



EIE-06-256 REEPRO



Promotion of the Efficient Use of Renewable Energies in Developing Countries

**Training level 2 course 2 and course 3
on Solar Photovoltaic, Entrepreneur and Biomass
March 10th to 12th, 2009**

Authors

Community Development and Environment Association (CDEA)

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NUOL

27 May 2009

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List of Acronyms

CDEA	Community Development and Environment Association
MEM	Ministry of Energy and Mines
NUOL	National University of Laos
PV	Photovoltaic
STRI	Science and Technology Research Institute
UNIDO	United Nations Industrial Development Organization
WB	The World Bank

1. Summary Sheet

Training:	Training level 2 course 2 and level 2 course 3
Task number	04.02.02 and 04.02.03
Date, Location, Time:	March 10 th to 12 th , 2009, 8:00 - 16.30 Oudomkham hotel, Xai District, Oudomxai Province, Lao PDR
Theme:	CDEA information training courses Solar Photovoltaice, Entrepreneur and Biomass
Target group:	<input type="checkbox"/> Level 1 <input checked="" type="checkbox"/> Level 2 <input type="checkbox"/> Level 3
Performance:	24 hours speech (3 speakers) following by information session, discussion and practical session.
Participants:	22 participants, see attached list of participants
Short Description:	<p>The training was conducted in Oudomkham hotel, Xai district, Oudomxai province, Lao PDR. There were 22 participants from different organizations attended the level 2 training. Offered courses were Business Administration, Biomass and Photovoltaic technologies. During the training a two ways interaction was kept between the trainers and the trainees. A trainee-UNIDO representative introduced a successful story on Jatropha project in Oudomxai, which greatly raised interests of other trainees.</p> <p>Hot discussions were also going on PV systems and wood stoves use. The province has been a one of the important PV spot of MEM-WB off-grid rural electrification project, so that people have a lot of things to discuss about. Besides, local communities are still heavily relay on wood energy sources for cooking, and cook stoves' efficiency, gender related and wood collecting issues are highly actual topics. Therefore, rocket stoves topics have excited people very much.</p>
Download:	The presentations can be downloaded under www.reepro.info



Oudomxai Province, 12 March 2009

2. Workshop Preparation

CDEA was responsible for the training preparation:

- Participants' contact
- Training arrangement

NUOL assisted in conducting technical courses and preparing training materials (rocket stoves, PV systems)

3. Workshop Performance

Day: 1 10 March 2009

- Welcome remarks were given by Mr. Khamphao, Deputy director of Oudomxay provincial governor office;
- CDEA person in charge, Mr. Bouangern, made introduction on the REEPRO project, the training's purpose and targets;
- Then the trainees introduced themselves and their expectation from this training;
- The followed introduction to entrepreneurship was given by Mr. Bouangern Xayalath-CDEA trainer level 1. The session comprised general theory of energy business administration, business potential and opportunities
- Some participants raised questions and the trainees were to discuss together.
- In the end of this session, one of participants told a successful income generation project for disadvantaged people, concerning use of locally available resources-jatropha in biodiesel production

Day: 2 11 March 2009

- Mr. Sengraty took over the second session with biomass sources and their conversion technologies
- Different forms of biomass as energy sources were introduced,
- Rocket stove's principle and what differences comparing to other stoves;
- There was video show on rocket stove production steps: (1) brick mould preparation; (2) raw materials and stove's parts; (3) materials mixing; (4) bricks moulding; (5) bricks burning and (6) rocket stove assembling;
- Afternoon session concerned practical exercise with rocket stove production: clay-sawdust mixing, bricks' production. With prepared in advance stove's parts, trainees exercised with stove assembling.

Day: 3 12 March 2009

- The 3rd session of the training of level 2 was about photovoltaic (PV) systems: Introduction to PV systems; PV systems application; exercises on fundamental of electric-

ity, energy and power consumption; PV system sizing and installation principle; Experiences on PV systems' maintenance and troubleshooting;

- Besides, introduction on more general issues, such as renewable energy sources and their conversion was also made to give participants broader understanding on energy potential and feasibility in their localities;
- Discussions were going on experiences in PV systems use, such as battery use and connection, battery lifetimes, energy consumption in PV systems, PV systems repairing, etc.

3.1 Presentation

- The training had mostly used white board, clip chats to describe and open discussion, which only entrepreneur had used short PowerPoint presentation (see detail in chapter 5.4).

3.2 Discussion

- In the business session, the discussions were concerned such issues as how to operate renewable energy business, how to get funding support, what processes in operating energy business and what policy support available. The representative from Department of Commerce and Investment, was invited to join the training and to give further explanation on the process and policy support for small business establishment, and how to locate possible funding support.
- Discussion on stoves: almost cook stoves, using in Xai and Houn districts, are imported from other provinces and neighbouring China. Usually stoves' efficiency and reliability are not sure. The participants were interested how to define the stove efficiency. Rocket stoves' business perspective in the region would be fair if counted high dependency of local people on wood fuel use and some difficulties in wood collection. There was a question on possibility to use corn cobs for burning with rocket stoves, as corn cobs are plentiful and unused in the region;
- PV systems business has been launched in the region by MEM-WB rural off-grid electrification project, and therefore, some experiences already available. Big concerns of trainees as well as local people were high investment cost of PV system, its reliability and limited power supply, which are the obstacles for promoting PV systems' use and business in poor rural areas.

3.3 Conclusion

Although provided training topics were new for almost all of trainees, but, as shown from the participants' evaluation result, understanding of the participants on these matters have been significantly improved. Participants satisfied the training topics and obtained knowledge. Many of them have expressed willingness to go for further deeper training on renewable energy technologies and business on their base.

4. Questionnaire evaluation

There were 85% of 20 participants attending this training are males and only 15% females. The participants are from provincial departments of Energy and Mines, Planning and Investment, IFAD's launched rural development projects, EDL's branch and Houn district.

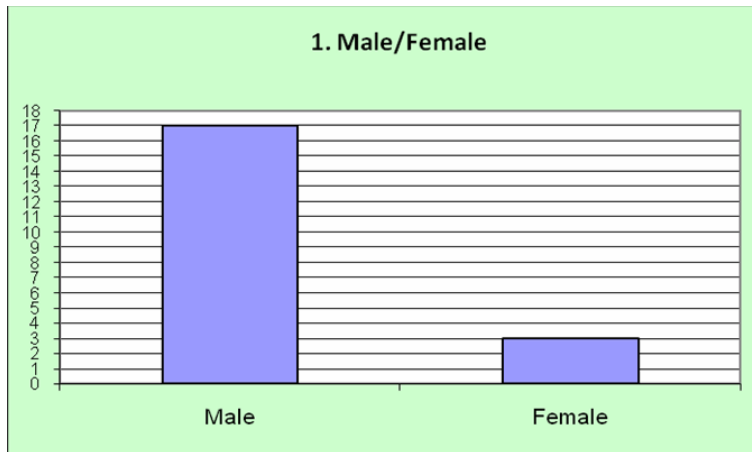


Figure 1: General information of participants

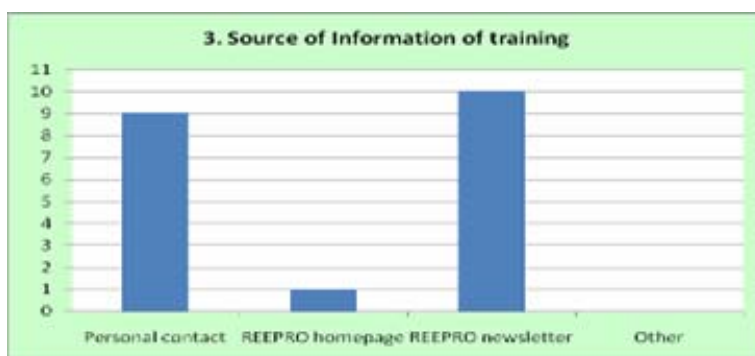


Figure 2: Information Source on the training

As the result of reason participants attending level 2 training, 50% of participants had known from newsletter and other 45% had known from personal contact.

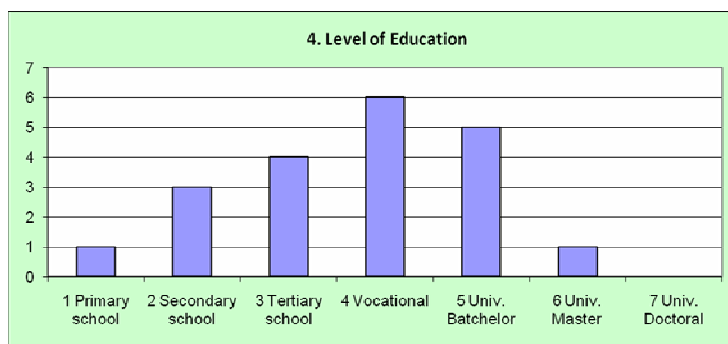


Figure 3: Education level

Mostly (70%) have got university and technical education background, and all said that the training was relevant to their current and future plan of their work (see figure 4). Otherwise, this training had helped fulfil their expectation that they wanted to learn and understand more about PV and Biomass (see figure 5). However, there was only 5% of participants not sure that they would be able to implement this in the future.

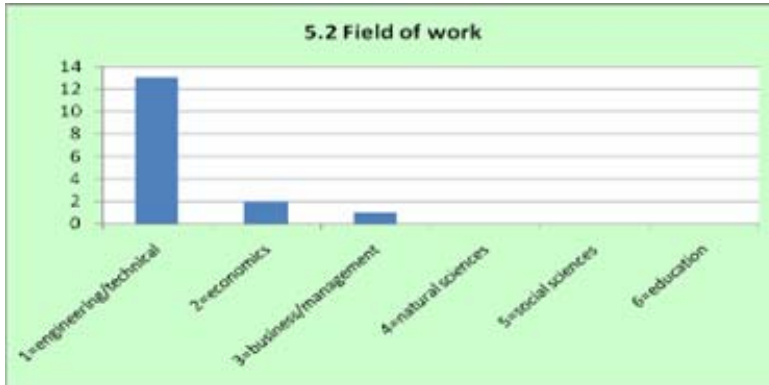


Figure 4: Field of work



Figure 5: this training meets my expectation

45% of 20 participants had agreed that this training most relevant with their work in future, 35% had strongly agreed (figure 6). Otherwise, the trainers had described the theories, with both practical sessions. The participants also could understand how devices work differently through explanation of the trainers (figure 8) because they had learned how to install the devices, and they could be able to install the device by themselves (figure 7).

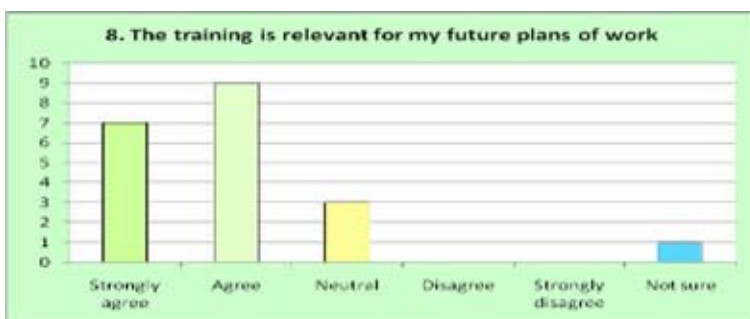


Figure 6: Training is relevant for my future plans of work

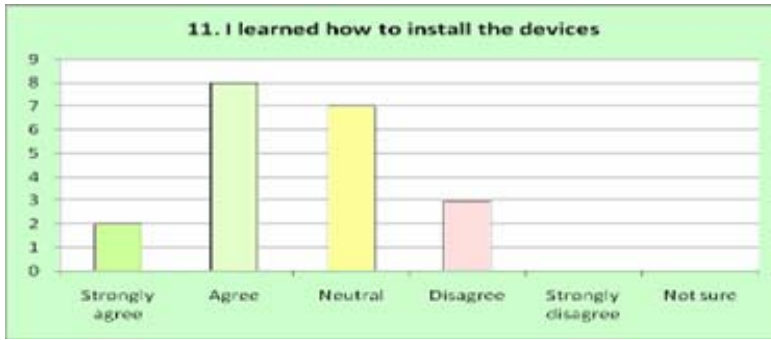


Figure 7: Learned how to install the devices

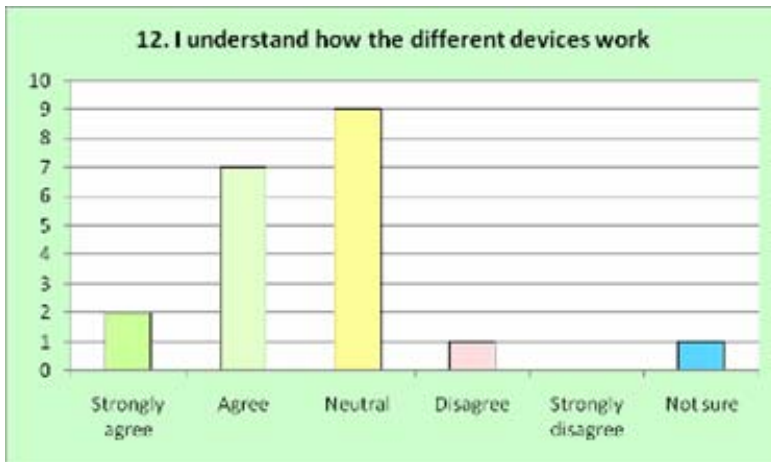


Figure 8: I understand how the different devices work

Additional, the participants also had done by hand of construction of the rocket stove and this session was interested participants to operate and promote the rocket stoves in Oudomxai. In particular 90% of stoves using in Oudomxai were import from China and other provinces. Therefore, 85% of participants required to have further training on rocket stove and in business (figure 9 and 10).

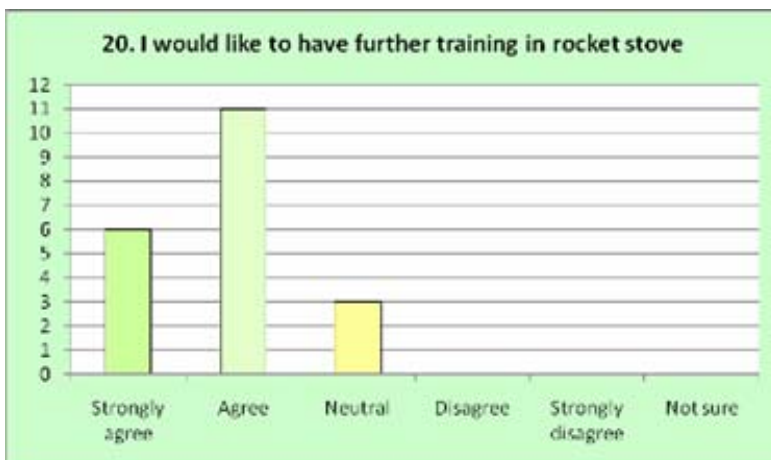


Figure 9: I would like to have further training on rocket stove

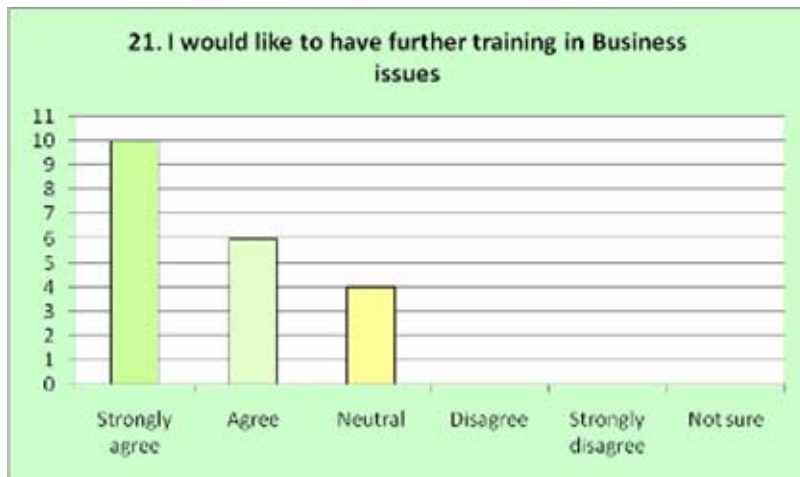


Figure 10: I would like to have further training in Business

The further result of questionnaires evaluation please see [L2_C2 and C3 Laos questionnaire evaluation.xls](#)

5. Workshop Documentation

5.1 Invitation



5.2 Programme

EIE-06-256 REEPRO



Promotion of the Efficient Use of Renewable Energies in Developing Countries

**REEPRO Level 2 Training Workshop
on Solar Photovoltaic use**

**Laos, March 10th to 13th 2009
Tentative Schedule**

**Location:
Oudomkham Hotel
Oudomxai province, Lao PDR**

February 2009

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REEPRO training on PV and Biomass

Times	Presentation	
Day 1: Tuesday 10 March 2009		
8:30-8:45	Introduction on training and participants	By MC
8:45-9:15	Introduction on REEPRO project	By Buangen
9:15-9:45	Opening Remarks (by 10 minutes each)	By Mr. Khamphao Duangphasith, STRI and Mr. Khampanh, Head of Energy and Mines department of OUD
9:45-10:15	Break (group photo)	
10:15-12:30	BU1: EN	By Mr. Bouangem (CDEA)
12:30-13:30	Lunch break	
13:30-11:30	BU1: EN (cont.)	By Mr. Bouangem (CDEA)
15:00-15:15	Break	
15:15 -16:30	BU3_PD	By (CDEA)
15:30	Dr Khamphone and Sengratry Arrive by flight QV601	
Day 2: Wednesday 11 March 2009		
8:30 -9:00	Renewable energy Basics	By Dr Khamphone
09:00-10:45	Biomass: definition, types, major conversion technologies)	By Mr. Sengratry (NUOL)
10:45-11:00	Break	
11:00-12:30	Introduction of Rocket stove , calculation exercise	By Mr. Sengratry(NUOL)
12:30-13:30	Lunch break	
13:30-15:00	Rocket stove production	By Mr. Sengratry(NUOL)
15:00-15:15	Break	
15:15-16:30	Rocket stove production (cont.)	By Mr. Sengratry(NUOL)
Day 3: Thursday 12 March 2009		
08:30-10:00	Introduction on PV System Fundamental of electricity	Dr. Khamphone Nanthavong (NUOL)
10:00-10:45	PV system Components	
10:45-11:00	Break	
11:00-12:30	PV system design	>>
12:30-13:30	Lunch break	
13:30-14:00	PV system installation	>>
14:00-15:00	Maintenance and troubleshooting	
15:00-15:15	Break	

5.3 Registration Form

Table 1: Registration Form

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມກາຝຶກອົບຮົມກ່ຽວກັບແຫລ່ງພະລັງງານທົດແທລະດັບ 2 (ສຳລັບວິຊາກາ) ທີ່ແຂວງຄຳມ່ວ

List of participants of renewable Energy sources training programmes level 2 in Oudomxai Province

ລ/ດ	ຊື່ ແລະ າມສະກຸ	ຕຳແໜ່ງ	ບ່ອນປະຈຳກາ	3/10/2009	3/11/2009	3/12/2009
No	Name and Surname	Position	organization	Signature	Signature	Signature
1						
2						
3						
4						
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7						
8						
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5.4 Power Point presentation



I

ປັດໃຈທີ່ມີປະສິດທິພາບ ຕໍ່ຜູ້ປະກອບການຂະໜາດນ້ອຍ

ປັດໃຈທີ່ມີປະສິດທິພາບຕໍ່ຜູ້ປະກອບການຂະໜາດນ້ອຍ

ຕາມການສຶກສາອັນຄ້ວາ ເລື່ອງປັດໃຈທີ່ ສົ່ງຜົນໃຫ້ ການດຳເນີນທຸລະກິດຂຶ້ນຢູ່ເປັນຜູ້, ພົບຄວາມຮູ້ຈັກອາກ, ຫຼື ປະສົບ ຜົນສຳເລັດ ແລະ ລົບເຫຼວ ແມ່ນສ່ວນຈາກປັດໃຈ ເລື່ອງນີ້:

1. ປັດໃຈພາຍນອກ
2. ປັດໃຈພາຍໃນ

ປັດໃຈພາຍໃນ

ແມ່ນສະພາບ ແລະ ສິ່ງເວດລ້ອມທີ່ ສົ່ງຜົນຜົວພັນໂດຍກົງໃສ່ການດຳເນີນການຂອງບໍລິສັດ.

ປັດໃຈພາຍໃນ

ການບໍລິຫານ

1. ການກຳນົດເປົ້າໝາຍ
2. ແຜນເວລາສິ້ນ-ຫຼາວ
3. ການກຳນົດຜູ້ຜິ
4. ວາລະປະສານ
5. ການສຳຫຼວດກວດກາ

ປັດໃຈພາຍໃນ

ການເງິນ:

1. ໃບດຸນດ່ຽງ
2. ສະຫຼຸບກຳໄລ ແລະຂາດທຶນ
3. ສະແດງສະພາບໂຫຼວງນາກະແສເງິນສົດ
4. ວິເຄາະຈຸດກຸ້ມທຶນ

ປັດໃຈພາຍໃນ

ການຕະຫຼາດ

1. ຊຸ້ຄວາມຕ້ອງການຂອງລູກຄ້າ
2. ການວິເຄາະແນວໂນມໃນເວລາ 3 ປີຜ່ານມາ
3. ການວິເຄາະສະພາບເວດລ້ອມ
4. ການຂາຍ
5. ການຕະຫຼາດແບບຫຼາກຫຼາຍ

ປັດໃຈພາອໃນ

ສ້າງປັດໃຈເພື່ອແຂ່ງຂັນ

ນອກຈາກນັ້ນ ຄວນຄຳນຶງໃສ່ ເລື່ອງ:

- ຜົນຜະລິດ
- ຄຸນນະພາບ ແລະ ການບໍລິການ
- ການພັດທະນາຜະລິດຕະພັນໃໝ່
- ມີຄວາມຮັກຜິດຊອກຕໍ່ລູກຄ້າ

ປັດໃຈພາອໃນ

ພວກເຮົາຈະເຮັດແນວໃດເພື່ອໃຫ້ໄດ້ການແຂ່ງຂັນທີ່ດີ?

ຜູ້ປະກອບກຽມຈຳເປັນຕ້ອງເຂົ້າໃຈສະພາບການ ທີ່ກຳລັງດຳເນີນໃຫ້ໄດ້ອ້າງເຖິງກອງ.

ປັດໃຈພາອໃນ

ສະຫຼຸບ: ຕ້ອງປະເມີນສະພາບແວດລ້ອມ ສອງດິນ ເລື່ອງຄວາມອາດສາມາດ ແລ້ວວາງນະໂຍບາຍ ສ້າງລະມັດລະວັງ ແລະເລືອກໃຫ້ແທດ ເໝາະເໝາະ ກ້າວໄປເຖິງການກາອ ເປັນຜູ້ແຂ່ງຂັນທີ່ດີ.

ປັດໃຈອາວຸກອນ

ກິດພາອ ແລະ ນະໂຍບາຍ

ປັດໃຈອາວຸກອນທີ່ສຳຄັນໃນການດຳເນີນທຸກຊຸດແມ່ນ:

1. ການກຳລັງເປັນທຸກຊຸດ
2. ສິດທິເປັນຜູ້ອຸປະສັບ
3. ນາຍີ
4. ມີຄວາມສາມາດສ້າງຄວາມສຳເລັດ, ສ້າງແຜນທີ່ອຸປະສັບ ແລະ ບາງຈຸດສຳຄັນເພື່ອ: ໂຄງສ້າງການຈັດຕັ້ງ ທາງກິດພາອ.

ນອກຈາກນີ້ເພື່ອຄວາມສາມາດ ນະໂຍບາຍ ແລະ ການເຮັດທຸກຊຸດສຳເລັດ.

ປັດໃຈອາວຸກອນ

ເສດຖະກິດ

ໃນພາກນີ້ແມ່ນເລື່ອງເລື່ອງ ເງິນເຮື້, ເງິນສົດ, ການແທ້ງຕົງສິນ-ວົງ ສອງອັດຕາແລກປ່ຽນ, ອັດຕາດອກເບ້ອ, ການເງິນໃນຕະຫຼາດ, ສອບວຽນສອງຖະລະກິດ.

ປັດໃຈອາວຸກອນ

ສັງຄົມ ແລະ ວັດທະນາທຳ

ບໍລິສັດນັກຈະໄດ້ຮັບຜົນກະທົບທຸກໆ ທີ່ມີການປ່ຽນແປງສັງຄົມ ແລະ ການປ່ຽນແປງ ສັງຄົມຈຳນວນ ປະຊາກອນ, ອາຍຸ, ຜູ້ອົກເຊີ, ສົກຈາກປະເທດ ອື່ນ.

 <p>ຄວາມຮູ້ທົ່ວໄປ ກ່ຽວກັບ ພະລັງງານແສງຕາເວັນ</p> <p>REEPRO www.reepro.info</p> <p>Solar Energy- Introduction</p> <p>ໂດຍ: ດຣ ຄຳສອນ ມິນທະວິງ, ຄະນະວິສະວະກຳສາດ, ມະຫາວິທະຍາໄລແຫ່ງຊາດ</p>  <p>Module 02 and 03/1st session - Slide 1</p>	 <p>ໄຟຟ້າແສງຕາເວັນ</p> <p>REEPRO www.reepro.info</p> <p>Photovoltaic</p> <p>ໂດຍ: ດຣ ຄຳສອນ ມິນທະວິງ ມະຫາວິທະຍາໄລແຫ່ງຊາດ</p>  <p>Module 02 and 03/1st session - Slide 1</p>
 <p>ໝໍ້ໄຟ</p> <p>REEPRO www.reepro.info</p> <p>Battery</p> <p>ໂດຍ ດຣ ຄຳສອນ ມິນທະວິງ</p>  <p>Module 02 and 03/1st session - Slide 1</p>	 <p>ບົດຮຽນ ຈາກການນຳໃຊ້ລະບົບໄຟຟ້າ ແສງຕາເວັນ</p> <p>REEPRO www.reepro.info</p> <p>Experiences</p> <p>ໂດຍ ດຣ ຄຳສອນ ມິນທະວິງ ມະຫາວິທະຍາໄລແຫ່ງຊາດ</p>  <p>Module 02 and 03/1st session - Slide 1</p>

5.5 List of Participants

List of Participants on level 2 in UDX

No	Title	First Name	Last Name
1	Mr	Salixay	Thapsamath
2	Mr	Khamphou	Xaypanya
3	Mr	Somlee	Inthasak
4	Mr	Khamphone	Panyakeo
5	Mr	Meephone	Inkhaluexay
6	Mr	Anoukhone	Nahavong
7	Mrs	Champa	Lathsanee
8	Mr	Bounxay	Inthapanya
9	Mr	Khamphay	Innamvong
10	Mr	Santy	Duangphouxay
11	Mrs	Vilaisouk	Phengsavat
12	Mr	Khonsavane	Xayalath
13	Mr	Bounpane	Chidvongdueane
14	Mr	Sao	Phommachanh
15	Mr	Khamsao	Manmanee
16	Mrs	Sengphet	Chanthavong
17	Mr	Thongphet	Phetsouphaphone
18	Mr	Vanxay	Boudtanavong
19	Mr	Khampheang	Oulaiphone
20	Mr	Ounla	Keopasued
21	Mr.	Khamphan	Phontavy
22	Mr.	Khamphao	Duangphasi

5.6 Signed list



ສະມາທິພົດທະນາຄານປຸກແລະສ້າງວັດສະດຸ (ສ.ສ.ຊ.ສ.)

Community Development and Environment Association
P.O.Box: 4458, Vientiane, Lao PDR, Tel/Fax: (854-21) 245512, 020-2222187
Email: keosankhath@yaho.com

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມການຝຶກອົບຮົມການນຳໃຊ້ແຫຼ່ງພະລັງງານທົດແທນລະດັບ 2 ທີ່ແຂວງອຸດົມໄຊ
(ສຳລັບວິຊາການ)

List of participate training on renewable energy recourses level 2 in Oudomxay Province

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and Surname	ຕຳແໜ່ງ Position	ບ່ອນປະຈຳການ Organization	10/03/2009 Signature	11/03/2009 Signature	12/03/2009 Signature
1	ທ. ສິມສິ ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
2	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
3	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
4	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
5	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
6	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
7	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
8	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
9	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
10	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
11	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
12	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
13	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
14	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
15	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]

16	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
17	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
18	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
19	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
20	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
21	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
22	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
23	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
24	ທ. ສິມສິ	ອຳເພີ	ໂຮງຮຽນ	[Signature]	[Signature]	[Signature]
25						
26						
27						
28						
29						
30						
31						
32						
33						

ສຳນັກ: ສິມສິ, ສິມສິ, ວັນທີ/Date: 12/03/2009
ຊື່/Trainer

ຊື່ຜູ້ຢັ້ງຢືນ/Certified by:

5.8 List with complete contact data

ສາທາລະນະລາຍສາມາດສູນ ແລະ ລັງສະວະລິຍາ (ສ.ສ.ຊ. ສ.)
 Community Development and Environment Association
 70, Box 463, Vientiane, Lao PDR. Tel: 856-021 253396, Fax: 856-021 243332, 856 8095 02290.
 e-mail: cdeandep@yahoo.com; Newmark.hunth@yahoo.com

ລາຍຊື່ຜູ້ເຂົ້າຮ່ວມການຝຶກອົບຮົມກ່ຽວກັບແຫຼ່ງພະລັງງານທົດແທນລະດັບ 2 (ສຳລັບວິຊາການ)
 List of participants renewable energy sources training programmes level 2

ຊື່ໂຄງການ/Project Name: _____
 ສະຖານທີ່/Location: ເມັງຄາ, ບ້ານ ກຸນຕິ, / Xay District, Luang Prabang Province
 ວັນ/Date: 10.10.2009

ລ/ດ No	ຊື່ ແລະ ນາມສະກຸນ Name and surname	ຕຳແໜ່ງ Position	ບ່ອນປະຈຳການ Organization	ເບີໂທລະສັບ/ອີເມວ Tel/Email	ລາຍຊື່ Signature
1	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5982007	[Signature]
2	ທ. ຈິນຕອນ ພິມມະວິ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	081112002	[Signature]
3	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	23700007	[Signature]
4	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	29533000	[Signature]
5	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5177199	[Signature]
6	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	6520 1000	[Signature]
7	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	526 5552	[Signature]
8	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	59812 80	[Signature]
9	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	2114631	[Signature]
10	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	210 2550	[Signature]
11	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	1121511	[Signature]
12	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	60502 10	[Signature]
13	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5080210	[Signature]
14	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	2980 459	[Signature]
15	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5886939	[Signature]
16	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5481662	[Signature]
17	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	65 87700	[Signature]
18	ທ. ສິມສິມສິມ	DNDP	PSP Project	50020075	[Signature]
19	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5039674	[Signature]
20	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5920541	[Signature]
21	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	246584	[Signature]
22	ທ. ສິມສິມສິມ	ບຸກຄົນ	ສາທາລະນະລາຍສາມາດສູນ	5011200	[Signature]
23					
24					
25					

5.9 Photos



Figure 11: Group Photo of participants level 2 training



Figure 12: Dr. Khamphone was presenting about PV



Figure 13: Participant were making rocket stove



Figure 14: Measuring panel output



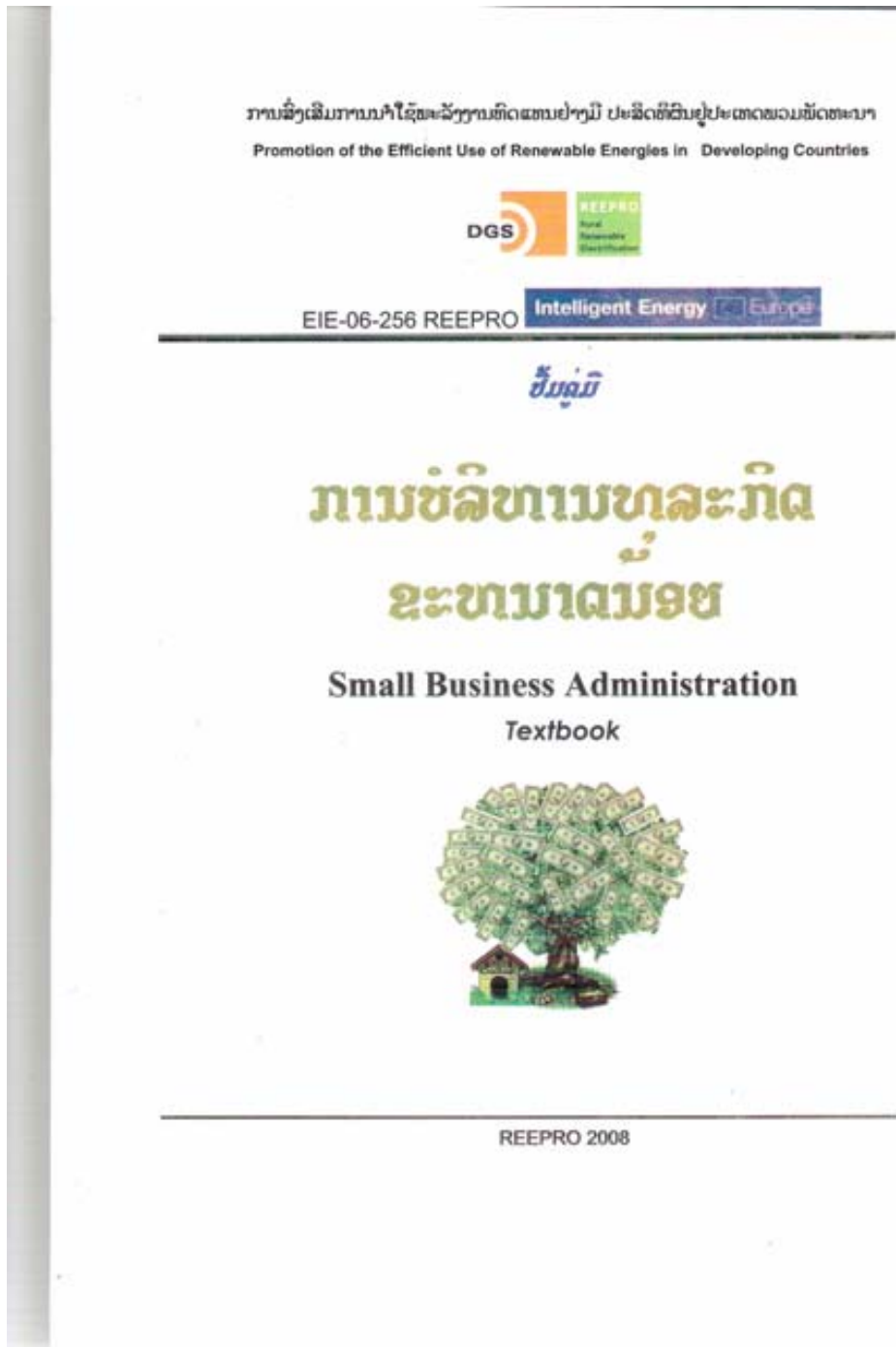
Figure 15: Business session was introducing to participants



Figure 16: Participants and trainers had joined lunch

6. Appendices

Appendix 1: Small Business Administration



Appendix 2: Solar Energy

