PRACTICA
FOUNDATION

2020 AT A GLANCE

Irrigation

Mechanisms to support accessible farmer-led irrigation development

For over 10 years, PRACTICA has supported farmer-led irrigation development (FLID) through the development of **smart and affordable technologies** and the initiation of **business strategies** to ensure sustainable access.

This year, we have innovated by using remote sensing and machine learning to conduct **mappings** showing FLID areas in Mali, Chad and Ethiopia. The goal has been to identify and quantify these areas to inform decision-makers, NGOs and the private sector and improve the targeting of interventions supporting small-scale farming, and increase access to extension services, finance and technologies.

In 2020, we also conducted a market study on solar powered irrigation in Ethiopia, resulting in specific recommendations for more durable solar irrigation initiatives. Our goal is **to stimulate the use of sustainable and inclusive mechanisms** to support FLID.



Drinking water

Innovations for financially viable small-scale drinking water systems

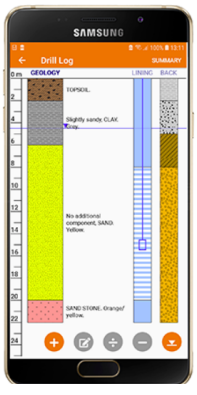
This year, an improved and simplified version of the **TokenTap,** a **mechanical pre-payment technology** for water supply, has been introduced. The system can be installed on stand-alone boreholes or existing piped water systems. To tap water in fixed amounts, a token needs to be inserted. This special coin can be sold by local retailers or water system operators. The TokenTap is part of our efforts to introduce cheaper, and easier-to-maintain pre-payment systems for small scale water schemes. This makes lower water tariffs possible and improves sustainability, while still ensuring cost recovery. In 2020, we also started the digitalization of the **asset management tools**. They enable informed decision-making by stakeholders to determine an appropriate water tariff taking into account the preferred water service levels, risks of water system failure, operating costs, and maintenance requirements.



Groundwater development

Digital tools for sustainable groundwater development

While working on well drilling programmes in Africa, we realized that paper record keeping and low quality data are barriers towards efficient groundwater development projects, which as such are often planned blind. We believe that good **data collection** and sharing is essential and also achievable thanks to smartphones that these days most people have. We used our knowledge on smart technologies and our understanding of 'the drillers perspective' to come up with the '**digital tools for drilling**' allowing to quickly capture **borehole siting, well installation, and pump test** data, just on a phone. This saves a lot of time, generates high quality data and enables digital sharing for everybody. In 2020, we finished the development of these tools by successfully testing the pumping test app in a project with geo-hydrologists in Bangladesh. As a next step, we envision to equip an organization with these tools, evaluate and share its performance with key sector partners.



Sanitation

Inclusive faecal sludge management (FSM) chains



Practica is supporting citywide inclusive sanitation in African cities (Madagascar, Benin, Uganda...), carrying assessment studies, developing sanitation plans and providing technical assistance to set-up equitable FSM chains. To manage doing so, we continuously work on new technologies as well as **innovative management models and tools**.

The 3F project that we have been implementing in 2020 for the second year, gives a good example. With the city of Fianarantsoa (Madagascar), we are developing a full sanitation chain including public toilets services and an affordable FSM service. Within 3 years, more than 40,000 people are getting sustainable access to safely managed sanitation, while creating long-term jobs.

First results are promising and developed solutions are showing strong potential for replication in African cities with population ranging from 100,000 to 400,000 inhabitants.



Who are we?

PRACTICA Foundation is a non-profit institute of technical expertise with a mission to strengthen the skills and tools for entrepreneurs in the **African** and **Asian** water, irrigation and sanitation sector.

Irrigation
Drinking water
Sanitation
Groundwater Development

Our offices and workshops are based in the **Netherlands** and in **Madagascar**. We work with international & local organizations to develop and implement innovations in their programs:

Technical & business trainings	We facilitate practical trainings to strengthen technical & business skills of local enterprises
Consultancy & Advice	We contribute to their enabling environment, aligning the enterprises with suppliers, customers & institutions We provide technical assistance for project implementation to NGOs, governments and consultancy firms
Technical design & Innovation	We conduct applied research & product development to ensure continuous innovation



A special year in numbers

The announcement of the restrictions related to Covid-19, and the necessity for all of us to work from home was a hard blow. We used to rely almost entirely on field missions, during which we assessed the technological needs of a community or a project, trained local enterprises or performed field research. It triggered amongst the team countless reflections and discussions on how we could keep providing technical assistance to our partners, and building tools and skills of African and Asian entrepreneurs remotely.

10 Months later, we can say that we succeeded to adapt! It took us, **1,555** minutes of weekly team meetings on Skype; **1,348** messages on WhatsApp; and the full determination and commitment of our team to end 2020 on a good note.

To achieve this we intensified our work with local consultants in **5** countries. We now work more with digital surveys, and we have increased our remote training skills. This year, we started **18** new projects, and including **5** studies on small-scale irrigation and FSM. Our engineers built **4** new prototypes of smart and low cost technologies that are now being tested in the field.



Snapshot: the PuPu pump

One of our expertises is to develop technologies that can **easily be used and repaired in remote regions of Africa**, using mostly tools and ressources that can be found locally. Because of the travelling limitations, this year has been an ideal period to innovate in our workshop in the Netherlands and interact extensively with our FSM experts in Madagascar.

As a result we created the PuPu pump. Its goal is to **facilitate pit emptying in dense urban areas** where conventional vacuum trucks cannot offer efficient services, and therefore reduce the necessity for manual emptying and increase hygiene.

Once the technology will be fully developed, it will allow to safely empty pit latrines with trash, located up to 60 m from a road.

The PuPu pump is currently being tested in the field for the first time. Our partners provide us feedback on both the hardware and the business cases so we can improve the technology before starting marketing.

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Would you like more information?
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