

Survey of Countries for Projects

Handout: "Project Selection Form"

Based on the students' responses (interests, skills and experiences), students will be matched to particular projects. Some of the countries and projects introduced today may not happen if the interest or appropriate skills match isn't there.

Each trip leader gives a brief presentation on the country and potential projects. [Due to copyright considerations, the image-rich slides used in class cannot be presented in OCW.]

Haiti

Trip leader: Jamy Drouillard

Several sites are possible. D-Lab has been working with the primary site for 3 years. The secondary site has been working with funds donated by the Taiwanese government. The third site is agricultural projects, and has been working with Amy's grain mill.

Potential projects fall into several categories:

- Charcoal Bagasse: Students may look at fuel sources other than sugar cane waste, since there's not enough cane to serve the total fuel need.
- Artisan support, in collaboration with organization Aid to Artisans.
- Energy: a solar panel project in collaboration with a Boston area high school
- Agriculture: exploring opportunities with bamboo and coffee, plus micro-enterprise schemes for off-season income.

There is a long list of potential community partners. The final composition of the team and other logistics will trim the list down to final partners.

Q: What are the expectations for language fluency? A: We will strive to have at least one fluent native language speaker for every three students.

Honduras

Trip leaders: Marta Fernandez Suarez and Elizabeth Basha

In this region, a well-established NGO is a great technical partner. Most of the projects being considered are their suggestions.

After a devastating 1998 hurricane, many people were resettled to a community called MCA, on land that's agriculturally "sterile" – not originally well suited to farming

There are several projects related to water quality

- The community has 5 borehole wells, but residents still tend to get their water from the river. Why?
- The NGO is installing composting latrines. A D-Lab team could perform analysis on the installation and explore design enhancements.
- Gray-water recycling: start to develop a project proposal by studying family use patterns.

Other projects may include: creating fertilizer from chicken waste; testing wind and/or solar powered pumps for watering cattle; appropriate cooking fuels; improved process to make mud tiles

Another possible project is to expand and improve an automatic Early Warning System for river floods. A prototype (previous MIT Ideas Competition winner) has been developed and installed; sensors 100km upriver from a community will trigger a radio warning to the community if floodwaters are detected.

India

Trip Leader: Sam Davies

The project will be in Punjab. It's a relatively "well-off" region, not at all rural; electricity is available all the time, residents have satellite dishes, etc. The region benefits from government-subsidized infrastructure intended to make India largely self-sufficient in its food supply. There is a good supply of resources and skilled artisans, capable of making custom-ordered components (e.g. pots, drums).

Students at a local technical school (SLIET) will be key community partners.

Possible projects:

- Expand the Pot-in-Pot cooling technology. Explore micro-enterprise schemes to scale it up; evaluate a scheme to apply pot-in-pot techniques for room-sized cooling.
- Charcoal briquettes made from rice straw, in place of commonly used cow-dung fuel.
- Fertilizer manufacture: vermicomposting (with worms) has some promise but current schemes are too expensive.

Lesotho

Trip Leader: Matt Orosz

Soil erosion is a major problem in Lesotho (see slide photos). Subsistence agriculture and livestock herding are predominant, and even more important recently as closed mines in the area have driven workers back home.

Bethel, an NGO that promotes "cutting edge sustainable development" solutions, will be the community partner.

Parabolic solar ovens are a likely project. Bethel has been working with a parabolic trough design derived from another MIT Ideas Competition winner. It's currently used for cooking, and may also be extended to drive steam

engines. The project would be to work on transferring the design and fabrication technologies into Bethel's hands.

Mexico

Trip Leader: Paulina Baride

The community partner is a government ministry, a fairly new organization (~10 years old) with a lot of ideas.

The ministry has suggested five candidate micro-regions to target with development projects, based on their having strong influence in surrounding communities.

Samoa

Trip leader: Sala Maguine

The local Peace Corp organization is the community partner.

The Peace Corp director has suggested that walnut trees should be cultivated. They grow there already but no significant harvest or commerce exists around them.

Another possible project is to improve water storage solutions, especially ways to keep mosquitoes out of stored water.

Zambia

Trip leader: Kurt Kornbluth

Mwape is 400 km from the closest major city, and 50km off the nearest road. Not much history with NGOs.

UNZA installed a biogas digester at the Manchichi water treatment facility, but it isn't working. Why?

Mwape has two borehole wells for water supply, but they are not monitored for safety.

There are two grain mills but only one works.

The University of Zambia has a technology transfer unit, may be a good community partner.

DISCACARE is a likely partner. For instance, they'd like to know how their wheelchairs really fare out in the field. They would also like some CAD (computer-aided design) training as the next step in building local capacity.

Brazil

Trip leader: Leo Burd

[Note-taker missed this presentation.]