



Global Workshop
on Droughts in Transboundary Basins
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Southern African Drought Resilience Initiative (SADRI): and its tools for addressing droughts at various levels

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SOUTHERN AFRICA
Drought Resilience Initiative





Droughts are the most deadly and costly natural disaster in Southern Africa, with most of the 16 Member States of the Southern Africa Development Community (SADC) regularly experiencing recurrent and protracted droughts.



Climate change projections within the region indicate that a large proportion of Southern Africa will become drier and hotter, with cycles of drought becoming more severe and intense.

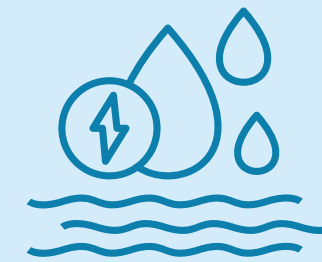
Impacts of droughts are wide-ranging and felt across all economic sectors

EXACERBATING WATER SHORTAGES IN RAPIDLY URBANIZING AREAS



- By 2030, about 70 percent of the population of Southern Africa will live in cities.
- The converging challenges of rapid urbanization, skyrocketing demand for water resources, and growing prevalence of drought lead to acute water shortages.

AFFECTING POWER AVAILABILITY AND RELIABILITY



- El Niño-related droughts, exacerbated by climate change, have affected the water flows of major rivers and reduced hydropower generation.
- Extended periods of drought have caused prolonged and widespread power outages with magnified short- and long-term economic impacts on businesses and households.

IMPACTING LIVELIHOODS AND LEADING TO FOOD INSECURITY



- Droughts lead to decreased yields and livestock losses and affect entire value chains. The resulting food shortages and price hikes intensify food insecurity.
- 55.7 million people in 12 SADC Member States were considered food insecure in 2022.
- Impacts of drought on the agriculture sector, which employs a large segment of the population leads to a decline in countries' Gross Domestic Product.

In 2020 with support from CIWA, the World Bank launched SADRI to advance an integrated, multi-sector and multi-level approach to regional drought resilience in 16 SADC Member States.

SADRI'S VISION:

A drought-resilient SADC region in which governments, institutions, and households develop proactive mechanisms to withstand climate change impacts and associated economic shocks.

SADRI ADVANCED ITS VISION THROUGH A TWO-PRONGED APPROACH THAT INVOLVED:



(i) Developing key analytics with a transboundary dimension to fill knowledge gaps and advise counterparts on drought risk management strategies and approaches.



(ii) Catalyzing behavior change in priority actors to engage, cooperate, take ownership of, and sustain a process of change.

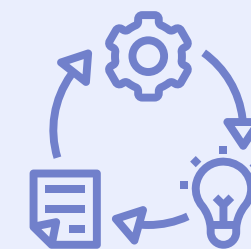
SADRI'S FRAMEWORK FOR INTEGRATED DROUGHT RISK MANAGEMENT



i) Drought monitoring and early warning systems;



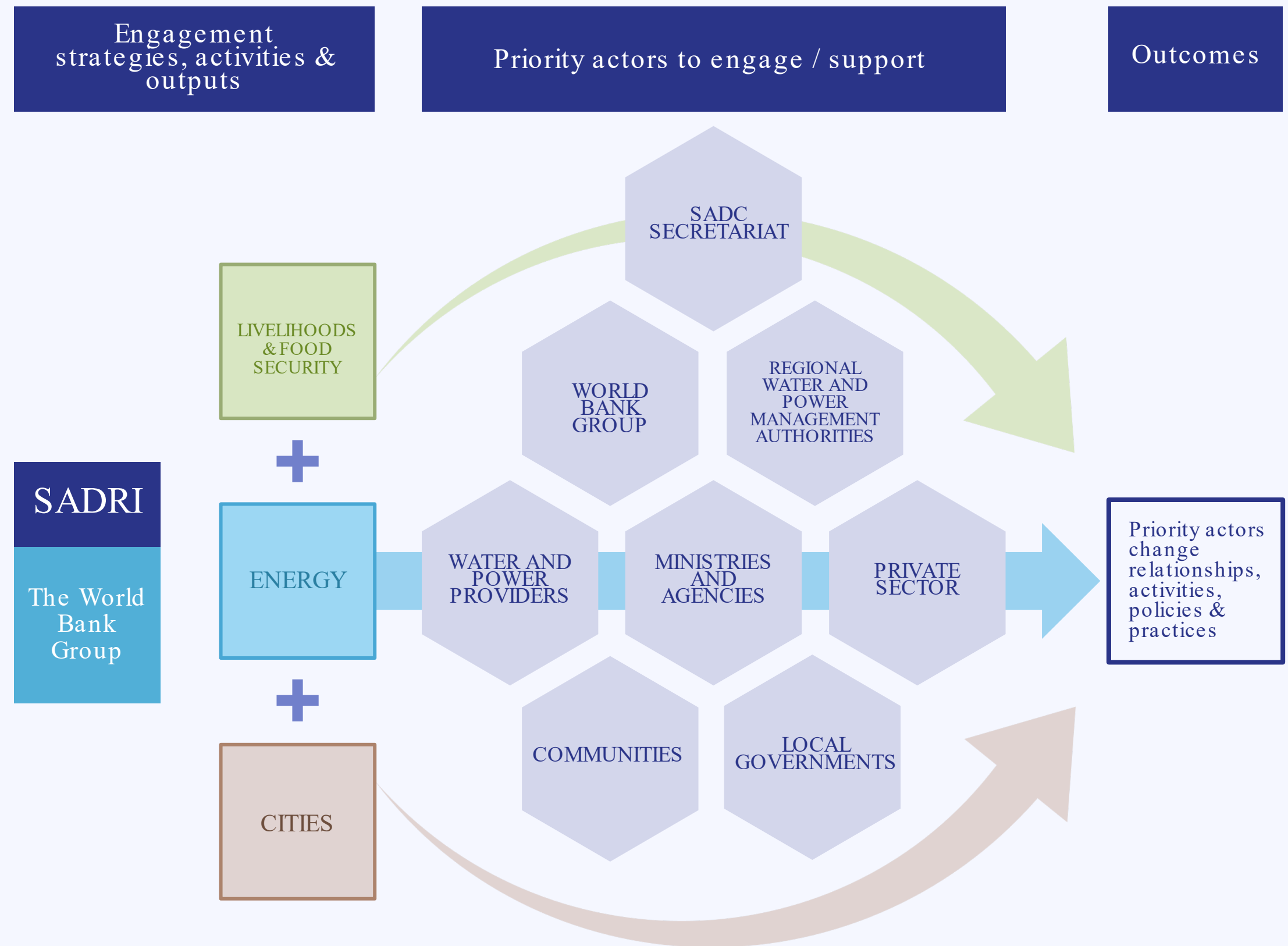
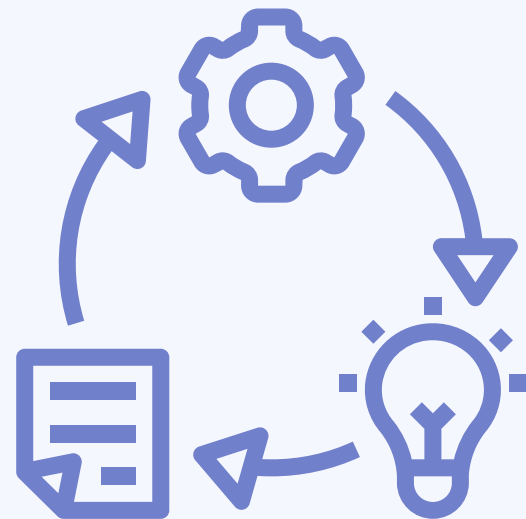
ii) Drought vulnerability and risk assessment;



iii) Drought preparedness, mitigation & response

SADRI has supported countries, cities, and regional bodies in proactively adopting an integrated approach to drought risk management under three sectoral pillars focused on cities, energy systems, and livelihoods and food security along with a crosscutting pillar called the “umbrella” program.

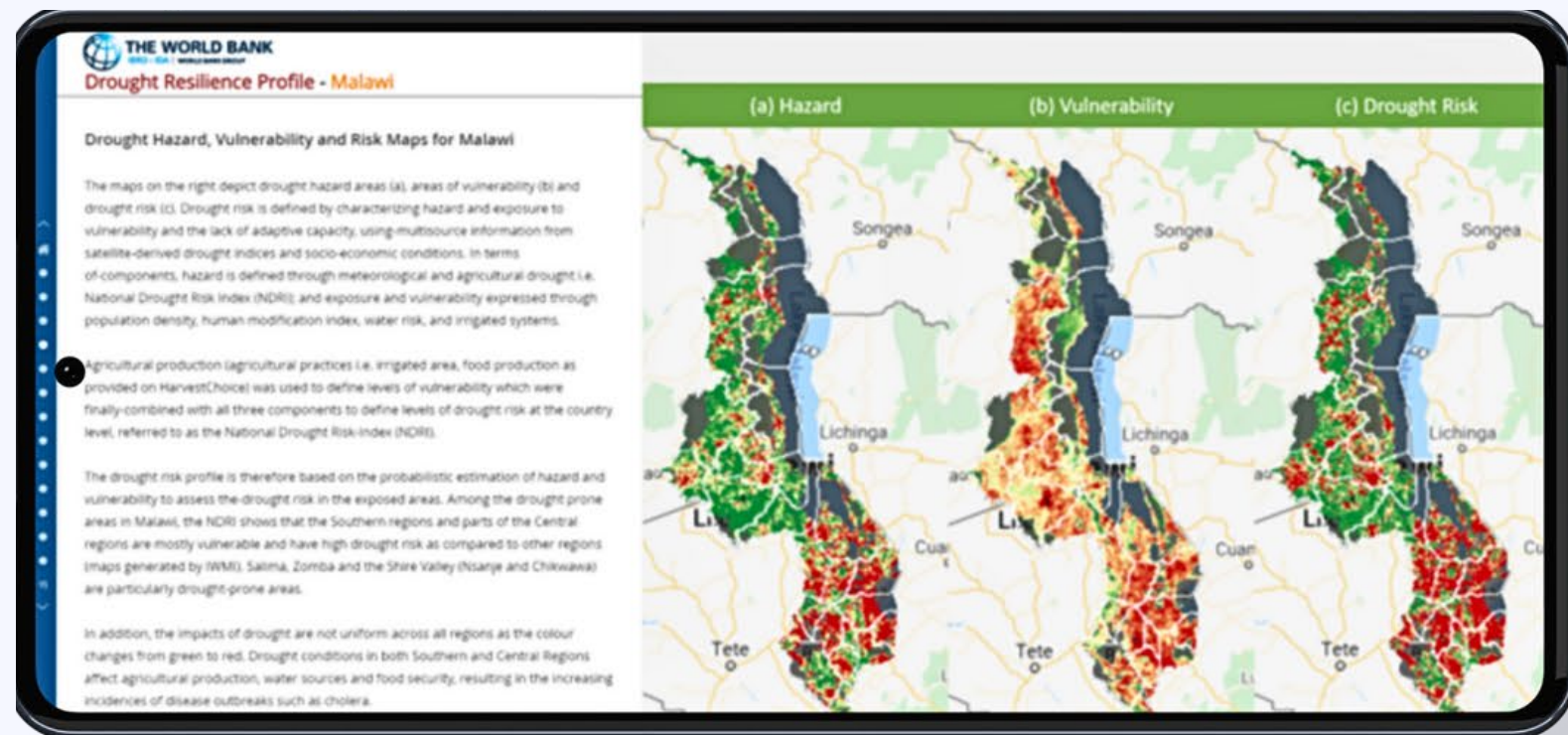
A dedicated Monitoring, Evaluation and Learning (MEL) component is also integrated in the program.



KEY ANALYTICAL PRODUCTS

UMBRELLA PROGRAM

Drought Resilience Country Profiles for 16 SADC Members & a Regional Profile for SADC



Knowledge Hub on Drought Resilience

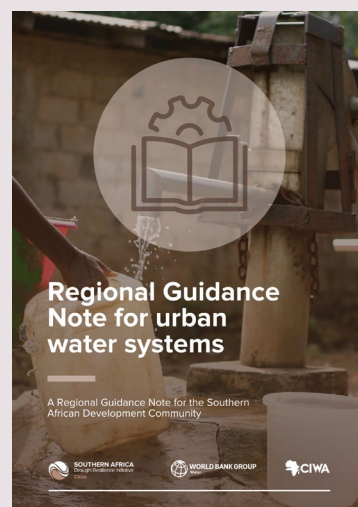
KEY ANALYTICAL PRODUCTS

SADRI PILLARS

CITIES PILLAR



City Drought Resilience Toolkit



Regional Guidance Note for Water Systems

ENERGY PILLAR

- The World Bank is supporting a Drought Sensitivity and Resilience Assessment (DSRAS) for the Southern Africa Power Pool (SAPP) structured into three phases.
- SADRI is supporting Phase 1: Analyzing the sensitivity of hydro-energy generation to climate-induced drought.
- Work on Phase 1 is ongoing and expected to be complete over the next few months.

LIVELIHOODS AND FOOD SECURITY PILLAR

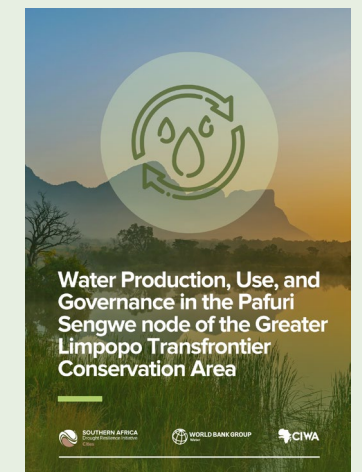
Agri-food Value Chain Solutions for Drought Risks



Review of Strategic Food Reserves Policies



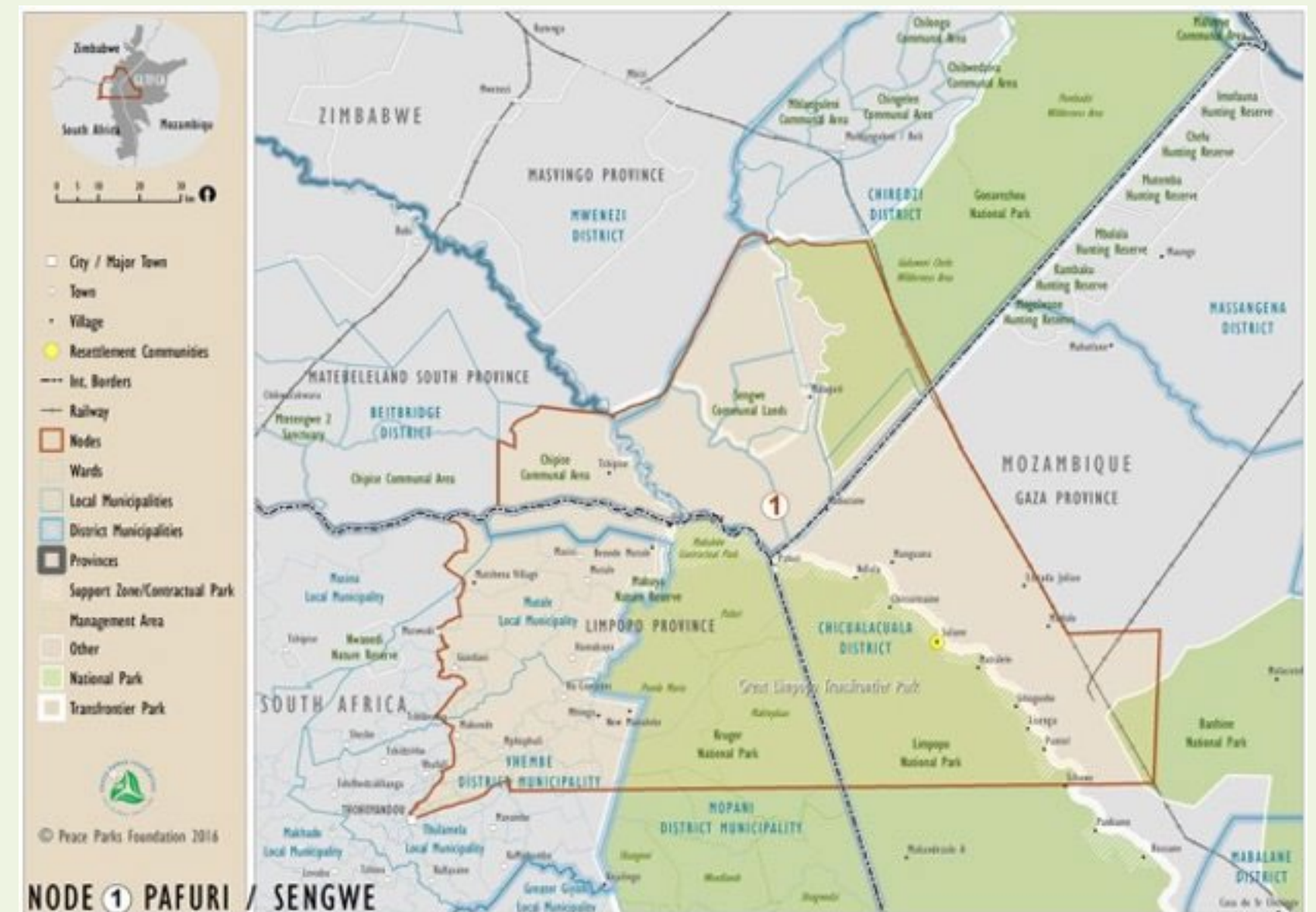
Water Production, Use and Governance in the Great Limpopo Trans-frontier Conservation Area (TFCA)



FILLING DATA GAPS ON WATER PRODUCTION, USE AND GOVERNANCE

IDENTIFYING DROUGHT MITIGATION & INVESTMENTS OPTIONS IN GREAT LIMPOPO TRANSFRONTIER CONSERVATION AREA (TFCA)

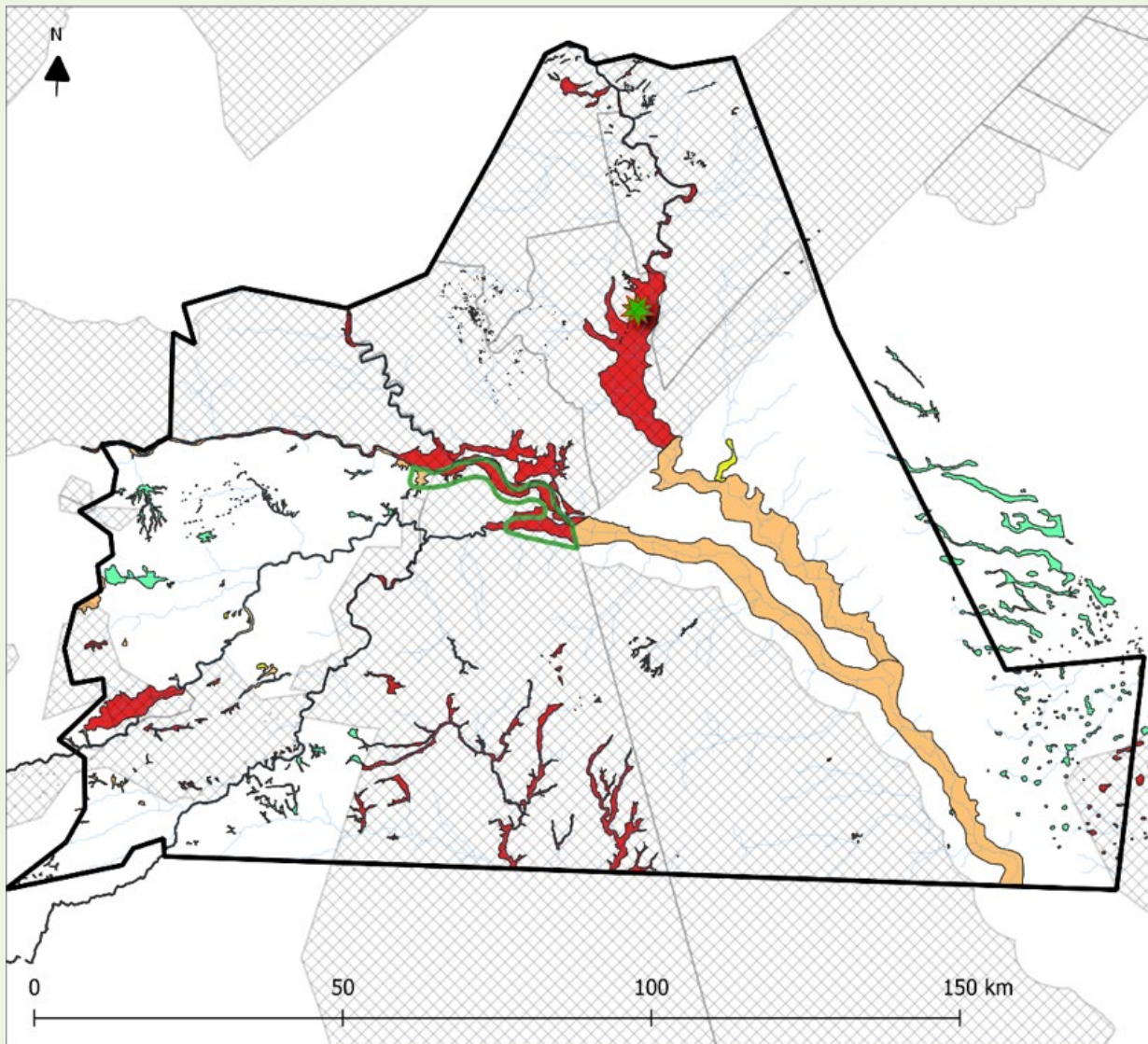
- Determine the **extend of water availability** in aquifer, wetland and river systems
- Assess **current water demand**, especially among communities in the Pafuri+Sengwe Node
- Evaluate **water management governance practices**; and
- Identify, develop, and recommend **near-term and medium-term investments** for water management that lead to building community drought resilience



ANALYTICAL WORK TO FILL KNOWLEDGE GAPS IN WATER PRODUCTION, USE, AND GOVERNANCE IN THE GLTFCA

Key deliverables:

Demarcation of Wetlands that Require Specific Conservation Focus

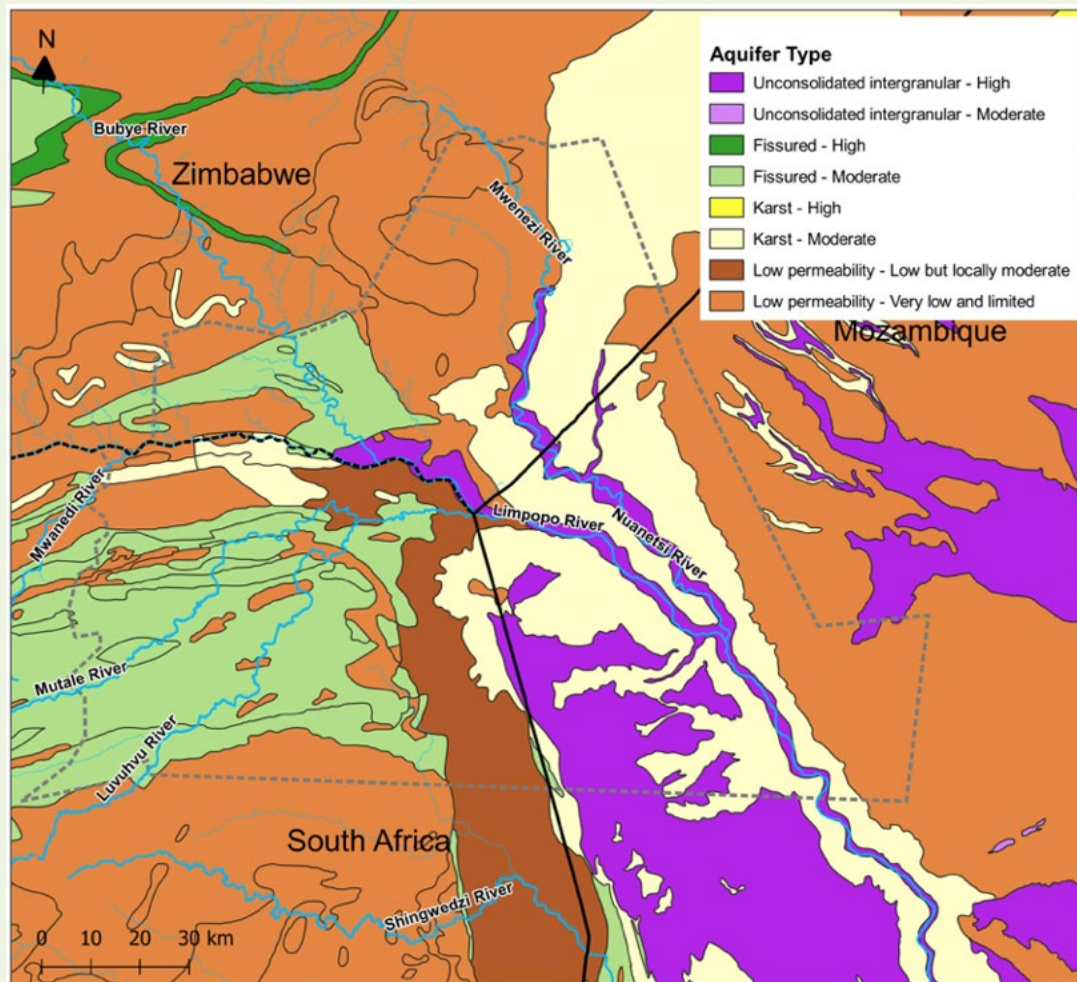


- Wetlands in Protected Areas
- Wetlands within strategic water source areas
- Wetlands for climate change resilience
- Wetlands for rehabilitation aimed to improve functioning and ecological integrity

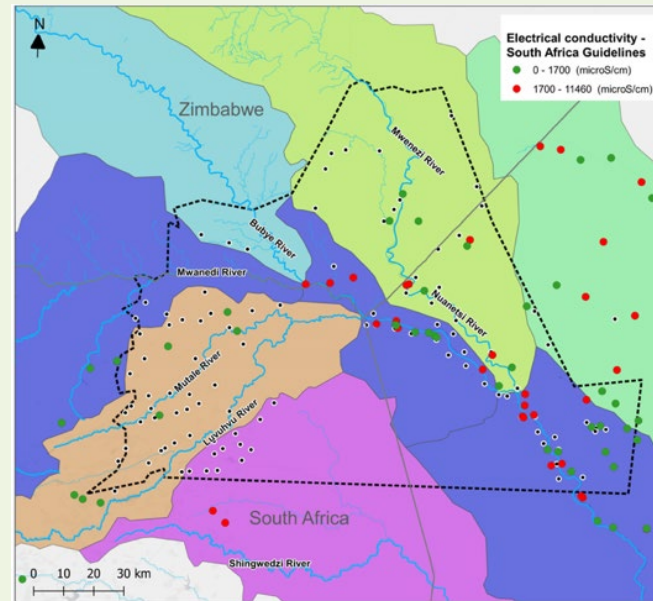
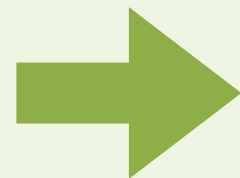
| Ranking | Rating | Description |
|---------|-----------|--|
| 1 | Very High | Wetlands within conservation and protected areas |
| 2 | High | Strategic water sources areas & climate resilience |
| 3 | Medium | Rehabilitated wetlands, PES & EIS Improvements |
| 5 | Low | Other wetlands |

ANALYTICAL WORK TO FILL KNOWLEDGE GAPS IN WATER PRODUCTION, USE, AND GOVERNANCE IN THE GLTFCA

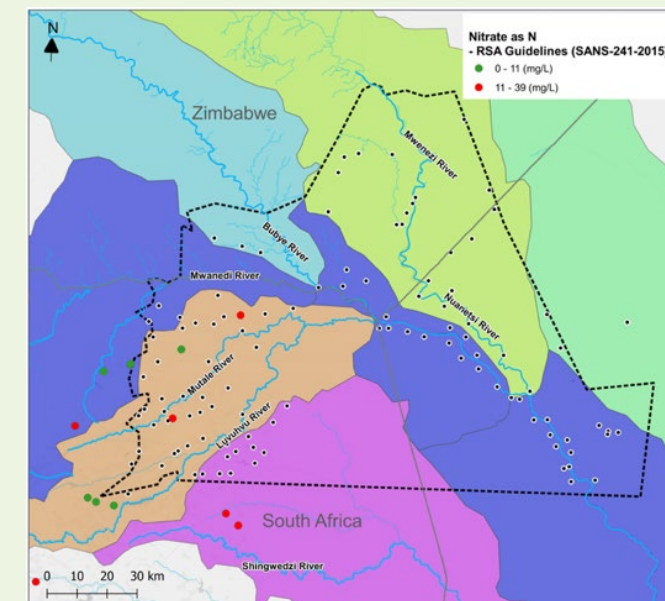
Key deliverables: Groundwater Systems



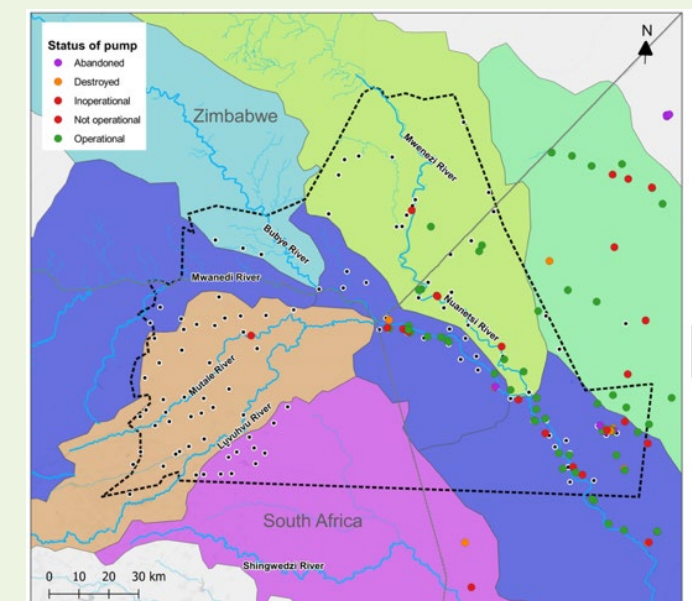
Transboundary Aquifers, showing Aquifer productivity



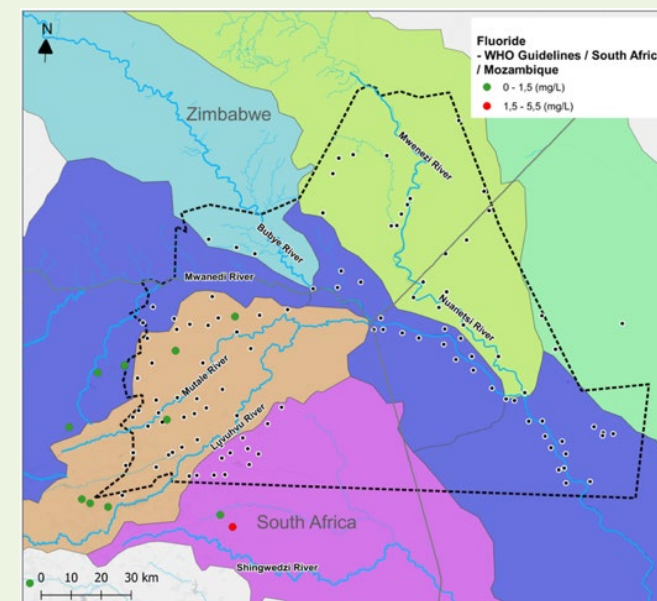
Water Quality: Electrical Conductivity (Salinity)



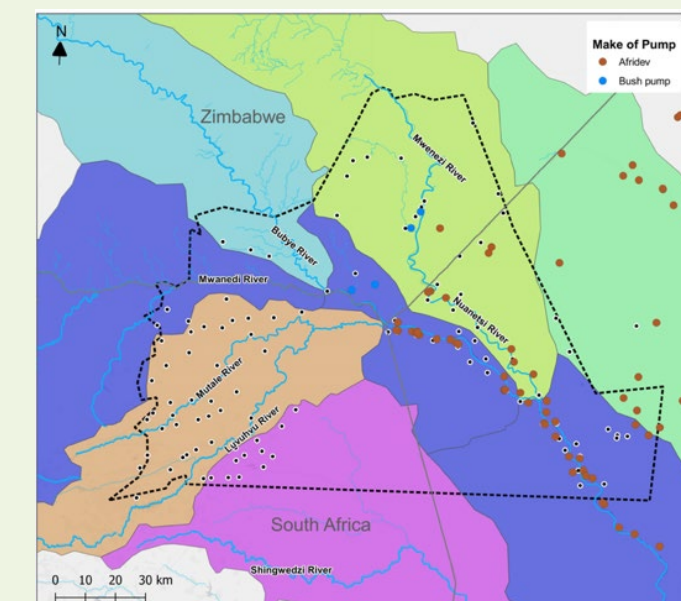
Water Quality: Nitrates



Water Quality: Fluoride



Pump Type



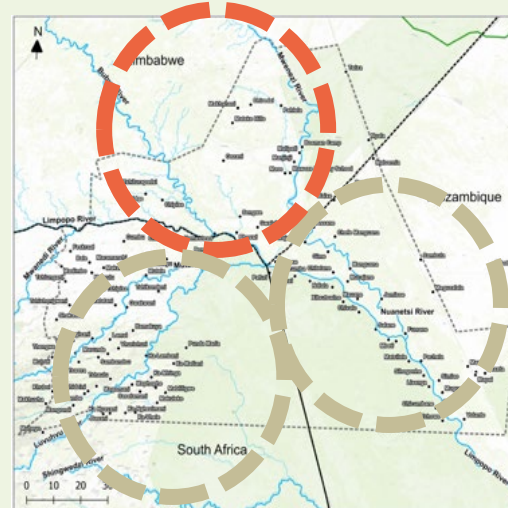
Borehole Status

GREAT LIMPOPO TFCA: IDENTIFYING INVESTMENTS TO MITIGATE DROUGHT IN TRANSFRONTIER CONSERVATION AREA (*sample of investments identified*)



MOZAMBIQUE

- Investigate feasibility for fish farming as diversified livelihood and food source
- improve regional integration of the water supply logistics chain, ensuring service management, technical assistance for the infrastructure and the availability of parts stocks
- Invest in repair of dispersed water sources (boreholes or wells) based on the recovery of operating costs.
- Improve food security through the protection and sustainable management of wetlands.



ZIMBABWE

- Develop inventory of dysfunctional/under functioning boreholes and irrigation systems.
- Train Water Committees to manage and maintain the boreholes.
- Water supply systems, water harvesting and storage at landscape, community and household level.
- Train women (in particular) who work in current irrigation schemes on climate smart agriculture, Farming as a Business (FaaB), and financial management.



SOUTH AFRICA

- Continue wetland rehabilitation projects (providing technical and business skills, enhancement of biodiversity, and poverty alleviation)
- Invest in ecological infrastructure in Strategic Groundwater & Surface Water Source Areas
- Invest in Market development of the water supply spare parts including investing in small business owners to be able to supply spare parts to the wider area, especially the Mozambican side.

TRANSBOUNDARY

- Develop Community-based wetland management and designate community conservation areas
- Standardise wetland inventory data requirements & enforce basinwide data sharing protocol
- Set ecological control limits for groundwater
- Design a groundwater and surface water monitoring network building on existing monitoring activities under the GLTFCA

Thank you



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World Bank Water: www.worldbank.org/en/topic/water

CIWA: www.ciwaprogram.org