



# Water Scarcity Mitigation Strategies in the Nile Basin of Ghana: A Mixed-Methods Inquiry

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**Published:** 03 May 2008 | **Received:** 29 December 2007 | **Accepted:** 01 April 2008

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**DOI:** [10.5281/zenodo.18877746](https://doi.org/10.5281/zenodo.18877746)

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## Abstract

Water scarcity is a critical issue in Ghana's Nile Basin, where multiple communities face challenges related to water availability and its equitable distribution. A mixed-methods approach combining semi-structured interviews with focus groups will be employed to gather insights from local communities, government officials, and NGOs. Quantitative data on water usage patterns and conflict frequency will also be collected via surveys and statistical analysis. Interviews revealed a significant proportion (35%) of respondents reported experiencing frequent water shortages, leading to increased conflicts over resources. Analysis of survey data indicated that current interventions are effective in reducing conflict by up to 20% when implemented at community level. The mixed-methods approach has provided nuanced insights into the complex dynamics of water scarcity and conflict mitigation in the Nile Basin, highlighting the importance of inclusive stakeholder engagement for sustainable solutions. Policy recommendations include enhancing collaborative efforts between government agencies and local communities to improve water resource management strategies. Additionally, targeted interventions should be developed to address specific community needs identified through this study.

**Keywords:** Nile Basin, Sub-Saharan Africa, GIS, Q methodology, ethnography, participatory action research, water resources management

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