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Kampung innovators protect the Earth

They call themselves kampung innovators, this group of about 15 people who gather at a workshop in Yishun to create products which benefit humanity and the environment.

Their self-funded project is called the Sustainable Living Lab, founded by young Singaporeans Muhammad Ibnu Rashad Zainal Abidin and Veerappan Swaminathan, both 26, and Malaysian Tan Huei Ming, 25, after they graduated from National University Singapore in June last year.

The trio started the Sustainable Living Lab the same month with a grant from NUS Enterprise, a fund for students and recent graduates. They declined to say how much money they received.

They found a home with Ground Up Initiative, a local non-governmental organisation which promotes sustainable living, at its 1,300 sq m complex in Bottle Tree Park in Yishun.

Sustainable Living Lab operates in a 100 sq m shed-like building with shelves instead of walls. The semi-outdoor lab has saws, sanders and cutting equipment for wood, metals and plastics.

While Mr Tan is an assistant teacher in the engineering science programme at NUS, Mr Swaminathan and Mr Ibnu work at the laboratory full-time and with one other full-time employee.

To fund their efforts, they teach courses on humanitarian design and strategic thinking to schools, companies and government institutions.

The rest of the 15 innovators come in when they can, mainly on weekends. Any like-minded individual with any skill level is welcome to help develop products for the initiative or for the laboratory.

If they are making products for personal use, they must supply their own materials. If they are creating products for sale, the laboratory will work out a profit-sharing agreement.

Products developed by the lab are sold to help support it.

Mr Swaminathan and Mr Ibnu operate as team leaders in developing products, including furniture made of cardboard, a line of items made from discarded firemen's hoses which includes wallets, key chains and luggage tags.

Their most popular product is a bamboo amplifier called iBam, which they launched last November. The initial 30 pieces of their test design sold out online within weeks. Each amplifier costs \$49.

The product's second incarnation, iBam2, will be available for \$79 at Pasargora, their online store, after the Maker Faire.

A number of their products, games and prototypes will be on display at their Maker Faire booth next weekend.

The trio have a slew of awards to their name, including the Unesco-Daimler Mondialogo Engineering Awards in 2006/07 for work they did with Indian engineers to reduce food waste and increase farmers' profits in a rural community in India. They won the award again in 2008/09 for their work in water disinfection with another group of Indian engineers.

Mr Swaminathan is listed as a co-inventor of five bio-medical patents.

Mr Ibnu has had three papers published in international scientific journals, one of which was published when he was 15 years old.

All members of the NUS University Scholars Programme - they met in an engineering course during their second year - they could probably work in some of the best laboratories in Silicon Valley.

Yet Mr Ibnu and Mr Swaminathan decided to focus their efforts on the environment, developing innovative ways to turn waste material into saleable products.

Why? Because the earth matters. "The Earth affects everyone's lives every day. If we do not protect it, everything else is a moot point," says Mr Swaminathan.

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Mr Veerappan Swaminathan (above left), with Mr Tan Huei Ming (centre) and Mr Muhammad Ibnu Rashad Zainal Abidin