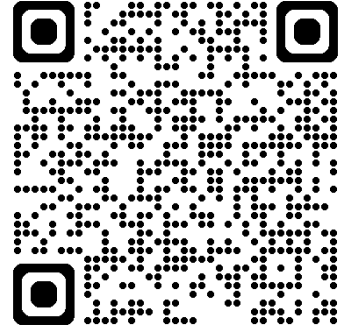




Engaging citizen scientists in community-based evidence generation and co-creation: Lessons from REACT Climate and Health Project in Nepal and Zimbabwe

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Background and objective

Climate change is intensifying health risks and disruptions affecting communities, health workers and health systems. Community-engaged approaches can strengthen the relevance, legitimacy and use of evidence, yet practical lessons on embedding community members as co-researchers in climate and health research remain limited.

Aim: To describe how citizen scientists (community members trained and supported to participate as partners and co-creators in research processes) were engaged in community-based evidence generation and co-creation within the REACT consortium, and to share lessons from Nepal and Zimbabwe on addressing climate-related health challenges.

Methods and analysis

- 1 Participatory action research design in Nepal and Zimbabwe within REACT's Community Engagement and Involvement (CEI) approach.
- 2 Recruitment of citizen scientists informed by local stakeholders, communities and the research team.
- 3 Training covered research ethics, participant recruitment, photovoice and role guidance, with ongoing support.
- 4 Community-based researchers: 18 in Nepal and 4 in Zimbabwe supported household and health worker surveys, interviews and focus group discussions.
- 5 Photovoice participants: 22 in Nepal and 20 in Zimbabwe documented lived experiences of climate-related health challenges.
- 6 Citizen scientists contributed to tool refinement, community entry, data collection, interpretation of findings and stakeholder engagement.

Results

- 1 Citizen scientists improved the local fit of data collection tools, especially the clarity and accuracy of translations.
- 2 Their contextual knowledge enabled locally grounded interpretation of findings and richer understanding of climate-health vulnerabilities and coping strategies.
- 3 Familiarity with communities helped identify hard-to-reach groups, foster trust and support equitable participation.
- 4 Their involvement extended beyond evidence generation into co-creation workshops, community dialogues and other CEI activities.
- 5 Citizen scientists are helping communities, health workers and local governments identify priorities and design locally feasible responses to climate-related health threats.

Citizen scientists across the REACT research cycle

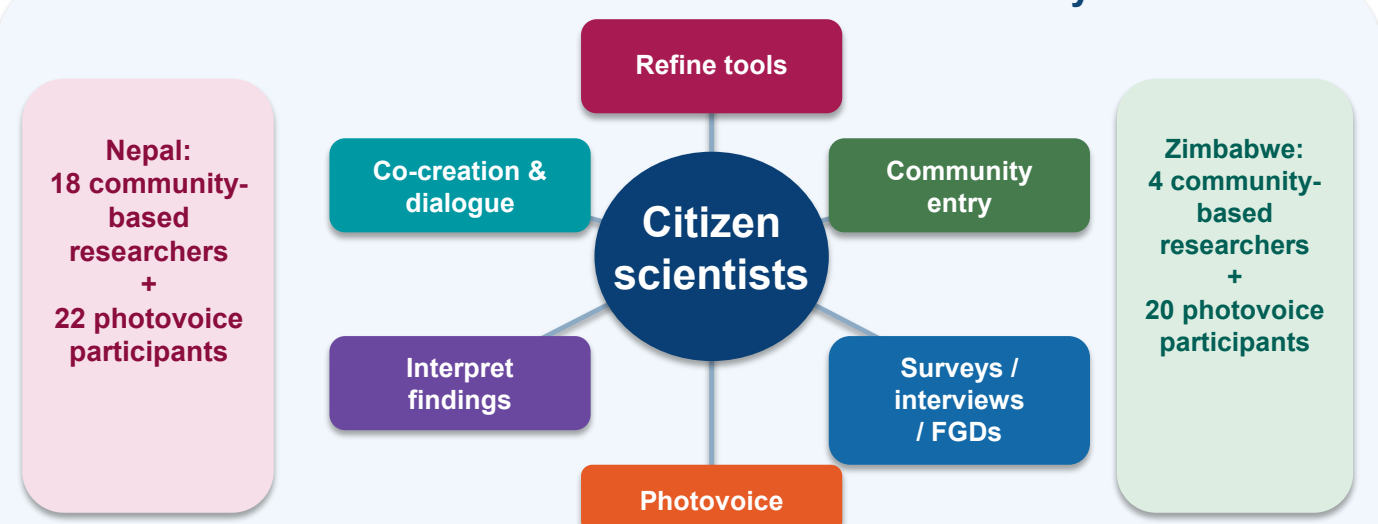


Figure 1. Citizen scientists contributed across multiple stages of the REACT research cycle in Nepal and Zimbabwe.

Discussion and conclusion

- 1 Embedding citizen scientists throughout the research process strengthened community capacity, trust, equitable participation and shared ownership, while improving the contextual relevance of the evidence generated.
- 2 A key implication is that citizen scientists can support both high-quality evidence generation and the co-production of locally appropriate responses to climate-related health challenges.
- 3 Although lessons are drawn from two ongoing country settings and may require contextual adaptation elsewhere, they offer practical guidance for community-engaged climate and health research.
- 4 Conclusion: Engaging citizen scientists as long-term partners can strengthen trust, contextual relevance, ownership and the sustainability of informed actions; training and support remain essential.

References and disclosures

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Key message: Embedding citizen scientists throughout the research cycle strengthened community research capacity, trust, equitable participation and shared ownership. It enhanced contextual relevance and supported the co-production of locally appropriate solutions to climate-related health challenges.