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IN THIS ISSUE

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SANBI Biodiversity for Life
South African National Biodiversity Institute

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

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The uMngeni Resilience Project is funded by the Adaptation Fund. The uMgungundlovu District Municipality (uMDM) is the Executing Entity responsible for overall project implementation, working with the University of KwaZulu-Natal's School for Agriculture, Earth and Environmental Sciences (UKZN SAEES) who are the Sub-executing Entity. The South African National Biodiversity Institute (SANBI) is the National Implementing Entity responsible for project oversight in partnership with the Department of Environmental Affairs (DEA).

URP INSTALLS TWO EARLY WARNING SYSTEMS CAMERA TOWERS FOR VELD AND FOREST FIRES

Large wildfires not only pose a significant threat to forest health, they also pose a serious risk to the homes and livelihoods of people living near the forest. They can also have wide-reaching and long-lasting effects on human health.

Accordingly, the uMngeni Resilience Project has, through the Richmond Fire Protection Association, procured two cameras that will feed two Firehawk detection centres. One camera was installed in the vicinity of the Thusong Centre at Nhlazuka on 13 December 2019, which will feed into the detection centre at Bushali. The other was installed the next day to cover the Swayimane area, which falls under the uMshwathi Local Municipality and feeds into the detection centre at Howick (Rocky Ridge).

In recent years, veld and forest fires have become a real threat to communities living in the Nhlazuka and Swayimane areas. As the land is vast and the terrain unfriendly, it became necessary to employ technology for early, effective and accurate detection.

These areas were identified because they were not covered by the existing camera system and are vulnerable to veld and forest fire risks. They are URP project pilot sites and their inclusion ensures better coverage of the District by the camera network.

It is the intention of the uMgungundlovu District Municipality to use the existing veld and forest fire detection systems within the District to feed into an integrated early warning system, which will permanently reside in the uMgungundlovu Disaster Management Centre. Plans are already underway to integrate the fire surveillance into a multi-hazard programme, which will both save lives and property once fully developed.

THE FOLLOW-UP UEIP-URP RESEARCHER-PRACTITIONER LEARNING EXCHANGE

The uMngeni Resilience Project (URP) and the uMngeni Ecological Infrastructure Partnership (UEIP) recently hosted a follow-up session for their workshop held in 2019.

The 2019 workshop was a two-day learning exchange that was part of a drive to promote youth involvement in issues central to the work of both URP and UEIP. The follow-up UEIP-URP researcher-practitioner learning exchange was held on 12-13 February 2020. The workshop focused on the progress and challenges of participants with regard to the plans they initiated after the 2019 workshop.

More than 80 young people from around the uMgungundlovu District Municipality (uMDM) attended the event, where they had the opportunity to engage with each other and have discussions, focusing on the initiatives they have embarked on in the past year, with platforms to discuss successes, failures, challenges and opportunities to learn from each other regarding the achievement of the plans they initiated in 2019.

Programme Director Lindokuhle Khanyile began the session by giving a recap of the previous learning exchange as well as the purpose of the second workshop. Thereafter, day one started off with the attendees splitting up into eight groups to discuss what they had achieved since the initial workshop.

The groups discussed the opportunities they had, challenges they faced and lessons they learnt throughout 2019. Each group then selected a spokesperson who then presented what was discussed. A number of wonderful success stories were shared such as how young farmers were able to double the size of their farming plots.

Others shared how they managed to start producing their own seeds, which cut down on their expenses, and some were even able to start supplying retail stores such as Spar with the produce they grew. Although everyone had a different success story to share, they all had one thing in common: they were all products of the skills that they had learnt at the first UEIP-URP Learning Exchange.

After the presentations, there was an open floor discussion headed up by Mr Khanyile. He asked attendees to discuss what the current gaps in terms of mentorship, entrepreneurial skills and access to information were. After participants contributed to this discussion, he then asked what they could do to overcome such challenges, which led to a great solution-sharing session.

The attendees were also privileged to have a motivational talk from guest speaker Dr Pearl Gola. Dr Gola holds a Doctor of Philosophy (PhD) Degree in Water Resource Science from Rhodes University. She is also a professional natural scientist and Ecological Infrastructure Coordinator for the Greater uMngeni Catchment at the South African National Biodiversity Institute (SANBI). She is an experienced ecological scientist with a demonstrated history of working in the environmental services industry, skilled in water quality management, biodiversity conservation, environmental awareness, and environmental education with a strong desire to use her skills and analysis to educate and uplift communities. She has played an essential role in the programme as she has been able to share her vast knowledge with

the attendees and give them vital information that has helped them to become more successful farmers. After Dr Gola's very informative talk, the attendees were able to have a question and answer session with her. The first day closed off with a much-enjoyed networking braai and fun activities.

The second day began with a tour of a farm in Baynesfield, thereafter the participants engaged in group discussions on what they learnt and how they themselves as well as other young farmers can apply this information to their own work.

The session concluded with a discussion on the next steps that would be initiated for 2020. Group leaders were selected and activities to be accomplished by the next event were also discussed. The workshop was closed with a word of thanks and an emphasis on the importance of networking and asking for assistance when needed.

WETLANDS FORM AN IMPORTANT PART OF NATURE

The uMngeni Resilience Project (URP) took part in a World Wetlands Day celebration in Richmond Local Municipality oPhatheni in February this year, hosted in partnership with the Department of Economic Development, Tourism and Environmental Affairs. The various stakeholders attended an information session where they educated various schools about the importance of wetlands.

Among the many attendees and representatives from different organisations, Lindokuhle Khanyile (URP Learning Network Coordinator) gave a presentation on water and wetlands management. He emphasised why community members should care about wetlands, saying, "Wetlands are great filters! They trap sediments and remove pollutants, which helps to purify water."

The other presentations also centred on the importance of safeguarding wetlands. Some of the reasons stressed were:

- Wetlands store our water to ensure supply during dry periods. Wetlands work like giant sponges. They store water and then slowly release it, and this helps to deal with dry seasons with little rainfall.
- Wetlands are fantastically valuable multifunctional habitats – they nurture a great diversity of life, provide water and other resources, protect us from flooding and act as giant filters to ease pollution.

WORLD WETLANDS DAY AND THE IMPORTANCE OF WETLANDS

World Wetlands Day marks the date of the adoption of the Convention on Wetlands on 2 February 1971 in the Iranian city of Ramsar on the shores of the Caspian Sea.

The 2020 theme for World Wetlands Day is an opportunity to highlight wetland biodiversity, its status, why it matters and to promote actions to reverse its loss. According to The Ramsar Convention, "Wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres." Fish ponds, rice paddies, depollution and stabilisation ponds, and saltpans are human-made wetlands.

Wetlands are vital for humans, for other ecosystems and for our climate, providing essential ecosystem services such as water regulation, including flood control and water purification. Wetland biodiversity matters for our health, our food supply, for tourism and for jobs. Wetlands also absorb carbon dioxide so they help slow global heating and reduce pollution, hence have often been referred to as the 'Kidneys of the Earth'. Though they cover only around 6% of the Earth's land surface, 40% of all plant and animal species live or breed in wetlands. The worrying thing is that they are disappearing three times faster than forests due to human activities and global heating.

URP COMMEMORATES WORLD WATER DAY

This year, World Water Day centred around water and climate change and how the two are inextricably linked.

Adapting to the water effects of climate change will protect health and save lives because using water more efficiently will reduce greenhouse gases. The campaign shows how our use of water will help reduce floods, droughts, scarcity and pollution, and will help fight climate change itself.

Water is an important piece in the mitigation puzzle but the single most important key to adaptation. Changes in water availability will impact food security and have already proven to trigger refugee dynamics and political instability. With a changing climate, characteristics of hydrological extreme events will change; more floods and more severe droughts will await us in future.

uMngeni Resilience Project's key messages for this day are:

- We cannot afford to wait; climate policy makers must put water at the heart of action plans.
- Water can help fight climate change; there are sustainable, affordable and scalable water and sanitation solutions.
- Everyone has a role to play; in our daily lives, there are surprisingly easy steps we can all take to address climate change.

The idea for this international day goes back to 1992, the year in which the United Nations Conference on Environment and Development in Rio de Janeiro took place. That same year, the United Nations General Assembly adopted a resolution by which 22 March of each year was declared World Day for Water, to be observed starting in 1993.

World Water Day focuses on the importance of freshwater, celebrates water and raises awareness of the 2.2 billion people living without access to safe water. It is about taking action to tackle the global water crisis. A core focus of World Water Day is to support the achievement of Sustainable Development Goal 6: water and sanitation for all by 2030.

INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY 2020

Globally, around 25% of all animal and plant species are threatened with extinction. This year, the International Day for Biological Diversity (IDB) was targeted towards raising awareness and building momentum on the importance of biodiversity as well as global issues on biodiversity loss, in the lead up to the United Nations Biodiversity Conference in May 2021.

The theme 'Our Solutions are in Nature' emphasised hope, solidarity and the importance of working together at all levels to build a future of life in harmony with nature – build back better. This year is one of reflection, opportunity and solutions; it is the year where, more than ever, the world can signal a strong will for a global framework that will 'bend the curve' on biodiversity loss for the benefit of humans and all life on Earth.

The United Nations proclaimed 22 May as the IDB to increase understanding and awareness of biodiversity issues. As the global community is called to re-examine its relationship with the natural world, one thing is certain: despite all of our technological advances, we are completely dependent on healthy and vibrant ecosystems for our water, food, medicines, clothes, fuel, shelter and energy, just to name a few.

The overall objective of the uMngeni Resilience Project is to reduce the vulnerability of these communities and small-scale farmers in the Umgungundlovu District Muncipality (UMDM) to the impacts of climate change. This is achieved by increasing climate resilience and adaptive capacity by combining traditional and scientific knowledge in an integrated approach to adaptation.

A number of sites were identified by UMDM as demonstration sites for the project sites and were selected based on the results of a vulnerability assessment. Among the sites is the rural Ward 8 of Vulindlela, Msunduzi Local Municipality, where the project is restoring and rehabilitating critical ecological infrastructure to improve its capacity to mitigate effects of climate induced disasters. Such activities include the removal of alien invasive plants, rehabilitating grasslands and restoring the riparian zone.

URP YOUTH FARMER GROUP UTHANDOLWAKHO FARMERS EXPRESS THEIR GRATITUDE

Mjabuliseni Cebekhulu, Director of Thandolwakho Farming, expressed gratitude on behalf of Swayimane youth farmers for the uMngeni Resilience Project (URP) as not only did they receive in-depth knowledge regarding climate-smart agriculture, but the project has enabled them to receive training for their businesses as well.

This training included business and entrepreneurship skills training, seedling production skills and environmental management NQF-accredited training. Over and above that, the project provided youth farmers with opportunities through hosting learning exchanges where they could engage with and gain knowledge from industry experts.

Thandolwakho Farming now has a tunnel and seed trays; they're now growing their own seeds and selling them to the communities. "Each season, we are producing crops and not only are we producing vegetables but we have started farming fruit trees such as mangoes, naartjies, oranges and bananas," said Cebekhulu.

URP and its stakeholders are pleased to see the development and improvement of the youth farmers and will continue to support and encourage them to pursue their farming careers.

Among other objectives, URP aims to reduce the vulnerability of communities and small-scale farmers in the uMngungundlovu District Municipality (uMDM) to the impacts of climate change. A number of sites were identified by the UMDM as demonstration sites for the project, one of the sites being Swayimane in uMshwathi Local Municipality.

AN URP YOUTH FARMER SHARES HER JOURNEY

Thanda Phakathi, a youth farmer from Swayimane in uMshwathi Local Municipality, Ward 8, is not only a thriving youth farmer, she also runs as successful guest house.

Phakathi began farming at a very young age – she was 10 years old when her late mother taught her and her siblings to go into the field and farm. However, her love for agriculture grew in 2017 when the uMngeni Resilience Project (URP) and UKZN visited her community to teach them about farming techniques, which, in turn, would result in profitable businesses.

Farming became enjoyable to Phakathi because she could now sell her crops. She grows all types of vegetables such as green pepper, cauliflower, chillies, potatoes, cabbage, beetroot, carrot and beans, and sells her produce to Wartburg Spar, the local church and to the community at large.

Phakathi's words of encouragement to the youth are: "Agriculture is life; the money is in the soil. Gone are the days when we used to say that agriculture is for old people. We now say that agriculture is for young people who graduated and who want to become entrepreneurs and millionaires at a young age."

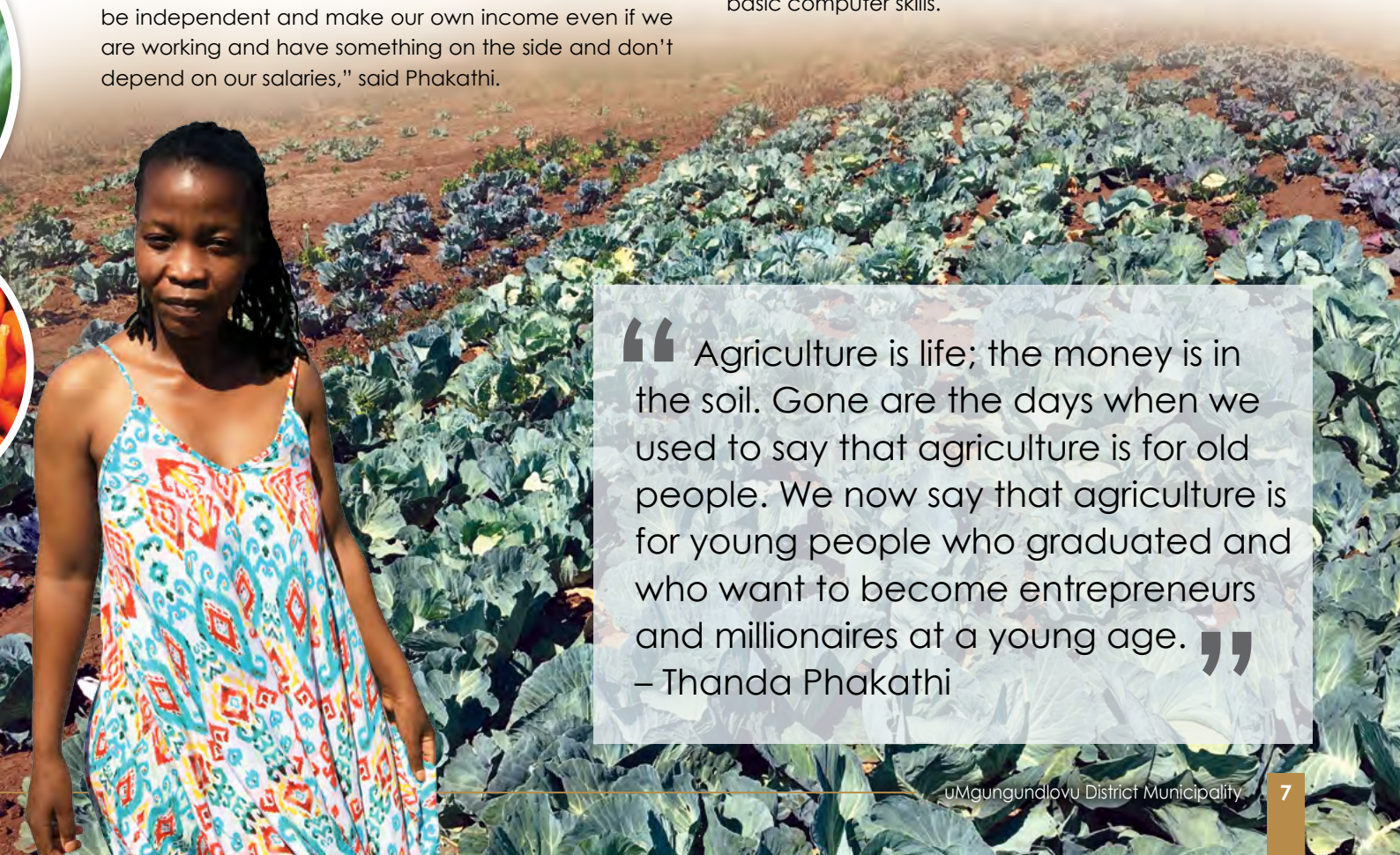
Farming creates job opportunities for unemployed graduates and the youth, especially since many people lost their jobs due to unforeseen circumstances such as COVID-19. "This has opened our eyes – that we must be independent and make our own income even if we are working and have something on the side and don't depend on our salaries," said Phakathi.

She also stressed that there are many challenges in farming, especially for people who live in rural areas, as she sometimes wakes up to find that cows have eaten all her vegetables. She has to continue with farming, however, because failing is not an option. She further explained that URP helped her to realise the importance of environmental management and climate change.

Phakathi is also the owner of KaLanga Guest House, which she established in 2012. The name originated from her clan name of Phakathi. After graduating with a Tourism Management Diploma and failing to secure employment, she established the guest house to teach international and national guests about Zulu culture and the beautiful community of Swaymane.

KaLanga Guest House's first guests was a group of 16 German youth. The guest house has hosted 30 groups of international and national guests and is now providing fresh vegetables from the garden.

Phakathi gives guests the opportunity to learn about Zulu culture and dance as well as meet the traditional leader. Guests visit a nearby natural waterfall that is only a 10-minute walk away. They also participate in an amazing community empowering programme for women and youth that supports economic activities such as agriculture, craft buying and selling, social activities such as orphan and vulnerable childcare projects, and youth projects that provide life skills and basic computer skills.



> "Agriculture is life; the money is in the soil. Gone are the days when we used to say that agriculture is for old people. We now say that agriculture is for young people who graduated and who want to become entrepreneurs and millionaires at a young age."
> – Thanda Phakathi

WORLD ENVIRONMENT DAY 2020 CELEBRATES BIODIVERSITY

World Environment Day 2020's theme was 'Celebrate Biodiversity' and was hosted by Colombia in partnership with Germany.

World Environment Day

World Environment Day, celebrated every year on 5 June, is the biggest annual event in the world run by the United Nations to mark environmental awareness among the people. Its main aim is to raise awareness to protect our nature and look at various environmental issues that are growing daily. It is one of the main actions to protect and save our environment from different environmental challenges the world is facing today.

World Environment Day is also 'People's Day' – a day to do something to take care of our environment. It is an important platform for promoting the environmental sustainable development goals (SDGs).

Biodiversity

Biodiversity is the variation of Earth's terrestrial, freshwater and marine species, as well as their habitats. Biodiversity is the cornerstone for the goods and services of the environment that allow human societies to thrive. Biodiversity provides us with food, water and resources as well as services such as climate control, pollination, flood mitigation and cycling of nutrients.

Ecosystems – from the smallest bacteria to the largest vertebrate – are all interconnected. Some species produce oxygen that others breathe. Others provide food for larger species, which, in turn become prey to even larger species. Every living organism has a role to play in the maintenance of balance.

It is of the utmost importance that we take care of the environment because it is vital to the survival of all life on earth. Keeping biodiverse ecosystems intact helps humans stay healthy. Research indicates that there is a close link between disease outbreaks and the degradation of nature.

Seventy percent of emerging viral diseases have spread from animals to humans. As the global wildlife trade continues and development projects expand deeper into tropical forests, humans are increasing their exposure to wild animals — and the diseases they may carry. For example, the COVID-19 pandemic can likely be sourced to a wild animal and fish market in Wuhan, China. This shows that we must take care of nature to take care of ourselves.

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