Guidance for Professional Drilling
– Overview –

Jose Gesti & Kerstin Danert
UNICEF / Skat Foundation
GROUNDWATER DEVELOPMENT

• Dependence on groundwater for domestic supply: 45% globally / 75% in Africa

• Potential of groundwater development for irrigation: additional 20-49% in Africa

• Borehole construction key for achievement of SDG 6 (and beyond)
SUSTAINABILITY IS A CONCERN

DROP OF FUNCTIONALITY OF WATER POINTS BY AGE

15-30% OF WATER POINTS NON FUNCTIONAL AFTER 1 YEAR

Source: TINCIANI ET AL, 2015
UNDERLYING CAUSES OF FAILURE

PRIMARY REASONS
- Low yield
- Poor water quality
- Mechanical failure

SECONDARY REASONS
- Poor siting
- Inappropriate design
- Low groundwater potential
- Inappropriate materials
- Poor construction of borehole or pump
- Groundwater chemistry
- Lack of access to spare parts
- Lack of basic maintenance
- Operation and management too difficult
- Vandalism and accidental damage
- Low capacity of community management

UNDERLYING CONDITIONS OF FAIL
- Lack of clear procedures of supervision and geological input to siting, design and construction of boreholes
- Long term trends – changes in water demand, climate, groundwater availability and quality
- Insufficient access to external support (DWO, NGO, local and national government)
- Lack of community understanding
- Corruption
- Lack of enforced standards and regulation
- Poor/inappropriate contract management
- Lack of knowledge to inform policy and WASH programmes

RAISING PROFESSIONALISM

Source: UNICEF/Skat Foundation (2016)
AREAS OF ENGAGEMENT (I)

Promote initiatives to:

**Institutional frameworks**
- Improve national (or state) policies, regulation, standards and procedures of borehole drilling
- Clarify roles and responsibilities

**Groundwater information**
- Ensure drilling records are collected, quality-assured and collated
- Make this readily available to inform future borehole siting, design, and groundwater management
AREAS OF ENGAGEMENT (II)

Promote initiatives to:

- Improve the design, implementation and monitoring of specific borehole projects
- Ensure that documentation of the process and results is readily available

Promote initiatives to:

- Raise the skills and knowledge of groundwater development practitioners
- Encourage the availability of suitable equipment in the country
Promote initiatives to:

- Foster dialogue between government agencies, drilling contractors, consultants, NGOs, development partners and civil society
- Raise awareness of decision-makers and the public about groundwater potential management

Promote initiatives to:

- Invest adequate financial resources to improve and sustain professional groundwater development
– Thank You –

Kerstin Danert Kerstin.Danert@skat.ch
&
Jose Gesti jgesticanuto@unicef.org
QUESTION TO THE AUDIENCE:

What can you share about raising drilling professionalism, including groundwater regulation in your country?

QUESTION À L'AUDIENCE:

Que pouvez-vous partager sur l'amélioration du professionnelisme de la construction des forages, tenant en compte aussi la réglementation des eaux souterraines dans votre pays?