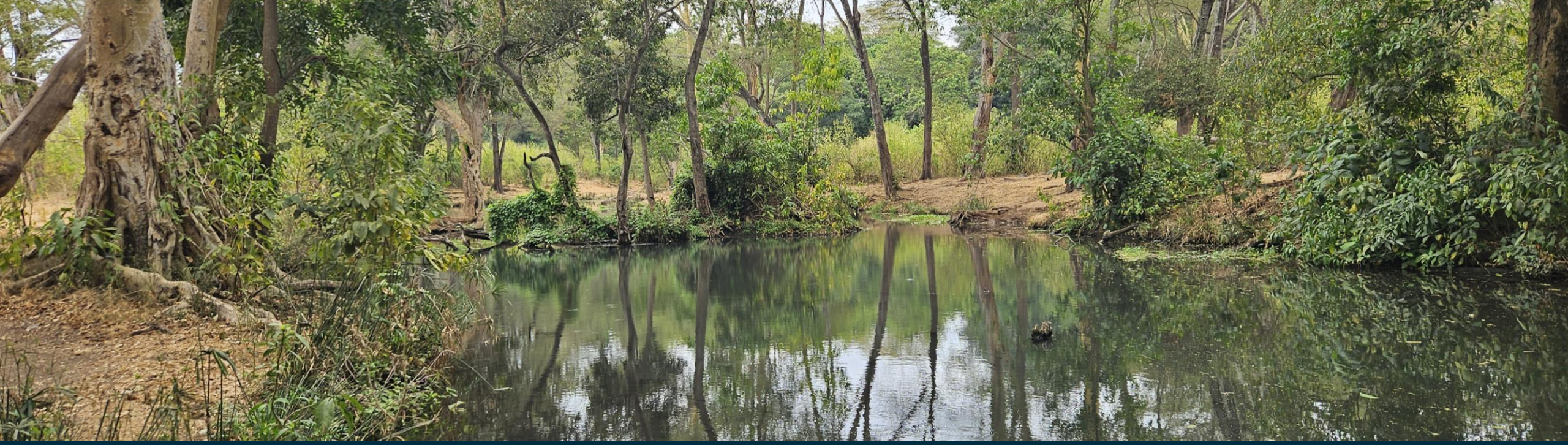


KIRSTY UPTON

STOCKHOLM WORLD WATER WEEK 2026

DEVELOPING A GROUNDWATER DECISION SUPPORT TOOL

Financed by:

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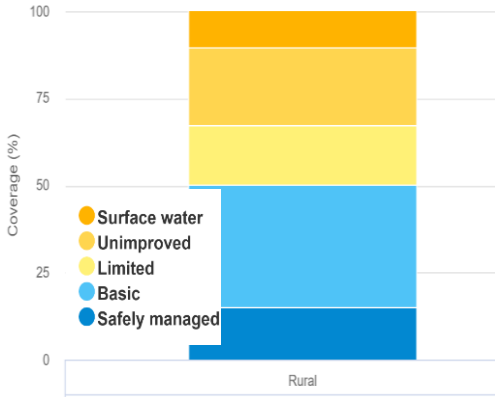
BGR

WRA
WATER RESOURCES AUTHORITY
Securing Water Resources, Safeguarding Our Future

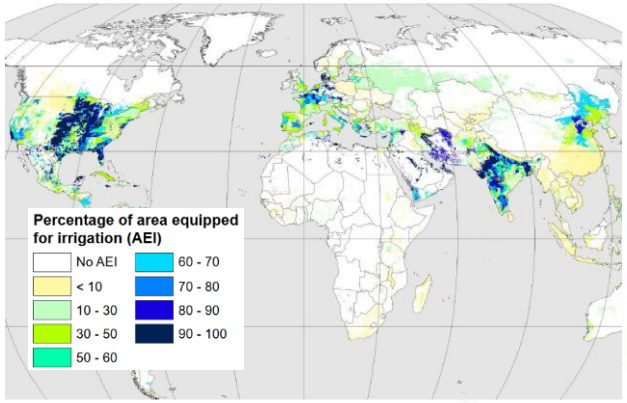
BGS
British Geological Survey

Why Groundwater Matters

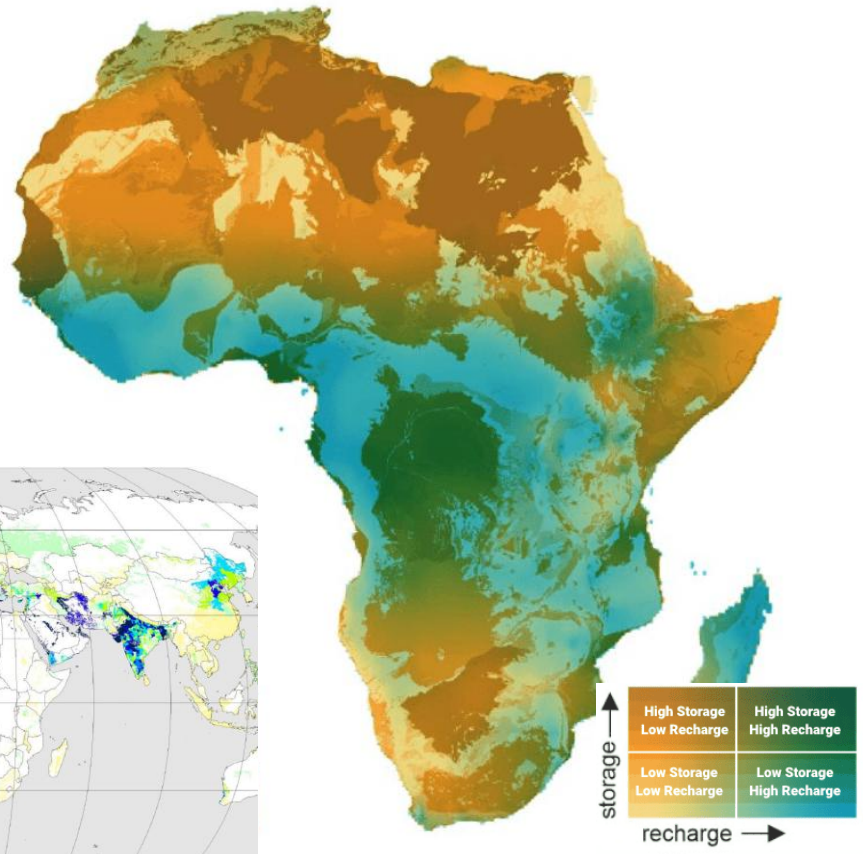
AN UNDERUSED RESOURCE TO SUPPORT SOCIO-ECOMOMIC DEVELOPMENT



JMP, 2022



FAO, 2013



MacDonald et al, 2022

- Water insecurity
- Climate vulnerability
- Untapped groundwater potential

The Challenge

GROUNDWATER DATA OFTEN EXISTS, BUT IS DIFFICULT TO ACCESS, INTERPRET AND APPLY



Groundwater Data

- Disparate across projects / institutions / countries
- Difficult to interpret and use to inform investment and management decisions

GROUNDWATER DECISION SUPPORT TOOL

From data to decisions

TRANSLATING GROUNDWATER DATA INTO INFORMATION THAT CAN SUPPORT DECISION-MAKING



Geology

BH records

GW levels

GW quality

Climate



Availability & accessibility

GW quantity risks

GW quality risks

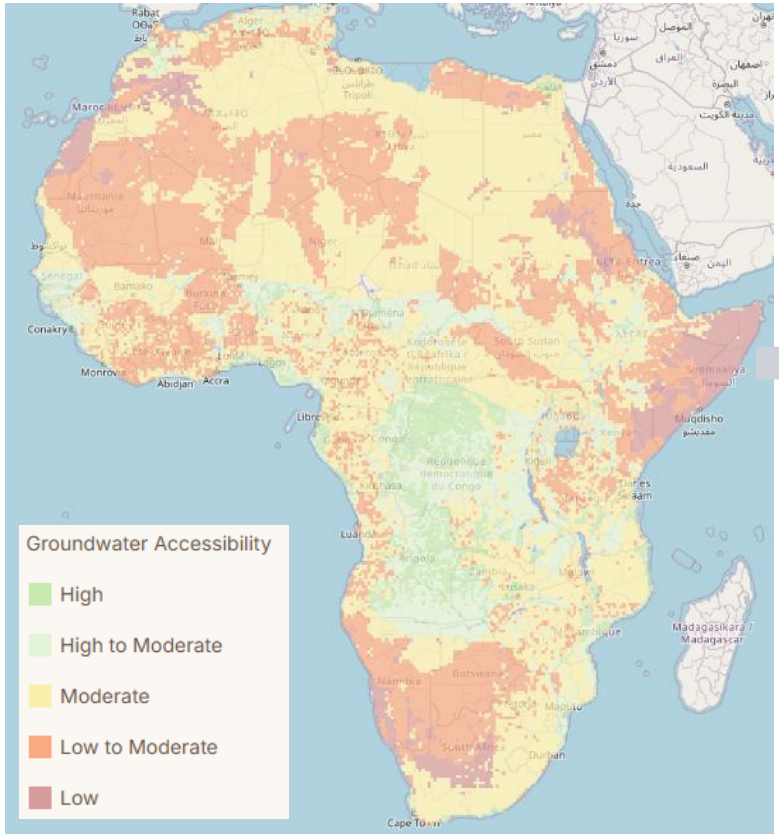


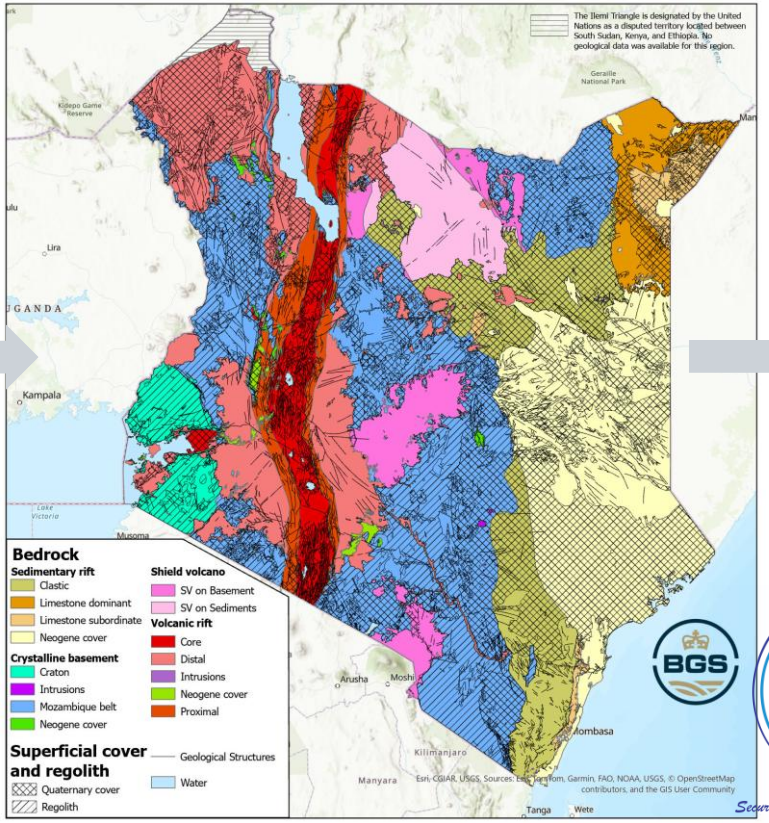
GW opportunities for different uses

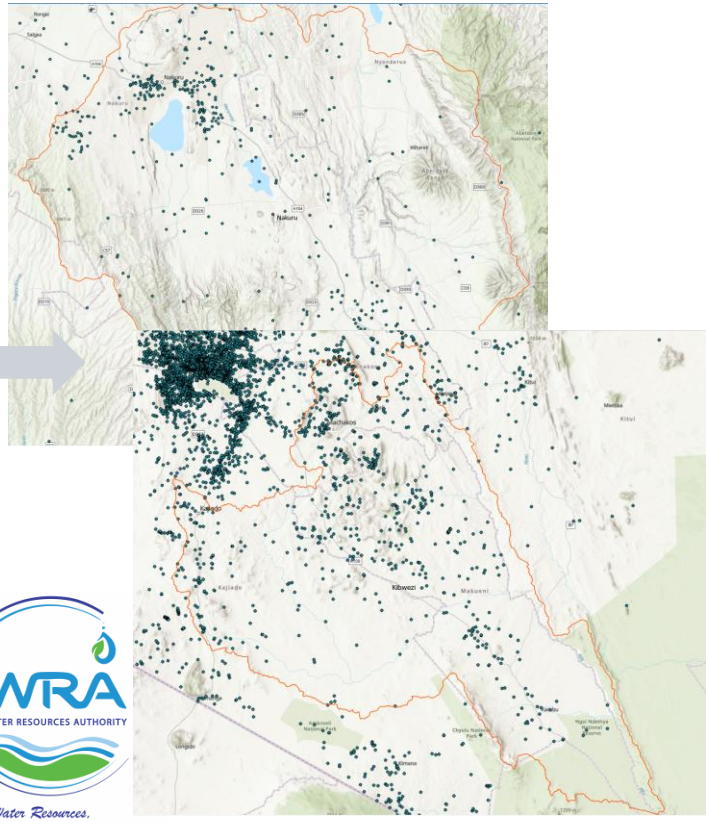
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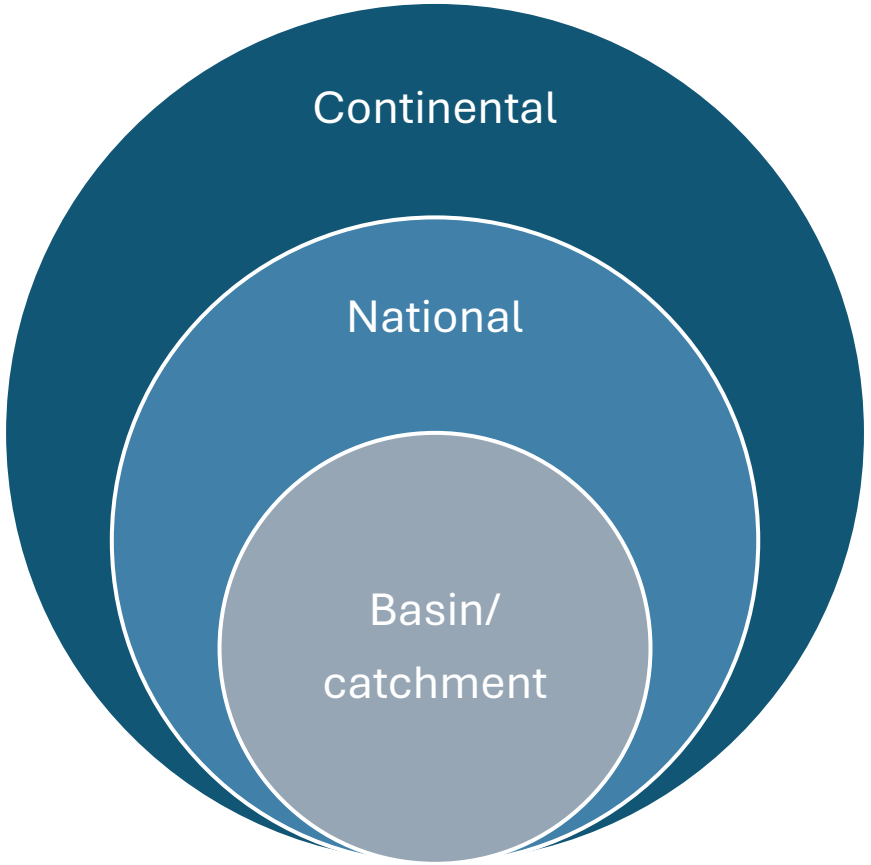




User Journeys

SUPPORTING DECISIONS ACROSS DIFFERENT SCALES

Highlighting data gaps



Screening: Where should groundwater investment and attention be focussed?

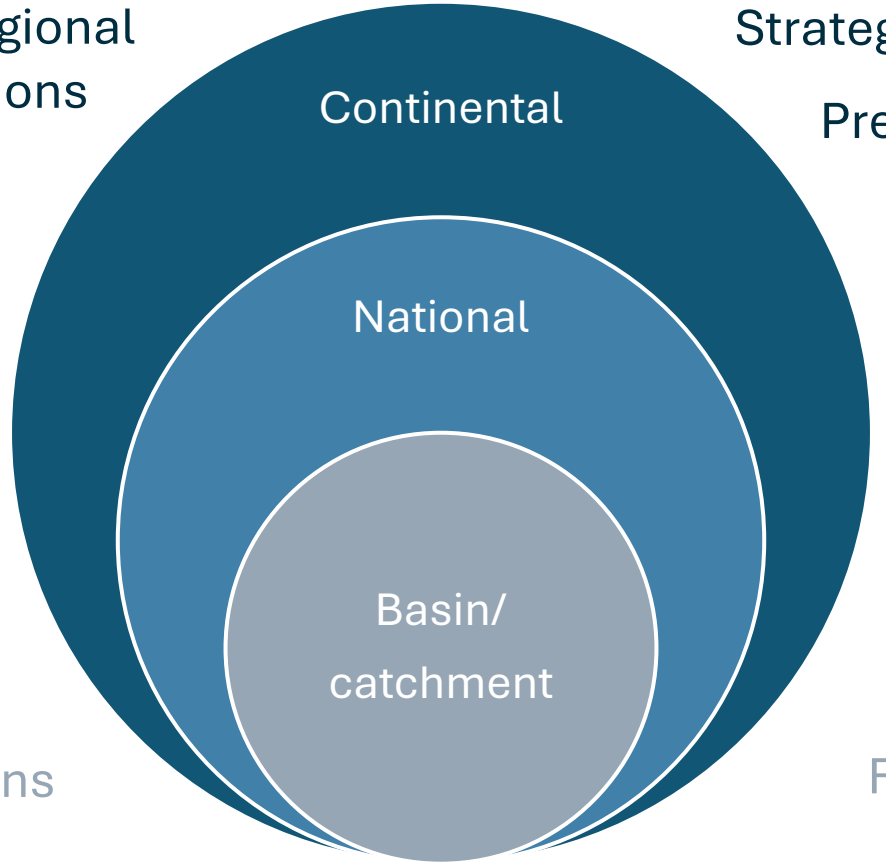
Planning: How should groundwater be managed, allocated, and developed within a country?

Implementation: What additional investigation or investment is required to sustainably develop groundwater at a specific location?

✖ Replacement for field investigation or siting a borehole

User Journeys

SUPPORTING DECISIONS ACROSS DIFFERENT SCALES



Continental / regional policy organisations

Research

Finance / investment / development partners

National gov

Regulators

NGOs

Water utilities

Irrigators

Drillers

User associations

Strategic screening

Pre-feasibility

Advocacy & education

Investment prioritisation

Regulation & planning

Permitting

Operational planning

Focussed investment

Next Steps & Future Vision

TOWARDS AN AFRICA-WIDE DECISION SUPPORT SYSTEM



Release of GW Decision Support Tool

uptake

- User stories to strengthen uptake
- Scaling/translation to other contexts

improve

- Dynamic data and use of AI?
- Higher resolution?
- Additional (non-GW) data?

maintain

- Governance?
- Links with other tools?

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