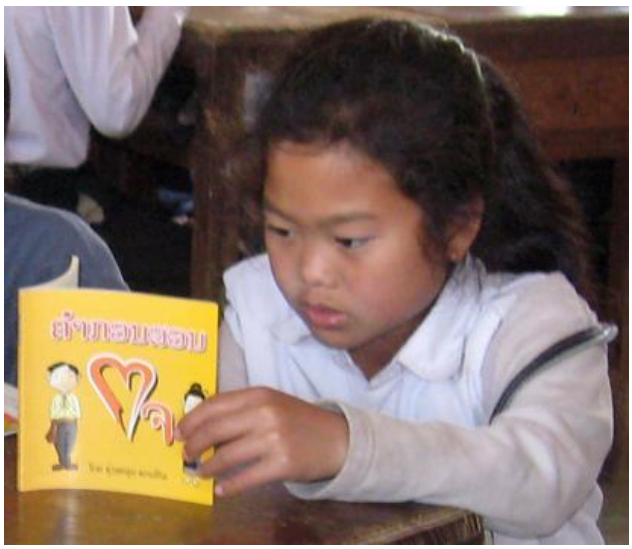
HELVETAS
Together for a better world

Swiss Association for International Cooperation
Weinbergstrasse 22a, P.O. Box 3130, CH-8021 Zurich
Phone +41 (0)44 368 65 00, Fax +41 (0)44 368 65 80
info@helvetas.org, www.helvetas.ch

Rural Income through Sustainable Energy (RISE)



Final Report
1 September 2007 – 30 June 2010
for REPIC

Table of contents

Images on front cover:

Top left: Aluminium bracelets

Top right: Little girl reading a new book

Bottom left: Woman weaving

Bottom right: Spoons made from scrap metal

1 Summary

The Rural Income through Sustainable Energy (RISE) project is an innovative public-private partnership with the dual objective of a) supplying clean and reliable electricity in remote areas of Laos and b) supporting villagers to develop productive and social uses of electricity. This project follows a first demonstration project in the framework of which the village of Ban Nam Kha in Xieng Khuang Province was electrified with a hybrid mini-grid.

1.1 Main project activities during reporting period

a) Management and Steering
- Staff recruitment and setting up a project office in the field
- Official approval of the project
- Creation of the Steering Committee and first Steering Committee meeting
- Networking and partnership building
- Evaluation of the project

b) Electrification of target villages in Xieng Khuang Province
- Grid construction in the Nam Kha area
- Creation of an inter-village watershed management committee
- Assessment of the current use and problems of accessing electricity in Ban Nam Kha
- Identification of new sites in Xieng Khuang

c) Electrification of target villages in Huaphanh Province
- Feasibility study of the rehabilitation of Nam Et micro-hydro in Viengthong district
- Meetings with district and provincial authorities

d) Promotion of productive and social uses of electricity in Paxay district, Xieng Khuang Province
- Surveys in target villages
- Value chain development
    - Tourism
    - Handicraft
    - Livestock
    - Fish farming
    - Organic farming
- Support to farmers to invest in productive tools

e) Promotion of efficient and safe use of energy
- Promotion of efficient electric devices
- Raising awareness on energy efficiency and safety issues
- Promotion of improved cook stoves/kilns

f) Carbon Compensation Options and exploring innovative energy supply schemes

g) Project promotion and outreach
- Development of a website
- Participation in internal conferences

1.2 Analysis of achievements and challenges in 2009

a) Achievements

- Signature of an agreement with Eléctricité du Laos EDL
- Electrification of rural households and social facilities
- Development of new/improved handicraft products in villages
- Development of an eco-tour
- Creation of village funds
- Promotion of efficient and safe use of electricity
- Creation of an inter-village watershed management committee
- Promotion of use of improved cook stoves in four villages
- Contribution to the policy dialogue on rural electrification and renewable energy
- Improved access to books for children
- Creation of new partnerships
- Development of a new approach and expansion of the project to new areas

b) Challenges

- Lengthy institutional negotiations
- Lack of community ownership of the existing mini-grid in Ban Nam Kha
- Lack of ownership over the electricity system in Ban Nam Kha, high tariff and less reliable than expected supply
- Limitation of the system
- Rural energy pricing policy
- Lack of linkages with markets and of unique products
- Villagers' lack of willingness to take risks

2 Introduction

2.1 Project background

Helvetas collaborated with Sunlabob[1] in a pilot project in 2006-2007 to prove the technical feasibility of a hybrid village grid. In this framework, the micro-hydro scheme of the village of Ban Nam Kha in Paxay district, Xieng Khuang Province was rehabilitated and two new sources of electricity (solar and diesel) were added and the micro-hydro turbine was replaced by a new one. The entire mini-grid was redesigned and rebuilt with high technical standards. The mini-grid was commissioned in April 2007.

After this first success it was decided to continue the project and to start a first phase which would include a socio-economic component in addition to the existing technical component. The first phase of the project started in September 2007**.**

3 Key project activities during 2007 - 2010

3.1 Management and Steering

a) Staff recruitment and setting up a project office

An expatriate technical advisor stared to work on the project in September 2007. A team of local staff was gradually recruited in 2008. As of June 2010, the project team comprises of one expatriate technical advisor, one rural development officer, one administration cum energy officer, two field officers and one cashier. RISE project was working out of a project office located in the Provincial Department of Energy and Mines (PDEM) from August 2008 to June 2010. It is now moving to its own office due to lack of space in the PDEM office.

b) Official approval of the project

After many efforts Helvetas, Xieng Khuang Province and Sunlabob signed a Memorandum of Understanding in December 2008.

c) Steering Committee

After signature of the MoU a Steering Committee was established and has held two meetings in March 2008 and February 2009.

d) Networking and partnership building

RISE project devoted a lot of time and energy to develop new partnership beyond the core partners of the project (Ministry of Energy and Mines and Sunlabob).

e) Project evaluation

RISE project was evaluated by a team of consultants in January 2010. The survey team advised the project to continue, but to focus on one province (Xieng Khuang) rather than trying to expend to new provinces. The consultants also advised Helvetas management to keep linking energy access with livelihood development but to concentrate on technologies smaller than micro-hydro (e.g. solar, pico-hydro, etc.). The reason is that the rural energy context and policies is at the moment not favorable for the expansion of micro-hydro.

[1] Sunlabob is a Lao company providing alternative energy options in Laos' remote areas.

3.2 Electrification of target villages in Xieng Khuang Province

a) Grid construction in the Nam Kha area

The initial plan to build a mini-grid connecting four villages in Phaxay district, Xieng Khuang Province had to be changed, mainly because of the "competition" of the grid which reached a village 5 km away from RISE target villages. Discussions with villagers showed that they were not ready to pay a price for electricity higher than the standard grid tariff.

It was quickly realized that a collaboration with the national utility EDL would result in a win-win-win-win situation, whereby EDL can electrify remote villages at a low cost, villagers pay electricity at the national (subsidized) rate, Helvetas can promote more productive uses of electricity and Sunlabob can sell 100% of the electricity produced by its turbines.

Discussions and negotiations with EDL took more than a year. A MoU between Helvetas and EDL for the construction of a mini-grid up to EDL standards in four villages and a link between this mini-grid and the national grid was finally signed in December 2009. At the same time Sunlabob and EDL signed a Power Purchase Agreement (PPA) under which EDL agrees to buy electricity produced by Sunlabob in Nam Kha I and Nam Kha II micro-hydro power plants.

The grid construction was completed by EDL in early June 2010, reusing the grid built in Ban Nam Kha in 2007. Households in five villages were connected to the grid during the last week of June 2010, following a survey and approval of the grid and of the internal wiring. Sunlabob completed the rehabilitation of Nam Kha II micro-hydro in early June 2010 and completed the commissioning of the Nam Kha I and II micro-hydro schemes during the last week of June 2010.

b) Creation of inter-village watershed management committee

An inter-village watershed management committee was created with the help of GTZ/MRC[2] Watershed Management Project after a survey of the Nam Kha watershed in April 2009 and a training in mid-July 2009. RISE also supported the first meetings of the committee and capacity building as well as the construction of a new bridge in Ban Nam Kha. This committee aims at protecting the Nam Kha watershed to ensure continuous flow of clean and abundant water in the Nam Kha river in particular to ensure regular power supply.

c) Assessment of the current use and problems of accessing electricity in Ban Nam Kha

From September 2007 and until the MoU was signed with EDL, RISE monitored the use of electricity in Ban Nam Kha and worked with the villagers to identify problems and address them. A meeting to review the problems and identify solutions was organized in September 2009. This led to the nomination of the head of the village to enforce the energy policy and to collect the potential fines. In addition it was decided that the villagers not following the new energy policy would be disconnected and/or fined.

d) Identification of new sites in Xieng Khuang

Due to the decision not to pursue further activities in Huaphanh Province (see below) more sites were identified in Xieng Khuang Province during the first part of 2010. Following the recommendations of the project evaluation it was decided to focus on technologies smaller and more flexible than micro-hydro and to work with partners already well implanted in the field.

Different projects working in Xieng Khuang as well as provincial departments were interviewed in order to identify first potential sites. A market survey was also conducted to identify places of production of items sold in the Provincial and District markets.

---

[2] MRC: Mekong River Commission

3.3 Electrification of target villages in Huaphanh Province

a) Feasibility study of the rehabilitation of Nam Et micro-hydro in Viengthong district

A one day survey of Nam Et micro-hydro took place in April 2009 and included staff from RISE, Sunlabob, LIRE and the Vietnam Institute for Water Resources Research (VIWRR). This limited survey was followed by a more comprehensive socio-economic and technical survey in November-December 2009 carried our by RISE in collaboration with SHER S.A.

b) Meetings with district and provincial authorities

Several meetings were conducted in August and October 2008 as well as in September 2009 with the authorities of Huaphanh province and Viengthong and Samtay districts to identify suitable sites for rehabilitation as well as to discuss the results of the different surveys organized. After an analysis of the results of the feasibility study in Nam Et as well as the result of the evaluation and after discussions with the government at central level, it was decided not to pursue further activities in Huaphanh Province. District and provincial authorities were informed accordingly.

3.4 Promotion of productive and social uses of electricity in Paxay district, Xieng Khuang Province

a) Surveys in target villages

A participatory baseline survey was carried out in four villages in Paxay district by RISE staff members, provincial officials and two district staffs. Results were compiled in a concise manner in a report.

In addition, district and Provincial authorities conducted different surveys to identify the main livestock problems and prepare an action plan to address them.

Four handicraft surveys were carried out by different handicraft shops in the four target villages in order to further identify the kinds of handicrafts currently produced, the possibility to improve the quality/quantity of handicraft and assess the potential markets.

A tourist site survey was organized in January 2009 with representatives of RISE, provincial tourism department, district department of information and culture.

b) Value chains development

- **Tourism**:
  - Tourism market survey conducted during February – June 2009 (more than 250 forms collected and compiled)
  - Action plan for tourism development prepared by the Provincial Tourism Department (PTD) and endorsed by the District Governor
  - Participatory eco-tourism development was conducted in Ban Nam kha and Naphia by a local consultant
- **Handicraft**
  - Meetings between handicraft producers in target villages and two shops in Vientiane, one shop in Luang Prabang, one shop in the U.S.A., one shop in Phonsavanh and two local traders were supported
  - Artisans in four villages were supported to start production for four shops and local traders
- **Livestock**:
  - Series of two trainings (on veterinary services and nutrition/management) carried out in three villages. These were attended by a total of 91 women and 141 men.
  - Follow up meetings to continue livestock promotion organized in early 2010

- **Fish farming**:
  - Fish raising training was organized at a fish farming station of the Provincial Agriculture and Forestry Office and was attended by nine villagers from four villages in July 2009.
- **Organic farming** :
  - A two day training on organic vegetable production was organized in Ban Nam Kha in March 2009. The training was conducted by two farmers trained by the Helvetas PROFIL[3] project. Three of the trainees participated in a study tour in Vientiane in May to visit the organic market and to visit farmer groups supported by PROFIL project.
  - A participatory agricultural need assessment was organized with a local organization (SAEDA) in May 2010. An action plan was prepared and trainings of organic rice growing will be provided in July 2010.

e) Support to farmers to invest in productive tools

To improve access to credit in RISE target villages in Paxay district, work was done with the Lao Women Union (LWU) of the district level to develop village development fund (VDF) regulations. After checking interest of villagers, a VDF was created in 3 villages and the committee members of each fund were trained in November 2009. The three VDFs are now operating as village managed credit/saving schemes. The VDF are regularly monitored by the Lao Women Union with support from RISE. In two villages, people demanded for loans which exceed the capacity of the fund. RISE contributed to the fund. RISE also facilitated discussions between VDF management and LWU for long term monitoring with RISE involvement and for the sustainable use of RISE contribution to the fund.

Discussions were also held with the Agriculture Promotion Bank to improve their outreach services.

f) Identification of potential social uses of electricity and book promotion

A concept to help poor households to get access to electricity was developed and surveys to understand better the ability to pay for electricity by the poor were conducted in June 2010. Based on the result of the surveys, RISE project will support poor households to get access to electricity with a no interest loan which will be reimbursed to the village.

Discussions were conducted with villagers to identify their needs for electrification of public and social facilities. An agreement was signed with the village authorities in five villages to share the costs of electrifying public and social facilities (80% project, 20% village authorities).

Environmental DVDs were collected from Mekong Watch[4] and will be shown during evening sessions in RISE target villages when electricity will be available.

RISE project collaborated with Big Brother Mouse[5] to organize book parties in its target villages in November 2009. They promoted reading books and distributed books for children and school libraries (created for these books). Availability of electricity will enable children to read in the evenings. More books were distributed in the four schools in March 2010.

---

[3] PROFIL: Promotion of Organic Agriculture and Marketing.

[4] Mekong Watch is a Japanese NGO focussing on environmental and social topics.

[5] Big Brother Mouse publishes Lao books („Books that make literacy fun!“).

3.5 Promotion of efficient and safe use of energy

a) Promotion of efficient electric devices

Initial surveys were conducted to understand the kind of appliances likely to be used in RISE target villages. Research was conducted to identify good quality energy efficient appliances able to satisfy the identified needs. Two companies were selected through a competitive bidding process to install the internal wiring in RISE target villages in Xieng Khuang and promote energy efficient appliances.

b) Raising awareness on energy efficiency and safety issues

A poster to promote energy efficiency was prepared with the help of a local company. Energy efficiency and safety trainings were designed and conducted in RISE target villages in Xieng Khuang. During the trainings RISE distributed the energy efficiency posters and energy safety booklets prepared by Electricite de France (EDF).

c) Promotion of improved cookstoves/kilns

A demonstration of improved cook stoves (ICS) was organized in four villages in collaboration with the women union of Paek district. The villagers showed much interest in the simple technology.

A survey of kilns used by the spoon makers to melt aluminum was conducted in January 2010 by a consultant. Designs for improved kilns were prepared and the construction of a demonstration improved kiln is planned for July 2010.

3.6 Carbon Compensation Options and exploring innovative energy supply schemes

Discussions with both local and international carbon traders were held. A draft project document and MoU were prepared by RISE project and My Climate to set up a collaboration to sell the carbon emissions saved by RISE project. However the discussions were based on a potential extension of RISE project and the rehabilitation of 10-13 micro-hydro schemes. Since this extension does not seem feasible for the time being, carbon activities were put on hold.

A concept note was prepared for a piece of research on rural electrification in Laos. It is currently being discussed with the Lao institute for Renewable Energy (LIRE).

3.7 Project Promotion and Outreach

a) Development of a website

A website presenting the project and its latest news was prepared in 2008 and is now available at **www.riselaos.org**. The website is regularly updated (e.g. with news) and projects documents and reports are regularly added.

b) Participation to internal conferences

RISE project was invited at the Rural Development Initiative held in Katmandu, Nepal in December 2008 and organized by the Blue Moon Fund (BMF). RISE project was also invited at the Small and Medium Enterprises (SMEs) in Decentralized Energy Services Conference held in Phnom Penh in April 2009. RISE presentation was very well received during both events.

4 Analysis of achievements and challenges during September 2007 – June 2010

4.1 Achievements

Although, the progress of RISE has been slower than expected, there have been significant achievements as well. Achievements since the beginning of the project are presented against logframe indicators in the annex below and include:

a) Signature of an agreement with EDL

For the first time in the history of Laos the national utility and an NGO will collaborate to extend the national grid to remote areas. The signature at the same time of a power purchase agreement (PPA) between EDL and Sunlabob is also a real breakthrough. For the fist time in Laos, a very small power producer (less than 3 MW) will start selling electricity to the national grid. This can potentially open the door to future investments in small scale renewable energy. Finally, this agreement creates a win-win-win-win situation for the project:

- Villagers become EDL customers and pay EDL subsidized electricity tariff
- EDL gets 300 more customers for a limited investment on their side
- Sunlabob sells 100% of the electricity produced in Nam Kha I and II
- RISE can promote more activities made more profitable due to the cheaper electricity tariff

b) Electrification of rural households and social facilities.

The agreement with EDL is bringing grid electricity to more than 260 rural households. The collaboration between villagers and the RISE project is bringing electricity to 12 public buildings (2 schools, 5 meeting halls, 5 temples) and 25 street lights.

c) Development of new/improved handicraft products in villages

The different surveys on handicraft organized by the project and the contacts organized between handicraft producers and value chain actors (traders, shops, etc.) led to the development and sale of new products by a number of villagers as described below:

- 10 women are producing Lao skirt bottom for local traders.
- Two men are collecting and processing Non-Timber Forest Products NTFP for a shop in Vientiane.
- Two women have started to grow new organic vegetables.
- Two families are producing aluminum bracelets for a shop in the US.
- Three weaving groups are producing good quality hand woven products to the US.
- Aluminum products are sold in three shops in Xieng Khuang and Vientiane, benefiting directly five families through direct sales and 66 further households through a 10% levy on aluminum sales for the village fund.

d) Development of an eco-tour

A One-day eco-tour was developed between Ban Nam Kha and Ban Naphia. Tour highlights and policy were identified and developed in a participatory way with the villagers and local authorities. 26 villagers were trained to become village guides or cooks. The tour is now promoted by a local tour operator.

e) Creation of village funds

Three more villages have now access to self-managed saving/credit schemes. 38.8 Mio. Kip (about 5'200 CHF) have been saved in 6 months, 12 Mio. Kip (about 1'600 CHF) have been borrowed by 20 entrepreneurs. Number of weaving looms in two villages has increased gradually since availability of the fund.

f) Promotion of efficient and safe use of electricity

A poster, easy to understand, was designed with the help of a communication company. It shows the importance of saving energy to rural households. 2,000 copies of the poster were printed. 2,000 booklets on energy safety were collected from EDF. 10 training sessions on energy efficiency and safety were organized in five villages (for villagers and school students), department of energy and mines in Xieng Khuang and Phonsavanh secondary school.

Good quality efficient lighting appliances were identified and ordered from Thailand. 240 electronic ballasts for fluorescent tubes and 8 reflectors were installed in five villages by private companies though a subsidy mechanism. It is the first time electronic ballasts are being used in rural Laos.

g) Creation of an inter-village watershed management committee

Protection of the watershed is essential to the life of villagers and for production of electricity in particular. Activities implemented so far by the committee include: cleaning the fore bay and dam in Nam Kha I, planting more than 400 trees along the banks of the river Nam Kha, building more than 50 pigsties in Ban Nam Kha and building a bridge over the river Nam Kha in Ban Nam Kha. All these activities were coordinated by the community and implemented by villagers from all four villages.

h) Promotion of use of improved cook stoves in four villages

Despite a lack of interest on inefficient use of firewood related issues and the common belief, that there is no market for improved cook stoves in Laos, RISE project succeeded in demonstrating the benefits of this type of stoves and in selling 45 of them in three villages.

i) Contribution to the policy dialogue on rural electrification and renewable energy

Although a relative new player in the filed of rural electrification and renewable energy, Helvetas Laos is now regularly invited to contribute to discussions and to share its experience on renewable energy based rural electrification. During 2007 - 2010 it participated in ten policy dialogue meetings in Laos.

j) Improved access to books for children

By organizing book parties in the target villages, RISE project contributed to the enhancement of access to books in rural areas. This combined with a better source of lighting can encourage children to read in the evening. More than 740 books were distributed in four schools.

k) Creation of new partnerships

RISE project signed collaboration agreements with Sunlabob, GTZ/MRC Watershed Management Project and with Electricite du Laos (EDL) and with the Blue Grass Communication Company. In addition it has developed strong working relationships with CRWRC, the Provincial Department of Agriculture and Provincial Department of Tourism, Phaxay district Authorities as well as with two handicraft shops, namely Article 226 in the US and Tshop Lay Gallery7 in Vientiane.

---

[6] http://www.shoparticle22.com/ARTICLE22/WELCOME.html

l) Development of a new approach and expansion of the project to new areas

In order to address the challenges faced during the first phase of the project a new approach was developed. This approach follows the recommendation of the evaluation made in 2010 and will concentrate on identified energy needs. The project will act as catalyst between villagers and renewable energy technology suppliers to support villagers to get access to tailor made renewable energy solutions to identify their needs.

Two sites were identified in 2010 a) to improve water supply in a school of 500 students and 100 interns and b) to provide lighting to a remote village of 30 households in relation with eco-tourism. Contract with technology suppliers were signed and installation as well as training of village energy organizations will be conducted in August 2010.

4.2 Challenges

As compared to the original project document and MoU with the government, the project suffered some delays and achievements were lower than initially expected. There are several reasons, which explain this situation:

a) Lengthy institutional negotiations

The official approval of the project by the Lao government took nine months, because of the innovativeness of the project and the lack of experience of the project to get the MoU approved. Negotiations with EDL have been slow and took more than a year, mainly because such an agreement between a national utility and a privately owned very small power plant (less than 100kW) is a first in Laos and no policies exist to support such initiatives. The benefit of decentralized power production has not yet been integrated in the energy policy framework.

However, considering the impact of this agreement described in Section 4.1 above, it was decided to keep negotiating with EDL despite the lengthy process.

b) Lack of ownership over the electricity system in Ban Nam Kha, high tariff and less reliable than expected supply

Due to the delay in construction of the mini-grid, no village energy committee VEC was created to manage the grid in Ban Nam Kha. During more than a year people thought, that EDL would take over the management of the grid. This lack of ownership was transformed into a lack of confidence in the system, which hampered the development of productive activities.

In addition, the villagers, who quoted the tariff as the main barrier to develop productive uses of electricity, perceived the off-grid electricity tariff as too high.

Finally, the supply of electricity was less reliable than expected. In particular, a failure automatic voltage regulator and regular absence of the main operator caused a long power outage in early 2009.

c) Limitation of the system

The main obvious productive use of electricity in a Lao village is rice milling. Replacing the diesel engine by an electric motor is cost effective even with a price of electricity of 0.2$/kWh. However, a maximum current of 18 Amps can be drawn from the 12 kW turbine of Nam Kha I. This is enough to start a 5kW rice mill equipped with a soft start module. Most of the rice mills in Ban Nam Kha (more than 15) are 7.5 kW and none of the 2 owners of a 5kW rice mill wanted to try electricity to run their mills.

---

[7] http://www.artisanslao.com/index.html

d) Rural energy pricing policy

The current energy policy in Laos is not favorable for small scale renewable energy systems. The retail electricity tariff is one of the lowest in the world, especially for low end residential consumers who are subsidized by high end consumers and the national grid is expending very fast. Off-grid systems in remote areas cannot produce electricity at such a low price unless their tariff is highly subsidized. Furthermore, in some Provinces (such as Huaphanh) the provincial authorities regulate the tariff for off-grid systems at similar levels as EDL tariff making private investments and sustainable operation and management of off-grid systems very difficult.

e) Lack of linkages with markets and of unique products

Value chains were slow to develop in RISE target villages in Xieng Khuang province for two main reasons.

- The villages have very limited links with existing markets and
- Villages lack unique products which could be easily marketed
- Lack of marketing experience at both project and local authorities' levels

f) Villagers' lack of willingness to take risks

Villagers do not want to invest in raw material to produce better quality products (e.g. silk for hand woven products) unless there is a guaranteed market. On the other hand, shops are reluctant to guarantee a market before seeing the quality of the products and most of the time are also reluctant to provide good quality to villagers to use.

5 Future of the project

The pilot phase of RISE project faced numerous challenges unforeseen during the project design. Despite these challenges the project achieved significant results, starting with the signatures of an agreement with the national utility, potentially opening new doors for renewable investments in Lao P.D.R. More than 260 households have access to grid quality electricity. More importantly public facilities in five villages were also electrified, providing new opportunities for the socio-economic development of the village. A number of families in four villages were trained on different activities, allowing them to improve/diversify their livelihoods. New or improved activities were developed, especially in the filed of handicraft and tourism, providing new income opportunities for a number of villagers. The village development funds - created with support from the project in three villages - are new assets in these villages which will help local entrepreneurs to access to capital. The funds will help these villages to develop in the long term. Furthermore, the energy efficiency campaign started during the pilot phase showed very promising results which could easily be replicated in a subsequent phase. RISE project has developed good working relationships with a number of partners, both private and public, governmental and none-governmental.

Considering these achievements, the recommendations of the external evaluation, and request from the provincial authorities, decided to continue the RISE project with a second phase. This second phase will build on the successes and lessons learned of the first page. In particular, it will a) continue to support the development of the identified income generating activities in the first cluster of villages in Phaxay district, and b) expend to new areas of Xieng Khuang Province. The new project sites will be selected after extensive discussions with local partners and main development actors in the Province and based on identified energy needs. These needs will be linked to provision of services at local level or development of productive activities. Renewable energy technologies adapted to address these needs will then be identified with the help of the local private sector. Extensive consultations and trainings will be implemented in the

target villages in order to create village organizations able to manage, operate and maintain the identified technologies at the village level.

A project document was prepared and approved by Helvetas Head Office. Helvetas Laos is now preparing the required documents to request the approbation of RISE phase II from the Lao Government.

Zurich/Vientiane/June 2010/SM/CV

Annex: Summary of the achieved results by June 2010 versus logframe indicators

Objective 1: Access to electricity

Outcome / Outputs	Indicators	Achievements June 2010
Outcome 1. Community based efforts lead to sustained access to electricity	Improved livelihood and social empowerment Access to social services and rural infrastructures	
Output 1.1: Village committees are established, trained and able to plan and manage renewable energy systems and local development processes	Village committees established (nos) Village committees trained (nos) Community based management skills and tools developed (nos)	Watershed survey carried out and problems identified Training on watershed management carried out and creation of watershed management committee of five members Watershed committee statutes prepared and signed by all stakeholders Two first watershed committee meetings held in November and December 2009 One technical training for watershed committee conducted in December 2009 Meeting on electricity problems conducted in Ban Nam Kha, and new rules on electricity use prepared and agreed upon by villagers More than 400 trees planted to stabilize river banks, more than 50 pig stables built to limit destruction of river banks by pigs and 1 bridge over the Nam Kha (activities implemented and managed by watershed committee)

Output 1.2: Decentralized financing and management mechanisms to run sustainable, village based energy systems are established and functioning in at least two clusters of villages in two districts	Village meetings conducted (nos) Trainings conducted (hh nos) Electrification plans developed (nos of villages, nos hh) Energy provider identified (nos) Agreements signed (village nos)	Three village meetings conducted Investment plan of Sunlabob to provide electricity in four villages finalized Initial survey carried out for four micro-hydro sites comprising about 30 villages Agreements for collaboration with Electricite du Laos (EDL – national utility) signed Feasibility study for rehabilitation of a mini-grid providing electricity to nine villages in Huaphanh Province completed Two meetings in Huaphanh Province with Provincial and District authorities to discuss the way forward organised Grid construction to supply electricity to five villages started and completed by EDL Agreement reached with EDL to allow villagers to reuse their old meters (purchased only three years ago) in Ban Nam Kha Selection of two private companies to install internal wiring in five villages completed through competitive bidding Internal wiring completed in five villages and 260 households. Energy assessment carried out in a remote village and solar lanterns tested Contract signed to supply of a solar water pump and solar lanterns to two remote sites.
Output 1.3. Public and private capital is channeled into energy generating mobile and fixed structures	Electricity available (nos of villages, nos hh) Electricity generated, used (kWh total, kWh/hh)	Reliable electricity available in five villages, and 350 hhs Consumption about 5kWh/hh/month (in off-grid village)

Output 1.4. Available energy is used for the improvement of living conditions, value adding processes, for communication and networking and to ensure reliable service provision of public structures (dispensary, school)	Social/public structures receiving electricity (nos schools, dispensaries, vaccine stores, meeting halls, public television etc) Number of post harvest and value adding enterprises using electricity Number of other economic enterprises receiving electricity	One repair shop (air compressor and welding machine) has access to electricity Six wood planners using electricity One women makes ice-creams in her freezer and sells them 740 books distributed to children during two events organized to motivate children to read. Agreement reached with villagers on sharing cost of installing electricity in public buildings Electrification of 12 public buildings (2 schools, 5 templs, 5 meeting halls) 25 street lights installed

Objective 2: Income generation

Outcome / Outputs	Indicators	Achievements June 2010
Outcome 2: Income opportunities are tapped through a value chain approach	Change in household income and food security	
Output 2.1: Promising options for income generation are identified	Participatory livelihood studies (nos) Income generation options identified (nos)	Four general livelihood participatory surveys conducted (one in each village) and related reports prepared The handicraft surveys covering four villages carried out One study tour on vegetable growing and fish farming organized in Vientiane for three villages Tourism survey conducted in two villages One livestock survey carried out in one village by the district One livestock survey carried out in four villages by the Province One study tour in Luang Prabang organized for women handicraft makers of three villages One meeting for women handicraft makers of three villages and handicraft shops/traders in Phonsavanh (Xieng Khuang Province) organized. 10 Business plans prepared Training on safe handling of UXO for aluminum spoon makers conducted

Outcome / Outputs	Indicators	Achievements June 2010
Output 2.2. Efficient value chains of key products are developed and potential markets accessed	Value chain analysis (nos) Number of technologies Adoption of technologies (hh nos)	Hmong and Lao handicraft value chains analyzed Tourism value chain analyzed One training on fish raising organized for nine villagers in four villages; Five farmers have started to improve their fish ponds . Two livestock trainings on veterinary issues conducted for villagers in three villages attended by 232 farmers First samples hand woven material sent to handicraft shops in Luang Prabang by six women Nine women started to produce embroidery handicraft for shop in Vientiane 10 women are selling hand woven products to local handicraft shops Two Villagers are collecting NTFPs for a shop in Vientiane Six women are selling hand woven products to a shop in the US First samples of aluminum bracelets from scrap metal made for an American handicraft shop by 2 families Villagers in four villages are aware of the conditions at which borrowing money from the Agriculture Promotion Bank thanks to a meeting organized in four villages Village Development Fund (VDF) created in three villages More than 5'200 CHF saved in 3 villages in 6 months and more than 1'600 CHF borrowed by 20 mico-entrepreneurs Data on areas where to clear bombs collected. Eco-tour developed in two target villages (bombed cleared, 26 villagers trained (guides, cooks and general management), tour script developed, marketing material drafted) Eco-tour tested by two different groups of tourists Agreement signed between village tourism committee and a private tour operator for tour promotion Village development fund monitored in three villages and plan to support their development and growth developed Outcomes of livestock trainings monitored, plan for next steps established

		Three new designs of aluminum products developed Sample silk hand woven products prepared by 9 women in three villages
Output 2.3. The value addition at the producer/village level is optimised while using available energy	Number of technologies using available energy Adoption of technologies (hh nos)	One air compressor, one welding machine, one freezer, six wood planners

Objective 3: Testing and exploring alternative energy options and electrification systems

Outcome / Outputs	**Indicators**	**Achievements June 2010**
Outcome 3: Testing+exploring innovative schemes related to energy supply	Application of sources and systems	
Output 3.1: Modalities of working through a public private partnership and village authorities towards identifying needs and opportunities for off-grid electrification are refined	Models tested (nos) Nos. of problems successfully solved	One new model including collaboration with the national utility developed and approved Problems with mini-grid identified and meetings to solve them organized Pilot phase of the project evaluated by a team of external consultants and evaluation report completed. Project document for project second phase prepared
Output 3.2: Modalities to compensate for reduced CO_2 emission are explored and documented	Compensation payments	Estimated CO_2 emissions saved by the project calculated, partners identified
Output 3.3. Technical guidelines, training materials and methodologies for scaling up are available and shared among stakeholders	Technical manuals (nos) Training material (nos)	2,000 manuals on safe use of electricity printed with the help of EDF Demonstration of use of improved cook stoves in four villages and sales of 45 stoves in three target villages Posters for promotion of energy efficiency designed + 2000 copies printed Good quality efficient appliances for lighting identified, promoted and supplied to target areas (240 electronic ballasts and eight reflectors) Energy efficiency trainings carried out in five villages and three schools Agreement signed with two selected private companies for the promotion of good quality and efficient lighting options Survey on improvement of energy efficiency of spoon making completed and designs for improved kilns prepared