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Inkomati-Usuthu

SOUTH

Socio-economic and sustainability challenges

The Inkomati-Usuthu Catchment Area is home to 1.5 million people. Most of its inhabitants find employment in local agriculture and forestry, while mining remains an important economic activity in the region.

Most of South Africa's electricity comes from outdated coal plants that require large amounts of water for cooling. Paired with other water management challenges in the area, like increased droughts, uncertain water availability and pollution through mining, providing access to clean water to locals remains a challenge. Moreover, the access to irrigation systems for farming excludes 60% of small-holding farms, that are managed by an ageing population of black women who are the backbone of securing local food production.



Water management

Water Scarcity:

- Climate varies between subtropical and semi-arid areas with inherent water scarcity.
- **Climate change:** Increased droughts and uncertain water availability.

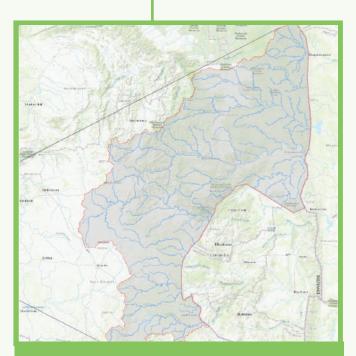
Water Quality:

 Pollution: Mining activities significantly impact water quality.



Agriculture and land use

- Economic Role: Irrigation-based agriculture is a major economic driver.
- Employment: Majority of jobs are in agriculture and forestry.
- **Subsistence Farming:** 60% of smallholder farmers lack irrigation access.
- Food Insecurity: Climate change exacerbates food insecurity issues



The Inkomati-Usuthu Catchment Area spans 37,000 km2 and is located in South Africa's Mpumalanga province, which borders Mozambique and Eswatini. The area's mountainous landscape and its wide range of elevation create mixed rainfall patterns and micro-climates, that face increased aridification through climate change.

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Energy

Coal Dependency:

- South Africa's electricity generation heavily relies on coal.
- Coal power plants require significant water resources and divert it from other activities like agricultural irrigation.

Infrastructure Issues:

- Aging Systems: Old and poorly planned water and energy infrastructure.
- Power Outages load shedding, the planning of power cuts to avoid excessive load on power plants, is frequently experienced.

Inkomati-**Usuthu**

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South Africa Local Stakeholder map **IWR Water Resources** Government Association (SALGA) Silulumanzi - Water and Wastewater services Districts (Gert Sibande) and local (Chief Albert Department of Water and Sanitation Department of Planning, Monitoring Luthuli) authorities and Evaluation (DPME) Inkomati-Usuthu Catchment Department of Mineral Management Agency IUCMA Ministry of Forestry, Fisheries Resources DMRE and the Environment Catchment Management Agencies Municipalities - Olifants (Mpumalanga Province) Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) Government Water Land **Management Investors National** Inkomati-Usuthu World Bank African Development Bank Kruger National Park South African Pulp **Associations** and Paper Industries South African National Parks (SANParks) Limited (SAPPI) Univ<u>ersities</u> Mpumalanga Department & Research of Economic Development and Tourism (MDEDET) Kruger Lowveld **Mining** Chamber of Business University of Mpumalanga and Tourism (KLCBT) Water Users Associations **ESCOs** Global Centre on adaptation (GCA) African Suikaap Farmers Association Water Research Commission (WRC) Rainbow Minerals ARC Tropical and Subtropical Crops National African Farmers' Union (NAFU) Barberton Mine Schneider Electric South African Sugarcane Lowveld and Escarpment Fire Nkomati Coastal Fuels Research Institute (SASRI) Protection Association (LEFPA)

Anthracite

Agricultural Associations

Development Association

South Africa (WESSA)

SAFDA South African Farmers

Wildlife and Environment Society of

South African Wind Energy Association

Msobo Coal

Exxaro Coal

Kangra Coal

Mondipak

Manganese

Metal Company

Umcebo Mining

Independent Power

Producers (IPPs)

Exxaro

Sasol

Aurecon

Eskom

Air Liauide

South African National Energy

Development Institute (SANEDI)

National Disaster Management

South African National Biodiversity

Mpumalanga Green Cluster Agency

Centre (NDMC)

Institute (SANBI)

(MGCA)