4-9-2014

Research exercise: ETHOS Earthen Stoves in Rural Africa

Juliana Lawniczak
University of Dayton, stander@udayton.edu

Kyle Slone
University of Dayton, stander@udayton.edu

Follow this and additional works at: http://ecommons.udayton.edu/stander_posters

Part of the Arts and Humanities Commons, Business Commons, Education Commons, Engineering Commons, Life Sciences Commons, Medicine and Health Sciences Commons, Physical Sciences and Mathematics Commons, and the Social and Behavioral Sciences Commons

Recommended Citation
http://ecommons.udayton.edu/stander_posters/442

This Book is brought to you for free and open access by the Stander Symposium at eCommons. It has been accepted for inclusion in Stander Symposium Posters by an authorized administrator of eCommons. For more information, please contact fricel@udayton.edu, mschlangen1@udayton.edu.
**ETHOS: Earthen Stoves in Rural Africa**

Juliana Lawniczak and Kyle Slone

Advisor: Candida Crasto

---

**Introduction**

- In Malawi, Uganda and other Rural African Countries recycling of waste products into useful products is rarely practiced
  - Deforestation is a growing issue in these countries
  - The use of more sustainable fuel sources such as briquettes is one way African countries are beginning to live more sustainably
  - Briquetting is the process of compressing biomass into solid shapes
  - Due to the abundant rice husks from rice mills, rice husk briquetting has the potential to greatly reduce the need to cut trees for fuel
- Such countries are also using rocket stoves
  - More fuel efficient stoves as a means for cooking

---

**Rice Husk Briquettes**

**Plans For This Summer**

- Work with local community to test and optimize the following briquette forming processes and increase stove efficiencies

**Advantages:**
- Reaches higher temperatures faster
- Rice Husk Readily available

**Disadvantages:**
- Requires a lot of force to make a dense briquette
- May require different stove

---

**Charcoal Briquettes**

**Advantages:**
- Less force required to compress
- 2 heat sources to cook

**Disadvantages:**
- Longer preparation time
- Different cooking conditions

---

**Rocket Stoves**

**Advantages:**
- Produces less smoke
- Requires less fuel resources

**Disadvantages:**
- More difficult to construct than traditional stoves
- Different cooking conditions

---

**Sources:**
- Additional stove pictures from:
  - http://hbrumerskyj.blogspot.com/2012/05/we-have-lift-off-rocket-stove.html