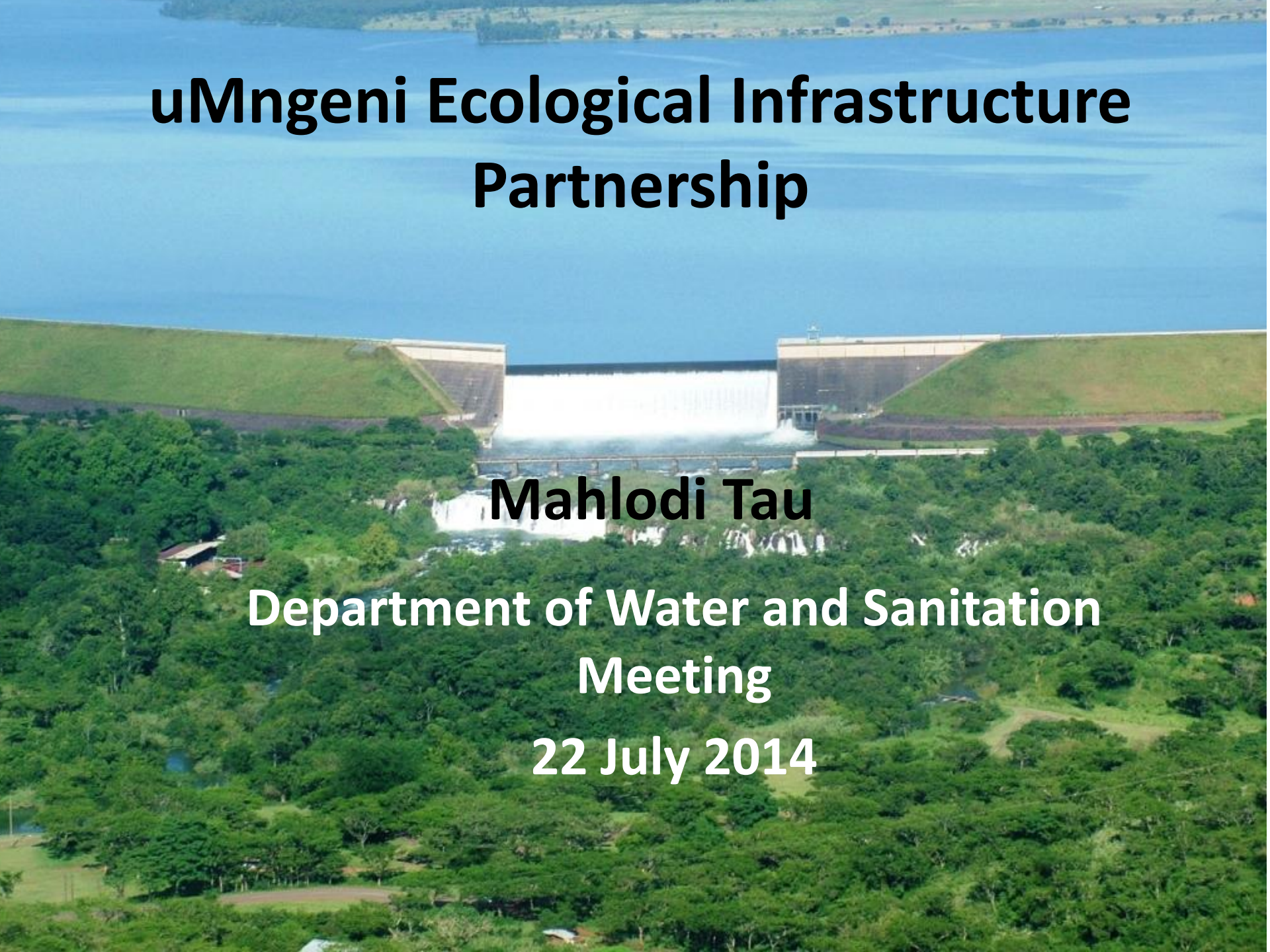
uMngeni Ecological Infrastructure Partnership

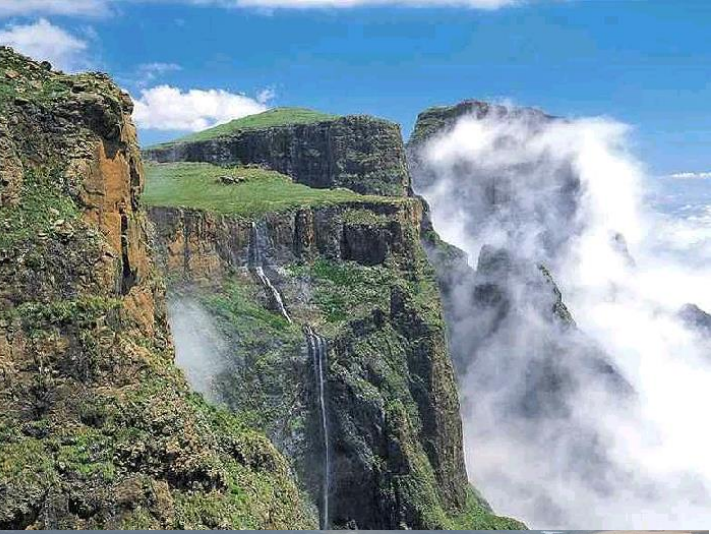


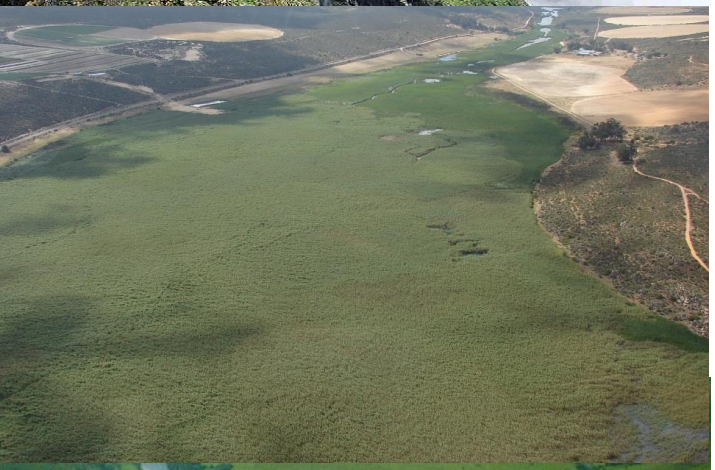
Mahlodi Tau

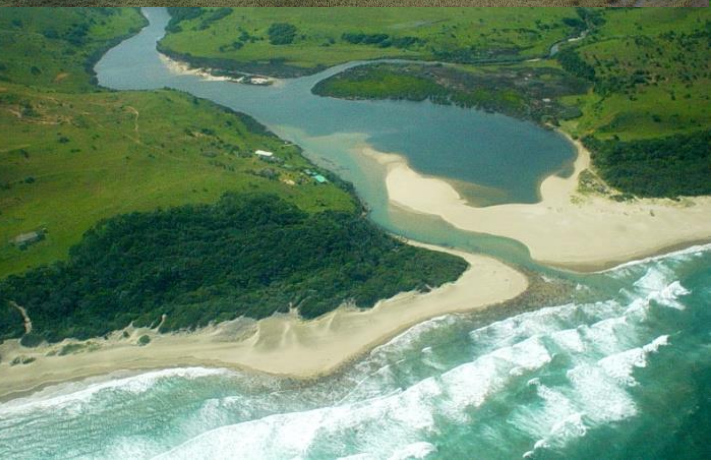
Department of Water and Sanitation

Meeting

22 July 2014







OVERVIEW

- Ecological Infrastructure
- uMngeni Ecological Infrastructure Partnership (UEIP)
- Green Fund Research

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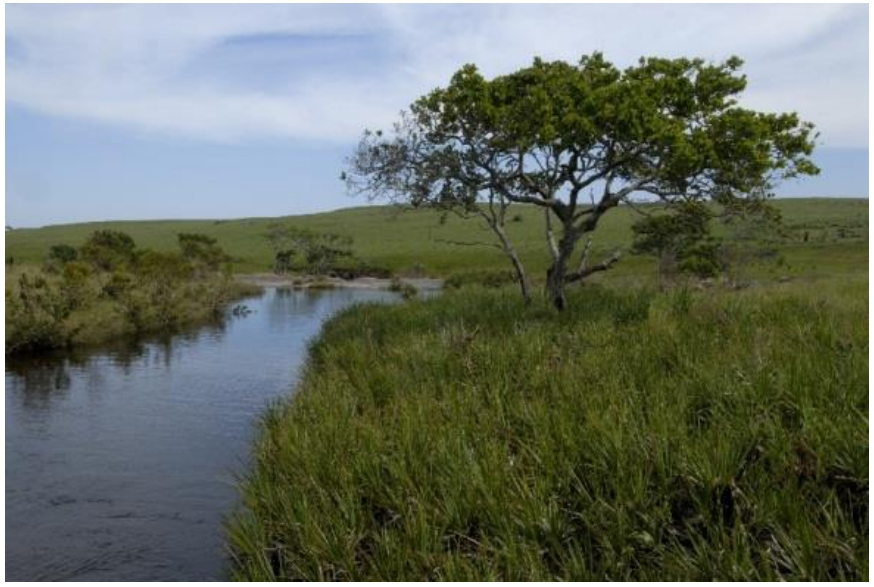
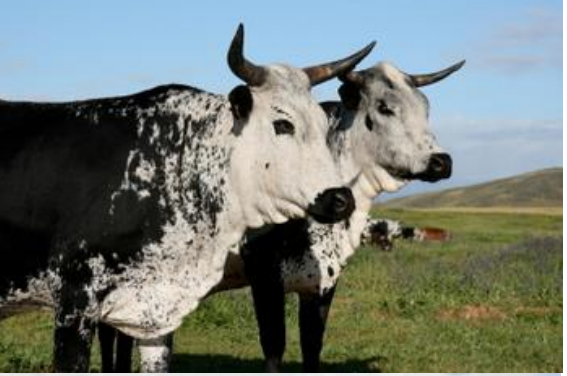
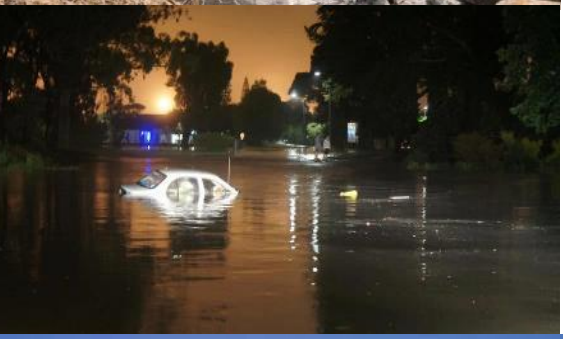
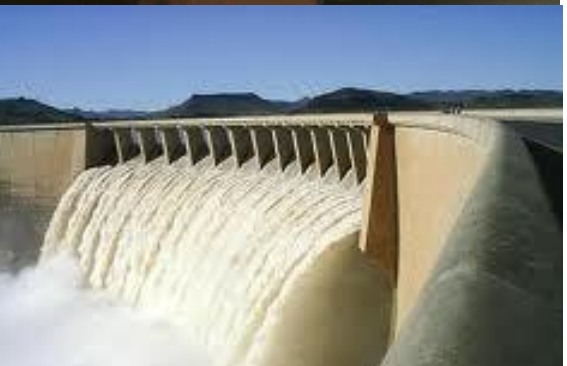
What is Ecological Infrastructure?

- Ecological infrastructure refers to naturally functioning ecosystems that deliver valuable services to people
  - (e.g. rangelands, rivers, wetlands, mountain catchments etc)









Benefits we get

- **Augment, enhance and protect built infrastructure**
  - (e.g. restoring degraded catchments prevents siltation and prolongs life of dams)
- **Contribute to water security**
  - (e.g. by assuring the quality and quantity of water supplies)
- **Contribute to food security**
  - (e.g. through ensuring productive rangelands, preventing erosion and contributing to soil health)
- **Reduce the risk of disasters**
  - (e.g. intact ecosystems are better able to help humans cope with extreme events such as droughts and floods, also important for climate change adaptation)

Investment in Ecological Infrastructure for Water Security

Examples of INTERVENTIONS	Examples of BENEFITS
Clear invasive alien plants, especially in mountain catchments and riparian areas	Increased water yield
Rehabilitate wetlands	Improved water quality through filtering of pollutants and toxins
Maintain buffers of natural vegetation along streams and rivers	Reduced flood damage
Reinstate buffers of natural vegetation between agricultural crops and rivers or wetlands	Improved soil quality
Improve rangeland management practices (e.g. grazing regime, fire management)	Increased baseflow in dry season → assurance of water supply
Monitor compliance with effluent standards for agriculture and industry	Reduced sediment load in rivers

Examples of poorly managed ecological infrastructure

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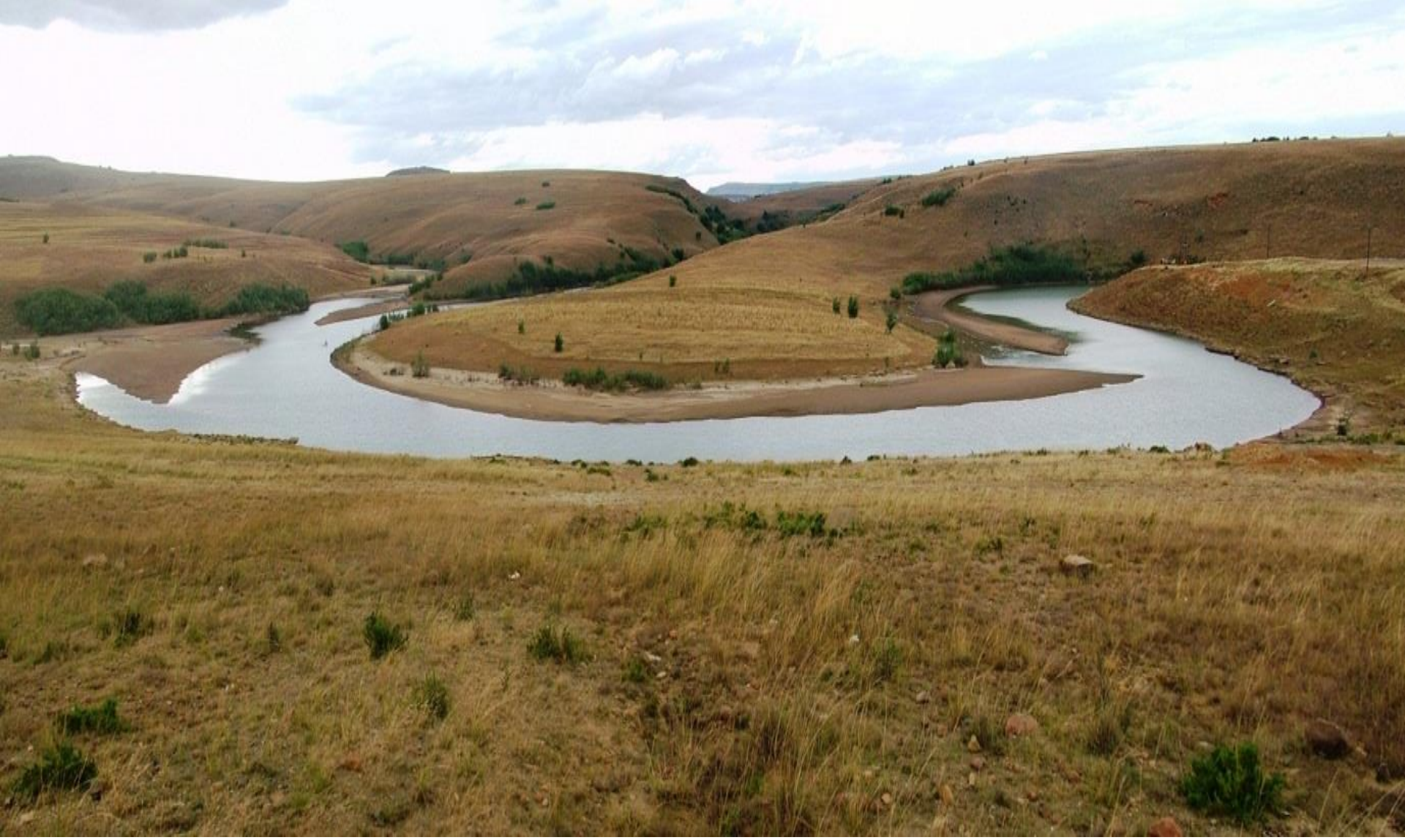
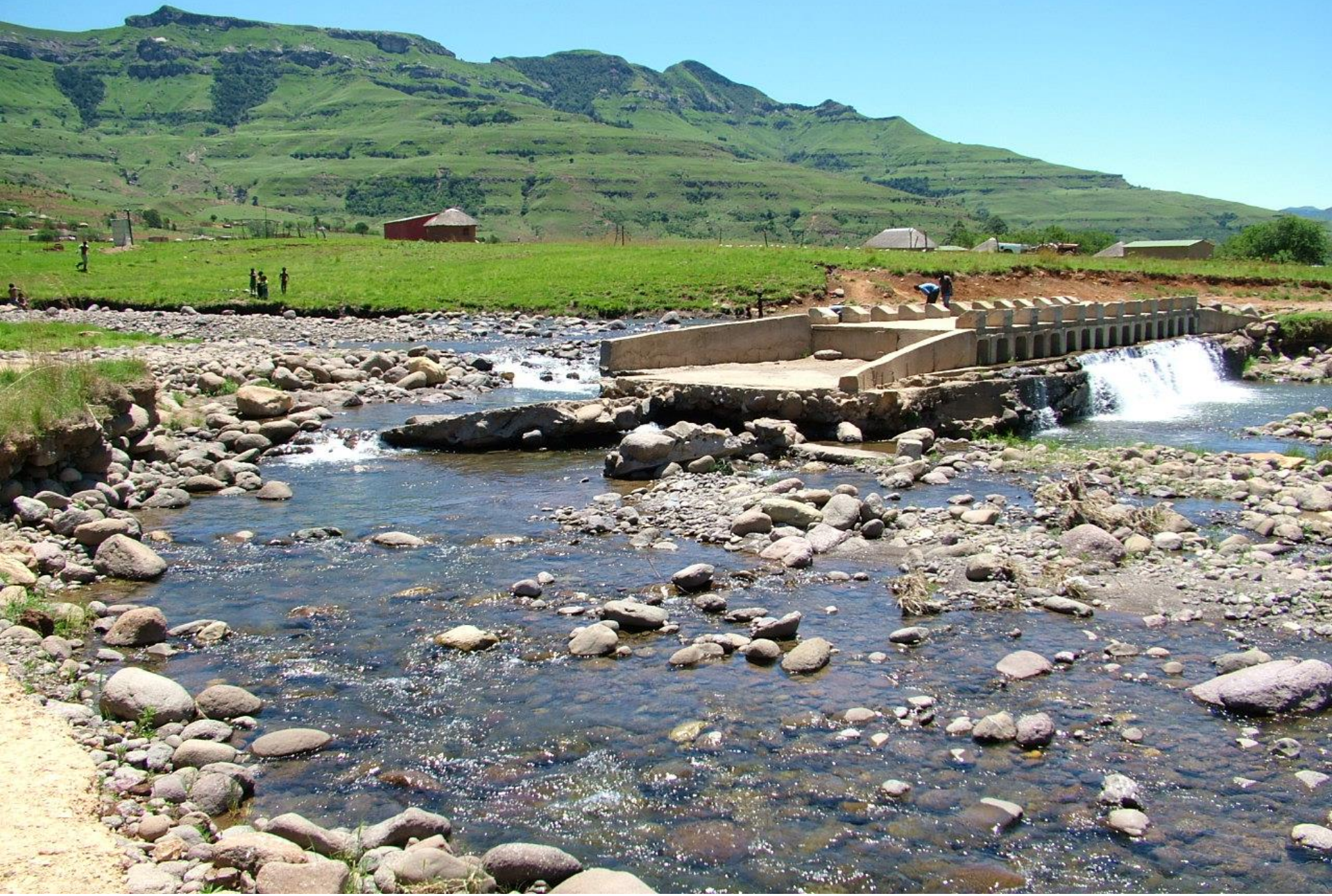


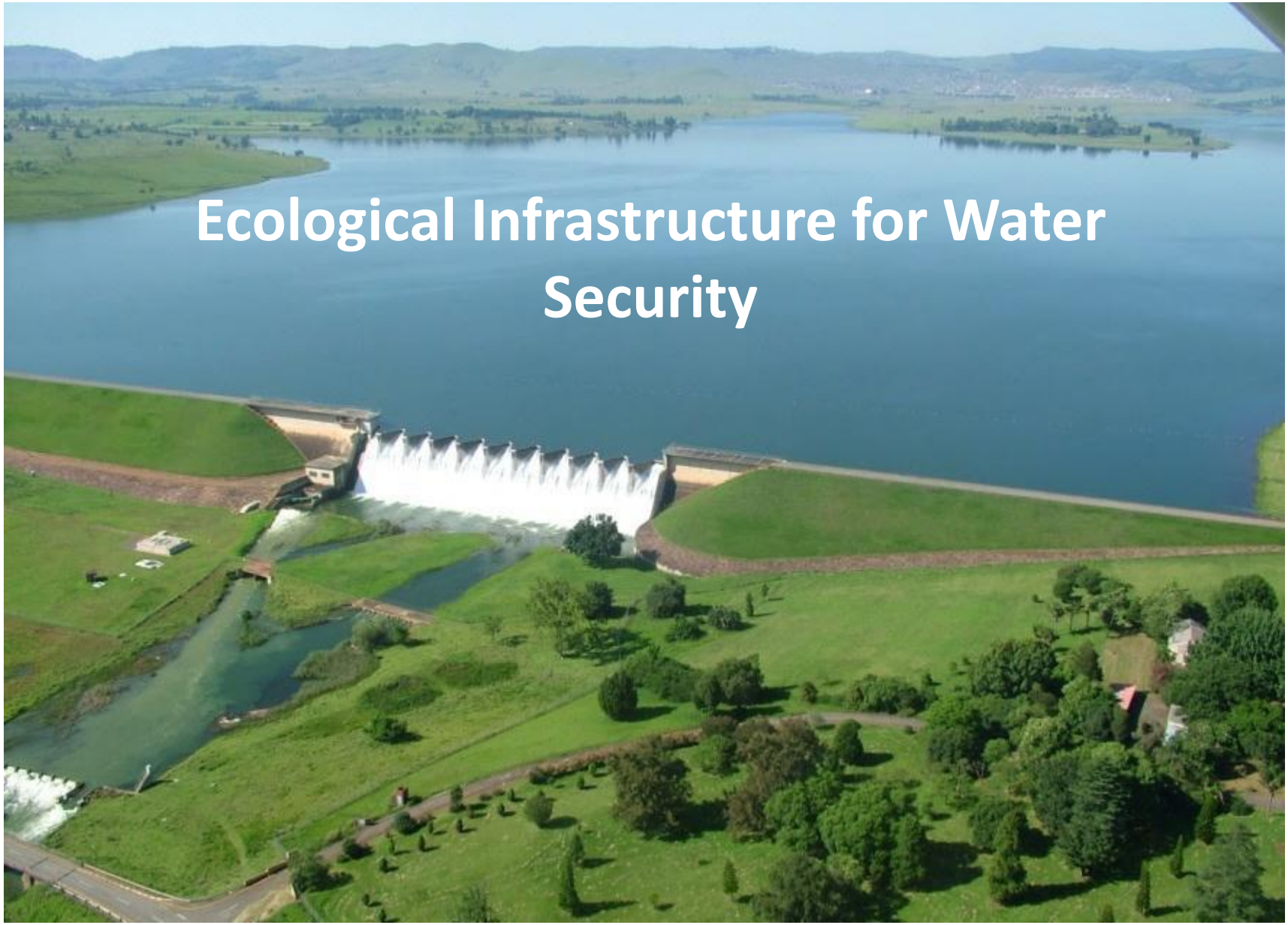
The Mount Fletcher Dam

- Lost approximately 70% of its water holding capacity due to deposition of silt from its catchments



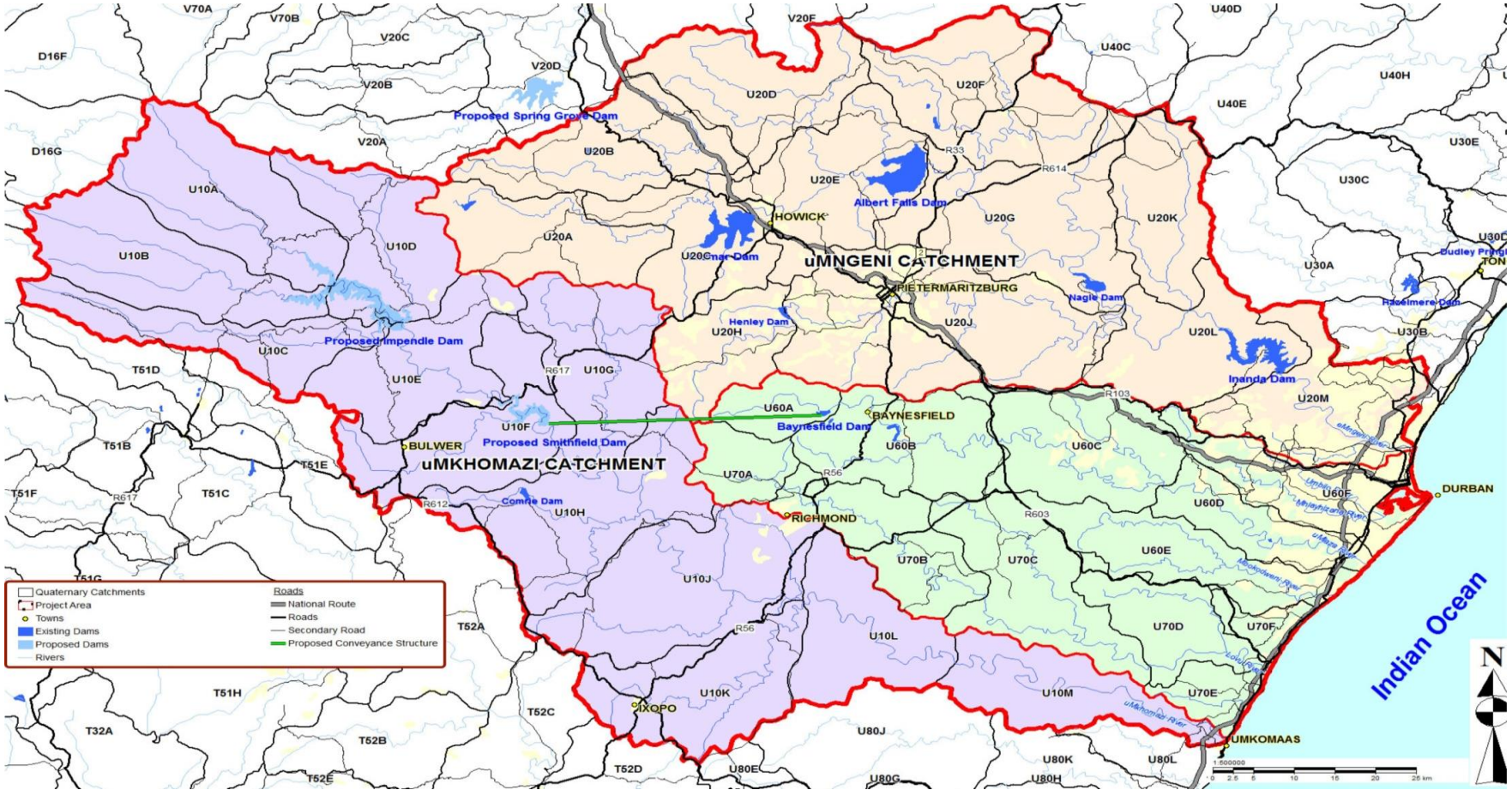
Catchment lost its ability to attenuate floods in the upper Thukela

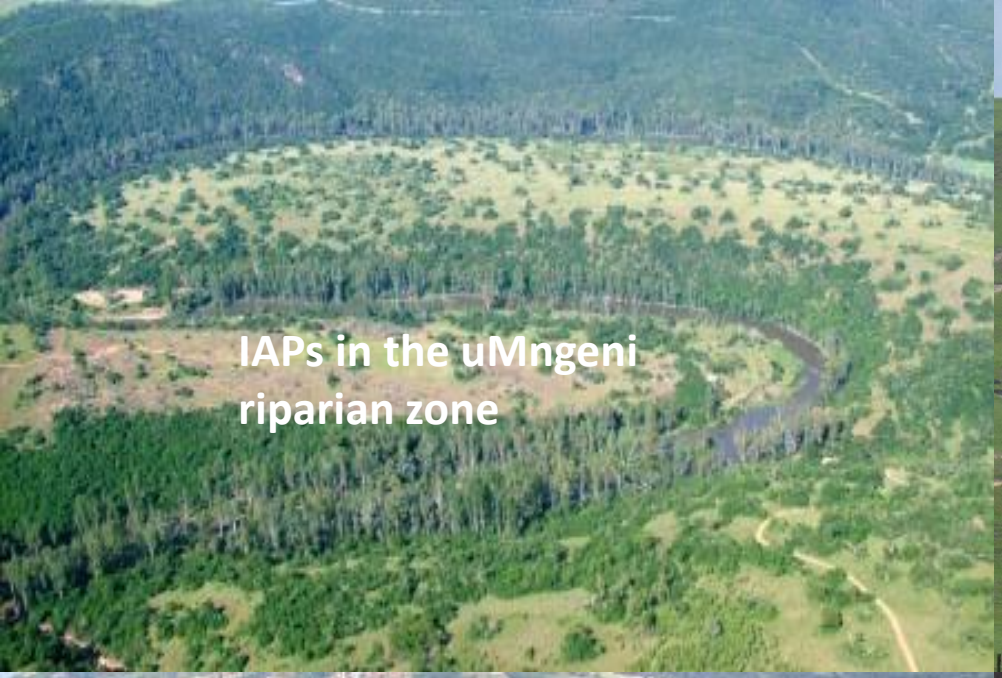
Cultivation of riparian zones

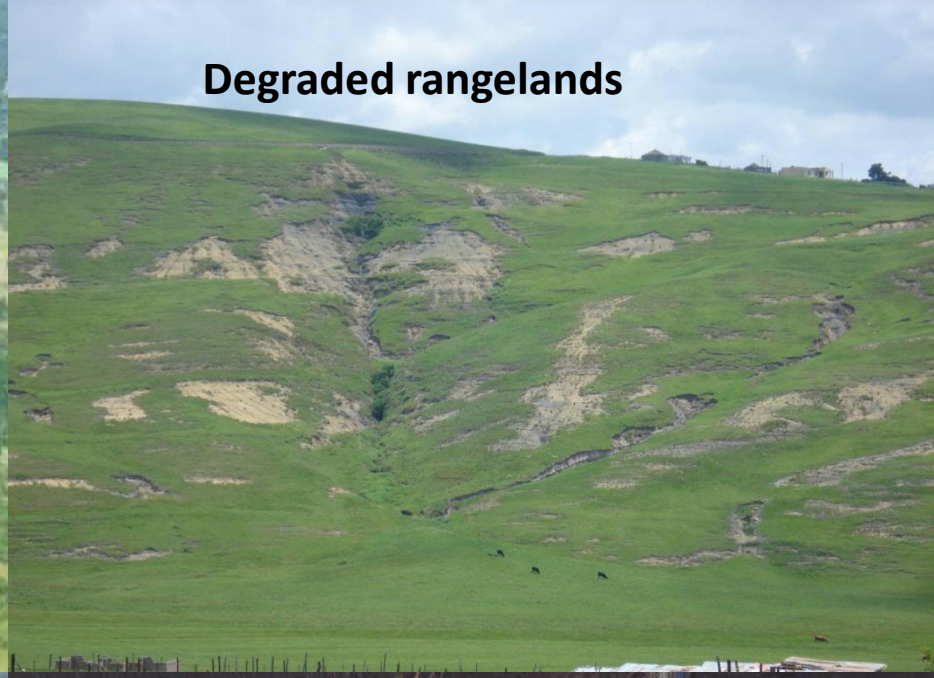

Ecological Infrastructure for Water Security

Background

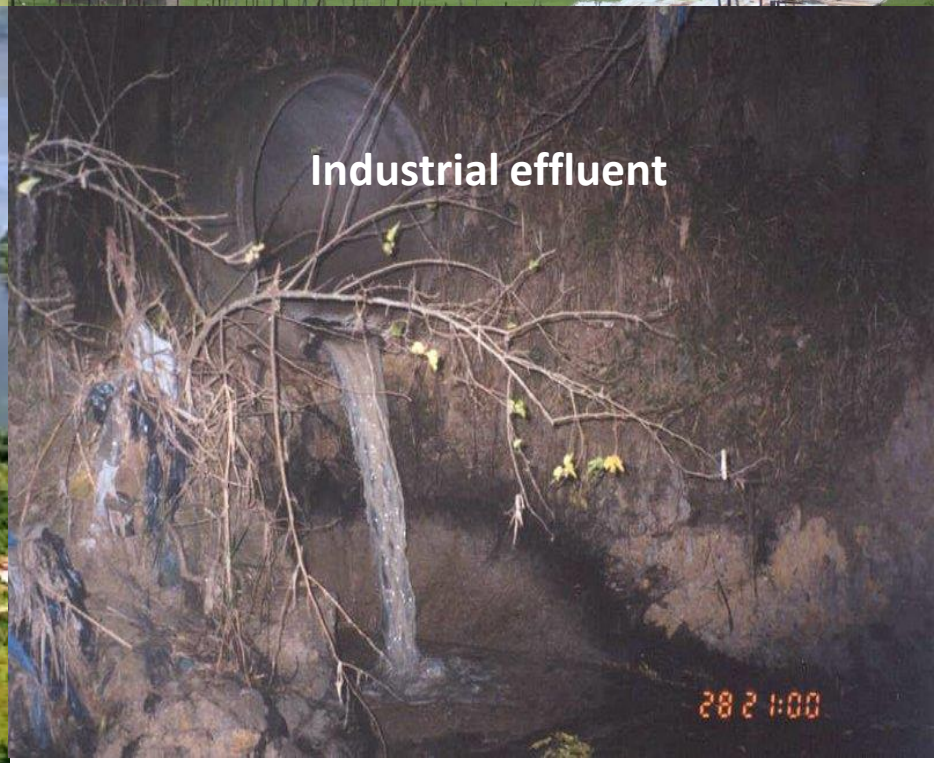
- KZN water reconciliation strategy
  - Highly stressed catchment
  - Identified engineering solutions




IAPs in the uMngeni
riparian zone


Degraded rangelands


Algal bloom in the
Inanda Dam


Industrial effluent
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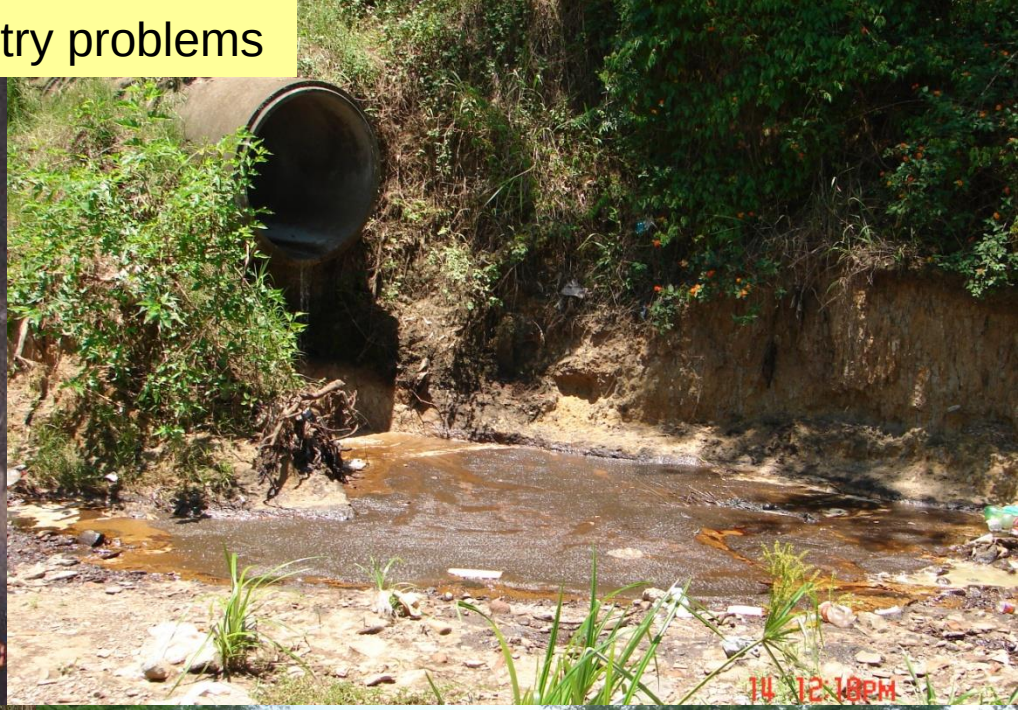
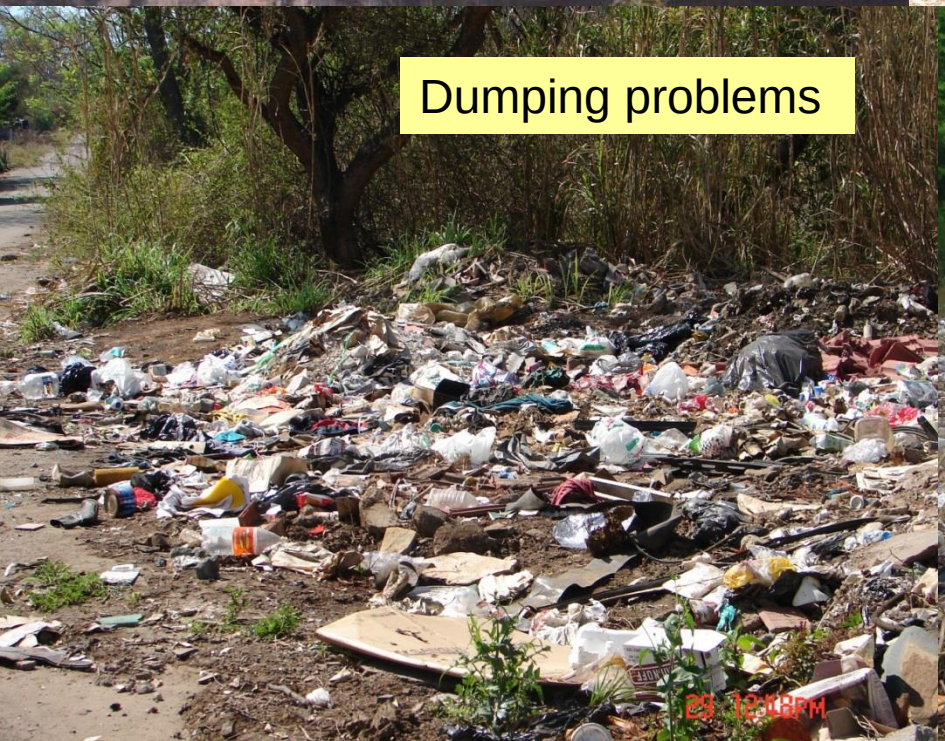
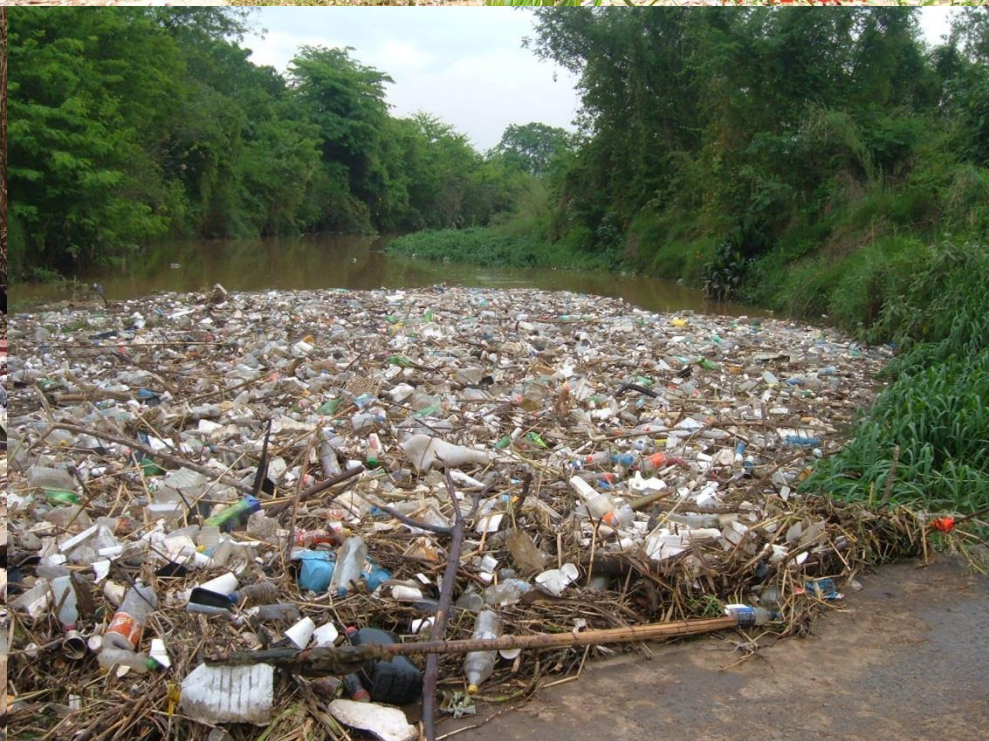
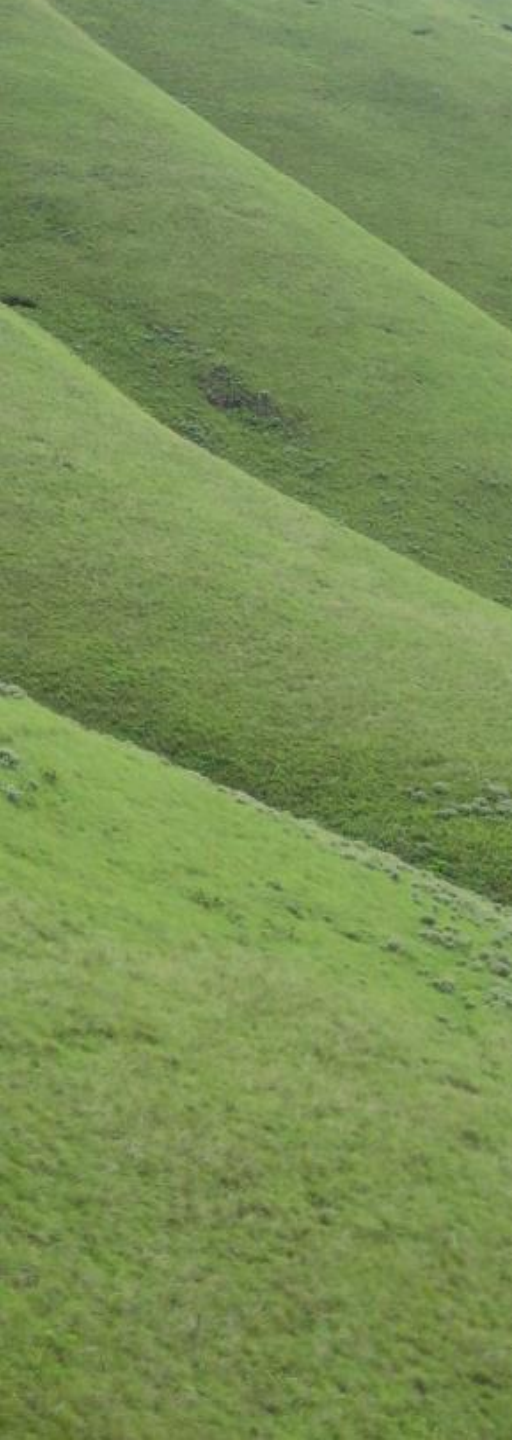
Some Industry problems



Dumping problems







Investment in Ecological infrastructure (IEI)

- SANBI proposed IEI to eThekwini municipality
  - ✓ add value to existing engineering solutions
- Support from KZN-DWA & UmgeniWater
- Partnership rapidly grew around common vision
- Maintain functioning EI and rehabilitate degraded EI
- Highlight the role of EI for water security
- To augment and enhance the efficiency of engineered infrastructure

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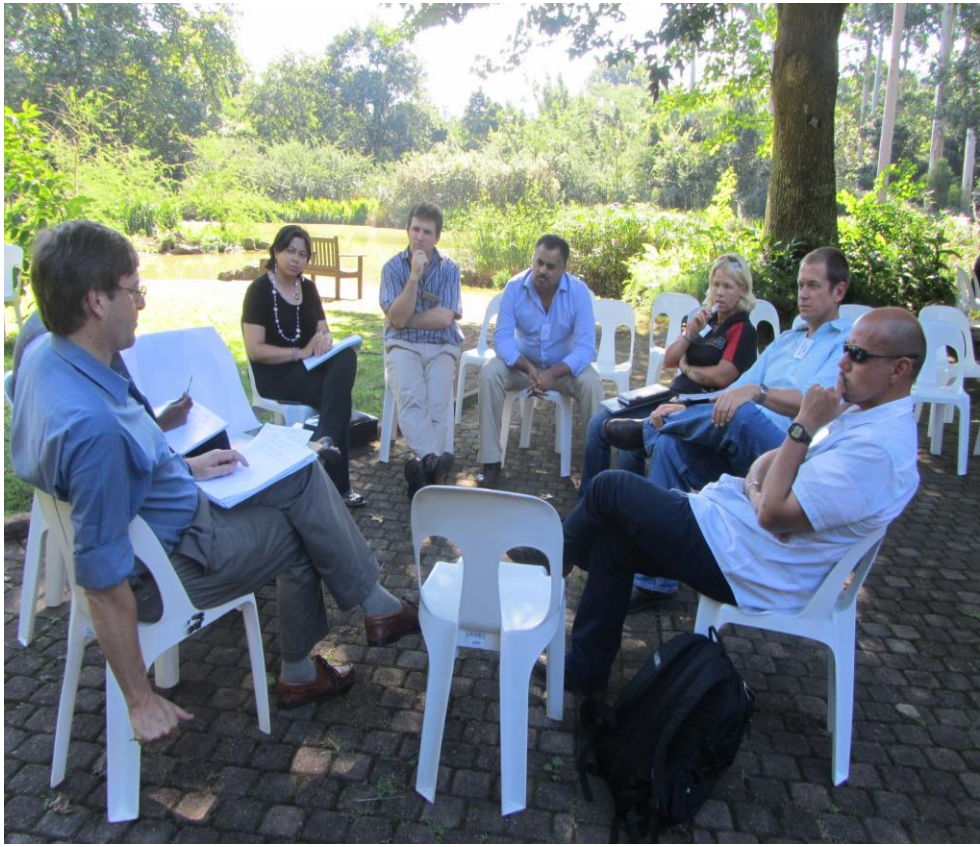
Partnership Coordination

- Established UEIP
- Partners workshops
- Identified priorities
  - Develop UEIP MoU
  - Mapping of EI
  - Long-term strategy
  - Develop MoU



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WWF


WESSA
PEOPLE CARING FOR THE EARTH


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KZN WILDLIFE
Conservation, Partnerships & Ecotourism


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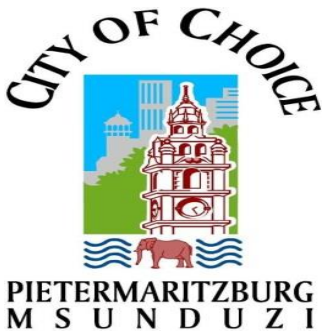
Inspired by life


UMGENI
WATER · AMANZI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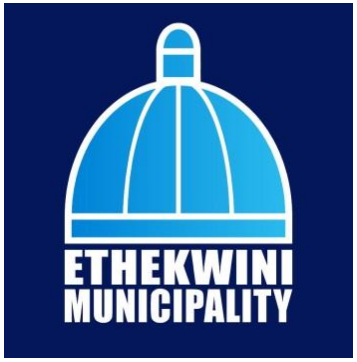
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MUNICIPALITY


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& environmental affairs
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& Environmental Affairs
PROVINCE OF KWAZULU-NATAL


water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA


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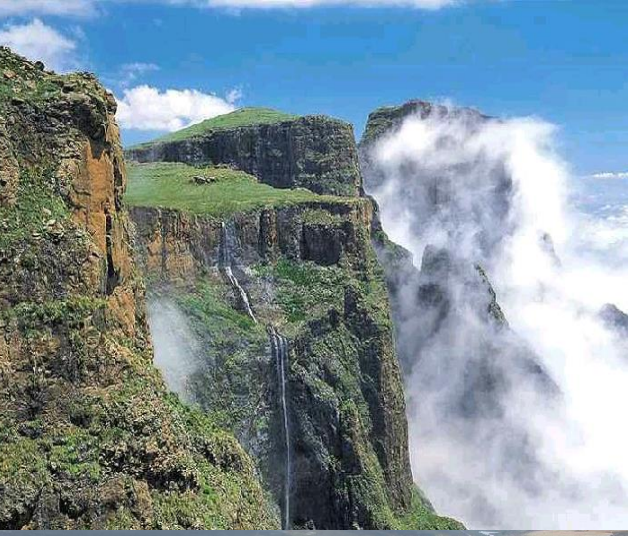

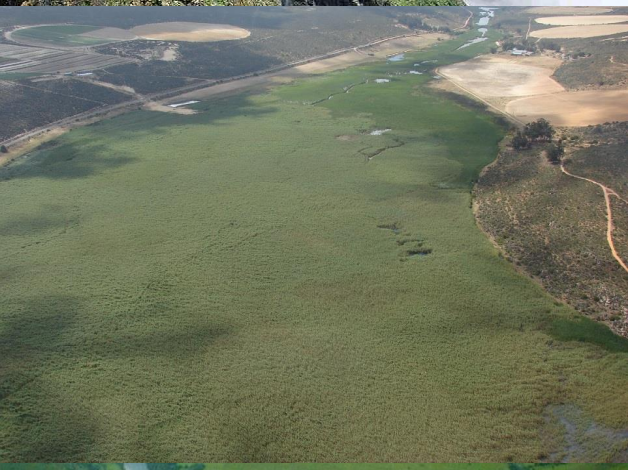

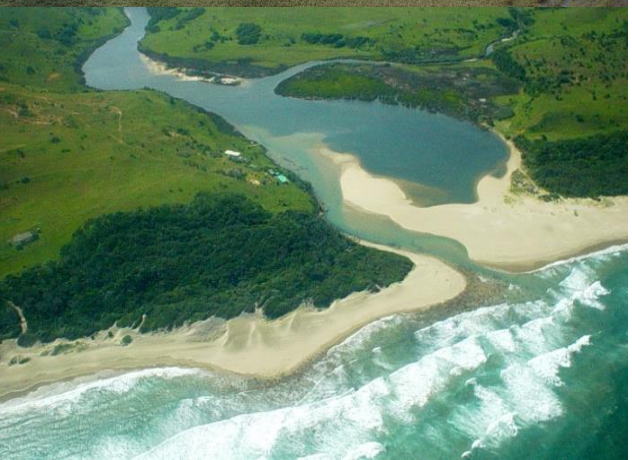

UEIP Coordinator

- Secured catalytic funding from WWF & SANBI
- Develop long-term strategy
  - Our common vision
  - Roles & responsibilities
  - Expected outcomes
- M&E framework
- Add value to existing institutional arrangements
- Efforts towards coordination of EI related projects
- Build relationships with the uMngeni Catchment Management Forum

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Green Fund Research

- SANBI secured research funding from Green Fund
- KEY OUTPUTS:
  - Development of methods for mapping EI and assessing ecosystem conditions
  - Undertaking a situational analysis of the catchment, inclusive of all supply and demand aspects
  - Identification of the sites for and types of investment required
  - Development of a plan for investing in EI in the uMngeni catchment

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EI Mapping

Focused on water supply:

Water production (*e.g. Natural areas with high water yield and portions of the landscape required to support flow during the dry season)*

Erosion Control (*e.g. Erosion prone areas which need to be kept intact or rehabilitated)*

Enhancement of water quality (*e.g. Sediment trapping; phosphates, nitrates and toxicants filters)*

Flood Attenuation (*e.g. Particular types of wetland which are important for delaying flood peaks and reducing flood intensity)*

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What are opportunities for working together?

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Thank You

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