

Mission Report

Engineer Without Border: Santisuk Village, Thailand

Participants

1. Dr. Richard Herring, Project Advisor
2. Mr. John Herring, NHU
3. Mr. Weerapong Tinnapong, Kasetsart University, Thailand – Team leader
4. Mr. Donrapee Sangmuang, SIIT – Thammasart University, Thailand – Team member
5. Ms. Montra Leoseng, Asian Institute of Technology AIT, Thailand – Team member

Observer

1. Mr. Peemanas Taowchai, Science Faculty, Chiangmai University

Objectives

- Introduction of team members to Dr. Richard Herring
- Discussion on the project background and objectives
- Planning for 1st field visit in order to follow up the filtration project
- Understand the key issues and identify the needs
- Outline the possibility for future cooperation

Details

1. General Introduction

It was started with the introduction of team member. Firstly, Mr. Weerapong Tinnapong or Hop, a senior student, who came from the mechanical engineering faculty, Kasetsart University (KU). His 'true spirit' of social activist has clearly shown. He has participated in several activities, from social relation to academic works. For example, he was a key player in basketball team and goal keeper of soccer team which belongs to the engineering faculty. Hop has been working for the engineering student association e.g., during welcoming day to new students of thousands, he was the leader of organizer team. From academic activity viewpoint, he has participated in different workshops e.g., the Solid Work and Autocad Design. He had applied his knowledge and skills into the real work when he joined with the computer factories during term-break. His permanent address was given below:

Address: 70/906 Soi 10 Prachaniwes 2, Tah Sai, Muang District Nonthaburi 11000.
Tel: (66)9 123 7428, (66)2 980 0782 Email: hop_wee@hotmail.com

Secondly, Mr. Donrapee Sangmuang or so-called “Don”, a 2nd year student from Siridhorn International Institute of Technology, Thammasart University. Thammasart was situated among the first top three very well-known universities in Thailand (Same as KU). His major subjected to electrical engineering with the minor on Telecommunication Engineering. Don has played a leading role in several social activities e.g., during traditional football ledge between Chulalongkorn University and Thammasart University, he was acted as an entertainment cheer leader. During the welcoming activity to new students, he was the leader of staff. He was the guitar player of his university. Academically, he has developed tutorial sessions before the examination in order to assist friends and junior students. At the international context, he has been selected in the student exchange programme to work and travel to USA. He will work at the SIX FLAG amusement park in Texas during March to June 2004. His permanent address was given below:

Address: 1/99 Soi kaewprakasit, Bangkrag, Muang District Nonthaburi 11000
Tel: (66)6 331 8981, (66)2 991 5744-5 Email: donrapee@yahoo.com

2. Background and Objectives

Dr. Herring had explained about the background and key concept of EWB project to our team. It was understood that this project comprised of two phases i.e., a) a construction and implementation of appropriate technology and b) to sustain the project.

For a), Dr. Herring has talked about the project in Santisuk village and some others which have been implemented in different countries. He had mentioned it aimed to apply the most appropriate technology to develop community. We have learned that the real engine to drive this idea down to local level was the group of engineering students and we were happy to contribute our knowledge and efforts in this project. In Thailand, Dr. Herring had developed a link with local university in Northern region i.e., Chiangmai University to open a local chapter. However, there is a need to active this link. Dr. Herring has given some materials to Montra who will assist to develop a link with students and universities.

It is to be noted that Montra has talked about this project in her class at AIT. As a result, one student, who was about to complete mater degree from agricultural engineering, has shown the interest to participate in this project. He would like to visit the site.

A discussion has come to the point of the definition of sustainability and its implication. Several clues have been brought up i.e., self-reliance for low cost materials, alternative methodology and self-solving problem. From the sustainability point of view, the continuity of project and activity, perhaps in the 2nd phase is most significance. It was challenging to our team if we could help to facilitate the phase between the end of the 1st and before start of the 2nd.

Last but not least, Dr. Herring pointed out his vision that the success of this project could be applied into neighboring countries i.e., Laos, Burma, Cambodia.

3. Planning for 1st field visit in order to follow up the filtration project

It is to be noted that after this meeting, Don and Montra have to go back to Bangkok. For Montra, she had returned to Chiangmai once again in the next following weekend.

Only Hop had stayed there for five days in order to accompany Dr. Herring and the missionary team to a village at Doi Saket. It was within team’s intention designated Hop to develop a

linkage with local missionary team and understand issues, local culture & custom, existing links, communications and symbols, and attitude in general. After came back, Hop had shared this knowledge with our team member. As a result, we have found these key issues were succinct to the success of project and it was truly help that we had taken a study at a very beginning. Hop recommended that the availability of local materials and local practice should be considered. We have learned that the differences between unit measurements appeared to be most significant for the fact that the skill to translate from foot into cms is needed.

4. Understand key issues and identify the needs

The way that our team had learned about key issues and local needs primarily came from Hop's experience. Below is a key note from Hop. It is to be noted that Hop has not only taken a role of local facilitator and assisted translator but also acted as a foreman for four-day construction.

Hop's Diary

Day 1: meeting time at 7.30 to arrive the site at 9.00.

At the first glance, I understand that the construction of school building needs to be completed i.e., wall and roof. I have observed how Dr. Herring remodified the design. The issue of difference in measurement had come up e.g., the confusion of 'two per eight' or 'two per four' but it was not so serious, anyway. Only for technical point of view, we might have a problem on how to fix the wood with nuts. Today, I have feeling that the community is learning to assist us and I can feel this project is very important to them and it attracted their attention.

Day 2: meeting time at 7.00 and reach the community at 7.30.

We have started with the construction of wall. Our team is very active and go hand-in-hand with local workers. Since template, a tool to connect roof and wall, is out of stock, it caused a delay in the construction somehow. Template is rather important. In case of Santisuk, the roof was connected without template. As a result, it was not so strong and needed some more sticks.

Our work completed and finished at 13.00. The Crane was ordered by Dr. Herring for roof connection and it greatly helps to speed up our work. But the crane was too big. It was not so easy to go to the site and taking lots of time. Work completed at 16.30. On the way back, our car had run out of order because of overheated problem. I have fixed it up!

Day 3: meeting time at 7.00 and reach the community at 8.00.

Work remained only roof and frame. I found the difference of size of wall (*Fah* in Thai) rooted from different of the measurement between 'meter' and 'foot'. Problem has been solved by Dr. Herring. We need to put more wood and only this part remained underconstruction. Our team work had a very good understanding on each other.

Day 4: meeting time at 7.00 and reach the community at 8.00.

Before starting any work, it happened that I had got an accident. My head seriously hit with triangular shape of aluminium (in order to fix the wall and fah together). I was then sent to the hospital and the doctor had put 5 stitches on my head, at the forehead. After came back, I found the aluminum was already covered by cloth. I need to get back with Khun Tee to the town.

Day 5: Sick leave

I went to another hospital for daily treatment i.e., to clean my wound and to double checking, the medical teacher recommended me for re-operation. They have put 45 stitches into a wound at the end; it was for two layers stitches.

Day 6: meeting time at 7.00 and departure at 10.00 arrive at 14.00 (Note: with Montra)

I and Montra had a brief meeting with Dr. Herring. Dr. Herring explained the plan and focus. The focus was on the filtration and why it had come to the shortage of water. When we arrived, we made first of all a short survey on the school building. After that, Montra had assisted in the translation during the time when the missionary was giving the medicine to local people. I went to observe the water system and filtration tank which situated on the opposite site as designated from Dr. Herring. Three finding had come out.

- Firstly, the quantity of water seems to be rather low. There might be something had stucked inside the pipeline. Something could be mud or wood stick.
- Secondly, there might be a problem of pressure drop of the system because of the different size between the first filtration and second filtration. I assumed it is better to be “a big to small” than “small to big”. It is not surprising to find that the water ran to the 2nd tank instead of 1st. From the discussion with the community, during the rainy season the water is sufficient. I wondered my assumption could be true. By the way, these issues needed to be consulted with Dr. Herring for our better understanding.
- It was interesting to find the community has changed their pattern of water usage. They have started to save water on their own and it pointed to the fact of they behavior oriented towards self-sufficient. However, a further study on the pattern for water management could show the important to reduce or protect the potential conflict.

5. Outline the possibility for future works

To identify the possibility for further works, some ideas had been developed during the discussion with Dr. Herring and some had pop-up from the field visit. The follow - up projects could be as follows:

At community level

Technical aspect

- Testing of water quality every 3-4 months at different points.

For example, one point at the dam, 2 points at the stream water which flows to the community and inlet and outlet of water from filtration tank. It aims to maintain the standard of water and relate to a better health of local community. As such, a healthy community could be one indicator for the community sustainability. By the way, it was believed the water quality surely meet the local standard. The alternative design could be e.g., Kanghan Todnam, using the circle of turbine to take the water by using wind energy. It was an indigenous knowledge which could help people to take water from the river easily. But surely, water must be used for cleaning purpose.

- Examine the water usage pattern on demand and quantify water usage.

Documentation

- Prepare a report and develop the database on other aspects of community sustainability. This could be used in EWB web site to update the information, if needed.
- Summarize result findings and prepare a first draft of article under the supervision of Dr. Herring for presenting in the workshop year 2004.

At university level

- Enlarge our working team through soft-structure i.e., circle of friends and colleagues.

This team might be a mix of students who came from different universities and field of study.

- Work as facilitators and coordinators (as representatives from academic groups) to interface between Dr. Herring and local community and remain in direct contact and partially assist in the identification of possible incoming projects.

Proposed schedule

Act	Month											
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
Dev. Proposal	←→											
1 st visit			↔									
Report writing			←→									
2 nd visit					↔							
Report writing					←→							
3 rd visit								↔				
Report writing								←→				
Article									←→			
Presentation												↔

Remarks

We would like to express our sincerest thank to first of all, Nadia Madden who introduced us to a very interesting project and put us in contact with Dr. Richard Herring.

Our deeply thanks go to Dr. Richard Herring who gave us a great opportunity to go to the site and provide us with many useful guidance and thoughtful thinking. His large support for any conveniences should be acknowledged here.

We would like to thank the missionaries who have helped Hop when he had an accident and provide most valuable contribution to Thai people.

We would like to thank Mr. Joni Morse and this team who supported for traveling and meals.

Prepared by Hop, Don and Montra

Date: November 1, 2003

Approved by

Date: