Co-creating an environmental water monitoring system using citizen science in Malawi

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1. Challenge - Groundwater Monitoring Network

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Existing monitoring systems are not in working order

- Absent or malfunctioning equipment
- Vandalism
- Broken/missing parts
- No data recording or 'uploading' mechanism
- Lack of trained monitors
- Financial resource challenge
- In addition: technology-led solutions are often not viable alternatives (e.g. telemetry systems)

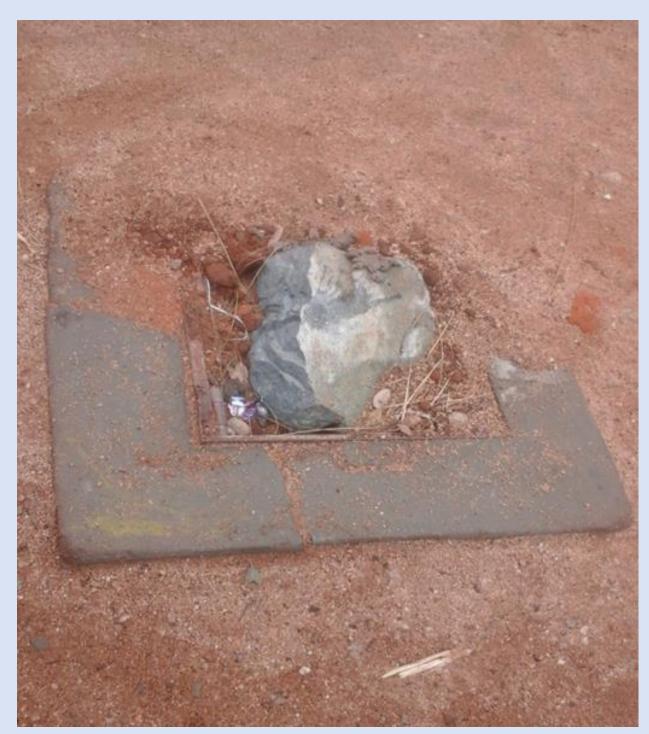


Figure 1. Image of a non-functional groundwater monitoring point in Machinga District. The monitoring point has been vandalised. (ND WASH Consultants, 2017)



Figure 2. Image of a non-functional groundwater monitoring point. The monitoring point has been vandalised by local community. (Government of Malawi et. al, 2022)

2. Why Citizen Science?

- 'Citizen scientists' are already engaged in other water management practices in Malawi
- 88% of the monitoring wells are located on government operated sites (e.g. 54% on school sites)
- Challenges in monitoring go beyond equipment or technology provision require community engagement
- Potential co-benefits to citizen science approaches for communities and institutions

3. Next steps - co-creating a monitoring strategy

- Bring together partners in Malawi to validate and discuss early research findings
- Knowledge exchange and co-creation workshops to develop a citizen science informed approach to monitoring groundwater
- Pilot the citizen science approach, alongside government institutions, at rehabilitated monitoring stations

4. What I am looking for - thoughts or experience...

- Institutionalising citizen science
- Monitoring and regulation using citizen science
- Co-creating with citizen science



Please get in touch with any questions, comments or suggestions! I would love to hear from you!



^{2.} ND WASH Consultants. (2017). Report: Situation Analysis Survey on Groundwater Resources

Monitoring System for Central, Northern, and Southern Regions and National Consolidated Summaries, in Malawi. (unpublished).

