Back to Zambia

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Adam Lyman ‘15 goes back to Africa to work on bicycle powered bean thresher for farmers

Spartan Engineer Adam Lyman returns to Zambia next week to continue the research and development of a bicycle powered bean thresher for small-scale farmers in Zambia. The low-cost, human-powered thresher processes common beans four times faster than manual threshing.

Lyman (’15 mechanical engineering) said his Zambian adventure began in October 2015. Lyman works with MSU faculty members, Ronald C. Averill, associate professor of mechanical engineering, and University Distinguished Professor James D. Kelly, of the College of Agriculture and Natural Resources.

“My development team was awarded a competitive innovation grant from the Global Center for Food Systems Innovation, an international development lab based at MSU. "I spent the next seven months developing a new fully functioning prototype model thresher and collecting feedback from 300 farmers across three districts in Zambia.

“I tend to spend a lot of time and energy on my work and what I do,” he continued.

“It’s really rewarding to see that time and energy directly impacting the farmers that are resource poor. To be able to spend my time in a way that benefits the end user is rewarding for all parties.”

Video of Adam explaining GCFSI project.

Lyman noted that the bean thresher design actually began as a student project for the College of Engineering’s Design Day in 2014. The hand-built thresher was designed as part of Brian Thompson’s Humanitarian Engineering ME 491 class and later shipped to Guatemala farmers.
“Since then, the thresher has evolved into a full scale R&D project incorporating faculty members from MSU and local implementing partners in Zambia,” Lyman added.

Lyman is from DeWitt, Mich.