

Nature-based Solutions for Climate Adaptation

Royal Haskoning DHV Webinar Series

15 August 2024, Online



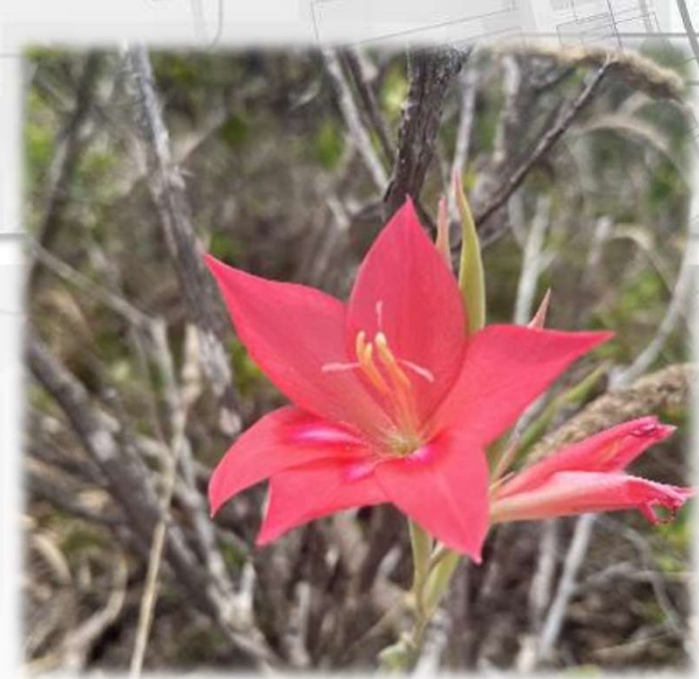
science & innovation

Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA



The South African Context

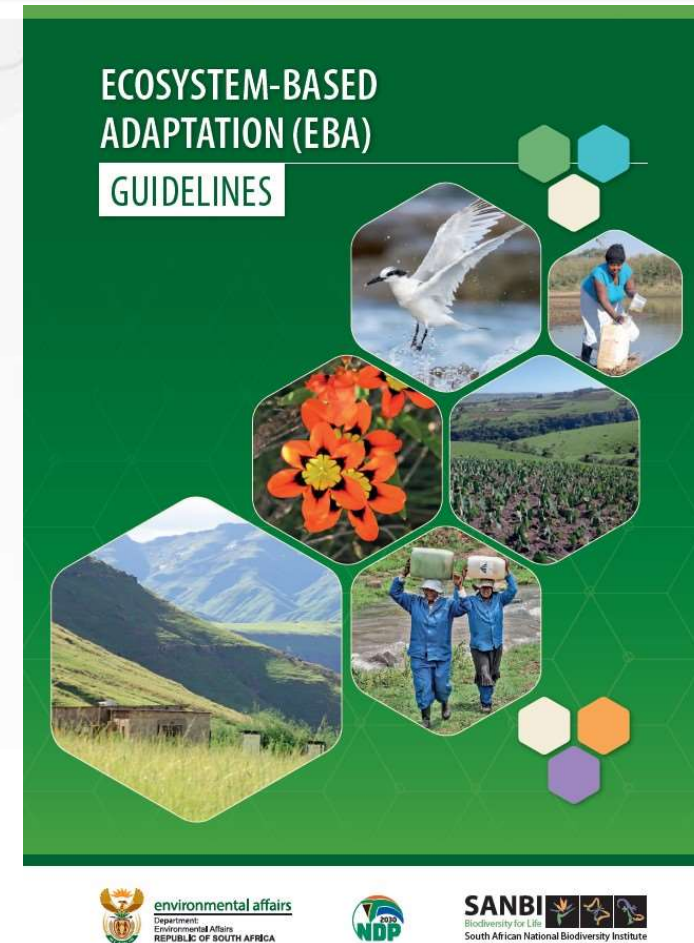
- Endowed with extraordinary biodiversity –
 - Cape Floral Kingdom: the smallest in the world ("Fynbos")
 - Maputaland-Pondoland ecoregion
 - Rivers and wetlands of the Cape Fold ecoregion
- Under pressure from social and environmental challenges
- Opportunities:
 - Rich knowledge base (indigenous and local knowledge, scientific knowledge)
 - Enabling policy environment



Gladiolus carmineus

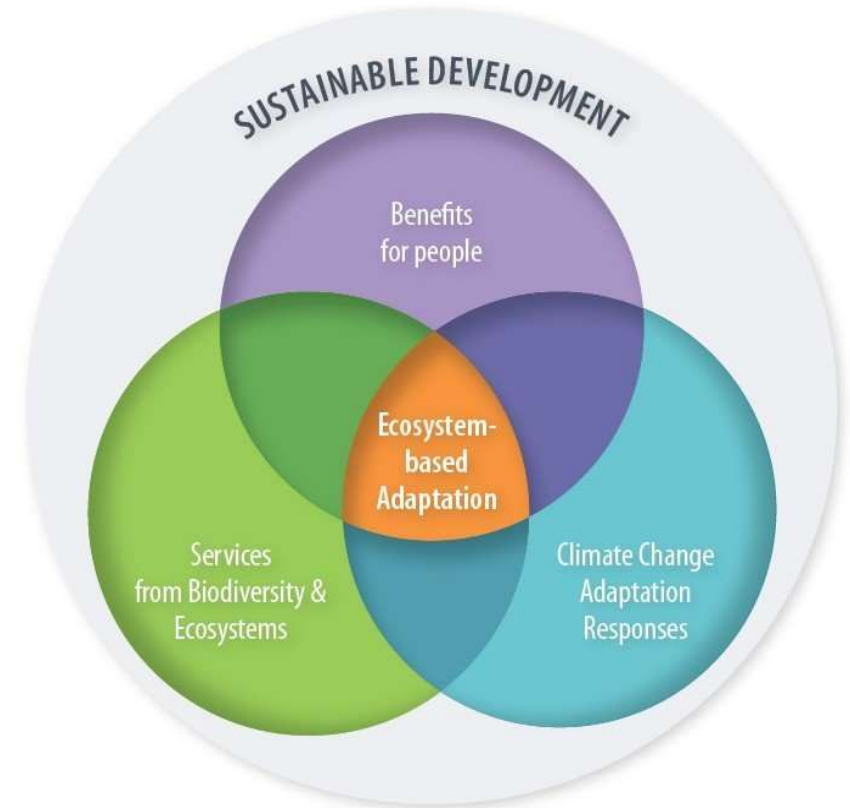
Development of NbS Policy in South Africa

- Let's Respond Toolkit, 2012
- CBD voluntary guidelines, 2018
- National Climate Change Adaptation Strategy, 2019
- Climate Change Act signed into law, July 2024
- National Guidelines for EbA (SANBI and DFFE), 2017



What is NbS in South Africa?

- Nature-based Solutions include Ecosystem-based Adaptation to climate change
- **True Ecosystem-based Adaptation:**
 - Helps people adapt to climate change
 - Uses biodiversity and ecosystems as part of the solution
 - Is part of a broader adaptation strategy



DEA and SANBI (2017). *Ecosystem Based Adaptation (EbA): Guidelines in South Africa*. Department of Environmental Affairs, Pretoria, South Africa.

Some existing initiatives

**Kruger to Canyons
Biosphere and
Water Funds**

**Working for Water /
DFFE clearing of
invasive alien
plants**

**Western Cape
ecological
infrastructure
investment strategy**

**Rehabilitation of
dune systems for
coastal flood
protection**

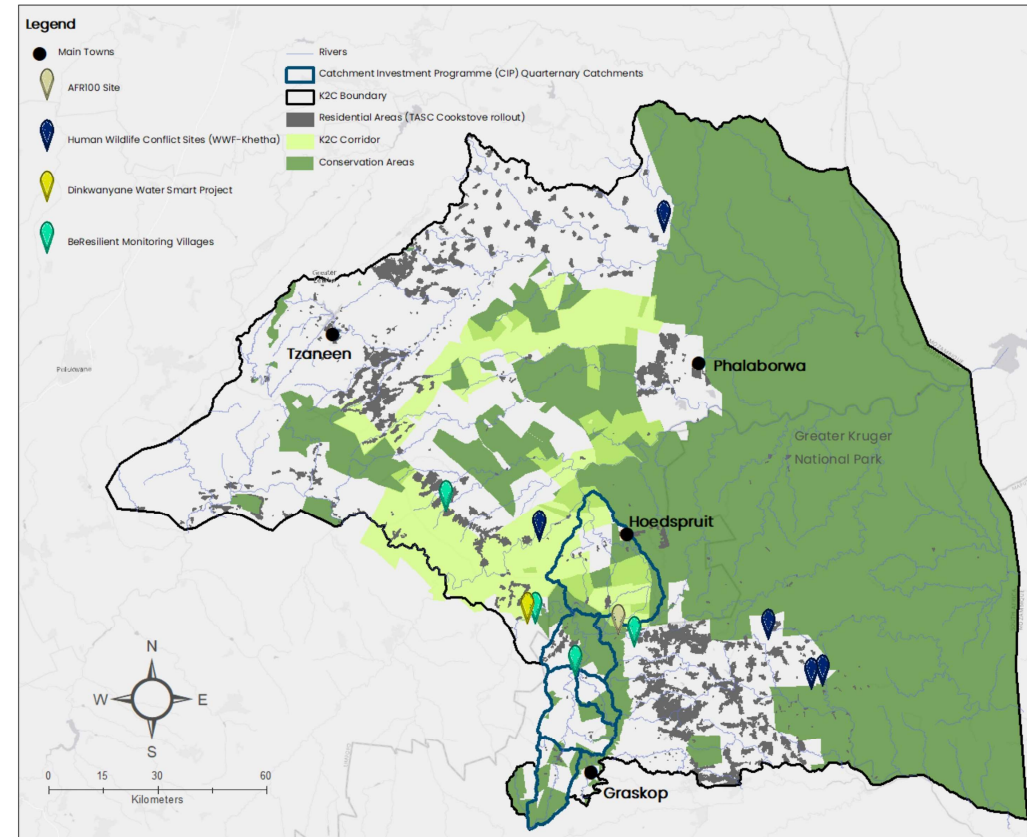
Kruger to Canyons Biosphere and Water Funds

- Focus on:
 - Water protection and management partnerships (Water Fund)
 - Catchment / watershed management with communities
 - Intact river corridors and wildlife corridors
 - Management of human-wildlife conflict

Source: <https://kruger2canyons.org/projects/>

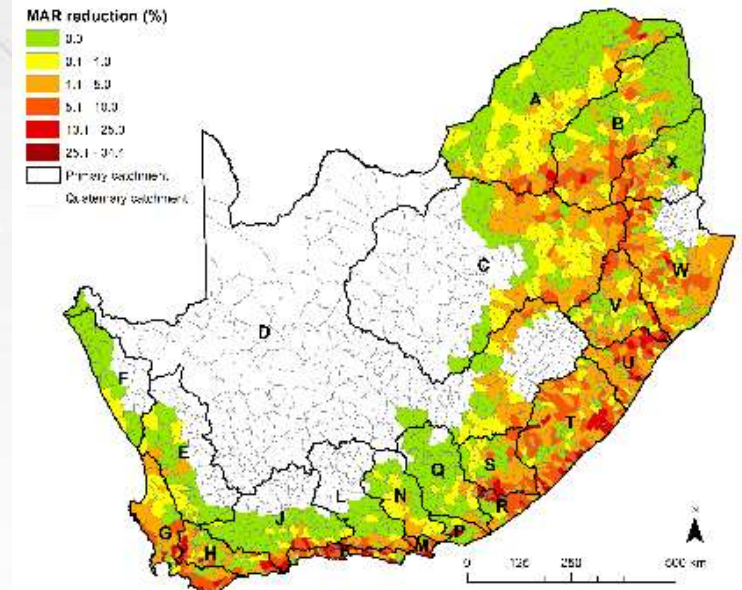


[PARTNERING TO ACHIEVE A SUSTAINABLE FUTURE FOR ALL LIFE IN THE K2C BIOSPHERE]



Working for Water / DFFE clearing of invasive alien plants

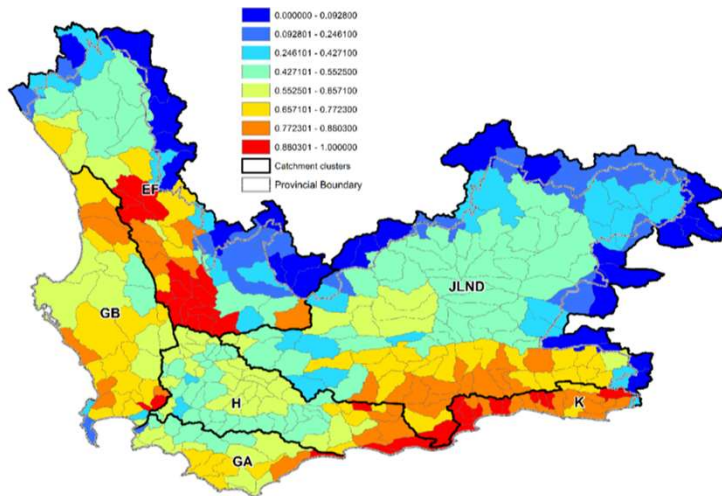
- Khuselindalo project – upper Umzimvubu catchment
- Combination of local and scientific knowledge
- Multiple benefits: employment creation; soil retention; water security; improved grazing capacity (with cascading benefits)



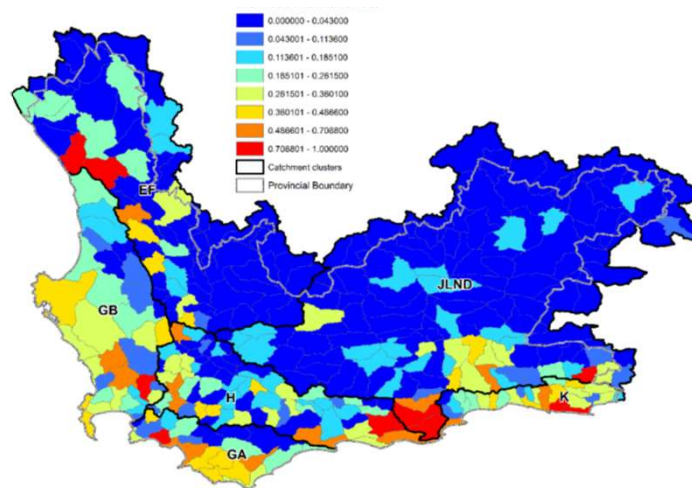
Western Cape Government Ecological Infrastructure Investment Framework (EIIF)

- A guide for decision-makers from the public and private sector on where and how to invest to promote the resilience of the Western Cape's ecological infrastructure.
- Four objectives:
 - ✓ Reduce exposure of communities and infrastructure to inland and coastal flooding
 - ✓ Reduce vulnerability to the threat of wildfires
 - ✓ Improve rangelands for food security and local livelihoods
 - ✓ Improve water quality and quantity

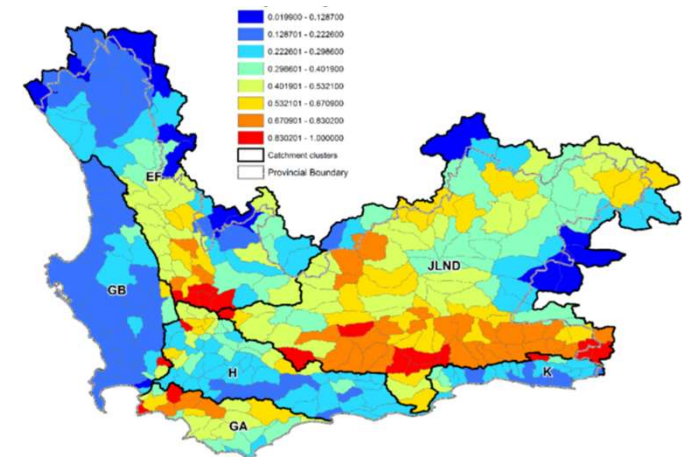
Flood risk



Wildfire risk



Rangeland degradation



Rehabilitation of dune systems for coastal flood protection

Glencairn beach in Cape Town:

Purpose: Adaptation to storm surges and urban development on the peninsula

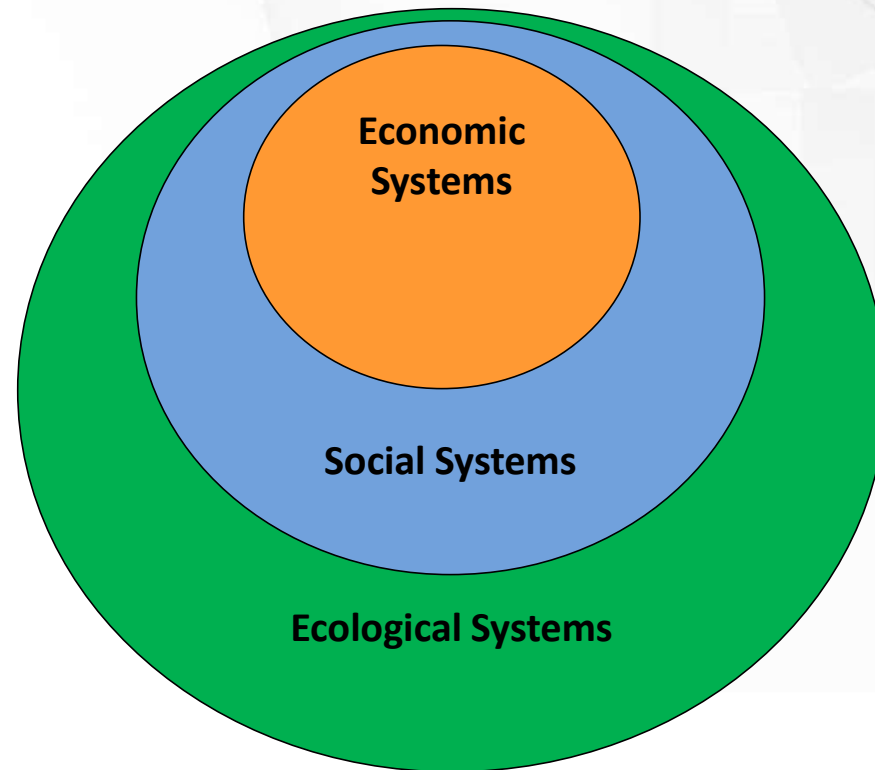
Result: Restores sediment movement and protects infrastructure



Advantages of NbS over traditional solutions

- Cost saving over traditional infrastructure, due to
 - Solutions are resilient and low-maintenance
 - Employment creation close to places of residence
 - Lower maintenance costs
 - Energy savings – e.g. urban tree-planting and green roofs for cooling
- Can play a role in building social cohesion

Society and economy as an embedded system



The background is a dark blue gradient with abstract white and light blue geometric shapes, including circles, lines, and a grid pattern, creating a modern, technical aesthetic.

Thank you

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