

Project Form D-Lab

This seminar seeks to engage UC Davis students with international clients working in global poverty challenges. By following a hands-on, project-based approach, students build through the course two final deliverables—a built prototype and Project Presentation.

Project Title:

Production of Pellets from Crop residual and their use in Gasifier stoves

Country/Community/Location:

Mukono District, Uganda

In-Country Partner Organization (include name, brief description, and website, if applicable):

Awamu Biomass Energy; a social enterprise that makes clean cooking gasifier stoves targeted for households in Rural and Peri-urban communities.
www.awamu.ug

Brief Proposed Project Background (250 words max)

We propose a franchising model for producing pellets from crop residues in rural communities as a means of generating value at the wastes, use of clean cooking gasifier stoves as alternatives to firewood fuel and creating employment and sources of revenue for rural households in Uganda. Awamu has partnered with a Bioburn which is a Swiss company and have piloted a local pellets production system, the two companies act as Franchisors. The strategic partnership is further enhanced by the fact that both companies have complementary products. The Pelletizers are manufactured locally in Uganda with only the nozzles and extruder imported from Switzerland. It also creates a sales system around a local Franchisee (Pelletizer operator) who works with local people to sell gasifier stoves and agro-waste pellets for cooking. Surplus pellets can be sold to peri-urban and urban communities.

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Brief Proposed Project Problem Statement (250 words max)

Over 90% of the Ugandan population relies on biomass fuels mainly firewood for cooking using the inefficient 3-stone stoves. Improved cookstoves are used in only 10% of over 6 million households. This results in massive pressure on the dwindling forest cover. Women spend at least five hours each day preparing meals for their households under smoky kitchens which exposes them to indoor air emissions which is responsible for nearly 20,000 deaths in Uganda due to respiratory illnesses. Women also walk an average of 20Km weekly to collect firewood which not only gets them fatigued, but also exposes them to rape and accidents.

Due to population growth in Uganda (3.3% - 2016) the demand for biofuels is expected to equally grow. This growth in biofuels consumption will inevitably lead to increased deforestation. Deforestation which is currently at 21.3% per annum in turn will accelerate climate change.

Once completed, please send to lcobolano@ucdavis.edu (Leanne Bolaño).
Thank you.