Profitable and affordable energy services for remote areas of Lao PDR

By Andy Schroeter
What is Sunlabob?

Private Energy Provider for remote areas in Laos.

• Selling light per hour with portable battery lamps
• Renting out SHS for fixed monthly tariffs
• Selling KWh in villages with Village Hybrid Grids
Our Mission

...to be competent in logistics and operational handling
Our Mission

.... to be competent in providing commercially viable energy services
Our Mission

.... to be competent in reaching the remotest areas in Lao PDR
Increasing numbers of franchised small entrepreneurs as sales agents

Sunlabob provides equipment, trainings, quality control and networking

Head office in Vientiane 38 people
I. Rental operations of SHS for individual – and community use
Renting out Solar Home Systems for individual households

The majority of Rural Households can afford Solar Lighting for at least 20 years

Operate a Rental Service

- Affordable and Steady Financial commitment for Households
- Avoid Dependence on Subsidies
- Financial Flexibility (non sitting on expensive investments) for Households
- Long-term capital for purchasing equipment
- Reliable and fast technical servicing
- Reliable and Cheap Collection of Rents
- A Rental Fund as an investment opportunity
- Franchised Network of service agents of Sunlabob
- Competent Village Energy Committees trained by Sunlabob
Sunlabob rental service for solar equipment is among the final winners of the Development Marketplace of the World Bank 2005.
Renting out Community Systems for Villages

The majority of Rural Households can afford Solar Lighting for at least 20 years

Affordable and Steady Financial commitment for Villages

Avoid Dependence on Subsidies

Financial Flexibility (non sitting on expensive investments) for Villages

Operate as Rental Service

Long-term capital for purchasing equipment

Reliable and fast technical servicing

A Rental Fund as an investment opportunity

Franchised Network of service agents of Sunlabob

Reliable and Cheap Collection of Rents

Competent Village Energy Committees trained by Sunlabob
Community Systems A

• For public use (e.g. schools, health posts, meeting halls,…) to improve the living conditions in the village
Community Systems B

- For productive use (e.g. water pumps, rice mills, ice producing machines,...) to generate income in the village
II. AC Village Hybrid Grids for productive use
Village Hybrid Grids

We must go beyond improving living conditions with electricity towards increasing income with electricity

• Therefore we need AC village grids

• Hybrid Grids can profitably combine various energy sources
PPP For Remote Village Grids

Private Energy Provider (PEP)

Operate Hybrid Generation

Pico/Micro Hydro
Solar Generator
Bio-fuel Genset

Sell AC KWh
Remote Village With Grid

Movable assets

Private Public Partnership

Fixed assets

Trust-Fund

Eco-Fund

Village Electrification with Hybrid System
Hybrid village grid as viable business
1. The typical situation
Hybrid village grid as viable business

2. Public-Private cooperation for hydro

- Dam
- Channel
- Hydro Power Plant

Public use
- Public owns and operates

Household use
- PEP owns and operates
Hybrid village grid as viable business

3. Boost grid with solar and bio-fuel genset → hybrid

- Public use
- Household use
- Hydro Power Plant

Public owns and operates
PEP owns and operates
Hybrid village grid as viable business

4. Boost system for productive uses

- Dam
- Public use
- Channel
- Hydro Power Plant
- Household use
- Productive use

Public owns and operates
PEP owns and operates
local small Enterprise owns and operates
Private-Public Partnership for Village Grid

Households
Village enterprises

Village Energy Committee

Franchised small entrepreneur

Private Energy Provider (Sunlabob)

Investments by individuals

Public Investments

Public Private Partnership

Private Investments

sells kWh

owns

hires

sells kWh

trains

repair, maintains

trains

owns

dams, intake, channel generator housing village grid

service

penstock, turbine, generator, solar panels, bio-fuel generators chargers, inverters batteries

owns

operates

Private Energy Provider (Sunlabob)

Village Technician

Franchised small entrepreneur

Village Energy Committee

Households
Village enterprises

Public Private Partnership

Private Investments

Public Investments

Investments by individuals

Village Energy Committee

Franchised small entrepreneur

Private Energy Provider (Sunlabob)
Donor Agencies:
- Public Investment
- Central government
- Provincial government
- District government
- Village community

"Traditional" way to provide public funds
Channel Funds to enhance good local governance

Donor Agencies: Public Investment

Central government

& mutual leverage for efficient funding

Private Investors

Trust Fund

Fund transfer

Eco-Fund

Energy Committee of Village Community

Letter of credit for - public infrastructures - capacity building

Letter of accomplishment

Energy Service Company

Letter of accomplishment

Loans, Equity for movable equipment

Private Investors

Efficient funding

Loans, Equity for movable equipment

Energy Committee of Village Community

Letter of accomplishment

Energy Service Company

Letter of accomplishment
III. Portable Lanterns charged by village solar unit
Renting out Battery Lamps to households

Central village charging station

Deposit of Lamps

small village entrepreneur

recharged lamps

empty Lamps

Household
Renting out Battery Lamps to households

Central village charging station

$0,5 / 15 hours
- 1 pack of Cigarettes
- ½ litre of Gasoline
- 1 Bottle of Beer

Deposit of Lamps

recharged lamps

empty lamps

small village entrepreneur

Household
Renting out Battery Lamps to households

Central village charging station

Installation & Servicing

Deposit of Lamps

recharged lamps

empty lamps

small village entrepreneur

Household

$0.5/ 15 hours

- 1 pack of Cigarettes
- ½ litre of Gasoline
- 1 Bottle of Beer

cost covering rent
Renting out Battery Lamps to households

Central village charging station

recharged lamps

Deposit of Lamps

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Installation & Servicing

cost covering rent
High Light II

- Sunlabob’s new approach for battery charging lamps wins the Ashden Award 2007
IV. Training programs
End-user training

It is important that End-users understand how they can efficiently use energy.
Entrepreneur training

It is important to have motivated and competent service agents. Sunlabob identifies the best small-entrepreneurs-trainees to become the franchise service agents.
It is important to have well trained VECs, able to support and manage the operation of the hybrid village grid.
The Village Technicians are an early warning system. They crucially contribute to the long-life-operation of the systems.
Sunlabob staff...

It is essential to have experienced and skilled trainers, supervisors, managers and technicians on central level. Continuous upgrading training based on the newest technical and management developments to all staff members is assured.
PPP Investment program for Rural Electrification in South East Asia
Thank you for your attention

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