

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**



**Solution**

Community Involvement

Idea Generation

Community Involvement

Testing & Evaluation

Concept Evaluation

Fabrication

Detail Design

# GETTING GOOD INFORMATION

## **Barriers:**

- language
- translator issues
- educational backgrounds
- cultural backgrounds
- telling you what 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!)

**owner:** Floyd

**metric:** time to spot

**unit:** seconds

**value:** less than 5

# 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 repellent & 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)*

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