

Junior Fellowship for Dr. Jamiat Nanteza: An integrated assessment of groundwater resources and their sustainable use in the Lake Kyoga basin, Uganda

Initiative: Wissen für morgen – Kooperative Forschungsvorhaben im subsaharischen Afrika (beendet)

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Groundwater, the source of drinking water to majority in Africa, faces increasing pressures from climate change, population growth and development. Over Lake Kyoga basin in Uganda, threats to groundwater resources, manifested in terms of drying streams and boreholes exist. The question that remains open is: "What is the sustainability of groundwater use amidst conflicting natural and anthropogenic pressures?" Such a question is challenging given that it requires an understanding of the current and future ecological and social-cultural aspects, information that is not readily available at different scales. The goal of this project is to assess the sustainability of groundwater use over Lake Kyoga basin. The study seeks to address a number of objectives including: 1) quantify groundwater use under current conditions, 2) characterize the spatial-temporal variability in groundwater storage, recharge and discharge due to groundwater use, 3) assess the perception of groundwater users with respect to water sources, uses and threats to sustainable groundwater use and identify coping measures to groundwater threats, 4) develop suitable indicators of sustainable groundwater use and 5) characterize current and future sustainability of groundwater use considering different adaptation measures and institutional aspects. To address the objectives, the study will integrate statistical analyses, quantitative groundwater modeling and ethnographic study approaches at nested scales. Results from this study will provide an actionable knowledge base to aid sustainable groundwater development and policy intervention efforts in Uganda and East Africa.

Projektbeteiligte

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