STUDY NAME	**Groundwater Risks and Institutional Responses for Poverty Reduction in Rural Africa**
RESEARCH ORGANISATIONS	University of Oxford (UO), Jomo Kenyatta University of Agriculture and Technology (JKUAT), University of Nairobi (UN), Polytechnic University of Catalonia (PUC), Rural Focus Ltd.(RF)
RESEARCH TEAM	UO: **Robert Hope (PI)**, Tim Foster, Alvar Closas JKUAT: Bancy Mati UN: Daniel Olago PUC: Albert Folch RF: Mike Lane, Michael Thomas
RESEARCH AIM / HYPOTHESIS	*The aim of the project is to characterise environmental and socio-economic dimensions of groundwater risk in way that can lead to better institutional responses that promote growth and poverty reduction in Kenya.* *The question to be answered is whether seasonal changes in groundwater abstraction by mining and/or irrigated sugarcane have an impact on nearby community handpump water quantity.*
STUDY DESCRIPTION	Improved understanding of groundwater risks and institutional responses against competing growth and development goals is central to accelerating and sustaining Africa's development. Irrigated agriculture, mining and tourism all provide pathways out of poverty but create unprecedented demands on complex and poorly understood groundwater systems. Kwale County, on the south eastern coast of Kenya, characterises the prospects and limits for new and competing groundwater use with Kenya's largest mine beginning production in 2014. The mineral sands mine has a peak groundwater abstraction of 5,400 m^3 per day from a network of boreholes so that water needs can be met even in times of drought when surface reservoirs are dry. Balanced use of surface water and groundwater resources is vital to the operation of the mine - which is expected to generate USD250 million per year over 13 years of its operation. The new mine will help make minerals the fourth largest export for Kenya. The Kwale coastal aquifer system also irrigates 5,000 hectares of sugarcane managed by Kwale International Sugarcane

UPGro is funded by: NERC SCIENCE OF THE ENVIRONMENT, E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL, UKaid from the British people

Company (KISCOL). Other groundwater users include a thriving tourism industry, a small municipality and thousands of handpump water users. Thus, Kwale captures the complex reality of Africa's groundwater science and policy challenges at a unique historical moment prior to a generation of social, environmental and economic change.

This study will be looking at the hydrogeology in the area as well as collecting records from the use of pumps in the area, including community handpumps. The data will be used to create a computer model of the aquifer.

Groundwater poverty in the area will be analysed from surveys, data and women's focus group discussions. Groundwater governance will also be analysed and workshops will capture the different perspectives and challenges.

WHERE?

Kenya

WHERE TO FIND OUT MORE:	http://oxwater.co.uk/

UPGro is funded by: NERC SCIENCE OF THE ENVIRONMENT, E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL, UKaid from the British people