STUDY NAME	**Towards groundwater security in coastal East Africa**
RESEARCH ORGANISATIONS	Kenyatta University (KU), Queen's University Belfast (QUB), Pwani University (PU), Sokoine University of Agriculture (SUA), University of Dar es Salaam (UDS), Université des Comores (UC), University of Reunion Island (URI) and University of Avignon (UA)
RESEARCH TEAM	KU: **Joy Obando (PI)**, Mary Makokha, QUB: Jean-Christophe Comte, Rachel Cassidy, Nicholas Robins UDS: Isaac Marobhe, Simon Melchioly PU: Halimu Shauri SUA: Ibrahimu Mjemah UC: Kassim Ibrahim, Ibrahim Mohamed, Hamidou Soule URI/UA: Olivier Banton, Jean-Lambert Join
RESEARCH AIM / HYPOTHESIS	*Establish the current status of groundwater resources in the coastal areas of East Africa and assess their vulnerability to global changes.*
STUDY DESCRIPTION	Groundwater resources in the coastal zone of East Africa are at risk. Increased demand, linked to rapid population growth in the coastal margins, has led to unsustainable and ill-planned well drilling and abstraction. Sea water intrusion into formerly freshwater aquifers frequently occurs as recharge from rainfall is insufficient to support the rate at which water is extracted. Wells supplying domestic, industrial and agricultural needs have, in many areas, become too saline for use. Climate change is expected to exacerbate this problem. Rising sea levels in the Indian Ocean region are projected to cause inundation of saltwater along the coastal zone, which is dominated by highly-permeable rock, while altered precipitation patterns and temperature change will affect the amount of water replenishing the aquifer through infiltration and recharge. Local communities across the region are already reporting changing tidal and rainfall patterns. The multiplicity of hydrological and demographic driving factors makes this a very challenging issue for management. At present the state of coastal aquifers in the East Africa region is not well constrained and past practices which may have exacerbated the problem have not been clearly identified. This project brings together teams from Kenya, Tanzania and Comoros Islands to address this knowledge gap; collaborating and working towards achieving water security in their respective areas. An integrative approach, combining

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the expertise of hydrogeologists, hydrologists and social scientists, will target selected sites along the coastal zone in each country. Hydrogeological observatories will be developed where focussed research will identify the current condition of the coastal aquifers and identify future threats based on projected socio-demographic and climate change scenarios.

Water supply and monitoring needs will be identified through consultations with end-users and local authorities and optimum strategies for addressing these sought. Researchers will engage with local community and stakeholder groups in each area and work together towards understanding the issues most affecting the communities with regards accessibility to water supply.

A two-way exchange of knowledge between researchers and community members is essential in working towards feasible solutions to existing problems and ensuring preparedness for the changes in demographics and environment in the future.

WHERE?

Coastal Kenya and Tanzania, Comoros Islands

WHERE TO FIND OUT MORE:

tinyurl.com/UPGRO-COASTAL

email: upgrowater@gmail.com

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