



## GROUNDWATER IRRIGATION FOR SMALLHOLDERS IN SUB-SAHARAN AFRICA – A SYNTHESIS OF CURRENT KNOWLEDGE

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### **Abstract**

Groundwater is increasingly recognized as a critical resource for livelihood enhancement and poverty alleviation in sub-Saharan Africa. Groundwater irrigation for smallholder farmers is growing substantially in extent and importance, due to shifting emphasis of regional and international policies on irrigated farming and recognition of potential and suitability of groundwater as a distributed, reliable and resilient resource. More so, growth is driven spontaneously by the farmers themselves, spurred by improved access to low-cost technologies for pumps and drilling services as well as market opportunities for produce. The paper presents a comprehensive review of the current status and knowledge of the prospects and constraints for sustainable and pro-poor groundwater irrigation in sub-Saharan Africa. A conservative update of the proportion of irrigated area served by groundwater in the region indicates an estimate of 20 percent, or a doubling relative to previous estimates in 2006. Growth is associated with significant increase in livelihood benefits, food security, and general rural development, though research results indicate that ensuring access and sustainable benefits to the poorest, among those women farmers, requires targeted efforts. Further unlocking the potential of groundwater irrigation for poverty alleviation and increasing productivities requires better integrated approaches, simultaneously addressing groundwater-specific constraints (improved access to pumps and wells and knowledge of aquifer systems) as well as enabling factors (credit options, energy access, markets, and training). Present experience from investment and support to various types of groundwater irrigation should feed into sustainable approaches that are locally guided and adapted, ensuring rigorous assessment of socio-economic and environmental conditions and impacts over the short and longer term.