



Case study: Local government and civil society

uMngeni Ecological Infrastructure Partnership

The uMngeni Ecological Infrastructure Partnership involves key role players from local government and civil society who are working towards ensuring clean and sufficient water supply to the economic centres of Pietermaritzburg and Durban. The partnership aims to achieve this through improved management of the important ecological infrastructure of the uMngeni catchment that contributes to water related ecosystem services, including improved flow, purification, and protection against storm surges. In doing so, it is also creating jobs, improving co-operative governance and supporting safer, healthier waters for recreation.



Background

The uMngeni River arises in the Drakensberg foothills and runs southeast to its mouth in the centre of the city of Durban. The upper uMngeni catchment is characterised by an agricultural landscape, where livestock farming and plantation forestry are the primary land uses. The upper reaches include a number of wetlands, such as the RAMSAR listed uMngeni Vlei wetland. Many of the wetlands have been severely impacted by human activities, through artificial drainage, land transformation and overgrazing. Another significant threat to river health is alien vegetation, with serious infestation by wattle in particular, occurring within the riparian zone. Despite the threats faced, the catchment still has a substantial amount of land surface that is in a relatively natural condition and which therefore retains its potential to deliver water-related ecological services. The catchment is also home to a number of threatened species, including three species of crane, oribi antelope and numerous threatened plant species.

As the river extends into the lower reaches, it enters the expanding urban areas of Durban and Pietermaritzburg. Over 4 million people live in these areas and the population is growing, with a similarly growing demand for water services. Sewerage and industrial effluent are escalating threats to water quality. Over the years, an increasing number of expensive engineered solutions have been put in place to supply water to the urban areas. Decreasing water quality also has numerous associated costs, including higher municipal spend on water purification, increased consumer water tariffs to recover these costs, increasing health costs related to unsafe water, and reduced economic gains from fewer water-based sporting events.

Action

Deterioration of the uMngeni catchment is impacting upon water quality and quantity available to municipalities in the region. This, combined with the ongoing severe drought in the province, has led to severe water shortages and decreased water quality. Relying on engineering solutions alone would be unaffordable and not feasible, so municipalities started searching for innovative, alternative solutions. An ecological infrastructure project in the catchment area was conceived through discussions between the South African National Biodiversity Institute (SANBI) and the municipal leadership of eThekweni Metropolitan Municipality, specifically the Department of Water and Sanitation and the Department of Environmental Planning and Climate Protection. These departments came to realise that there are limits to built infrastructure, but that by spending money on restoring the environment it is possible to harness the regenerative power of nature to improve water services that are so important for people.

The uMngeni catchment was appropriate for such a project because of the wide range of public and private partners with an interest in the catchment, and the position of Durban, as the economic powerhouse of the province, downstream of the catchment. A number of civil society and government partners showed an interest, or stood to benefit directly from rehabilitation of the catchment. The result is that 21 parties have signed a memorandum of understanding establishing the Umngeni Ecological Infrastructure Partnership (UEIP). Signatories include local, provincial and national tiers of government, business, academia, non-governmental organisations and civil society. Included among the parties are uMgungundlovu, Msunduzi and eThekweni municipalities, several local municipalities, as well as Umngeni Water, all of whom see the potential benefits of maintaining and restoring the ecological infrastructure of the catchment. The municipalities are leading three pilot ecological infrastructure proof of concept projects.



Ecological infrastructure

Ecological infrastructure refers to naturally functioning ecosystems that deliver valuable services to people, such as fresh water, climate regulation, soil formation and disaster risk reduction. It is the nature-based equivalent of built or hard infrastructure, and is just as important for providing services and underpinning socio-economic development.

South Africa has abundant ecological infrastructure, providing opportunities to support development and unlock economic potential. Local government has a central role to play in ensuring the maintenance and restoration of ecological infrastructure, so that it can continue to provide essential ecosystem services to communities.



Achievements

The UEIP has contributed to focussing attention on the importance of ecological infrastructure and the numerous benefits that can be achieved by investing in the maintenance and restoration of ecosystems. Not only will the activities underway improve water quality and quantity for downstream users, but cleaner waterways are also better for the health and wellbeing of rural communities who depend directly on streams and rivers. In the uMngeni River, this is also important for reducing the health risks associated with flagship water-based recreational activities, such as the Midmar Mile and Dusi Canoe Marathon.

The fact that 21 organisations have been willing to participate voluntarily in the initiative is noteworthy, as is the leadership role taken by municipalities. Through a focus on ecological infrastructure, it has been easier to communicate the relevance of functioning natural ecosystems to muni-

icipal concerns and governance priorities. Important connections are also being made with similar catchment partnerships, such as the uMzimvubu Catchment Partnership Programme in the Eastern Cape. The reason for such interest in catchment management is the clear benefit of improved water service delivery that can be expected, as well as multiple co-benefits, like biodiversity conservation, job creation opportunities and a host of other ecosystem services.

The UEIP showcased its Bayne's Spruit rehabilitation project during an event for International Day for Biological Diversity on 22 May 2015. At the event, the deputy minister for environmental affairs also committed further support for the Bayne's Spruit project. Significantly, this occasion was also used to launch the national Department of Environmental Affairs' *Local Government Support Strategy*, which recognises the important role that municipalities should be playing in the management of ecological infrastructure.





Pilot projects

Palmiet River Rehabilitation – eThekweni Metropolitan Municipality and the University of KwaZulu-Natal take the lead on this project that addresses the deterioration of water quantity and quality of the Palmiet River. Quality deteriorates as the river progresses through industrial estates, residential suburbs and informal settlements towards the uMngeni River. Initially, the municipality proposed the construction of artificial wetlands to remove sediments and pollutants before the tributary enters the river system. The focus of the project has since shifted towards improved governance through developing relationships with catchment stakeholders, and particularly with the three communities in the informal settlements. Clean-ups of the area and removal of alien invasive vegetation through expanded public works programmes and a day care crèche are planned interventions for this project.

Save the Midmar Dam – the Midmar Dam supplies water to almost half the province's population, but is also a popular recreational area. The quality of water in the dam has declined significantly due to contamination from sewerage, solid wastes, industrial effluent and agricultural activities. In a partnership led by the uMgungundlovu Water Service Authority, action is underway to restore the ecological infrastructure within a number of key areas around the dam.

Bayne's Spruit Rehabilitation – Bayne's Spruit is a tributary of the Msunduzi River, host of the famous Dusi Canoe Marathon and itself a tributary of the uMngeni River. Bayne's Spruit runs through the city of Pietermaritzburg, where it is subjected to the effects of illegal discharges of industrial effluent, illegal dumping and poor storm water and sanitation infrastructure. The rehabilitation project, led by Msunduzi Metropolitan Municipality, is constructing artificial wetlands, restoring riparian forest on the stream banks to prevent erosion and controlling alien invasive plants.

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