



# ‘No man should die of thirst’

Engineer designs systems to solve water scarcity and improve access to potable water in needy communities

**It was a humanitarian trip to the rural regions of Cambodia, back when he was still in junior college, that made Mr Lim Chong Tee determined to come up with sustainable systems to solve water scarcity and improve access to safe drinking water for the poor.**

“No man should die of prolonged thirst,” said the 24-year-old.

He himself would later experience what it was like to be really thirsty.

That was during his national service days, when Mr Lim, who was a Chemical, Biological and Radiological Defence Emergency Force Responder, had several encounters with severe thirst situations.

“I remember when my platoon mates and I had to dig a shell scrape during training and we were fast running out of water. Even though it was just a day, the weather was sweltering and we had to ration. We had to continue digging and became extremely thirsty,” he said.

It was in his second year in the Engineering Faculty at the National University of Singapore (NUS) that he got together with two friends – Mr David Pong, a business graduate, and Mr Vincent Loka, an engineering graduate – and came up with WaterOAM.

WaterOAM is a start-up that designs portable water filtration systems for use in disaster relief operations or rural communities without access to clean water.

The novel systems have since ben-

efitted more than 15,000 people, including communities in Indonesia, Cambodia, and Nepal.

“Growing up, I loved to tinker with the filter of my father’s fish tank. I would help him clean the tank every weekend and would examine how the filter worked,” said the environmental engineering graduate.

He would also take apart mechanical toys and put them back again.

His environmental engineering studies later gave him the relevant scientific knowledge and technical know-how to build his water filtration system.

“David is the one with the business skills and together we were able to take this social mission beyond the paper stage,” he said.

## INDEPENDENT

Mr Lim, who graduated from NUS’ Faculty of Engineering this year, did not have a privileged background.

His father, a sales manager, was the sole breadwinner, raising four boys.

His mother, a housewife, had to take on baby-sitting jobs to supplement their income.

The Lims also support his 80-year-old grandmother, who suffers from dementia.

“Though we were not wanting, it taught us to be contented and independent,” he said.

“We never took trips overseas but the time spent with my father cycling from Yishun to Seletar, playing basketball with my brothers and the

neighbourhood kids, or simply having dinner as a family at the kopitiam were the happiest and most memorable times I had growing up.”

To help reduce his family’s burden, Mr Lim applied for study loans and bursaries at NUS and worked as a private tutor to pay his fees.

Grateful to be living in Singapore and having access to educational resources, he wanted to pay it forward when he and his friends came up with the filtration system.

Their invention clinched the top prize in the 2014 Singapore Humanitarian Water Filtration Design Competition.

Since its inception, WaterOAM has received many accolades, including the 2015 Shell LiveWIRE Awards, the Rising HydroPreneur Star Award at the 2014 Singapore International Water Week Hydro Pitch Day and the NUS Enterprise Innovation Practicum Grant in 2015.

The company is being incubated at The Hangar, a startup facility managed by NUS Enterprise.

Building on the success of WaterOAM, Mr Lim and his cofounders are working on Fieldtrate Plus, a new water filtration system capable of producing 200 to 300 litres of water an hour, making it suitable for a community of 150 to 300 people.

The team is also working with non-governmental organisations in Cambodia and the Philippines to explore water distribution and operation processes in rural areas.



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