



Charcoal Briquettes

Cheap, environmentally-friendly bio fuel and devices

2.009 Blue Team A

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Target Market: Haiti

- Poorest country in Western Hemisphere
- 98% of Haiti is deforested
- Current wood fuel costs
 - Nearly 1/3 of \$520 yearly income

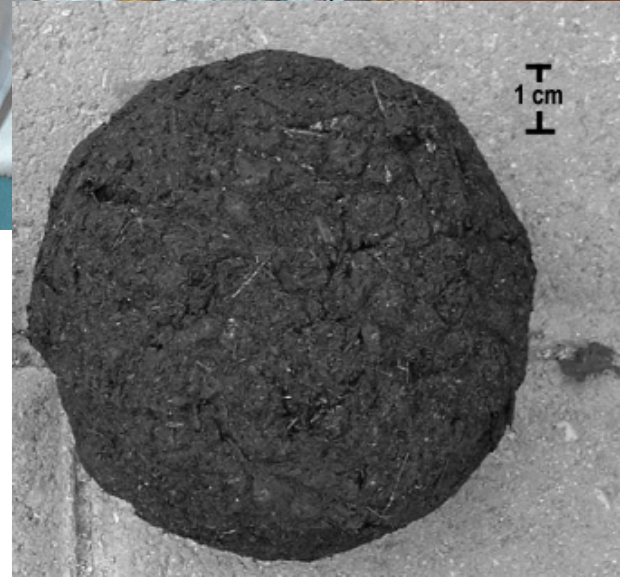


The Charcoal Solution

100g briquette = 3kg wood in burning power

- Smokeless fuel
- Long storage period
- Readily available and abundant
- Could save 15,000 hectares of forests per year

Making Briquettes

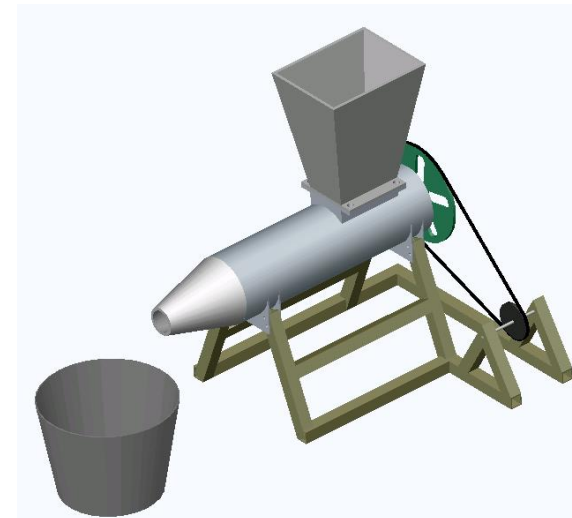
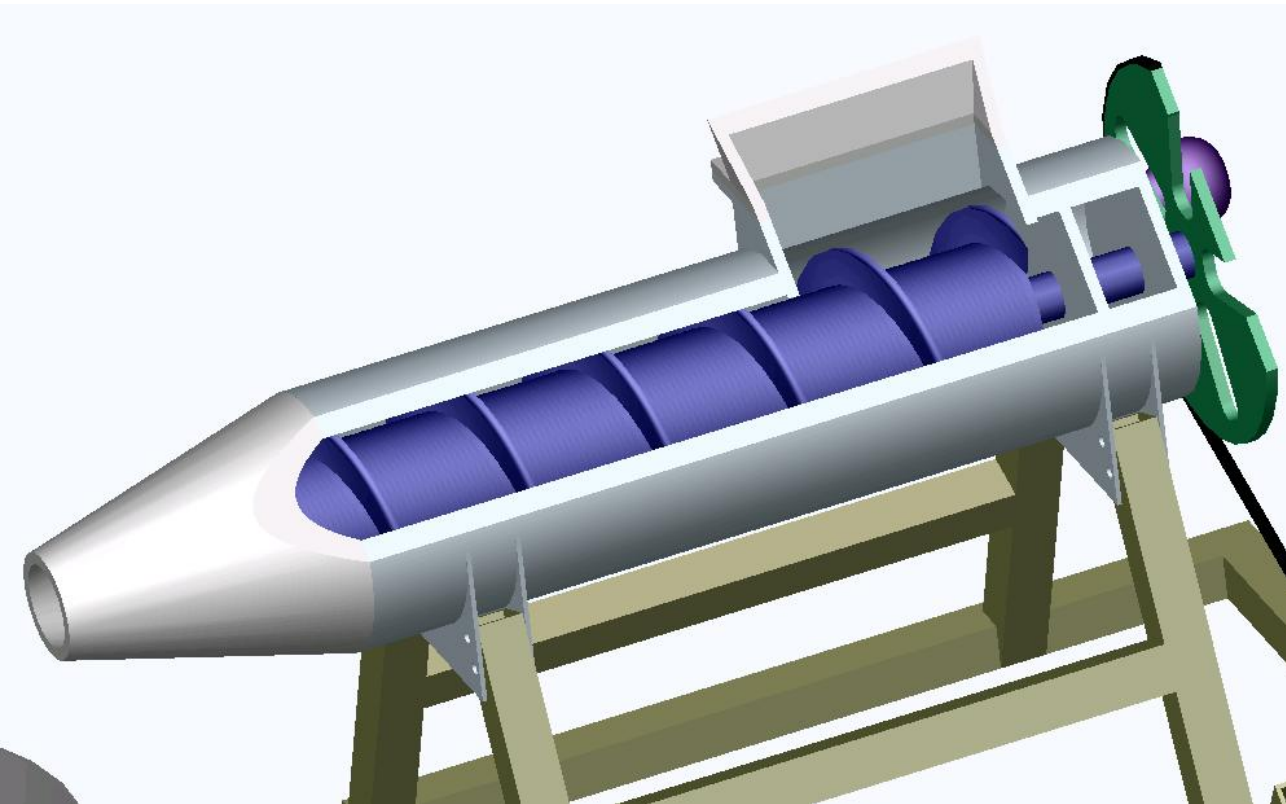




Extrusion Process

- Current commercial manufacturing technique
- Continuous production

Feedscrew Extrusion





Implementation

- Two workers take turns pedaling, loading/cutting
- Feedscrew easily removable for cleaning
- Can make charcoal for a large group of families

Design Constraints

- Use materials available in Haiti
- Buildable by local blacksmiths
- Low cost <\$100





Critical Features

- Nozzle (length, diameter)
- Feedscrew (torque, pressure)
- Bearing (cantilevered feedscrew)



Production Capacity

- 1-inch diameter nozzle, 4 inches long
- 3 cm/sec produced high quality briquettes
- Tradeoff between speed and quality