeds, Ms Ceshemba says South Africans are well aware of the waste problem and the interventions from government as well as private sector but it is only through our attitude on littering and pollution that we are going to make a real difference.

"We as South Africans need to come to a point where we say we are tired of waste and pollution in our communities. We need to realize the extensive damage that waste and litter is causing to our families and form cooperatives that collect and sell the waste to plants such as Afriwaste so that we can earn a living but also so our actions don't contaminate the fish in the sea or the vegetables on the ground."

Ms Ceshemba says she believes that environmental education and motivation should start at school level where children are encouraged to practice good green deeds as well as separation at source. "I am planning to run a local schools competition in Mdantsane to encourage learners not to litter and reward the school with the most collected waste with a prize," she said.

Five stages in plastic recycling

After the truck delivers plastic at a recycling plant, it needs to go through five different stages so that it can be further used for making various types of products.

Sorting: Every plastic item is separated according to its make and type so that it can be processed accordingly in the shredding machine.



Washing: Once the sorting has been done, the plastic waste needs to be washed properly to remove impurities such as labels and adhesives. This enhances the quality of the finished product.



Shredding: After washing, the plastic waste is loaded into different conveyer belts that run the waste through the different shredders. These shredders tear up the plastic into small pellets, preparing them for recycling into other products.



Identification and Classification of Plastic: After shredding, a proper testing of the plastic pellets is conducted in order to ascertain their quality and class.



Extruding: This involves melting the shredded plastic so that it can be extruded into pellets, which are then used for making different types of plastic products.



The economic value in waste

- South Africa's waste economy is estimated to be worth a minimum of R15 billion contribution to the GDP.
- The Waste Sector Survey showed that the formal South African waste sector employs nearly 30 000 people in 2012 of which 20 092 are employed in the public sector -- mostly in local and metropolitan municipalities -- and 9 741 worked in the private sector.
- In the informal economy, there are plus / minus 62 147 waste pickers in the country (36 680 operating from landfills and 25 467 operating as trolley pushers).
- Diverting waste away from landfills also provides considerable social, economic and environmental opportunities for the country, including job creation and enterprise development.
- In South Africa the opportunities for diversion of waste will provide access to valuable resources through the development of recycling industries.
- By promoting the adoption of closing-the-loop production patterns within an economic system, the Circular Economy aims to increase the efficiency of resource use, with special focus on urban and industrial waste, to achieve a better balance and harmony between economy, environment and society.
- The Circular Economy provides a closed loop for better management of materials in the context of Reduce, Reuse, Recycle and Recover of waste.
- Circular Economy provide benefits for reducing the gas emissions and social impacts of waste.
- The total value of waste in the South African economy is estimated to be at a minimum of R25 bn worth of resources such as viable polymers, fibre, metal, glass, organics as waste through landfilling (in 2012) worth of resources lost to the economy in 2012 through disposal as waste to landfill.
- The outcomes of the Chemicals and Waste Phakisa reflect twenty initiatives with defined targets in industrial, municipal solid waste, chemicals and waste minimization work streams.

Sharpeville winning the war against waste

By Salome Tsoka

Illegal dumping sites have become a common sight in various communities around the country. These sites which often stretch for miles, are hazardous to human health and are displeasing to the eye. Over the years, the Department of Environmental Affairs (DEA) has worked with numerous local municipalities, communities and other key stakeholders to help communities clean up such sites through effective clean-up campaigns. However, despite these efforts, illegal dumping sites are a common problem.

According to Deputy Director of Waste Management, Ms Boitumelo Dlamini, the effectiveness of community clean up campaigns lies in the community's awareness about waste and in municipalities that ensure that communities are kept clean.

"The effectiveness of clean-up campaigns depends on the consistency of the municipality's waste management efforts and in the awareness against littering. In areas where the municipality is active, the area remains clean and people become custodians of their environment." "One of the most important aspects of clean-up campaigns lies in the education and awareness built

around them. The set-up, design and frequency of the clean-up campaigns then determine the level of awareness that is built into people's minds," she said. According to 2016 Stats SA Household Survey, an estimated 59% of households had their waste collected by the local municipality while 2% had their waste collected from a central collection point or communal container. However, 34% of households disposed their waste at a communal dump or their own dump site while 5% dealt with their waste through other means.

Rustenburg Local Municipality spokesperson Mr David Magae says that the negative mind-sets of community members is also one of the causes of illegal dumping sites.

"Many factors contribute to illegal dumping sites but a negative mind-set is one of the main causes of illegal dumping. When community members have a don't-care or negative attitude towards the environment, illegal dumping sites will occur," Mr Magae said. Illegal dumping sites are not just bad for the environment and the health of communities, they can sometimes become illegal graveyards.



A rehabilitated illegal dumping site in the community of Sharpeville.

How Sharpeville won the war against waste

Mr Lebeso Mothijoa, from the community of Sharpeville in Gauteng says community members decided to clean up an illegal dumping site in the community after they discovered a dead baby buried in the trash.

“We came together as a community and decided that it was time for this illegal dumping site to go. During the spring and summer seasons, the stench would draw the attention of flies and other pests and it had gotten so bad that we couldn’t even open our windows.”

“The site has now been rehabilitated into a park which is both clean and beautiful. Members of the community volunteered to rehabilitate the site and erected a white stone to represent the soul of the baby that was found in the area,” Mr Mothijoa said.

Ms Dlamini says illegal dumping sites can create health hazards for community members and can also be bad for business and tourism in the area.

“Waste, especially littered waste which can build up to illegal dumping sites can also affect the country’s tourism by depleting natural resources that benefit the tourism sector. Poor waste management results in untidy places and this affects the aesthetic value and repels people from visiting those destinations,” she said.

Mr Magae also adds that illegal dumping not only threaten human health but wildlife and the environment too.

“Illegal dumping sites pollute local water ways and ground water. Oftentimes, the land on which illegal dumping sites once occurred may be left sterilized and unproductive,” he said.

According to the Stats SA report, solid waste is an urban problem as waste generation in urban areas tends to

be much higher than in rural areas. It was also found that developing countries, like South Africa would experience continuous urbanisation with the population of people living in urban areas rising by 71.3% in 2030 and 80% in 2050.

Ms Dlamini says DEA and municipalities continuously run sustainability efforts which includes clean ups and rehabilitation of illegal dumping sites. However, those cleaned areas can also be affected if the community is not cooperative and does not maintain it.

Director for Sustainability at Plastics SA, Mr Douw Steyn, says as the founders of Clean-up and Recycle SA Week and the International Coastal Clean-up Day which began in 1997, they often see a change through the various clean up campaigns they help sponsor.

“We do see areas are cleaner where clean-ups are taking place but we should not be doing clean-ups – people should not litter. We should encourage responsible waste management and recycling,” he said.

Here are some tips from Plastics SA on how communities can start their own clean up campaigns to help keep their environments clean:

- Pick the right project and location for your community, conduct either a roadside, river or beach clean-up.
- Make a detailed event plan.
- Choose an enthusiastic leader or coordinator.
- Recruit volunteers early by contacting local newspapers, community members and schools.
- Get supplies donated.
- Assign specific tasks during the clean-up.
- Make a plan for debris removal.
- If possible, try to reward your volunteers.



Above: Members of the Sharpeville community are determined to keep their living spaces cleaner by organising frequent community clean-ups.



Above: A heap of trash lies across the street from residential homes in the township of Sharpeville in Gauteng.

Pickersgill's Reed frogs released

By Mncedisi Cindi



From left to right: Mr Piet Malepa from the Johannesburg zoo, Dr Adrian J. Armstrong from Ezemvelo KZN Wildlife, Mr Ian du Plessis from the Johannesburg zoo and Mr Stanley Tshitwamulomoni from the Department of Environmental Affairs getting ready to release 50 Pickersgill's Reed frogs (*Hyperolius pickersgilli*), at a recently rehabilitated wetland (River Horse Valley) in Durban

Above: Mr Adrian Armstrong from Ezemvelo KZN Wildlife releasing the Pickersgill's Reed frogs (*Hyperolius pickersgilli*), at a recently rehabilitated wetland in Durban.

On Wednesday 5 March 2019, about 50 captive-bred off-spring of the Pickersgill's Reed Frogs were released into the River Horse Valley. This release meets a goal of the Pickersgill's Reed Frog BMP – to improve the conservation status of the species so that it can eventually be downlisted to of Least Concern, and to improve its protection as part of meeting international biodiversity objectives such as the Aichi targets through applied conservation action.

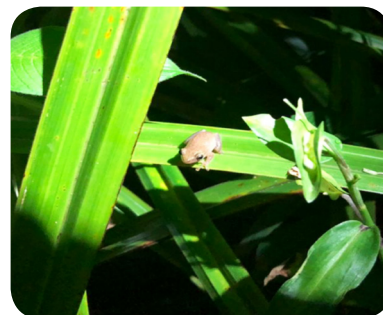
The Pickersgill's Reed Frog is endemic to KwaZulu-Natal and is traditionally found in an area stretching from St Lucia on the North Coast to Sezela on the South Coast. During the first release on 17 September last year, the frogs were individually placed on reeds at Mount Moreland, near Tongaat on the KwaZulu-Natal North Coast, in two staggered releases, with the final group of 60 frogs being released during the night. The first release has proven successful.

Over the past decade Ezemvelo KZN Wildlife (EKZNW) has engaged with other government departments, parastatals, municipalities and conservancies to ensure that the Pickersgill's Reed Frog population is restored and the species brought back from the brink of extinction. This approach followed the deadly outbreak of the Chytrid fungi (*Batrachochytrium dendrobatidis*) in the early 2000's, leading to the death of amphibian populations in many parts of the world.

A critical conservation intervention was thus initiated which included ensuring the protection of sites and the

monitoring of amphibians in those areas. The Pickersgill's Reed Frog is also the first South African threatened species to be prioritised for a Captive Breeding Programme, and by the Threatened Amphibian Programme. This means that zoos and aquaria work together to help ensure that the reintroduction of threatened species, such as this frog, into well-managed habitats ultimately takes place.

The late Minister of Environmental Affairs, Edna Molewa in 2017 appointed EKZNW as the lead agent for the implementation of the Pickersgill's Reed Frog Biodiversity Management Plan. Implementation is done through the office of the MEC for Economic Development, Tourism and Environmental Affairs, Mr Sihle Zikalala.



Above: A Pickersgill's Reed Frog (*Hyperolius pickersgilli*), released at a recently rehabilitated wetland in Durban.



Above: Pickersgill's Reed frogs (*Hyperolius pickersgilli*) ready to be released at a River Horse Valley in Durban.



About the contributor: Mncedisi Cindi

Mr Mncedisi Cindi is the Biodiversity Officer Production under the Branch Biodiversity and Conservation. He has been with DEA since 2016 and is responsible for the conservation of species.

The Marico Biosphere

Unlocking prosperous rural development through public and private partnerships

Photos by Daan van der Merwe

Amongst the great political, social and economic upheaval that occurred in South Africa in 1970, a vision for protecting the environment for future generations was birthed.

Yet only 40 years later it came into its own as the Marico River Conservation Association (MRCA). Then, in 2011 the MRCA registered as a non-profit organisation so that it could formally apply for the declaration of the Groot Marico as a Protected Environment (as per Section 28 of the National Environment Management: Protected Areas Act, 2003), which acted as a precursor to formally applying for, and being granted, Biosphere Reserve¹ status.

The Marico district, which also includes the Groot Marico town, stretches from Swaruggens in the East, Zeerust in the West, Mafikeng in the South-west and Lichtenburg in the South-East. Made famous by the renowned South African author, Herman Charles Bosman, Groot Marico is also home to magnificent cultural heritage like rock paintings from early San and Bushmen; breath-taking natural beauty in the form of bushveld and rolling koppies (hills) and the equally breath-taking distilled fruit spirit of mampoer. The Marico district is also home to

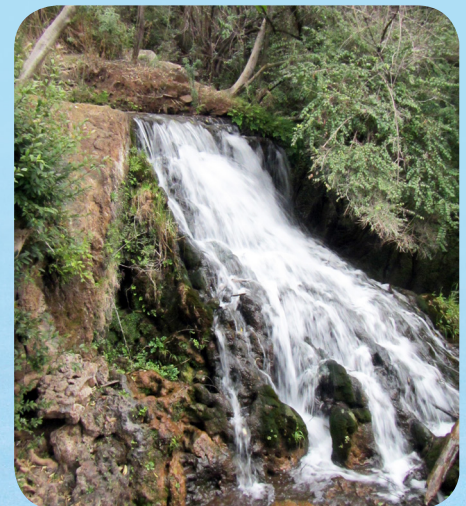
three dolomitic eyes that are fed by an intricate system of aquifers that hold some of the cleanest water in the world².

The MRCA, whose activities have largely been funded by the national Department of Environmental Affairs, builds resilience in both ecological and social systems in the following way: it has used the funding received from the DEA's Natural Resource Management Chief Directorate to clear water-thirsty invasive alien plants and so has used that as the fulcrum around which it has also developed projects for land restoration, fire management and control of bush encroachment.

As a result of these ecologically-based projects, they have catalysed a skills development and entrepreneurship programme that supports local community members in such interventions as experiential and theoretical training in field guiding, lodge management, entrepreneurship, project management and leadership, amongst others.

This means that through projects that strengthen the lands ability to provide services to people, people themselves are being upskilled, empowered and employed.

With support of the DEA, the MRCA are using the district's Biosphere status, which was awarded on 25 July 2018 at the 30th Session of the International Co-ordinating Council of the Man and the Biosphere Programme (UNESCO) in Indonesia, to continue to drive a holistic vision for this area, its ecology, culture and people. This vision also recognises that true, collaborative public and private sector partnerships are at the core of the intervention. Without a spirit of collaboration, this grand vision of "healthy environment and happy people" will not succeed.



Above: The Bokkraal Tufa Waterfall in the North West Province.

¹Biosphere reserves are areas comprising terrestrial, marine and coastal ecosystems. Each reserve promotes solutions reconciling the conservation of biodiversity with its sustainable use, <http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/>

²Water bottled and sourced in the Marico won gold in its class for the The **FineWaters International** Water Tasting Competition 2017 hosted in Guangzhou, China.

View from south to north over the Marico.





BLACK RHINO

OUR PLANET IS HOME TO 5 SPECIES OF RHINO.

BLACK RHINO

Africa's smallest species of rhino, also known as the *hook lipped rhino*.

The Black Rhino is characterised by the long upper lip, which is hooked for the purposes of grasping and pulling leaves, stalks and fruits from bushes, long grasses and trees.



WHITE RHINO

WHITE RHINO

Africa's largest species of rhino, also known as the *square lipped rhino*.

The wide upper lip of the White Rhino is adapted to grazing and is perfect for tearing off grass.

The white rhino live in a group, known as a *crash*. These crashes are usually made up of a female and her calves.



Oxpecker birds cling to rhino and rid them of ticks and flies.





JAVAN RHINO

RHINO HORN IS MADE OF KERATIN WHICH IS THE SAME MATERIAL AS FINGERNAILS.

RHINOCEROS MEANS NOSE HORN.



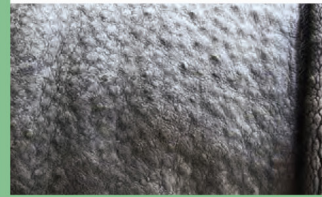
Males like to be left alone and are very territorial.



Rhino are herbivores and eat mostly at night, dawn and dusk.



INDIAN RHINO



GREATER ONE-HORNED RHINO
Asia's largest species of rhino, also known as the *Indian rhino*.

**22 SEPTEMBER
WORLD RHINO DAY**

White rhinos can communicate vocally using a wide range of sounds. Calves squeak and adults snarl or wail.

SUMATRAN RHINO

Closest living relative to the woolly rhino. The only species to still be covered in hair and found in Asia.

SUMATRAN RHINO



5

DEA launches Coastal Awareness Programme

By Tshego Letshwiti

Photos by Benedict Mlaba and Thandeka Mbambo



Above: Some DEA officials, DSW officials and community members pose for a picture before embarking on the coastal awareness march in Durban.



Above: DEA official Sisbusiswe Matiwa educating young people about access to the coast and coastal public properties.

The Department of Environmental Affairs (DEA) launched its coastal awareness programme, in Durban KwaZulu-Natal. The programme was aimed at raising awareness, and educating South Africans about their right to coastal access, a clean environment in coastal public properties, and their responsibility to keep such properties in a usable condition.

South Africa enjoys a coastline of just under 3000km, with numerous beaches designated for the public's enjoyment and recreation. Everyone has a right to access these beaches and public amenities, as contained in the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) (ICM Act).

The ICM Act seeks to achieve the realization of the right of access to our natural heritage and recreational benefits to all and in so doing, support growing tourism, recreational fishing and fair access to amenities. In addition, under the Act, no one may charge a fee (directly or indirectly) in order to access coastal public property, without the permission of the

Minister responsible for environmental affairs.

The Minister of DEA, Ms Nomvula Mokonyane, urged all South Africans to "enjoy our coastline responsibly," while taking into account the duty of care for our coastal environment as prescribed in the environmental legislation.

"It is our duty to ensure that we do not litter, do not drive on the beach and accord everyone their right to access public coastal property," said Minister Mokonyane.

Several coastal awareness programmes across the country were conducted to remind communities that everyone is a custodian of our valuable coastal resources. These awareness campaigns focused on among others, coastal and marine pollution, public access to the beach and illegal driving on the beach.

The department also deals with pollution along the coast from marine litter, including plastic litter, which has become a matter of increasing global and national concern as a source of marine pollution. Plastics

are the cause of increasing ocean pollution, which in turn affects marine life, and consequently human beings. Globally, plastic production has reached new highs, with over 320 million tons now being produced annually. Annually DEA undertakes a coastal clean-up campaign with the intention to highlight the importance of building an understanding and knowledge of the coastal environment to the community and other marine users.

Given the difficulties experienced with marine litter, the Department has embarked on a Source-to-Sea initiative that addresses waste management and marine litter from land-based sources. Various stakeholders involved, include academia, government departments, plastic industries and non-governmental organisations with the interventions to address marine litter in catchment areas before becoming problematic for our coastline and the marine environment.

The initiative will scale up litter collection, promote community involvement in waste sorting at source and recycling in cooperation with the private sector.



About the contributor: Tshego Letshwiti

Ms Tshego Letshwiti is an Assistant Director within the Internal and External Communications Sub-Directorate at the Department of Environmental Affairs, in Cape Town. She joined the Department in February 2014 after working in print and broadcast Media. She holds a BA Honours Degree in Journalism from the University of Johannesburg.

Port of CT to host new Antarctic Centre

By Gaopalelwe Moroane

Photos by Benedict Mlaba and Siziphiwe Maxengana



Above: Cape Town Port Harbour Master, Mr Alex Miya having a chat with Cape Town High School learners about careers at sea as we prepare to launch the first South African Antarctic Season Week.



Above: The SANAE 58 team members who will be spending 14 months in Antarctica. Through the South African National Antarctic Programme (SANAP), the department has maintained South Africa's research presence in Antarctica.

The Port of Cape Town was abuzz with activity during the first week of December 2018, as the Department of Environmental Affairs in partnership with Transnet National Port's Authority (TNPA), hosted the first ever South African Antarctic Season Week and bid farewell to the 58th South African National Antarctic Expedition (SANAE 58) team.

The Antarctic Season occurs between November and March annually in Gateway to Antarctic nations and cities. A highlight of the launch was the department and TNPA's announcement that the Port of Cape Town has been identified as the location of a new Antarctic Centre, which

will be built to enhance the country's role as an Antarctic Gateway. Also as part of Antarctica Season Week, the DEA bid farewell to the SA Agulhas II on 06 December 2018. On board the SA Agulhas II were SANAE 58 team members who will be spending 14 months in Antarctica.

Through the South African National Antarctic Programme, the department has maintained South Africa's research presence in Antarctica. The scientific data that is collected during these voyages is critical to the understanding of amongst other things, the impacts of climate change and weather information associated with extreme events.

About the Antarctic Centre

- The Antarctic Centre's construction is expected to take place over a few years. However, operations will be accommodated in the interim at the Port's Maritime Training Centre, which includes exhibition space, storage facilities, boardroom, office space, meeting space and access to a multi-user 60-seater lecture auditorium.
- The centre will serve to enhance geopolitical alliances and serve as a base for countries that relate to South Africa as a geographic entity for reasons linked to travel to Antarctica and the Southern Ocean Islands. These countries include Germany, Norway, Russia, Belgium, Japan, United Kingdom, India, Sweden, Netherlands and Finland.
- The centre will accommodate the Antarctic Logistics Network, which will be a virtual network of members that provide advice, assistance and referrals as businesses that understand polar conditions. This will provide a single point of contact for all Antarctica related business enquiries, offering clients effortless connections to private businesses, educational institutions, research bodies and government agencies.
- The Antarctic Centre will incorporate an Antarctic Experience Centre that has taken some lessons from the International Antarctic Centre in Christchurch, New Zealand as well as from Polaria in Trømsø, Norway. It will be visited, among others, by school groups on educational tours.



About the contributor: Gaopalelwe Moroane

Ms Gaopalelwe is an Assistant Director: Internal and External Communications in the Chief Directorate: Communications of the Department of Environmental Affairs. She joined the department in 2012 as an intern after completing her studies at Rhodes University.

The world's first national status report on biological invasions by South Africa

The acting minister of environmental affairs, Mr Derek Hanekom, announced the release of the national status report on biological invasions in South Africa. This comprehensive national-scale assessment of the status of biological invasions and their management is a world first.

The Status of Biological Invasions and their Management 2017 was compiled by a team of 37 editors and authors from 14 organisations, led by the South African National Biodiversity Institute (SANBI) in collaboration with the Department of Science and Technology (DST)–National Research Foundation (NRF) Centre of Excellence for Invasion Biology (CIB) at Stellenbosch University.

Biological invasions pose an enormous threat to South Africa's ecosystems and the services (e.g. clean water and air) they deliver. South Africa is among only a few countries that have legislation specifically aimed at managing this problem. The economic damage caused by biological invasions has been estimated at billions of rands per year, and the problem is growing rapidly as more alien species are introduced.

The report provides a framework for reporting on biological invasion statuses at a national level using a set of indicators. These indicators will serve as a baseline for assessing trends and for setting realistic management targets, and also highlight gaps in our ability to provide evidence to support decision-making.

Purpose of the report

Policy and strategy: the report should inform policy and strategies relating to the management of biological invasions nationwide. Obviously relevant to the biodiversity sector, however, other sectors are also impacted by biological invasions and this report should inform policies and strategies in the water, agriculture, health and social development sectors.

Planning: the report provides an assessment of available information on biological invasions and should be used to prioritise resources for managing biological invasions, especially actions aimed at preventing their introduction and spread, managing established populations, and mitigating their impacts on ecosystems and people. This first report focused on identifying indicators and datasets that can inform planning initiatives, while recognising that many of these datasets are currently not available or need to be strengthened for future assessments.

Research: the report can assist in identifying research priorities and guides this in two ways: by identifying areas where critical questions remain unanswered, and by showing where data gaps in the evidence base required to inform planning and actions for the management of biological invasions exist.

Education: the report should be a key reference to build capacity regarding the understanding and management of biological invasions in South Africa.

Key findings

- 2 033 alien species have established populations outside of cultivation or captivity. Most were deliberately introduced for agriculture, forestry, horticulture, mariculture, aquaculture and the pet trade. Other species arrived accidentally as stowaways on ships and aircraft, or as contaminants in traded goods.
- 775 of the 2 033 alien species are invasive and more than 100 of these have caused major negative impacts on the environment: they have reduced rangeland condition and carrying capacity, reduced surface water runoff and groundwater recharge, increased fire hazards, and eroded biodiversity.
 - 80 of these species are terrestrial or freshwater plants.
 - The remaining high impact invasive species consist of eight mammals, five freshwater vertebrates, five terrestrial invertebrates, one marine species, two amphibians and one bird.
- Alien plants are the most diverse, widespread and damaging group of invaders. Well over 100 new species have been recorded as naturalised or escaped from cultivation and the recorded ranges of almost all invasive plants have increased significantly over the past decade. A relatively small subset of these species has become particularly widespread and often problematic, with hundreds of millions of rands spent annually on attempts to control them.
- The rate of introduction of species is increasing, in line with increases in travel and trade – the estimated rate of introduction currently stands at seven new species per year.
- The Western Cape is the most invaded province; approximate areas of invasion by alien plants: Western Cape 28%, Mpumalanga 16%, Northern Cape 14%, KwaZulu-Natal 9%. Other provinces are estimated to have less than 3% cover by invasive alien plants, however, these estimates are more than 20 years old and both the extent of invasions and the relative dominance of species have changed considerably.



environmental affairs

Department:
 Environmental Affairs
 REPUBLIC OF SOUTH AFRICA



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 STELLENBOSCH
 UNIVERSITY





Main impacts of biological invasions include:

- Invasive alien plants reduce surface water runoff by 1 500 to 2 500 million cubic metres per year. Primary catchments most affected are in the Western and Eastern Cape, and KwaZulu-Natal.
- If no remedial action is taken, reductions in water resources are estimated to be 2 600 to 3 200 million cubic metres per year, about 50% higher than estimated current reductions.
- Productivity of natural rangelands is under serious threat from various invasive plants that could potentially halve the production of livestock.
- Alien plant invasions can change the structure and biomass of vegetation, adding fuel and increasing the severity of wildfires, making them more difficult to control and more destructive.
- The unique plant biodiversity of the Fynbos Biome is particularly at risk.

Control measures introduced by government have been effective in some areas. Responding effectively to biological invasions requires integrated interventions that focus on different aspects of the invasion process, from steps to prevent the introduction of species, to detection and eradication of early phase invasives, and management of those that have spread.

Government efforts have focused on biosecurity, early detection of emerging invasions, and programmes such as Working for Water (WW) with dual objectives of job creation and control of biological invasions. Government efforts need to be strengthened in order to focus resources where they are most needed.

The report concludes that it's imperative to improve the management of biological invasions given the substantial economic and social consequences that would be associated with a failure to do so.

FOR MORE INFORMATION

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Most alien species that have established populations outside of cultivation or captivity were introduced deliberately for:



Others arrive accidentally, as stowaways on ships and aircraft, or as contaminants in traded goods.

The rate of introduction of new unregulated species is increasing in line with increases in trade and travel



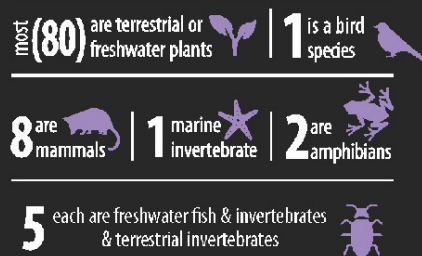
The number currently stands at **7** NEW SPECIES PER YEAR

2 033

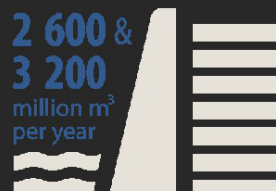
alien species have established populations outside of cultivation or captivity in South Africa



107 species have major impacts according to experts



The reductions in water resources if no remedial action is taken are estimated to be between



The combined impacts of invasive alien plants on surface water runoff are estimated to be between



The productivity of rangelands is under serious threat from a large number of invasive plants that could potentially halve the production of livestock from natural rangeland areas.



Invading alien plants are the **3rd** largest threat to South Africa's unique biodiversity, with **1 207** indigenous and endemic plant species being threatened by alien plant invasions



EFFECTIVENESS OF RESPONSES

Given the enormity of the problem, and the limited funds available to address it, we are currently only able to get to a small proportion of the invasions

(2–3% PER YEAR)

Given that the species are spreading at

5–10% PER YEAR,

it is clear that the problem cannot be addressed everywhere, and that to be effective, we will have to focus limited funds on priority areas.



Leadership Profile:

Mr Ashley Naidoo

Chief Director for Oceans and Coastal Research

By Tshego Letshwiti

A school trip 40 years ago to the aquarium in Durban KwaZulu-Natal sparked an interest in Mr Ashley Naidoo's passion for the field of ocean research and science. Today he remains just as passionate and dedicated to this field as he did 40 years ago. He is the current Chief Director of Oceans and Coastal Research with over 70 people in the Chief Directorate. The Chief Directorate undertakes several research and survey programmes along the coast, on islands and in the open ocean.

What in your opinion makes a good leader?

needs to understand the whole context of a person, because people are complicated organisms. So if you understand what is important to them, then you can meet them halfway. In fact work is one dimension of a person, so you need to understand the person as a whole when you're a manager and this is why listening is important.

What do you find most challenging about working for DEA?

Often you have to make decisions not having a complete picture or all the information, but the world needs answers. So you have to be comfortable making the decisions without all the information and that for me is a bit tricky, however the more you do it, the easier it gets.

What are some of your greatest achievements of working in the Department?

In the Chief Directorate we now have at least one graduate from every coastal university, except for one but I am working on that. I enjoy the diversity and talking to different people with different backgrounds. My end goal is to employ at least one graduate from every university in the country before I leave this Chief Directorate.

What does going green mean to you and how do you practice that in your daily life?

Going green for me means going "blue", I have to spend time in the ocean every week just to get a feel of it. Going blue is about learning about the ocean, spending time in and at the ocean to see if the birds are the same as the previous week, if the fishermen are complaining about the same issues, or if the bits of plastic pollution are the same culprits. It's about being cognisant of your environment.

What are the 3 core tenets of your management /leadership philosophy that you would never compromise?

- Finish what you start.
- Innovation, go big or go home.
- I strongly believe people have the solutions to their own problems, so as a manager one should listen to the problem, but also listen to the solutions that their staff bring with them.

Quick facts:

Home town: Uthongathi, KwaZulu-Natal.

Role model: The founders of the ANC, Desmond Tutu and my primary school teachers.

Favourite quote/motto: "The world would be a better place if people listened to every five words a person speaks before saying one word in response"

I am currently reading: The Long War by Baxter & Pratchett.



Plastic bags: To ban or not to ban?

By Reyhana Mahomed

Single-use plastics are currently facing global scrutiny, mainly due to the impacts of plastic pollution in the environment. Many countries have banned certain single-use plastic items, such as plastic grocery carrier bags, while others (including South Africa) are considering such bans. However, Life Cycle Assessment (LCA) studies in other countries typically show that single-use plastic carrier bags actually have a lower environmental footprint than its alternatives.

To assist government and industry in their decision-making, the Council for Scientific and Industrial Research (CSIR) is conducting a Life Cycle Sustainability Assessment of different types of grocery carrier bags in South Africa. Unlike conventional LCA studies, which only consider environmental impacts, this assessment will also consider economic and social criteria. It will therefore determine which bag is “best” from an overall sustainability perspective.

A Life Cycle Sustainability Assessment is a novel method used to inform sustainable product design, as well as decisions between alternative product options, based on economic, social and environmental impacts across their full life cycles (from extraction of raw materials,

through production, distribution, use, and disposal). This framework is applicable to virtually any product.

In this study, the CSIR’s sustainability experts will extend the boundaries of conventional life cycle studies by also focusing on re-use, recycling, and the impacts of plastic pollution in the environment. The recommendations from the study will be based on a comprehensive, evidence-based assessment of the impacts of each type of carrier bag, and will be made publicly available as soon as possible.

The intention to ban single-use plastic carrier bags is a demonstration of government’s commitment to solving the waste challenges plaguing the country, and the growing global problem of plastic pollution. Similarly, as the lead implementer of the Waste Research, Development and Innovation Roadmap, the CSIR is committed to realising a circular economy in South Africa through science, technology and innovation, and is equally concerned about these waste and pollution challenges.

However, a decision to ban a product should be carefully considered. For example, will job losses in the manufacturing of single-use plastic bags be offset by a gain in production of the alternatives? Where

will the bags be produced – locally or abroad?

What will be the impacts on the economy, and on employment? What about impacts on the livelihoods of informal waste pickers? The full social, economic and environmental costs and benefits of banning single-use plastic carrier bags in favour of alternatives are not yet fully understood.

Thus, a Life Cycle Sustainability Assessment, which looks holistically at the environmental, social and economic impacts of single use-plastic carrier bags, and of the alternatives (paper, polypropylene, polyester and biodegradable bags); provides an objective evaluation to assist in guiding decision making.

This approach is in line with South Africa’s National Development Plan, its commitment to realising a green economy, and to achieving the United Nations’ Sustainable Development Goals.

To learn more, contact Anton Nahman, CSIR Research Group Leader: Sustainability Science and Resource Economics, at anahman@csir.co.za



About the contributor: Reyhana Mahomed

Ms Reyhana Mahomed is a Communications Manager at the Council for Scientific and Industrial Research (CSIR): Natural Resources and the Environment. Before joining the CSIR, Ms Mahomed was a Deputy Director in the Department of Environmental Affairs’ Chief Directorate: Communications.

Environmental initiative uplifts community through tourism

One woman's determination to clear away alien biomass in her village has completely reversed the fortunes of an entire community, and given rise to a new income stream – eco-tourism.

It all began when Bongji Mafuya, who trained in tourism and worked as an executive chef at various game lodges, decided she wanted to learn more about the environment. With her employers' permission, she started to spend less time in the kitchen and more in the field, and began learning about how nature, human beings and wildlife interact.

That small change led to much bigger changes for Mafuya, particularly as she started to look the landscapes around her with a renewed focus. "It struck me when I was home one week, that the environment around my village was in a very bad state," says

"Mafuya's amaBhaca Development Trust began working in local schools, educating children about alien plants and the health of the river. She also began to work on clearing the black wattle that was choking the river."

Mafuya. "I wanted to go back to my homeland and do something about it. There was a lot of degradation of the soil. The wattle was a problem, and the rivers were no longer the same. When I grew up, there were huge wetlands that were no longer there," she says.

Mafuya hails from KwaBhaca – a region encompassing the small towns of the former Transkei homeland such as Mount Frere, Umzimkhulu and the surrounding areas. Armed with her new environmental knowledge, Mafuya gave up her job and started an NGO that focused on the environment and developing the amaBhaca nation.

The right kind of networking

She began by networking. "I started to find NGOs and organisations I could associate myself with," she says. "I met everybody. I met people from the Environment and Endangered Wildlife Trust, from Conservation International and wherever I went I stated my case – who I was, what I wanted to do. And they were all happy to come on board. The way I saw it, it was up to me to make it happen. It was not up to them to make it happen for me."





Mafuya's amaBhaca Development Trust began working in local schools, educating children about alien plants and the health of the river. She also began to work on clearing the black wattle that was choking the river. "We set up task groups of young men to cut and sell the wattle. There were five guys to one tractor, and we taught them how to clear it correctly," she says.

Her next focus was the rangelands for the community's cattle – these were not being managed properly, or allowed to rest. The cattle just ranged wherever they wanted to, and the wattle was also encroaching on the rangelands, which meant they were declining, and the system was just getting weaker and weaker.

She formed a livestock association to manage the land better, and slowly they started to see results: "When we cleared up the wattle, the water started to flow again, and the land was restored so that the cattle could thrive," says Mafuya.

Healthier cattle meant income in the form of a cattle auction, which Mafuya set up for the seven villages she was servicing. There was some initial resistance, but as soon as people saw the prices the cattle were fetching, they started to see the benefits.

Planting indigenous trees

Mafuya also turned her attention to the trees in the area – planting indigenous trees near the river, and replanting the yellow wood forest nearby. "There's an indigenous forest of yellow woods connected to the royal family, but people had

been cutting those down," she says. "The school kids asked if we could replant the trees, and with the replanting of the forest, we are seeing the Cape Parrot returning to the area. But we also wanted to replant the trees because to us they are precious. And they are an important part of the water cycle. So they are putting life back into the community."

As the rivers, lakes, forests and waterfalls were revived, Mafuya realised there was an opportunity for eco-tourism. Conscious of the rich history of the battlefields in the area, she wanted to preserve the land in a way that would uplift the community. "We had revived the rivers, waterfalls and historical lakes, and I wanted to bring people to see the land, see the beauty. I just didn't know how to sell the idea, how I could bring people to the area," she says.

But the answer was right in front of her – in the form of the traditional rondavels people lived in. With the help of the community she set up a museum that tells the story of the amaBhaca in one of them, and found women who would open their homes and provide accommodation to tourists.

The amaBhaca also have a traditional muti ceremony, performed at a

sacred lake, that Mafuya wanted to include as one of the ecotourism attractions. "I thought if we could bring that back, we could really bring the lake alive. So I spoke to the chiefs, and they agreed. And to my amazement, they also agreed to allow people to visit the royal burial sites," she says.

Mafuya trained a youth as a tour guide – he does forest walks and tells the story of the amaBhaca people. Women in the community make and sell reed mats and brooms now that the reeds have returned to the river. All of which means it's not just livestock owners who are earning an income.

These are just some of the developments that have sprung up since Mafuya quit her job and headed home with new vision. Today she not only continues her work through her NGO, but is also an training partner for Avocado Vision, where she trains communities in the area in financial literacy and other enabling life skills.

Many lives have been positively influenced – all because one woman wanted to restore the environment to its former state.



Biological Oceanography

By Gaopalelwe Moroane

Photo by Benedict Mlaba

In this quarter, we speak to Ms Kuhle Hlati who is a Biological Oceanography Technician working in the Department of Environmental Affairs' Oceans Research Chief Directorate. Ms Hlati has been with DEA for five years and says she ventured into marine science because of a fascination she has always had with the oceans space.

What educational requirements do you need in this career?

For any career in natural science, you need Mathematics, Natural Sciences and Biological Sciences at school. Most people pursue a BSc in biological sciences after the national certificate. After obtaining my national certificate,

I studied for a National Diploma and a B-Tech in Nature Conservation through Cape Peninsula University of Technology and an MSc in Zoology through Nelson Mandela University. Once you obtain the higher education certificate in any natural science related field, you have to register with the South African Council for Natural Scientific Profession (SACNASP).

How long have you been working as a Biological Oceanography Technician?

I have been working as a biological oceanography technician for about one year now. But I joined the department in 2014 as intern.

What inspired you to follow this career path?

Growing up in a small village bordering Dwesa-Cwebe Marine Protected Area in the Eastern Cape, I was always fascinated by the ocean and the animals that live in it. But what encouraged me the most to follow this career path was the fact that my village people had very little knowledge about the ocean besides harvesting ocean resources such as mussels and periwinkle. I decided that I wanted to know more about ocean processes so that I can educate and raise awareness in my village.

What are the duties most often and expected of you?

As a technician, my duties include coordinating and participating in research cruises as well as field sampling programmes to collect biological samples using Bongo nets and CTD; Analyse phytoplankton samples using innovative machines such as flow cytometer; Scientific gear and instrumentation maintenance and calibration; Data management and validation.

I stay up-to-date with the work that we do through reading peer-reviewed scientific papers and attending workshops and conferences.

What is the most rewarding and challenging part of your job?

The most rewarding part is knowing that my work contributes to the conservation of natural biodiversity. Also I know that I am making a difference through raising awareness about the environment as a whole.

Would you choose this career if you could make the decision again?

Yes, I would choose this career again and I would also like to be more involved in skills transfer through teaching and training others.

What advice would you give to someone who is interested in pursuing a career as a biological oceanography technician?

Do your research about the different careers within marine science. Figure out your interests and what you are passionate about and align them with the career you want to pursue.



SA to collaborate with African countries in advancing Blue Economy

By Ernest Mulibana



Above: Minister of Transport Dr Blade Nzimande during a panel discussion on valuing the oceans: enhancing coastal marine ecosystem service mapping, assessments, and valuation for sustainable blue economy policies and actions.



Above: South African delegation led by the Minister of Transport Dr Blade Nzimande. The delegation included the Department of Environmental Affairs' Head of Operation Phakisa Oceans Economy Mr Andre Share, High Commissioner to Nairobi Ms Kholeka Mnqulwana and officials from government and state owned entities.

The Minister of Transport Dr Blade Nzimande reiterated South Africa's commitment to 2030 Agenda for Sustainable Development particularly Goal 14 together with accompanying targets to conserve and sustainably use the oceans, seas and marine resources through the Operation Phakisa Oceans Economy initiative.

"It is a commitment we believe in and are willing to defend. We further pledge to work with the Republic of Kenya and other countries in collaborative manner to advance the sustainable blue/ocean economy," he said.

Minister Nzimande was delivering a statement of commitment on behalf of South Africa during the High Level Conference on Sustainable Blue Economy that took place in Nairobi, Kenya.

"South Africa is already actively advancing sustainable ocean economy development, through our programme Operation Phakisa

Ocean Economy to unlock economic opportunities," he said.

Minister Nzimande called on the conference delegates to ensure a greater level of cooperation primarily to advance the interest of Africa and her future sons and daughters, saying that ocean economy must sustain coastal communities and in particular must empower women and youth.

The conference, which brought together over 4000 participants from around the world, aimed to leverage the latest innovations, scientific advances and best practices to build prosperity while conserving water bodies for future generations.

The goal of the conference was to have action-oriented discussions pertaining to a sustainable blue economy strategy that is people-centric, with ocean centric investments. South Africa is providing support to this Conference and will actively be participating in the respective forums and thematic areas.

South Africa held a side event on the margins of the conference where the High Commissioner to Nairobi, Ms Kholeka Mnqulwana together with the Department of Environmental Affairs' Head of Operation Phakisa Oceans Economy Mr Andrea Share, unpacked innovative approaches, progress and highlights in the different focus areas of Operation Phakisa: Oceans Economy.

With over 3900 km coastline and an Exclusive Economic Zone (EEZ) of approximately 1.5 million square kilometres, South Africa's ocean space, which is one of the most varied in the world, is highly productive with rich in biodiversity, providing living and non-living resources that contribute significantly to the country's economy and to job creation. As such, efforts to grow and intensify the oceans economy must also provide the necessary protection to a representative sample of marine ecosystems, thereby ensuring their resilience to human use and impact, and to the impacts associated with climate change.



About the contributor: Ernest Mulibana

Mr Ernest Mulibana serves as a Deputy Director: Media Liaison. He has recently graduated with a Master of Philosophy in Communication Management from the University of Pretoria. He is also one of the Mail and Guardian 200 Young South Africans of the year 2018.

Relief from extreme temperatures

By Mpfunzeni Tshindane



Above: Mr Alfred Rutledge is a local livestock farmer who has benefitted from the SGF by constructing livestock shelters and rainwater harvesting infrastructure.

The Namakwa District Municipality in the Northern Cape Province is one of the hottest, driest and water scarce areas in South Africa. Recent projections indicate that changing climatic conditions will further increase summer temperatures, cause extreme cold temperatures in winter and reduce average rainfall in the District.

The changing climatic conditions have started to negatively impact local subsistence farmers and their livestock. Through the South African National Biodiversity Institute's (SANBI) Small Grants Facility (SGF) project, the local farmers have started adapting to the extreme temperatures by way of climate proofing the different shelters used by the livestock and by the herders.

Working closely with Conservation South Africa, which is the local Facilitating Agency in the District, the Kamiesberg Heritage Foundation (KHF) has started constructing mobile shelters for 35 herders in order to withstand the harsh and sweltering heat that they have to endure when herding their sheep and goats in Kharkams and Steinkopf.

Mamanyuha establishes climate smart garden

By Mpfunzeni Tshindane

Over the past decade, the Mopani District in Limpopo has faced a reduction in agricultural productivity due to extreme temperatures and erratic rainfall. The South African National Biodiversity Institute's (SANBI) Small Grants Facility project is supporting the community members of the Mamanyuha village, just outside the town of Tzaneen, to develop their capacity and ensure food security in the face of changing climates.

SANBI, SouthSouthNorth and CHoiCe Trust have worked closely with the Ramotshinyadi HIV/AIDS Youth Guide, who is one of the Small Grant Recipients in Mopani, in developing and implementing the project. In 2017, the project supported 25 community members from Mamanyuha to establish a 1.2 hectare climate smart food garden. The project also capacitated the community in agro-ecological and conservation agriculture practices, better soil management techniques and climate smart irrigation methods.



Above: Mr Fhatuwani Nemalamangwa from Ramotshinyadi during cabbage harvesting.



About the contributor: Mpfunzeni Tshindane

Mr Mpfunzeni Tshindane is a Project Coordinator for SANBI's Green Climate Fund programme of work under the Climate Funds Division. Mpfunzeni is also responsible for supporting the implementation of the Adaptation Fund's Small Grants Facility project in the Mopani and Namakwa District.

Climate Change impacts on nutrition

By Fhatuwani Mulaudzi

Climate change does not only affect the poor, but also impacts highly on human health. According to an article that was published on Scientific American by Katherine Harmon on 23 July 2010, everyone in this world contributes to climate change, one way or the other. There are activities that people do which contribute to an increase of greenhouse gas emissions that cause climate change, such as agriculture and deforestation.

People still confuse climate change and weather patterns, they are not aware that climate change, comes due to the behaviour of the atmosphere that has been happening for a long period of time. However, weather is about something that constantly changes from day to day. Climate change affects people differently, depending on their age, gender, geographic, and socioeconomic status.

Natural disasters such as floods, droughts, and heat waves, are the contributing factors to human health problems.

Floods do not only damage property, they also destroy crops, and contribute to loss of livestock.

The Chief Agricultural Food and Quarantine Technician at the Department of Agriculture, Forestry and Fisheries, Mr Khuliso Mulaudzi said, what happens to vegetables/crops that grow in hotter conditions, depends on the type of crops you are intending to plant. "Mistakenly growing a crop at a wrong environment and season, might lead you to harvest less crop or even getting zero yield due to the hotter condition," he said.

Mulaudzi said one must do proper studies and research about the environment before planting, in order to have healthier crops that will not make people sick. "There is a rise in poverty, and food production is one of the main sources that we depend on for food stability," he said. Poor rainfall and heat waves have impacted a lot of backyard gardens from the rural areas negatively.

Ms Rialivhuwa Mashau, who has her own substantial farm in Venda, Limpopo, said during the summer she is able to grow okra, tomatoes, butternut and spinach, and in winter she is only able to grow cabbage and onions. "All these crops require a lot of water, so I use borehole water since we do not have running water due to poor rainfall in our province". She also said that she uses drip irrigation to water her crops. "I used to grow beetroot and chili pepper, but they require more water hence I no longer grow them now," she said.

When rain was sufficient, people grew their own crops in their private gardens. With ever changing climates, crops will no longer grow the same. The gas emissions that are destroying the climate cause acidic rains, implicating the growth and nutrition of crops. Malnutrition will be on the rise due and this will in turn have a negative impact on children who depend on good nutrition for optimal growth.



About the contributor: Fhatuwani Mulaudzi

Ms Fhatuwani Mulaudzi is a Media Liaison intern at the Department of Environmental Affairs. She studied Journalism at Tshwane University of Technology, and has a passion for writing. She started writing for community newspapers when she was still studying.

SA participates in Targeted Topics Forum in Zanzibar

By Veronica Mahlaba



Above: Delegates from various developing countries participated in the Targeted Topics Forum in Zanzibar, Tanzania.

South Africa was privileged to be part of the Targeted Topics Forum (TTF), co-hosted by the National Adaptation Plan (NAP) Global Network and the government of the United Republic of Tanzania. The forum aimed at supporting developing countries in developing and implementing the National Adaptation Plans. The workshop took place from 12-15 February 2019 in Zanzibar, Tanzania.

The international workshop focused on troubleshooting for NAP implementation, and building support for the NAP process through strategic communications. The general objectives of the TTF was to identify opportunities for strategic communications to build support for the NAP process, including developing key messages and identifying priority communications channels through which to engage audiences.

In his opening speech the Minister of State, Second Vice President Office, Honourable Mohamed About Mohamed stated that climate change is a threat which every country in the world is faced with today. Extreme weather phenomena do not differentiate between rich nations and poor nations, or big countries and tiny islands. Massive floods and cyclones, forest fires, endless drought periods, falling water tables, sea level rise, increased sea surface temperatures, ocean acidification, erratic rainfalls, all these play havoc with lives and livelihoods everywhere.

"The urgency of tackling the prevailing climate impacts is at its most critical. Robust National Adaptation Planning processes are essential for countries to achieve their

medium- and long-term goals to build their resilience to climate change impacts," Honourable Mohamed About said.

He further elaborated that the level of knowledge gap that exists in our understanding of climate, disaster risk and sustainable development, is immense. "Without proper capacity building mechanism that provides our countries with tools that support the transition to a climate resilient world, our regions will always face the challenge of finding and sharing effective ways to combat climate change and achieve Sustainable Development Goals and Disaster Risk Reduction Targets."

The Department of Environmental Affairs' Director: Climate Change Adaptation-Natural Resources, Mr Mbanjwa said the Department is in the process of finalising and gazetting its national adaptation plan, and one of the key strategic interventions which need to be done is to develop the communication plan for the national adaptation strategy to promote awareness of the strategy and get buying from various partners and stakeholders. Also it will create a communication platform for sharing and supporting each other in implementing the National Climate Change Adaptation Strategy.

The international workshop had participants from Benin, Cambodia, Canada, Colombia, Fiji, Germany, Kiribati, Madagascar, Malawi, Mexico, Peru, Singapore, South Africa, Switzerland, Thailand, Tuvalu, United Kingdom, and the United Republic of Tanzania.



About the contributor: Veronica Mahlaba

Ms Veronica Mahlaba is the Senior Communication Officer: Editorial Services at the national Department of Environmental Affairs, serving under the Communications Chief Directorate. Ms Mahlaba has experience as a Lecturer in the Media Studies Department at a private college. She has worked as writer for a metropolitan municipality and she is a keen photographer.

DEA urges learners to protect and conserve wetlands

By Veronica Mahlaba



Above: Lotlamoeng Primary School walked away with R25 000 cash.



Above: Second runner-up, Bosworth Primary School doing a presentation on the impacts of climate change.

The Department of Environmental Affairs (DEA) celebrated World Wetlands Day in North West and Mpumalanga by urging school learners to participate in a wetland awareness competition during the month of February. World Wetlands Day 2019 was celebrated under the theme: Wetlands and Climate Change. The ultimate objective of the campaign was to heighten education and raise public awareness on the value of wetlands and their vital contribution to human wellness.

DEA's Acting Chief Director: Biodiversity Planning and Management, Mr Barney Kgope said South Africa is a water scarce country, and the water in many streams is polluted. Both droughts and floods are common. Wetlands play a vital role by removing toxic substances and sediment from water, while also improving downstream water quality and the overall health of communities.

"The recent National Biodiversity Assessment indicates that wetlands are the most threatened ecosystems globally, despite the services they provide. Wetlands in South Africa have enormous economic, social, cultural and environmental benefits. It is however sad to note that, to date, we have lost an estimated 50% of wetlands in South Africa due to unsustainable use and poor land management," said Mr Kgope.

Mr Kgope further said it is for this reason that governments, non-governmental organisations, civil society at large, communities and other stakeholders, engage in various activities with an aim to educate and raise awareness about the values, wise use and importance of wetlands. "The ultimate objective is to protect and conserve wetlands for the benefit of current and future generations," he said.

The DEA collaborated with the North West provincial Department of Rural, Environment and Agricultural Development, Department of Education, Ngaka Modiri District Municipality as well as North West Parks Board. While in the Mpumalanga province the DEA collaborated with Department of Agriculture, Rural Development, Land and Environmental Affairs, Department of Education and Ehlanzeni District Municipality.

The principal of Lotlamoeng Primary School which was the overall winner in North West, Mr Bontsi Rasephehi expressed joy and thanked DEA for motivating the teachers and pushing the learners.

Given the strategic importance of wetlands, the DEA runs the Working for Wetlands Programme which is implemented through the government's Expanded Public Works Programme methodology.

The programme focuses on rehabilitation, restoration maintenance and protection interventions to ensure healthy wetlands.

Through the DEA's investment under the Working for Wetlands programme has improved and secured the health of more than 80 000 hectares of wetland area, while providing 17575 employment opportunities.

Working for Wetlands has also provided 180 753 days of training in both vocational and life skills. Teams that form part of the Programme are made up of a minimum of 60% women, 20% youth and 2% people with disabilities.

The top three schools that were selected in each province based on their presentation and poster were the following:

North West

1. Lotlamoeng Primary School – R25 000
2. Thibogang Primary School – R15 000
3. Bosworth Primary School – R10 000

Mpumalanga

1. Bukhosibefu Primary School – R25 000
2. Lugedlane Primary School – R15 000
3. Phakane Primary School – R10 000

WORLD WETLANDS DAY - 2 FEBRUARY

What is a Wetland?

Not all land that is wet is a wetland. Wetlands are areas such as swamps and marshes, where water saturates the soil, and conditions are favourable to plants which are adapted to anaerobic (low oxygen) soil conditions. Wetlands are important for the ecosystem as they provide a number of benefits, not only to the natural environment, but also to our livelihoods. In urban areas, wetlands improve water quality and serve as reservoirs, containing run-offs from roads, drains, roofs and storm water drains. Wetlands also help to reduce and prevent urban flooding.

Working for Wetlands

Through the Working for Wetlands programme, government invested more than R1 billion in the rehabilitation of 1 360 wetlands countrywide between 2004 and 2017. This has improved or secured the health of more than 64 000 hectares of wetland area, and provided 27 000 employment opportunities.

Wetlands: The Key to coping with climate change

We are not powerless against climate change

Climate change is one of the most pressing problems facing humanity and our planet. The theme for 2019 Wetlands and Climate Change draws attention to the vital role of wetlands as a natural solution to cope with climate change.

Wetlands are a natural solution

The frequency of disasters worldwide has more than doubled in just 35 years, and 90% of these disasters are water-related. Even more extreme weather is predicted going forward. Wetlands play a significant role in stabilizing GHG emissions and blunting the impacts of climate change.

Wetlands buffer coastlines from extreme weather

Coastal wetlands such as salt marshes, mangroves, seagrass beds, and coral reefs act like shock absorbers. They reduce the intensity of waves, storm surges, and tsunamis, shielding the 60% of humanity who lives and works along coastlines from flooding, property damage and loss of life.

Wetlands reduce floods and relieve droughts

Inland wetlands such as flood plains, rivers, lakes and swamps function like sponges, absorbing and storing excess rainfall and reducing flood surges. During dry seasons in arid climates, wetlands release stored water, delaying the onset of droughts and minimizing water shortages.

We must not drain our wetlands

When drained or burned for agriculture (as wetlands often are) they go from being a carbon sink to a carbon source, releasing into the atmosphere centuries of stored carbon. CO₂ emissions from drained and burned peatlands equate to 10% of all annual fossil fuel emissions.

We must conserve and restore our wetlands

Strategies that address climate change must include the wise use of wetlands. We've already lost 35% since 1970. Individuals, communities and governments must work together to protect these amazing ecosystems, which help us prepare for, cope with and bounce back from the impacts of climate change.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



World
Wetlands Day
2 February 2019
Wetlands and climate change



Early start for fire season in the Western Cape

By Siziphiwe Maxengana

Photos by Lauren Howard and Nandi Mgwadlamba

The fire season came early in the Western Cape as multiple fires erupted in the Garden Route during late October and early November 2018. According to the Department of Environmental Affairs' Working on Fire (WoF) programme, the fire season in the Western Cape usually starts during the month of December to the month of April. However, on the 29th of November 2018 multiple fires started from the mountains close to Katarata and spread through to Farleigh community, leaving 179 people homeless.

The Western Cape Province is one of the provinces that face large amounts of fire outbreaks due to the ongoing drought and lack of water supply that the province faced during the winter season of 2018. As a result, the issue of dry land combined with the weather conditions plays a significant role in igniting most fires during fire season. Invasive alien plants also pose a significant risk in these dry conditions as they are known to burn at very high temperatures, and when fuelled by strong winds and hot weather conditions, they may cause significant ecological damage for years to come. This may also prevent regrowth on the natural indigenous vegetation. Some of the biggest issues that fire-fighters face when fighting vegetation and structural fires during the fire season is that fires are now moving faster and hotter, making it difficult for role players to combat the fires in a short period of time to lessen the impact they may have on communities or mountainous area.

The Working on Fire programme in the Western Cape has 700 fire-fighters stationed at 27 bases available to provide support to provincial, district and local fire authorities. An addition of 500 fire-fighters are on national standby to be deployed to the Western Cape, should there be a need. Currently about 100 fire-fighters from the Free State have already been on deployment in the Western Cape since December 2018.

In November 2018, DEA officials from the Western Cape, Northern Cape and Pretoria lent a helping hand to the fire victims from the Garden Route as they donated large amounts of household items that they no longer used. The donations included clothes, canned food and various kitchenware items. The delivery of the donations was led by Mr Quinton De Swartz and Mr Joseph Bruintjies from the Directorate: Operations National Programmes, on the 26 November 2018 and it was made to the Wilderness Community, in the Southern Cape.

The donations are handled by the Honorary Rangers from Wilderness and will then be distributed to the victims. According to the Regional Communications Manager from SANParks, Ms Nandi Mgwadlamba, the victims have received a large amount of clothing donations and are now in desperate need of more items such as household appliances, non-perishable food, furniture, bedding, etc. Monetary donations are also accepted.

DEA urges communities to be more alert during this fire season and should refrain from starting unnecessary fires, particularly during windy days this summer. WoF advises people to cut down overhanging tree branches that are close to their properties, and also clean leaves from gutters as they also pose a fire risk.



Above: WoF fire-fighters that were deployed to the Western Cape.



About the contributor: Siziphiwe Maxengana

Ms Siziphiwe Maxengana is an intern: Internal and External Communication in the Directorate: Communication Services in Cape Town. She holds a BA Communications Management Degree and has passion for writing.

Life below water

By Millicent Makoala



Above: A nesting Loggerhead turtle (*Caretta caretta*).



Above: Southern right whale with albino calf. South Africa has been identified as one of the top destinations worldwide for watching whales and dolphins.

The Department of Environmental Affairs joins the world in celebrating World Wildlife Day. This year's focus is on marine wildlife, with the theme: Life below water: For people and planet. South Africa is a maritime nation spanning across three oceans, namely the Atlantic, the Indian and the Southern oceans. South Africa's coastline is about 4000km in length, including the country's sovereign possessions, the sub-Antarctic Prince Edward and Marion Islands (collectively known as the Prince Edward Islands).

South Africa has jurisdiction over one of the largest exclusive economic zones (EEZ) in the world. The current mainland EEZ is 1 553 000km² with an additional EEZ of 1 108 000km² surrounding the Prince Edwards Islands. This is much larger than the terrestrial part of the country's jurisdiction - 1 200 000km².

South Africa's marine environment, is known for its high productivity. It provides the country with essential ecosystem services including direct benefits such as fish production, minerals and energy that contribute significantly to the country's GDP, and also provides less obvious ecosystem services such as climate regulation, carbon storage and waste absorption. There is also a growing marine tourism industry in South Africa that attracts international visitors and is largely dependent on marine wildlife. Activities include visiting penguin colonies, shore- or boat based whale watching, shark-cage diving and swimming with seals.

“South Africa's coastline is about 4000km in length, including the country's sovereign possessions in the Southern Ocean.”

Some seabird species such as the African penguin are highly sensitive to ecosystem changes that affect the availability of their prey, and as such can provide useful ecological indicators of changes in ecosystem condition, or in the strength of fish stocks that are also commercially exploited.

The increasing presence of plastics in the ocean not only threatens ocean health but numerous marine wildlife species in several ways. Various marine species are known to have suffered from entanglement or ingestion of marine debris, including seabirds, turtles, seals, sharks and fish. Furthermore, as plastics break down into smaller fragments over time, they can be ingested by shellfish and other organisms or may accumulate in marine sediment. These fragments have the potential to spread throughout the food web as animals consume each other. Plastic litter is therefore as much a threat to biodiversity as it is a pollution threat.



About the contributor: Millicent Makoala

Ms Millicent Makoala is a Control Environmental Officer for the Directorate: Oceans Conservation Strategies. She studied Nature Conservation at NMMU. She has a Master's Degree in Environmental Management from Stellenbosch University.

Working Group reports important for developing countries

By Salome Tsoka



Above: More than 250 authors from over 60 countries worked together on the IPCC Working Group II Sixth Assessment Report at the Durban ICC.



Above: IPCC Chair, Dr Hoesung Lee welcomes authors to the first lead author meeting in South Africa.

The Department of Environmental Affairs hosted the Intergovernmental Panel on Climate Change (IPCC) Working Group Two (WGII) Sixth Assessment Report (AR6) Lead Author Meeting at the Durban International Convention Centre on 20-25 January 2019. Deputy Director-General: Climate Change, Air Quality and Sustainable Development, Dr Tsakani Ngomane, highlighted that the IPCC reports were very important for developing countries like South Africa.

Speaking on behalf of the Minister of Environmental Affairs, Ms Nomvula Mokonyane, Dr Ngomane said the IPCC's Special Report on Global Warming of 1.5 °C (SR1.5) identified Southern Africa as a climate change hot-spot and indicated that the findings from AR6 were very important for the country.

"The report clearly indicates that under 2 °C of global warming substantial increases in heat-waves, high fire-danger days and more frequent drought are likely in southern Africa. This will impact on our agriculture and water security, and constrain economic growth."

"For us living in the developing world, where climate change vulnerability is relatively high and adaptive capacity is relatively low, the findings from WGII

will be of the utmost importance," she said.

Also speaking at the event, IPCC Chair, Dr Hoesung Lee said the lead author meeting was a very important element for IPCC.

"This first meeting marks the beginning of a very inclusive process. Our report will be powerful and relevant. The IPCC assessments in the last 30 years have been very instrumental in recognizing importance of cutting emissions to reduce global warming and in the development of a global climate change policy," he said.

Dr Lee said that it was important that this first meeting was taking place on the African continent and he emphasised the need for more young scientists from the continent to be more involved.

With more than 250 authors from over 60 countries working together on AR6, the report will look at the impacts of climate change on natural and human systems and their vulnerabilities.

Dr Ngomane stressed the importance of collaborative efforts between the working groups in creating detailed assessments for policy makers.

"What policy makers need are detailed regional assessments of climate change impacts on

agriculture, water security, energy demand, human health and biodiversity."

"Moreover, it is essential for this information to be further quantified in terms of quantitative assessments of the economic impacts of climate change. I refer primarily to the impacts of climate change on economic growth, which SR1.5 has qualitatively assessed to be the largest in developing countries in the tropics and Southern Hemisphere subtropics. It is also important to quantify the costs that climate change mitigation may have on the economies of developing countries," she said.

The report, along with contributions from the other two IPCC Working Groups, will be finalized in 2021 and be synthesized along with other contributions and work done by the three working group contributions and other IPCC products to complete AR6.

This report will come just before the first global stocktake in 2023 by United Nations Framework Convention on Climate Change when countries will review progress under the Paris Agreement towards their goal of keeping global warming below 2°C while pursuing efforts to limit it to 1.5°C.

Education and training to address youth unemployment

By Carina Malherbe and Nomvuyo Mlotshwa



Above: Graduation ceremony for Youth Environmental Services students.



Above: Ms Nelisiwe Msibi from the office of the Deputy Minister of Environmental Affairs spoke during the ceremony.

The Youth Empowerment Programme implemented by the Environmental Protection and Infrastructure Programmes of the Department of Environmental Affairs seeks to assist youth to become more employable through providing employer-centric skills training. It offers skills development based on the national list of occupations in high demand as published by the Department of Higher Education and Training.

Research shows that a number of occupations within the environmental sphere such as environmental education managers, botanists, biologists, zoologists, environmental impact and restoration analysts are in highest demand. In an effort to elevate these much needed environmental skills EPIP enroll students on these fields through Youth Environmental Services (YES).

In November 2018, 120 youth from around Gauteng graduated with the

University of South Africa in completion of the 12 months Recycling and Entrepreneurship certificate. The graduates completed five modules namely: risks and responses, action to address an environmental issue, environmental education as a community awareness tool, development of an original environmental learning programme and workplace evidence collection.

In greater efforts to boost career opportunities YES students also received non-accredited training interventions such as open space greening, career guidance, CV writing, presentation skills and motivational speaking. The programme used emerging enterprises in providing services such as transportation, protective clothing, catering, working tools, planting of indigenous trees as well as training facilitators.

Alluding to the programme Mr Malusi Vatsha, CEO of Delta Environmental Centre said, "through YES one student was able to start a small recycling business, and five students have found other employment".

Moreover, seventy of the best performing students were given an opportunity to apply for the second year enrolment of their diploma, while four students opted to venture into other fields of study.

"Through YES one student was able to start a small recycling business, and five students have found other employment".

About the contributors: Carina Malherbe and Nomvuyo Mlotshwa

Ms Carina Malherbe is the Director of the Environmental Sector Advocacy and Coordination (ESAC) in the Environmental Programmes Branch. Ms Malherbe joined the Department in 2006. The ESAC directorate coordinates the subcommittee or working group to the technical committee (MinTech) that informs the Minister and MECs on technical matters associated with policy implementation on environmental sector job creation (Working Group 6).

Ms Nomvuyo Mlotshwa is the Assistant Director: Programme Publicity and Liaison. She is responsible for managing and promoting the brand of the Environmental Protection and Infrastructure Programmes. She is passionate about community outreach and stakeholder liaison.

DEA showcases successful waste management project

By Seipati Sentle

Photos by Madimetja Mogotlane



From right to left: Acting Mayor of Elias Motsoaledi Municipal, Mrs Samaria Mashilo (second from left) accompanies by councillors and members of the media at the landfill site.



Above: The state of the art waste processor at the Hlogotlou waste management area helps to restore and process waste.

The Department of Environmental Affairs (DEA) continues to contribute to poverty alleviation by empowering the youth, women and broader communities in rural areas through its Environmental Protection and Infrastructure Programmes (EPIP).

Recently, in the area of Elias Motsoaledi Municipality in Groblersdal, a state of the art waste processor was installed at the Hlogotlou waste centre. According to experts, this state of the art 1.8 ton waste processor can carry waste amounting to 8 tons, is mainly found in affluent cities.

To date, in Mpumalanga and Limpopo provinces, the Department has spent a total of R65 million in order for communities to build accommodation lodges, develop and implement processes and systems for the efficient and effective administration of the Department's authorization of waste management activities, and to ensure reduced releases of hazardous waste streams into the environment that contaminates land is remediated.

The Elias Motsoaledi Municipal project, which was funded at a cost of R20 million, offers the most cost effective way to dispose waste within the community and will help to reduce the emergence of illegal dumping sites that can have a hazardous impact to the community. The landfill site will modernize the way in which waste is disposed and eliminate any health

hazards that are caused by illegal dumping sites. This landfill site further reduces the likelihood of land damage (contamination) that can be caused by illegal dumping sites, whereby the land therefore can be utilized to benefit the community (Agricultural use) such as planting vegetables.

The project, which was implemented in accordance with the requirements of government's Expanded Public Works Programmes (EPWP), hired a total of 136 participants, of whom 91 were women, 61 youth and 3 people living with disabilities. These beneficiaries were also trained and acquired skills in different areas including First Aid, Occupational Health and Safety, Environmental Awareness and Sustainable Tourism. This is after DEA realised the need to protect very important environmental assets for the wellbeing of the current and future generations in communities.

The Elias Motsoaledi projects entailed upgrading of the Groblersdal landfill site, installation of flood lights, demolition of existing old buildings, construction of a guard house, construction of septic tank and French drain, recycling of waste products, the upgrading of the Hlogotlou waste transfer station by construction of a new guard house, erection of a concrete palisade fence, paving and kerbing for roads, planting of tress, purchasing of a Ride-on Grass cutting machine, purchasing of 5 compactor refuse containers, waste collection and recycling.



About the contributor: Seipati Sentle

Ms Seipati Sentle is a Communications Specialist for the Department of Environmental Affairs.



SOS - SAVE OUR SEAS!



LESS LITTER ... MORE BIODIVERSITY

ALL THE VARIETY AMONGST THE PLANTS AND ANIMALS IS CALLED THE **BIODIVERSITY** OF AN AREA. RIVERS, ESTUARIES AND THE OCEAN HAVE A LOT OF BIODIVERSITY - WHICH MEANS THERE ARE A LOT OF DIFFERENT PLANTS AND ANIMALS. **POLLUTION** - SUCH AS LITTER - KILLS PLANTS AND ANIMALS, WHICH MEANS **LESS BIODIVERSITY**.



An **estuary** is where a river empties into the sea and where the salt water from the sea mixes with the fresh water from the river.



Umfolozi Sugar Planters Limited vs iSimangaliso Wetland Park Authority

Photos by The Zulu Land Observer



Above: Restoration of the St Lucia Estuary



Above: St Lucia Estuary.

Since 1915, the Umfolozi river, which flows naturally into the St Lucia Estuary and forms part of the iSimangaliso Wetland Park (currently managed by iSimangaliso Wetland Park Authority, has been canalised and diverted by farms on the floodplain, changing the natural course of the river. During dry periods, seawater flowed unimpeded into the lake, resulting in increased salinity levels, adversely impacting the lake ecosystem. To remedy this situation, iSimangaliso published and implemented a Background Information Document (“BID”) containing a management strategy, which recognised that back flooding of some of the low lying sugar cane farms might occur as a consequence of not artificially breaching the mouth, but that this was unavoidable as those farms were situated within the estuarine functional area.

Rainfall in late March and early April 2015 caused a rise in the levels of the Umfolozi River, resulting in back flooding of the farms of Umfolozi Sugar Planters Limited. The appellants approached the Kwazulu-Natal Division of the High Court, Durban on 6 August 2015 to direct iSimangaliso to open or to allow Umfolozi Sugar Planters to open the estuary to drain down current flooding levels and to prevent further back flooding. The parties subsequently agreed that iSimangaliso will breach the Umfolozi River Mouth to the sea to drain down backflooding on Umfolozi Sugar Planters’ farmland. Despite this agreement, the appellants brought two further urgent applications in December 2015 and March 2016 alleging that iSimangaliso was in contempt of this court order. The following relief were sought (amongst others):

Prayer 1: That the process of developing the estuarine management plan proceeds according to the timetable set out by iSimangaliso in its affidavit of 6 May 2016;

Prayer 2: That, in developing the estuarine management plan and in taking environmental decisions, iSimangaliso is directed to take account of its obligation to prevent and drain down backflooding on the applicants’ farmland;

Prayer 3: That, pending the finalisation of the estuarine management plan the interim order of 15 October 2015 remains in place; and

Prayer 4: That it is declared that iSimangaliso is in contempt of the court order dated 15 October 2015 in that it failed in respect of both the 16 December 2015 and 13 March 2016 trigger events to “breach the Mfolozi River Mouth to the sea to drain down backflooding on the applicants’ farmland whenever the cotca[n]e level reaches 1.2.m.s.l” and failed to establish the breach within 24 hours of being notified of the level by the first applicant.

The High Court dismissed these applications on 21 April 2017 and discharged the interim relief as set out in the order made by agreement on 15 October 2015. Subsequently the Appellants approached the Supreme Court of Appeal (SCA).

The Court dismissed the appeal. The facts demonstrate that at all stages in the research, formulation and implementation of the management strategy the appellants were consulted and they raised no objection. The unchallenged findings of the court a quo was that iSimangaliso was not the cause of the back flooding. In that regard, the High Court was willing to accept that back flooding on a floodplain is a natural process. The SCA confirmed that the appellants’ properties are in a floodplain, within an estuarine functional zone and slumping.

With regards to prayer 2, the Court did not grant the relief due to the fact that it was indeterminate, open ended and irredeemably vague, amongst others. iSimangaliso has to know not just where its obligations start and end, but also what it is obliged by an order of court to do. The SCA referred specifically to “environmental decisions” as being vague, and whether or not this prayer only pertains to the St Lucia Estuary, or beyond. With regards to prayer 3 the Court held that this interim relief was dependent upon the grant of the declaratory order under prayer 2. The declaratory relief of prayer 2 having failed, the interim order sought under prayer 3, likewise failed.

Vox Pops

DEA staff members

Do you think community clean-up campaigns are effective in addressing the issue of littering and pollution?



1. Ms Daisy Kotsedi

Ocean Conservation Strategies

My answer is two-fold, yes and no. Firstly, I would say yes in a sense that the clean-up campaigns are creating awareness on the impacts that anthropogenic factors have on our natural resources and biodiversity. By changing the mind-sets of communities, they will most likely contribute positively to the campaigns because once they know of the impacts of pollution, they would be able to make informed decisions.

Secondly, no, because based on Maslow's hierarchy of needs it is stated that the most basic level of needs must be met before the individual can strongly desire the secondary or higher level needs. Therefore, if the campaigns are conducted in areas where the communities are impoverished and

unemployed, and whose primary focus is to obtain employment that would provide for their needs, the campaigns might not have much of a positive impact on bettering the lives of those communities and creating awareness on the effects of pollution. So maybe the campaigns should include elements of upskilling the communities and assist in creating employment, things that are long-lasting and which most communities really need.



2. Mr Moses Ramakulukusha

Ocean Conservation Strategies

Community clean up campaigns are good in that they are one of the ways in which members of the public can become aware and knowledgeable of the potential negative impacts of littering and pollution in their surroundings and as a result

change their attitude and behavior.

However, clean up campaigns alone are not good enough to fully address the issues of littering and pollution in the absence of services such as garbage collection and related infrastructures such as dustbins and drop-off centers. In order for clean-up campaigns to be fully effective there must be supporting infrastructure and services.



3. Ms Asemahle Vumazonke

Employee Development

I think that community clean-up campaign are a good way of addressing the issue of littering and pollution especially in the congested poor communities. While the waste in these communities is collected regularly, much of it end up in the streets and in rivers because there are so many people living these communities, and thus, there is a lot of waste.

The clean-up campaigns are a great way of showing initiative to the public by demonstrating that cleaning up the environment is not just the government duty, but is everyone's responsibility.



4. Mr Mokete Rakgogo
Appeals and Legal Review

I am of the view that the awareness campaigns assist to educate and encourage the community to keep the environment clean in the interest of a healthier life. It goes without saying that every person needs clean water to drink, clean air to breathe and beautiful land for mental health. It is against this background that I believe the community at large must be educated about the disposal of waste in a way that keeps the environment clean for the general well-being of the society.

Vox Pops continued

Members of the public



1. Ms Amdemichael Mulugeta

Community clean-up campaigns are one of the tools that help to get the message of pollution across to communities. However, I believe that in order for them to be effective there should be other tools used to back them up. For instance, these clean-ups are mostly done in disadvantaged areas at a time, with high rate of unemployment. I don't think that unemployed people want to be told to clean their areas without even getting remunerated for it.

I think it would be more effective if a programme or initiative is implemented, where by people are employed to do clean-ups in their communities on a daily basis like the EPWP programme, and not only rely on the municipalities to take care of the garbage. That way people will be employed and communities will be clean.



2. Ms Natasha Smith

I don't think that the government is doing enough to clean the country because they only focus on the upper class areas. If you go to areas, such as, Mitchells Plain, Phillipi, Nyanga, Delft, and surrounding areas, the level of pollution there is deplorable. I think if the government starts to focus more on all areas of society and not just the rich people areas, they will achieve much more result.

The reality is that we never dismantled the oppressive system of the . The patterns of enrichment and impoverishment are still the same. This, I believe has undesirable effects such as lack of will to invest more resources in community cleaning awareness. The other reason is perhaps, the hierarchy of government priorities in townships.

I also believe that the government can use the high level of pollution in the poor areas to create jobs or some form of income for people living there, because many of the people employed to clean the environment are deployed to the upper class or rich areas.



3. Mr Muvhumbi Muthige

Yes, we need to respect the environment in order for it to be good to us. However, I think it would be more viable for the government to hire the youth from communities to do the clean-ups regularly as we are facing such high unemployment rates in the country



5. Mr Siphumeze Mrweiyana

The idea of community clean-up campaigns does have a positive impact on communities as it creates awareness of the negative effects that pollution has to the people who weren't previously aware. However, I do not think that clean-ups alone are effective.



4. Ms Beverley Badenhorsts

They are definitely effective. If we didn't do them the country would be in a mess. If people are coming together to clean no one will want to litter and they will be aware of the negatives of littering in the country. It would also be nice to have tourists come here and see our country clean. You want to be proud of showing off your country.



6. Ms Marilize Lewis

The community cleanup are effective as they prevent the spread of germs because of the waste. Our surroundings are important as we inhale and exhale oxygen. Clean air is important for our health. We can't stay in a filthy environment for these various reason.



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