D-Lab: Energy

Week 7: Trip Prep & Review
AGENDA

• Presentations
• Quick Review/Catch-up
  • Solar Cookers
  • energy to boil water
• Trip Prep
  • getting good information
  • what would you do?
• Muddy Card
SOLAR COOKERS

concentrator
(parabolic)

box
(greenhouse)

combination
(panel)

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TRIP GOALS

- have well-identified, well-understood, well-documented projects, at least a few highly relevant to D-lab Energy and if available others for other D-lab classes in the future
- really understand the communities – needs, finances, health, education, culture, government structure, formal and informal leaders, lifestyles, work, etc.
- charcoal trainings / creative capacity building
Refugee Camp in Pader, Uganda
Technology demonstration in Amokolegwai
The hand corn sheller
Making corn shellers
Traditional grinding stones: a better way?
A commercial grinder
Making a pedal powered grinder
The pedal-powered grinder
Advantages

• Efficiency
• Effectiveness
• Self-Reliance
• Sustainability
Disadvantages of Participation

• Time
• Resources
  – Materials
  – Human
• Unpredictability
• Expectation management
Consultation vs Co-Creation

Community Involvement

Problem

Community Involvement

Solution

Idea Generation

Concept Evaluation

Detail Design

Testing & Evaluation

Fabrication
GETTING GOOD INFORMATION

**Barriers:**
- language
- translator issues
- educational backgrounds
- cultural backgrounds
- telling you want you “want” to hear
- wrong person

**Methods:**
- ask question different ways, multiple times
- ask multiple people
- demonstrate openness to criticism
- repeat answers back
- encourage questions
- verify expertise
- discuss goals/preferences with translator
GET TO THE CORE PROBLEM

• project specifications
  • observable/analyzable
  • quantifiable
• document WHAT not HOW

customer need: easy to find
design attribute: visibility
metric: color
unit: rgb
value: 255, 255, 0 (yellow!)

metric: time to spot
unit: seconds
value: less than 5

owner: Floyd
GET TO THE CORE PROBLEM

Questions

• tell me what would happen (story)

• how [big] is too [big]; how [small] is too [small]

• challenge requests (what if? what would happen if?)

• feedback on ideas, including known problematic ones

Take time to review knowledge; mental design process
PACKING LIST - MUST HAVES

• Not much needs to be bought new
• Pack lightly
• 50°F at night - as 100°F at day
• Conservative dress
• Toiletries: meds (2x), toilet paper or tissues, others you need
• Towel (small)
• Bug repellant & sunscreen
• Flashlight
• photocopy of passport
• notebook & waterproof pens/pencils
• nothing of value (jewelry, cameras, laptops, etc.)
GIFTS

D-Lab Boutique Gift Catalog

- 2 GB Bamboo Flash Drive
  - $16
- D-Lab Aluminum Sports Bottle
  - $5
- Draw String Bag
  - $5
MONEY

• charlie card

• $10 for entry visa

• cash: $20 bills or smaller, in good condition

• call bank/credit card companies to warn of travel

• US$50 probably sufficient (food (mostly pre-paid), gifts)
TRIP TIPS

• assume drinking water is unsafe (& therefore uncooked fruits/veggies)

• nothing expensive in sight (or, ideally, brought)

• travel in groups, especially at night

• flexibility and patience are key

• manage expectations with community partners
FORMS/CHECKS!

• D-Lab Emergency Contact Form
• MIT Student Travel Form
• $500 check made out to D-Lab
• Photocopy of passport

• If you don’t have all today, make plan with Amy
REMAINDER OF CLASS

• Micro-interviews
• Revise plan based on feedback from presentations
• Packing – how much checked luggage
• What do you need from D-Lab: email list to Amy by end of class
  • tools
  • cameras
  • mosquito nets
  • hammocks
  • other?
• do not leave unless interview is complete (or it’s 3)