PRACTICA FOUNDATION

2019 AT A GLANCE

Irrigation

Increasing access to technologies for farmer-led irrigation

Farmer-led irrigation plays a major role in increasing agricultural productivity and food security in Africa. For over 10 years, PRACTICA has supported small-scale farmers by developing smart and affordable **technologies** and initiating **business strategies** for sustainable access to innovations. In 2019, we have done a market analysis on solar irrigation solutions. We trained lead farmers on the selection and use of irrigation technologies, and we developed decision-making tools like the smartphone application SIPS (Solar Irrigation Pump Selector).

In 2020, Practica will continue to develop innovations that support small-scale farmers, with a focus on solutions that increase access to (ground)water and finance without increasing farmers' risks.

Drinking water

Innovating to optimize business cases for rural water supply

Failed water infrastructure has deprived millions of people in rural Africa from sustainable access to safe drinking water. In 2019, Practica piloted multiple innovative piped systems, designed to reduce operational costs. We also developed management tools to run viable **business cases for piped water supply,** which is critical to ensure sustainability.

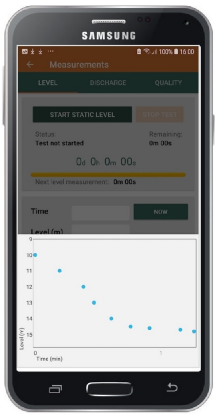
To overcome the complexity and high cost of water payment devices, we developed the **TokenTap: a mechanical prepaid water dispenser** used with coins. The system includes a reliable monitoring unit to capture usage data.

In 2020 we will field test the developed hardware and digitalize asset management tools to support partners and projects with business opportunities for piped water suplly..

Groundwater development

Digital tools for sustainable groundwater development

Groundwater is an increasingly important source for safe drinking water and irrigation. Working on well drilling programmes throughout Africa we identified important gaps in **groundwater data management**. Paper record keeping and a lack of data sharing results in projects that are being planned 'blind', while valuable technical data is obtained during well construction.



Improving the availability of drilling data is critical to increase the cost-effectiveness and sustainability of groundwater development programmes.

In 2019, through 3-years of R&D, we finalized the 'digital tools for drilling' to quickly capture borehole siting, drill log, and pump test data in high quality format. The tools have been tested with drillers in Liberia, Ivory Coast and Mozambique and in 2020 they will be disseminated and promoted through partners globally.

Sanitation

Developing sustainable faecal sludge management chains

Over a billion people in urban and peri-urban areas are served by on-site sanitation facilities. Since 2010, Practica is committed to tackling the challenges related to on-site faecal sludge by working on three fronts:

1. Long-term programmes in Madagascar to test **innovative management models** that improve the effectiveness and reach of sanitation services
2. Development of **technologies** including desludging pumps, FSM tracking tools and low-cost faecal sludge treatment plants to ensure affordable services
3. **Strategic advice and technical assistance** building on our practical experience. In 2019, Practica worked with 6 city councils in Madagascar, Mali and Benin to improve FSM.

Who are we?

PRACTICA Foundation is a non-profit centre 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
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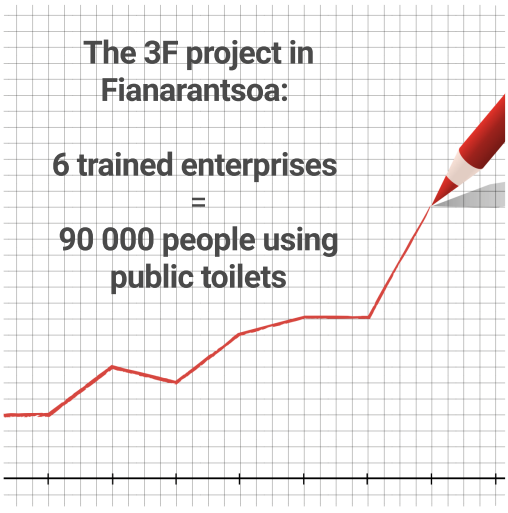
Our offices and workshops are based in the **Netherlands** and in **Madagascar**. We work with international & local organizations to develop and implement innovations in their programs:

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

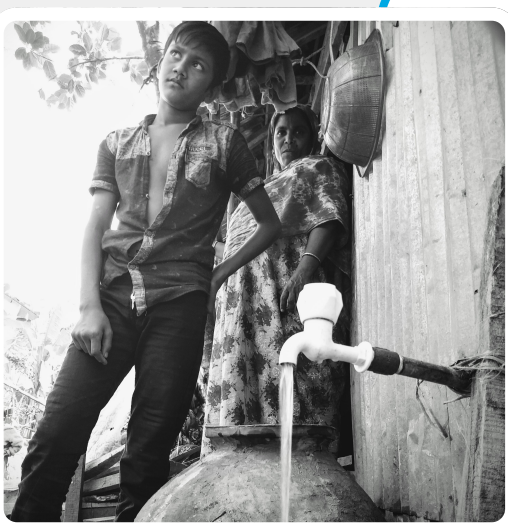


2019 by the numbers

We work with partners in Africa and Asia to increase local capacity and availability of products and services. As a result, the impact continues and grows without our involvement. In Fianarantsoa (Madagascar), the work and viable business case of 6 trained enterprises now provide safe public toilet facilities for **90 000 people**.

In 2019 we worked with a team of 25 professionals in **18 countries** to increase the technical skills and know-how in over **30 projects** on irrigation, drinking water systems, groundwater development and faecal sludge management.

Our innovation strategy for 2019 focused on **6 development trajectories**, including a mechanical pre-payment system (the TokenTap); 2 solar pumps (a small solar ergonomic pump and a floating pump); a water distribution system for small holder irrigation (the mini-pivot); a pump test app for yield testing of boreholes (part of the digital tools for drilling) and improved management of drinking water systems (the watertime approach).



Snapshot : Asset management for drinking water suppliers

Research shows that only 26% of the 41 000 piped-water supply schemes in Nepal are fully functional. This results in high financial losses and failure to achieve the SDGs. To increase functionality and durability of rural water systems, Practica developed manuals and basic templates on asset management for drinking water suppliers. Based on a clear and simple risk-based maintenance plan and a projection of income generated by water sales, suppliers can explore different scenarios and design options to optimize their service.

The asset management approach enables users to take more informed and rational decisions during water price negotiations and facilitates maintenance and monitoring of the facilities. In the coming year, E-learning tools and an asset management app will be developed to improve usability and increase impact.

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