





# Vocational Technical Training for Cambodia and Laos rural electrification SMEs (VTCL)



PILOT TRAINING IN LAO PDR  
25/9 - 06/10/ 2006

Assoc. Prof. Koranh Pasomsouk



# Introduction

- According to Project plan, the pilot training for Lao case was done in 11 days at NUOL
- The training course was designed using the modular structure
- Total Participant is 11 persons
- In there 5 are from government, and 6 from private company
- The training was going so smoothly and completed all topics

2006 9 25

# Objectives

- To train both technical and administration staff of SMEs in improvement of quality, safety in the services
- To test our new training course designed in the modular structure
- To prepare our trainers and working team in the training purpose

# Preparation (TOT)

Too big Genset system

Well done !!  
my friends





# Preparation (TOT)



# Staff

- Admin

Korakanh Pasomsouk  
Sengprasong Phrakonkham  
Sisouk Kommadam

- Teaching

Mr. Soumek  
Mr. Khamsene  
Mr. Sombath  
Mr. Phanxay  
Mr. Vanhxay  
Mr. Sisavath

- Monitoring

Mr. Payvanh  
IED Representative

# 11 Participants from 20 applicants

No	Name and surname	Age	Occupation	Type of Org.
1	Mr. Thongsay Sisomthep	44	Manager	Private
2	Mr. Bounthom Sayacahck	42	Technician	Private
3	Mr. Sonphet Vonphomkong	44	Commercial officer	Private
4	Mr. Khamsing Sonedala	23	officer	Private
5	Mr. Somvang Chanthavong	20	Technician	Private
6	Mr. Sengsawanh Vayakone	23	Teacher	Govern.
7	Ms. Vilayphone Sivongxai	26	Teacher	Govern.
8	Mr. Souvanhkhham Sotoky	24	Former student	Govern.
9	Mr. Soulanone Namthilath	26	Former student	Govern
10	Mr. Khamkeut	34	Officer Industry & Mining Dept.	Govern.
11	Mr. Keoonta Duangphanith	32	Teacher	Private



# Curriculum

- Module A1 : *Business management and business development*
- Module B1 : *Electricity production with a midsize generator*
- Module B2 : *Electricity distribution in a small net work*
- Field Visit : *Sunlabob Company*



# Schedule



# Day 1    25 /09 /06    Monday

- Opening Ceremony
- Course Orientation

Module B1 *Electricity production with  
a midsize generator*

– *Unit B1.1 Basic electricity fundamental*

- Lecture, exercise and Practice at EE Lab. By  
Mr. Sisavath



# Day 2 26/09/06 Tuesday

- Module B1 : (Continue)
  - Unit B1.2 Operation of Diesel Engine and Genset
  - Unit B1.3 Regular maintenance of Genset
    - Lecture and Exercise at EE Lab. By Mr. Khamsene

# Day 3    27 /09 /06    Wednesday

- Module B2: *Electricity distribution in a small net work*
- Unit B2.1 Making network connection, earthing and installation meter
  - Lecture, exercise and Practice at EE Lab. by  
Mr. Soumek

# Day 4 28 /09 /06 Thursday

- Practical work and Exercise at EE Lab.

*The practical work was supposed to be trained at EDL center, but we were faced with the budget problem, the technician couldn't operate the Gen-set*



# Day 5    29/09 /06    Friday

- Assessment of Module B1
- Module B2 : (Continue)
  - Unit B2.2 Building a low Voltage network
    - Lecture , exercise and practice at EE Lab. By Mr.  
Sombath

# Day 6 30 /09 /06 Saturday

- Unit B2.2 (continue Practice at EE Lab)
- Unit B2.3 : Safety and Environment  
Lecture and exercise by Mr. Soumek
- Unit B2.4 : Battery charging as commercial activity  
Lecture and exercise by Mr. Vanhxay

# Day 7 02 /10 /06 Monday

- Assessment of Module B2
- Module A1 *Business management and business development*
- Unit A1.1
  - Economics for small energy enterprise
  - Pricing and tariff



# Day 8 03 /10 /06 Tuesday

- Unit A1.1 (continue)
  - Pricing and tariff
  - Customer management
    - Lecture and exercises at EE. Lab. By Mr. Phanxay
- Unit A1.2
  - PV system
  - Wind power
    - Lecture and exercises at EE. Lab. By Mr. Phanxay

# Day 9 04 /10 /06 Wednesday

- Unit A1.2 (Continue)
  - Small Hydropower
  - Biomass
  - Case study
    - Lecture, exercises at EE Lab. By Mr. Phanxay
- Unit A1.3
  - Energy efficiency technical standards and license requirement

# Day 10 05 /10 /06 Thursday

- Unit A1.3 (continue)
  - Energy efficiency and conversion method
  - Electrical standards
  - License requirement
    - Lecture, exercise and practice at EE. Lab. by Mr. Sombath
- Assessment of A1
- Practical work at EE Lab.



# Day 11 06 /10 /06 Friday

- Field Visit:
  - Sunlabob Co.Ltd
- Course Evaluation
- Closing and Certificate





ການຝຶກອົບຮົມ

ກ່ຽວກັບການໃຫ້ບໍລິການໄຟຟ້າຮາກລະບົບສໍາລັບວິສາຫະກິດ  
ຂະໜາດກາງ ແລະ ຂະໜາດນ້ອຍ ໃນ ສປປ ລາວ

ຈັດໂດຍ ຕະນະວິສະວະກໍາສາດ, ພາຍໃຕ້ການຮ່ວມມືຂອງ ETC, ຮອນລັງ ແລະ IED, ຝຣັ່ງ  
ສະໜັບສະໜູນໂດຍສະຫະພາບຢູຣົບ, ໂດຍຜ່ານໂຄງການ EC - ASEAN  
ວຽງຈັນ, 25.09 - 06.10 2006



Vocational Technical Training Pilot for Lao Rural Electrification  
Organized by FE in Cooperation with ETC, Netherlands and IED, France  
Vientiane, 25.09-06.10 2006



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ຜູ້ປະກອບການ

# Feedback from Participants

- The training course is very interesting and will be useful for they job
- The equipment used in the training course is very shortage
- Some young teachers (trainers) are less experiences in the practical work
- Some formulas using in the training needed more supporting document
- Manual in Lao version have to be improved
- There was very good organized training course because the project provided Lunch and per diem and some facilities



# Feedback from Participant

- The following units are common interested in among participants:
  - A1.1 Economics for energy enterprises
  - B1.1 Basic electricity fundamental
  - B2.1 Making network connection
- The following units are not interested in at all :
  - **B2.4** Battery Charging as commercial activity
- The Courses are needed for the future training:
  - Design of electrical system in building
  - Voltage regulator (Controller )for small Hydropower
  - Environmental Engineering, case study of Lao PDR

# Feedback from trainers

- Too much content covered in the Unit, some of topics are not suitable to Lao case
- It is a very short period training, but too many topics to be taught
- At the beginning, the planning wasn't so clear, it is leading to get confuse "who do what?"
- Preparation time was too short (only 1 week)
- Practical is lacking of equipment and tools
- Level of training is suitable to all participants
- It needs more train the trainer in practical work
- Most topics are completed in training and participant have learned so many new things

# Recommendations

- It needs more time to prepare teaching materials
- Due to limitation of budget and time, candidates are mostly from capital city and nearby provinces,
- Teaching Materials should be easy to understand, e.g less theory but more practical orientation
- Used references must be provided with supporting document
- The period of training is not appropriated time, most of our staff were busy in that time
- We were faced with budget problem
  - Budget should be available some how
  - Billing system is too complicated to handle

# Discussion questions

- Do we need follow up the project ?
- Can the project be extended ?

COORAY

Thank you for your attention