Solar-powered bamboo radio could prove a design for life for Madagascar

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(PhysOrg.com) -- A design student who has created a blueprint for a solar-powered radio, constructed entirely from bamboo, is hoping her idea will help build a social enterprise opportunity in Madagascar.

Becky Barber believes the innovative radios could simultaneously help establish a cottage industry in the poverty-stricken island, as well as play a key role in educational projects.

Becky, 22, developed the concept after many visits to Madagascar, where her parents have spent the last 26 years working for charities.

The University of Plymouth student said: “Over two thirds of the population exist below the poverty line, earning around $1 per day. So I have been really motivated to develop a project that would use the

education I have been lucky enough to enjoy, and the resources of the University, to provide opportunities for those not so lucky.

“The idea is that by using sustainable and naturally occurring resources in the construction of the radios, we can provide jobs and opportunities for people in Madagascar.”

After meeting with aid organisations on her most recent trip earlier this year, Becky found that they were very receptive to her proposed project, as radios could enable agencies to communicate with remote villages to provide both important health updates and also act as education channels.

So she worked on the designs, using sustainable materials, and found that with the plentiful supply of bamboo in certain areas of the country, the costs of production could be kept relatively low.

Becky said: “Bamboo is an amazing material - it has many of the properties of a hard wood but takes a fraction of the time to grow. And because of its natural structure, it produces a fantastic sonorous quality.

“If this takes off we could establish workshops in the country, provide good salaries, and put the means of production into their hands.”

Becky has produced two models - a desktop version and a portable one constructed from hand woven reeds - and the idea is to sell them both in Madagascar and also in England, where they will retail at a higher price to help provide the capital to fund further social enterprise projects.

Both models will be exhibited at the University of Plymouth Degree Show in June, and then again at New Designers in London in July. And the designs also helped Becky win the Social Enterprise Award at the University’s Business Ideas Challenge this week - with £250 and a

comprehensive support package to go along with it.

Once she has graduated, Becky, from West Sussex, will be looking to establish BOO Enterprise, possibly with the support of the University's Formation Zone business incubation unit.

And her design talents do not stop at radios - she will also be showcasing a low tech refrigeration system that uses evaporation to cool food, and a parasol that provides shelter from the sun in the day but which powers up a solar-fuelled light for use at night.

Professor Roberto Fraquelli, of the School of Architecture, Design and Environment at the University, said: "This is another fantastic example of how our students are taking real issues and problems and using them as the inspiration for their designs

"Becky has a unique first hand insight into the complex situation in Madagascar and her vision is powerfully simple - to raise aspirations and the standards of living."

Provided by University of Plymouth