


D-Lab

Spring 2010

Development through
Dialogue, Design and Dissemination

Today's Class

- Logistics
- Charcoal Press Case Study
- Technology Case Studies
- Introduction to Mini Project

Logistics

- Project Selection (Mar 1)
  - Design challenge descriptions due for review by Wednesday, Feb 17
  - Slides due by noon on Wednesday, Feb 24

"Brute force engineering options often meet the criteria but somewhere there is a profound solution, which is simple, cheap, and beautiful. Hold out for this as long as possible."

- Kurt Kornbluth
Former D-Lab Instructor

Fuel from the Fields Charcoal Project

Forming Briquettes by Hand

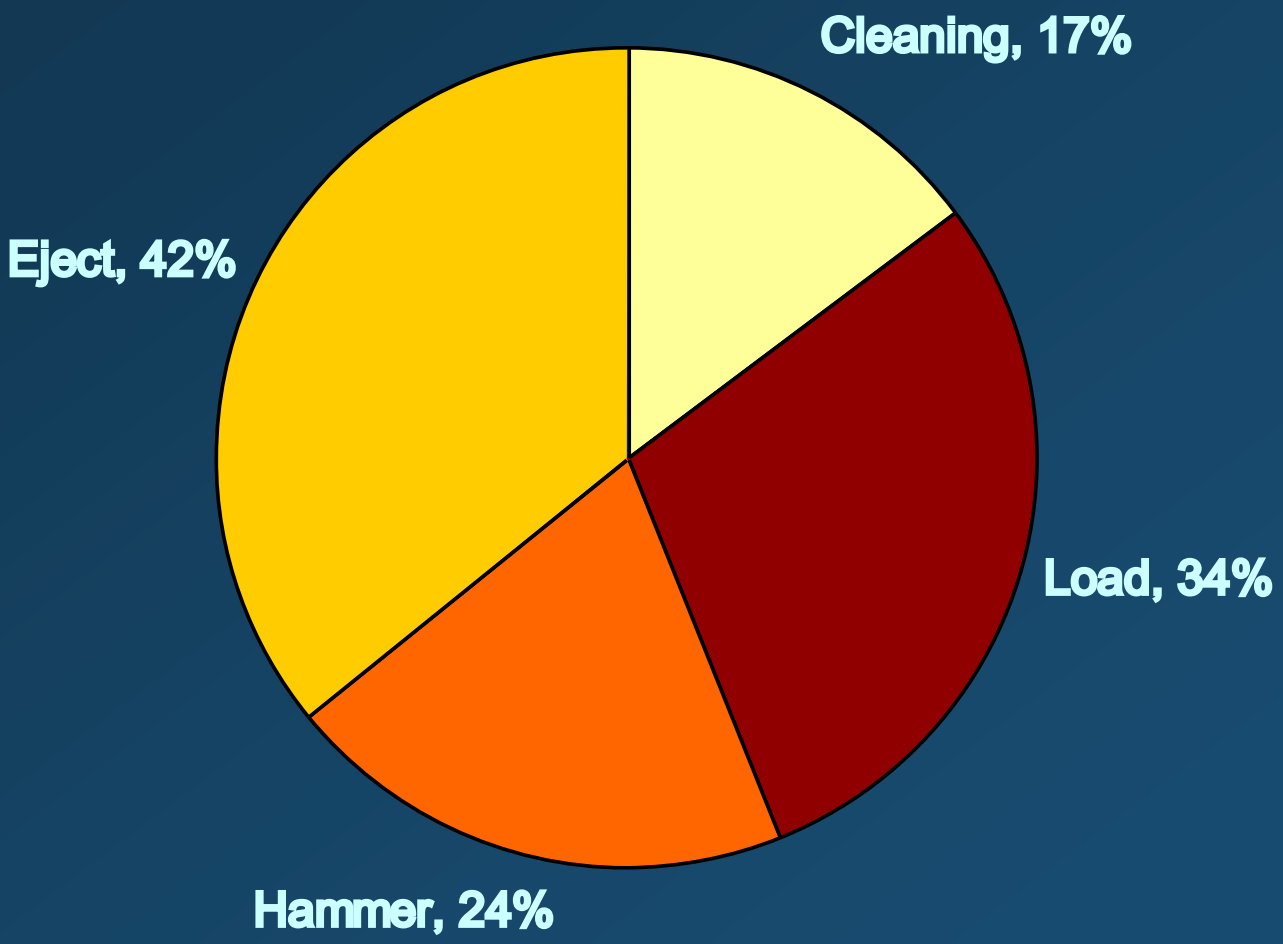
Fragile Briquettes

Mechanized Briquette Maker ~$8,000

The First Prototype: ~$25

4 - 5 Briquettes/minute

Time Study



6 - 8 Briquettes/minute, $30

$30 → $20

$20 → $2

10 - 12 Briquettes/min

"If you want to make something 10 times as cheap, remove 90% of the material."

- Amy Smith
D-Lab Instructor

"Brute force engineering options often meet the criteria but somewhere there is a profound solution, which is simple, cheap, and beautiful. Hold out for this as long as possible."

- Kurt Kornbluth
Former D-Lab Instructor

"Everything should be made as simple as possible, but not simpler."

- Albert Einstein

"Simplicity is the ultimate sophistication."

- Leonardo Da Vinci

Now, Even Simpler

Design Mini Project

Affordable Rainwater Harvesting

Background and Inspiration

- Pestel, Haiti
- Rainwater Harvesting Systems
  - Cisterns
  - Polytanks
- SODIS bags
- Tippy Tap
- IDE Drip Kits
- Paul Polak's divisible horse
- Pigs

Pestel, Haiti

Pestel, Haiti

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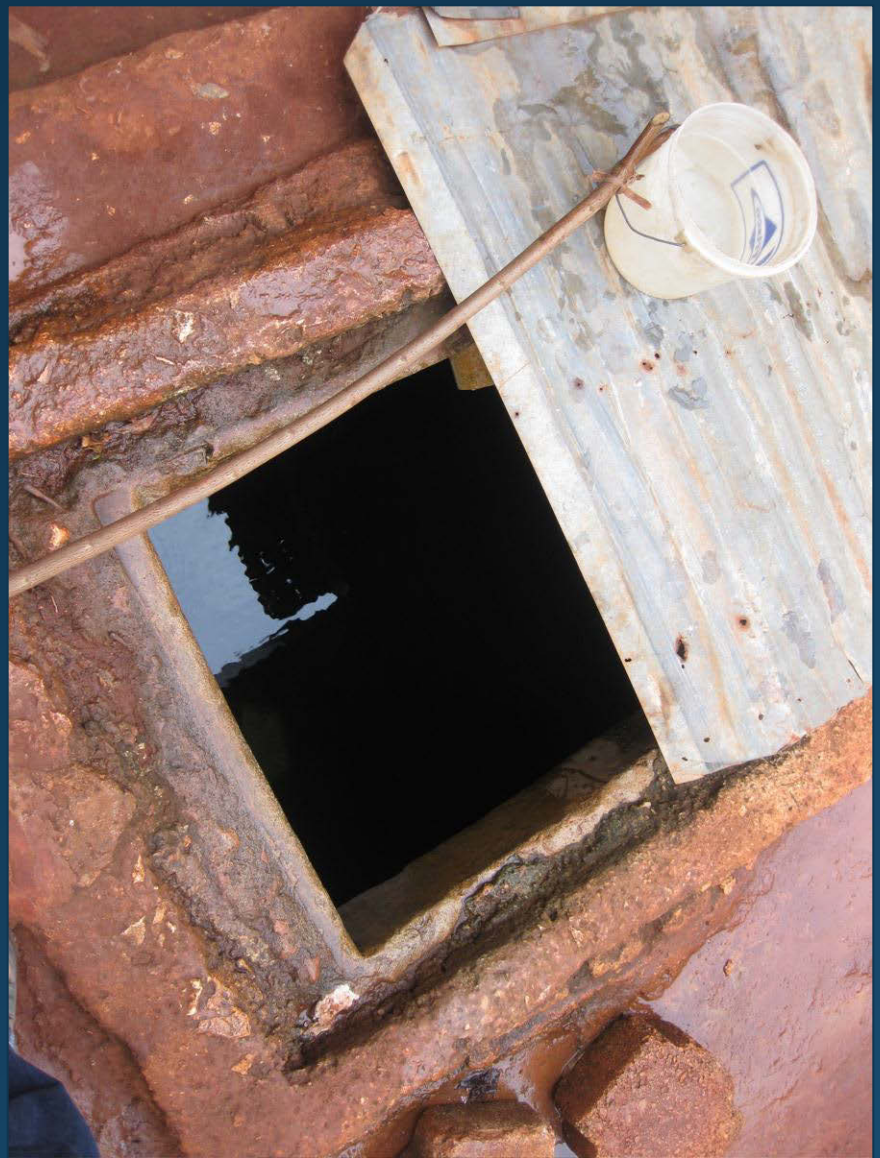

Pestel, Haiti

Other Storage Methods

Sodis

Tippy Tap

Paul Polak's Divisible Horse

Photo of pack horse carrying water cans removed due to copyright restrictions.

Pigs

Photo courtesy of gurdonark on Flickr.

Pigs

Coming up...

- Design Packet (v. 1.0)
- Mini Project
  - Information
  - Initial Ideas
- Project Selection (Mar 1)
  - Design challenge descriptions due for review by Wednesday, Feb 17
  - Slides due by noon on Wednesday, Feb 24

EC.720J / 2.722J D-Lab II: Design
Spring 2010