



Royal Academy of Engineering

Harry Chaplin, Founder and Director at Tatirano Social Enterprise

Championing access to clean water and sanitation

Harry Chaplin first visited Madagascar in 2011. He realised that while it rains a lot in many parts of Madagascar, millions of people still did not have access to safe drinking water, which can cause many health issues. He decided to use his engineering experience to provide local people with better access to clean water.

The challenge

Half of Madagascar's population [lack access to safe drinking water](#) and [90%](#) live without access to a toilet. According to [WaterAid](#), equals 13 million people without access to clean water and over 24 million people who lack access to decent sanitation. This is a cause of poor health in the country and each year around [6,500 children](#) under five die from diarrhoea.

The ambition

Harry's Frontiers Champions project, funded by the Royal Academy of Engineering, builds on previous work that involves installing very simple rainwater harvesting systems at schools and hospitals. His organisation, Tatirano Social Enterprise, delivers a small-scale version of a municipal supply of water, but on a local level with members of the community in charge of distributing water. The water is monitored, and data is displayed on a publicly available online platform that is easy to use and enables the community to keep track of water supply levels.

After first receiving funding from Frontiers Champions in 2020, Harry is building on the knowledge he gained from uniting some of the best minds from around the world in water, sanitation and hygiene. The next stage of his project will see three international researchers and Frontiers Alumni from University College London, the University of Bath and Bangor University link up with practitioners, government ministers and communities for a workshop that showcases rainwater harvesting developments from around the world. The workshop will highlight the millions of people globally who depend on rainwater harvesting and aim to demonstrate the impact that simple technologies can make.

After visiting rural rainwater harvesting systems in southeast Madagascar, the case studies presented at the workshop will inform a new book that Tatirano will contribute in and will serve as a guide for rainwater harvesting in the 21st century. The book will promote best practice in design, implementation and ongoing management and maintenance.

Harry ultimately seeks to change national policy in Madagascar, enabling organisations to seek new funding more readily and use existing funds more easily

for rainwater harvesting. In turn this will enable communities to benefit from this technology, with an emphasis on women, who are most affected by lack of clean water.

Harry's ambition is that future generations of women will be empowered to lead in the industry's decision-making, through training in water management and increased representation in project design and implementation.

Relevant UN Sustainable Development Goals (SDGs)

- Gender equality (SDG 5)
- Clean water and sanitation for all (SDG 6)

Involvement with the Royal Academy of Engineering

Harry is delighted to be a Frontiers Champion for a second time after he first successfully applied to be a Frontiers Champion in 2020. His involvement with the Academy began after attending the seventh Frontiers of Engineering for Development symposium *WASHing away inequalities in Mexico* and *From Feeding People to Nourishing People* in Madagascar in 2019.

Harry credits the networking experience he gained with the Academy with enabling him to network effectively with local communities in Madagascar. His 2020 MADLab project brought 35 sector experts from a regional and national level together in the same room, with projects still realising impact from that initial meeting.

Harry praises the Frontiers Programme's ability to encourage passionate people to link and collaborate. He says, "There is no easy way to upscale an effective development intervention, but Frontiers Champions empowers people to come together to make a proper impact long-term".