



EIE-06-256 REEPRO



Promotion of the Efficient Use of Renewable Energies in Developing Countries

REEPRO Level 2 Course 4 Training on Renewable Energies and Biogas Plants Laos, November 5, 2009

Authors

Community Development and Environment Association (CDEA)

January 2010

List of Content

1. Summary Sheet	II
2. Workshop Preparation	III
3. Workshop Performance	III
3.1 Presentation	IV
3.2 Discussion	IV
3.3 Conclusion	IV
4. Workshop Documentation.....	V
4.1 Invitation.....	V
4.2 Programme	V
4.3 Registration Form.....	V
4.4 Presentations	VI
4.5 Signed List of Participants.....	VII
4.6 Contact Data	VIII
4.7 Photos	VIII

1. Summary Sheet

Training: Training for Community Stakeholder (Village Mai)

Task Number: 04.02.03

Date, Location: 4/11/2009
Mai Village, Xai District, Oudomxay Province

Time: 8:00 – 16:30 (Total: 8.5 hours)

Theme: Introduction of Renewable Energy, Biogas Plants

Target Group: Level 1:
 Level 2:
 Level 3:


Performance: 1 day, 8 hours. Eight presentations were given on the effectiveness, construction process and maintenance of biogas plants. 3 trainers were present.

Participants: 20 Participants; see attached for a list of participants.

Short Description: Level 2 Course 4 training was conducted on 4 November, 2009. Three trainers from Community Development and Environment Association (CDEA) and the Science, Technology Research Institute (STRI) conducted the training session. 20 participants were selected based on their experience in construction and willingness to participate. The course consisted of theory training in biogas plant construction, installment and maintenance, and was necessary as a precursor to plant construction practicing. Further explanation was given of the benefits of biogas production, which includes, but is not limited to, reduction of firewood use, production of compost and fertilizer byproduct, and free production of gas for cooking. The primary goal of this training was to provide knowledge of biogas plant production to participants so they could spread the technology throughout the village starting with their own homes. Immediately following this one-day training session, Level 3 Course 9 training was given to provide participants hands-on experience in plant construction. In the future, Mai Village will act as the model for promotion of biogas plants in Laos.

Download: The presentations can be downloaded under www.solpool.info

Location, Date, Signature:
Mai Village, Xai District, Oudomxay Province
30 January, 2010



2. Workshop Preparation

Three trainers conducted the training session. Two members from CDEA, Mr. Khampha Keomanichanh and Mr. Bounpone Luangphimmajak, assisted in the facilitation of the training session. This included preparation of the schedule, invitation of the participants, and arrangement of the venue. Interviews were conducted to select 20 participants for the training session. Eight participants were construction contractors located in Xai District. The remaining 16 participants were villagers in Mai Village. CDEA developed the following sets of criteria for selecting the participants:

Selection of Construction Contractors (8):

- Volunteered to work, and willing to participate for 10 days for the entire duration of theory training and construction practice;
- Significant background experience in construction;
- Willing to work in future CDEA projects for development of Xai District;
- Be willing to stay in Mai Village for the entire duration of the training session (10 days).

Selection of Villagers (16):

- Volunteered to become pilot family (active to participate to the project and follow up the technical advice of expert);
- Have appropriate space for biogas plant;
- Have labor at least 2 to 3 persons;
- Ready to make contribution such as unskilled labor cost, materials which can be find in local sources;
- Number of pig at least 4 to 5 heads or cow/buffalo at least 4 to 5 heads;
- Have the space for making the home garden; and
- Agreed to pay back 50% of the total cost (within two years) to the community therefore setting up a community development fund (for themselves/extending the members).

Mr. Soukan Vannapho, from STRI, was the expert on biogas who gave the presentations on the construction of household biogas plants with assistance from Mr. Bounpone.

3. Workshop Performance

Day 1: 4 November, 2009

- Mr. Khampha, President of CDEA, welcomed and thanked participants for attending the session and then presented the introduction to household biogas plants.

- Mr. Soukan and Mr. Bounpone presented the theory of constructing and maintaining biogas plants. Also, it was explained to villagers the benefits of having the biogas plant.
- Discussions were held about construction techniques. Villagers were active in participation and asked questions about specifics in construction and maintenance.

3.1 Presentation

The presentation was given using Microsoft PowerPoint slideshows. Eight presentations were given, the names of which are provided in Section 3.7 of this report. All presentations were given in Lao. The presentations lasted a total of 7.5 hours from 8:00 AM to 4:30 PM with a one-hour break for lunch. The content of the training was on all aspects of producing and maintaining the biogas plant.

3.2 Discussion

Level 2 Course 4 training was a precursor to the practice of constructing biogas plants by villagers in Level 3 course 9 training. Practice was done immediately following this training session. Thus, participants were very receptive of the information that was presented. Further, because participants were carefully selected based on their willingness to participate as well as their background knowledge in construction, they were eager to learn and it was easy for them to understand the contents of the presentations.

Participants each signed a contract to establish a Community Development Fund within Ban Village for the purpose of promoting and proliferating biogas plants. Each plant costs a total of 3 million kip. Participants were required to payback 50% of the total cost within 2.5 years, which was used in whole to establish the Community Development Fund. The Community Development Fund would be used for future development of biogas plants using a method of micro-financing. If other villagers in Mai Village would also like to build a biogas plant, they could borrow money from the Community Development Fund with minimal interest.

3.3 Conclusion

Participants were successful in learning about biogas plant construction and maintenance. Following this informational training session, participants practiced constructing household biogas plants with the assistance of CDEA and STRI over the next 9 days.

CDEA was successful in developing this pilot village for the purpose of biogas proliferation. It will be used as model for future projects in biogas plant promotion.

4. Workshop Documentation

4.1 Invitation

CDEA worked very closely with Mai Village to develop this biogas project. Interviews were conducted select villagers for participation in the training event based on the criteria which was presented in Section 2. An invitation was thus extended to selected participants from Mr. Khampha Keomanichanh based on the results of the interviews. It was discovered during interviews that there were not enough villagers who met all criteria in Mai Village. Thus, four invitations were extended to villagers in the nearby Bore Village, who participated in the training session instead.

4.2 Programme

Agenda

Date, Time	Description	Responsible person
<i>Tuesday 3/11/2009 Organizer and resource person will be arriving Oudomxay Province by Air plain</i>		
Day 1: Wednesday 4/11/2009		
8:00 – 8:30	Registration	All
8:30 – 8:54	Opening speed	Representative of District authority
8:45 – 10:00	The benefit of using biogas (introduction)	Mr. Khampha
10:00 – 10:15	Coffee break	All
10:15 – 12:00	How to construct Biogas plant	Mr. Soukan
12:00 – 1:30	Lunch	All
1:30 - 3:30	How to use and maintenance	Mr. Soukan
3:30 - 4:30	Separate into group and prepare for next day 2	Mr. Soukan

4.3 Registration Form

Below is a snapshot of the registration form used to sign up villagers for the training session.

ລ/ດ	ຊື່ ແລະ າມສະກຸ	ຕຳແໜ່ງ	ບ່ອນປະຈຳກາ		Date
No	Name and Surname	Position	organization	Contact Information	Signature
1					
2					
3					
4					
5					
6					

4.4 Presentations

Four presentations were given to participants in Mai Village, the names of which are:

1. Introduction on Biogas (13 slides)
2. Construction Steps of Biogas Plants (6 slides)
3. Materials Needed for Biogas Plant Construction (6 slides)
4. Biogas Plant construction and Installment (10 slides)
5. Biogas Use and Maintenance (17 slides)
6. How to Construct a Digester (24 slides)
7. Selection of the Size of the Digester (43 slides)
8. Site Selection for the Biogas Plant Building (8 slides)

All slideshows were written and presented in Lao. Due to their size, they have not been included in this report, but are available upon request.

4.5 Signed List of Participants

Registration of participant to one day

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມຝຶກອົບຮົມກ່ຽວກັບເຕັກນິກການກໍ່ສ້າງ ແລະ ການດຸ້ມຄອງນໍາໃຊ້ເຕົ້າແກ້ສຊີວະພາບລະດັບ 2 (ສໍາລັບວິຊາການ) ທີ່ແຂວງອຸດົມໄຊ
List of participants of training on Biogas construction, how to operation and maintenance level 2 in Oudomxay Province

ລ/ດ No	ຊື່ ແລະ ນາມລະກຸນ Name and Surname	ຕໍາແໜ່ງ Position	ບ່ອນປະຈຳການ organization	ເບີໂທລະສັບ Telephone No.	ລາຍເຊັນ Signature
1	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ		
2	ທ່ານ ພິມ	ປະຈຳການ	ບ້ານໂພນ	2837773	
3	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	0950324	
4	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	2275265	
5	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	4551294	
6	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ		
7	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	5112249	
8	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ		
9	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	71149856	
10	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	5527153	
11	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	0905122110	
12	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	85441507	
13	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	5920845	
14	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ		
15	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	09829262928	
16	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ		
17	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ		

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມຝຶກອົບຮົມກ່ຽວກັບເຕັກນິກການກໍ່ສ້າງ ແລະ ການດຸ້ມຄອງນໍາໃຊ້ເຕົ້າແກ້ສຊີວະພາບລະດັບ 2 (ສໍາລັບວິຊາການ) ທີ່ແຂວງອຸດົມໄຊ
List of participants of training on Biogas construction, how to operation and maintenance level 2 in Oudomxay Province

18	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	6292419	
19	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ	2263552	
20	ທ່ານ ສິມ	ປະຈຳການ	ບ້ານໂພນ		
21					
22					
23					

ວັນທີ 4/1/2019

ຢັ້ງຢືນ/ Certified by: 

ຈຸດປາກົດ/Trainer: 

4.6 Contact Data

Contact data for participants are shown in the signed list of participants located in Section 4.5.

4.7 Photos

Pictures of Training Course 2 on biogas in Mai Village, Oudomxay Province

