

Unlocking the Potential of Groundwater for the Poor (UPGro), is a seven-year international research programme which is jointly funded by UK's Department for International Development (DFID), Natural Environment Research Council (NERC) and the Economic and Social Research Council (ESRC).

It focuses on improving the evidence base around groundwater availability and management in Sub-Saharan Africa (SSA) to enable developing countries and partners in SSA to use groundwater in a sustainable way in order to benefit the poor.

UPGro projects are interdisciplinary, linking the social and natural sciences to address this challenge. They will be delivered through collaborative partnerships of the world's best researchers.

The programme's success will be measured by the way that its research generates new knowledge which can be used to benefit the poor in a sustainable manner.

We invite you to find out more and get involved in this exciting frontier of research.



Funded by:



UPGro Knowledge Broker:

Skat Foundation and **Richard Carter & Associates**



skat Swiss Resource Centre and Consultancies for Development

Vadianstrasse 42
CH-9000 St.Gallen
Switzerland

tel: +41 71 228 54 54
email: info@skat.ch
web: www.skat.ch

photo: Kerstin Danert, Skat
designed by Skat, June 2015

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

upgro.org

Catalyst Studies

In the first phase of UPGro (2013-15), there were 15 'Catalyst' projects that each ran for a year and involved researchers from Africa and Europe working in rural and urban areas in 14 sub-Saharan Countries:

- Hidden crisis: Strengthening the evidence base on the sustainability of rural groundwater services
- Groundwater recharge in Africa: identifying critical thresholds
- Mapping groundwater quality degradation beneath growing rural towns in Sub-Saharan Africa
- BRAVE: Building understanding of climate variability into the planning of groundwater supplies from low storage aquifers in Africa
- Optimising Road Development for Groundwater Recharge and Retention
- ARIGA: Assessing Risk of Investment in Groundwater Resources
- Sustaining groundwater safety in peri-urban areas
- AMGRAF: Adaptive management of groundwater in Africa
- Towards groundwater security in Coastal East Africa
- Improving access to safe drinking water prospectation for low-fluoride sources of groundwater
- Groundwater risks and institutional response in rural Africa
- Use of remote sensing and terrain modelling to map manual drilling potential in Senegal and Guinea
- GroFutures: Groundwater Futures in Sub-Saharan Africa
- INGROUND: Evaluating an inexpensive biosensor to detect anthropogenic pollution in groundwater
- Resource limitations to sustainability of groundwater well-points in basement complex regions of sub-Saharan Africa

You can download a synthesis of these studies' findings, and access the academic research papers at:

upgro.org/catalyst-projects/

Consortium Studies

Starting in mid-2015, five Consortium projects are exploring issues and solutions over the next four years:

GroFutures: Groundwater Futures in Sub-Saharan Africa

Principal Investigator: Prof. Richard Taylor

Lead Institution: University College London

Countries: Benin, Cameroon, Ethiopia, Niger, Nigeria, South Africa, Tanzania

The Big Idea: We can bring together science, government and citizens so that they can understand and manage their groundwater resources for the benefit everyone in Sub-Saharan Africa and the reduction of poverty.

Gro for Good: Groundwater Risk Management for Growth and Development

Principal Investigator: Dr Robert Hope

Lead Institution: University of Oxford

Countries: Kenya

The Big Idea: Groundwater is essential for economic growth and offers great opportunities, but there is a high risk of the poorest communities losing out. A way needs to be found that balances competing uses of this limited resource.

T-GroUP: Experimenting with practical transition groundwater management strategies for the urban poor in Sub Saharan Africa

Principal Investigator: Dr Jan Willem Foppen

Lead Institution: UNESCO-IHE

Countries: Ghana, Uganda, Tanzania

The Big Idea: Improving access to safe water in slums is really complex and challenging. Transition Management theory embraces that complexity to find radically new and collaborative ways of using and managing urban groundwater.

BRAVE: Building understanding of climate variability into planning of groundwater supplies from low storage aquifers in Africa

Principal Investigator: Dr Ros Cornforth

Lead Institution: University of Reading

Countries: Burkina Faso, Ghana

The Big Idea: We can build better ways to model and communicate the complex environmental changes in the Sahel region of West Africa and use that to develop better ways to plan long term and provide early warnings of groundwater shortages so that the most vulnerable families and communities are more resilient to drought.

Hidden Crisis: unravelling current failures for future success in rural groundwater supply

Principal Investigator: Prof. Alan MacDonald

Lead Institution: British Geological Survey

Countries: Ethiopia, Malawi, Uganda

The Big Idea: Millions of pounds of investment by water users, charities and tax-payers are wasted each year by water points failing soon after construction. Getting a more complete understanding of how to keep water flowing from boreholes will reduce waste and improve water services for Africa's poorest communities.

More details available at: upgro.org/consortium