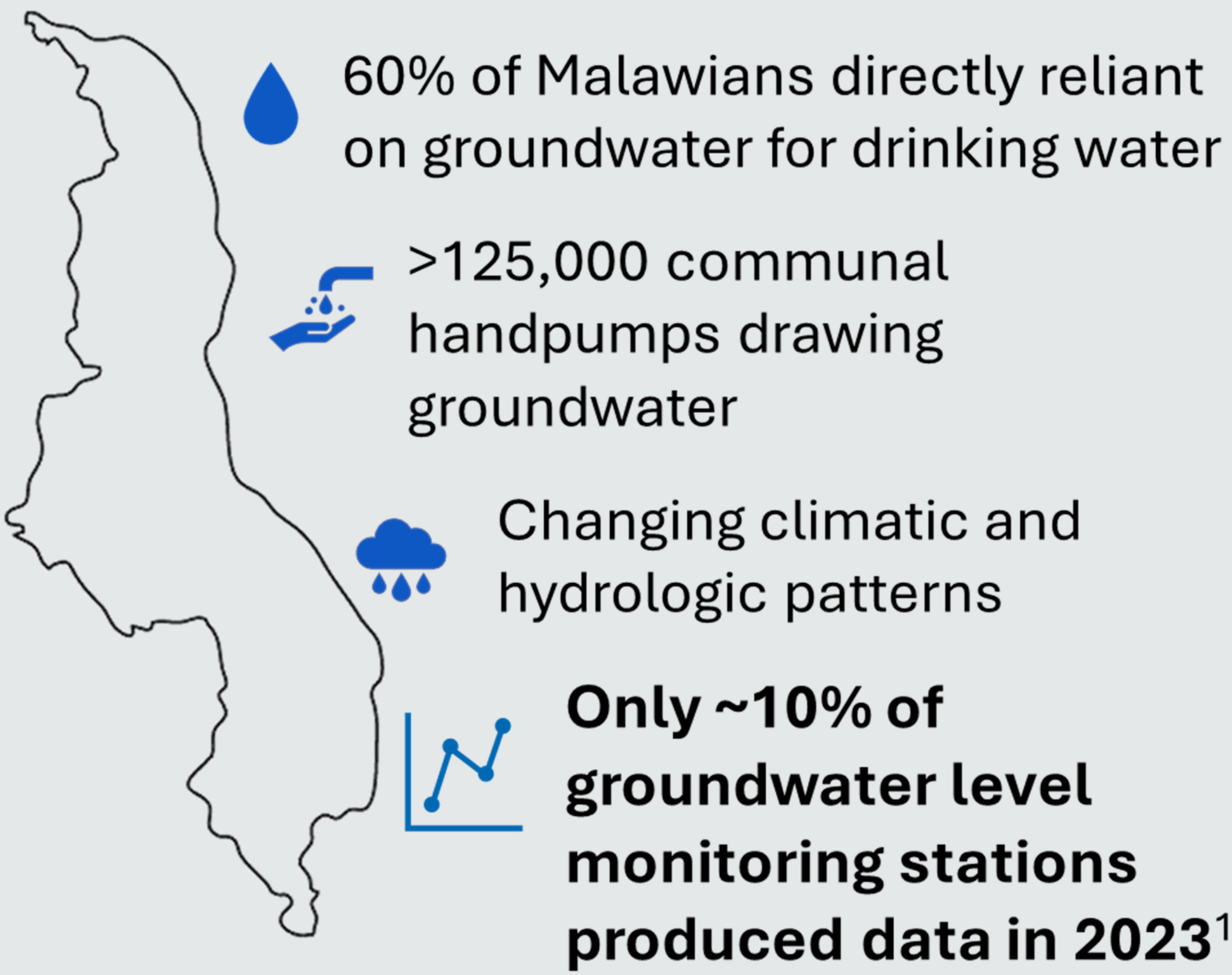


1. Research Background

- Groundwater** is the largest accessible source of freshwater on Earth.
- Routine, long-term **monitoring** provides essential **data** for policymakers and practitioners.
- Lack of data** limits effective **decision making** and increases risk to water security.

Country Focus: Malawi



2. Research questions

- What are the **key challenges** hindering the sustainable and effective monitoring of groundwater levels in Malawi?
- What **contextual factors** influence the routine collection of groundwater level data?
- How can **participatory and community-inclusive approaches** enhance the operation of the groundwater monitoring network in Malawi?

3. Methodology

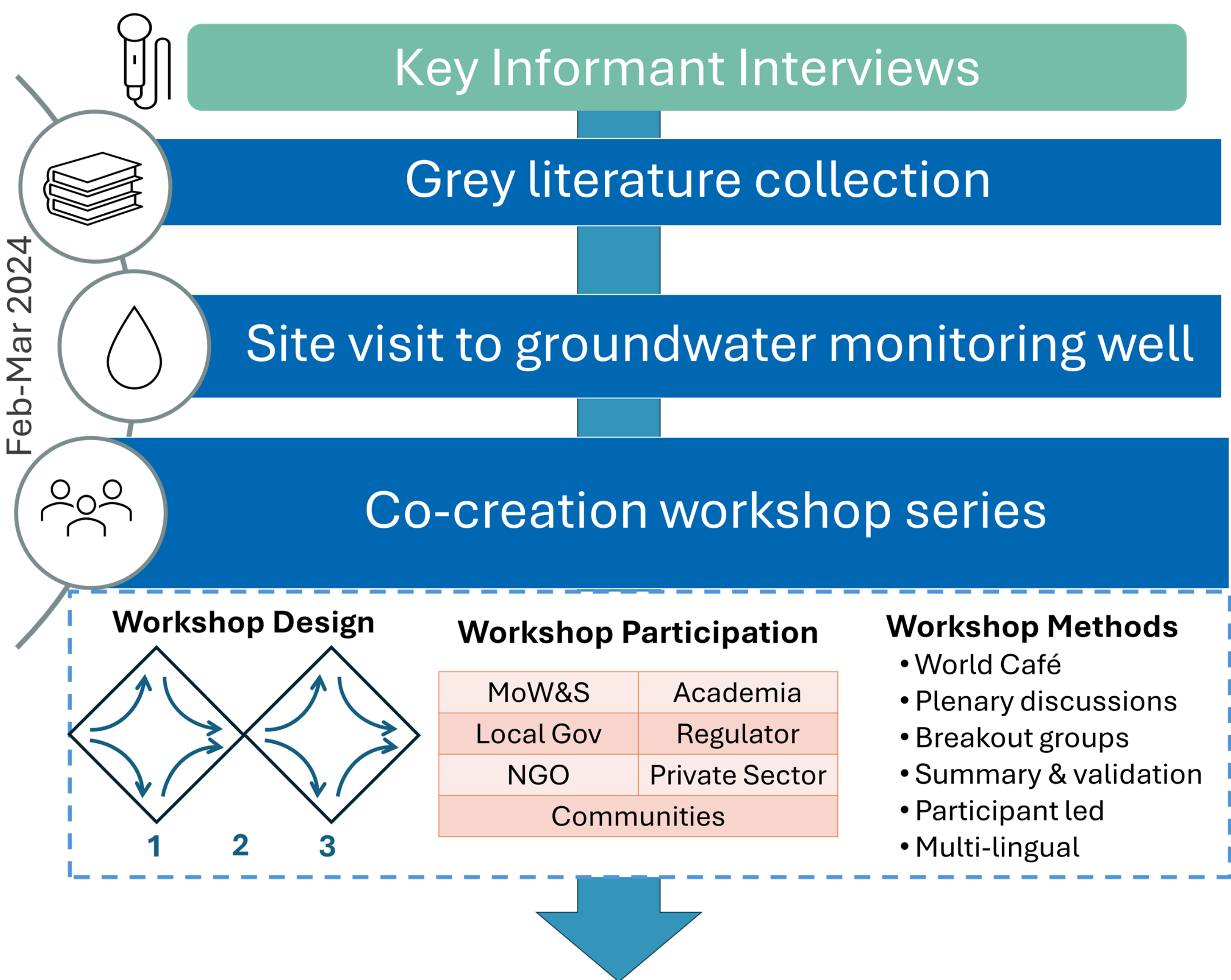


Figure 1: Photographs from three co-design workshops held in Malawi between February-March 2024, participants in breakout groups.

4. Results

- Chronic challenges** with groundwater-level monitoring network since its inception in 2009.
- Complex institutional arrangements**, gaps in the existing governance and oversight – gaps in coordination.
- Lack of political and funding support** for long-term monitoring programmes has **undermined sustainability** Financial, skill and time/capacity gaps result.
- Poor engagement with communities** has led to widespread **miscommunication and conflict**.
- Communities are key partners**, currently under included.

5. Conclusions & Recommendations

- Political level*
- **Advocacy** work required to secure long-term support for groundwater monitoring – e.g. reestablish a national Groundwater Forum.
- Government dept/agency level*
- Clarification of **institutional roles**, with associated **funding support**. Review **policy** to ensure **coherence** across government dept/agencies.
 - Review & Update **Standard Operating Procedures (SOPs)** for groundwater monitoring.
- Programme level*
- **Engagement** with local **communities** is critical to management of monitoring network. Develop **deliberate engagement plans** and standards. Seek and utilise **co-benefit** opportunities between **gov-community**

6. Next Research Steps

- Regional pilot project implementing **citizen science informed methodologies for groundwater monitoring** in Malawi
- Engage with policy makers to share research outcomes and advocate for policy reviews.



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References: Government of Malawi, Department of Water Resources., BASEflow Malawi., BAWI Consultants. (2022). Report on the assessment of groundwater monitoring wells in Malawi. Lilongwe. **Research Ethics:** Ethical approval was granted by the University of Strathclyde Department of Civil and Environmental Engineering's departmental ethics committee and Malawi's National Committee on Social Science & Humanities, NCST, Ref No: NCST/RT/2/6.