



JOINT TERMS OF REFERENCE FOR A SOLICITED PROJECT

KEY STRATEGIC AREA	Water Resources and Ecosystems
THRUST: 3	Water resources and ecosystem protection and utilization
PROGRAMME: 2	Rehabilitation and conservation
TITLE	Rehabilitation needs of the Baakens river ecological infrastructure to a beneficial catchment in Ggeberha

Overall aim:

The main aim of the scoping study is to generate information on rehabilitation options of the Baakens

river. The following activities are central to the study:

- Study to assess the water quality of the river.
- Study to assess the extent of alien species invasion in the river.
- Workshop to discuss and understand broadly the context of river rehabilitation with MBDA team

Specific:

- 1. Through a scoping study, conduct the Baakens river state of the catchment using historic benchmark of a healthy system or reference condition
- 2. Quantify the rehabilitation needs, both flora and fauna in the entire catchment in order to regain most if not all of the ecosystem services it once provided
- 3. Provide cost benefit analysis critical in decision-making by Gqeberha municipality
- 4. Suggest mechanisms to be implemented in order to conserve and sustainable utilize the catchment or sections thereof

Rationale:

The Baakens River flows about 23 km from its catchment area in Sherwood through the Gqebera City centre and opens at the harbour in the Algoa Bay. Over the past years, human activities have led to the pollution of the river and has affected the quality of the water as well as the flora and fauna in and around the river. The river is central to the NMB City's development of the Baakens valley in the Metro, as such, there is a need for its rehabilitation to activate tourism and development in the area. Besides non-point and point sources of pollution, the catchment has been extensively invaded by the alien plants threatening the water security, as well as invasive fish species which threatens indigenous species. The Baakens River was once a habitat for several indigenous species whose populations are now in decline, most notable of which is the Eastern Cape Redfin (*Pseudobarbus afer*) which is classified as endangered (IUCN, 2013); the Goldie barb (*Barbus pallidus*) and Cape Kurper (*Sandelia capensis*). The Southern Mouthbrooder (*Pseudocrenilabrus philander*) (Bok, 1994) and Banded Tilapia (*Tilapia sparmanii*) (Skelton, 2002) are a real threat to the indigenous fishes. In its comparatively small catchment, Baakens river valley and gorges as it empties into the ocean provided a centre of attraction to tourists and in particular, the birdwatchers. In its upper reaches, it provided grazing fields to the local subsistence farmers. As a healthy landscape, it sustained the water to the downstream users and biodiversity. All

these are mainly gone due the ecosystem degradation. Baakens provides a great opportunity for managing water resources at catchment scale, which demands that all stakeholders (policy, business and society) work together for a common purpose regardless of the mandates. This complexity allows various research tools to be piloted/implemented. WRC has most if not all the tools required to turn the degraded catchment to a green one, however local contextualization is critical, hence this call.

"Our world is in turmoil as we continue to face the first global pandemic in a century. Humanity's impacts on the planet have led to biodiversity loss, climate change, and infectious diseases such as COVID-19. The UN Decade on Ecosystem Restoration could not be more timely or important. The 9th World Conference on Ecological Restoration–SER 2021 reiterated this UN call to address the urgent need for ecological restoration as a key nature-based solution for addressing multiple climatic, ecological, economic, social, and health challenges. Conservation alone is not enough – we must invest in restoration to rebuild degraded ecosystems to enhance biodiversity, improve livelihoods and human wellbeing, create social-economic resiliency, and mitigate climate change. We must invest in high quality, effective, socially sound, participatory, ecological restoration to reverse degradation and achieve local, regional, and planetary net ecological and social improvement". Said the SER 2021 statement.

Deliverables:

The main aim of this project is to generate information critical for the Gqeberha Metro to decide on rehabilitation of the Baakens river catchment. The ecological management class or category is the key product of catchment assessment, while the costs benefit analysis will guide the activities. The final product being the recommendations on what needs to be done to reverse the Baakens river catchment to its glory and livable environment.

Impact Area:

Policy support and other related Knowledge tree impact areas

The estimated budget over a 12-months scoping study is available from Gqeberha Metro as a leveraged to WRC. This is one of the two projects (in KSA 1 and 3) funded through the NMBM and WRC memorandum of agreement

Time Frame:12-monthsTotal Funds Available:R 500 000Budget for 1st year:R 500 000