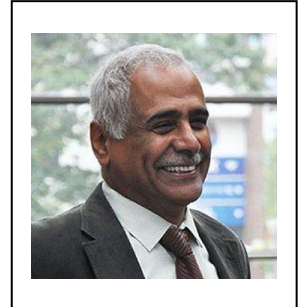


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Abstract

Title: Opportunities to smarting up energy access through optimised mini grid networks

Globally there are around 800 million people without access to electricity with around 600 million living in Sub Saharan Africa. The Energy for Development (e4D) programme was created in 2010 to address the energy access challenge by initiating seminal studies in electricity access for hard-to-reach poor areas in Sub Sahara Africa and beyond. At its core is fundamental research coupled with implementation of exemplar rural electrification projects as learning entities to support energy (electricity) access. The e4D research and development programme is underpinned by field studies on the implemented six mini grids with the main focus in Kenya and Uganda. Mini grids consist of a power plant linked to a local mainly isolated network to distribute power to consumers. This paper will provide an update on our work focusing on sustainable electrification and socio-economic studies. It will cover electrical network operational performances and resilience, in single and clustered as well as connected mini grids to the national grid.