

## Global Leaders Programme Photo Story

Hong Kong & Laos 1 – 12 December 2014

# Rethinking rural electrification



*Professionals from 20 nationalities and from over 10 different organisations and companies visit the Nam Song Hydro Power Station near Vang Vieng, Lao PDR, around 135 km from Vientiane.*

### Project Summary

Over 620 million people live without electricity in the Asia Pacific region, even in resource-rich countries. Lao PDR has achieved a high electrification rate of approximately 85% with steady funding from international aid agencies. However supply is unreliable and rural electrification has not led to economic development, as anticipated. In fact, a quarter of the population still lives below the poverty line. Since the 1960s, development initiatives using rural electrification to promote economic development have had mixed success but continue to rank highly on the agendas of governments, NGOs and aid agencies.

To address this challenge, GIFT partnered with the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) for its 38<sup>th</sup> Global Leaders Programme in Lao PDR.

ESCAP is pioneering a new approach to establish renewable energy utilities to promote economic activity and improve livelihoods, called the Pro-Poor Public-Private-Partnership (5P). This model leverages cross-sectoral expertise and involves the community as a key stakeholder. The 5P model, originally initiated in Indonesia, is now being implemented in Nepal and Lao PDR in partnership with local authorities.





Photo credit: Crosby Mkhawaze

Upon arriving in Vientiane, the group met with a number of stakeholders from the private, public and civil sectors, including Electricite du Laos (EDL), the Lao state utility company and Namlong power company, an Independent Power Provider (IPP). The group also heard from ESCAP's 5P partners in Lao PDR, including the Institute of Renewable Energy Promotion (IREP), Andy Shroeter, CEO of Sunlabob, Deanna Morris, Consultant at ESCAP, and Bounleung Philavong, President of the Green Community Development Association (GCDA), a local NGO.

The group received insights into the context of the energy sector in Lao PDR and information on existing energy systems and the challenges related to rural electrification. These included high upfront costs for the set-up of the power utility and distribution lines, a discrepancy in tariffs between decentralised off-grid systems and the national grid, a lack of technical expertise at local level to maintain the system over time and limited policies to attract potential investors and IPPs into rural areas.

Top: Participants from India, Lao PDR, Indonesia, Nigeria and Malaysia engage with stakeholders in Vientiane.

Left (top to bottom):

- Mr Thongkhan Phimvilay, Director General of IREP, welcomes the group and shares the government's plans for electrification.

- Mr Khammonh Sayasing (left), Director of Namlong Power Company and Mr Bounleuth Luangpaseuth (right), President of Luangpaseuth Construction Company share their experience in establishing the Namlong hydropower station in Northern Lao PDR, as well as the prospects and challenges for their upcoming business.

- Valuable experience was provided by guest mentors Prof. Rikiya Abe (3<sup>rd</sup> photo) and Dr Motoyuki Arai (4<sup>th</sup> photo), distinguished professor and lecturer from the University of Tokyo. Prof. Abe, one of the world's leading electricity experts, and Dr. Arai shared their findings from previous work related to rural electrification in Africa and explained the model for the Digital Grid, a next generation grid system designed for remote locations.



# ເຂື່ອນໄຟຟ້ານ້ຳຊອງ NAMSONG HYDRO POWER PLANT

## Site visits in Vang Vieng and Luang Prabang Province

Participants on the GLP then visited the Nam Song hydropower station near Vang Vieng, 135 km north of Vientiane, and a decentralised solar mini-grid in remote Ban Phakeo village in Luang Prabang province to meet with local villagers.

The Nam Song Hydropower plant is a 6 MW facility with a generating capacity of 13.5 GWh per annum. The plant, owned by the state-owned power company EDL-Generation Public Company, was funded by the Government of India and supported by the Asian Development Bank (ADB). The electricity generated at Nam Song is sold back to the central grid system.

Lao PDR has a huge potential for renewal energy generation, especially for hydropower, for both domestic use as well as exports.

Left: Mr Rattana Souvannavong (left), Director of the Nam Song Hydropower plant and Dr Bounthanong Phonethipasa (right), CEO of Sensavang, a local renewable energy company, give a tour of the facilities, including the control room (below).

Bottom: The group visits the power station where three 2 MW turbines are located.



Photo credit: Crosby Mkhawaze



Curious children in Ban Phakeo village come to see the group.

The village of Ban Phakeo is situated in the mountainous region of Luang Prabang Province and is home to 86 households. Villagers rely on subsistence farming, living primarily off locally produced rice, vegetables and mushrooms. Ban Phakeo has its own hybrid solar/diesel-power grid, funded by the French NGO, Fondation Energies pour le Monde and set-up by Sunlabob in 2009. Ban Phakeo is currently being connected to the national grid.

The group was greeted by the village chief, government officials and villagers who were delighted to meet a diverse group with representatives from Africa, Europe, the USA and Asia. Participants then visited villagers in their homes, interacting with residents and with members of the Women's Union and Youth Group to learn about their livelihoods and the impact electricity has had on their lifestyles and economic prospects. The group soon realised that electricity alone, without an enabling environment for rural enterprise development, would not be sufficient to spur economic development and lift rural communities out of poverty.



A warm welcome from government officials from Luang Prabang Province to greet the GLP participants. Seated at the presentation table are (left to right):

- Mr Somchi, Head of Phoukhoun District Office of Energy and Mines, Luang Prabang Province;
- Mr Syvang Xayyvong, Deputy Director of IREP;
- Mr Bounthanong Phonethipasa, CEO of Sengsavang and 5P consultant in Lao PDR;
- Mr Somphet Douangmany, Cluster Chief of Phoukhoun District, Luang Prabang Province;
- Mr Chandran Nair, CEO of GIFT;
- Mr Viengthong, Phoukhoun District Governor, Luang Prabang Province;
- Mr Chommany, Chief of Rural Electrification Division of Luang Prabang Provincial Department of Energy and Mines;
- Mr Liankham, Ban Phakeo Village Chief.



Bottom left: participants gather in the village hall for an introduction by village and provincial officials.



Mrs Wai (top centre), a shopkeeper in Ban Phakeo village talks about her business and the limited and unreliable electricity supply. The family is grateful that it has electricity but its energy requirements are higher than what is currently provided. This hinders the household's ability to take on additional economic activities such as weaving for revenue generation. Owning a fridge is forbidden given the limited capacity of the solar station.

According to Mrs Wai, "if we have more electricity we can buy a sewing machine and offer a clothes repair business".

Given the high mobile penetration in the village, many villagers have resorted to recharging their handsets using car batteries. Many interviewed expressed their willingness and ability to pay for more electricity.



Above: GLP participants and Eric Stryson, Managing Director at GIFT (4<sup>th</sup> from left) meet with village elders to discuss their role in the village.

Bottom: the group visits the solar power station in Ban Phakeo village.



Photo credit: Crosby Mkhawaze



Photo credit: Crosby Mkhawaze



Top : Participants enjoy a traditional lunch cooked by the villagers of Ban Phakeo.

Middle left: Mr Venkatesan Babu (DSM India) and Ms Amy Chanthaphavong (Muanson Media) have an informal chat in one of the households.

Bottom: Focus group discussion between representatives from the Youth Group, Karim Rushdy, Head of Programmes at GIFT (3<sup>rd</sup> from left) and participants from Lao PDR, Japan, India, Uganda, Australia and Nepal.





After site visits and focus group discussions with stakeholders in Vientiane and Luang Prabang province, participants developed a new framework to rethink a number of assumptions related to energy and development. They also made a compelling case linking rural electrification with rural enterprise development to attract power producers, SMEs and potential investors into rural areas.

The highlights of these recommendations were presented at a forum in Vientiane attended by over 100 guests, including representatives from ESCAP from Bangkok, government officials from Lao PDR and Nepal, the private sector, academia and the media.



Top left (left to right): Vivian Tay (NEC APAC Singapore), Prof. Hideaki Takahashi (GIFT senior mentor), Jumpei Kamimura (NEC Japan), Angela Thenaria (DBS Indonesia), Chandran Nair (CEO of GIFT), Miho Koshimura (ORIX Japan), Ruddyanto Gunawan (DBS Indonesia), Jenipher Twebaze (BRAC Uganda) and Katsuyuki Ebisawa (Dexerials Japan) before the forum.

Middle left (left to right): Kohji Iwakami from ESCAP, Thongkhan Phimvilay from IREP and Chandran Nair from GIFT officiate the forum with opening remarks.

Bottom (left to right): The team presents the findings and recommendations: Angela Thenaria (DBS Indonesia), Maria May (BRAC Bangladesh), Crosby Mkhawaze (Standard Bank, South Africa), Miho Koshimura (ORIX Japan) and Dennis Kim (BASF Korea).





Top: Maria May (BRAC Bangladesh) interacts with attendees at the forum, asking them about their access to electricity.

Middle: Liam Barry (Origin Energy Australia - left) and Babatunde Macaulay (Standard Bank Nigeria - right) take questions from the audience regarding the model and policies recommended by the group.

Bottom: The group bids farewell to Vang Vieng.



For more information on the GIFT Global Leaders Programme, please contact Helena Lim by email at [hlim@global-inst.com](mailto:hlim@global-inst.com) or by phone: +852 3571 8133