

Review

# Striving for Borehole Drilling Professionalism in Africa: A Review of a 16-Year Initiative through the Rural Water Supply Network from 2004 to 2020

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**Abstract:** Drilled boreholes are vital to achieving universal, safe drinking water and meeting Sustainable Development Goal (SDG) 6.1, particularly in Africa. Poor quality siting, borehole design, drilling and completion lead to premature failure of the water supply. From 2004 to 2020, a multi-stakeholder initiative through the Rural Water Supply Network (RWSN) has endeavored to raise the professionalism of borehole drilling and its management in Africa. The initiative comprised in-country and desk studies, training, and the development of guidelines, manuals, training materials, short animated films for advocacy as well as using blogs, webinars and online communities of practice to share experiences. The initiative was funded to approximately USD 750,000 in total. Funding was fragmented throughout, but the initial support by the World Bank Water and Sanitation Programme Africa (WSP-AF), consistent leadership and subsequent partnerships between Skat Foundation, United Nations Children’s Fund (UNICEF), WaterAid UK and others enabled progression on the topic, as well as innovation and opportunities to be harnessed. The initiative has raised the profile of drilling professionalism, provided a wealth of materials and inspired others to take action. Thousands of stakeholders have improved their knowledge. Academic research on the topic has also increased and capacity strengthening of groundwater management and professional drilling is now an action area for the African Ministers Council on Water (AMCOW). UNICEF and WaterAid are among the organizations that have made changes to procurement and project management as a result of the initiative. Despite a growing recognition of the importance of drilling professionalism, reliable, long-term investment in in-country training and professional development, and addressing challenges in the institutional environment remains inadequate. Despite the importance of water well drilling, and commitments to SDG 6.1’s, capacity strengthening in this area remains a marginal issue for national and international political leadership, and arguably for international funding agencies.

**Keywords:** drilling; boreholes; water supply; private sector; supervision; partnership; UNICEF; networking

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## 1. Introduction

Drilled boreholes are vital to achieving universal, clean drinking water and meeting Sustainable Development Goal (SDG) 6.1, particularly in Africa. Reliance of the African population on groundwater is high, with over 75% of the population estimated to depend on it [1]. Water well drilling is extremely important to assure drinking water access in Africa, and professionalism is needed to ensure that boreholes are of high quality. Poor quality siting, borehole design, drilling and completion, inadequate supervision and inappropriate contracts can lead to premature failure of the water supply [2–6]. Despite its strategic importance, the practical realities of borehole drilling provision

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