Ecological Infrastructure for Water Security project

Close out celebration!

5 – 6 February 2025

forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

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Biodiversity for Life
South African National Biodiversity Institute

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Building Africa's Prosperity

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February 2025

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A special thanks to the EI4WS project team for their commitment to the work of the project.

Photo credits

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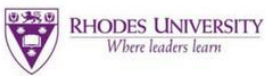
Project partners: Ecological Infrastructure for Water Security



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Acronyms

AFD	Agence Française de Développement
BIOFIN	Biodiversity Finance Initiative
BOCMA	Breede-Olifants Catchment Management Agency
CEO	Chief Executive Officer
CMA	Catchment Management Agency
CMS	Catchment Management Strategy
CoP	Conference of the Parties
CSIR	Council for Scientific and Industrial Research
DFFE	Department of Forestry, Fisheries and the Environment
DWS	Department of Water and Sanitation
EbA	Ecosystem-based Adaptation
EI4WS	Ecological Infrastructure for Water Security project
EPWP	Extended Public Works Programme
ESG	Environmental Social Governance
GCF	Green Climate Fund
GEF	Global Environmental Facility
GIS	Geographic Information System
NBI	National Business Initiative
NCA	Natural Capital Accounting
PUCMA	Pongola-uMzimkhulu Catchment Management Agency
SANBI	South African National Biodiversity Institute
SIP	Strategic Infrastructure Project
TCTA	Trans Caledon Tunnel Authority
UEIP	uMngeni Ecological Infrastructure Partnership
UKZN	University of KwaZulu-Natal
UN	United Nations
UPCEG	Upper Breede Collaborative Extension Group
UUW	uMngeni-uThukela Water
WRC	Water Research Commission
WWF	World Wide Fund for nature

Background

The Ecological Infrastructure for Water Security project

The Ecological Infrastructure for Water Security (EI4WS) project was funded by the Global Environmental Facility (GEF) and led by the South African National Biodiversity Institute (SANBI) in partnership with the Development Bank of Southern Africa (DBSA), the Department of Forestry, Fisheries and the Environment (DFFE), and the Department of Water and Sanitation (DWS) along with a range of partners. The project ran from 2018 to 2025 and focused on demonstrating how ecological infrastructure can contribute to water security in South Africa.

Ecological infrastructure refers to naturally functioning ecosystems that deliver benefits to people and the economy. Since biodiversity and water are closely linked in the environment, some of the most common examples of ecological infrastructure are related to water. Healthy ecological infrastructure, such as wetlands, rivers and Strategic Water Source Areas, can directly support water security by increasing run-off and water storage in soils, preventing or delaying the build-up of sediment in dams, improving water quality and reducing flood damage by storing and slowly releasing flood waters. If ecological infrastructure is degraded or lost, the flow of ecosystem services will diminish. Ecological infrastructure is the nature-based equivalent of built infrastructure, and just as with build infrastructure, it is important to manage, invest in and maintain it. Ecological infrastructure has the potential to complement and, in some cases, substitute for built infrastructure solutions for water resource management. Investing in ecological infrastructure will not only have gains for biodiversity and water, it also creates jobs and strengthens local economies.

The project was implemented across three components of work. The first component involved strengthening the enabling environment for ecological infrastructure in water governance. It involved Natural Capital Accounting, influencing water policy and exploring financial mechanisms to invest in ecological infrastructure. The second component took the work of the project into practice in two demonstration catchments, the Greater uMngeni in KwaZulu-Natal and the Berg-Breede in the Western Cape. Finally, a dedicated component related to knowledge management ensured that lessons learnt from the project were shared.

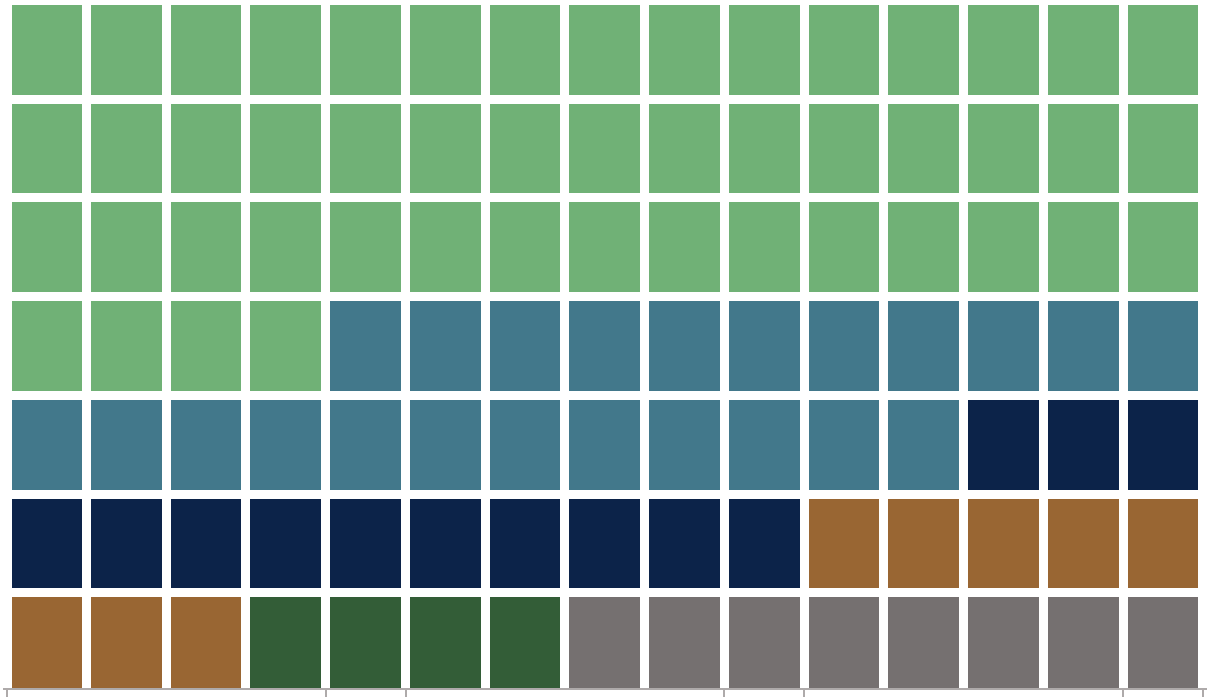
Close out celebration

A close out celebration of the Ecological Infrastructure for Water Security project was held from 5–6 February 2025 at the Vulindlela Auditorum at the Development Bank of South Africa.

The close out event marked the culmination of the EI4WS project. Over the past seven years, the project has demonstrated the power of ecological infrastructure to address South Africa's water challenges. From concept to reality, the project has been a journey of collaboration, innovation and resilience. Together with dedicated partners, it has achieved remarkable outcomes, using the practical experience in the two demonstration catchments to strengthen investment in ecological infrastructure in the country. The event was an opportunity for everyone involved to come together to celebrate the achievements, share insights, and discuss future opportunities.

Attendance

The close out celebration attracted 105 participants from across the biodiversity, financial, water, research and other sectors, in line with the cross-sectoral goals of the project. It was attended by representatives of the funders, implementing agencies, project partners and supporters.



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Session 1: Introduction

Session introduction – *Mr Mahlodi Tau, SANBI*

The participants were welcomed to the close out celebration for the GEF-funded Ecological Infrastructure for Water Security project. Mr Tau expressed his immense pleasure in welcoming everyone, the many faces that he knows, representatives of the partners, and many new people to meet. The event commemorated not just the close of a journey that began in 2018, but the remarkable milestones that have been reached together in securing our water resources. It was the celebration of a seven-year investment with a commitment to restoring ecological infrastructure, and a commitment to collaboration.

Everyone present was welcomed as distinguished guests, but special recognition was given to Mr Michael Hillary, group executive of DBSA, Mr Shonisani Munghedzi, the CEO of SANBI, and Mr Sibusiso Makhanya, deputy board chair of the Pongola-Umzimkhulu Catchment Management Agency.

Mainstreaming ecological infrastructure

"Very little could be achieved without the unwavering support of our leadership. They unlock opportunities, collapse barriers and play a very important role in guiding the project. We appreciate your commitment as leaders."

Mr Tau acknowledged that the list of invaluable partners to this project would take half a day to name. Their presence was appreciated, as well as the time and effort they have made to work with the project in the catchment where they are located. They have made a significant contribution. Although there have been challenges, the knowledge and expertise of the partners has helped to navigate these. Through these partnerships the project has been able to pursue so much more than anticipated. The relationships that have been built must not end, but will be ongoing as we continue the path.

Mainstreaming ecological infrastructure

"As we have often said when mainstreaming biodiversity, it is 10% about the scientific outputs and 90% about the relationships."

Mr Tau called on everyone to reflect on the progress that has been made, and acknowledge the lessons that have been learnt. He said: "There is no failure in a project, we learn from it and take those lessons forward as we are marching towards a 2030 agenda for a sustainable future."

Welcoming remarks – *Mr Michael Hillary, Group Executive, DBSA*

Mr Hillary stated his pleasure in welcoming the participants to celebrate the successful completion of the project. It was a moment to celebrate what has been achieved. This event has deep significance, not just for the DBSA, but for all the partners who have contributed to the project. The journey began seven years ago, when they laid the foundation for a transformative effort to secure ecological infrastructure for water security. It was fitting that the project was brought to its conclusion where it all began.

The DBSA expressed their deep gratitude to all the partners. The collaboration with SANBI, WRC, DFFE, DWS, Statistics South Africa, eThekwini Municipality, the City of Cape Town and others has been nothing short of inspiring. Their commitment to advancing water security is to be commended. Thanks were also given to the GEF for its generous funding and unwavering support towards the success of the project. The project showed how, through collaborative action, government, financial bodies and other partners can come together around water security, ecological restoration and sustainable development.

Water security is essential to the health and prosperity of communities. The impact that this project will have, through its journey to building resilient ecosystems, has only just begun. The DBSA remains committed. This event does not only celebrate the successful completion of this project, but also the start of a new chapter.

The achievement is tinged with trepidation. The biosphere is now in a worse condition globally than it was seven years ago.

Project sustainability

"We know that the biosphere does not respond to words, charm, political power, wealth or policy. It only reacts to our actions and our deeds. Only deeds will affect the biosphere and the people who inhabit it."

While celebrating this chapter, Mr Hillary urged everyone to remember to take their knowledge and convert it in a way that allowed the biosphere to respond. He cautioned against allowing the project to be left as a document, a knowledge base, or resource. Unless we take what we have learnt and apply it in the real world, we will have failed, and that would be a travesty.

Mr Hillary said: "We are starting to make a meaningful impact, and the people here are the ones with the courage to make a real difference. I ask that we continue to make an effort to make a difference through our deeds, because people are depending on us."

He expressed his heartfelt gratitude.

Setting the scene – *Mr Mahlodi Tau, SANBI*

To set the scene for investing in ecological infrastructure it is necessary to look at the story of where the term came from. Mr Tau could not pinpoint a particular moment or event when the concept of ecological infrastructure came about, but it was in the early days of the "Making the Case for Biodiversity" project. For many years, it was realised that the role of the biodiversity sector did not end with conservation authorities and managing protected areas. To make a real difference, it was necessary to take biodiversity considerations into other sectors, like mining, agriculture and urban development. These sectors have their own mandates, such as food and water security, but biodiversity is essential for achieving these. But when speaking to these sectors, the language of biodiversity was not resonating with policymakers.

Mainstreaming ecological infrastructure

"The 'Making the Case for Biodiversity' project was about translating our message into a language that others will understand, and that can be used to inform policy and the decisions of other sectors."

"Making the Case" was about reframing the messaging, so that it would be better received by government departments and the public. It was in this context that the concept of ecological infrastructure came about. It then had to be defined in a way that it would make sense to the target audience. Ecological infrastructure was defined as naturally functioning ecosystems that deliver services to people. It is a message about why it is important to invest. Without even mentioning biodiversity, we show that it is delivering important services that are relevant to what other sectors and municipalities are mandated to provide.

The definition was not particularly well received back then, especially by academics. This was because it is a mainstreaming definition, intended to demonstrate the relevance of biodiversity to someone in government, municipalities, and other production sectors. The concept of ecological infrastructure was aligned with existing efforts to boost built infrastructure in the country. The president had just announced an infrastructure plan with 18 strategic infrastructure projects (SIPs) to grow the economy, unlock jobs, and address inequality, especially in remote areas. It was an opportunity to use the term infrastructure, and make a noise about investing in it.

A 19th strategic infrastructure project on ecological infrastructure for water security was proposed. It was about demonstrating the relevancy of the biodiversity sector to the infrastructure plan. Without even mentioning biodiversity, plants, or animals, like the bullfrogs that need to be conserved, it would nevertheless be possible to achieve these aims as a corollary to investing in ecosystems that deliver services for other sectors.

Mainstreaming ecological infrastructure

"People need jobs, a way out of poverty and to grow the economy. The idea of ecological infrastructure was our way of showing how we could meaningfully contribute."

The idea of ecological infrastructure resonated particularly well in the water sector, where it was clear how ecological infrastructure could support built infrastructure. The concept resonated well because it was linked to significant societal challenges that people were concerned about, specifically water security in a water scarce country. The dams and pipelines are essential to provide water for people, but they are deeply dependent on how we manage our catchments. The case was that ecological infrastructure protects built infrastructure and extends its working lifespan. It culminated in the President himself, at the launch of the

Umzimvubu Dam, announcing that before the dam was built, it was necessary to invest in ecological infrastructure upstream, or the sediments will fill it up.

At the heart it was about unlocking partnerships and collaborations between sectors. People thought the biodiversity sector would only say no to developments, instead it was giving them the tools to inform their decision making and make their own efforts more sustainable.

There had been some investment in ecological infrastructure, through the Working for Water programme of government, and through other efforts towards alien clearing, wetland restoration and donga rehabilitation. However, this type of funding is not sustainable, and we sought instead ways to integrate ecological infrastructure directly into the financing of the water sector. So, the SIP 19 morphed into a demonstration project, to show how you can integrate ecological infrastructure directly into the budgets and funding flows for infrastructure development and maintenance. And the Ecological Infrastructure for Water Security project was born.

In the next few days, we will hear what we have achieved, what we have learned and how we can take this forward into other sectors, drawing on the experience with the water sector. We will look at how we did in our efforts to bring the relevance of biodiversity to the water sector. Using the concept of ecological infrastructure, we can show how scientific outputs can be translated to have relevance to energy security, food security and other pressing challenges of the country. For a concept that emerged a long time ago, we can see where we are now and the possibilities for the future.

Keynote address – *Mr Shonisani Munzhedzi, CEO: SANBI*

Our sector is small, we see a lot of the same people along our journeys. We are pleased that you could join in the celebration not only of the Ecological Infrastructure for Water Security project, but also the transformative potential it has brought to investing in ecological infrastructure for water security. In 2018, I was also requested to speak at the beginning of the project. At that time, we were still talking in abstract. Now we have the evidence for what ecological infrastructure can do for water security.

We are meeting at a critical moment in economic and geopolitical dynamics at the country, regional and global levels. We know that economic growth is important, but so is environmental resilience. We know the challenges we face, and the issue of water security is well documented. We need to sustain and improve on the limited water resources that we have, and the functioning and protection of ecosystems is an integral part of that. All of these things are interconnected, you cannot speak about ecological infrastructure without talking about other socio-economic factors, and about environmental resilience.

The worlds of ecosystems and banking were not connecting easily. What was needed was to come up with innovative solutions, and collaboration. We now know that the development banks are leading the way in recognising that the environment and biodiversity are essential to their work. We have cracked that code and all who were involved have played an invaluable

role. Those who represent the boards of the Catchment Management Agencies, and others, we are grateful for your leadership.

Project sustainability

"This year South Africa is hosting the G20 presidency. Many leaders will be hosted on our shores, and we are hoping that a message of environment and sustainable development comes through strongly in that space."

There will be opportunities to assert the role of ecological infrastructure for water security. And through this project we will have the evidence to demonstrate practically the impact of this work.

The country also recently published the *White Paper on Conservation and Sustainable Use of Biodiversity*. It covers four key themes, conservation, sustainable use, benefit sharing, and, critically, transformation of the sector. Transformation can be defined in many ways. We refer to the Ecological Infrastructure for Water Security project as a transformative project. We can assert its transformative impact.

We are not closing out our journey, we are moving into another step that will rise from the foundation that has been built in this project. In the future, we hope to see a system in which ecological infrastructure is considered as essential as any other type of infrastructure in funding and planning. Then you may see local government receive infrastructure grants for ecological infrastructure as well. It is clear that nature-based solutions, even for things like stormwater attenuation, can be as effective as built solutions and achieved at lower costs. The money that is saved can then be used to improve service delivery in other areas.

To show the value of partnerships, I would like to use an analogy. A rodent could not cross the river and asked an elephant for a lift. The elephant agreed, but because the elephant was big, the bridge shook beneath them. On the other side, the rodent said, "Did you see what we did, together we shook the bridge". In other words, together we can have a greater impact, together we can shake bridges.

At SANBI, we work a lot on national biodiversity assessments, looking at trends in biodiversity threat status and protection levels. We see that the numbers are not improving. Nearly 80% of wetlands are under threat, and river ecosystems are also threatened. But these ecosystems are indispensable. They clean our water, protect us from floods and much more. We need to accelerate our efforts towards caring for these ecosystems. To do so involves including women and youth. Women are often the ones in charge of household water, so understand the need. With the youth we are creating a generation of young people who are passionate about the cause.

The statistics of achievement for the Ecological Infrastructure for Water Security project show what is possible. We have seen investments in ecological infrastructure and restoration in the uMngeni and Berg-Breede catchments. The impact of citizen science and youth involvement was shown through the youth employment under the Presidential Employment Stimulus and Presidential Youth Employment Initiatives, which altogether created over 1 000 jobs, with 31% women and 61% youth. The project was a demonstration. It has shown us how to achieve socio-economic and ecological outcomes together. This is why the Catchment Management Agencies are so important and why we must work closely with them

We are closing this particular chapter, but it is the start of bigger things to come. We have crafted a niche that is respected. Ecological infrastructure is here to stay, and it will provide a light for the whole of society to address issues of water security and sustainable development. We can achieve more together.

Panel discussion: Connecting the dots – water, biodiversity, research and finance

Facilitator: Ms Deshni Pillay

The topic for this panel session is connecting the dots between water, biodiversity, research and finance. It is this connection that the project has embodied. For a moment, think about losing 40% of your salary before it reaches your bank account. In South Africa, we lose 40% of our water before it reaches the taps.

There are lots of opportunities lately to address this, and the team has been very busy drawing out the opportunities and taking them into new avenues for sustainability. This year South Africa holds the presidency of the G20. The United Nations Development Fund in South Africa is the secretariate for the presidency. The Minister of the Department of Forestry, Fisheries and the Environment has specifically asked for assistance in bring environmental and sustainability to the group. He is seeking a model through which we can value the country's natural wealth. We encourage you to get involved and engage, there are a lot of platforms available for engagement.

Project sustainability

"It is not just an opportunity open to us, but an actual obligation to make the effort to mainstream our work into the global agenda. Other global opportunities include the Kunming-Montreal Global Biodiversity Framework, and the outcomes of the UN Water Summit of 2023. Ecological infrastructure has relevance in many of these spaces."

Project achievements

"Over the lifespan of the project, there have been a number of legislative reforms, which the project has been able to comment on. Three were of particular interest to the project, including the National Water Pricing Strategy, the National Water Resources Strategy 3, and the National Water and Sanitation Masterplan."

In the panel discussion, we see how we managed to take the work of the project into these national polices. It also charted the pathways for sustained investment in ecological infrastructure, by linking ecological infrastructure into socio-economic systems, which sees benefits not only for biodiversity, but also for people.

The themes of the session include:

- Water integration – ecosystems as natural water infrastructure
- Policy alignment – recent policy reforms that have enabled investment in ecological infrastructure
- Financing ecological infrastructure – the role of public and private investments
- Research and innovation – bridging science into practice

Panellist: Mr Stanley Liphadzi (WRC)

A stalwart at the Water Research Commission as head of the research development and innovation branch. With a PhD from Kansas State University as a Fullbright scholar, he has worked in the academic and agricultural sectors. He is a professor at the University of Venda.

Question: How has research contributed to understanding the role of ecological infrastructure in water security?

The Water Research Commission has been on this journey, with SANBI, DFFE and the DWS, for many years. Looking back to the drafting of the National Water Act in 1998, it included a chapter that speaks about the reserve – the basic human and environmental water requirements. Since it was right there in the Act, people began to take actual recognition of the ecological role in the water sector. The ecosystems themselves became a role player in a sustainable future.

The concept of ecological infrastructure was further developed during the Grasslands Programme (an earlier GEF funded project with SANBI). The Water Research Commission has never dropped the ball in this process. There have been an ongoing series of research projects that support the concept of ecological infrastructure. These have served to help policymakers and politicians see ecosystems as a role player.

The issues we are working on now are technical issues, rather than conceptual. The questions are how we can find innovative technologies that can contribute to the sector. It is not a straightforward technical field, because when you are working with natural systems you have to be careful. We are also looking at environmental resilience, and how ecological infrastructure is a tool that can help us deal with risks like floods and droughts.

Strategic Water Source Areas are another topic that has been brought to the fore between SANBI, the Council for Scientific and Industrial Research (CSIR) and Water Research Commission (WRC). You now see them reflected in important policies like the Masterplan of the DWS, and many other national policies and strategies.

As a research organisation, we take our role very seriously.

Question: What are some of the research priorities for the Water Research Commission to integrate biodiversity and ecological infrastructure into the larger water value chain?

We can start with the research that is already available.

Project achievements

"In the uMngeni catchment we already have well affirmed and established research on the actual water quality and quantity benefits that can be achieved through investment in ecological infrastructure."

We can harness a wide body of knowledge that is already available to address the country's challenges of lack of water quality and quantity. We already have research that shows that investment in ecological infrastructure can increase water availability and reduce the amount of money that needs to be spent on water treatment. It can even enhance human health by avoiding new emerging water quality issues.

Project sustainability

"We now simply have to implement the science. One of the future research needs is to actually monitor progress and impact as it happens."

The WRC is a stakeholder centric organisation, our role is to capture the knowledge and experience from those who know more than we do. The WRC will be the new convenor of the community of practice for Catchment Management Agencies. This has been long in the making.

Panellist: Ms Ndileka Mohapi (DWS)

Ms Mohapi is another long-term partner. She has worked in water resources management in South Africa and Lesotho for many years. She has been at the national department since before the National Water Act was promulgated in 1998, and has been around to see how ecological infrastructure has found its way into policy and legislation.

Question: How have recent legislative and policy reforms integrated ecological infrastructure into water resource planning, and has this been effective?

It has been a long journey that has gradually influenced the way we do things. I was reminded of a few things that took place, from the concept of the ecological reserve in the National Water Act, to the workshops held under the Grasslands Programme, the development of the National Freshwater Ecosystem Priority Areas, and the efforts to establish a 19th Strategic Infrastructure Project (SIP) around ecological infrastructure.

Mainstreaming ecological infrastructure

"There have been ongoing efforts to integrate ecological infrastructure into water security. There has been a thread across all of these efforts that has continued our work and moved it forward."

Along the way, one of the most challenging aspects was trying to convince political leadership of the reasons. The political dimension is often the hardest to navigate. Ministers who are tasked with ensuring that people have access to water felt that these efforts were an attempt to prevent development and protect the goggatjies and nearly extinct frogs. Yet there has been a lot of cooperation between the water and the biodiversity sectors. At one stage, we reported to the same Minister, which contributed to bringing us closer together.

The National Water Act requires that water resources are classified and that water quality objectives are set. These are indicators for what the habitat needs to look like in terms of hydrology, water quality and more. Some of this information came to us from the National Freshwater Ecosystem Priority Areas project, and in turn, we started feeding back information to the biodiversity sector as well.

In the process of water resources planning, trying to include ecological infrastructure and the ecological reserve came at a price – in relationships with engineers. Engineers did studies that overlooked the need for sustainable freshwater ecosystems, and consequently

overcommitted the amount of water that would be available. There were tensions when we came in and said that it would not be possible.

One thing to appreciate in South Africa, we definitely respect our laws and try to meet their intention. In terms of effectiveness, we are still getting there, we have made progress to get to where we are at this point. We try to give conditions to protect ecological infrastructure during licensing, with guidelines of what should be done, but regulation is not always the best way to implement things. One of our shortcomings is that we tend to communicate amongst ourselves, and leave out the implementors or others who could also contribute to the changes we want to see. In the work that we do, there will always be trade-offs, because people don't always think the same way that we do. That is why it is important to bring them into the conversation.

Question: How does DWS plan to align the masterplan with the National Biodiversity Strategy and Action Plan?

We plan to do this by drawing on lessons from previous efforts. The National Water Resources Strategy 2 was the first time it included an implementation strategy. Looking at that strategy, we realised that to implement the strategy we would have to call in the assistance of other stakeholders. The requirements of the strategy were not only the work of the DWS, but also of its partners.

It taught us many lessons because we were not able to fully measure the implementation of the strategy. It also showed us that five years is not a realistic timeframe. Implementation in this space requires longer than five years. Hence, for the latest strategy we are proposing ten years.

The new National Water Bill has not yet been approved, but we are incorporating learning from these initiatives to revise some sections. For example, Strategic Water Source Areas were not included at all, but is now being included by working together with SANBI and the DFFE, with input from the state law advisors.

The National Water Resources Strategy 3 has the National Water and Sanitation Masterplan as its implementation instrument. The good thing is that the masterplan is reviewed every year, which gives an allowance to accommodate new initiatives that arise and that could influence ecological infrastructure.

Project achievements

"To show how much ecological infrastructure has been institutionalised, the corporate planning unit of the DWS had a meeting to account for performance over the last five years. We specifically discussed progress on ecological infrastructure."

A shortcoming we identified was a weakness in regulation. When someone gets a license that includes conditions for ecological infrastructure, yet decide to break those conditions, they have to be dragged to court in a protracted process. We need to do some self-reflection so that we can change from policing these conditions, to encouraging compliance. Another shortcoming is in the municipal space. We are trying as government to address these challenges, but it will take time to see the tide turn.

In terms of biodiversity policy, we work closely with those who are involved in policy development across both sectors, and we involve our policy section in these discussions. We are pleased to see the involvement of a lot of youngsters, and remain optimistic that the partnership will grow through their efforts.

Panellist: Ms Mukondi Matshusa (DFFE)

Ms Matshusa has been in government for many years. She comes from planning and monitoring and brings that viewpoint to the work. Her current portfolio in the DFFE involves the development of policy and management tools for species and stewardship. She is a leader of the Biodiversity Finance Initiative (BIOFIN).

Question: What is the role of the biodiversity stewardship programme in securing Strategic Water Source Areas and what is the DFFE doing to secure water resources?

I come from a rural village, which has the concept of stewardship without ever calling it that. Our community knew that we had a responsibility to maintain our own river system to make sure that there was water for irrigation. It was a system that was working, and perhaps we should not have tampered with it.

The role that biodiversity stewardship plays is to bring in private and communal landowners to contribute to biodiversity conservation, but by remaining as the custodians of their land and biodiversity. Communities and the private sector hold 80% of land in South Africa, so they need to be involved. However, land remains a sensitive issue in the country that impacts on efforts to conserve biodiversity and secure SWSAs.

When you go amongst economists and planners, you cannot be seen as a tree hugger that wants to prevent development. But we now have the experience of how to tell a good story that will have an impact and catalyse investment. Biodiversity stewardship is recognised as a cost-effective mechanism in the National Development Plan. Biodiversity stewardship creates a platform, or a vehicle that offer security for public and private investment. These benefits have informed the biodiversity stewardship finance mechanism of the BIOFIN project. We are nearing an end and now have mechanisms to test with National Treasury and the private sector to mobilise funding for the programme.

Social process

"It often rests on how well you can demonstrate the benefits for communities and landowners on the ground. We have gone beyond the era of expert driven projects into an era in which communities and landowners take the lead."

During these holidays, we visited a community that has a spring that is a source of water and blue clay. A woman of the community has taken the initiative to create a recreational park around the spring. The language of what she is doing is not scientific, it is not about biodiversity at all, but it has environmental benefits. She has achieved this with no contributions, it is fully entrepreneurial. What we learn here is that we don't have to push an agenda of conservation so hard, it can happen anyhow through other efforts towards simple stewardship of the environment.

Question: Considering the pillars in the White Paper on Conservation and Sustainable Use of Biodiversity, what is still needed to facilitate transformation and how will that contribute to securing ecological infrastructure?

The first reflection is to understand what we mean by transformation. What are we transforming into what? Everyone has their own idea of transformation, and in some cases, it contains misconceptions about taking from one to give to another. What it really means is transformation in our own systems, how we transform our financial and institutional functions, and those in the sectors we are working with.

What is needed for transformation is to normalise the integration of ecological infrastructure, because it is a fundamental part of water security. As it is now, it is more of an add-on, an

extra. It comes as an afterthought, or a compliance issue that arises when trying to get a water license. We need to normalise taking ecological infrastructure into account because of its importance in protecting built infrastructure. We also need to consider monitoring, because we may set conditions, but the impact may not be as expected, or we are not innovative enough in understanding the designs.

We still need to translate our science into a language that others can adopt in their processes. Another way for transformation to take place is to allow innovation in applying our mandates. We all need to think about socio-economic development.

The pace that we move with is slow. In the world out there, things are changing every day. You can talk with a community and the next day an investor can be there with another proposition. But developing an Environmental Management Framework will take five years. The message we receive from communities is that they will not wait for us. When you come to a community with ideas, you must also look at how fast you can deliver on them.

We also need to think about how we can use the information and evidence that comes from Natural Capital Accounting. At present we contribute to the generation of information, but it is less clear how we should be using that information.

Project sustainability

"The Minister, who comes from a business finance background, has put forward seven priorities. We need to see how we can align ourselves with those priorities."

Panellist: Ms Mookho Mathaba (DBSA)

A climate finance specialist at the Development Bank of Southern Africa (DBSA) who holds an MBA, MSc and MA degrees. She leads the climate finance directorate which is about appraising sustainable investment for climate change adaptation and mitigation, and bringing in investment from the Global Environmental Facility (GEF) and Green Climate Fund (GCF). She is also implementing another project on energy security.

Question: What financial instruments does the DBSA offer to contribute to water security projects, when working with large bulk, built infrastructure?

This is the most advanced project in our GEF pipeline, so it is a triumphant day for us. The journey of how an infrastructure bank got to be involved in a project like this begins in 2012, when we received some money to pilot projects in the green space. Back then climate finance was not as popular as it is now, so we established the Green Fund, which would be able to support nature-related projects that were possible within the mainstream of the bank back then. We then successfully achieved accreditation from the GEF and the GCF. With the financial resources from these funds, we aimed to develop programmes that would test the market and create an evidence base of how to invest in these types of projects. Some of the elements that emerged from this project, such as testing mechanisms with the eThekwini municipality and in the Western Cape, have enabled us to develop much larger scale projects through the GCF.

The process that we have taken is to test new mechanisms, then scale them up and then eventually mobilise private sector funding. We design projects that do not compete with commercial banks, but instead attract them to get involved. Then through credit enhancement, first loss provisions and concessional loans, we can allow projects that may not have been investable to become bankable.

Project sustainability

"The DBSA has an interest in innovative financing mechanisms, in the form of outcome-based bonds, biodiversity credits and carbon credits, which require partners. We are exploring and experimenting with innovative funding models."

The importance of collaborations in innovative financing has been mentioned. It is important to build relationships with other public development banks, and multilateral banks across the globe. We have to work together to develop stronger principles to meet the goals of the Paris Agreement and the Sustainable Development Goals. To do so also involves working with civil society and universities as think tanks to find financing instruments that address challenges in the countries in which we operate.

Question: What is the relationship of the water-environment nexus in the G20 and the Finance in Common Summit happening in 2025. How do we link in with these important events?

Project achievements

"When we look at the Ecological Infrastructure for Water Security project, we can see just how many stakeholders are needed to make a project successful. The team did amazing work to get people involved."

Collaboration will be imperative to meet the targets of the Paris Agreement and the Global Biodiversity Framework. We hope that we can take what has been built as part of this project and scale it up through these global events.

South Africa assumed the presidency of the G20 in December 2024. It plans to build on the excellent work of the previous presidency by Brazil. The DBSA is part of the G20 sustainable finance working group. We will build on establishing sustainable finance architecture and scaling up climate finance for the just transition. One of the aims is to strengthen collaboration and bring in the power of philanthropy. We need to work together with commercial banks, other development finance organisations, universities and SANBI to unlock the financial potential in carbon and biodiversity credit markets. It is a new arena for many of us in finance.

It has been a pleasure working with SANBI. Attending the Conference of the Parties to the Convention on Biological Diversity, it was clear that SANBI is a world-class institution, and the world is impressed. We were so proud. Now, with all eyes on South Africa, we can show them what it takes to achieve the targets that have been set globally.

Signing of the Memorandum of Understanding between SANBI and PUCMA

A Memorandum of Understanding was signed between SANBI and the Pongola-uMzimkhulu Catchment Management Agency (PUCMA). The CEO of SANBI said *"We used to speak about the science-policy interface, now we have extended that to the science-policy-people-practice interface. In short, that is why we are signing"*.

The Deputy Board Chair of PUCMA noted that he comes from a different background to many of those present – the engineers who don't usually engage. Having been in the local government sector and connected with water boards for the past three decades, it is evident that the challenges are escalating on the side of water consumption. It is exciting to listen to people who think differently. The water cycle starts somewhere, and water in South Africa is scarce not just for people, but for the environment. Typically, when engineers speak about the environment, they are speaking in the context of Environmental Impact Assessments and Water Use Licences. That is all. After the design is done, and you are looking for investment, it is very late to begin finding each other. Engineers simply design systems to get the water where it needs to go, they seldom consider aspects of sustainability. You are encouraged to

join in engagements, so that we can start speaking to each other earlier, and at a higher level. Come and present at our meetings, those of the water boards and the metropolitan municipalities. It is well and good to have sessions like this, but you are preaching to the converted, you are missing the very people who really need to hear this. Those involved in water provision are also closer to the hearts of politicians. When you speak about water, people pay attention. We need to find each other at the level of the technocrats, and start to professionalise the way we work together. That is the reason that we are signing this Memorandum of Understanding. We will use this MoU to assist you in reaching the ears of the right people. We look forward to engaging with you.

Session 2: Project framing

Panel discussion: Youth involvement

Facilitator: Mr Roderick Juba

The Ecological Infrastructure for Water Security Project was very intentional in bringing in young professionals. The experience has been transformative – not only expanding their technical knowledge but also demonstrating how interdisciplinary approaches bridging biodiversity, water management, research, and financial sustainability are key to addressing South Africa's environmental challenges.

This session brought together research assistants and interns who contributed to the EI4WS project. Through their eyes, we see what they understand about ecological infrastructure for water security, and how these professionals are prepared to shape the future of environmental conservation. We also reflect on how to better create space for our young professionals to grow and become leaders in their own right.

Panellist: Ms Alwande Nxumalo (by video)

I was an intern with the Greater uMngeni team. I learnt a lot, as I was heavily involved in the on-the-ground work of catchment management activities. I learnt how to advocate for the protection of natural resources while allowing for the development of the African continent. Now I am working on the built infrastructure side, looking at green infrastructure corridors for African trade, including climate change integration.

Panellist: Mr Luvuyo Kani (by video)

I joined the EI4WS project in Component 1, where I supported the work of Natural Capital Accounting (NCA). I learnt a great deal about using NCA as a tool to take stock of the ecological infrastructure that we have. NCA is a robust accounting framework that can help make informed decisions. I am still involved in NCA, but in a different context. I am now dealing with corporates and organisations using similar principles to NCA to help them make better decisions about the ecological infrastructure that is under their control. I view myself as a return on investments.

Project sustainability

"The project decided to invest in all of us as interns, and now we are out here dealing with ecological infrastructure in many different contexts. Anything that you do for ecological infrastructure is likely to take a long time, so the youth are the champions who can take things forward."

Panellist: Mr Ndzolo Bam

Ndzolo has been involved in presidential employment initiatives around invasive species clearing, wetland and river rehabilitation, and also the River Maintenance and Management Plans.

Question: When you first started working on water use licenses, what were your perspectives and how did that change? What are some of the challenges of young people entering the sector?

Like most, my journey began as an intern and I was involved in a body of work related to mapping ecological infrastructure, mapping wetlands for the National Wetlands Map, clearing invasive species and River Maintenance and Management Plans. All of these are ultimately focussed on improving water availability in the catchment. But it is actually about much more than just water availability, because this is also an investment in disaster risk reduction and environmental resilience. Many of the worst natural hazards are water related, but when we make investments in ecological infrastructure, we not only achieve more water availability, but we also invest in built infrastructure, improve resilience and the safety and livelihoods of people. My involvement has grown to see that we are not only providing water, but we are saving lives.

Investing in the youth is like an inheritance. It is important to involve young people, not only at the receiving end of initiatives. Youth should be engaged in the whole scope, so that they can see not only what is needed, but why and how it should be done. Those who are experienced need to open up room for young professionals and the young people themselves need to take up space when the opportunities are offered. Together, the young people and the greybeards, the madalas, can promote sustainable development in the water sector.

Panellist: Ms Sive Melane

Sive has been involved in mapping water use licenses for local catchment management agencies and ensuring that water resources are used efficiently and sustainably.

Question: When you first started working on water use licenses, what was your perspective and how has that changed? How did it enable your move into the Catchment Management Agency?

I was working with SANBI as a GIS intern and research assistant. I was tasked with helping the licensing specialists at the Catchment Management Agencies. At that stage, I didn't know anything about this. My studies were focussed on GIS. This role taught me everything I now know, which has led to the position I am in now. I get emotional when I talk about these things. I came very far to where I am now, and I am proud of myself. I didn't know anything about legislation, and now I can cite the exact sections of the National Water Act. I can provide a very detailed map that can be used. Because I was ambitious and dedicated, and to show that I was not lazy or unenthusiastic, I did my best. As a result, I have managed to secure myself a post at the Catchment Management Agency. I am now working with verification and validation, and expanding my work to other sections of the National Water Act. I have also taken the initiative to do my masters, so that I will have more environmental knowledge.

Panellist: Ms Nombulelo Ntongolo

Nombulelo has been working on mainstreaming biodiversity into the finance sector, particularly exploring financial and policy mechanisms for investing in ecological infrastructure, a critical area for long-term sustainability.

Question: Working on ecological infrastructure in finance, and collaborating with diverse stakeholders, what are your biggest insights?

One of the most significant challenges for ecological infrastructure is the instability and disruptions in funding. It is not about needing more funding, it is about the sustainability of funding streams. Funding is often available, but there is so much red tape to access that funding. During these interactions, I have seen some exciting opportunities to address this challenge.

Panellist: Mr Dalisu Hlatshwayo

Dalisu was part of the Greater uMngeni team, supporting the management of enviro-champs – local youth employed in their communities to engage in activities such as reporting water leaks, garbage collection, ecosystem rehabilitation, and water quality monitoring.

Question: How have you changed in your view of how the youth should be involved in ecological restoration and water security?

I would firstly like to thank all of my supervisors and mentors who have been involved during the long four years of my short career. I have learnt a lot and grown a lot. It has been a privilege to work with the youth, with the enviro-champs.

Social process

"My biggest takeaway is that youth led initiatives have the power to change community mindsets. Youth are focussed on spreading awareness at the household level, which creates a much deeper impact. You start creating change from the level of households."

The biggest challenge is the lack of a definitive career pathway that is open to the youth. Mentorship, training and a structured programme is super critical. If you invest in the youth, you are not just investing in today's environmental issues, but tomorrows as well. I also have a surprise announcement. My time with the EI4WS has come to an end, and I have just started a new job at Eskom. I am very grateful to have been able to stay in the EI4WS project so long.

Panellist: Mr Siphamandla Ncengwa (Amanzi champs)

Siphamandla is a representative of the Amazi champs with firsthand experience of working on the ground, highlighting the impact of community-driven environmental stewardship.

Question: Being part of a community mobilisation programme, how has it given you a perspective on how communities can take charge.

My community has previously not been very active or involved in the environmental work that we do. They don't understand what we do or why we do it. That is why we have to educate the community, especially by going door-to-door or to schools to teach the kids about the environment. It is about very practical things, like an illegal dump site which, when it rains, takes that litter straight into the river that we are using.

Social process

"People start to care when they start to understand."

Panellist: Ms Mookho Makanyane

Mookho has been involved in the Natural Capital Accounting body of work.

Question: NCA is a highly technical piece of work. What do you see as the link between economic decision-making and biodiversity conservation, and how was that influenced by NCA?

As someone who worked in social economics, I have very limited understanding of biodiversity conservation when I started working in the sector. I had a lot of questions, like why do we need NCA, why use accounting to quantify nature, are we putting a value on nature, and how is that possible? Many of those questions have been answered and my understanding has deepened

Project achievements

"Through the partnership with Statistics South Africa, we see it is not just about conserving biodiversity; it is about recognising the importance of nature to the economy. Using statistics, we can inform policies towards sustaining the very resources that the whole of the economy relies on."

In the same way that we account for the economy, we are starting to see nature in the same way. It changes from seeing nature as an externality to seeing it as the core to economic stability and well-being.

Panellist: Mr Lungile Khuzwayo

Lungile has been part of the project management unit as an assistant to the project lead.

Question: How has your view on environmental project management changed through working on this project?

I joined the team in 2021, and Jen has been the best mentor in the world. When I started, I viewed project management as a very structured process of meeting goals. My views have shifted a lot. There needs to be a balance between meeting the short-term project targets and the long-term environmental impact. When working on an environmental project you have to be very flexible, because environmental challenges are very dynamic and require solutions that are flexible rather than rigid. I have also noted that the success of an environmental project depends on how well stakeholders are engaged or aligned.

Summary: Roderick Juba

You see we are strategically placing our young people all over the country. The core project team of the EI4WS was outnumbered by its young professionals. We should not view them only as future leaders in waiting, we also need to acknowledge the work that they are already contributing. They make our organisations more innovative, and more fun, but are also capable of depth and strategic thinking. We need to be very careful before we bring young professionals into our organisations, that we are able to nurture them properly, because we don't want to find pieces of gold that we then cannot follow through for. We need to create pathways to keep them in the system.

Project introduction and framing – *Ms Jenifer Zungu (SANBI)*

It is quite a thing to look back at a project over seven years. Someone once said to me *"Nobody knows what you go through to get it done"*. So, in this presentation, I'd like to talk about the things that nobody knows about – not what we did, but how we did it.

The Ecological Infrastructure for Water Security project was funded by the Global Environmental Facility. It was implemented by DBSA, SANBI, DWS and DFFE with a host of other partners. The purpose of the project was to demonstrate how investing in ecological infrastructure can contribute to water security. The project was located on the ground in the Greater uMngeni catchment in KwaZulu-Natal and the Berg-Breede catchment in the Western Cape. As well as work on the ground, the project also looked at the enabling environment, through policies, natural capital accounting and exploring finance mechanisms. These efforts are necessary to strengthen on-the-ground implementation. Component three was about learning and knowledge sharing. It was one of the things that made us different, because it had not existed so explicitly in any previous projects.

Looking at where we are now in terms of the project's Strategic Results Framework – there has been quite a bit of impact in the enabling environment. The natural capital accounting work really began halfway through the project. It was fortunate that it could piggyback off previous work done under the Natural Capital Accounting and Valuation of Ecosystem Services project. It is an important lesson, that these projects benefit from a foundation. This helps us move much faster, without having to start from scratch. It was a struggle to appoint a policy advisor, so we sought a solution from within the team and Pearl Gola took on the role of policy advisor. She has a deep understanding of the policy, but also lots of experience with working directly with implementation on the ground.

The work on financial mechanisms was also difficult to get started. It was the aspect that the DBSA was most interested in, because it would directly answer questions that they faced as a bank. However, we don't speak financial language in SANBI, and it was our partners who had to help us understand, initially the WWF and later the French Development Agency.

Project sustainability

"Work on financial mechanisms is now exploding, and it is a fast moving and exciting place to be in. The biodiversity sector really needs to get involved in the financial sector, and we are starting to figure out the ways to have an influence and take our message across."

The work in the catchments was largely driven by our partners located in those areas. For example, the uMngeni Ecological Infrastructure Partnership has been a long-time partner of SANBI, emerging from previous GEF-funded projects and holding a continuing role in the catchment. It has recently added its new implementation wing in the form of the Amanzi Ethu Nobuntu non-profit structure. The role of the project team and SANBI was to understand how best to support these local partners to do the work, through anything from extra capacity to office space. The partners have completely taken the work on board and gone beyond what was required of them. They have stepped up to help bridge the gap during times of crisis or when capacity or resources were missing. A project of this kind will simply never get off the ground without the support of its partners.

Component three was actually the first component to get off the ground. Before we got started on anything else we needed a strategy for how we were planning to bring partners together. It

resulted in the Social Learning and Knowledge Management Strategy, which has been key to guiding all the work of the project.

Rather than going into what the project achieved, let us go back to the start and see *how* it was achieved. The project began in 2018 with an inception workshop and the project launch. The steering committee was formed.

Project achievements

"The ongoing support of the steering committee cannot be understated. It was one of the constants that kept the project moving forward through any challenges."

Whenever there was an issue, it was met with direct offers of assistance from the steering committee, and it is a rarity to find that level of support in a management structure. The first quarterly planning session was held, the basis for continued regular meetings throughout the seven years of the project.

In 2019, after the honeymoon phase of the project launch, a lot of challenges arose, largely around difficulties with recruiting. SANBI had a moratorium on hiring at this time. This is when those already within the organisation stepped up. It was not the appointed team that we envisioned, but one drawn from those already in the institution. The project started with the social learning and knowledge management piece of work. At one of the early quarterly planning sessions, we all sat around with crayons to involve everyone in a process to co-produce the strategy. It is not something that those colleagues from very formal sectors were used to. But it was a way to be authentically ourselves and keep the integrity of how we work in terms of social learning. The result was the 'purple diagram' which identified the key practices that we would want to use in every aspect of the project. One of the key principles was about engaging tensions, and it has underpinned everything that we do.

Then in 2020, just as we had appointed staff and had only one in-person meeting with the full team, COVID happened and everything went online. We had to figure out how to bring people along even when we couldn't meet in person. We learned how to work in a virtual space and still make sure that we heard all voices. It is testament to the adaptability of the team.

A year later we were back out there implementing the project on the ground. We saw that the levels of youth unemployment had skyrocketed, and there was an opportunity from the presidential employment schemes to stimulate youth employment. We considered how to respond to the call for youth employment, while still staying true to the goals of the project.

Project achievements

"A cohort of 16 young people joined the team. We were going to employ six, but the applications were so good from these amazing young people who could add value to the project."

It asked a lot of the team, bringing in young people requires attention and a lot of work on mentorship. But it helps to build a product that is held by a team of people and not just one. Some people have taken on three roles at a time by working as mentors in addition to their existing workload, but it was because they were so invested in providing opportunities for young people.

2022 was a chance to reconnect with the larger intention of the project. As you are reconnecting, a lot of new opportunities arise. There was a lot happening in the natural

resource management space, with a loss of funding, and new opportunities to support that work. Another opportunity was with the French Development Agency. When some of these opportunities come up, its challenging to immediately see their vision. You have to trust the people who see how it will contribute. It was also a time to connect with new partners. We engaged with the UN agencies like the United Nations Children's Fund (UNICEF) to look at what is possible for the eco-champs beyond short-term job opportunities, and how they can progress further using the YOMA platform. It is about layering investment and effort. The stakeholder mapping was also part of figuring out where the project fits into the bigger picture and where it was having an impact. One of the outcomes of the mid-term review was a request to take a particular focus on gender. The inclusion of gender experts in the review was an eye-opening experience to highlight some aspects we had never considered. When you say you are being inclusive, it is not just about numbers, but you actually have to back it up.

2023 and 2024 saw the finalisation of a lot of products, and efforts towards institutionalisation of the work. We were grateful for the DWS stepping up to show us what things mean for them in terms of implementation. We provided thoughtful inputs towards the revision of the Water Pricing Strategy, which was a year-long process. They were committed to really bringing stakeholders along and listening to what they had to say. The work also found expression in the case study on nature data that was developed by the DBSA. The lesson is that these things take time, you should not give up if it doesn't take the first time.

What are the most important messages coming out of the project?

Project sustainability

"We need to support our water sector institutions. This need is being built into the upcoming EbA Water project, and it will strengthen the work of that project. A platform to bring Catchment Management Agencies together is already being established at the WRC."

The Catchment Management Agencies are the ones who do the direct work in the catchments, and this is a way for them to share experiences. By 2024 all of the Catchment Management Agencies had been established, and all showed up to participate in the platform, highlighting a real need for them to convene.

Another important learning was the benefits that come from a team that is fully committed and willing to show up for each other. It is such an integral part of a project such as this. You have to have the right people on the bus, and it is people who are passionate about the project. Often these are people that you don't see because they work behind the scenes. Even in some really rough patches, they have shown up consistently and were always solutions driven. So much of the work we do is about the people. You need to invest in people and also bring in the young people. I say this wherever I go, the young people shifted the energy inside the project to help us get to where we are now. It is not just about building capacity for them, but it will enrich your work.

Some of the other key lessons included the value of partnerships and collaboration. We need to learn to play with new friends and move into spaces that we are not familiar with. Context is also important. You need to understand the needs and challenges in the places where you are working.

Comment from the floor: In turn we would like to commend the incredible leadership and commitment from Jen. She has worked tirelessly on the project, well beyond what was called for. She held everyone together and was always so stoic.

Session 3: Partner reflections

Panel discussion: Catchment reflections

Facilitators: Ms Nomalungelo Ndlovu and Mr Sinegugu Zukulu

Over the past seven years, the EI4WS project has collaborated with partners in two demonstration catchments – the Greater uMngeni and Berg-Breede – to mainstream ecological infrastructure into planning processes, build institutional capacity, rehabilitate ecological infrastructure, and implement Catchment Management Strategies. In partnership, the project has developed ecological infrastructure management plans, reviewed River Maintenance and Management Plans and innovative approaches to assess the full cost of maintaining ecological infrastructure.

In addition, the project has provided numerous opportunities for young people, predominantly youth and women, to explore career paths in the environmental sector. In the Greater uMngeni catchment, it has seen the establishment of a new organisation, Amanzi Ethu Nobuntu, to carry forward this work. In this session, we hear from the partners who have been involved in improving water security in those catchments.

Panellist: Mr Nkosi Mkhise (PUCMA)

Question: Having been involved in the development of the Catchment Management Strategy, how has engaging with stakeholders helped to mainstream ecological infrastructure and for how the work is taken up?

The Catchment Management Agency started the engagement on the Catchment Management Strategy (CMS). First it was called the proto-CMS, then the interim CMS, based on the developments happening in the operationalising of the Catchment Management Agency.

Social process

"The development of the strategy was seen as not just a legal requirement, but as a way of partnering with stakeholders – a bottom-up rather than a top-down approach. It involved a lot of listening to stakeholders and working together with them."

SANBI helped a lot in terms of logistics. We had no funds available to appoint a service provider, but together with SANBI and the Dutch Water Authorities, we were well resourced, and had enough young lions available, to take on the work ourselves.

We began by identifying the problematic areas that are impacting our water resources. We came up with five strategic themes that were proposed to stakeholders. Following engagement, we added another theme around monitoring and information management, because stakeholders wanted to be able to measure progress we were making on the ground. They were also looking for regulation of license conditions, as it has been a long time since regulation has been successful. Ecological infrastructure is deeply embedded in the water resource management theme, and the water availability theme. We know the document so well, I can tell you that it is on page 18 and 19. There are concrete actions that speak directly to ecological infrastructure. Stakeholder engagement and cooperative governance became a cross-cutting theme.

We took the draft CMS to different platforms, where we had to describe what it is. That is how we figured out how to package the information from the CMA, and identified the actions to be implemented. In KwaZulu-Natal, more than 30% of the land is under the Ngonyama Trust Board, so we had to involve them.

The Catchment Management Agency is tasked with a number of responsibilities, like coming up with water resource classifications, and implementing them to make sure that our ecological infrastructure remains healthy. But the actions did not come only from us, they came about collectively. With the signing of the Memorandum of Understanding with SANBI, we hope to be able to take forward the implementation of the CMS. We are looking forward.

Panellist: Ms Elkarine Rossouw (BOCMA)

Question: Can you reflect on how partnerships and collaboration has enabled you to get work done on the ground?

Although it is now the Breede-Olifants Catchment Management Agency, I have worked for the same CMA for 15 years changing its name three times. In that time, the two previous CMAs had already developed Catchment Management Strategies. Although we didn't call it ecological infrastructure then, the ecological features of the catchment were included strongly in the strategy. The catchment has some important ecological features. It has one of the largest wetlands in the Western Cape. The Breede River is one of the few with no in-stream dams. We knew we needed to look after the rivers and wetlands through collaboration.

The Upper Breede Collaborative Extension Group (UPBEG) was formed for government departments to work in a cooperative way. It includes provincial departments of agriculture, local municipalities, CapeNature and many other partners with an interest in catchment management. One of the things it does is to look at prioritising areas, so that when we do work, it is in the same area and we share resources, but don't overlap. So, one entity tackles block one, another block two, and so on. Thanks to the collective action, the work is still ongoing even though many different government entities no longer have the funding. We work with water user associations, with funding from WWF for a coordinator to plan the work. It is done differently to the usual Expanded Public Works Programme model, with the farmer having to pay for the first tranche and government paying the rest.

The collaborative approach has most definitely worked.

Project achievements

"We can see the difference. Water flows in places where it has not been flowing. Rehabilitation has minimised damage by floods. People are happy to do the work when they can see the benefits."

Last year with the very bad floods which caused more than R4 billion in agricultural losses, we saw that the places where we have rehabilitation projects were less affected.

Social process

"We could not have done any of this without collaboration across the board. It is work that goes beyond narrow mandates but is a collective responsibility. We all have a responsibility to care for the nature that we have been given."

The project also provided me with an opportunity to learn something about myself. I am not the kind of manager that will look over people's shoulders. When our young intern arrived, she was put to work, and it was a while before we realised that we speak different 'languages'. But without her, I would not have been able to demonstrate what the CMA is doing. I would not have been able to review what we have done with the River Maintenance and Management Plans. Now, we have the ability to overlay different activities. We can actually show how the River Maintenance and Management Plans had helped to mitigate floods. By working collaboratively, we can actually help people on the ground.

Panellist: Mr Sanele Vilikasi (UUW)

Question: You come from a water board, but have a fully functional catchment management department, which is unusual. How have partnerships enabled you to build capacity?

Let's take a step back and look at a small history of the department, or at least the stories I hear of how it came about. It is safe to say that without the uMngeni Ecological Infrastructure partnership, and all the partners involved, especially SANBI as coordinator, our department would not have been in existence.

Mainstreaming ecological infrastructure

"It is a massive thing that we now stand in the position of having an operational catchment management department, with a staff complement of 10 people that are part of the work of a water utility, not just an add on."

It is these partnerships that have allowed us to be given a voice in the realms of engineering and operations, whereas previously we were only brought in during an emergency to say, "I told you so". We are now involved at the planning stages. It is not always easy, and I have to say we still need to convert quite a lot of heathens even within our own organisation. But it is partnerships and collaboration that lit the fire that enabled us to do that. The establishment of the department has also allowed us to 'get some skin in the game'. Previously, we were just at the receiving end, being told what to do by outsiders.

The impetus came from seeing the degradation of the catchments and how that is directly affecting the work of the utility. It is a burden having to come up with solutions, but at least we now have the people to do this and the support of the board to make a significant change in the institution.

Project achievements

"People are starting to speak the word of ecological infrastructure – it is even in my job title. It is an acknowledgement that the organisation recognises it as a real task that needs to be done."

There are some champions that have allowed this work to happen, even some who are retired – their efforts led to us now having a full-time job to do these tasks.

The catchment management forums that we are involved in have opened themselves up to us as a water utility. We have been warmly received by people, including landowners, who understand the work that we do and are trusting us. There is a growing recognition of the importance of conservation for water, and of the role of communities on the ground to help with its preservation.

We hope to continue these partnerships, and make the circle bigger. We now need to think about how to bring the unconverted to the table, and scale up and out.

Panellist: Mr Jon McCosh (UEIP)

Question: What have been some of the lessons learnt over the 11 years of the uMngeni Ecological Infrastructure Partnership (UEIP) in terms of partnerships and collaboration?

The Strategic Infrastructure Project (SIP 19) on ecological infrastructure was published in 2014, the same year that the UEIP was established. The UEIP started with a small group of dedicated partners, and it has grown into a much wider group. The lesson is to emulate this focus on participation. Without the involvement of Umngeni-Uthukela Water in the UEIP, we would never have seen the need for the Umkomazi Working Group.

Project sustainability

"The Umkomazi Working Group is a baby of the UEIP and the fundamental approach it has learned has been to engage as widely and as meaningfully as possible, working directly with communities, traditional authorities and municipalities."

We use an approach of participatory land-use planning. In the Umkomazi, about 20% of the area is protected areas and the balance is communal land. You really need to understand people's language and their different priorities. Before you set about fixing gullies, you have to understand people and that is very difficult. It takes a long time, but over the years we have made a lot of progress with better understanding each other.

There is a need to balance technical implementation – the active restoration actions – with knowledge generation through citizen science. I need to reinforce the long-term nature of this and the long time it has taken to get to where we are. Some of our Amanzi champions came to us as new matriculants, over time they have learnt about ecological restoration and they are now able to engage with their peers, with traditional authorities, and explain it in ways that they can really understand. They can now speak about it to really technical people and be respected. A bottom-up approach to knowledge generation is absolutely critical. You may not always achieve your desired outcomes of restoring a rangeland or fixing a gully, but the knowledge that grows among the community and the youth is a far more lasting outcome.

Panellist: Ms Michelle Maynard (BGW)

Question: What are the gaps and what is still needed?

BGW is like a platform of platforms, and it is all about governance. We have come up with a working document that recognises that everyone has different mandates, so we work together through letters of support.

The most significant gap is in terms of actual on the ground effort. We are locked into a system of disaster recovery. If we fail to manage ecological infrastructure, it is felt in worsening disasters. The money that is used to recover from disasters could be better used for management. The role of ecological infrastructure in disaster risk reduction is still not well understood by municipalities.

We cannot rely on short-term funds, but need to leverage investment at scale. Many of the GEF and GCF funds are on five-year cycles. You only just set things up and then it ends, and you need to restart all over again. We need to think about how we can use development funds in a more catalytic manner, because the fiscus is shrinking, and development funding is shrinking. We need to start using the funds we have and start thinking generationally.

Project achievements

"Natural capital accounting is necessary because we need to be able to take a spatial and temporal lens to measuring our natural resources. If we do so, we will be able to show that we are in an ecological infrastructure debt that is owed to us."

If we go to decision making structures like the G20 or the United Nations Framework Convention on Climate Change with information like this, it would make an impact. There is also a capacity gap in terms of data standardisation. A lot of work is needed to harmonise data across platforms, keep data up-to-date and find ways to aggregate it.

Government land is among the worst managed and presents the worst risk. The greater Cape Town area is working to change this through advanced monitoring and support tools. If we are to track investment, more affordable monitoring tools are also needed.

Project sustainability

"Citizen science can play a role by building community cohesiveness, using a bottom-up approach and the excitement that it brings. It has a lot to offer in ground truthing water quality and availability."

Summary: Sinegugu Zukulu

You have heard a unifying message that partnerships and collaboration are a key enabler to the success of protecting ecological infrastructure in these catchments. The work done by the EI4WS project has laid a foundation that we can all work from and build upon. It is important to mention that the role of collaboration is enabled by policy, and it turn plays a critical role in policy development. For the future of the planet, to secure ecological infrastructure, protect biodiversity and build resilience to climate change, it is critical that we hold hands together.

The discussion reinforced several overarching themes:

- The power of partnerships in shaping ecological infrastructure management and driving tangible progress in catchments.
- The importance of a bottom-up approach in developing the Catchment Management Strategy and ensuring stakeholder ownership.
- The need for sustainable financing models that integrate short-term development funds with long-term investments.
- The role of capacity building in empowering young professionals and fostering institutional resilience.
- The significance of data standardisation and knowledge sharing in enhancing decision-making and implementation.

Panel discussion: Policy and finance from the grassroots up and back again

Facilitator: Dr Pearl Gola

In a project like the EI4WS, we are working towards a strategic results framework and we have to show results. Targets called for us to influence at least one policy and to explore financial flows for investing in ecological infrastructure. But we struggled to recruit a policy advisor and had no capacity for this work. We had to figure out how to achieve this internally and with support from partners. The purpose of this component of work was to identify policy frameworks through which we could integrate biodiversity and ecological infrastructure into the planning, development and finance of the water sector. It was foundational to the rest of the project, but capacity was scant.

The water policy landscape is very complex and has complex institutions. We are trying to bring together water planning, water resource development and water service delivery but these are all different functions. Policy is set at a high level but does not always translate into implementation on the ground. We realised that we have to be active on the ground to be able to inform policy that will actually be implemented.

Mainstreaming ecological infrastructure

"Ecological infrastructure is now embedded in several key water sector policies: the National Water and Sanitation Masterplan, the National Water Resources Strategy 3, the Water Pricing Strategy, and the National Water Security Framework."

It is also part of the National Wetland Policy which is under development. All of these policies mention ecological infrastructure and our flagship ecological infrastructure, the Strategic Water Source Areas. It is there in the policy and now it must be implemented, which is why we came up with the ecological infrastructure management plans and investment plans to allow us to implement the policy. The water pricing course was held to build capacity.

Project achievements

"One of the highlights was the development of the Catchment Management Strategy for the Pongola-Umzimkhulu Catchment Management Agency. In the past, a service provider had always been appointed to write the Catchment Management Strategy, but this time it was developed internally."

At the beginning, we did not know if it was the right thing to do. There was only a proto-CMA and it had never been done this way before with a biodiversity organisation working so closely with a water sector institution. At the same time, we were trying to incorporate ecological infrastructure. But it ended with us working really well together, and not only did we produce a product but have now cemented that relationship with a Memoranum of Understanding. In the development of the Catchment Management Strategy, we did a lot that was new and innovative, and in the process we capacitated each other and our wider institutions.

For the financial mechanisms, the project worked to explore the nature-related risks and opportunities. It also developed the management and investment plans for ecological infrastructure, which have been piloted at the catchment level to see what it really costs to manage ecological infrastructure.

There remain gaps around institutional coordination, sustainable financing, data integration and compliance monitoring. We still need to engage with stakeholders who are not in the room. There are also opportunities, such as the possibility of grounding international policy reporting with actual information on what is being done on the ground.

Panellist: Ms Margaret Majola (DWS)

Margaret was centrally involved in updating the Water Pricing Strategy, which is seen as an economic regulatory function. It was difficult for someone from an economic finance point of view to understand where ecological infrastructure came in. But through many discussions, we arrived at a way to use the policy to achieve these goals.

Question: Most of the work we do is underpinned by investment, some will come from tariffs and how well the Catchment Management Agencies are able to collect revenue. How has the project supported the work so far, and how did that ensure the effectiveness of tariffs to take care of the management of ecological infrastructure?

The Water Pricing Strategy is so complex it took us ten years to revise. There were a number of issues that it had to address to ensure that the water sector is adequately funded. The EI4WS project came at a very opportune time to be involved in the revision.

Project achievements

"The Water Pricing Strategy gives Catchment Management Agencies ten functions and the funding that they need to perform these functions. It will enable them to have adequate funding for ecological infrastructure from tariffs."

We are also speaking to National Treasury to understand how government can further support this function, because the benefit of managing ecological infrastructure is not just for registered water users, it is for the public at large and government needs to make sure that we are taking care of a public good.

Over the ten years of working towards the new strategy, we originally thought it was just a rands and cents exercise to do with water resources management. Now we understand the environment and the long-term impact. It has really contributed highly to the Water Pricing Strategy as it stands today.

Project sustainability

"We are starting to talk about implementing the policy into annual performance plans of the Catchment Management Agencies, when it comes into effect in April 2026. Then we will start to see the real success stories coming out."

It also implements the waste discharge charge, so Catchment Management Agencies will have to develop and implement water quality management plans. We now need to properly implement it so that we can start to see the real success stories coming out.

Panellist: Ms Georgina Ryan (National Treasury)

Georgina is one of the unusual suspects in this arena. She is involved in economic policy reforms for the water sector at the national level.

Question: There have been advances in how we look at ecological infrastructure, especially in terms of natural capital accounting, that allows us to take stock. Have we made progress? Where are we now in terms of public-private partnerships?

By including National Treasury on the steering committee for natural capital accounting, we are understanding better how it can be used. At present, we are integrating natural capital accounting in terms of expenditure review. It is backwards looking through budget tagging. It can still get lost because it is not yet forward looking.

Treasury has a focus on infrastructure as a catalyst of growth. We are trying to improve the public-private participation landscape through a review of the rules to make it more streamlined. More water projects now make it into project development, and there is now enough preparation going into projects of this nature to allow an open call for projects. We still need to build teams, and that is slow work. In the water sector, you need to focus on risk sharing.

Panellist: Mr Garth Barnes (NBI)

Garth is a representative of the National Business Initiative, a voluntary business movement with more than 90 corporate members focussed on driving climate change resilience, biodiversity and water sustainability.

Question: Government has the mandate for certain functions. But the reality is that government alone cannot do all the work that needs to be done. How do we bring in the corporates?

A disclaimer is that we tend to speak of the private sector as an amorphous blob, but in reality, it is very varied. My view comes from our corporate members in South Africa.

Project sustainability

"The role of reporting frameworks in the private sector is critical. Sustainability managers are primarily working into these established reporting frameworks. It is substantial work that directs both language and behaviour."

It is an acronym soup of different requirements. Environmental, Social and Governance (ESG) reporting is a real driver of corporate behaviour. There is also a role of regulation, including international regulation, such as the Corporate Sustainability Reporting Directive (CSRD) of the European Union. The language that emerges from these regulations is influential. Other aspects include risk mitigation and reputational enhancements. It reveals the importance of connecting the dots to the corporate agenda, specifically around climate change mitigation and the just transition which is a current focus that drives financing. It is important for you to keep abreast of the language around climate change, the just transition, the nature positive movement.

There is a nuance when speaking to specific corporate actors, and it might be different when speaking with a mining house compared to a company in the food and beverage industry. You have to be able to frame your message to align with what they are interested in, what they need to report on, and what they want to tell their investors. We need to organise ourselves so that we can provide leadership, and explore these sustainable finance mechanisms more deeply. Efficiency is also important, as are robust monitoring and evaluation frameworks so that we can prove impact.

Panellist: Ms Esmeralda Ramburran (DFFE)

Esmeralda is part of national planning for Working for Wetlands. As well as being very involved with policy, she is also involved in actual rehabilitation happening in the Berg-Breede and Greater uMngeni catchments.

Question: DFFE has paid particular attention in the last five years to key ecological infrastructure like wetlands and Strategic Water Source Areas. Has it been enough?

The DFFE has done a lot in wetlands, SWSAs and riparian areas, and the work of this project has supported policy.

Project sustainability

"The work of this project reiterated the need for the National Wetland Policy. There are a large number of institutions doing work around ecological infrastructure. We need to create a policy that helps coordinate all of us who are operating in this space."

The DFFE has been instrumental in convening the government authorities committee on Strategic Water Source Areas. It is a platform that gathers all relevant government departments and monitors performance. It was involved in refining the boundaries of SWSA and then mainstreaming these into other policies and plans, such as the National Spatial Development Framework. Now that the DFFE is drafting the National Wetlands Policy, we will draw directly on that work.

Developing a policy is not enough, we also need to make sure that the policy is working for us. It will require time for us to see what we have achieved.

Summary: Dr Pearl Gola

We see that a lot has been done in this space, and often we do not take enough time to reflect on just how much we have done. It is important to communicate and document what we have learnt. It has become evident that writing this up is not something that just happens – you have to give it time and attention. In the policy space, nothing really happens in five years, it takes a lot longer. The reason is that government processes are slow, and we have yet to fully master the art of collaboration between government and the private sector. There are lessons we can take into our future work. One of the main ones is that policy has to be informed by work that is happening on the ground. We need to take cognisance of the science-policy-implementation-practice continuum and how it works over time.

Key themes that emerged from the discussion:

- There is still work to be done to ensure effective implementation of policy, especially through the Catchment Management Agencies.
- Stronger alignment with corporate sustainability frameworks can unlock private sector contributions to ecological infrastructure.
- While policy frameworks are in place, execution remains slow due to bureaucratic processes. Greater collaboration with the private sector can help accelerate action.

Questions from the floor

Question: The session spoke a lot about language, are there those with the skills to better translate what we do into the language that will reach our target audiences?

Answer: Everyone has different skills and there are people who have this ability. That is why we work in collaboration to make use of different skills.

Question: With regard to finance and fiscal policy, ecological infrastructure still seems to be a bit of an add on, rather than seeing it as infrastructure in its own right that gets funded. What is missing to put ecological infrastructure in the same category as other kinds of construction?

Answer Ms Georgina Ryan: We can look at definitions, for example in the green finance taxonomy. But ultimately it comes down to an asset belonging to an owner to decide who will take responsibility. Then they are interested in how risky it is, what is the cost, what are the guarantees and critically how the investment will pay back over time. It is also competing with other priorities. As well as getting the definitions right, we have to acknowledge that investment depends on ownership.

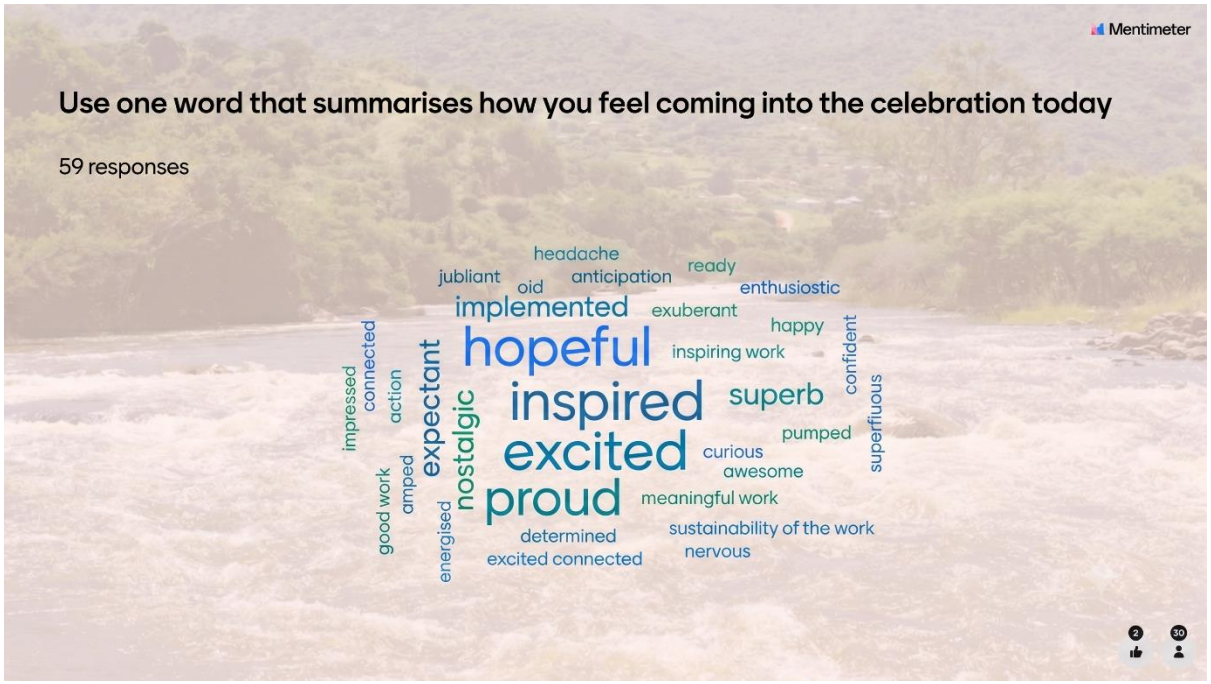
Answer Ms Julie Clarke (DBSA): There are two ways of approaching an answer. The first is straightforward. We need to find the funding flows for a rescue operation, and to avoid it or ignore it is to commit political and economic suicide. However, there is a more nuanced answer that was demonstrated on a trip into the heart of the uMngeni to see how people were restoring their land. It was incredible work but phenomenally expensive. But the road to get there had done far more damage that anything those people could have done. If that road had been planned properly, with even the most basic environmental safeguards, then that damage would not have been done. The point is that if we are all consistent, and if no one gets any money unless they have considered ecological infrastructure, and it is the same across the board, then biodiversity would have more than enough money and the financial flows would go where they are needed. We could stop running around looking for money for a project.

Question: We speak about the value of youth in the work that we are doing. Indeed, we cannot speak about sustainability of the project without speaking about youth. But there are many among the youth who are not interested. Many are instead interested in money and possessions. There is no lucrative career path in the sector.

Answer Ms Jenifer Zungu:

Social process	*"One way to bring young people on board is experientially. There is more to people than just consumerism. If you have an experience of nature and you felt good in that space, then you start to understand."*

People are interested in things that they have been exposed to, so we need to give them positive experiences of nature, like young kids taken on a night hike, initially scared of snakes and spiders but then embracing the experience. It comes from a cumulative impact of positive exposure to nature.



Session 4: Impact of the project

Recap – *Mr John Dini (WRC)*

My involvement goes back a long way. The reference yesterday to greybeards, I fear I might need to start owning that. I feel like a proud grandparent at the graduation of one of their grandchildren.

In this recap I am not going to give a breakdown of what happened yesterday, but rather highlight some cross cutting themes that emerged. I would like to reiterate a comment made by Mr Mahlodi Tau: that mainstreaming is 10% about the science and 90% about the relationships. The EI4WS project is testament to that. For those of us introverts who thought we could just do the science, it is not the nature of the work. Partnerships and collaboration are a no brainer. It is evident what is possible with the right combinations of partners.

Mr Michael Hillary from the DBSA was modest about the bank's role. We have not celebrated enough the immense significance of an environmental project being led by a development finance institution. Their traditional role is championing built infrastructure, but in this case, it is not a dam. And it is through their eyes that we can see how it fits into the remit of a development finance institution. Is shows what is possible when you get the right partners together.

The CEO of SANBI used the phrase 'transformative potential' and the Memorandum of Understanding that was signed is a real illustration of the kinds of vehicles that can bring about transformative potential.

To see the young professionals and how this project has launched them into their future careers, it has been a pipeline for future leaders. These inspiring young professionals are the future professors, directors general, and CEOs. It is not an exaggeration. I have seen it with my own eyes. The experiences they have gained in this project will stay with them wherever they end up.

It has been a long seven years. We have come far, and a huge amount has been achieved. But it is a beginning and not an end. A couple of the inputs reminded us how far we still have to go. Despite our efforts, there is still sometimes a perception of 'us and them', us on the green side who care about the goggas while they care about the people. Ecological infrastructure is fundamentally a people-centred concept, and if we get it right, the goggas go along for the ride. We have established the idea of water for nature under the reserve of the National Water Act, and it is crucial. But that is not the whole picture and there is still more work to do to show the opposite: nature for water.

There was a lot of discussion about the language that we use, and whether we need a common language. A common language may never be possible. Instead, we need to learn a range of languages to use depending on who we are speaking to, and get comfortable speaking to different sectors in their language.

Keynote address – *Prof. Tafadzwa Mabhaudhi (UKZN)*

Thank you for the introduction, but to clarify, I have one job. I love people and nature and capacity development, and that is the job I do all of the time. Because of the limitations of institutions, I have to wear different hats at different times in pursuit of that job. I am a professor when it needs me to do research, a director when it needs me to manage. My work at the African Academy is about finding local solutions to global challenges.

Social process

"There is this thing we call the water-energy-food-environment nexus. The underlying principle of the nexus approach is about restructuring of partnerships. It is not technical work. It is about equity and inclusion and what stands to be achieved with better management of resources."

It is about planetary health as a whole, and recognising that the well-being of people is strongly related to the wellbeing of the environment.

The restructuring of partnerships involves making silos more transparent and connected, so that information can move between them. Not necessarily breaking down silos, because we still need specialisation and information that is anchored in specific disciplines. But silos are concrete, there are no windows, and we cannot see what is happening. What is needed is interdisciplinarity, which is working between the silos, and trans-disciplinarity which is when we move out of our silos and work together. We still need experts, but they need to understand that the work they do is connected, and it is transferred across space and time to impact others.

The influence of our actions does not always happen where you act. It may be in a different geographic location or at a later time. If you yourself have not experienced any impact, it does not mean that there has not been an impact. Sometimes decisions have implications that spread across space and time.

Not everyone is trained to think that way, and we do not have to be. Rather, we need to make the effort to sit down and have conversations together. When you do this, multiple perspectives come through and we are challenged to think more deeply, to think differently. Those who know me know I am a terrible planner. I have no attention to detail. When I say I want to have a workshop about translating science into policy it is others that ask who, where and how, and what are the logistics. These are things I may never have thought about, but others remind me that they are important.

I am trained as a crop scientist with very technical background. I really drilled into it. Nowadays I may go an entire year without speaking about crop improvement. But I still bring my expertise into those conversations. Agriculture is the largest land used and largest livelihood activity in

Africa. It is also one of the biggest problem causers, as it is close to food security, poverty, livelihoods and transformation. When most governments hear agriculture, they are thinking about people, not about crops. And when we talk about the environment in agricultural spaces, we are seen as restrictive, prohibitive, with a list of 'don'ts'. They see environment as a people disabler. This is what happens when we sit in silos. Agriculture will not come looking for you, and you will be sitting there plotting and thinking about ways to protect the environment. This is where conflicts arises, when we are protecting our turf and developing policies that create boundaries.

The nexus approach is about enabling each other, facilitating development for people, society and the environment. It is about turning the narrative from being protectionist to being enabling. If we manage our environment better, it can enable better productivity, long-term sustainability and can transform communities.

When you speak about climate change in Africa, there is often a challenge between adaptation and mitigation. Politically, it is said why should we have to mitigate climate change when we have not contributed to greenhouse gas emissions. But we do have to think about how we adapt. We don't want to do so in a way that adds to the chaos or adds to the problem. We also have to think about what we lead with. The only global goal in the Paris Agreement is a mitigation goal. Hence, a lot of global finance is available for mitigation, and it is the cake we are all eating from. But if we come together, and there is a lot the environmental space knows about mitigation, we have a lot to offer and a lot to gain. We can combine our efforts so that we can achieve both.

Africa also has a growing youth population. It is both a burden and a resource. A burden under conditions of low employment, and an opportunity because young people are innovative. Inclusion is not about numbers, it is not about how many people are there or who is represented. That is not the spirit of it. Inclusion is there to enhance innovation, because the more people there are with different perspectives, the more ideas there are. Young people have embraced technology and the information age and so much of the impressive results we see from this are due to the young people.

All of the work we do should, above all, be sincere. Reaching targets is less important that making sure the work we are doing is meaningful, relevant and involves people. It is better to do one thing meaningfully than five things that nobody cares about. And funders are also moving into the impact space. Often the impact they want is transformation, and hence we have seen the work transformation being abused in our practice. A question to the audience, how do you define transformation?

- Substantive or meaningful change
- Ownership
- A caterpillar to a butterfly, something that looks different but is still from the same origin
- Value creation
- Just change, any change
- Moving to the next equilibrium phase of the issue you are working on
- A shift in social justice
- Giving people a voice
- A process
- Using the same parts, but changing into something different
- A shift in mindset

You see, all of us have different perspectives on transformation. None of us may have had the correct answer in its entirety, but if you put all these ideas together you get closer to the true answer. That is the power of multiple perspectives. If we don't take multiple perspectives into account, we risk undermining impact and we risk doing things with a limited understanding. Even more important, if we are in charge of framing the issue then that becomes the global narrative. These are the reasons that transformation has not been achieved, why sustainability has not been achieved, why we have not yet achieved resilience. It is only through co-understanding, co-creation, co-implementation that we have any chance of achieving impact.

The work of the EI4WS included a sincere effort to engage. A remaining challenge is to shift from a project-based approach to a programmatic approach. As we now move from the EI4WS project into potentially the EbA Water project, there is a risk that we have to start from the beginning instead of building on the success. With a project-based approach you are always starting new things that you don't get to properly complete, with recommendations that are not taken forward by anyone. If we claim that we are upscaling these projects, we really need to be taking forward the learning. Moving from one project to the next, our progress is linear but not transformative. You see incremental steps, but no transformative shift. You cannot demonstrate sustainability until something is systemic.

As we bring this project to an end, let us look at the beneficiaries of the current project. If you want to upscale, do it with the people you have already developed a relationship with. When you need to take things forward, sit with them and speak with them to understand what challenges still need to be solved. We cannot just take forward our success, or the challenges will come back to bite us. If you do that, you lose the transformative power and you lose the sincerity. If the goal is meaningful change, it will have ripple effects, and the impact will be far larger than incremental changes. That is the power of transformation, to accrue benefits across space and time.

Each of us needs to practice these concepts and think about how to do things differently. Often, its just about restructuring partnerships, being more inclusive, and being more sincere. What are you enabling in your space?

Panel discussion: From data to impact

Facilitator: Dr Roderick Juba (WRC)

It is easy to assume that if you just produce good data, they will find their way into the places they are needed and be used in the right way. However, it does not very often happen like that. There is a whole process through which data moves to implementation. The process this project has used to drive uptake is the social learning approach. This session is structured as a story, of a water drop's journey through knowledge, policy and finance.

Panellist: Ms Jenifer Zungu (SANBI)

Question: To understand where we are, we must understand where we started. What was envisioned at the start of the project?

I remember at the start of the project, someone said to me that they didn't like the project because it was very difficult and ambitious. It is true that the project was far from the work we normally do, and it was designed almost from the inside out, assuming that other institutions will help to implement it. And those partners, although very passionate and committed, were also very opinionated and asked a lot of hard questions. The genuine need for a project like this was evident, but there was trepidation that it was going to be challenging. Then we met with the bank colleagues, and they had a very strong drive to deliver impact, but even they could see the need to actually tackle the difficult things.

The challenge at the start of the project was how to harness all this energy and make it into something that is viable and would start to give us answers in a way that brings everyone along. One of the early things that helped us to navigate this was developing maps.

Mainstreaming ecological infrastructure

"Maps have the power to help people work together, by showing them where things are, what the need is and the context. Then something as simple as data leads us into a discussion."

The project gave us the space to really test things, and then go back and check if we were getting it right. There was always a concerted effort to understand how the work was being integrated and if we were heading in the right direction. We frequently returned to check if we were answering the questions that the project posed. This is the way that was used to move from data to application.

Panellist: Ms Michelle Heistermann (GIZ)

Question: Real change takes time, and the project chose the path of social learning. It hadn't been applied so intentionally in such a large project before, why was it chosen?

From the beginning, the project chose a people-centred approach. It turned out to be a blessing in the coming years and helped us through some challenges. Although there were delays in some of the other components, and the challenges of COVID, having the social learning approach from the beginning gave us something to hold onto. There was a lot of knowledge and expertise in social learning that we could draw on. From that we came up with the famous purple diagram, which was used extensively across the project and shared far and wide.

With large projects like this there is a tension between rapid implementation and showing impact, versus a slower more considered and inclusive type of working. It most clearly arises during monitoring and evaluation. One of the key practices adopted right from the beginning of the project was to document reflection, learning and change. The learning is in the doing, it is practice based. It means you have to look at the language of impact measurement, and it is complex emerging from such a diverse group. We used the value creation framework as a way to show the value of the work, and have learnt a lot about how to practically apply such a framework.

One of the principles of the project was to work with tensions. The very context of the project is a tension in itself, its about water and financial flows and how we get money to restoration. It is something we are confronted with again and again. We have great plans and strategies, but it is about the doing. And where it comes up short is the red tape around financial flows. This is what the project was trying to grapple with, and to come up with ways of working to get the finance in the right place.

Another practice was clarifying context and ideas. This was about seeing the different perspectives and hearing the diversity of voices in the room, because that is where the ideas come from. We needed to have the ability to convene and coordinate these spaces. COVID taught us a lot about how important in-person engagement is. The energy you bring into meetings in person is different from virtual meetings. The body and the emotions are so important for us to understand each other. Convening itself is a practice, and we tried different ways of convening. Stakeholder mapping was done right in the beginning, but it needs to evolve through the project. Many of the catchment coordinators already knew where the knowledge lay and understood the complexities of these stakeholder networks.

The practice that brings it all together is learning and sharing. Learning happens by doing, it is where the grey, green and brown come together. Capturing this learning is not easy, and it hasn't been perfect, because you have to speak in the language of learning. I would like to commend the project. It is very unique. Learning is not often placed so explicitly in the centre. In the future, it should not have to be a strategy, because it is so implicit in the way we work.

Panellist: Ms Julie Clarke (DBSA)

Question: Could you speak about how the bank is intentionally becoming more nature positive, and integrating nature through its projects?

The bank has a long history with biodiversity, beginning perhaps with fish in the sea and bringing in resource economics to that sector. It has also been involved in the Working for Water programme. We have supported a range of policy developments that considers natural resources. But following some restructuring, it lost focus a bit, and this project has helped to swing it back the other way. The project is very close to my heart, and I am so grateful for what we have completed together in this project. It is on the basis of this work that we have options for financial mechanisms. No matter how much good work you do; it can be lost if you go away. That is why sustainable financing is one of the most important aspects.

As a bank, we are very unforgiving on three things: knowing what the situation is now, understanding how it can be better after spending money, and ensuring we can see the difference at the end. We want to see what the institutional arrangements were like at the start, and at the end, and if they have not changed then we cannot see the impact. In this way, the bank is like a mayfly, it is programmed to want results and is very risk averse. SANBI is like a tortoise or a baobab, it is willing to wait and watch to find the right moment. It is a good mix for partners to have, a healthy mix. SANBI educated us a lot, and as they educated us, we were educating them.

If I look for transformative change, it comes from my personal experience. The love of power has to die and give way to the power of love. SANBI has always been an organisation built on love and respect. They work like that with their partners and their funders. Through this some of the ripple effects have been massive. Travelling to the Conference of the Parties of the Convention on Biological Diversity led me to make new connections with other banks. It is surprising to me that at the heart is data. For example, exploring how to more intelligently use biodiversity offsets. Presenting in front of a full audience at the Conference of the Parties, the only spontaneous cheer was for a lesson we have learnt – pick a country, any country, and invest in their data and you will make a difference.

The other transformative change was the eco-champs. I never expected I would get so emotional, but I humbly wish to thank them for rescuing this project, because it is they who rescued it.

Social process

"The eco-champs showed that if you work with the land, you can heal yourself, you can heal your community. Nothing is more powerful than these positive stories."

Just a photo of an enviro-champ working with a municipality can drive change more powerfully than any regulatory framework. Regulatory frameworks are aggressive and protectionist. There is a different way that we can save the world, and it is easier than you thought. However, they also need a sustainable financial mechanism. The app that is being developed may be the solution, because it shrinks the transaction costs. Now we have the tools in place that we need. Instead of people working in mines, we have ways for people to work on the environment.

The project is the beginning – a proof of concept. We can now do what we set out to do seven years ago, because we have the tools, and we have the evidence.

Panellist: Ms Aimee Ginsburg (Independent)

Question: Natural capital accounting is incredibly technical, involving stocks and flows. How do we make sure that the numbers tell a story? What are the challenges of making ecological data useful?

Social process

"We dealt with a very technical process by coming together. You bring together statisticians, economists, engineers, around a shared intention. It comes through in the language used, the words we speak, the data we rely on, even down to the format."

At the global level there is a realisation that we need to take the environment into account when we look at our options for our collective future. The shared intention is about how we put attention to that. It is telling that Statistics South Africa, our national statistical organisation, as

well as the DFFE and DWS were willing to come on this journey with us. The message is that it takes a village. For all the partners involved in the advisory group, it was about the shared intention.

Natural capital accounting is a tool to make use of the information we have. It uses a standardised approach that was developed through a global effort. That is why SANBI got involved, because we have amazing data, and we could use them to test this approach. At the same time, we could bring the perspective from the global south into the conversation. Natural capital accounting is not just the technical side. It is a tool for mainstreaming biodiversity through a social process of relationship building and creating spaces for learning.

Project achievements

"We now have a national strategy for natural capital accounting, which is visible to the world. The way we went about developing the strategy is what got people's attention. It was a policy process, involving policy advisors, policymakers and working groups to grow an understanding and a trust of what is in the strategy."

It creates a community of people who are ready to use the results. The opportunities that came from putting attention to this process could never have been predicted. Other African countries are now developing their own strategies in response. Natural capital accounting is also an institutional process, looking at how institutions will have to change to absorb the work. One example is the fact that Statistics South Africa now has a standard for ecosystem classification.

Throughout these processes we built capacity and that is part of the value that is realised from creating that shared intention. We have done more than 30 interviews on the value created and are in the process of documenting it. As individuals and as a country we have become advocates for natural capital accounting within the global and African communities of practice.

We now know what it takes to work in this space. It calls for a well-skilled and dedicated team, with grit, heart and curiosity, who are capable of building trust and are okay to work in an innovative space. Harnessing the energy of the young professionals sped us up and challenged us. It also calls for trailblazing champions, and the institutions that support these champions so that they can exist.

Natural capital accounting can be seen as technocratic, which is not going to change the world. But by incorporating social, policy and institutional processes, it can. Natural capital accounting is a national accounting effort focussed first on biophysical accounts, rather than on money. It is one of the first things that newcomers need to understand. Often, the underlying data that is needed for natural capital accounting – clean, good quality time series – ends up being useful in other approaches, like for nature-related risks.

In the last year and a half, there has been an increased engagement from finance institutions with natural capital accounting. They are really interested to understand how it relates to what they are trying to do in terms of reporting, monitoring and evaluation. We are at the beginning of these conversations, but there is potential there. We also need to understand the efforts that the private sector has put into their reporting frameworks, and contribute to improve national datasets that meet these needs.

In a growing information economy, with increasing requirements to report and verify, there is a constant need for data. It is an opportunity to harness the passion of citizen science, and potentially create jobs for women and youth. We also need to look at data harmonisation and data sharing, so that we ultimately have good quality underlying data that feeds into all of this.

Panellist: Prof. Martine Visser (AFD)

Question: The macroeconomic study conducted with the Agence Française de Développement (AFD) generated great data. How has the data been used for knowledge products that have policy relevance?

I am an economics professor, and I work at the nexus between behavioural and environmental economics – how people's behaviour impacts nature, and how nature impacts people. Being here to listen to the stories and all the learnings, it is clear we should do more to create knowledge products in the academic policy space. I have a post doc who will be reaching out to a lot of you to have these conversations.

Project achievements

"The EI4WS project, in collaboration with the AFD, developed a macroeconomic assessment of nature-related risks in South Africa. It allowed us to think more meaningfully about the nature-related risks and opportunities in the country."

The research used a number of integrated models, using the input-output tables for the economy, and linking natural resource modules to these accounts to see the economic impacts. It considers both physical and transition risks. Physical risks are easy to understand, for things like a flood you can easily see the damage. Transitional risks result from regulation that impacts the economy – a spillover effect to different industries. When we make policy decisions, we need to understand the extent of risks that are possible. One example that stood out was pollination. If something happens to the bees, the indirect effects spread across the whole economy. As much as 30% of productivity is dependent on ecosystem services.

The report is very technical, with a lot of information on the methodology. It is like a black box. The quality of the data is super important, and there are some parts that are based on data that is less than perfect. It is a work in progress. But you still have to make policy decisions, and the initial straw dog can still help you to look at useful comparisons.

To make it more accessible we worked to create a number of knowledge products, including a simpler version of the report, factsheets, slide decks and policy briefs aimed at five different sectors. We presented the work at the National NCA Forum last year, with breakout sessions for people to interrogate the work through a process of information gathering.

Mainstreaming ecological infrastructure

"You can take very technical data, and package them in a way that allows people to engage and reflect on the data. But it does take time and effort to do this."

Since that workshop, there has been interest for a similar macroeconomic study for the southern African region, but not all of the countries in the region have the data that South Africa has. For them, we will have to use global datasets in order to do the same assessments that South Africa has done.

The work has also catalysed a conversation in SANBI around mainstreaming biodiversity into the finance sector. A lot is happening in the finance space around risks and dependencies and the study could feed directly into those. The possibilities have exploded so much that we are struggling to keep up with them.

Questions from the floor

Question: If you look at Strategic Water Source Areas as immovable assets owned by government, it gives it a different slant. What are we doing about maintaining these assets? Are there opportunities with Statistics South Africa, National Treasury or the Department of Public Works and Infrastructure?

Answer Ms Aimee Ginsburg: There is a lot in that question that we do not yet have the expertise to answer. But the upcoming EbA Water project that is being designed is looking at pulling together some of these strings. We would want to see the connections between the Catchment Management Agencies, National Treasury, Statistics South Africa and the South African Reserve Bank. Statistics South Africa hold the National NCA Strategy and have a Memorandum of Understanding with the DFFE. They have a real desire to be a global champion for this. It is also how you create links with other opportunities, like what is being done with the Task Force for Nature-related Disclosures.

Answer Ms Julie Clarke: It is about holding people accountable. We did not have an asset register for nature, so our assets were all being stolen. Now if you know what nature you inherited, what you did with it, and what is left, its easier to hold people accountable. You can't steal public goods and if you do so you should go to jail or be punished financially.

Project sustainability

"The answer lies in disclosure. If you keep a register of your natural assets, then you start to recognise their value and not view them as a free input to use at will. We are getting closer to this reality with things like the Task Force for Nature-related Disclosures."

At the DBSA, we applied the WWF water risk filter to all of the bank's assets and liabilities. It allowed us to show management how much value is out there in the veld, and how much of our portfolio was deeply dependent on groundwater, flood risks etc. The very future of the DBSA is in its loan book, and the risks were enough to potentially collapse the bank. When they see this, they will start investing in nature. There is a very different debate that happens when you have the metrics on the table. The banks are ahead of government in this regard. Laws cannot change as quickly as a bank can change. It is our responsibility to help government catch up.

Question: Bravo to the team, your work deserves an order of merit from the presidency. What about mainstreaming of natural capital accounting into the mining sector. It is a sector with a challenging history. Are there any plans to get more involved in that sector?

Answer Ms Aimee Ginsburg: I always like to make the point that natural capital accounting is a tool, and there has to be a need for someone to take up that tool. If the tool works for them, it will perpetuate itself. Statistics South Africa used to do mineral resource accounts, taking stock of five minerals. However, it is included as part of the 'high-road' activities in the NCA strategy of things that will only be possible if there are the resources available. There are no plans at the moment. There has been mainstreaming work done with the mining sector in the past. There is a lot to build on from the Grasslands Programme. The learning from there is that the conversation about risk is what helped to get us talking together. So much has progressed since then, there are more opportunities.

Question: Thinking about sustaining the gains of this project. The eco champs have been such an important part of it, but how are we supporting the institutions to host these champions over the longer term?

Answer Ms Julie Clarke: This is a sore point, because we desperately want to be able to do this, but do not have the capacity and money right now. We are in exploration with other partners in diversity and finance institutions to find the solution.

Answer Ms Jenifer Zungu: There are potential opportunities from the upcoming Finance in Common Summit. In the Western Cape, they have been exploring a water bonds model that could accommodate eco-champs. The DBSA green fund has contributed R50 million to that bond and it has catapulted investment from other banks. There are also options from biodiversity credits. A year ago, there was no solution, but now there are several promising opportunities.

Session 5: Common threads

Common threads from partner reflections

Facilitator Ms Tanya Layne

I have witnessed a transformation. From a time when it was rare to speak of people as being important for biodiversity, to a recognition that 90% of the work has to do with engaging with people. So, this session is wide open to bring all our voices, and harness the power of different of the perspectives. It is arguably the most important session of the whole event.

Based on everything you have heard, and your experience of the project, these are some questions to guide your reflections:

1. What are you taking with you? It can be your pride in the successes, lessons learnt, networks, skills, new ways of working, tools…
2. What pitfalls will you be avoiding? Were there certain actions, partnerships, language that just did not work. Now is the chance to discard some old habits. What would you advise others to avoid?
3. What is needed to sustain the gains? And what do you have to offer? At critical moments in this project, partners have voluntarily put their hands up. Not because they were coerced, or because a target had to be met. Just because it made sense for the common purpose.

Working from the ground up	Lack of data shouldn't stop you from acting	The solutions are there if you seek them	Partnerships are key
People are the shining stars	Messiness is not something to be afraid of	**What are you taking with you?**	Local knowledge, like where rivers used to flow
	A co-created space	Having the awkward conversations	Small acts become part of a bigger picture
I had never heard of mainstreaming	Engaging, not informing	Do the things that take a long time, like policy review	
How well the youth were received		Making silos more transparent	It takes a village – a network of networks
Engagement enriches the quality of products	Telling stories	Sharing knowledge	
People participate when they see the benefit		Different levels of capacity development	Exposure to project management

Deeds instead of words

Reinventing the wheel

Projects start too slow and last too short

New policies are not the answer

What pitfalls to avoid?

Ignoring indigenous knowledge

Once-off funding is more harmful than no funding

Putting aside the science language

Corruption

Raw water costs to maintain ecological infrastructure

Reports live beyond the project

What is needed to sustain the gains?

Continued work of champions

Take lessons into new projects

Compliance and enforcement

Ring fence revenue

Take the work into our own worlds

Moving from projects to programmes

Session 6: Project sustainability

Panel discussion: Way forward

Facilitator: Mr Mahlodi Tau

Panellist: Ms Siloshini Naidoo (DBSA)

Question: What are the next steps for the DBSA in sustaining the momentum of the project?

The Ecological Infrastructure for Water Security project was driven with so much heart and soul within the DBSA. I have never seen anything like it in the banking sector. I would like to take the opportunity to congratulate the team and to recognise the huge amount of work it takes to make a project like this a success.

Project sustainability

"The consideration of nature and natural resources has been in focus for a while now, within development finance but also increasingly in private banking and the private sector. There are positive indications that now is the time to scale up the work, especially around nature-based solutions."

The focus so far has been on climate and environmental risk, because it is the risks that have the potential to undermine our business. There are increasing opportunities for grants and concessional finance for biodiversity that would allow us to bring smaller catalytic projects up to bankability and then throw them back into the commercial market to scale it up. We are also looking at how to better align public and private finance, in particular for the financing of the Global Biodiversity Framework, which is on top of our minds. These are the kinds of conversations we are looking for.

Panellist: Ms Marlene Laros (DEA&DP)

Question: Based on your experience, what institutional and policy shifts have you observed?

The resounding thing we hear is that there is a difference between what is captured in policy documents and what is actually happening on the ground. The change that is needed is not in the high-level logic of what we want to achieve, but rather about how we go about it. The new Global Biodiversity Framework is not a very big change from the overall intentions of previous targets, but it has a stronger focus on how we actually go about changing.

There have been some important shifts during this project to include institutions that are not usually part of the conversation. It is a major change to have the national statistics organisation of the country wanted to be involved in counting our natural assets. The fact that National Treasury is part of these conversations is also a big step. Ecological infrastructure is now hardwired into policy.

Project sustainability

"The National Infrastructure Plan 2050 is a product of the Department of Public Works and Infrastructure. It has a specific section that calls for a systematic programme on ecological infrastructure. Such a programme could help take us into blended finance and a solution to finding sustainable finance."

What is still needed is dedicated budget for these programmes. If we do not get specific voted funds from government for ecological infrastructure, we will keep lurching from grant to grant.

It will be the final expression of the policy shift that has happened. Whenever we think about built infrastructure, we now are also tasked to think about where the water is coming from. A challenge that remains is that ecological infrastructure is still seen as an add on, rather than

seeing it as infrastructure in its own right in terms of budget discussions. The National Infrastructure Plan is a way we could launch something really large scale, that takes the pilot work done in the EI4WS project to scale. Working at scale is what is really needed to address the risks from poorly managed ecological infrastructure. Focussing on just the top 10% of the SWSAs that are managed by CapeNature, would require R260 million per annum. It is a reality check of what it will take.

Another future avenue is around disaster risk reduction. We need to add a risk-based element to our ecological infrastructure investment. We need to identify spatially where the key risks are for flooding, fire, coastal infrastructure, estuaries, and use that to leverage investment. There is already evidence that where there has been restoration, there is less damage.

Panellist: Ms Gwen Gosney (TCTA)

Question: What key lesson should be taken forward?

The TCTA is the Trans Caledon Tunnel Authority, another acronym. The water for Gauteng comes from the Lesotho highlands water project. The TCTA was created as a special purpose vehicle under the National Water Act to fund and build water infrastructure. It has since expanded to other projects, such as acid mine drainage, but the majority of the work is still dams and pipelines. Importantly, we play no part in providing water. We simply build the infrastructure to do so. When a water utility identifies a need for additional water infrastructure, we go to market to get the finance. This is where the lenders come in, and they are our primary stakeholders.

I come from a conservation background, and now I am doing development projects. When we own our space and are passionate about ecological infrastructure or have a green interest, it doesn't matter where you end up, you have to learn how that passion takes form in the work of your organisation. That is why we are so excited about what this project has achieved.

Project sustainability

"If everyone embraces their own sphere of influence, then we will start to see progress. Even a small team of people can make a difference if we work to build bridges between our institutions."

We have heard a lot in the last few days about language. It is true that we need to listen carefully and understand the risks and opportunities that are of interest in our organisations, our communities and the authorities. However, at the end of the day we all have fundamental human needs, and a search for a better quality of life. All institutions are ultimately contributing to that.

Social process

"Networks like this is where you connect with other like-minded individuals working in challenging situations. Being part of communities of practice is where we build the courage and capacity to speak up in difficult situations, even as the lone voice."

We have to have the discussions and how we disagree and why we disagree.

Another lesson is that practice makes progress, not perfection because that is highly overrated. We have a lot of tools already. Let us not write another guideline or document. It does not have the same impact as action on the ground. Sometimes a simple poster can speak much louder, or featuring a story of practice in a management review. If you have case

studies, champions, stories, lets tell their stories – post it online, run a programme of visits, take lots of photos.

Panellist: Mr Mahlodi Tau

The DFFE has put together a dedicated team to build a directorate for securing Strategic Water Source Areas. They will develop a framework to secure SWSAs. The idea is that we need some kind of guiding frame, with all the possible intervention options that are based on science. That will be taken forward in SANBI by a planned project under the Green Climate Fund, known as EbA Water. It will be focussed on securing SWSAs and taking it to scale. It will be guided by the framework put in place by national government. It needs dedicated capacity in SANBI, and so we have advertised a new position for a specialist in ecological infrastructure. That post will manage SANBI's efforts towards securing SWSAs. SANBI has also made a commitment for the next five years to focus on supporting local government. We will also not be stopping the work of mobilising people into action through the Living Catchments programme, where we will continue to support and expand the communities of practice. There is so much that we will be taking forward.

Closure and vote of thanks – *Mr Stanley Tshitwamulonomi (DFFE)*

Reiterating Prof. Tafadzwa's message on the importance of communication: There is power in harnessing multiple perspectives instead of telling people what to do. One of the biggest dangers comes from vagueness. Even if we feel we are communicating well, it may suffer from vagueness when it reaches the audience. The lesson is that when we send messages to people, we need to be aware that it may receive different interpretations by those who hear it.

Seven years ago, we were very excited by the promise of the Ecological Infrastructure for Water Security project. That energy is still here. We have come very far, but in many ways, we are still beginning. Coming here felt like a family gathering. There are deep connections that have been forged between these partners. We have heard from all of the partners of the value that has been created for them and for their institutions. We have seen the impact of the presence of youth. We have reflected on sustainability and recognised that we each have the responsibility to carry on what we have started.

It is always hard to thank everyone. We do want to acknowledge the Global Environmental Facility, the Development Bank of Southern Africa, the Department of Water and Sanitation, and the Department of Forestry, Fisheries and the Environment. The South African National Biodiversity Institute and its partners are thanked for their tireless efforts to make this project possible. May we continue to work together, because we cannot work without each other.

Project resources

To access the set of project resources made available at the close out, visit:

https://drive.google.com/drive/folders/19wk5fBuG3lwOU0lco43kTddWUkBog7Bn?usp=sharing

Conclusion: Project legacy and way forward

The Ecological Infrastructure for Water Security project was never just a technical exercise or checklist of activities to be completed. Instead, it was a demonstration of how a people-centred approach can drive systemic change. As the project closes, its legacy is defined through tangible delivery outcomes, transformative shifts in how we work and a strong foundation for future sustainability.

Tangible delivery outcomes

Guided by a robust Strategic Results Framework, the project delivered tangible results across its three core components by strengthening the enabling environment, implementing activities in critical catchments and nurturing social learning.

Component 1: Strengthening the enabling environment: The project successfully embedded ecological infrastructure into water sector governance and finance. The successful development of ecosystem accounts, led by the national statistics agency, has established standardised methods and capacity for ecosystem accounting in South Africa. South Africa now has a National Strategy for Natural Capital Accounting to take forward this work with its partners. The project provided direct inputs to integrate the concept of ecological infrastructure directly into a wide range of national water and infrastructure policy. This means that ecological infrastructure is now a required consideration when these policies are implemented. Work with financial institutions advanced tools to assess nature-related risks, including a national-scale evaluation of nature-related risks to South Africa's economy, with the French Development Agency. These provide the evidence to better engage with the financial and private sectors.

Component 2: Application in demonstration catchments: The project moved from theory to practice by delivering interventions in two demonstration catchments critical for water security in South Africa. For the Pongola-uMzimkhulu Catchment Management Agency, the project supported the development of a Catchment Management Strategy that explicitly integrates the management and budgeting for ecological infrastructure. Dedicated ecological infrastructure coordinators within the catchments helped to strengthen institutional partnerships and build platforms for collaboration that will outlive the project. A key outcome witnessed at the close-out celebration was the signing of a Memorandum of Understanding between SANBI and the Pongola-uMzimkhulu CMA.

Component 3: Learning and knowledge management: Unlike previous donor projects, the EI4WS was the first to have a dedicated component of work on knowledge management and learning. The early development of the Social Learning, Knowledge Management, and Mediation Strategy provided the foundation for how the project conducted all of its work using a social learning approach. The project convened numerous strategic platforms, learning events and communities of practice to share knowledge, build institutional capacity and foster collaborative problem solving. The generation of credible evidence and accessible knowledge products, such as policy briefs and case studies, demonstrated actual benefits of investing in ecological infrastructure. Across the entire close-out celebration key themes were about collaboration and adapting the language and ways we communicate.

Transformative shifts: changing how we work

The tangible deliverables achieved across the project's three components were not ends in themselves. The project deliberately embraced a social learning approach, which enabled it to make more fundamental, transformative shifts:

Building internal capacity over outsourcing: Initially driven by COVID constraints, hiring moratoriums and recruitment challenges, a critical shift in the project was the move away from relying on external service providers for knowledge and expertise. This led to a greater dependence on internal capacity. When challenges arose, the project looked inward. Examples of this included filling policy advisor capacity from within the project, developing the Pongola-uMzimkhulu CMA without external consultants, and the development of ecosystem accounts within the project team, with support from interns and young professionals. This approach ensured that the skills, understanding and ownership of these outcomes was developed internally, and remains deeply held within the relevant institutions.

Empowering youth and women as agents of change: The project demonstrated what becomes possible when youth and women are placed at the centre of ecological infrastructure management. Among the more than 1 000 jobs created under the Presidential Employment Stimulus initiative, 61% were youth and 31% women. Yet the shift extended far beyond employment figures. Women made up most of the project's leadership team, bringing grounded, diverse perspectives to daily decision-making. Young professionals outnumbered senior staff and were treated as active contributors who injected energy and innovation into the work. Within the demonstration catchments, women were recognised as the primary managers of household water, giving them a deep practical understanding of water security challenges. At grassroots level, the daily efforts of the young eco- and enviro-champs helped build awareness and shift community mindsets toward ecological stewardship.

Speaking the language of finance: Historically, the worlds of biodiversity and finance struggled to connect, hindered by a perception of environmentalists as opposed to development. This disconnect was evident at the start of the project. However, partnering with financial institutions and economic experts, and utilising recognised economic tools, helped the project to move beyond scientific terminology and better speak the language of finance. A major transformative shift occurred as the project learnt to frame its messages in terms of risk, dependencies, returns on investment and corporate sustainability. By the end of the project, the gap between biodiversity advocates and development economists had narrowed, paving the way for stronger sustainable financial mechanisms in the future.

Sustainability and the future

The EI4WS project was designed to be a catalyst for long-term change. A key reflection during the close-out celebration was the shared commitment to ensuring its work continues. This momentum is now being carried forward through policy changes, strengthened institutions, newly developed capacity, and upcoming projects that will extend and deepen its achievements.

Policy integration: Ecological infrastructure is now firmly entrenched within important national policies in the water sector, including the Water Pricing Strategy, National Water and Sanitation Master Plan, National Water Resources Strategy 3, National Water Security Framework, National Spatial Development Framework, and the emerging National Wetland Policy and National Infrastructure Plan. These achievements mean that the legacy of the project will live in institutionalised government policies that influence water resource decisions.

However, a key reflection from the close out celebration is that policy is meaningless unless it translates into implementation on the ground. Water sector institutions will now have to work to incorporate these policy principles into their annual performance plans, budget allocations and compliance monitoring.

Strengthened institutions and capacity: The project successfully capacitated institutions and individuals to take up its work going forward. At the national level, the DFFE has put together a dedicated team for securing Strategic Water Source Areas. At the regional level, uMngeni-uThukela Water created a permanently staffed catchment management department, shifting its role toward proactive infrastructure planning. The project cemented cross-sectoral collaboration through a formal Memorandum of Understanding between SANBI and the Pongola-uMzimkhulu CMA. At the Breede-Olifants CMA, the young professionals placed by the project brought technical GIS capacity that enabled better mapping for their interventions and impacts. A new non-profit organisation, Amanzi Ethu Nobuntu, was established in the Greater uMngeni to carry forward the work of the community enviro-champs. Finally, the young professionals involved in the project are already applying their experience in new, influential roles across the public and private sectors.

Advancements in nature finance: The project contributed during a period of rapid advancement within the financial and corporate sectors in better internalising nature-related risks and dependencies. Through the partnership with the French Development Agency, the project provided a quantitative evaluation of the South African economy's dependency on nature. This prompted the DBSA to assess dependencies within its own loan book, leading to greater institutional awareness and actions to address these risks. The project also made important progress in institutionalising Natural Capital Accounting, bringing ecological infrastructure into the same accounting frameworks used to measure and report on the national economy. Finally, the project explored further innovative blended finance solutions, and encouraged ongoing engagement with corporate disclosure frameworks like the Taskforce on Nature-related Financial Disclosures (TNFD). There are many emerging opportunities in this arena, and partners are now more capable of taking them on.

Upcoming projects to take the work forward: The momentum generated by EI4WS is being taken forward into planned upcoming projects and programmes. Most notably, the work to secure SWSAs will be expanded through the upcoming Green Climate Fund 'EbA Water' project, while the NCA and ecological infrastructure work will continue in the 'EcoDRR' project. Partners like the DBSA are now positioned to take the lessons of the project forward in their work at regional and global scale, unlocking further potential in biodiversity and climate finance markets. The Water Research Commission will serve as the convenor for the community of practice for Catchment Management Agencies to ensure continued cross-sectoral knowledge sharing.

The Ecological Infrastructure for Water Security project successfully demonstrated that investing in ecological infrastructure is fundamental for sustaining the very water resources that communities and the economy rely on. By showing what can be delivered on the ground, transforming how we work, and embedding these lessons directly into national water governance, the project has ensured that ecological infrastructure is now recognised as a core element of South Africa's water security.