

ILLINOIS INSTITUTE OF TECHNOLOGY

PROJECT PLAN

I PRO 325

Advisors: Prof. Ferguson & Prof. Schug

**Developing affordable products for the rural poor of the
world**

IPRO 325 Project Plan

Section 1.0

OBJECTIVES

IPRO 325's objective is to create a program at IIT which looks to make an impact in the most immediate problems dealing with the world's rural poor. We seek to do this via the following objectives:

- Extend our current research
- Create working prototypes of products for the world's poor in each of our subgroups
- Raise awareness on campus about the problems facing the world's poor
- Further develop the idea of the IIT Affordable Village and make recommendations on how to proceed

Section 2.0

PROJECT BACKGROUND

Inadequate **shelter** is one of the many problems that plague poor people across the globe. Some 2 billion people worldwide live in poverty housing. More than 1 billion live in urban slums, and that figure is expected to double by 2030. What's more, many of these people earn less than US\$2 per day; a stifling figure considering that housing is the single largest investment for the majority of global citizens. The initial cost of materials and property required to erect a shelter is compounded by the need to maintain it. Add to this equation the unforeseen forces of civil conflict, economic fluctuations and natural disasters that have the potential to destroy this fragile investment and it's easy to understand why so many people are living in sub-human conditions.

Consequences of housing problems extend beyond the dwelling footprint. The high cost of housing leaves low-income families little money for other basic necessities like food, clothing or health care. Substandard housing can endanger the health and safety of its occupants, erode their hope and self-worth, and impair their children's ability to succeed in school. In socially unstable regions, housing is often the first human necessity to be compromised, exacerbating problems caused by instability on other fronts.

Organizations everywhere are trying to ease the burden of shelter problems worldwide. Organizations like Habitat for Humanity have multi-national support in their efforts. Through volunteer labor and donations of money and materials, Habitat builds and rehabilitates simple, decent houses with the help of the homeowner (partner) families. The organization has built more than 200,000 houses around the world, providing more than 1,000,000 people in more than 3,000 communities with safe, decent, affordable shelter.

IPRO 325's Shelter SubGroup seeks to learn from organizations, like Habitat for Humanity, in order to develop an extremely affordable product that could be easily and quickly implemented. We will focus specifically on one shelter problem, inadequate structural support. By studying the causes and effects of this one problem, as well as selecting a region of the world where it is prevalent, our subgroup hopes to develop a product that can begin to offer a remedy.

Two billion people across the world don't have access to affordable **energy**. This leads to lack

of communication, lack of proper lighting at night, inadequate food processing, inadequate storage of vaccines and other medications, and other basic needs that people in developed countries take for granted. Work, which is usually performed by machines, is done by people. Often times this work is heavy and hazardous, and takes a lot of time that can be spent on practical tasks.

Traditional energy sources (fossil fuels, nuclear energy, etc.) are environmentally harmful and become more and more expensive, because they are not sustainable. The use of firewood for cooking and heating has led to deforestation in many areas of the world. For example, just in Africa 1000lb of wood per person are used annually for cooking. Using firewood for cooking is also hazardous, since it can cause fires (especially in regions with dry climate) and smoke inhalations can lead to serious health problems.

Many organizations are dedicated to fight problems like this, by developing and introducing affordable products that can be easily maintained by local people.

The IPRO 325 Energy group is committed to join their effort, and conduct an extensive research on affordable energy sources like the sun and the wind, and develop at least one prototype that addresses a specific issue.

Water is fundamental to life, without it we cannot survive. Seventy-five percent of the world is covered with this precious resource, yet for much the world's poor water issues continue to plague them. Of the some 2 billion poor people living on less than \$3 a day, approximately 1.1 billion of them lack access to clean water; millions more lack enough to water their crops.

Through research from the previous semester, such water issues have been categorized into three major components: access, sanitation, and irrigation.

The problem of access refers not merely to a complete physical lack of water in a given region, i.e. the Sahara Desert, but rather to adequate access of clean water sources. Piped water into households averages about 85% for the wealthiest 20% of the population, compared with a slight 25% for the poorest 20% of the population. For many of these poor, their only access to water is from riverbeds and lakes, much of which have become increasingly polluted from industrialization or have dried up completely from misuse by these industries, making the nearest water source many miles away from their homes.

Issues of sanitation and irrigation problems are many times a direct cause of the lack of access to clean water for much of the rural poor population. More than 5 million people die annually from water-borne, water-based, water-related diseases every year. These illnesses many times a result of cultural practices or lack of advanced sanitary knowledge. In addition, farmland in rural areas in many times so over used through poor farming practices that deforestation, desertification, and soil erosion has occurred. Such damage to the environment strips the earth of its natural defenses against bacteria causing diseases.

Organizations throughout the world have been working to educate the poor communities to help address and solve these issues, yet there are simply too many people affected for them to reach each and every one of them.

Our sub-team aims at creating and initializing a program here at IIT where students can be directly involved in helping to fix such water problems.

Section 3.0

METHODOLOGY

SHELTER

- **The Problem**

The problem is to study the issues of the world's rural poor as they relate to shelter and

propose a prototype to remedy as many of these problems as possible.

- **Methodology**

In order to identify the best solution to the shelter problems of the world's rural poor, our subgroup must:

- Identify the problems associated with shelter that plague the world's rural poor and identify those which are most pervasive, globally
- Identify organizations that are working to solve shelter problems of the world's poor, establish contacts within these organizations
- Compile a list of all possible solutions to the causes and effects of the acute shelter problem selected earlier
- Select one solution on which to focus the development phase, based on the following criteria:
 - Greatest positive effect (solves multiple problems)
 - Greatest possible reach (solves problems in multiple regions)
 - Affordability
 - Ease of local production
 - Ease of local material acquisition
 - Ease of maintenance
 - Speed of implementation
 - Safety of implementation
 - Profitability
 - Ability to be implemented by this student group
- In order to develop a prototype of the selected solution, we will need to:
 - Establish contacts with expertise on working with the solution system/ materials
 - Design prototype
 - Acquire materials for prototype
 - Assemble prototype
- Assemble sample "aid package":
 - Acquire any materials not locally accessible
 - Design instructional material required to implement the prototype
 - Assemble "aid package"
- Complete final deliverables:
 - Final Report (upload to iGroups)
 - Final Presentation (upload to iGroups)

This procedure should result in a prototype solution that is ready for production and implementation. Simultaneously, each group member will produce three research papers, each on a different shelter problem of the rural poor. In order to do this each student must:

- Select three problem topics
- Research problem causes, effects, and groups working to provide solutions
- Suggest possible IPROs based on these findings
- Assemble findings into a scholarly paper
- upload to iGroups

ENERGY

To achieve our objective, our sub-group must:

- Summarize the results of the research conducted last semester

- Identify specific problems related to energy, and identify those, which are most fundamental
- Compile a list of possible solutions, and list the advantages and disadvantages of each one
- Identify and contact companies and organizations that have experience in this field
- Select one solution and on which to focus the development, based on the following criteria:
 - Greatest Impact (addresses most fundamental problems)
 - Affordability
 - Ease of use and maintenance
 - Ease of production with local materials
 - Safety

In order to develop a prototype of the selected solution, we must

- Conduct extensive research on existing information about the selected device
- Establish contacts with experts working with/on the particular solution
- Outline preliminary design
- Compile list of materials
- Acquire the needed materials
- Assemble the prototype

After assembly the prototype will be put to extensive testing to prove its practical application and efficiency and the design will be modified if necessary.

The last stage will be to complete the final deliverables

- Final Report
- Final Presentation

Simultaneously, each team member will produce a research paper in one of four energy-related areas

- Wind Energy
- Water Energy
- Solar Energy
- Biogas

The research will include

- Availability of energy source
- Converting energy source into useful energy
- Potential benefits
- Social Impact

The purpose of this research will be to propose future IPRO that can tackle the problem

WATER

1. Illuminate the seriousness of the water issues all around the world, showing the credible quantitative data.
2. Identify organizations currently working to alleviate water issues amongst the rural poor of the world and establish contacts within these organizations.
3. Given the broad research from the previous semester, we will narrow down the scope of

the project to a single global region in which to focus our efforts. We will do this using a set criteria of:

- a. Pervasiveness of problem
 - b. Stability of country
 - c. Timezone (relative distance to IIT)
 - d. Degree of language barrier
 - e. Climate
4. Identify most serious water issue plaguing the region (access, sanitation, irrigation)
- a. Develop criteria for evaluating methods that address said problem
 - b. Research existing methods/technology used in region (if any)
 - c. Evaluate methods/technology used in region
 - i. Greatest positive effect
 - ii. Greatest negative effect
 - iii. Affordability
 - iv. Profitability
 - d. Investigate alternative methods/ technology used in other regions that could be applied to our region
 - i. Greatest positive effect
 - ii. Greatest negative effect
 - iii. Affordability
 - iv. Profitability
5. Select one solution on which to develop and introduce into the said region, based on the following criteria:
- a. Greatest positive effect
 - b. Greatest negative effect
 - c. Affordability
 - d. Ease of local production
 - e. Ease of maintenance
 - f. Ease of local material usage
 - g. Profitability opportunities for locals
 - h. Ability to be implemented by student group
6. Develop a plan in which to introduce/ implement the solution to the said region
- a. Learn how to surpass/adapt to cultural barriers
 - b. Investigate political implications of introduction
 - i. Here
 - ii. There
7. Stage an event on the IIT campus to gain awareness of water issues affecting the poor
8. Provide a series of speakers to the IIT community to talk about their experiences and work in areas of the rural poor throughout the world.
9. Complete final deliverables
- a. Final report
10. Final presentation

Section 4.0

EXPECTED RESULTS

The **shelter** subgroup intends to produce an affordable wall system prototype that will remedy the problem of inadequate structural support in a selected region. We expect to perform preliminary tests on our prototype and ready the package for extensive field-testing through a partner organization. Our prototype “aid package” will include an illustrated instructional manual used to educate potentially uneducated constituents on materials and methods of product construction.

Additionally, we expect to produce nine research papers on nine shelter problems, including recommendations for future IPROs/ EnPROs. They are: homelessness and squatting, lack of buildable land area, inadequate structural support, inadequate roofing, inadequate thermal protection, inadequate water infiltration protection, inadequate pest protection (rodent and insect) inadequate sanitation, and occupant overcrowding.

The **water** sub-team intends to produce a well-defined, well-manageable plan in which to introduce an affordable prototype into a region/village that will solve one or more of their water issues. We expect to create the necessary relationship with a given organization to work with a future IPRO student group to travel to the region in the coming semester and implement the prototype.

We hope to create a working prototype in the **energy** subgroup that can truly impact the quality of life of people living in impoverished areas of the world. We would like to demonstrate our prototype on IPRO Day. We hope to see at least one of our propositions to develop as a future IPRO Project that continues our effort of fighting poverty around the world.

Two or three speakers are expected to come to IIT’s main campus in an attempt to create awareness about the problems the poor are facing in actuality; it is also expected that the speakers will contribute with valuable insight on particular and practical ways on how to address the three problems chosen.

In addition to the IIT faculty that have joined the IPRO, we are also expecting to find private companies and organizations with which IIT could possibly partner in the development of the project.

Our main goal for this Spring 2007 semester is to set the foundations for future IPROs to continue building on this project. We realize that poverty is not a new problem and has been part of reality since antiquity; however, we do know that it is potentially possible that any individual, organization, government, or nation as a whole can contribute with as little or as much as possible as his/her/its own possibilities enable him/her/it. Consequently, we expect that our effort throughout this semester will be of help for future IPROs so that this initiative is seriously considered, and IIT becomes a known institution for contributing on the fight against poverty around the world.

Section 5.0

BUDGET

Activities	Expenses
Shelter	
-Copying/ Printed Materials	\$150
-Prototype Materials	\$50
Water	
-Prototype Materials	\$300
Energy	
-Prototype and Materials	\$350
-Travel	\$100
Speaker Series	
-Projector	\$250
-Posters	\$200
-Gift	\$100
-Limousine	\$100
-Hotel	\$350
-Reception	\$550
ESTIMATED GRAND TOTAL	\$2,500

Section 6.0

SCHEDULE OF TASKS AND MILESTONE EVENTS

ENERGY

☐ Semester-long Research	41 days	Thu 1/18/07	Thu 3/22/07	
☐ Wind	41 days	Thu 1/18/07	Thu 3/22/07	Nikola
Identify Problems	3 days	Thu 1/18/07	Sat 1/20/07	
Identify Solutions	3 days	Thu 1/25/07	Sat 1/27/07	3
Research one solution	6 days	Sun 2/18/07	Sun 2/25/07	4
Propose future IPRO to develop the	2 days	Mon 3/19/07	Thu 3/22/07	5
☐ Water	41 days	Thu 1/18/07	Thu 3/22/07	Danny
Identify Problems	3 days	Thu 1/18/07	Sat 1/20/07	
Identify Solutions	3 days	Thu 1/25/07	Sat 1/27/07	8
Research one solution	6 days	Sun 2/18/07	Sun 2/25/07	9
Propose future IPRO to develop the	2 days	Mon 3/19/07	Thu 3/22/07	10
☐ Solar	41 days	Thu 1/18/07	Thu 3/22/07	Nirav
Identify Problems	3 days	Thu 1/18/07	Sat 1/20/07	
Identify Solutions	3 days	Thu 1/25/07	Sat 1/27/07	13
Research one solution	6 days	Sun 2/18/07	Sun 2/25/07	14
Propose future IPRO to develop the	2 days	Mon 3/19/07	Thu 3/22/07	15
☐ Biogas	41 days	Thu 1/18/07	Thu 3/22/07	Jeremy
Identify Problems	3 days	Thu 1/18/07	Sat 1/20/07	
Identify Solutions	3 days	Thu 1/25/07	Sat 1/27/07	18
Research one solution	6 days	Sun 2/18/07	Sun 2/25/07	19
Propose future IPRO to develop the	2 days	Mon 3/19/07	Thu 3/22/07	20
☐ Phase I: Research	24 days	Thu 1/18/07	Sun 2/18/07	
☐ The Concept of Solar Cooking	2 days	Thu 1/18/07	Fri 1/19/07	All
Introduction	2 days	Thu 1/18/07	Fri 1/19/07	
How it Works	2 days	Thu 1/18/07	Fri 1/19/07	
Why use it	2 days	Thu 1/18/07	Fri 1/19/07	
☐ Group Research	9 days	Sat 1/20/07	Thu 2/1/07	25
Identify Advantages and Disadvant	4 days	Sat 1/20/07	Thu 1/25/07	Danny
Social Impact of Solar Cookers	4 days	Sat 1/20/07	Thu 1/25/07	Nirav
Identify Potential Technical Problem	4 days	Sat 1/20/07	Thu 1/25/07	Jeremy
Look into Existing Designs	4 days	Fri 1/26/07	Mon 1/29/07	All
Identify Villages for Implementation	1 day	Thu 2/1/07	Thu 2/1/07	Danny,Nirav,Jeremy
Presentation of Achievements	1 day	Fri 2/2/07	Fri 2/2/07	29
Project Plan	1 day	Sat 2/3/07	Sat 2/3/07	35
Field Trip to Sun Ovens Internation	1 day	Fri 2/16/07	Fri 2/16/07	All
Outline a Preliminary Design	5 days	Mon 2/12/07	Sun 2/18/07	All
☐ Phase II: Creating a Prototype	16 days	Mon 2/19/07	Mon 3/19/07	24
☐ Design Group 1	16 days	Mon 2/19/07	Mon 3/19/07	Nikola,Danny
Perform Pre-tests	5 days	Mon 2/19/07	Sun 2/25/07	
Create List of Materials	2 days	Mon 2/26/07	Thu 3/1/07	43
Obtain the Required Materials	2 days	Fri 3/2/07	Sat 3/3/07	44
Build a Prototype	7 days	Sun 3/4/07	Mon 3/19/07	45
☐ Design Group 2	16 days	Mon 2/19/07	Mon 3/19/07	Jeremy,Nirav
Perform Pre-tests	5 days	Mon 2/19/07	Sun 2/25/07	
Create List of Materials	2 days	Mon 2/26/07	Thu 3/1/07	48
Obtain the Required Materials	2 days	Fri 3/2/07	Sat 3/3/07	49
Build a Prototype	7 days	Sun 3/4/07	Mon 3/19/07	50
☐ Phase III: Testing and Implementation	18 days	Thu 3/22/07	Sat 4/14/07	41
Carry out experiments to test prototype	6 days	Thu 3/22/07	Thu 3/29/07	
Modify the design based on the results	4 days	Fri 3/30/07	Mon 4/2/07	55
Identify organizations and institutions to	5 days	Thu 4/5/07	Mon 4/9/07	56
Prepare Final Report and Presentation	3 days	Thu 4/12/07	Sat 4/14/07	57

SHELTER

<input type="checkbox"/> Phase I: Research	35 days	Thu 1/18/07	Mon 3/5/07		
<input type="checkbox"/> Individual Research	7 days	Thu 1/18/07	Fri 1/26/07		
Review of Previous Semester's work	7 days	Thu 1/18/07	Fri 1/26/07		Sung Koo
Shelter Problems	7 days	Thu 1/18/07	Fri 1/26/07		Ricardo
Organization Search	7 days	Thu 1/18/07	Fri 1/26/07		Tony
<input type="checkbox"/> Contacts	1 day	Sat 1/27/07	Sat 1/27/07	2	All
Establish contacts within IIT	1 day	Sat 1/27/07	Sat 1/27/07		
establish contacts with organization:	1 day	Sat 1/27/07	Sat 1/27/07		
<input type="checkbox"/> Group Research	4 days	Sun 1/28/07	Fri 2/2/07	6	
Form Global Problem Matrix	4 days	Sun 1/28/07	Fri 2/2/07		Tony
Form Selection Criteria	4 days	Sun 1/28/07	Fri 2/2/07		Sung Koo
Assemble Presentation	4 days	Sun 1/28/07	Fri 2/2/07		Ricardo
Present Findings	1 day	Mon 2/5/07	Mon 2/5/07	9	All
Project Plan	6 days	Thu 2/8/07	Thu 2/15/07	13	Tony
<input type="checkbox"/> Survey Solutions	4 days	Fri 2/16/07	Mon 2/19/07	14	All
Determine Focus Location	3 days	Fri 2/16/07	Sun 2/18/07		Ricardo
Contact Experts	3 days	Fri 2/16/07	Sun 2/18/07		Tony
Form List of Solutions	3 days	Fri 2/16/07	Sun 2/18/07		Sung Koo
Apply Selection Criteria	3 days	Fri 2/16/07	Sun 2/18/07		Ricardo
Select Solution	1 day	Mon 2/19/07	Mon 2/19/07	19	All
Outline a Preliminary Design	5 days	Mon 2/26/07	Mon 3/5/07	15	All
<input type="checkbox"/> Phase II: Fabrication	23 days	Thu 3/8/07	Sat 4/14/07	1	
<input type="checkbox"/> Finalization	20 days	Thu 3/8/07	Mon 4/9/07		
Confirm Design with Experts	2 days	Thu 3/8/07	Fri 3/9/07		Tony
Finalize Design	2 days	Sat 3/10/07	Sun 3/18/07	25	Sung Koo
Create List of Materials	2 days	Mon 3/19/07	Thu 3/22/07	26	Ricardo
Obtain the Required Materials	2 days	Mon 3/26/07	Tue 3/27/07	27	All
Build a Prototype	7 days	Wed 3/28/07	Mon 4/9/07	28	All
<input type="checkbox"/> Assemble Aid Package	3 days	Tue 4/10/07	Sat 4/14/07	24	
Assemble Non-Native Materials	1 day	Tue 4/10/07	Tue 4/10/07		All
Design Instructional Material	3 days	Thu 4/12/07	Sat 4/14/07		Tony
Assemble Package	1 day	Thu 4/12/07	Thu 4/12/07	31	Ricardo
<input type="checkbox"/> Phase III: Testing and Implementation	9 days	Sun 4/15/07	Fri 4/27/07	23	
Modify the design based on testing	2 days	Sun 4/15/07	Mon 4/16/07		Tony
Submit Research to Partner Organization	2 days	Sun 4/15/07	Mon 4/16/07		Sung Koo
Prepare Final Report and Presentation	7 days	Tue 4/17/07	Thu 4/26/07	37	All
I PRO day	1 day	Fri 4/27/07	Fri 4/27/07	38	

WATER

<input type="checkbox"/> Phase I: Background & Regional Research	19 days	Thu 1/18/07	Sun 2/11/07		
<input type="checkbox"/> Group Research	7 days	Thu 1/18/07	Fri 1/26/07		
Review F06 research	2.33 days	Thu 1/18/07	Sat 1/20/07		Justin,Brian,Jaime
World Water Issues	3.5 days	Thu 1/18/07	Sun 1/21/07		Justin,Jaime
Organizations Involved	7 days	Thu 1/18/07	Fri 1/26/07		Brian
<input type="checkbox"/> Individual Research	1 day	Sat 1/27/07	Sat 1/27/07	2	
Africa	1 day	Sat 1/27/07	Sat 1/27/07		Justin
Latin America	1 day	Sat 1/27/07	Sat 1/27/07		Brian
Southern Asia	1 day	Sat 1/27/07	Sat 1/27/07		Jaime
<input type="checkbox"/> Region Criteria	9 days	Sun 1/28/07	Fri 2/9/07	6	All
Identify Area of Severe Water Problems	4 days	Sun 1/28/07	Fri 2/2/07		Jaime,Justin,Brian
Identify Climate	4 days	Sun 1/28/07	Fri 2/2/07		Jaime,Justin,Brian
Identify Population Affected	4 days	Sun 1/28/07	Fri 2/2/07		Jaime, Justin,Brian
Identify Ease of travel for IIT students	4 days	Sat 2/3/07	Thu 2/8/07	13	Jaime,Justin,Brian
Identify Villages for Implementation	1 day	Fri 2/9/07	Fri 2/9/07	14	Jaime,Justin,Brian
Presentation of Achievements	1 day	Thu 2/8/07	Thu 2/8/07		All
Project Plan	1 day	Sun 2/11/07	Sun 2/11/07	16	Jaime
<input type="checkbox"/> Phase II: Designing a Solution	34 days	Mon 2/12/07	Sat 4/7/07	1	
<input type="checkbox"/> Group Research	12 days	Mon 2/12/07	Thu 3/1/07		
Identify most sever problem of village	1 day	Mon 2/12/07	Mon 2/12/07		Brian
Research Existing methods/technologies	2 days	Thu 2/15/07	Fri 2/16/07	22	Brian
Investigate alternative methods/technologie	2 days	Sat 2/17/07	Sun 2/18/07	23	Jaime
Develop criteria for evaluating methods	7 days	Mon 2/19/07	Thu 3/1/07	24	Justin
<input type="checkbox"/> Evaluating Solutions	8 days	Fri 3/2/07	Sun 3/18/07	21	
Identify Possible Positive and Negative Effe	2 days	Fri 3/2/07	Sat 3/3/07		
Assess Affordability	2 days	Sun 3/4/07	Mon 3/5/07	27	
Assess Profitability	2 days	Thu 3/8/07	Fri 3/9/07	28	
Assess ease of implementation	2 days	Sat 3/10/07	Sun 3/18/07	29	
Assess ease of local production	2 days	Fri 3/2/07	Sat 3/3/07		
Assess ease of material acquisition	3 days	Fri 3/2/07	Sun 3/4/07		
Ability to be implemented by student group	2 days	Fri 3/2/07	Sat 3/3/07		
<input type="checkbox"/> Research Organizations	2 days	Fri 3/2/07	Sat 3/3/07	21	
Peace Corps	2 days	Fri 3/2/07	Sat 3/3/07		
WaterAid	2 days	Fri 3/2/07	Sat 3/3/07		
World Vision	2 days	Fri 3/2/07	Sat 3/3/07		
<input type="checkbox"/> Develop Protoype	14 days	Mon 3/19/07	Sat 4/7/07	26	
Establish contacts with expertise on worki	2 days	Mon 3/19/07	Thu 3/22/07		
List materials needed	1 day	Mon 3/19/07	Mon 3/19/07		
Obtain materials	3 days	Mon 3/19/07	Fri 3/23/07		
Build prototype	14 days	Mon 3/19/07	Sat 4/7/07		
<input type="checkbox"/> Phase III: Complete Final Deliverables	14 days	Sun 4/8/07	Fri 4/27/07	20	
Final Report	10 days	Sun 4/8/07	Sat 4/21/07		
<input type="checkbox"/> Final Presentation	4 days	Sun 4/8/07	Fri 4/13/07		
Poster	4 days	Sun 4/8/07	Fri 4/13/07		
Finalize Protoype	4 days	Sun 4/8/07	Fri 4/13/07		
<input type="checkbox"/> Awareness Campaign	14 days	Sun 4/8/07	Fri 4/27/07		
Preparations	14 days	Sun 4/8/07	Fri 4/27/07		
Event	1 day	Sun 4/8/07	Sun 4/8/07		
I PRO Day	1 day	Fri 4/27/07	Fri 4/27/07		

Section 7.0

INDIVIDUAL TEAM MEMBER ASSIGNMENTS

Energy Subteam:

Nikola Baltadjiev
Nirav Hazariwala
Danny Kim
Jeremy Locquiao

Individual Responsibilities:

Nikola – Coordinate work between team members, Contact Sun Ovens International, Design Problems, Research on Wind energy
Nirav – Social impact of solar cookers, Design trends, Research on Solar energy
Jeremy – Technical Problems, Design concepts, Research on Biogas
Danny – Advantages and Disadvantages, Design criteria, Research on Water Energy

Shelter Subteam:

Tony Osborn
Ricardo Gonzalez
Sung Koo Kang

Individual Responsibilities:

Tony - Sub-Group Leader, Professional Contacts, Prototype Assembly, Final Presentation, Instructional Material Design
Ricardo - Material Assembly, Presentations, Selection Criteria, Prototype Assembly
Sung Koo - Prototype Assembly, Global Matrix, Project Plan, Final Presentation, Professional Contacts, Prototype Design

Water Subteam:

Jaime McClain
Justin Harris
Brian Schiller

Individual Responsibilities:

Jaime - Sub-Group Leader, Investigate alternative methods/technologies, Southern Asia, Identify Area of Severe Water Problems, Identify Climate, Identify Population Affected, Identify Ease of travel for IIT students, Identify Villages for Implementation
Justin - Identify Area of Severe Water Problems, Identify Climate, Identify Population Affected, Identify Ease of travel for IIT students, Identify Villages for Implementation, Africa, Develop criteria for evaluating methods,
Brian - Identify Area of Severe Water Problems, Identify Climate, Identify Population Affected, Identify Ease of travel for IIT students, Identify Villages for Implementation, Latin America, Identify most severe problem of village, Research Existing methods/technologies, Latin America

Section 8.0

DESIGNATION OF ROLES

A. Assign Meeting Roles

- **Minute Maker:** Jaime McClain
- **Agenda Maker:** Sara Miller
- **Time Keeper:** Sara Miller

B. Assign Status Roles

- **Weekly Timesheet Collector/Summarizer:** Tony Osborn
- **Master Schedule Maker:** Sara Miller

C. Research Roles: Problems Affecting the Poor

- **Shelter:** Tony Osborn, Ricardo Gonzalez, Sung Koo Kang
- **Energy:** Nikola, Danny Kim, Nirav
- **Water:** Jaime McClain, Justin Harris, Brian Schiller
- **IIT Affordable Village:** Sara Miller
- **Raise Awareness on campus:** Justin Harris