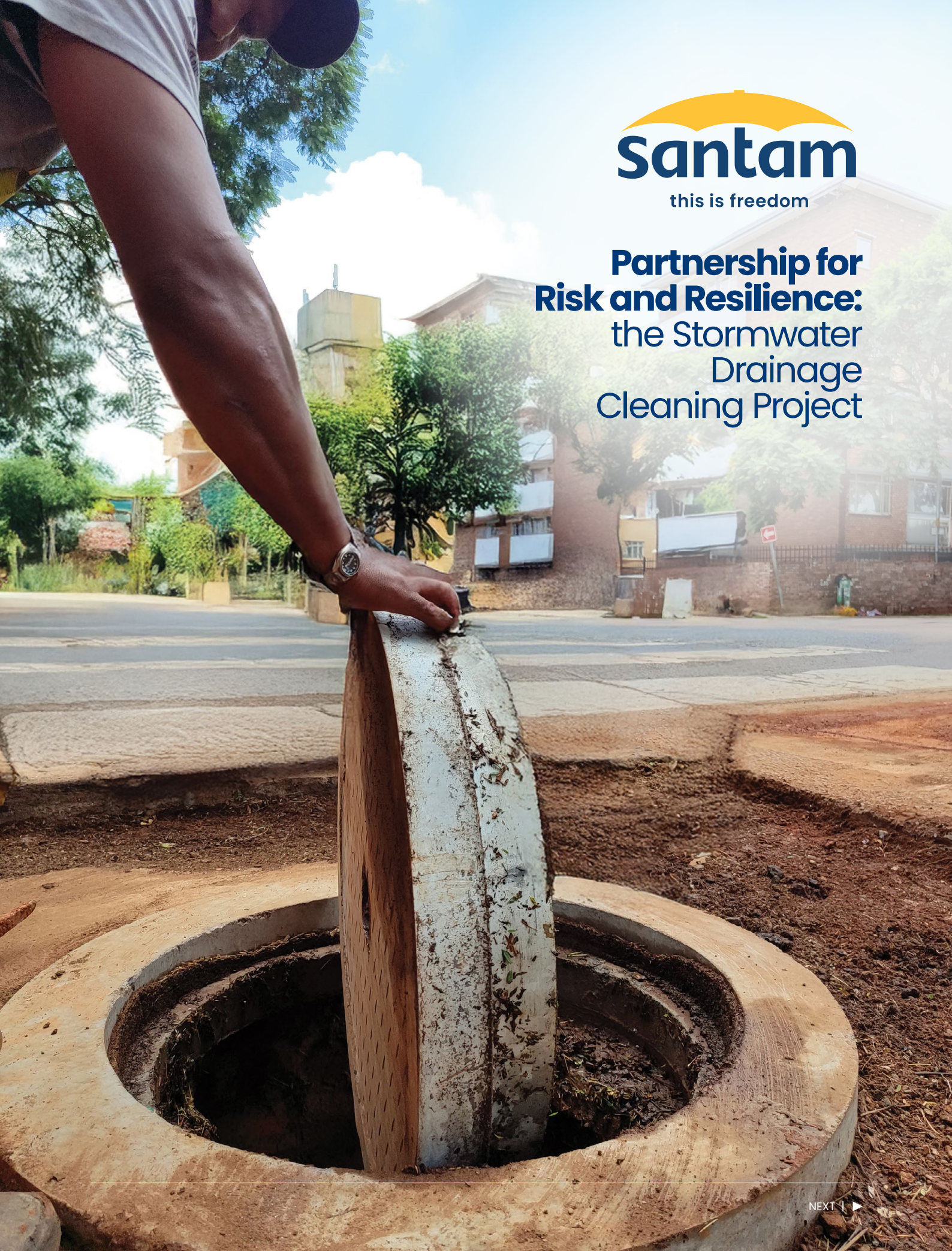

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Partnership for Risk and Resilience: the Stormwater Drainage Cleaning Project

NEXT ▶

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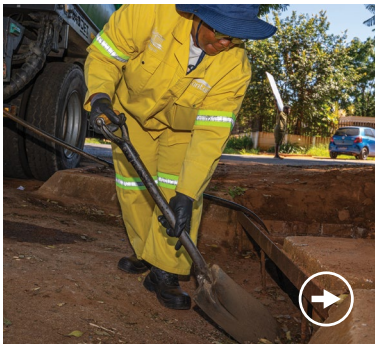

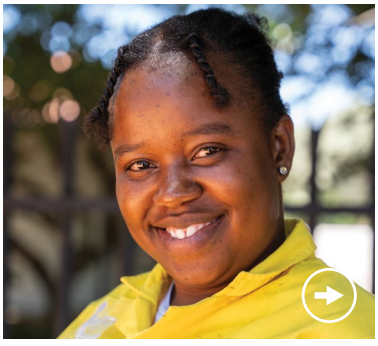

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PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO). ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO)

Charting a **course to resilience**

Many cities across the globe continue to battle increasing flooding risks and losses, particularly in urban centres, largely due to densification, inadequate infrastructure maintenance and climate change. This is exacerbated by the fact that most of the existing infrastructure (including stormwater drainage facilities) is old and unable to keep up with growing demands. Severe littering and disregard for the environment also contribute to stormwater drain blockages and during rainfall season, this results in localised flooding.

Against this background, targeted clearing or cleaning of stormwater drainage systems in selected high-risk areas is essential to reduce flood risks and losses. With this in mind, Santam partnered with the City of Tshwane to clean stormwater drainage facilities in selected Regions of the City as part of Santam's Partnership for Risk and Resilience (P4RR) Programme, including Pretoria CBD, Mamelodi, Atteridgeville, Olievenhoutbosch, Centurion, Eersterust and Pretoria East, to name but a few.

The project contributed to skills development for 10 unemployed learners who participated for a period of 16 months, improving their employment readiness and providing them with technical skills and experience to enable them to find permanent employment after exiting the programme.

While over 1 000 stormwater catchpits were cleaned as part of this project, the impact of this initiative will be observable over time especially during periods of heavy rainfall in beneficiary areas. To this end, the City will regularly monitor flooding severity and trends in the areas were stormwater catchpits were cleaned. Notwithstanding this, the feedback received from the learners is that this project has given them much-needed skills, experience and networks which will be instrumental in their search for better opportunities. The City has advised that they have derived enormous value from the initiative, especially as they have been battling budget cuts.

Santam is confident that this project has contributed to building the City's resilience to flooding, skills development and empowerment, while reducing risks and losses associated with floods. •

Manager: Stakeholder Programmes
Dr Musiwalo Moses Khangale

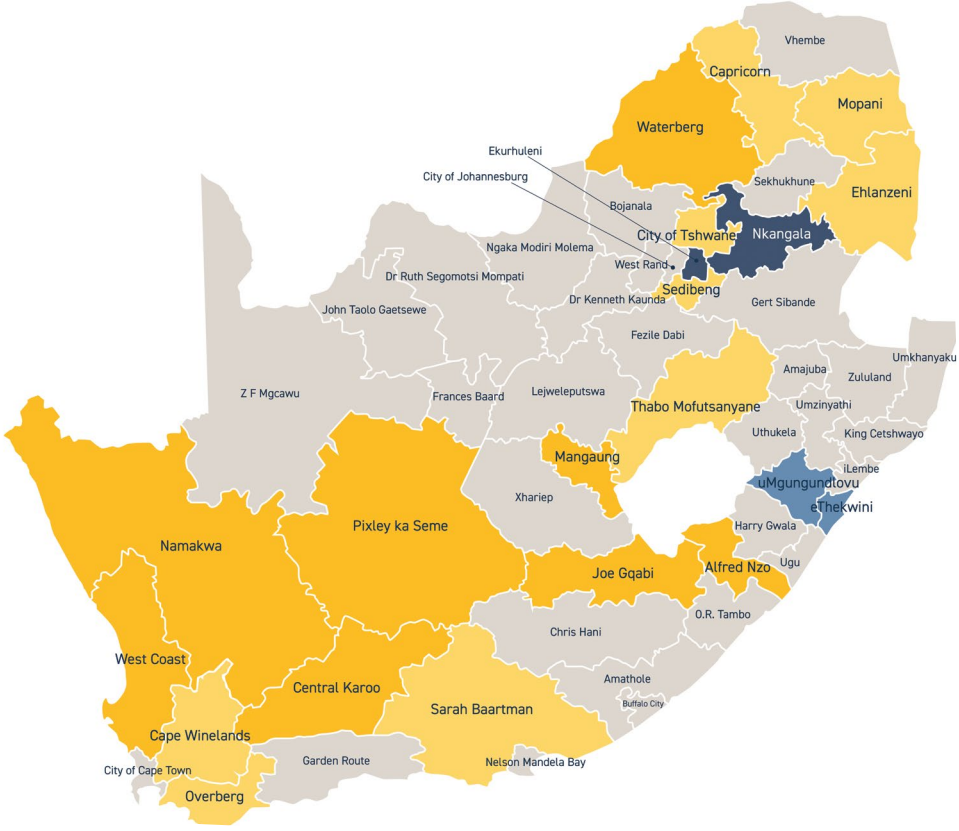
Santam's Partnership for Risk and Resilience: an expansion for greater impact

The Stormwater Drainage Cleaning Project in Tshwane is an initiative of Santam's Partnership for Risk and Resilience (P4RR): a groundbreaking programme that aims to identify and address gaps in disaster response capacity throughout the country.

Municipalities across South Africa are facing increasing disaster risks due to persistent resource challenges and escalating weather events. In response to government's call for corporates to support municipal skills development and capacity building, Santam launched the Partnership for Risk and Resilience (P4RR) in 2012. The focus is on disaster risks associated with fire, drought and flooding.

Initially, five municipalities were identified for support, and this has since expanded to 102 municipalities nationwide.

Partnerships with government, academic institutions,



community organisations and private sector agencies form the backbone of the interventions. Santam, with funding partner Emthunzini Community Trust, has provided funding, equipment and training, while strengthening strategic partnerships that reduce systemic risks and improve societal resilience.

A partnership that is bearing fruit

P4RR addresses a wide range of disaster risk management needs, including equipment, technology, training, community engagement, public education and practical interventions.

Over the past 12 years, P4RR has been able to strengthen institutional frameworks, resulting in improved disaster preparedness for partner municipalities, according to an independent study conducted in 2022. For instance, Santam partnered with the South African Weather Service to sponsor four Automatic Weather Station (AWS) units, which provide early weather warnings in Limpopo and Mpumalanga. These weather stations have been integrated into the weather services systems and are providing weather data that is critical for improved early warning and preparedness.

P4RR has trained over 1 000 people in firefighting, safety and disaster management, and has also reached over 130 000 people with targeted disaster risk education and awareness.

P4RR continues to invest in the resources and expertise necessary to proactively manage risks. Accordingly, the project has invested resources to support municipalities in planning and designing climate-resilient, hazard-resistant settlements through development of climate change adaptation plans.

Looking ahead

As the need for proactive risk management intensifies, Santam's P4RR continues to promote disaster readiness. By equipping municipalities and empowering communities, P4RR demonstrates a replicable model for strengthening disaster preparedness across South Africa. Ultimately, this approach will contribute to reducing loss of life, damage to property and infrastructure, as well as laying the groundwork for sustainable development. •

Impact to date

R120 million
invested in building resilient communities

28.8 million people
benefitted from P4RR initiatives

130K+ people
reached with community-level disaster risk awareness and education

650+ indigenous trees
planted to support climate change adaptation efforts

102 municipalities
supported since 2012

1000+ people
trained in firefighting, safety and disaster management

20 municipalities
supported with development of climate change adaptation efforts

5 metros
supported to strengthen capacity in water security, fire and disaster risk management

PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO). ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO)

South Africa's urban flooding challenges

The country's disaster readiness and response capabilities must be viewed within the context of our unique challenges, including climate change, a growing population, deteriorating infrastructure and capacity constraints.

South Africa is facing a growing challenge with urban flooding. Improving disaster resilience is crucial to protect infrastructure and vulnerable communities.

Escalating weather extremes

Floods are a widely recognised hazard, being the most frequently recorded disasters in Southern Africa – yet there is evidence to suggest that rainfall patterns are changing, becoming more intense, with an even higher risk of flooding, and in turn, the human cost is rising. One study, which analysed rainfall patterns from 1921 to 2020, found that the probability of experiencing significant and extreme daily rainfall has increased across most regions in the country.

While heavy rainfall events can be attributed to natural weather cycles – for example, floods that affected multiple regions in South Africa in February and March 2023 were attributed to the La Niña weather phenomenon – the increase in severity and frequency of rainfall points to climate change.

When infrastructure fails

"The South African economy is beset by structural challenges that amplify the severity of loss events, ultimately pushing the cost of insurance into the realms of unaffordability," says Thabo Twalo, Chief Underwriting Officer, Santam: Broker Solutions. "Examples include poorly maintained electrical facilities, roads, stormwater drainage, rail and port infrastructure, and the well-reported shortcomings in municipalities' water and sanitation, to name a few. Insurers are feeling the pinch from infrastructure-related losses despite efforts to collaborate with government and insured clients to mitigate associated risks. The interconnectedness of risks becomes evident when you consider how poorly maintained infrastructure magnifies the potential losses, insured or otherwise, due to climate change-related extreme weather events."

Municipalities often find maintenance budgets inadequate and must do more with less. Stormwater drainage maintenance is significantly underfunded as it must compete with other priorities, while rapid urban densification and informal settlements have further strained infrastructure. As a result, ageing or inadequate stormwater drainage systems are unable to cope with heavy and disruptive rainfall.

Littering further exacerbates flooding risk, especially if waste removal services are irregular. It's all too common for plastic pollution to clog retention ponds and drainage systems meant to guard against flooding.

Boosting SA's disaster response

Building capacity to protect urban communities from flooding is a complex task which requires multiple interventions, including legislative reform, improved risk assessment, training, infrastructure, community ownership and funding. From the public sector, the National Disaster Management Centre coordinates and advises

national, provincial and local government to step up overall readiness throughout the country. It provides training in emergency preparedness, disaster response, disaster recovery and coordination, as well as monitoring and evaluation.

Investing in disaster preparedness can mean the difference between catastrophe and an incident that's quickly contained. Private sector partners can help to ease the load by contributing resources and expertise required to manage risks and build societal resilience. Alongside this top-down coordination, sharing lessons and successes learned at grassroots level can result in greater impact. This is what P4RR aims to do, and we believe partnerships such as this are crucial to enhance South Africa's disaster resilience.

Building flood resilience in Tshwane

The City of Tshwane – like much of South Africa – has experienced more intense storms which rapidly overwhelm stormwater drainage. The City's Climate Risk and Vulnerability Assessment report identifies flooding as a climate-related hazard that is projected to intensify over the next thirty years. Vulnerable communities, often uninsured, are most at risk. This protection gap compromises residents' ability to bounce back after disasters. Tshwane's flooding risk is amplified by ageing infrastructure, insufficient stormwater drainage for large volumes of water, and settlement location. The City of Tshwane was identified as a suitable partner for the pilot of the Stormwater Drainage Cleaning Project to improve the stormwater infrastructure through a collaborative, community-based approach to maintaining drainage systems.

"Urban flooding is one of the most pressing challenges we face as a City and it poses significant risks to our communities, infrastructure and local economy," says the City of Tshwane's Chief of Emergency Services, Moshema Mosia. "This project not only addresses the root causes of flooding by ensuring our stormwater systems remain clear and functional, but also serves as a powerful example of how partnerships of this kind can drive meaningful change. We are proud to collaborate with Santam on this initiative, which is helping to protect lives, reduce disaster risks and inspire solutions that can be replicated nationwide." •

References

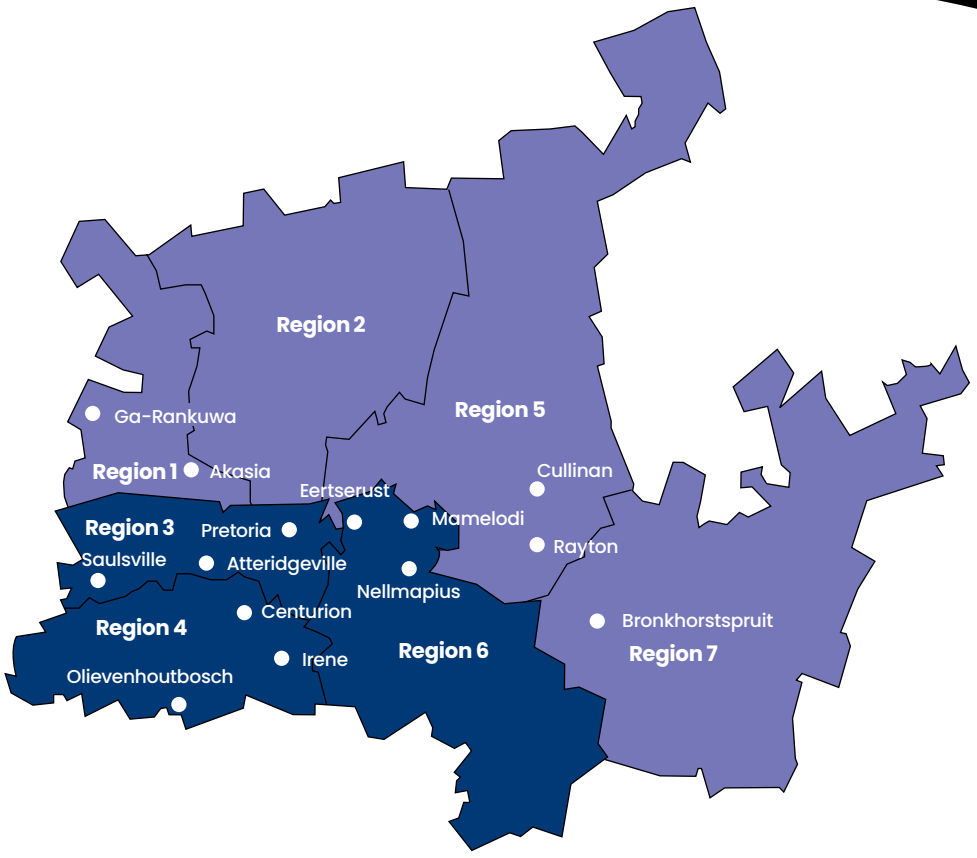
PHOTOGRAPHY SUPPLIED

Clearing the way: the Stormwater Drainage Cleaning Project in Tshwane

Blocked stormwater systems posed a growing flood risk in urban Tshwane. A partnership between the City of Tshwane and Santam aims to improve the City's stormwater infrastructure and offer a blueprint for other municipalities grappling with similar challenges.

Like most cities across the globe, the City of Tshwane faces complex risks posed by flooding within its area of jurisdiction. This problem is exacerbated by rapid and irregular urbanisation, climate change, ageing and inadequately maintained infrastructure, leading to blocked stormwater systems and localised floods that affected residents and businesses alike. In September 2023, Santam and the City of Tshwane joined forces to launch the Stormwater Drainage Cleaning Project to proactively contribute to addressing flood risk.

"This initiative is a step towards sustainable urban resilience," says Moses Khangale, Manager: Stakeholder Programmes at



Santam. "By focusing on a very simple, practical intervention, we were able to create a model that could make a real difference for communities affected by flooding."

A proactive solution

The Stormwater Drainage Cleaning Project was designed as a comprehensive and integrated operation to tackle growing flood risks in Tshwane. The project focused on high-risk areas (regions 3, 4 and 6) that were particularly vulnerable to recurring flooding events, including Pretoria CBD, Atteridgeville, Centurion, Olievenhoutbosch, Itereleng, Mamelodi, Eersterust and Pretoria East.

The first six-month phase of the project commenced in November 2023. The second phase was extended by 10 months, ending on 28 February 2025. Santam provided funding and, in collaboration with the City of Tshwane, implemented the project with additional human resource and operational support from Naidu Consulting. This collaborative approach allowed the project to leverage expertise, relationships and resources from both the municipality and the private sector.

By training and empowering 10 unemployed youths from affected communities, the project offers on-the-job training and development, contributing practical skills and employment to local residents.

Finally, this project also serves as a replicable case study for other municipalities grappling with similar stormwater management challenges. •

RECRUITMENT AND TRAINING

Ten local unemployed youths from the target regions were recruited by the City's Leadership Academy to participate in this project, gaining hands-on experience and technical training. The participants, all students with a minimum relevant qualification, received a monthly stipend for the duration of the initiative. They benefited from practical skills training that could lead to future employment.
The training curriculum covered stormwater system maintenance, pipe clearing techniques, safety management and protocols, data collection methods, project management and communication skills.

OPERATIONS

The project's operations included clearing blocked kerb inlets, pipes and open channels to restore the flow of water. Teams also undertook repairs and rebuilding of damaged stormwater structures to enhance the system's overall capacity and resilience. In addition to the physical drain cleaning and repair work, the project also incorporated data collection and spatial mapping efforts. This data is crucial for monitoring the project's impact, allowing the team to track the areas that have been cleaned and assess the changes in flooding patterns over time. Furthermore, Santam and the City would occasionally hire specialised high-pressure jetvac machinery to assist with clearing blocked stormwater channels.

BUDGET

The project cost a total of R3 235 082. In phase one (six months), monthly project management, stipends and occupational health and safety (OHS) expenses totalled R643 923, while specialised machine hire totalled R684 767. In phase two (10 months), these expenses totalled R1 189 098 and R517 293, respectively. In addition, R200 000 was allocated throughout the entire the project for tools, personal protective equipment (PPE), training and miscellaneous items.

MONITORING AND EVALUATION

Rigorous monitoring and evaluation are integral to the project. Logbooks were provided for students to record their activities on-site, providing a foundation for monthly site visits to assess progress and effectiveness. Spatial mapping tracked cleaning and maintenance progress, as well as the project's impact on flooding patterns over time. 'Before' and 'after' images f stormwater drains cleaned were also taken to demonstrate the impact of the intervention.

A MODEL FOR THE FUTURE

The project exemplifies the power of partnerships in addressing critical service delivery gaps while building community resilience. The aim is to provide a replicable model for municipalities and private sector entities interested in tackling similar urban flooding challenges. "This project is a testament to what can be achieved through collaboration," says Neptal Khoza, Head of Market Development at Santam. "By addressing a pressing local issue like flooding, we've not only improved infrastructure but also created opportunities for youth empowerment and community resilience. We hope this initiative inspires other municipalities and partners to take similar proactive steps in building safer, more sustainable urban environments."

PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO). ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO)

A FRAMEWORK FOR STRATEGIC CHANGE

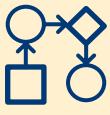
The project's theory of change systematically addresses stormwater drainage management using a multi-faceted approach.

What we are doing

ACTIVITIES

Funding:
- Stipends for participating students
- PPE and tool procurement
- Machinery hire
- Project management

Human resources:
- Recruitment and placement of students by the City of Tshwane
- Drafting of contracts and onboarding
- Entry and exit medicals



Operations:
- Placement of students
- Development of weekly work plan
- Allocation of supervisors
- Execution of duties as per job description

Skills development:
- Exposure to workplace and experiential training
- Opportunity to gather data for POE
- Skills-based courses completed

Project management:
- Appointment of students
- Stipend payments made and payslips issued
- Regular site visits
- Provide liability cover
- Ensure OHS & labour compliance
- Document project implementation
- Prepare monthly project report

Key partners:
- Santam
- City of Tshwane (Roads & Transport, Academy, Stakeholder Relations)
- Project management implementation partner (Naidu Consulting)

Community awareness:
- Design and print pamphlets
- Promotional material
- Branding material
- Local radio station adverts

Service providers:
- PPE
- Tools
- Machinery

PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO).
ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO)

What we are delivering
OUTPUTS

- Utilising partnerships to strengthen service delivery
- Cleaning of stormwater drainage facilities
- Practical workplace exposure and skills development for students

What we wish to achieve
IMMEDIATE OUTCOMES

- Enhanced service delivery capacity through partnerships
- Opportunities created for workplace exposure and skills development
- Additional skills for the City of Tshwane
- Clean and functional stormwater drainage facilities (reduced risk and improved resilience)
- Equipment for use in fulfilling the stormwater management mandate
- Communities empowered to better care for stormwater facilities

What we aspire to
IMPACT

- Significant reduction in flooding risks
- Improve community resilience
- Reduction of insurance claims
- Improve career-readiness of participating students

SCAN THE QR CODE TO ACCESS A MORE DETAILED THEORY OF CHANGE FOR THE PROJECT.

Breaking ground: emerging outcomes

The Project's impact on the City of Tshwane's flood risk will become evident over time, as it requires observation and analysis to fully understand its effects. However, there have already been initial outcomes and results observed, indicating a promising positive impact.

At the time of publishing, the Stormwater Drainage Cleaning Project had resulted in more than 1 000 stormwater catchpits being cleaned across three regions of the City of Tshwane, improving drainage and reducing blockages that contribute to urban flooding. City officials reported a reduction in flooding when heavy rains were experienced over December 2024 and January 2025. However, the project's full impact on flood resilience will only be measurable at the end of the rainy season. Ongoing monitoring will track how effectively the cleaned infrastructure performs in mitigating flood risks.

Skills development and employment opportunities

The project has provided valuable hands-on experience for 10 unemployed youths, equipping them with essential skills in stormwater management. In addition to their initial training, these participants have gained practical skills and expertise that has enhanced their employability, as well as access to a network of contacts that may be instrumental in their career development. Some have already started applying for municipal job opportunities made possible by their newly acquired skills and experience, demonstrating increased confidence in their abilities.

Public education and awareness

Beyond its direct operational impact, this project has played a crucial role in raising public education and awareness. Community members have been engaged in discussions about the importance of stormwater management and how proper waste disposal can prevent blockages.

Additionally, Santam worked with the City of Tshwane's media team to run an awareness campaign on local radio stations, to educate and drive home the importance of community ownership of stormwater drains in their area.This education and awareness campaign aimed to encourage risk avoidance behaviour by all role players

PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO). ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO)

> "The programme has been a success in a number of dimensions. It has given experience and skills to 10 unemployed young people, who now have improved career opportunities. It has supported the City of Tshwane in its capacity to deliver on its mandate, with over 1 000 stormwater catchpits cleared in the selected regions. And it has fostered community education and ownership. The feedback from all stakeholders has been overwhelmingly positive."
>
> **Moses Khangale,**
> Manager: Stakeholder Programmes at Santam

and communities in high-risk areas, as well as inculcate a culture of ownership and activism amongst residents with regard to maintaining their local stormwater drainage systems.

Strengthening municipal capacity and resources

Constraints have limited the City of Tshwane's ability to conduct large-scale maintenance of its stormwater drainage infrastructure. This project has helped bridge this gap by providing much needed resources and technical expertise.

Specialised machinery, arranged through the project, has enabled the City to reach areas that were previously inaccessible due to financial and logistical constraints.

This partnership model has showcased how collaboration can enhance service delivery and contribute to building urban resilience.

Improved flood resilience

Direct flood impact assessments will only be available after the rainy season. Despite this, early indications suggest that cleaning stormwater drains has contributed to reduction of urban flooding risk.

Areas that have been cleaned were geo-located in order to enable tracking and monitoring during heavy rainfall periods. •

Lessons from **the frontline**

The Stormwater Drainage Cleaning Project in Tshwane has yielded valuable insights since its pilot. The project introduced complexities and unexpected daily challenges for both the leaders and participating youths, offering a significant opportunity to gather key lessons and insights for private entities and municipalities considering similar initiatives in their areas.

Urban infrastructure rarely tells a story of human potential, yet this project reveals how mundane municipal work can become a powerful platform for learning and transformation.

The power of partnerships

The strength of the partnership between private organisations and municipalities is the cornerstone of effective implementation and rollout of initiatives such as the Stormwater Drainage Cleaning Project. Although Santam fully funded the project, the City contributed immensely in non-financial ways, such as making personnel available to mentor and supervise the students on the ground. This support included making available resources for daily transport of students to sites. Both parties enabled ownership of this project. There's no implementation without ownership; therefore, it is important that all City employees affected by the project are aware of it and buy into it. Having this buy-in from each department helped institutionalise the project and enabled effective implementation. Buy-in and ownership need to start at the top and trickle down to depots where learners are hosted, so that they are given the opportunity to perform the work they are there to do. Mentoring learners at operational level is crucial for skills development one of the objectives of this project. Furthermore, political will is crucial for effective implementation.

Alignment of student qualifications

Participating students' qualifications must be aligned to the daily tasks and responsibilities associated with stormwater cleaning so that they gain practical skills and prepare for future roles. The 10 participating students were sourced through the Tshwane Leadership and Management Academy (TLMA).

This institution trains students in various qualifications as part of its well-established apprenticeship and artisan training programme, offering various trades, such as electrical, vehicle mechanic (diesel and petrol), welding, fitting and turning, boilermaking and plumbing. Thus, students were selected from this

pool and those with plumbing qualifications were prioritised because the daily tasks aligned with their qualifications. It is important to note that there are currently no stand-alone stormwater drainage cleaning qualifications in further education and training colleges in South Africa, and people who perform these duties are usually general workers and those with general civil qualifications. Although the 10 participating youths were not specifically trained in stormwater drainage cleaning, they learnt valuable lessons and obtained additional skills which will stand them in good stead for the rest of their careers. These lessons include being a team player, listening, discipline, occupational safety, implementing instructions accurately and understanding how their work contributes to the objective of making the City more resilient to flooding.

Considering the centrality of the TLMA or any similar agency in another city, it is critical for these entities to appreciate the scope of work to ensure that the recruited students have the most occupationally relevant and appropriate skills and training. This is important to ensure that the work experience obtained during this period contributes to the experience required for the students to complete their qualifications. Communication is key from both sides – so that the academy knows which students with which interests and skills will best serve the project.

Continuous monitoring and evaluation

The cleaning of stormwater drains is an ongoing process, therefore it's important to embed monitoring of flood-prone areas during and after heavy rains for successful management of stormwater. An additional project element which could be helpful is making connections with a few households in each street in flood-prone areas, and either checking in with them or having them report on the state of their street during periods of heavy rainfalls. This approach will ensure that feedback on performance of stormwater drainage facilities post cleaning is received regularly and directly from community beneficiaries.

Availability of resources

Ensuring resources are available at the operational level is essential for maintaining a healthy working environment. In this case, the City also had part-time on-the-job learners at the same depots as the stormwater cleaning students, all of whom needed supervision and mentoring. Some depots were often short-staffed, with more students than supervisors, leading to students 'competing' for supervisors' time. Thus, it's important for the hosting depots to have adequate operational resources like vehicles, tools and mentors, in order to effectively support the students.

Supervision

Successful implementation is also dependent on availability and willingness of suitably qualified and experienced personnel to mentor the students based at the depots. The allocated mentors often have other competing deliverables which may result in them offering limited support and mentorship to the participating students. Therefore, it is important that students are allocated to mentors or supervisors and mentoring is integrated into performance deliverables of supervisors so that it is prioritised and reported on at regular intervals. The City can also make inductions for both students and mentors mandatory so that roles and responsibilities are clearly defined and explained prior to commencement of the project.

Community ownership and awareness

Ownership is not limited to political leadership and City personnel. Another key level of ownership is buy-in from the communities in which the project is going to be rolled out. It is important to conduct community-level education and awareness campaigns to raise awareness of the importance of keeping stormwater drains free of blockages, particularly in flood-prone areas.

While many stormwater drainage problems can be caused by natural phenomena like silt, community ownership is also essential in terms of not using stormwater drains for rubbish disposal. If everyone adopts a street – their own street – and makes sure it's clean, flooding caused by blockages will be immediately reduced. In some areas, the learners and their mentors were prohibited by residents from cleaning drains due to community members not being aware of the project. However, as soon as the dedicated personnel explained the project to the residents, they were more receptive.

Use of technology and specialised machinery

Continuous monitoring and evaluation rely on accurate record keeping of which stormwater drains were cleaned and their respective locations. Throughout this project, all cleaned drains were geolocated. Geolocating refers to identifying the physical location of an object using technology such as GPS coordinates. Geolocation of all cleaned stormwater drains is critical to enable monitoring and evaluation of the impact of the cleaning. Geolocation was used as part of this project, where project maps were overlaid with flood maps to help monitor flooding hotspots and/or cleaned drains – and this can be expanded upon for future iterations. •

PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO). ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO)

Meet the young URBAN HEROES

Ten young people are at the heart of the Stormwater Drainage Cleaning Project; they gained valuable practical experience while making a tangible difference in their communities.

Comprised of both male and female youth who are residents of the City of Tshwane, especially regions 3, 4 and 6, which were identified as being at high risk of flooding due to blocked stormwater drains, the 10 students were placed in these regions for a period of 16 months. They were mentored and equipped to carry out the critical drain cleaning and repair work alongside dedicated personnel from the City of Tshwane. These young people have gained practical skills and experience and have played a vital role in the City's efforts to stem urban flooding. Their dedication and hard work have made a tangible difference in protecting their neighbourhoods.

The youths received accredited health and safety training to equip them with skills to ensure a secure work environment for everyone involved. Moreover, cones and other related road safety equipment were procured to support safe operations by the students.

All the students taking part on the project kept logbooks to document detailed records of various daily duties they performed to ensure that the work done aligned with what they needed to learn for the duration of the project. The students' logbooks are valuable learning tools to document their experiences, track their progress, reflect on their insights as well as identify gaps that need attention. Here's what the students had to say about their journey.

Thabang Marvin Sebothoma
Region 3,
Belle Ombre

"I wouldn't have acquired so much knowledge if it wasn't for this project. It carries so much exposure, and the knowledge I've received is immense, I'll carry it through my journey."

Tshepo Maboneng Kgaditse
Region 6,
Mamelodi

"This project has given me great experience. I've learned to work with catch pits, drainage, roads and much more. It will help me find another job somewhere."

Nyambeni Tshipala
Region 6, Mamelodi

"We benefitted a lot from the project. I know how to patch potholes, mix paint and how to operate the machines. I can do it on my own. I know the meaning of road signs now, which I didn't know before. I gained a lot of experience."

Noko Jaqueline Masilopana
Region 3,
Belle Ombre

"This project will benefit me a lot. Starting from the work experience I have gained – how to work as a team, how to brainstorm – that I can apply from this project. Not just stormwater, but also road marking and asphalt."

Jacky Chuene Hopane
Region 4, Centurion

"I have learned that stormwater drainage is very important because it prevents potholes and flooding. This project was successful, and I thank them for the opportunity."

Thato Reynard Makuka Ledwaba
Region 4, Centurion

Makwarela Judith Ndou
Region 4, Centurion

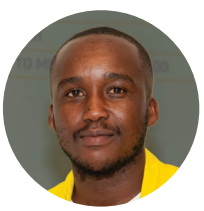
"This project has given me respect, experience, skills. I'm talking about teamwork – collaborating with my colleagues towards a common goal. I now understand how stormwater drainage works."

Phomello James Ntjana
Region 6, Mamelodi

"This project has taught me about catchpits, stormwater pipes and road marks. If they need someone on a construction site in Tshwane, I know that I have enough experience, I can work there."

Gladness Ratselane
Region 6, Mamelodi

"This project helped me work with people. I've learned how to be independent, how to respect older people, how we should treat people on the road."



Tumelo Lyncon Makaepea
Region 4, Centurion

"The stormwater project has given me hands-on, practical experience. Now I know about water flows, environmental aspects, designs and layouts." •

PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO). ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO). SUPPLIED.

Dynamic collaboration: STAKEHOLDER ENGAGEMENT GUIDE

To effectively implement a project, it is essential to unite diverse stakeholders across multiple sectors.

Urban flooding presents a complex challenge that no single organisation can solve in isolation. The Stormwater Drainage Cleaning Project requires a synchronised, holistic approach that brings together municipal leadership, technical experts, political decision-makers, educational institutions and community stakeholders to create a comprehensive and resilient stormwater management capability. Here is a guide to the key stakeholders who were engaged for effective implementation of this project. •

City officials and councillors

Mayor
The mayor can provide strategic leadership, secure political and community support, and champion the project.

Members of the Mayoral Committee
To provide oversight and align departmental efforts.

Councillors
To engage with local communities, raise awareness about the project, and address community concerns.

Municipal operations

City or Municipal Manager
The city or municipal manager must be consulted in the coordination of stakeholders and resource allocation.

City or municipal stakeholder engagement / partnership department
Not every city has one, but this department can be a valuable resource for coordination and contacts.

Stormwater management department
Depending on the size of the city, town or municipality, there may be a dedicated stormwater department, or it may fall under the Roads and Transport Services department.

STAKEHOLDER ENGAGEMENT

Institutions of higher learning

Local TVET Colleges or City Leadership Academy
To facilitate the selection of eligible students with an N6 relevant qualification.

Emergency management services

Disaster Management & Fire Services
Critical as first responders to flood events.

PHOTOGRAPHY LERATO MELCHIOR NTISO (THE REDHEAD'S STUDIO). ASSISTANT: SBUDA TSHABALALA (THE REDHEAD'S STUDIO)

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Participating students

1 Mr Thabang Marvin Sebothoma 2 Mr Tshepo Maboneng Kgaditse
3 Ms Noko Jaqueline Masilopana 4 Mr Jacky Chuene Hopane
5 Mr Tumelo Lyncon Makaepea 6 Ms Makwarela Judith Ndou
7 Ms Nyambeni Tshipala 8 Mr Phomello James Ntjana
9 Ms Gladness Ratselane 10 Mr Thato Reynard Makuka Ledwaba

Participating stakeholders

The City of Tshwane
- Emergency Services
- Strategy and Organisational Performance
- Roads and Transport Services
- Leadership and Management Academy

Naidu Consulting
- Economic Development and Advisory Services
- Water and Sanitation
- Human Resource
- Legal Services

Santam
- Market Development
- Group Underwriting
- Corporate Legal Services
- Group Sourcing
- Brand Services

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