Unlocking the Potential of Groundwater for the Poor

CATALYST PROJECT
A social and natural science approach to enabling sustainable use of groundwater for the benefit of the poor

STUDY NAME	**Groundwater Futures in Sub-Saharan Africa (GroFutures)**
RESEARCH ORGANISATIONS	University College London (UCL), International Water Management Institute (IWMI), International Groundwater Assessment Centre (IGRAC), Sokoine University of Agriculture (SUA) Tanzania, Water Research Institute (CSIR) Ghana, Addis Ababa University (AAU) Ethiopia.
RESEARCH TEAM	UCL: **Richard Taylor (PI)** IWMI: Karen G. Villholth IGRAC: Neno Kukurić SUA: Japhet J. Kashaigili CSIR: Emmanuel Obuobie AAU: Tenalem Ayenew
RESEARCH AIM / HYPOTHESIS	*The overall aim of the project is to provide the evidence base and tools that are required to sustain the equitable use of groundwater resources in Sub-Saharan Africa for poverty alleviation. Fundamental to the realisation of this overall aim are allied objectives of capacity strengthening and co-production of knowledge with stakeholders including water ministries and NGOs to ensure the effective uptake of evidence and implementation of tools and metrics developed under the project.*
STUDY DESCRIPTION	The project will generate new scientific evidence and methods to enable groundwater to be used sustainably and equitably to improve the lives of poor people in Sub-Saharan Africa (SSA) by way of improved access to safe water for domestic and agricultural purposes. As SSA is a region of small-scale farmers, sustainable year-round access to water for agriculture is a core component of poverty alleviation strategies in this region. GroFutures also recognises the importance of protecting the quantity and quality of groundwater discharges that sustain rivers, lakes and wetlands and the benefits (e.g. fish, hydropower) derived from these. The GroFutures Team will work with government water ministries in Ethiopia, Ghana and Tanzania to conduct a series of pilot studies characterising and quantifying seasonal changes in groundwater demand under a range of potential development options including increased use of groundwater for irrigation as well as urban and rural water supplies in selected basins. Indicative changes in groundwater recharge will also be evaluated by examining relationships between climate and groundwater recharge in semi-arid (central Tanzania) and seasonally humid (northern Uganda) environments

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where long term observational records exist. The evaluation will focus on recharge responses to changes in the intensity of rainfall that are projected to increase in a warmer world, under these contrasting climate regimes.

A significant innovation of the research is the development and trial of a new metric of water availability that, for the first time, explicitly considers groundwater resources. Water availability will be redefined in terms of water storage requirements, be it natural (e.g. groundwater) or constructed (e.g. surface reservoirs), that are required to address imbalances between water supply and demand. The metric will directly inform water management including sustainable allocations of groundwater. Because access to groundwater often disfavours poor water users, GroFutures will investigate pathways to enhance the governance and management of groundwater that recognise and support access of the poor to groundwater.

The GroFutures project will hold a pan-African workshop which will provide a rare opportunity for scientists in Anglophone and Francophone Africa to share their experiences and expertise.

Scientists and government stakeholders in the GroFutures project will run the workshop jointly with a Francophone network of researchers, PICASS'EAU, from Benin, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Niger, and Nigeria as well as potentially other UPGro Consortia and several invited international scientists who will examine the wider applicability of GroFutures pilot-study results to SSA and inform research to be proposed under a subsequent large, inter-disciplinary consortium proposal to the UPGro programme.

WHERE?

Ethiopia
Ghana
Tanzania

WHERE TO FIND OUT MORE:

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