



**Government of Southern Sudan (GoSS)**

**State Ministry of Physical Infrastructure**

**Department of Rural Water Supply and Sanitation**

**Northern Bahr el Ghazal State**

**National Workshop on Cost-Effective Boreholes (CEB) in Sudan**

**Hand Drilling in Southern Sudan**

**Khartoum, Sudan**

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# Hand Drilling in Southern Sudan.

□ This programme was carried out from 1995 – 2009 with support of:

1. UNICEF
2. ICRC
3. IRC
4. SC-UK

## Hand Drilling in Aweil East and West-NBeG State.

- 34 productive boreholes have been drilled:
  - **20 successful, still functioning**
  - **14 dried out after a few years.**
- 238 Water Management committee members trained for the above-mentioned water sources.
- Drilling one (1) borehole takes 5-7 days with 8 workers
- **Cost:** 1 m depth costs max. SDG 200 (about USD 80).

# Advantages / opportunities for hand drilling.

- ▶ Simple technique
- ▶ Easy transportation / mobilization
- ▶ Little technical skilled
- ▶ Low cost technique

# Disadvantages / Challenges

- ▶ No pumping tests (quantity of water)
- ▶ Soft formation only
- ▶ Limited depth (max. 30m – 45m bgl)
- ▶ Prone to drying up
- ▶ Slow drilling speed

## **General challenges:**

- ▶ Communities are not always willing to contribute during construction etc.
- ▶ Water quality testing is difficult

# Recommendations

- ▶ Wherever possible (no deep water tables/soft formation).
- ▶ This technique should be applied (simple technique, low costs labour intensive)

# Pictures of Hand Drilling in progress in Wakabil, Aweil East County – NBeG State (Southern Sudan)



From 1 – 4 top, cuttings being manually pulled out from the hole, auger being rotated, auger being cleaned, and rotation again

2<sup>nd</sup> to the last picture are metallic boxes for safe keeping and easy transportation of rig accessories

## Hand Drilled Borehole at Gukic, Aweil West County – NBeG State



**Thank you!**