

# The Case for Manual Drilling in Africa

UNICEF, Practica and Enterprise Works/VITA have developed a toolkit for African countries wishing to embark on the professionalisation of manual drilling. This toolkit includes Technical Notes, Technical Manuals, Advocacy Materials, Mapping of suitable areas for manual drilling, Case Studies, and Implementation and Training Manuals. This initiative builds the capacity of the local private sector in order to respond to the ever increasing demand for safe water in rural areas. This Technical Note is the **first** in a series of five.



*Construction of Drilling Tools*

## The Needs in Africa

Achieving the MDGs for water supply in Sub-Saharan Africa is a daunting task because the magnitude of the problem is ever increasing. There are 284 million people living in rural areas without access to potable water. In order to reach these people, radically different approaches are needed and more emphasis will need to be placed on solutions that are affordable and that will allow households and communities to satisfy their need for potable water. Low-cost manual drilling has already demonstrated its effectiveness in Asia, Africa and Latin America as a means of increasing the availability of potable water.



*Unsafe Surface Water*

## Building Private Sector Capacity

The drilling techniques are not new, manual percussion drilling have been used for centuries in Asia. The innovation lies in the private sector approach that is fundamentally different. It builds the professionalism and the private sector's capacity by providing the tools and the knowledge to respond to demand. In order for small enterprises, often still in the informal sector, to be able to respond to demand from NGOs, local communities and individuals for improved drinking water, they need to upgrade their skills, both technical and managerial. This requires training over a period of several years to ensure that they can provide consistently high quality installations.

## Manual Drilling: Another Option

There are many advantages for manual drilling:

- Cost effective option: 4-10 times cheaper than a machine drilled borehole of the same depth;
- Ideally suited to small, remote rural communities where other options are simply not economically feasible;
- Access to sites far from paved roads is easier for the lightweight manual drilling equipment

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than for large rigs or materials for concrete lined wells;

- Tools are made locally;
- Under \$3,000 initial investment required for an enterprise to begin operations;



*Hand Auger*

- Manual drilling creates employment by substituting labour for capital investment and employing local enterprises rather than foreign contractors;
- Ready-to-go in emergencies and in unstable countries (light equipment can be transported in a pick-up truck);
- Can be used for both drinking water and irrigation ;
- Saves time compared with lined hand-dug wells.

## Additional Resources

Mapping of the Potential for Manual Drilling (Chad, Madagascar, Niger, Sierra Leone, Central African

Republic, Mauritania, and Togo are in process).

Manual Drilling Case Study: Niger

Manual Drilling Case Study: Chad

Professionalising the Manual Drilling in Africa to increase access to safe water in rural areas

The RWSN hand drilling cluster group, see the website [www.rwsn.ch](http://www.rwsn.ch)

These Technical Notes and other materials are available in UNICEF web, [www.unicef.org/wash/index\\_watersecurity.html](http://www.unicef.org/wash/index_watersecurity.html)



*Manual Percussion*

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