

Environment Quarterly

Zebhodulumo ngekota yonyaka • Temvelo ngekota yemnyaka • Mupo nga Kotara

**SA taps into an ocean of
economic opportunities**

**Unlocking marine
biodiversity knowledge in SA**

**Carbon Footprint: You cannot
manage what you cannot measure**



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



2014

environment CALENDAR



January

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2 February:

World Wetlands Day

22 March:

World Water Day

23 March:

World Meteorological Day

26 March:

Earth Hour

7 April:

World Habitat Day

22 April:

Earth Day

9 May:

World Migratory Bird Day

22 May:

International Biodiversity Day

5 June:

World Environment Day

8 June:

World Oceans' Day

17 June:

World Day to Combat Desertification

24 June:

Day of the Sea Farer

11 July:

World Population Day

18 July:

Nelson Mandela Day

1 September:

National Harbour Day

16 September

World Ozone Day

22 September

World Rhino Day

7 October:

World Habitat Day

21 November

World Fisheries Day

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Dear Valued Stakeholder

The Department of Environmental Affairs is proud to bring you the first edition of Environment Quarterly for the 2014/15 financial year. This is also the first edition under our new leadership. We welcome Minister Edna Molewa, this time with Environmental Affairs as her sole portfolio and Deputy Minister Barbara Thompson to the Department of Environmental Affairs.

This edition follows South Africa's successful hosting of the 11th Conference of the Parties (CoP 11) to the Abidjan Convention in Cape Town. The Department of Environmental Affairs used this conference as a platform to advocate for blue economic growth.

South Africa's 3650km coastline supports 40% of citizens along the coast and it is believed that our oceans contain enormous economic potential.

South Africa has already signed a Green Economy Accord, promising the country 300 000 green jobs by 2020 and the development of a strategy for our blue economy is well underway. This strategy will enable government to sustainably harness the abundant resources of the ocean and coastal domain.

This year saw the inaugural celebration of World Wildlife Day at the Kruger National Park. The United Nations General Assembly on 20 December 2013 adopted a resolution marking 3 March a day on which we celebrate the many beautiful and varied forms of fauna and flora. The celebration, which saw a gathering of around 500 people, including chiefs, community members and school children was an opportunity to recall the privileged interactions between wildlife and communities in South Africa, and worldwide.

We continue in our efforts to curb rhino poaching. Minister Molewa engaged international counterparts to fight the growing scourge in rhino poaching. In March 2014, Minister Molewa met with the Mozambican Ministry of Tourism to sign a Memorandum of Understanding ensuring the survival of the rhino species. Mozambique is a key strategic partner for South Africa within the SADC region.

It is within this context that South Africa recognised the need to engage with Mozambique on wildlife management. This is particularly with respect to addressing the scourge of rhino poaching within the Great Limpopo Transfrontier Park (GLTP).

In this edition, you can also look forward to a look ahead at the annual national celebration of Environment Month. The month of June, with an action packed environmental calendar, enjoys heightened awareness on environmental issues. This year's celebration of World Environment Day emphasizes the vulnerability of the country's coastal communities to climate change. It is estimated that climate change may reduce the value of South Africa's fisheries by up to 18%. Furthermore, a rise in sea levels will result in, amongst others, damage to coastal areas, increased erosion and flooding.

You can also look forward to an article on how to manage your carbon footprint and one on how to calculate your carbon emissions. This edition also includes the regular vox pops. We asked staff and members of the public what they understood the blue economy to mean. The editorial team hopes that you will enjoy and learn something new from this edition.

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Meet our team

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

INTERNATIONAL DAY FOR BIODIVERSITY

ISLAND BIODIVERSITY

22 May 2014

Celebrating 20 years of island biodiversity protection



Islands and their surrounding near-shore marine areas constitute unique ecosystems often comprising many plant and animal species that are endemic and found nowhere else on Earth. They also play a key role in supporting livelihoods, economy, well-being and cultural identity of island inhabitants.

South Africa, through the Department of Environmental Affairs (DEA), recently proclaimed the Prince Edward Islands as a Marine Protected Area (MPA). The Prince Edward Islands MPA is South Africa's first offshore Marine Protected Area, but also the seventh largest MPA in the world. The Prince Edward Islands MPA will strengthen the protection of the unique and fragile marine biodiversity of the islands.

This country also conducts scientific researches in the Antarctic, Marion and Gough Islands. The DEA is responsible for the day-to-day management and logistical support of the South African research bases in these islands.



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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



Convention on
Biological Diversity



South Africa taps into an ocean of economic opportunities

By Tshego Letshwiti



The Blue economy seeks to unlock economic potential in South Africa's oceans.

Oceans cover a vast area of the earth and often remain an unexplored commodity bursting with economic potential. Exploring the economic potential of the ocean is an important factor to consider when it comes to developing a sustainable blue economy. South Africa, through the Department of Environmental Affairs (DEA), hosted the 11th Conference of Parties (COP11) to the Abidjan Convention on 17 - 21 March at the Cape Town International Convention Centre. The Convention was held under the theme: **Promoting Blue Growth in Africa: Towards Sustainable Management of Marine Resources.**

Delivering the opening remarks on behalf of the Minister of Environmental Affairs, Mrs Edna Molewa, DEA Director-General, Ms Nosipho Ngcaba highlighted the relevance and importance of blue

The Abidjan coastline

The coastline covered by the Abidjan Convention is over 14 000 km long covering 22 countries of Southern, Western, and Central Africa (from Mauritania to South Africa), and has three distinct Large Marine Ecosystems; the Benguela, Guinea and the Canary currents

economic growth on the African continent, particularly within the coastal African states. She told the delegates that, "as African countries we are united and committed to address the myriad of challenges facing our beloved continent – poverty, under development, environmental degradation are but some of these challenges. We have also made tremendous strides in putting in

place legislative regimes and national and regional programmes to address these challenges."

The Abidjan Convention is of great value to its various member countries and provides many opportunities, if the countries work towards a common goal in a co-operative manner. These include recognising, promoting and using existing structures, such as the Large Marine Ecosystem Programmes.

What is the blue economy?

Dr Paul Siegel of the World Wildlife Fund (WWF) describes the blue economy as a green economy which is just better. According to Dr Siegel, the blue economy has three essential factors which are: Economic Viability, Social Acceptability and Environmental Sustainability.



About the contributor: Tshego Letshwiti

Tshego Letshwiti is an Assistant Director: Internal and External Communications at the Department of Environmental Affairs in Cape Town. Ms Letshwiti is a Journalism graduate with experience in print and broadcast media.

Economic Viability essentially looks at obtaining funding to put a successful system in place. Social Acceptability involves devising a system that will be beneficial to the community at large without jeopardising the environment in which they live. Finally, Environmental Sustainability ensures that there is a balance between the ecosystem and its people without one or the other being depleted or suffering from consequences once a system is implemented.

Thus, the blue economy is about the entire suite of economic activities taking place in and dependent on the marine and coastal environment whilst applying green economy principles such as sustainable use and preserving environmental integrity to the management of the ocean. The world's oceans and coasts which are commonly known as the blue world, offer a great wealth for humanity. Historically, humans have been drawn to coastal areas to enjoy the abundance of the oceans and coasts, which are the foundation of much of the world's economy and cultures. It is only until recently that we have gradually started to understand the economic importance of the ecological health of our oceans, explained Dr Alan Boyd, DEA Director: Biodiversity and Coastal Research.

"We have already identified the following key areas that would be prioritised as potential growth areas namely; marine transport and manufacturing activities (coastal shipping, transshipment, boat building, repair and refurbishment),

offshore oil and gas exploration, aquaculture and marine protection services as well as ocean governance," said Ms Ngcaba.

South Africa to embrace the blue economy

Addressing the convention, Minister Molewa stated that it was only natural for South Africa to take a keen interest in the issue of a blue economy as the country is also boarded by oceans on three sides. "We recognise the enormous contribution made historically by the marine sectors. We also see the significant potential of the marine and coastal environment to the national economy of our country. In order to further sustainably harness the abundant resources of the ocean coastal domain, we are in the process of developing a strategy for our blue economy," explained Minister Molewa. The strategy will enable the government

to sustainably harness the abundant resources of the ocean and coastal domain. As part of this process, the government, through the Department of Environmental Affairs, other relevant government departments and Public Entities, has carried out an analysis of the economic opportunities for South Africa and the region. A number of key areas such as aquaculture, marine transport, offshore oil and gas exploration would be crucial in growing South Africa's economy, providing well needed jobs and improving prosperity whilst also ensuring environmental sustainability. In this regard, Minister Molewa told the delegates that "pioneering work is being undertaken to develop environmental standards for off-shore exploration and exploitation activities of mining and mineral resources in the region."

The most important resources from an economic point of view are fisheries, oil and gas, minerals that include sand, limestone and diamonds. Coastal tourism is an important foreign exchange earner for many countries. For example in South Africa, tourism generates more than 1.2 billion dollars annually with over 20 million international and domestic visitors to coastal areas each year.

Some of the key outcomes at the Abidjan Convention encompassed the acknowledgment of ongoing implementation of the COP10 decisions. These included, the assessment of goods and services provided by ecosystems, coordination and legal aspects including the revision and updating of the Abidjan Convention and its protocols and information and education, focusing on the exchange of information with communities.

**The Abidjan
Convention countries**

Angola, Benin, Cameroon, Cape Verde, Congo (DR), Congo (Rep of), Côte d'Ivoire, Equatorial Guinea, Gabon, Gambia (The), Ghana, Guinea, Guinea-Bissau, Liberia, Mauritania, Namibia, Nigeria, Sao Tome e Principe, Senegal, Sierra Leone, South Africa and Togo.

to sustainably harness the abundant resources of the ocean and coastal



Delegates at the Abidjan Convention in Cape Town.



Minister of Environmental Affairs, Mrs Edna Molewa, speaking at the Abidjan Convention Gala Dinner.

Ministers vow to fight rhino poaching

By Gaopalelwe Moroane



His Excellency, Minister of Tourism (Mozambique), Carvalho Muaria and Minister of Environmental Affairs, Mrs Edna Molewa shake hands after the signing.

The Minister of Environmental Affairs, Mrs Edna Molewa, and the Mozambican Minister of Tourism, Mr Carvalho Muária officially joined forces on 17 April 2014 to ensure the survival of the rhino species. The two Ministers signed a Memorandum of Understanding (MoU) in the field of Biodiversity Conservation and Management at Skukuza in the Kruger National Park. Speaking during her keynote address Minister Molewa asserted, "Not in our name will rhinos go extinct."

"The signing of the MoU with Mozambique today comes within

the context of the strengthening of relations between our two countries to enhance the protection of endangered species, such as the rhino, while working towards a common and coordinated management approach for the Great Limpopo Transfrontier Park," said the Minister.

South Africa engages with Mozambique

Mozambique is regarded as a priority country for South Africa within the Southern African Development Community (SADC) region and South Africa recognises the need for

engaging with Mozambique on wildlife management.

A bilateral meeting took place on 14 June 2013 in Maputo, Mozambique, between Minister Molewa and Minister Muária during which the requirement of a government-to-government MoU on Cooperation in the field of Biodiversity, Conservation and Management was acknowledged.

Mozambique is a key strategic partner for South Africa within the SADC region. It is within this context that South Africa recognised the need to engage with Mozambique on wildlife management.



About the contributor: Gaopalelwe Moroane

Gaopalelwe is a Senior Communication Officer under the sub-directorate, publication in the department of Environmental Affairs. Prior to working as intern in Environmental Department's media liaison team; she worked for short periods with the Pretoria News, Grahamstown's local paper, Grocott's Mail as well as writing reviews for the National Arts Festival publication, Cue Newspaper.

This is particularly with respect to addressing the scourge of rhino poaching within the Great Limpopo Transfrontier Park (GLTP). Escalating incidences of poaching have become a major challenge within the GLTP, both to rhino and elephant populations.

Since 2008 a holistic, integrated and multidimensional response involving all relevant government departments, including conservation authorities, enforcement and intelligence agencies, customs, the prosecuting authorities and other national, regional and international organisations and stakeholders, to address increased rhino crimes and enhance protection of the species has been implemented.

Initiatives to address rhino poaching have included not only increasing the number of rangers protecting our wildlife, but also improving regional and international collaboration with

range and consumer states. The government of South Africa has also introduced legislation and policy measures to support the tasks of those working to ensure rhino and other wildlife threatened by poachers and crime syndicates are protected and will not become extinct.

Socio-economic factors

Both countries recognise that together with the conservation factor that comes with rhino poaching, lies socio-economic challenges. "The level of poverty and unemployment that exists within communities living adjacent to protected areas contributes to local community members being vulnerable to recruitment for poaching," said Minister of Water and Environmental Affairs, Mrs Molewa. "Addressing the socio-economic conditions of rural communities is a priority for both our countries".

Rhino Poaching and Arrests (as of end June 2014)

Poaching

South Africa	2010	2011	2012	2013	2014
KNP(SANParks)	146	252	425	606	293
MNP(SANParks)	0	6	3	3	0
Gauteng	15	9	1	8	3
Limpopo	52	74	59	114	48
Mpumalanga	17	31	28	92	14
North West	57	21	77	87	28
Eastern Cape	4	11	7	5	10
Free State	3	4	0	4	4
KwaZulu Natal	38	24	66	85	41
Western Cape	0	6	2	0	1
Northern Cape	1	0	0	0	0
TOTAL	333	448	668	1004	442

Arrests

South Africa	2010	2011	2012	2013	2014
KNP(SANParks)	67	82	73	133	56
MNP(SANParks)	0	0	0	0	0
Gauteng	10	6	26	10	0
Limpopo	36	34	43	70	22
Mpumalanga	16	73	66	34	2
North West	2	21	32	26	11
Eastern Cape	7	2	0	0	0
Free State	0	0	0	0	0
KwaZulu Natal	25	4	20	63	32
Western Cape	2	0	0	0	0
Northern Cape	0	0	1	0	0
TOTAL	165	232	267	343	123

South Africans are urged to report incidents of poaching and tip-offs to the anonymous tip-off lines 0800 205 005, 08600 10111 or Crime-Line on 32211.

The main areas of MoU co-operation

1. Biodiversity management, conservation and protection;
2. Promotion of biodiversity sustainable use as an integral part of conservation of species and ecosystems;
3. Compliance with CITES and other relevant internationally, regional and sub-regional binding Conventions and Protocols;
4. Biodiversity law enforcement;
5. Compliance with domestic frameworks and applicable regional and sub-regional conventions and protocols;
6. Strengthen the cooperation on the above through exchange of information, intelligence, best practice and research;
7. Joint technology innovation, development and enhancement;
8. Wildlife trade, protected areas management, community development through biodiversity economy, and sustainable livelihoods;
9. Education, awareness and capacity building in biodiversity management, conservation, protection and law enforcement;
10. Other areas related to the objective referred to in Article 1 as agreed upon by the Parties.



Minister of Environmental Affairs, Mrs Edna Molewa signs the MoU.

Calculate your pathway to a greener 2050

By Veronica Mahlaba



Back from left: Senior Researcher at the University of Cape Town Energy Research Centre, Mr Andrew Marquard; Deputy Director-General: Climate Change and Air Quality, Ms Judy Beaumont; Department of Energy and Climate Change in the United Kingdom. Director of Strategy, Mr Edward Hogg; **Front from left:** DEA's Chief Director: Climate Change Mitigation, Ms Deborah Ramalope; Director: Climate Change Energy Mitigation, Ms Olga Chauke; Director-General, Ms Nosipho Ngcaba; British High Commissioner to South Africa, Ms Judith Macgregor and DEA's Chief Policy Advisor, Mr Peter Lukwey.

A ground-breaking 2050 Pathways Calculator was launched by the Department of Environmental Affairs (DEA) at a Climate Change Breakfast Briefing, attended by stakeholders at Gallagher Estate, Midrand on 26 March 2014.

Speaking at the launch, the Director-General of DEA, Ms Nosipho Ngcaba said the launch of the tool is significant, as the DEA is implementing the National Climate Change Response Policy and heightening awareness on climate change in the country.

The 2050 Pathways Calculator is an interactive user-friendly tool that allows non-experts to develop their own combination of levels of change in different technologies and sectors of the economy to explore different energy and emissions scenarios out to 2050.

The launch of the Calculator comes after the DEA revealed it for the first time to stakeholders at a two day National Climate Change Response Policy (NCCRP) Implementation Workshop, held in June 2013.

"The tool will provide an opportunity to participate in the public dialogue, on what options are available and what pathways exist for South Africa to reduce its emissions," the Director-General said.

The creation of the tool emanates from a background that reflects South Africa as a relatively high Greenhouse Gas (GHG) emitting developing country, measured either per capita or by GHG intensity (emissions per unit of Gross Domestic Product).

A large portion of the country's GHG is attributed to its energy intensive

economy. This is largely due to the significance of mining and minerals processing in the economy and our coal-intensive energy system. This has resulted in an emissions profile that differs substantially from that of other developing countries at a similar stage of development as measured by the Human Development Index.

South Africa is adapting the tool to demonstrate how far the country can reduce emissions and meet energy needs. The DEA has developed the 2050 Pathways Calculator to allow the public to explore how the country can reduce the GHG emissions and understand implications of choices they make thereof.

Delivering a speech on behalf of the Minister of Water and Environmental Affairs, DEA's Deputy Director-General:



About the contributor: Veronica Mahlaba

Veronica Mahlaba is the Senior Communication Officer: Publications 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.

Climate Change and Air Quality Management, Ms Judy Beaumont stated that responding effectively to climate change requires us all to change our behaviour and for this to happen, we need to understand the implications of our actions.

“The tool will empower South Africans to make informed choices that contribute to a transition to a lower carbon economy and society. It should be noted that the 2050 Pathways Calculator does not recommend any one scenario or pathway over the others. It is therefore not intended for use in the development of specific

policies or strategies,” said Ms Beaumont.

A project to adapt the 2050 pathways calculator to the South African environment started when a Memorandum of Understanding was signed between the DEA, the United Kingdom Department of Energy and Climate Change (DECC) and the British High Commission. The DECC provided £137,000 (R 2, 421 194.84) to support the development of the calculator.

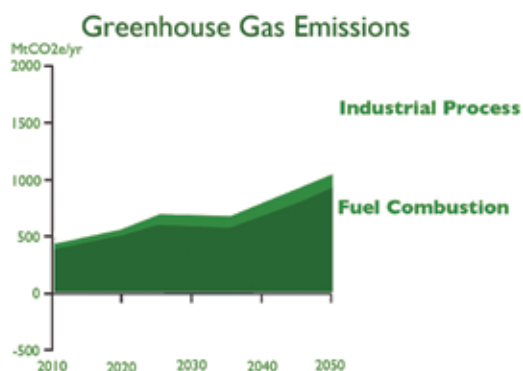
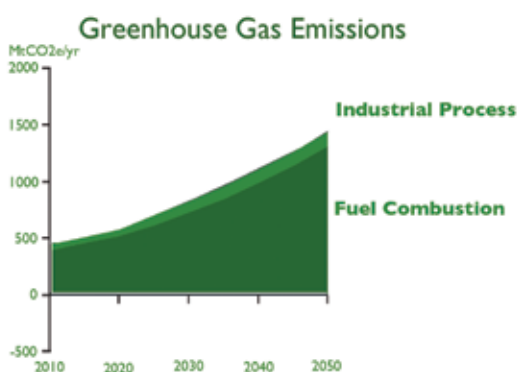
The tool was drawn on work conducted by the United Kingdom government on its own 2050 Pathways Analysis. Belgium, India and Korea have also adapted

the 2050 Pathways Calculator for their respective countries.

The tool covers all sectors of the economy, and includes four trajectories for each of these, ranging from little or no effort to reduce greenhouse gas emissions or save energy (level 1) to extremely ambitious changes that push towards the physical or technical limits of what can be achieved (level 4). The assumptions behind these trajectories are explained in the calculator.

To generate the graph, data for the four levels has been loaded on an excel sheet on five yearly intervals basis, up to 2050

The four trajectories used in the 2050 Pathways Calculator



The graphs above depict how greenhouse gas emissions can be reduced if we apply interventions that are showed at the different trajectories.

To ensure the credibility of the work, sector experts were appointed to review the data used in the Calculator. The tool is backed up by detailed excel sheets for all sectors - energy supply (electricity generation, liquid fuel, gas and agriculture and land use) and demand sectors (industry, household and transport).

DEA's Director: Energy Mitigation, Ms Olga Chauke demonstrated the web tool to stakeholders. She indicated that the next step is to further simplify the tool by adapting it to the My 2050 Calculator. “This will allow users to develop their own combination of level changes, and to see the visual consequences of these choices. It can

also be used as an educational tool to stimulate learners' interest in climate change mitigation issues,” said Ms Chauke.

To learn how to manage and measure your carbon footprint, go to page 16-17.

World Wildlife Day:

Minister urges communities to fight rhino poaching

By Madimetja Mogotlane



The Kruger National Park Veterinary team and rangers were on standby to assist with sedating the rhino.

The Minister of Environmental Affairs, Mrs Edna Molewa has urged local communities and other stakeholders to contribute to the fight against rhino poaching. The Minister was speaking at the inaugural World Wildlife Day celebrations that took place at the Kruger National Park on 03 March 2014.

"I urge communities, particularly those adjacent to the Kruger National Park, to be vigilant and report any suspect activities that are linked to rhino poaching. We are being robbed of our heritage by criminals with no respect for our nation and our pride as people. We need to join hands and work together to fight these criminals", she appealed.

The United Nations General Assembly on 20 December 2013 adopted a resolution marking 3 March a day on which we celebrate the many beautiful and varied forms of fauna and flora. The gathering of around 500 people,

including chiefs, community members and school children was an opportunity to recall the privileged interactions between wildlife and communities in South Africa, and worldwide. In South Africa, communities not only interact with wildlife as tourists, but benefit financially from the tourism services sector and also derive other values which are known and valued by different communities.

Delegates to the inaugural celebrations of World Wildlife Day were given an opportunity to witness the capturing of a rhino prior to the commencement of the formal proceedings. The rhino was captured and sedated to enable the Veterinary Services and the Minister to extract DNA samples from the specimen.

On sedating the rhino, General Manager: Veterinary Wildlife Services for the South African National Parks (SANParks), Mr Markus Hofmeyr said "We

darted the rhino with M99 (a powerful narcotic) and a tranquilliser. Once the rhino is immobilised we will inject it with a partial antagonist. This helps the rhino to breath better. We also administer oxygen to help the rhino. We then place three microchips into the rhino, one in each horn and one in the body," explained Mr Hofmeyr.

Mr Hofmeyr also highlighted the importance of extracting DNA samples from rhinos: "We take blood to measure various blood parameters and also take tissue and hair to store DNA for future research." The sedated rhino was one of the five rhinos that were donated to the Mdluli Tribal Authority by Minister Molewa.

On accepting the rhinos, Chief Isaac Mdluli of the Mdluli Tribal Authority thanked the Minister for the donation and issued a stern warning that whoever poaches rhinos will be transgressing the boundaries of the Tribal Authority's



About the contributor: Madimetja Mogotlane

Madimetja Mogotlane is a Senior Communications Officer, Internal Communications and Events in the Chief Directorate: Communications at the Department of Environmental Affairs. Mr Mogotlane is a former intern in Media Liaison at the Department and has journalistic experience.



decency. "We are grateful for the donation. Rhino poaching is now a national crisis. As the Madluli Tribal Authority, we also support the anti-rhino poaching campaign," said the Chief.

Speaking on behalf of the People and Parks Programme, Mr Moshakge Nerwick Molokwane thanked the Minister for her commitment in working with communities for the benefit of land use. "Honourable Minister, the decision by your department to donate these rhinos to the local community is a demonstration of the commitment by government to ensure that rural communities, especially the previously disadvantaged black people, enjoy benefits from the use of their land. This marks the beginning of bigger things to follow," said Mr Molokwane.

Decrying the escalating rhino poaching scourge, Section Ranger of Pretoriuskop, Mr Rodney Landela put the blame on the recent spate of rhino poaching to the influx of foreign nationals that enter the country illegally for rhino horn. "The only challenge we are having as rangers is the priority of how we will improve our strategy to combat rhino poaching activities in the country. Here we are not only dealing with local poachers, but foreign nationals from our neighbouring countries," Mr Landela said.



Minister Molewa arrives for the World Wildlife Day celebrations.



The Minister of Water and Environmental Affairs, Mrs Edna Molewa assists the veterinary team with the extraction of DNA samples from the sedated rhino during the World Wildlife Day celebrations in Kruger National Park.

Declaring a War on Waste in Butterworth

By Gaopalelwe Moroane

In a bid to continue the fight against waste management, the former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi launched the "War on Waste" projects on 8 April 2014 at the Umsobomvu Stadium in Butterworth.

For many years Butterworth in the Eastern Cape was one of the dirtiest towns in the country, the Department of Environmental Affairs through its Environmental Protection and Infrastructure Programme (EPIP) has turned that situation around by declaring the War on Waste.



Former Deputy Minister of Water and Environmental Affairs, Mabudafhasi with the Mayor of Mquma Municipality Councillor Ginjana fixing taps at the uMsobomvu Primary School as part of the War on Leaks and War on Waste project launches.



Former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi delivering the keynote address during the launch of War on Waste and War on Leaks projects in Butterworth.

The R23, 5 million project aims to support solid waste co-operatives with waste management services in Mquma Municipality. The project also aims to rehabilitate and close the Magqudwana, Ngqamakhwe and Centane landfill sites in the Butterworth district. This is in order to encourage the sorting and recycling of waste at Ibika landfill site using the available recycling facilities. Waste recycling, which lies very close to the former Deputy Minister's heart, is one of the ways in which she believes communities can restore dignity to themselves.

Celebrating past achievements in waste management

The launch of the War on Waste project coincided with Freedom Month celebrations in South Africa. These celebrations saw government and citizens alike observe the milestones achieved since the advent of democracy in 1994.

This project is one such milestone and in her speech, Deputy Minister Mabudafhasi boasted the numerous achievements in waste management:

- The implementation of the R39 million Street Cleaning project which has created 324 work

opportunities. It is this project which made Butterworth to be so clean today.

- The 2013 Street Cleaning project which created 60 work opportunities was also implemented. It must be noted that this project was an extension of the Idutywa project which was allocated R9 million for both Idutywa and Butterworth.
- The Working for the Coast project which covers Great Kei and Mbashe Rivers and allocated a budget of R8, 7 million which will be completed in 2015. Through this project, 64 kilometres of coastline was cleaned, 126 work



War on Waste Project beneficiaries listening during the War on Waste and War on Leaks Launch.

opportunities created as well as equipping the beneficiaries with a range of skills, 20 bins were installed and coastal management programmes were developed.

"I am here again to announce and launch the R23, 5 million War on Waste project which will create approximately 250 job opportunities in the Mquma

Jobs in Waste

A total of 785 job opportunities have been created in the in the Mquma Municipality. The jobs created seek to further the country's green economy objectives and are in the areas of waste management, water management and greening, amongst others.

and a host of others including basic infrastructure necessary to improve our lives."

The Deputy Minister also launched a "War on Leaks" project in Butterworth. The War on Leaks project is one of the projects that form part of the Department of Water Affairs' work to fight water loss.



Fixing: Former Deputy Minister Mabudafhasi at uMsobomvu Primary School fixing one of the leaking taps in the school.

municipality. The implementation of this project will start in June 2014 and be completed in December 2015," said the Deputy Minister.

In her concluding remarks, Deputy Minister Mabudafhasi reminded those in attendance of the importance of such projects by highlighting that "prior to 1994, our people were reduced to the status of being second citizens in their country of birth and denied basic services such as electricity, water, waste removal



The signage which leads into Butterworth, which hosted the "War on Leaks" and "War on Waste" project launches.

Mrs Matilda Skosana talks about being people-centric

According to Ms Matilda Skosana, one needs to be people-centric in order to carry out duties in the development-orientated section; Information Management and Sector Co-ordination. Mrs Skosana, who is a Chief Director in the Environmental Programmes branch carries her duties out in this people-centric manner with ease. **Gaopalelwe Moroane** spoke to her about being a leader in the Department of Environmental Affairs (DEA).

Quick Facts

Hometown: Pretoria

Role model: My late father, Mr Jerry Ntsoane

Hobbies: Swimming and gospel music

Currently reading: Now, Discover your Strengths by Marcus Buckingham, and Donald O. Clifton

What drives the passion for your job?

The passion to do my job is driven by my background in civil engineering in the agriculture sector for the past ten years. My interest has always been in the environmental sector as opposed to a section of environment which is agriculture. I am glad that I can apply my skills in Civil Engineering in agriculture in what I do. I am driven by this.

What do you find most challenging and rewarding about working for DEA?

The most challenging and rewarding thing about my experience in the DEA are actually the same thing. On my arrival at the DEA as an advisor from the Department of Public Works, I was put into the Information Management and Sector co-ordination Chief Directorate. This Chief Directorate deals a lot with Co-ordination and managing information using Information Technology (IT) skills. Every day when I come to work I am challenged to learn new things about IT, with my non-existent background in IT, but I also look forward to gaining these skills daily.

What do you consider to the single greatest achievement in your career thus far?

My biggest achievement so far is getting my Masters in Social Sciences. My academic background consisted of pure sciences. I work in a field that focusses on development of not just infrastructure,

but people's lives. Understanding the social aspect assists in this, because I strongly believe that pure science alone cannot make life work.

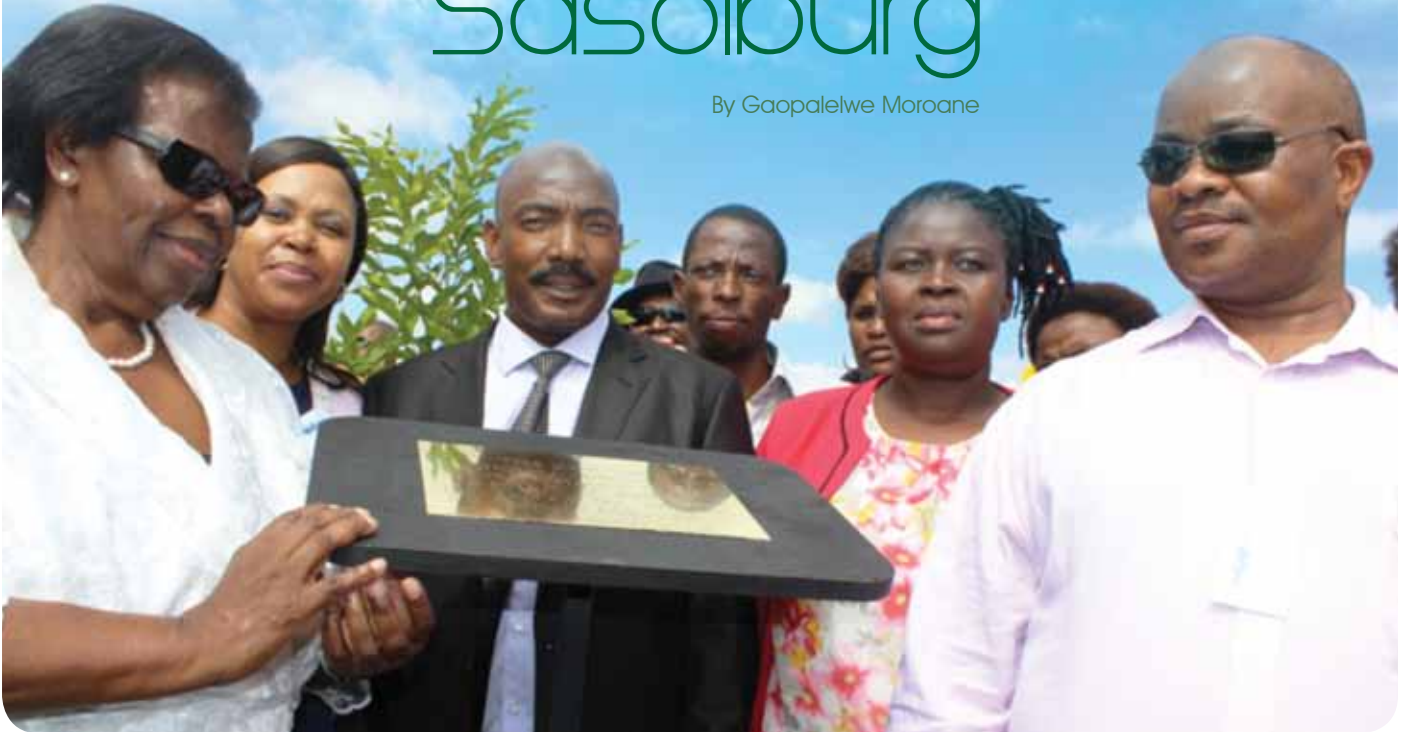
If you could give your 20 year old self advice, what would it be?

I would tell her to have a life outside her career. As a young person, I focussed solely on building my career and growing academically and forgot to focus on having fun. I'd advice young Matilda to learn how to strike a balance between the two. I say this because as a not-so-young woman it is difficult to try and fit having fun in between responsibilities as a mother and wife at home, coupled with the responsibilities of a manager at work.



R8 million for Green Park in Sasolburg

By Gaopalelwe Moroane



Former Deputy Minister of Environmental Affairs, Mrs Rejoice Mabudafhasi opens the park at the Handover of the R8 Million Greening Zamdela Project In Zamdela, Sasolburg.

The morning of 26 March 2014, saw the community of Zamdela Township welcome the former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi as she officially opened an R8 million Green Park in Sasolburg.

"The Greening of Zamdela project equally finds its resonance in the Constitution of South Africa, wherein it stipulates that every citizen has the right to an environment that is not harmful to their health or well-being; and the right to have the environment protected, for the benefit of present and future generations," said Deputy Minister Mabudafhasi in her keynote address to the community.

What started as an illegal dumping site and acted as a hideout for criminals, was transformed into the green area which can be enjoyed by both young and old. The park is furnished with play equipment for children, easy to utilise gym equipment for adults, recreational facilities, waterborne ablution facilities, beautiful landscaping and indigenous

trees, and water connections. This project employs 15 members of the local community and supports more than five Small, Micro and Medium Enterprises (SMME's) as well as local suppliers.

The park which was generously sponsored by Rand Water Foundation, is one of the ways in which the Department of Environmental Affairs in conjunction with the private sector and local communities are ensuring that communities all over South Africa are exposed to recreational services such as parks and outdoor activities which could previously only be accessed in suburban communities.

The park contributes directly to the green economy which by definition is, regarded as a system of economic activities related to the production, distribution and consumption of goods and services that result in improved human wellbeing over the long term, while not exposing future generations to significant environmental risks or ecological scarcities. It also implies the decoupling of resource use and

environmental impacts from economic growth.

"Greening Zamdela serves as one of the vehicles for achieving a sound and just transition towards a green economy. We all have an important role to play in the green economy. Government has made a commitment that we need to build a green economy based on indigenous local practices that we are already good at," said Former Deputy Minister.

The Zamdela project is an example of the type of projects that are spearheaded by the Greening and Open Space Management programme, under the Environmental programmes branch of the Department of Environmental Affairs. The programme aims to encourage greater use of open spaces and to encourage healthy lifestyles in all communities by managing open spaces sustainably. The objective of the programme is to rehabilitate open spaces and focusses on minimising biodiversity loss, and encouraging the use of greener technologies.

Carbon footprint: You cannot manage what you cannot measure

Leanne Richards



The Department of Environmental Affairs' Cape Town offices which won an award for excellence in energy efficiency in 2012.



The DEA Green Car which was acquired by the Department in 2013 offsets some of the Department's carbon emissions.

There is an old saying which rings very true: You cannot manage what you cannot measure. In order to effectively manage greenhouse gas emissions, it is imperative that the amount released into the atmosphere is measured and accurately reported upon. The first steps in managing and reducing the amount of carbon dioxide and other greenhouse gases being released into the atmosphere is to:

1. Identify the sources of the emissions; and
2. Determine exactly how much is being emitted as a result of the identified source.

The World Resources Institute (WRI) has released a greenhouse gas protocol which provides guidance on how a carbon footprint study is to be conducted in the corporate, private and public sectors. This protocol focusses on five main principles to be followed, which ensure that reporting accurately reflects the emissions profile of the institution and that any assumptions made in the

calculation process are disclosed, thereby promoting transparency.

Identification of emission sources

The greater majority of our daily activities have an impact on the environment. The first step in conducting a carbon footprint study is to take note of all the activities that the institution undertakes or is involved in that lead to the emission of greenhouse gasses. There are a broad range of emission sources that need to be considered ranging from travel, fuel usage, electricity usage and even facets such as air conditioning systems, refrigeration systems and paper usage.

What is a Carbon Footprint?

A carbon footprint is a tool used to quantify the amount of carbon dioxide and other greenhouse gases emitted as a result of the production of goods and the delivery of services.



About the contributor: Leanne Richards

Ms Leanne Richards joined the Department of Environmental Affairs in 2007 where she started working on Environmental Indicators. Ms Richards is currently a Control Environmental Officer (B) in the Directorate: Sustainability Reporting and Environmental Statistics and has been involved in Carbon Footprint reporting for the past five years.





Carbon emission sources linked to office work

The greenhouse gas protocol requires that these emission sources be placed in either one of three different groupings commonly referred to as scopes.

Scope 1: Includes all emission sources which are owned by the institution and would include aspects such as the use of company owned vehicles, air conditioning systems and refrigeration units as well as any additional fuel used as a result of the usage of company owned assets. Reporting of all sources under this scope is deemed mandatory.

This scope together with Scope 2 contributes the majority of the emissions profile of the company and it is therefore important that all relevant emission sources be included and reported upon.

The DEA Green Car which was acquired by the Department in 2013 offsets some of the Department's carbon emissions.

Scope 2: Electricity usage is the only emission source being reported under scope 2. Electricity usage has proved to be one of the main (if not the largest) source of carbon dioxide emissions and it is therefore not surprising that as with scope 1, the reporting on emissions related to electricity usage is also deemed mandatory.

Scope 3: Scope 3 emissions comprise of all the remaining sources which are not covered under either scope 1 or scope 2. These would include emissions as a result of utilising assets not directly owned by the company

where the study is being undertaken. An example of such an emission source is air travel. In order to attend various business related engagements, employees might use air travel as a form of transport. The aircraft being used is not the property of the company however the utilisation thereof leads to the emission of greenhouse gasses.

Under scope 3 (and this is often overlooked) is employee commuting. Employees commute on a daily basis to and from the work environment using transport options ranging from public to private.

An emission factor is a number that is used to convert activity data into the amount of greenhouse gases being emitted into the atmosphere. For each emission source there are both international and national emission factors that are applied.

Sourcing of activity data

Following the identification of emission sources that are relevant to the institution, associated activity data needs to be sourced. Activity data includes aspects such as the amount of fuel consumed or distance travelled through vehicle usage, amount of electricity consumed, number of sheets of paper used etc.

To calculate emissions related to an identified source, the associated activity data is multiplied by the relevant emission factor.

What can we do to reduce our carbon footprint?

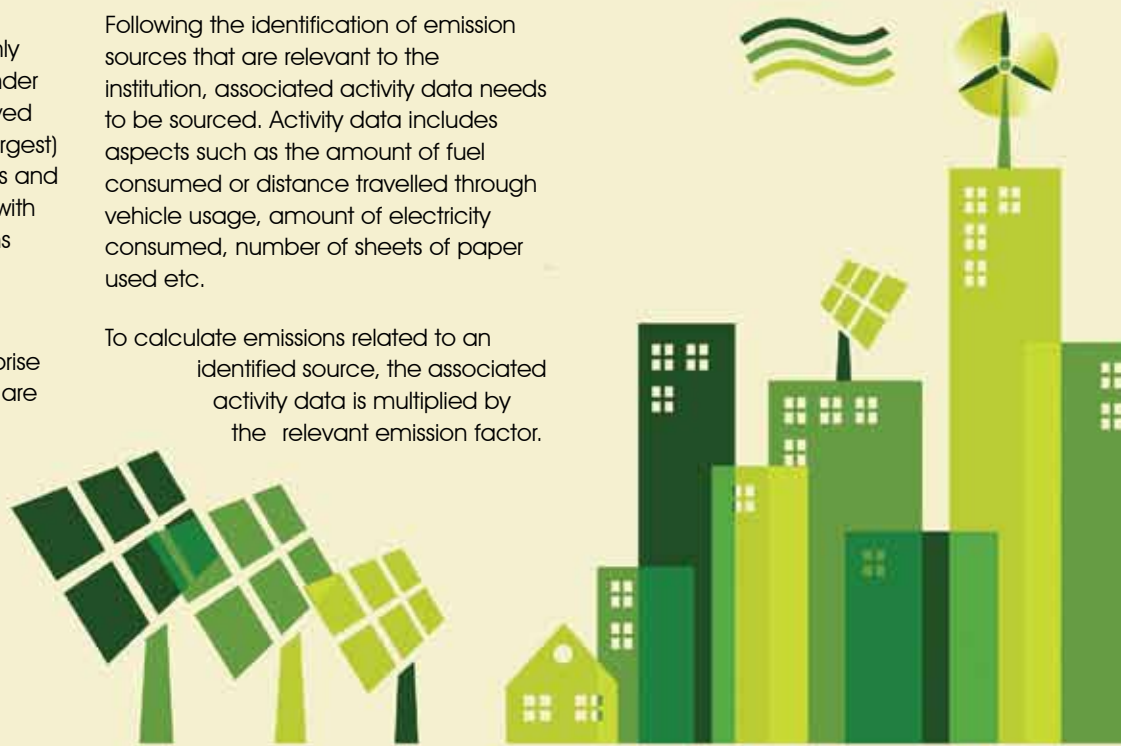
Consider alternative ways of doing things such as how to reduce electricity usage. This can be done by switching off all non-essential appliances, using solar water heaters, replacing light fittings with more energy efficient alternatives, etc. Innovative construction of new buildings and the restoration of existing building infrastructure can also play a major role in reducing the carbon footprint of an institution.

DD YOU KNOW?

When flying and travelling in business or first class you have a higher associated carbon footprint than when travelling economy class. On average a flight between OR Tambo International and London (Heathrow) airports would result in the emission of approximately 2031kg CO₂e emissions when travelling economy class, this value however escalates to 5 9362kg CO₂e when traveling first class.

During the recent (29 March 2014) Earth hour celebrations where people were urged to switch off all lights between 20:30 and 21:30 South Africans saved a massive 575MWs of electricity! This amount of electricity is enough to power a city with the average size of Polokwane in Limpopo.

Besides the use of electricity, there are other aspects such as the mode of travel undertaken which also greatly impacts on the carbon footprint. The use of both public transport systems as well as smaller more fuel efficient vehicles can greatly reduce emissions related to transportation.



SA, Vietnam commit to improve cooperation in controlling wildlife trade

By Reyhana Mahomed



Former Deputy Minister Mabudafhasi officially opening talks between the two countries.



The two Deputy Ministers exchanged gifts upon the conclusion of the meeting.



Vietnamese Vice Minister of Natural Resources and Environment, Associate Professor Bui Cach Tuyen addressing the high-level meeting.

South Africa hosted a delegation of the Socialist Republic of Vietnam who visited the country from 24 – 28 March 2014 for the purposes of a study tour. The study tour concluded on a commitment by both countries to improve cooperation on biodiversity conservation especially controlling the illegal trade and poaching of wildlife.

“South Africa recognises the immense value for both our countries to share information, policies and legislation on biodiversity protection broadly, as well as experiences in implementation,” said former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi. The former Deputy Minister opened official talks between the two countries in Pretoria on 24 March 2014.

The 20-member delegation from Vietnam was headed by the Vice Minister of Natural Resources and Environment, Associate Professor Bui Cach Tuyen. This study tour follows the signing on 6 May 2013 of an Implementation Plan in terms of the Memorandum of Understanding (MoU) on cooperation in the field of Biodiversity Conservation and Protection that was signed in Hanoi, Vietnam in December 2012.

The action plan was developed and is being implemented in accordance with the nature of the MoU. It is aimed at promoting cooperation between the parties in the fields of

biodiversity management, conservation and protection, law enforcement, compliance with the Convention on International Trade in Endangered Species of wild fauna and flora, technology transfer and other relevant legislation and international Conventions on the basis of equality and mutual benefit.

“We are here this week to learn from South Africa’s experiences in managing three issues that we have identified as priorities for biodiversity conservation in Vietnam: wildlife management and conservation, protected area management, and sustainable financing mechanisms for conservation,” explained Vice Minister Tuyen.

The study tour also involved officials from the Department of Agriculture, Fisheries and Forestry, South African National Parks and the South African Police Service. The Vietnamese delegation were briefed on a variety of environmental issues including the implementation of biodiversity management legislation in South Africa, lessons learnt on existing financing mechanisms and offsets in terms of biodiversity monitoring and enforcement-related matters. During the discussions, actions directed at specific areas of intervention were vigorously deliberated and agreed upon in order to address this problem. These include engagements and exchange of expertise on the

optimisation of the management of protected areas and monitoring systems, the promotion and sharing of awareness raising efforts in both countries, technology enhancement for improvement of communication exchange and investigation, optimal natural resources management to sustain wildlife resources, and the strengthening of joint research on market demands for illegal and legal wildlife products. The exchange of technology includes invasive species control and DNA detection of rhino horn. “Through these discussions we have learnt and exchanged many valuable lessons including that biodiversity management is unified in South Africa, the mobilisation and involvement of stakeholders, as well as the establishment of joint management structures to protect biodiversity,” said Dr. Pham Anh Cuong, Director of the Biodiversity Conservation Agency of Vietnam.

Following the robust discussions, an agreement was reached to advance the implementation of the Action Plan to assist South Africa in meeting its international obligations. South Africa has accepted an invitation extended by Vietnam to undertake a working visit to Vietnam later this year to gain a greater understanding of the elements influencing illegal consumption of and trade in wildlife. Thereafter, both parties will jointly develop material to create and enhance awareness, particularly targeted at the youth in both countries.



About the contributor: Reyhana Mahomed

Ms Reyhana Mahomed is the Deputy Director: Editorial Services at the Department of Environmental Affairs. Ms Mahomed is a Rhodes University Journalism graduate with extensive experience in writing and editing.

World Migratory Bird Day

10-11 May 2014

Destination Flyways

Migratory Birds and Tourism



Bird of the year

Curlew Sandpiper (*Calidris ferruginea*)

World Migratory Bird Day is an annual, global initiative aimed at celebrating migrating birds and promoting their conservation worldwide.

Tourism and migratory birds

This year's theme for World Migratory Bird Day is Tourism and migratory birds. The wildlife watching industry, in particular bird watching holds significant tourism potential as billions of birds migrate across the world's major flyways.

The theme is closely linked to ideals of the Green Economy. Migratory birds fly across the globe creating a spectacular view for bird-watchers and nature enthusiasts. By partnering, the tourism and the conservation sector can undoubtedly derive mutual benefits from the conservation of migratory birds and their habitats.

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REPUBLIC OF SOUTH AFRICA



World Migratory Bird Day



GUIDE TO RHINOS

Read all about **RHINOS** – then **HELP** save them!

How many species of rhino are there?

African rhino species

- Black rhino, *Diceros bicornis*
- White rhino, *Ceratotherium simum*
- Asian rhino species
 - Greater one-horned (Indian) rhino, *Rhinoceros unicornis*
 - Sumatran rhino, *Diceroshinus sumatrensis*
 - Javan rhino, *Rhinoceros sondaicus*

What are the differences between black and white rhinos?

- The biggest difference between the two is size – white rhinos are almost twice as big as black rhinos.
- In white rhinos there is a big difference in the size of their two horns – the front one is always longer.
- In black rhinos either one horn or the other is longer.
- Black rhinos are more temperamental and excitable than white rhinos.

Physical differences:

White rhino	Black rhino
Pointed, tufted ears	Rounded ears
Flattish back with hump near middle	Concave back (curved inwards and downwards)
Elongated head, usually held down	Rounded head, usually held up
Square upper lip for grazing	Pointed, prehensile upper lip for browsing
Young usually runs ahead of mother	Young usually runs behind mother
Tail curled above the back	Tail held out straight when alarmed
Not recorded to have lesions (wounds)	Some have lesions on the side of the body

What is the horn made of?

The horn is made up of keratin (like nails and hooves). It grows from the skin and is not attached to the skull, but rests on the frontal (nasal) bone. It continuously grows at about 6–10 cm a year.

What are rhinos' senses like?

Their eyesight is poor, but hearing and smell are both very good. Rhinos are able to smell humans on foot from at least 200 m if there is a slight wind in their favour. The ears move independently even when the animal is sleeping, and rhinos are instantly alert to strange sounds.

What enemies do rhinos have?

The adults have few enemies, with humans having by far the largest impact. Young rhinos, particularly newborns, are feeble and unstable. They are often attacked by lion and clans of spotted hyena.

How do rhinos defend themselves?

Rhinos are able to defend themselves because of their size, thick skin and horns. Their senses are

Learn about **RHINOS' HABITATS**

Rhino species and their habitats

1 BLACK RHINOS HAVE THREE SUB-SPECIES

- the southwestern black rhino live mostly in the western parts of southern Africa,
- the south-eastern black rhino live in the eastern parts of southern Africa; and
- the eastern black rhino are found in eastern Africa.

Black rhinos prefer areas with lots of shrubs, usually part of a well-developed woodland or thicket. They also like to live quite close to water for drinking as well as bathing and mud-wallowing. Black rhinos can therefore live in a wide variety of habitats. These range from forests to savanna woodlands and shrubs; and from sea level to altitudes of 2 700 m above sea level.

2 WHITE RHINOS HAVE TWO SUB-SPECIES

- the southern white rhino living in southern Africa; and
 - the few individuals of the northern white rhino in eastern Africa.
- White rhinos prefer landscapes with lots of grass cover and open scrubland. They also need permanent water, shade and quite flat ground.



(Clive Walker from The Rhino Keepers)



Take **ACTION** – bring an end to rhino poaching!

South Africa's rhinos are in crisis and could be extinct within a decade. This is a message often heard when discussing the high levels of rhino poaching in South Africa.

- If nothing is done to stop rhino poaching, the number of rhino in South Africa will start to decline by 2016.
- The poaching of the country's rhinos: to feed an alleged traditional medicine market is a threat to South Africa's national security. It threatens part of our national heritage and the future of the country's tourism industry.

The reality of rhino poaching, particularly in the Kruger National Park, is a major challenge.

- In 2011 the government declared that the illegal killing and trade of rhinos and rhino horn was a threat to national security.
- There is increased use of existing and new technologies. For example drones; dog units to sniff out rhino horn, ivory and abalone being smuggled through our borders.
- There has been paramilitary training of anti-poaching units, especially in the Kruger National Park.



(African Avenue)

What new legislation or policies have been introduced by the Department?

- The *Revised Norms and Standards for the Marking of Rhino Horns and for the Hunting of Rhinoceros for Trophies* – these were introduced in 2012 to put stricter controls in place for the issuing of rhino hunting permits, hunting of rhino and the transportation of the horn. It resulted in a big reduction in the number of hunting applications received. It also included a compulsory requirement for the submission of samples for DNA profiling.
- The *National Environmental Management Laws First Amendment Act (NEMLA)* – this is aimed at strengthening the regulatory and enforcement requirements to prevent the abuse of the permitting system. It was signed into law by President Jacob Zuma in July 2013. It is the first of a two-part legislation dealing with the management of our environment. It was decided in 2012 to split the law because the subjects covered are so big, and this included poaching.

What is the Rhino Issue Management (RIM)?

RIM was set up in 2012 to help the development of a common understanding of main issues concerning the protection and sustainable conservation of rhinos. The team investigated rhino conservation, rhino safety and security, as well as rhino commerce and trade. They then made recommendations to make sure of the future survival of the rhino in a sustainable manner. Some of their recommendations are already in place.



Carcass of a poached white rhino. (Clive Walker from The Rhino Keepers)

What are the **THREATS TO RHINOS?**

1 HABITAT REDUCTION AND DESTRUCTION REDUCE AVAILABLE AREAS

This is relatively minor seeing there are so many formal protected areas and private properties that carry suitable habitats for both species of rhinos.

2 DISEASES

There are very few disease-related threats to rhinos – both in the past and currently.

3 ILLEGAL KILLING OF RHINOS

This is by far the greatest threat. The horns are sold in the Far East as ornamental decorations or various forms



Taking hands worldwide to curb rhino poaching

CITES is the Convention on International Trade in Endangered Species of Wild Fauna and Flora. It is an international agreement between governments aimed at ensuring that international trade in listed specimens of wild animals and plants does not threaten the survival of the species.

Source: CITES



Skulls of poached rhinos in the 70s and 80s at Woodlands in Damaraland. (Olivé Walker from The Rhino Keepers)

of traditional medicine. The illegal killing resulted in a dramatic decline of rhinos up to the end of the 1980s. Between 2008 and mid-2013 more than 2,000 rhino had been poached in South Africa for their horns. If this continues, rhino numbers will seriously decline by 2016.

How do rhinos interact with each other?

Adult black rhinos are mostly solitary, although they may form groups of up to 12 individuals. Mother and daughters may stay together for long periods of time, while females that do not have offspring join a neighbouring female. Conflict usually arises when outsiders enter an area already utilised by a crash (group) of rhino. During courtship, conflict over a female may result in the death of one of the competing males.

Other interesting facts

1 RHINO ARE THE SECOND-LARGEST LAND MAMMALS

The white rhino and greater one-horned rhino weigh about 1 600–2 300 kg; are about 1,8 m in height and 3,5–4,5 m in length. The smallest rhino species is the Sumatran rhino with a height of 1–1,5 m. The black rhino's weight is 800–1 100 kg and height 1,6–2 m.

2 DESPITE THEIR LARGE SIZE, RHINOS ARE FAST AND AGILE

They can run 50 km/h for short distances and can turn on a 'dime'. This means they can stop and turn around quickly.

3 SCIENTIFIC TESTING HAS CONFIRMED THAT RHINO HORN IS NOT MEDICINE

International research has shown that the illegal trade in rhino horn poses the greatest threat to rhinos. Scientific research has shown that rhino horn holds almost no medicinal value. But in some traditional circles it is still believed it can treat high fevers and cure cancer. Because rhino horn consists largely of keratin, it means it has the same health effect as chewing your finger nails.

4 RHINOS HAVE THREE TOES ON EACH FOOT

Although rhinos, along with hippos and elephants, are referred to as pachyderms, rhinos are actually more closely related to tapirs and horses. Rhinos, tapirs and horses are found in the order of Perissodactyla (odd-toed ungulates).

5 RHINOS CAN BE TRAINED

Rhinos living in zoos need plenty of mental stimulation for good health. Captive rhinos are trained using treats and clickers to understand several commands, so that keepers and vets can perform thorough health examinations, especially on their sensitive feet. Rhinos can also learn their names, and most of them enjoy human attention, such as a good scratch.

Help SAVE the RHINOS!

1 PROTECT RHINO ASSETS IN AREAS WHERE THEY LIVE

Successful protection of rhino assets reduces the available supply of horn. This means that the price of horn would probably increase. Rhino assets can be protected by technology in the following ways:

- by directly involving the rhino, such as dehorning; and
- by first detecting when a poacher has entered an area where rhinos live, and then by detecting when a poaching incident has taken place, such as aerial-based sensors placed on drones (unmanned aerial craft)

2 REDUCE THE DEMAND FOR HORN IN CONSUMER COUNTRIES

This would need to take place at the same time as the above method of protecting rhino assets. It is a very complex process because telling people that tradition always of using horn for medicine is wrong can be seen as culturally discriminating. Even so, several media and advertising campaigns are in progress.

3 SUPPLY HORN IN SOME OTHER FORMAT

This method may directly influence the price of horn. There are several ways to supply horn – selling it is only one way – but the outcomes are uncertain. Within the legal requirements internationally and within countries, different ways for supplying horn are limited.



(African Avenue)

Why is there a

CAMPAIGN to stop poaching?

- Rhino poaching is an illegal activity.
- The organised crime of poaching will lead to the end of our valuable rhinos.
- Focused awareness campaigns can help to stop the increase in the selling of rhino horn. These should not only be carried out in the supplying countries (South Africa), but also in countries where there are current (and new) demands.
- Rhino poaching denies the future generation the right to see live wild rhinos and not just captive rhinos in a zoo or a cage.



A combined capture operation of ten black rhinos by Kruger National Park rangers and the South African Game Reserve and relocated to Kruger for safe keeping in 1989. (Olivé Walker from The Rhino Keepers)

How can YOU help to save rhinos?

Information is essential to help conservationists stop criminal networks. These networks influence all society, not just the rhinos. So it is your civil duty to provide information, of whatever kind, to do with rhinos or any suspicious behaviour around rhinos.

- Now that you know about the importance of protecting our rhinos, you can spread the message.
- As a patriotic South African, you will be proud of your heritage.
- You can report anonymously any information you may have by contacting tip-off lines: 0800 205 005, 06600 10111 or Crime-Line on 32211.
- Don't buy rhino horn products!
- Protection of rhino assets is costly and several organisations do fundraising – you can contribute to these, but make sure that you deal with a credible organisation listed on the PAGE website <http://www.rhinorange.org/Friends.aspx>

ANTI - RHINO POACHING HOTLINE 0800 205 005

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South African
NATIONAL PARKS

300 000 Green Jobs to be created by 2030

By Veronica Mahlaba



Speakers who delivered presentations on various topics during the Dialogue. **Back from left:** DEA Chief Policy Advisor: Mr Tlou Ramuru, Mr Karl Pfeffer from ILO, Senior Economist at Industrial Development Corporation, Mr Nico Kelder, DEA Deputy Director-General: Environmental Advisory Services, Mr Alf Wills. **Front:** DEA Chief Director: Information Management and Sector Coordination, Ms Matilda Skosana, Department of Public Works Chief Director: EPWP Operations, Ms Kele Sethibelo and Mr Moustapha Kamal Gueye from ILO in Geneva.

There has been an agreement between organised labour, business and government to create 300 000 Green Jobs in South Africa in the coming years. This, a commitment to be championed by the Department of Environmental Affairs (DEA) was discussed at the first National Green Jobs Dialogue on 9 April 2014, in Midrand.

This dialogue hosted by the DEA created a platform for approximately 100 representatives from government, private sector, youth agencies, international organisations, labour unions and academic institutions to discuss current government approaches to addressing green jobs.

Whilst addressing the delegates at the Dialogue, the Deputy Director-General: Environmental Advisory Services, Mr Alf

Wills stated that the Dialogue will assist in unlocking the benefits of the green economy and begin to provide space to package our green jobs initiatives from different stakeholders.

What are Green Jobs?

Green Jobs are defined by the International Labour Organisation (ILO) as jobs that help reduce negative environmental impacts, ultimately leading to environmentally, economically and socially sustainable enterprises and economies. Green jobs are decent jobs that reduce consumption of energy and raw materials, limit greenhouse gas emissions, minimise waste and pollution, protect and restore ecosystems.

The Green Economy Accord was signed by Government with numerous stake-

holders on 17 November 2011. The Accord identifies 12 key commitment areas, with a goal of creating at least 300 000 jobs by 2030.

The 12 commitment areas which have been identified in the Green Economy Accord include:

- **Commitment 1: Rollout of Solar Water Heaters** - Government commits to a target of ensuring the installation of one million solar water heaters at household level by 2014.
- **Commitment 2: Investment in The Green Economy** - The parties to this accord recognise that new sources of funding and finance will need to be developed and tapped into to ensure that green economy investment levels are rapidly improved.



Deputy Director: International Labour Organisation in Pretoria, Mr Joni Musabayana delivering his introductory remarks.



DEA Deputy Director-General: Environmental Advisory Services, Mr Alf Wills addressing delegates.

• **Commitment 3: Rollout of Renewable Energy** - Government commits to the procurement of renewable energy as part of the plan to expand the energy-generation capacity of the country. To this end, government will secure commitments for the supply of 3 725 Mw of renewable energy by 2016 as a first step to realising the goals for renewable energy under the Integrated resource plan 2010-2030.

• **Commitment 4: Energy Efficiency** - Energy efficiency supports a number of key government objectives, including: enhancing business competitiveness; strengthening energy security; creating jobs; reducing the economy's energy-intensity and transitioning to a lower carbon economy; and improving environmental quality.

• **Commitment 5: Waste Recycling, Re-Use and Recovery** - A range of industries are engaged in a variety of activities to recycle, re-use or recover waste. These activities can be broadly divided into those dealing with post-consumer waste and those dealing with waste generated during the production process.

• **Commitment 6: Biofuels** - The production of biofuels for mandatory blending in the petrol and diesel national fuel pool can contribute to lower carbon-emissions, greater fuel-supply security and significant job-creation in the growing of feed-stocks that do not compete with local food needs.

• **Commitment 7: Clean-Coal Initiatives** - The coal resources available in South Africa are massive and

need to be exploited in a manner that recognises the damage done by greenhouse gas emissions associated with coal exploitation. Government has established a Carbon Sequestration Leadership Forum (CSLF) which seeks to develop clean coal technologies applicable to power generation, through international collaboration with countries facing similar coal development challenges.

“Green jobs are decent jobs that reduce consumption of energy and raw materials, limit greenhouse gas emissions, minimise waste and pollution, protect and restore ecosystems.”

• **Commitment 8: Retrofitting** - One of the opportunities to green the economy is to identify ways to improve the energy-efficiency of workplaces, homes and power stations. The addition of new technologies and methods to existing systems and buildings are referred to as retrofitting.

• **Commitment 9: Reducing Carbon-Emission on our Roads** - All parties to this accord commit to promote among South Africans the value and importance of public transport as a means, among other advantages, of reducing carbon-emissions.

• **Commitment 10: Electrification of Poor Communities and Reduction of Fossil-Fuel Open Fire Cooking and Heating** - Government recognises that

at least three million households still rely on traditional energy carriers like candles and firewood, leading to continued environmental degradation particularly in rural areas and in urban informal settlements.

• **Commitment 11: Economic Development in the Green Economy; Promotion of Localisation, Youth Employment, Cooperatives and Skills Development** - The parties to this accord recognise the critical importance of localisation strategies to promote industrial manufacture of components, inputs and technologies in South Africa. This should include providing incentives, industrial funding as well as conditionalities in publicly-supported programmes.

• **Commitment 12: Cooperation around the United Nations Cop 17 and its Follow-up** - South Africa hosts the United Nations Cop 17 talks on climate change and all parties will work closely with government during and after the Conference to realise the success of the work and agenda of Cop 17.

Attending the Dialogue Ms Shirley Matheson from the United Nations Industrial Development Organisation (UNIDO) said it was interesting to attend a dialogue on Green Jobs as it promotes a Green Economy. “I would have loved to see more of civil society among the delegates, since we were touching on policies which will ultimately affect people on the grass root level,” she stated.

Research:

Global change and its effect on South African National Parks

By Gaopalelwe Moroane

In order to assess the impacts of global change on national parks, the South African National Parks (SANParks) Global Environmental Change Project (GEC) was set up to quantify the status of- and threats posed by six internationally-identified drivers of global change for parks.

The six possible threats which will be assessed in this research are:

1. Alien species
2. Climate change
3. Emerging infectious diseases
4. Habitat change
5. Change in freshwater ecosystems
6. The overexploitation of natural resources

Global change refers to the collective impact of climate change and other drivers that are changing our planet and ecosystems concurrently. It also refers to the cumulative effects of natural and anthropogenic processes that alter the earth's planetary system including amongst others, land conversion,

urbanisation, climate change, biological invasions, overharvesting of resources, sea level rise, pollution and change in disease distribution. It is important to distinguish these terms as there will likely be implications for the way in which their impacts are identified and managed.

These change drivers play a significant role in structuring ecosystems and together could change the face of parks irreversibly. The project therefore seeks to provide direction for SANParks' management and policy as well as future research and monitoring to ensure that the impacts and interactions between these drivers are understood and minimised. Details of the rationale and the findings to date for some of the sub-projects are below.

Alien species

Alien species are species outside of their indigenous geographic range. Some alien species become

sive and spread quickly in new regions, posing a threat to native biodiversity as well as other sectors (e.g. agriculture and tourism) and are termed Invasive Alien Species (IAS). The impacts of IAS are diverse, ranging from competition with or predation of native plants and animals (which may even lead to local extinction of indigenous species) to alteration of ecosystem function, through changing water or fire regimes or food webs to socio-economic impacts such as crop destruction, impacts on grazing pastures and the large costs associated with their control. IAS are therefore a major driver of global change and can result in substantial losses of biodiversity. They may spread into parks from surrounding areas, especially along roads or via rivers, or may already exist in the park landscape when land is purchased for park expansion. The successful prevention and management of IAS is therefore an important part of protected area management.

The GEC assessment has identified that alien species are present in all parks, with parks in the Cape region particularly impacted by damaging alien plants and animals. Outcomes of the project will be used to inform policies regarding the prioritisation of species for clearing or eradication (high impact species and those with small current distributions), and the management of key introduction pathways, particularly the use of ornamental species within developed areas in parks as well as monitoring



An aloe flower at Stormrivermouth landscape in the Tsitsikama. Plants like the aloe plants are some of the natural resources that make up the research which is being conducted as part of the Global Environment Project.

inva-

and controls at entry points such as roads and along rivers.

Climate Change

In a speech delivered at the United Framework Convention on Climate Change 17th Conference of the Parties held in Durban in 2011, the Minister of Water and Environmental Affairs, Mrs Edna Molewa said, "Climate change is arguably the biggest challenge facing humankind, and the foremost threat to sustainable development, economic growth and quality of life. The development strides achieved by the African continent in the last decade are at risk from the effects of climate change, and a global response presents an opportunity for Africa to further its sustainable development objectives. Africa's major economic sectors will be left vulnerable to climate sensitivity resulting from rising temperatures, erratic rainfall patterns and droughts, with potentially huge detrimental impacts expected to be recorded."

This GEC project has shown that national parks are not exempt from these impacts. Temperatures have already increased by over a degree in several parks (since 1960) and there is evidence that rainfall patterns are changing in multiple regions. These changes will impact on the ability of national parks to maintain current biodiversity and ecosystem functions and will confound the impacts of other change drivers. The information on which areas are changing fastest or those which are likely to remain stable can be used to inform decisions regarding park expansion and zonation for different intensities of use as well as planning for possible adaptation strategies.

Diseases

Diseases are one of the important and natural drivers of ecosystem processes

and affect the performance of individual animals as well as population dynamics and community interactions. Factors such as international travel, habitat alterations, wildlife translocations and increase in contact between wildlife, humans and livestock, climate change and alien animal introductions are threatening the natural dynamics of diseases in ecosystems. The research so far has identified that the biggest risk factor is disease that can be transferred between cattle or other livestock that graze in areas surrounding the national parks and wildlife and vice versa. Additional concerns include the increase of host and vector species' ranges in response to climate change that may alter the distribution of diseases as we know them today as well as the impact of pollutant bacteria (although these were not considered under the current assessment). Although SANParks is not responsible for treating animals in the wild, animal populations and disease outbreaks are monitored to identify trends and possible threats to the ecosystem.

Change in freshwater ecosystems

The status of freshwater systems, especially wetlands, is highly affected in many parks. One of the greatest problems in this regard is that river systems are modified and/or polluted outside parks before they even enter the protected area. Broader conservation and sustainability strategies will be required outside the parks to ensure the conservation of freshwater systems and everything that depends on them.

Use of natural resources & habitat change

The last environmental pressure this study considers is the use of natural resources by staff, tourists and local communities surrounding parks. Allowing for the use of natural resources is an important means by which they can positively contribute

to society, but this needs to be carefully managed. The use of these resources has a direct on the habitat in the parks and as a result the habitat sees changes from similar

What can government and society do to help?

Speaking on the effects of urbanisation and how it has been found that areas surrounding the National Parks contribute to global change, SANParks' GEC Project Manager and Principle Researcher, Dr Nicola van Wilgen said, "The parks don't exist in isolation to society. Global change is driven by factors beyond the control of park managers and scientists and solutions initiated beyond park boundaries are often required. Any positive change that government makes towards improving people's standard of living (access to education, sustainable jobs, reduction in violence) locally will likely have positive knock-on effects on the environment and parks, while international agreements on trade and environmental legislation will also play a role. At a park level, anticipating likely impacts and putting mitigating measures in place is important, while keeping stakeholders and the public involved and informed about these decisions is essential."



A giraffe photographed outside the Kruger National Park. The research looks at animals such as giraffes and studies their habitual change as well as the changing diseases that they and other animals may have.

South African National Parks website: <http://www.sanparks.org.za/>
Head Office

643 Leyds Street, Muckleneuk, Pretoria
Telephone Number - 012 426 5000

Report on shale gas related greenhouse emissions to go public

By Veronica Mahlaba



Prince Albert, a small town off the Karoo.

In a move aimed at promoting greater transparency and increasing awareness on greenhouse gas emissions (GHG) associated with shale gas, the Department of Environmental Affairs (DEA) has signaled its intention to go public with the findings of a report on shale gas related GHG in the country. This was revealed at a media briefing on 26 March 2014 in Midrand.

"With this growing interest [in shale gas], concerns are being raised related to the shale gas' environmental sustainability and relevance as a fuel source. One such concern relates to the GHG emissions intensity of shale gas and whether it plays a positive or negative role in curbing global GHG emissions. It is against this backdrop that the Department commissioned a study on Greenhouse Gas Emissions Associated with Shale Gas," said DEA's Deputy Director-General: Climate Change and Air Quality Management, Ms Judy Beaumont, delivering a speech on

behalf of the Minister of Environmental Affairs, Mrs Edna Molewa.

According to the DEA's Chief Policy Advisor on Strategic Environmental Intelligence, Mr Peter Lukey, the final draft of the report, entitled Investigation of Hydraulic Fracturing in the Karoo Basin of South Africa had already been submitted to the United States Environmental Protection Agency (US EPA) for review and was now ready for publication.

"A Service Level Agreement was signed by DEA and Environmental Resources Management (ERM) Southern Africa (Pty) Ltd on 24 May 2013 and a final draft of the report was submitted earlier this year," he said.

Mr Lukey explained that according to a Cabinet resolution, ongoing research had to be conducted and facilitated by relevant institutions to develop and enhance scientific knowledge in

respect of shale gas, including, but not limited to, geo-hydrology of the prospective areas, methodologies for hydraulic fracturing in South Africa and environmental impacts.

South Africa is committed to reducing its national GHG emissions as outlined in the 2011 National Climate Change Response Policy. Section 3 of the research report investigated the relative influence of different shale gas use scenarios within South Africa on these GHG emissions reduction objectives based on a number of assumptions. The following high level conclusions can be derived from the analyses:

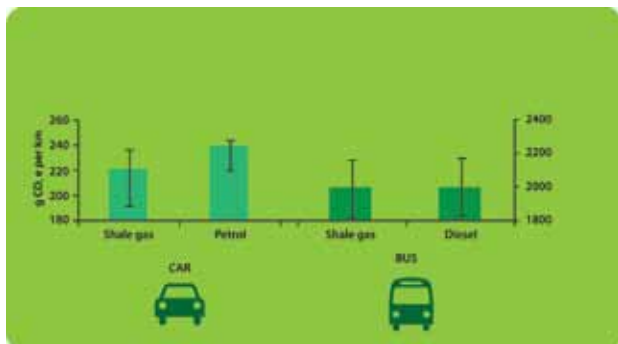
- Utilising shale gas instead of coal as a direct fuel source for electricity generation may have a positive impact on South Africa's GHG emission objectives.
- Utilising shale gas to produce Liquid Natural Gas (LNG) may have a



Some of the delegates from different sectors who attended the Report on Greenhouse Gas Emissions Associated with Shale Gas, at Gallagher Estate.

Fuel type	GHG emission factor for combustion (g CO ₂ per MJ)
Natural gas	56
Heating oil	77
Petrol	69
Diesel	74
LPG	63
Sub-bituminous coal	96

Shale Gas Use – Liquid fuel replacement



Carbon emissions from shale gas use in cars and buses.

negative impact on South Africa's GHG emission objectives. This is based on the assumption that all of the LNG is exported out of the country and is not used to substitute other fossil fuels that would have

been combusted in South Africa.

- Utilising shale gas to produce petrol and diesel for transport purposes via the Gas-to-Liquid (GTL) process may have a negative impact on South Africa's GHG emission objectives.
- Utilising shale gas as a direct fuel source for heat and power production through electricity generation and as a transport fuel in the form of Compressed Natural Gas (CNG) may have a positive impact on South Africa's GHG emission objectives.

A clear understanding of the comparative GHG emissions intensities of different shale gas uses, and of the comparative lifecycle GHG emissions intensities of shale gas versus conventional fuels has not yet been reached.

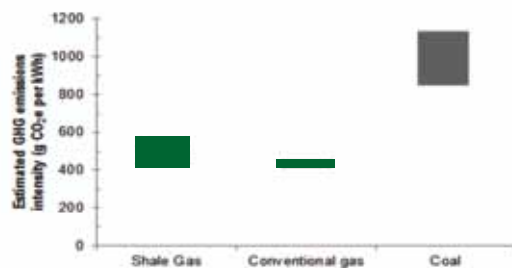
The study looks to understand the implications of potential shale gas extraction, production and use in the South African context. However, the scope of this report does not address these implications but,

rather, is centred on the Greenhouse Gas (GHG) emissions profile of shale gas along its life cycle.

It is important to note that the data analysed is not South Africa-specific given that shale gas extraction and production has not taken place in the country at the time of publishing. Rather, much of the data drawn on in the literature reviewed stems from the United States of America.

Although the independent research and findings contained in the publication do not necessarily represent the views, opinions and position of government, the DEA believes that this research is an important addition to the evolving climate change and shale gas discourse. Hence, the DEA is happy to make this work publicly available and accessible.

This report is now available to the public on the department's website.



Shale Gas Use – Coal replacement

DEA's Chief Policy Advisor, Mr Peter Lukey.



Environmental Education gains impetus

By Veronica Mahlaba



The former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi officially launching the Fundisa for Change Teacher Education programme with sponsors and partners.



DEA Director-General, Ms Nosipho Ngcaba and Co-ordinator of Fundisa for Change: Ms Zintle Songqwaru at the opening of the Fundisa for Change Teacher Education Conference.

The former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi, launched the Fundisa for Change Education for Sustainable Development (ESD) Programme during a conference at Emperor's Palace, Gauteng on 27 - 28 February 2014.

Themed: **Building a national system of teacher education engagement for transformative environmental learning and education for sustainable development**, the Deputy Minister emphasised that environmental education is the most powerful weapon that can be used to realise our constitutional mandate.

"Our positive outlook emanates from the realisation that environmental education, which we tirelessly advocated for over the years, is finally taking the centre stage. Key institutions are coming onboard and this makes me now feel confident that nature can and will be saved," said the Deputy Minister.

The Fundisa for Change Conference and launch is a significant national milestone aimed at strengthening the national system of engagement for transformative environmental learning and ESD through teacher education.

It provided an opportunity for the Department of Environmental Affairs (DEA) as a lead organisation for environmental education in South Africa and its stakeholders to share information with an overall goal of strengthening

transformative environmental learning through teacher education.

According to Director: Sector Education, Training and Development, Mr Thomas Mathiba the conference is important for South Africa as the National Climate Change Response White Paper of 2011 and other national policies point to the importance of mainstreaming environment and sustainable development in the country's national education and training system.

The Programme responds to two core issues:

1. The curriculum content necessary for building national capacity for biodiversity management, sustainable use of natural resources, resilience to climate change, and building a green economy
2. The quality of teachers' knowledge and ability to teach 'new' environmental content.

Fundisa for Change Co-ordinator, Ms Zintle Songqwaru stated that many of the environmental topics in the South African Curriculum and Assessment Policy Statement (CAPS) framework are new to teachers and affect how they are taught to learners in our schools.

"The Fundisa for Change programme seeks to support teachers to improve teaching and learning, contributing to the quality and relevance of education in South Africa," she said.

The Fundisa for Change teacher education partnership programme was established in 2011 from a set of findings in major environmental sector strategy research programmes such as the South African Environmental Sector Skills Plant.

The specific objectives of the Programme

- **Capacity Building:** This objective is focused primarily on the development of teacher education capacity, which in turn will be oriented towards teacher capacity development for transformative environmental learning in the schooling system.
- **Policy and Advocacy (Influence):** This objective seeks to enhance the national uptake of environmental learning.
- **Build National System of Engagement:** This objective seeks to expand the network of providers and the community of practice engaged with transformative environmental learning through teacher education.
- **Strengthen, review curriculum, learning and teaching support materials, especially textbooks:** This objective seeks to strengthen the quality, progression and validity of existing curriculum knowledge and its representation in the national curriculum system.
- **Provide Co-ordination Support to Establish the Fundisa for Change Partnership Programme:** This objective seeks to provide the 'underlabouring' structural co-ordination, monitoring and evaluation and systemic implementation support necessary for the four objectives above.

SAWS adopt Baitshoki High School

By Veronica Mahlaba



SAWS donated 25 computers that will help learners gain computer skills.

A strong message of engaging the youth in terms of weather and climate matters came out when the South African Weather Service (SAWS) adopted Baitshoki High School during the annual celebration of World Meteorological Day in Lichtenburg, North West on 19 March 2014.

The Chief Executive Officer of SAWS, Dr Linda Makuleni said that the theme for this year's World Meteorological Day, **Weather and Climate: Engaging Youth** is appropriate to South Africans as they celebrate the successes of the past 20 years of democracy and are looking forward to the creation of a vibrant and sustainable economy through the National Development Plan's Vision 2030.

"In order for us to see this vision through, we have to ensure that youth develop the skills and competencies required and SAWS is passionate about skills development amongst our youth," said Dr Makuleni.

The purpose of the **Adopt a school** programme is three-fold, it recognises maths and science schools around South Africa for their sustained performance; it encourages a lively interest in the sciences in general and

atmospheric sciences in particular and it creates a pool of learners interested in taking up careers in atmospheric sciences.

SAWS have donated 25 computers, a Stevenson's screen and a standard rain gauge to Baitshoki High School to help the learners connect theory and practice into their everyday lives.

The Principal of Baitshoki High School, Ms Theresa Matonkonyane was overwhelmed by SAWS' support toward the school. "By choosing Baitshoki, you have indeed invested in the future of this country. We are not only going to keep the equipment for our learners but we will share [it] with [the] surrounding schools, so they can also gain information as we are from the same community," explained Ms Matonkonyane.

A grade 10 learner from Baitshoki High School, Mr Odirile Maselwane explained that he did not expect SAWS to one day come to their school and inform them about weather and climate related issues that especially impact their province. "I am happy that we have computers and weather equipment that

might guide us to our career paths and improve our pass rate."

World Meteorological Day is commemorated on 23 March. The day highlights the contribution of national meteorological and hydrological services to the safety and well-being of society and commemorates the entry into force of the Convention that created the World Meteorological Organisation (WMO) in 1950.



SAWS CEO, Dr Linda Makuleni delivering a speech.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS:

Celebrating 20 years of Environmental Management and Protection

The Department of Environmental Affairs' Working on Fire programme employs 5000 young people. These young men and women are fully trained to fight wildland fires and are stationed at over 200 bases countrywide.



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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



Oceans and Coasts

By Tshego Letshwiti



The SA Agulhas II, an icebreaking polar supply and research vessel owned by the Department of Environmental Affairs, is largely managed by the branch.



The Branch: Oceans and Coasts is headed by Deputy Director-General, Dr Monde Mayekiso.

The Oceans and Coasts branch is headed by the Deputy Director-General, Dr Monde Mayekiso and currently consists of four Chief Directorates, namely: Oceans and Coastal Research, Integrated Coastal Management, Oceans Conservation, and Specialist Monitoring Services. The purpose of this branch is to manage and protect South Africa's oceans and coastal resources.

The Oceans and Coastal Research Chief Directorate is responsible for the research and monitoring of South Africa's oceans and coastal environment. This includes biological research on plankton, seals, birds, sharks, whales and ocean floor creatures, as well as the physical and chemical research such as wind, waves, currents and chemical pollutants. The Chief Directorate also provides information that is used in environmental management decisions. The Chief Directorate produced approximately 18 published pieces of science last year, of which most were peer reviewed.

Chief Directorate: Integrated Coastal Management (ICM) is responsible for the effective implementation of ICM strategies aimed at improving the quality of life of communities who depend on coastal resources while maintaining the biological diversity and productivity of coastal ecosystems. This takes place through a process that brings together government and communities, science, management, various sectors and public interests in preparing and

implementing an integrated plan for the protection and development of coastal ecosystems and resources. South Africa's ICM Act, developed by this Chief Directorate, was nominated for the 2012 World Future Council Future Policy Award and had subsequently received honourable mention. The Future Policy Award celebrates policies that create better living conditions for current and future generations.

The Chief Directorate: Specialist Monitoring Services is tasked with providing strategic leadership in the development and implementation of a monitoring strategy for integrated oceans and coastal management. Furthermore, this Chief Directorate gathers, interprets and disseminates information related to marine and coastal monitoring for their improved understanding. With an overall objective of providing an adequate system of monitoring, surveillance and dissemination of relevant data and information related to the management of South Africa's oceans and coastal environment through appropriate planning, management and reporting.

Looking to the future, a major plan for this Chief Directorate is to develop and implement an Online South African Oceans and Coast Information Management System (O&C, IMS). An O&C and IMS with readily accessible information will afford the branch, provinces, municipalities and the general public with the ability and opportunity to

make informed decisions and facilitate, short, medium and long term planning. This will assist the branch to undertake scenario planning in order to better mitigate the impacts of global climate change, such as sea level rise, increased storminess, flooding and erosion disasters.

Finally, the Ocean Conservation Chief Directorate is responsible for ocean management through necessitating regulatory activities within the jurisdiction of South Africa, the ocean and certain areas that South Africa is obliged to look after that do not belong to anyone which are identified as the Deep Sea. This Chief Directorate develops conservation and management policies for the Ocean, Antarctica, and the Southern Ocean and deals with activities in the ocean which also extends to activities in the ice continent, known as Antarctica.

A great achievement for this Chief Directorate is the development of the National Environmental Management of the Ocean (NEMO), also referred to as the Oceans Policy, which was approved by Cabinet in December 2013. NEMO is currently a White Paper policy, and seeks to look at the aggregated impacts of all the sectors operating in the ocean, such as transport, mineral resources, energy and many other departments and sector industries. Cabinet in December 2013 came to the decision that in the future a move towards an Ocean Legislation in South Africa should be made.

DEA Recreational Centre creates over 400 jobs in Mthatha

By Veronica Mahlaba



The Mthatha Dam Tourism and Recreational Centre in King Sabata Dalindyebo Municipality.

During the construction of the Mthatha Dam Tourism and Recreational Centre in the King Sabata Dalindyebo (KSD) Municipality in Mthatha, approximately 431 jobs were created. This was revealed by the former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi during the launch and hand over of the tourism and recreational centre on 30 April 2014.

The former Deputy Minister stated that the Department of Environmental Affairs (DEA) responded positively to the request to build the facility as the concept was premised on the central and strategic intention of developing and stimulating the local economy, for the benefit of surrounding communities.

"When tourists and local residents come to relax, they will further inject much needed income to micro businesses, thereby ensuring the sustainability of the project," said Deputy Minister Mabudafhasi.

Officially receiving the facilities, the Mayor of KSD Municipality, Councillor Nonkoliso Ngqongwa enthusiastically told the gathered community that, the project is going to make this place rich in tourism and that they are ready for the massive tourism boost it will bring.

"The first phase of the Mthatha Dam Tourism and Recreational Centre project which is complete was approved for a budget of R19, 5 million. The deliverables were electricity, bulk water services, waste water, parking facilities, a restaurant and a conference hall to seat 150.

Phase two of the project which is also complete was approved for a budget of R9, 5 million and the deliverables were the refurbishment of an entrance gate to the Luchaba Nature Reserve, the provision of furniture and equipment and installation of a standby generator.

The Mayor of KSD Municipality said that the area does not have conferencing facilities, thus the opening of the Mthatha Dam Tourism and Recreational Centre will assist government and businesses to do their conferencing there.

The municipality applied for funding for a third phase of the project that looked into their Integrated Development and Local Economic Development plans and was subsequently approved to the value of R38 million. Over and above the project allocated budget, the DEA has also committed an amount of R2 660 000, which will be utilised for accredited training for project beneficiaries.

A total of 11 communities which are in close proximity to the project and possible beneficiaries to land restitution stand to benefit during the construction and operation of the facilities. As such, the DEA is in a process of facilitating an agreement between the owning entity and a private operator not to only ensure beneficiation but also look into the sustainability of the establishment.

DEA Chief Director: Environmental Protection and Infrastructure Programmes (EPIP), Mr Gcinumzi Qotywa stated that it is a pleasure to work with municipalities who are always ready for a good change and the betterment of their residents.

The DEA has funded a number of such projects through its EPIP. The mandate of the EPIP is to contribute towards alleviation of poverty while empowering beneficiaries to participate in the mainstream economy in a manner that addresses the core objectives of the DEA.

The EPIP implementation model ensures that whilst addressing the environmental challenges within the municipalities, temporary jobs, small business development and skills development opportunities are created.

5 DOING IT RIGHT: Permits and procedures for bioprospecting



The Biodiversity Act and BABS Regulations set out important requirements for those using indigenous biological resources.

IF BIOPROSPECTORS WANT TO COMMERCIALISE INDIGENOUS BIOLOGICAL RESOURCES (IBR) ON THE BASIS OF TRADITIONAL APPLICATIONS, AND WANT ACCESS TO THE RESOURCES ON YOUR LAND DURING THE COMMERCIALISATION PHASE OF A PROJECT, THEY WILL HAVE TO SUBMIT A BIOPROSPECTING PERMIT APPLICATION TO THE GOVERNMENT. THIS MUST BE SUPPORTED BY A MATERIAL TRANSFER AGREEMENT (MTA) AND A BENEFIT SHARING AGREEMENT (BSA).

THOSE DOING DISCOVERY PHASE RESEARCH NEED TO NOTIFY THE MINISTER OF ENVIRONMENTAL AFFAIRS BUT DON'T NEED A BIOPROSPECTING PERMIT.



IF YOU ARE INVOLVED IN BIOPROSPECTING, YOU NEED TO UNDERSTAND AND COMPLY WITH YOUR OBLIGATIONS OR FACE FINES OF UP TO R 10 MILLION OR JAIL TERMS OF UP TO TEN YEARS!

R 10 MILLION

REMEMBER, YOU CAN PHONE THE ENVIRONMENTAL CRIME LINE ON **0800 205 005** TO REPORT CASES WHERE BIOPROSPECTING IS TAKING PLACE WITHOUT A PERMIT.

FEELING LOST? MORE INFORMATION ON BIOPROSPECTING AND BENEFIT SHARING ON **POSTER 6**

Unlocking marine biodiversity knowledge and opportunities in SA

By Reyhana Mahomed



The project encourages participation from all citizens to contribute to the knowledge base of South Africa's marine biodiversity.



Seakeys will explore opportunities for marine biodiversity to contribute more to the bio-economy.

A groundbreaking project aimed at unlocking marine biodiversity knowledge and opportunities in South Africa was launched in March 2014. The project will run for a period of three years with the aim to ensure the uptake of data that would improve decision-making, service delivery and create new economic opportunities.

The project, Seakeys aims to collate and increase marine biodiversity information and translate this into products that will support decision making and the development of new benefits for the country. The products the project seeks to create include species inventories, Encyclopaedia of Life pages and new species descriptions.

The project was initiated to address the lack of comprehensive marine biodiversity databases in South Africa and the need for improved coordination and collaboration between government departments and research institutes. The description, assessment and understanding of marine biodiversity lags behind that of other environments and these shortfalls hamper monitoring of marine biodiversity, global change understanding, provision of evidence-based policy and management advice, marine spatial planning and the ability of South Africans to derive sustainable benefits from the country's rich marine biological diversity.

Seakeys includes the involvement of researchers, postgraduate students, citizen scientists, decision makers and marine managers who will address these challenges. A total of seven different key areas have been identified that cover the genetic, species and ecosystem levels of marine biodiversity. The seven key areas are:

1. Digitisation of historical and contemporary specimen and biodiversity data,
2. Citizen science initiatives,
3. Taxonomic research,
4. Molecular work to support barcoding, species description, understanding of population genetics and connectivity,
5. Application of collated and new information in research and monitoring,
6. Application of knowledge to support science-based management and policy advice, and
7. Exploration of opportunities for marine biodiversity to contribute more to the bio-economy.

Data will be disseminated through online databases, species pages, guides and maps along with publications and sector-specific guidance to ensure products support sustainable use and development.

In addition, the project seeks to elicit the involvement of all citizens. As such, the project will explore links with the bio-economy and includes a new scuba

diving training initiative called Dive South Africa. The aim is to promote South Africa's marine biodiversity and inspire the recreational diving community to participate in the project. The intention is to encourage fishermen and divers to contribute to the knowledge base that supports the management of marine biodiversity at the genetic, species and ecosystem levels.

Seakeys is coordinated by the South African National Biodiversity Institute. This project will unlock and build new capacity in terms of postgraduate students, citizen scientists, Environmental Impact Assessment practitioners and decision makers.

The Seakeys project team includes 30 team members representing more than 17 different organisations including the Department of Environmental Affairs, South African National Biodiversity Institute, University of KwaZulu-Natal and the National Research Foundation. The project is funded by the National Research Foundation through the Foundational Biodiversity Information Programme which aims to support integrated projects.

South African National Biodiversity
Institute
www.sanbi.org.za
012 843 5000

National Research Foundation
www.nrf.ac.za
012 481 4000

Eco-furniture factory provides skills and jobs to over 200 youth

By Peter Mbelengwa



The Department's Eco-Furniture factory uses wood from alien invasive species cleared by the Working for Water programme, to manufacture school desks, coffins, hospital benches, etc.



The leadership of the former Department of Water and Environmental Affairs play chess on one of the chess tables produced by the programme.

A total of R165 million has been invested in the establishment of an Eco Furniture factory in Garankuwa, Pretoria. The factory, launched on 7 March 2014 by the former Deputy Minister of Water and Environmental Affairs, Mrs Rejoice Mabudafhasi, will provide job opportunities for over 200 youth in the city.

"The Garankuwa Eco-Furniture Factory will initially create work opportunities and skills development for 200 young people through the Expanded Public Works Programme (EPWP) model and be expanded to 428 as the project progresses in the long term. The project will be implemented over a period of three years," said Deputy Minister Mabudafhasi.

The Eco-Furniture Project of the Department of Environmental Affairs (DEA), implemented through the South African National Parks, is a partner in the Department of Basic Education's systematic approach to address the needs of schools, inter alia the requirement for quality school desks for learners. The desks are produced in South Africa from wood of invasive alien trees cleared by beneficiaries of the

DEA's Working for Water programme. The Deputy Minister was joined by the Executive Mayor of Tshwane Metropolitan Municipality, Councillor Kgosientso Sputla Ramokgopa. The launch of the Eco Furniture factory coincided with the launch of a War on Leaks project in Mamelodi.

"The Garankuwa Eco-Furniture Factory will initially create work opportunities and skills development for 200 young people through the Expanded Public Works Programme (EPWP) model"

Speaking during the launch, Deputy Minister Mabudafhasi said the first six months of the War on Leaks project will involve the selection and accredited training of beneficiaries on the following: First aid, Health and Safety, machine operations: chainsaw, dry and wet mill machine operations, moving vessels, furniture making courses, steel bending and welding.

"South Africa is losing 37% of water through leaks which translates to R7 billion per year. The Department of Water Affairs initiated the War on Leaks project which is currently being implemented at different municipalities across the country. This project is aimed at eradicating water leaks in households, schools, clinics and other public buildings, training of unemployed youth with basic plumbing skills and job creation," explained the former Deputy Minister.

The Deputy Minister acknowledged the contribution received from Rand Water in support of the War on Leaks in Tshwane. "They have contributed an amount of R2 million towards the implementation of this project and have further committed to train our young people through the Rand Water Academy. Fiberpipe has also responded to the call from government for private sector involvement and active participation in addressing the socio-economic challenges faced by our country in order to realise the national objectives of poverty alleviation, job creation and skills development expressed in the National Development Plan Vision 2030," said the Deputy Minister.



About the contributor: Peter Mbelengwa

Peter Mbelengwa is the spokesperson of the Former Deputy Minister of Water and Environmental Affairs, Honourable Rejoice Mabudafhasi.

Alfred Nzo District Municipality: Towards Climate Change resilient communities

By Nomthunzi Nizweni



Dr Peter Johnson of the University of Cape Town addressing delegates on national long term climate change scenarios.



Delegates at the two day learning exchange in Springbok, October 2013.

In an attempt to sensitize communities in the Alfred Nzo District Municipality (ANDM), Eastern Cape around climate change issues and create a climate change resilient environment, the municipality held a Climate Change Adaptation Summit on 1 – 2 April in Matatiele. The objective of the summit was to facilitate a discussion on the ANDM Climate Change Adaptation strategy.

The purpose of the workshop was three-fold. Firstly to increase awareness by government officials on expected climate changes in the Municipality, secondly to develop a vision and mission for ensuring that development projects of the municipality would be “climate-proof” and provide ongoing service delivery and finally to examine the 2014/2015 projects in the water, sanitation, roads, disaster management, and communication sectors for the municipality and develop a plan to ensure that these projects are climate proof. The summit was attended by 119 delegates from universities, research institutions, Municipalities and various government departments.

Speakers at the event included representatives from the Department

of Environmental Affairs, Conservation South Africa (CSA), University of Cape Town and Walter Sisulu University. The summit presented details of climate change and expected impacts on the population of the District. The various Local Municipalities in the ANDM presented their own projects that are to be included in the Integrated Development Plan of the next financial year. Delegates assisted with ideas on how to “climate proof” the projects against emerging climate change risks.

Collaboration with Conservation South Africa

This summit comes after a collaboration between CSA and ANDM in the development and implementation of a Vulnerability Assessment to climate change impacts for Alfred Nzo District and its underlying local municipalities. In August 2013, an Alfred Nzo District Climate Change Committee was established. The committee comprised of representatives from all municipalities in the Alfred Nzo District, CSA, Department of Environmental Affairs, Eastern Cape provincial authority on Environmental Affairs, and the Department of Public Works, amongst others.

On 30 - 31 October 2013, the Alfred Nzo District Climate Change Committee members were invited to a learning exchange visit to Northern Cape which was facilitated by CSA and Namaqualand District Municipality in Springbok. This two day workshop focused on integrating climate change to municipal Infrastructure Development Programmes. The workshop was attended by stakeholders from all three spheres of government. During the exchange, officials from ANDM learnt a great deal about strategies and processes that have been used by various municipalities in their effort to integrate climate change into their Integrated Development Plans.

Over the next year, CSA will continue to support the ANDM Climate Change Committee to take forward a pilot adaptation project in each local municipality as well as integrate climate change vulnerability information into the next Spatial Development Framework for 2015-2020.

For a full report on the Climate Adaptation Summit, please contact Fani Nyembezi at Nyembezi@andm.gov.za.



About the contributors: Nomthunzi Nizweni

Nomthunzi Nizweni is a Control Environmental Officer: Local Government Support based at Alfred Nzo District Municipality, Eastern Cape. She holds a BSc (Hons) degree from the University of Fort Hare and is a registered Professional Natural Scientist in Environmental Science.



How you can win the Greenest Municipality Competition

By Veronica Mahlaba

The Greenest Municipality Competition (GMC) encourages municipalities to adopt green practices that ensure a smooth transition to the green economy.

The GMC, previously known as the Cleanest Town Competition (CTC) primarily focused on the implementation of the National Waste Management Strategy (NWMS). This included principles of reducing, reusing and recycling waste materials. Although these principles are still relevant, other elements related to

sustainable development and various greening interventions have been added.

The criteria for the GMC now incorporate elements such as water management, energy efficiency, tree planting, landscaping, beautification, public participation and institutional arrangement and leadership in the municipality. This was done to address environmental protection, social upliftment and economic growth. The evaluation panel consists of officials

from the provincial Departments of Environmental Affairs and from non-governmental organisations that deal with environmental issues.

Who should participate?

Participation is open to all South African municipalities. There are two categories in the GMC; the metropolitan municipality and the local municipality awards. Both categories have second, first runner up and the overall winner positions available.



Municipalities are advised to curb illegal dumping by communities through enforcing by-laws and increasing waste collection services.



Good practice: Establishing a buyback centre is one way in which a municipality can discourage dumping where communities bring paper in exchange for money. Paper is then recycled. This is called good practice.



A community member from KwaMashu, KwaZulu-Natal collects newspapers to sell at the Buy Back Centre the DEA handed over to the community in 2013.

The GMC uses the following seven key elements listed below as criteria for selection:

1. Waste Management

Waste management is a process of sorting, collecting, transporting, processing, reusing, recycling or disposal of waste materials.

2. Energy Efficiency and Conservation

Energy efficiency refers to products or systems designed to use less energy for the same or higher performance than regular products or systems saving energy through efficiency also saves money on electricity bills and protects the environment by reducing fossil fuel consumption and emissions. In South Africa, energy efficiency is becoming mandatory due to the dire need to conserve electricity.

3. Water Management

Water management is the practice of planning, developing, distributing and optimum utilisation of water resources under defined water policies and regulations. Water conservation refers to reducing use of fresh water, through technological or social methods. The goals of water conservation efforts include:

4. Landscaping, tree planting and beautification

These are key components of current municipal functions and activities that contribute or have potential to contribute to carbon off-setting. These are already key components of the greening the nation initiative and should be enhanced to create opportunities for carbon offsetting.

These should be driven by municipalities and implemented by both municipalities and communities or community organisations.

5. Public Participation and Community Empowerment

Public participation and community empowerment are critical components in ensuring sustainability and ownership of the Greenest Municipality Programme. Public participation is a process of actively involving and engaging the general public in development and decision making regarding issues that affect or may affect them. In South Africa, public participation is a legal requirement on developments, and forms part of the NEMA principles that all organs of state need to observe and it is also a Constitutional imperative.

6. Leadership and Institutional Arrangements

Leadership and institutional arrangements are essential elements in any successful greening initiative. These could be demonstrated in a number of ways such as:

- Policy Statements (Vision and Mission), Strategies, Plans
- Appointment of relevant champions
- Allocation of budget for GMC activities
- Baseline and Reduction or Improvement Targets
- Monitoring and Evaluation arrangements
- Education and Awareness campaigns (overall)

7. Presentation

This criterion looks at how the various municipalities present everything pertaining to the above mentioned criteria to the GMC panellists, in terms of the projects they have initiated and are on-going in their respective municipalities. The panellists score municipalities according to inclusivity, preparedness, relevancy, co-operative governance, whether the language used is appropriate for the intended audience and whether the municipality covered the scope of the elements required in the GMC criteria.



Theme	Points
• Waste Management	63
• Energy Efficiency and Conservation	28
• Water Management	34
• Landscaping, tree planting and beautification	20
• Public Participating and Community Empowerment, and	25
• Leadership and Institutional Arrangements	15
• Presentation	5
Total	190



Managing Director found guilty for flouting environmental laws

By Nicole Limberis and Lucky Moja

Blue Platinum Ventures (Pty) Ltd, a company in the Mopani District, Limpopo was formally charged in terms of, inter alia, Section 24 of the National Environmental Management Act 107 of 1998 (NEMA) on 17 October 2010.

Charges against the company were laid by a community representative of the neighbouring village at Maake Police Station. The police notified the Environmental Management Inspectorate about the matter and a joint investigation team was formed between the Department of Environmental Affairs and the Limpopo Commercial Crime Unit.

The company commenced with a listed activity without first obtaining the necessary environmental authorisations as required by law. This activity, and in

particular the clearance of vegetation and the excavation of large holes and pits caused large scale soil erosion and other serious harm to the surrounding environment; including health and safety implications for the neighbouring village and its livestock.

In addition, section 34 of the NEMA was utilised to charge the Managing Director of the company, Mr Maponya in his personal capacity for failing to ensure that the company obtained the necessary environmental authorisation prior to commencing with the listed activity in question. Knowing that authorisation was required prior to commencing with the listed activity, Mr Maponya nevertheless allowed or caused the company to act in contravention of the relevant laws. On 9 January 2014, Mr Maponya pleaded guilty to this charge in the

Lenyenyé Magistrate Court, Limpopo. The matter was postponed to 14 January 2014 for sentencing, whereupon Mr Maponya was sentenced to five years imprisonment, suspended for five years, on condition that he does not commit the same or similar offence. He also needed to ensure that the affected areas are rehabilitated within three months. There was no separate sentence or fine imposed on the company. The rehabilitation is estimated to cost some R6.8 million.

This conviction serves as a powerful disincentive to directors who disobey environmental laws. There is nothing like a criminal conviction and term of imprisonment to focus the minds of directors who might otherwise perform a simple cost benefit analysis and in so doing flout the environmental laws.

About the contributor: Nicole Limberis and Lucky Moja

Nicole Limberis is the Environmental Control Officer (grade B), EMI Legal Support within the Directorate: Capacity Development and Support in the Chief Directorate: Enforcement. Nicole practiced as an attorney until joining the Department in January 2014.

Lucky Moja is an Environmental Control Officer Grade A: Criminal Investigation. Lucky was directly involved in the prosecution of Mr Maponya.

Vox Pops

DEA staff members

By Sipho Mowoko and Sivuyile Ngaba

South Africa recently hosted the 11th Conference of Parties to the Abidjan Convention (COP11) in Cape Town. The conference, convened under the theme: **Promoting Blue Growth in Africa: Towards Sustainable Management of Marine Resources** brought together 22 coastal nations of the Western, Central and Southern Africa. Essentially, the conference tackled, unpacked and explored the concept of a blue economy. We spoke to DEA officials and members of the public about their understanding of the concept of a blue economy. Here is what they had to say:



1

1. Katherine Emmett

About 70% of our earth's surface is made of water. It only makes sense for our green economy to expand beyond terrestrial ecosystems and promote the sustainability of marine resources too. The blue economy encompasses this concept which also encourages a transition from a product-based economy to a system-based one



2

2. Nomvula Sowambi

A Blue economy places emphasis on access to necessities such as health and education by implementing a system of production and consumption based on what you already have. It also acknowledges that some aspect of green living such as buying organic food and using certain forms of renewable energy.



3

3. Theo Rossouw

Blue economy is the utilisation of existing resources, for instance the waste of one product, to create job opportunities. Sustainable initiatives are sought in areas where the community will benefit, while saving the environment in the process.



4

4. Shafique Patel

Blue economy is basically a green economy 2.0. The blue is referenced from the colour of the sky. It is a methodology used where the waste from one process is used as an input for another process. Using this methodology, it would make our lives healthier, cleaner and happier.

Vox Pops continued

Members of the public



1. Justin Zondo

My understanding of blue aqua has everything to do with first the blue/green colour contrast of any body of water and how we can save the environment by learning from aqua life and even finding ways of using water as a source of energy as it covers 70% of the earth.



3. Nompumelelo Zulu

My understanding of blue economy is using natural resources that we have to create products and use products that we deem as waste to recreate more products and generate income from them.



5. Tlotlo Sefoloshe

Blue Economy relates to harnessing oceans for economic benefits. It encourages innovative ways of doing things by so doing it invites entrepreneurial mindsets to cease the opportunities it presents.



7. Sipiwe Hobasi

I think it's a call for innovation of technology to be eco-friendly, while creating sustainable jobs because we are facing climate change and economic crisis globally. We know the Ozone layer has been omitted by greenhouse gases and it is about time we save the little that we have left on our planet, not for ourselves but for the future generation.



2. Bosupeng Motshegoa

Blue economy is the sustainable exploitation of the oceans for financial benefit. It could be in the fishing industry or tourism.



4. Thuli Kubheka

It is a way of doing business in the world of tomorrow. For the future, businesses must start considering combining profit sustainability and scientific knowledge.



6. Hani Koosaletse

Blue Economy is basically seeing companies as part of a bigger system, using waste and by-products efficiently and turn costs and challenges into new possibilities and multiple cash flows.

The Blue Economy principles permit to respond to the basic needs of all with what we have. It stands for a different way of designing business by using the resources available in cascading systems.



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