



Understanding water insecurity and acceptability of larval source management to control *Anopheles stephensi* in Eastern Ethiopia

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Background: The emergence of *Anopheles stephensi* in urban Africa highlights how water insecurity and environmental change are reshaping malaria transmission. In Ethiopia's Somali Region, where recurrent droughts and urbanisation have transformed everyday water access, this study examined how communities experienced larval source management (LSM) with SumiLarv™ 2MR within the broader politics of water.

Objective(s): To explore how water insecurity, local water practices, and social relations shape community perceptions, acceptability, and engagement with LSM using SumiLarv™ 2MR in an urbanising setting.

Method: A qualitative study was conducted in Danan as part of a community-based randomised trial of SumiLarv™ 2MR. Using ethnographic and participatory methods, researchers engaged community members and a multisectoral advisory board through participant observation, interviews, and workshops. Data were thematically analysed.

Result: Water scarcity in Danan emerged as environmental and social, shaped by climatic drought, migration, and market-based access. Community-built birkas provided resilience yet also created mosquito breeding sites and reinforced inequalities, linking water access to social status and disease risk. Early fears and rumours about larviciding reflected mistrust of external actors. Acceptance grew through observation, visible reductions in larvae, and reassurance from trusted intermediaries. Trust was cultivated through the sustained presence of community leaders and health workers rather than formal authority.

Conclusion: LSM is not a stand-alone vector control measure but part of a wider pursuit of water security and social equity. Sustainable malaria control in urban settings requires integrating vector management with safe, affordable water systems, participatory governance, and community agency amid climatic and infrastructural uncertainty.

