

Raising professionalism in water well drilling: 15 years of learning & where next?

Dr Kerstin Danert,
Topic Lead - Professional Drilling for the
Rural Water Supply Network (RWSN)

Skat Foundation, Switzerland

kerstin.danert @ skat.ch

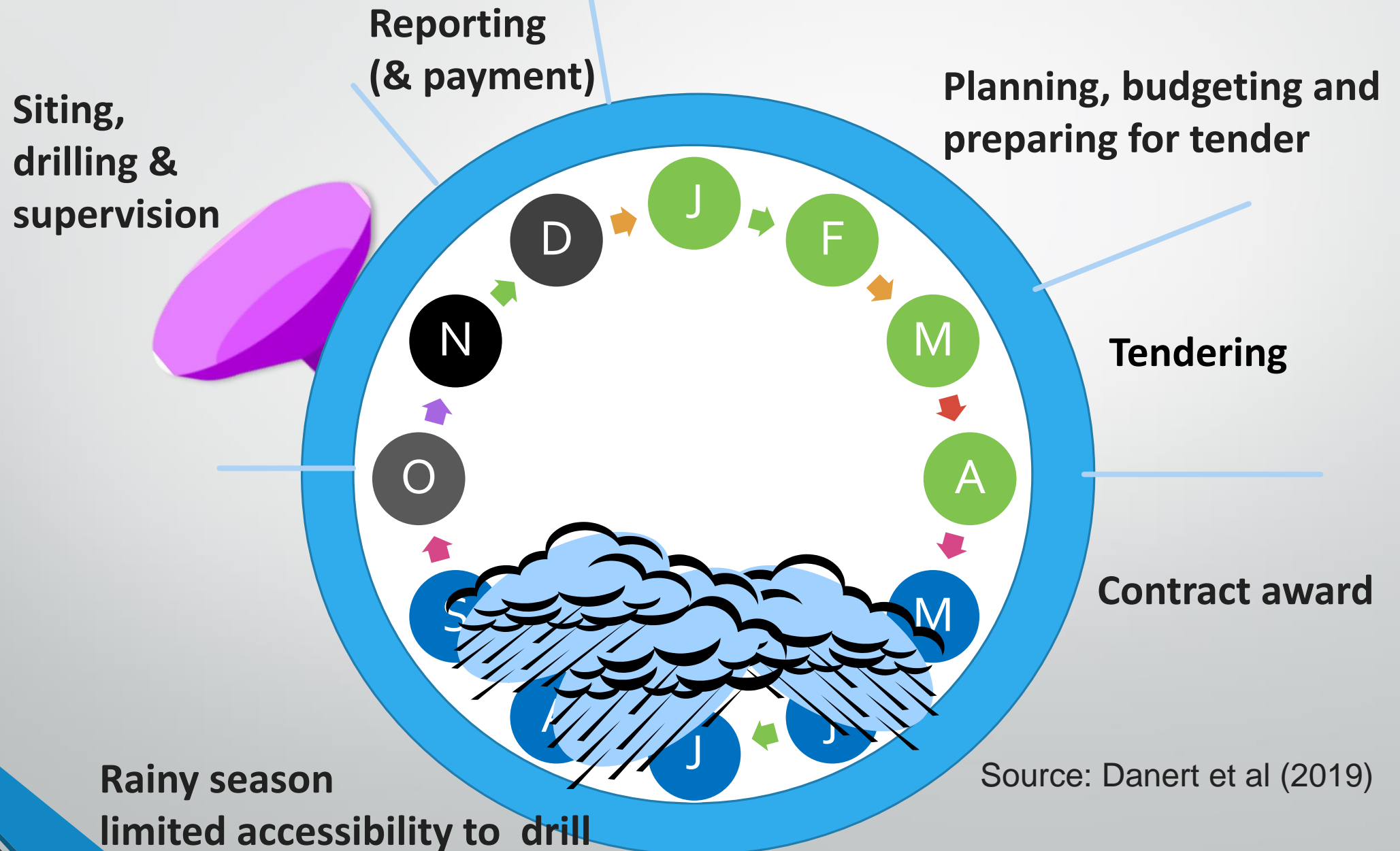
<https://tinyurl.com/waterdrilling>

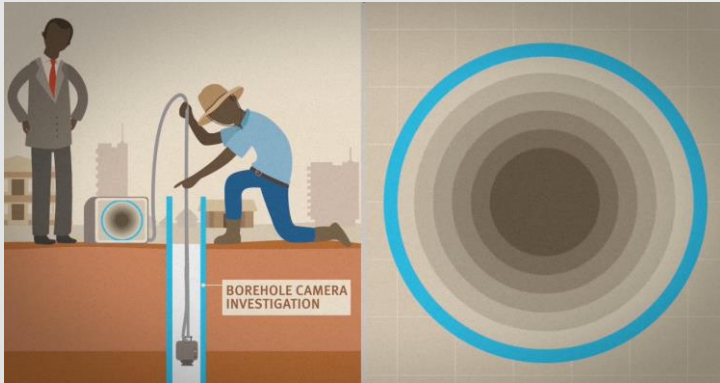
Reasons for water point failure include:

- poor quality of the borehole construction in the first place, which can be caused by:
 - gaps in the skills and knowledge of drillers and those siting and supervising construction
 - inadequate project management
 - challenges in the enabling environment, including corruption.



The Curse of the VERY SHORT Drilling Season





Knowing what a borehole camera is & what it can do.



**Practical Drilling
Supervision Training,
Sierra Leone, 2014**

Professional Water Well Drilling

A UNICEF Guidance Note



Insufficient opportunities and incentives for training and practical, on-job mentoring

- A drilling supervisor may not know how to design a borehole.
- A programme manager may not know why some boreholes are dry.
- This can result in unnecessary conflict.
- Those who benefitted from structured, often government-funded training to the late 90's age & retire.
- Insufficient opportunities for training and mentoring on drilling and its management.

Practical experience often learned on the job, with limited or no professional oversight.



*Driller cools off in
Ogun State
(Source: Kerstin Danert)*

A mix of methods and tools

- **Sharing:** RWSN Professional Drilling Website, newsletter, webinars & online community (dgroups)
- **Understanding:** in-country studies
- **Materials:** Documents & Films providing technical Guidance
- **Training:** Face-to-face syllabus – 3 courses
- **Training & inspiring:** Online course (2018 & 2019)
- **Sharing:** what others are doing, e.g. Uganda's training experiences, drillers associations.....

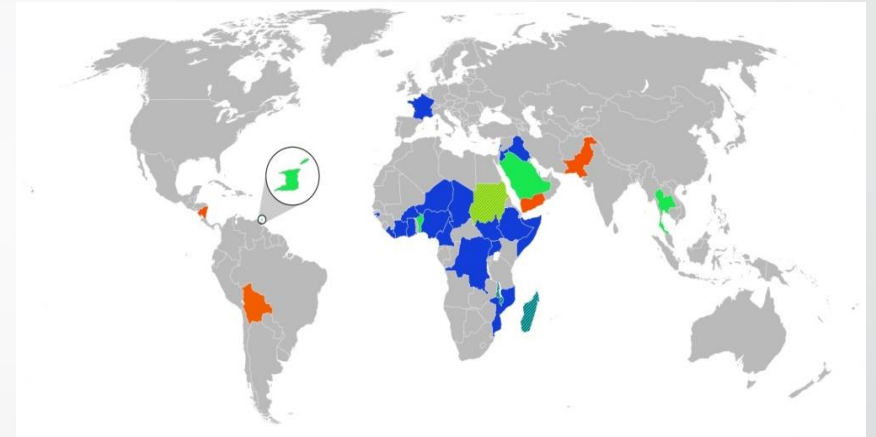


Figure (above) Location and type of organisation of successful participants of 2018 Online Course on Professional Drilling Management (Danert, and Theis (2018))

Online Course

Methods

5 written assignments
Participation in Forum
Quizzes

Participant Material

- Guidance Note
- Compulsory & additional materials
- Course Report 2018

Duration (time)

8 – 12 weeks (40-60 hours)

Module 1

Introduction and Groundwater Information and Siting

Module 2

Costing and Pricing, and the Procurement and Contract Management

Module 3

Borehole Drilling and Supervision

Module 4

Institutional Frameworks for Borehole Drilling Professionalism

Module 5

Dialogue and Actions to Raise Drilling Professionalism

A bricolage of funding over 15 years

Partners in 2018 and 2019

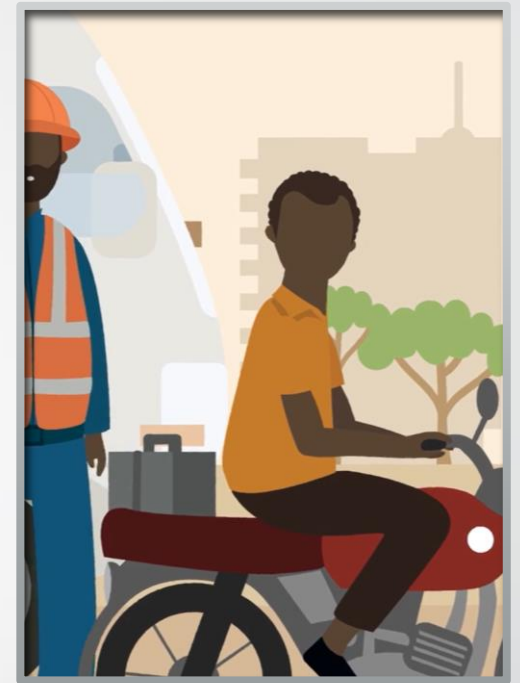
skat_foundation



Four steps to better drilling contracts

A short animated film

<https://vimeo.com/171751215>



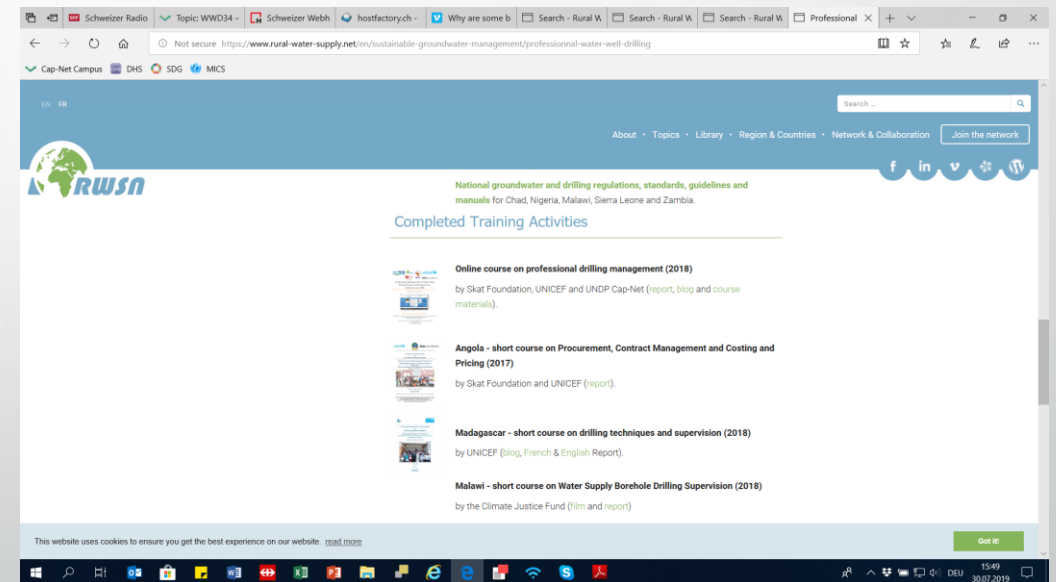
Bibliography

- ABBAM, T., JOHNSON, F. A., DASH, J., & PADMADAS, S. S. (2018). **Spatiotemporal variations in rainfall and temperature in Ghana over the twentieth century, 1900–2014**. Earth and Space Science, 5,120–132. <https://doi.org/10.1002/2017EA000327>
- BONSOR, H.C. OATES, N, CHILTON, P.J., CARTER, R.C, CASEY, V. MACDONALD, A.M, ETTI, B, NEKESA, J. MUSINGUZI, F, OKUBAL, P, ALUPO, G., CALOW, R., WILSON, P, TUMUNTUNGIRE, M AND BENNIE, M (2015) **A hidden crisis: strengthening the evidence base on the current failures of rural groundwater supplies**, Briefing Paper 2181, 38th WEDC International Conference, Loughborough University, UK, 2015, Available from <https://wedc-knowledge.lboro.ac.uk/details.html?id=22149>
- DANERT K, OUEDRAOGO JP, BALIMA A, AND ZOMBRE A (2019) **Good practice for borehole drilling in Burkina Faso**. , UNICEF/ Skat Foundation , UNICEF/ Skat Foundation
- DANERT, K and ADELILE, D (2014) **Tapping Treasure: Cost-Effective Boreholes in Sierra Leone**. Training and Guideline Development (2013 to 2014) , Skat Foundation , Skat Foundation
- DANERT, K AND THEIS, S (2018) **Professional Management of Water Well Drilling Projects and Programmes Online Course 2018**. Report for Course Participants , UNICEF-Skat Foundation Collaboration 2017-2019, , Skat Foundation , St. Gallen, Switzerland
- LIDDLE, E (2019) **Professional Borehole Drilling: Learning from Uganda (1) -Turnkey contracts for borehole siting and drilling** [Online], Available at <https://rwsn.blog/2019/03/18/turnkey-contracts-for-borehole-siting-and-drilling/>
- LIDDLE, E (2019) **Why some experienced consultants and drilling contractors are no longer willing to work for district local government** [Online], Available at <https://rwsn.blog/2019/04/15/attracting-the-best-why-some-experienced-consultants-and-drilling-contractors-are-no-longer-willing-to-work-for-district-local-government/>
- MWE (2011) **Groundwater Maps of Kibaale**, Uganda, Ministry of Water and Environment, Uganda Available at <https://www.mwe.go.ug/library/kibaale-ground-water-maps-o> and as pdf.
- RWSN (nd) **Why are some boreholes better than others?** [Online], available at <https://vimeo.com/185289895>

More information

<https://tinyurl.com/waterdrilling>

<https://www.rural-water-supply.net/en/sustainable-groundwater-management/professional-water-well-drilling>



kerstin.danert @ skat.ch

What can **you** do?

Join UNICEF, WaterAid, Skat Foundation and others
to strive for professional WATER WELL drilling
and a supportive enabling environment

<https://tinyurl.com/waterdrilling>

Join: https://dgroups.org/rwsn/groundwater_rwsn

kerstin.danert @ skat.ch