Profitable and affordable energy services for remote areas in 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
The Operational Setting

Head office in Vientiane 36 people

Increasing numbers of franchised small entrepreneurs as sales agents

Sunlabob provides surveys, equipment, trainings, quality control and networking
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

- Affordable and Steady Financial commitment for Households
- Avoid Dependence on Subsidies
- Financial Flexibility (non sitting on expensive investments) for Households
- 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

Operate a Rental Service

Long-term capital for purchasing equipment
High Light I

• 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 a Rental Service

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
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)

- Pico/Micro Hydro
- Solar Generator
- Bio-fuel Genset

Operate Hybrid Generation

Sell AC KWh

Remote Village With Grid

Movable assets

Private Public Partnership

Fixed assets

Village Electrification with Hybrid System

Eco-Fund

Trust-Fund
Hybrid village grid as viable business
1. The typical situation
Hybrid village grid as viable business
2. Public-Private cooperation for hydro
Hybrid village grid as viable business

3. Boost grid with solar and bio-fuel genset → hybrid
Hybrid village grid as viable business

4. Boost system for productive uses
Private-Public Partnership for Village Grid

Households
Village enterprises

Village Energy Committee
owns
dams, intake, channel
generator housing
village grid
 hips service

Franchised small entrepreneur
 owns
penstock, turbine,
generator,
solar panels, bio-fuel
 generators
chargers, inverters
 batteries

Private Energy Provider
(Sunlabob)
 hires
trains

Village Technician
 operates
trains
repairs, maintains

Investments by individuals

Public Investments

Public Private Partnership

Private Investments
Donor Agencies: Public Investment

„Traditional“ way to provide public funds

Central government

Provincial government

District government

Village community
Energy Service Company

Letter of accomplishment

Channel Funds to enhance good local governance

& mutual leverage for efficient funding

Donor Agencies:
Public Investment

Central government

Trust Fund

Letter of credit for
- public infrastructures
- capacity building

Energy Committee of Village Community

Letter of accomplishment

Private Investors

Eco-Fund

Loans, Equity for movable equipment

Energy Service Company

Fund transfer
III. Portable Lanterns charged by village solar unit
Renting out Battery Lamps to households
Renting out Battery Lamps to households

- Central village charging station
- Recharged lamps
- Deposit for lamps
- Empty lamps
- Small village entrepreneur
- Households
- 0.5 USD / 15 hours
- ( = 1 pack of cigarettes)
- ( = 1/2 litre of gasoline)
- ( = 1 bottle of beer)
Renting out Battery Lamps to households

- **Installation/Service**
- **Central Village Charging Station**
- **Small Village Entrepreneur**
- **Deposit for lamps**
- **Recharged lamps**
- **Empty lamps**
- **Households**

**Cost:**
- 0.5 USD / 15 hours
  - = 1 pack of cigarettes
  - = 1/2 litre of gasoline
  - = 1 bottle of beer
Renting out Battery Lamps to households

0.5 USD / 15 hours

(= 1 pack of cigarettes)
(= ½ litre of gasoline)
(= a bottle of beer)
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-enterpreneurs-trainees to become the franchise service agents.
Village Energy Committee training...

It is important to have well trained VECs, able to support and manage the operation of the hybrid village grid.
Village Technician training...

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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