GLOBAL CYCLE SOLUTIONS

CHALLENGE

- Approximately 2 billion people have no access to electricity today, 80% of whom live in rural areas of the developing world with an average income of less than $1-2 USD a day.

- Of these rural villagers, over 500 million smallholder farmers perform arduous and time-consuming daily tasks due to lack of available, affordable technology

How does it work: A universal adapter attaches to most bicycles and generates power, by pedaling, to an attachment through a second chain drive while the bicycle is mounted on a stand. Our first attachment is a corn sheller, used to remove kernels from the cob. The sheller works up to 40 times faster than traditional methods and allows farmers to complete the task quickly so the harvest can be safely stored. This prevents a loss of up to 20% of the harvest to rats and insects and directly increases the farmer's income. The sheller and stand are detachable to facilitate normal use of the bicycle. (More agricultural machine attachments are currently in development.)

We have also developed a cell phone charger that attaches directly to the bicycle and allows for anytime charging. This is particularly important for the vast majority of the population that has no access to electricity and has to travel great distances and pay exorbitant rates just to keep their phone charged.

Designers:	Jodie Wu Lisa Tacoronte Bernard Kiwia Local inventors
Manufacturers:	Karam Engineering Yieh Corp Local craftsmen (Tanzania, Kenya, and India) Tanganyika Farmers' Association TAGMARK
Contributors:	Local Agro-dealers
Sector:	Agriculture Energy Mobile
When:	June 2009
Where:	Operations: Tanzania/East Africa Headquarters: Massachusetts, USA
Cost:	Corn sheller/adapter set - $60 USD Mobile phone charger - $8 USD
Status:	Corn Shellers - 416 sold, 10.1 M Tanzanian shillings Mobile phone chargers - 586 sold; 2.9M Tanzanian shillings
FYI:	www.youtube.com/globalcyclesolutions @GlobalCycleSoln www.globalcyclesolutions.com/blog info@globalcyclesolutions.com www.globalcyclesolutions.com

Our Story: CEO Jodie Wu's idea was sparked when she returned from an MIT development class trip to Tanzania in 2008, frustrated at the inadequacies of solutions. She had brought a corn sheller that she worked on for most of the semester, expecting this intermediate technology to have profound impact. But she soon learned that the design's problems of seasonality, cost, weight, and the permanent alteration of the bicycle did not hold the answer for people earning $2/day. She realized that if she made it a removable bicycle attachment, it would be possible reach smallholder farmers with innovative pedal-powered technologies. The following summer, she returned to Tanzania with a novel prototype. This time, the prototype morphed into a small business that paid for itself in two weeks.
After that, the GCS team was formed, which developed a business plan that won MIT's $100K Business Plan Competition and launched in Tanzania. In August of 2009, the team won 2nd place at Arusha's Nane-Nane Agricultural Fair for northern Tanzania, and followed with 1st place at Mbeya's Nane-Nane Agricultural Fair for southern Tanzania in 2010. Jodie was also selected as a 2010 Echoing Green Fellow for GCS. The team grew to include Tanzanian sales staff and craftsmen, which led to the production of the bicycle phone charger invented by Bernard Kiwia, a Tanzanian. The team has also developed a supply chain and relationships with dealers and distributors to reach rural communities across Tanzania and in neighboring countries such as Zambia, Kenya and Uganda.