



RESIREA

Access to renewable electricity in rural areas in the Mekong countries

Co-financed by the French Agency for Energy Management and Environment ADEME and the European Commission, the aim of RESIREA is to develop sustainable Decentralised Rural Electrification (DRE) programmes through the use of renewable energy sources in three provinces of the Mekong countries. The goal of the European and Asian partners grouped together by RESIREA is to define sustainable ready to implement programmes with a high visibility, so that they can be submitted to potential investors and private operators.



Fraunhofer



Institut
Solare Energiesysteme



ADEME



Intelligent Energy  Europe

RESIREA consists in carrying out technical, social, financial and commercial feasibility studies, targeting the most favourable zones. It shall thus create an attractive context for involving investors and operators with a view to implementing sustainable electrification programmes.

According to this planning approach, **RESIREA's purpose is to:**

- > associate the authorities of each country as well as the local populations in each of the planning stages to establish programmes that are adapted to the context of each province and in harmony with development priorities;
- > facilitate the transfers of skills and competences in terms of renewable technologies and DRE planning to national and provincial decision-makers;
- > contribute to the social and economic development of the targeted rural populations.

RESIREA runs between January 2007 and December 2009 in three provinces of Mekong countries: *Kompong Thom*, Cambodia, *Oudomxay*, Laos and *Dak Nong*, Vietnam.



Solar, hydraulic and biomass potential shall be analyzed with RESIREA.



EXPECTED RESULTS

The developed programmes shall make use of varied renewable potentials. Solar home systems or photovoltaic generators, hydro power or biomass micro-plants shall be studied in RESIREA.

Fight against poverty

RESIREA's number one objective is to meet the electricity needs of the targeted populations. The access to electricity for the households permits improving living conditions, comfort and access to information and the media. In schools and health centres, access to electricity makes it possible to improve health care and hygienic conditions, help in eliminating illiteracy and in the education of children and adults. Lighting in the evening brings flexibility to organising work time and the daytime/night-time life of the households.

In terms of local development, the access to electricity stimulates the emergence and development of economic activities like craft industries, trade and tourism. It also permits the mechanisation of work and an increase in productivity: transformation of fruits and vegetables, production, irrigation, mills, etc.

As such, electricity represents a lever for development, favouring the creation and growth of productive activities that generate wealth.

Transfer of skills and competences

At each stage of the programme, RESIREA includes a section for training and awareness campaigns for local actors. The goal is to participate in developing the capacities of the local partners and provincial authorities, in terms of:

- > **methodology and planning of DRE programmes;**
- > **awareness and realisation by both the operators and the population** of the possibilities of off-grid electrification offered by renewable energies and their socio-economic impacts;
- > **training in renewable energy technologies;**
- > **creation of databases for each province** that can be used by local actors.

8.000
families per province
will be concerned



Access to energy will be an asset for the development of local handicraft...

THE CONCERNED PROVINCES

> Kompong Thom (Cambodia)

Zone of lakes, forests and rice fields. Principal activity: fishing. Tourism is expanding rapidly. 88% of the population lives in rural areas. The electrification rate does not exceed 5%. 85% of the households use batteries. Good amount of sunlight, strong potential for valorisation of biomass.

> Oudomxay (Laos)

10% of the rural households have access to electricity, while the mean percentage in Laos is 47%. Favourable conditions for micro hydraulic projects. Excellent solar potential. Rich biomass.

> Dak Nong (Vietnam)

Excellent renewable energy potential. Livestock and breeding, forestry, cotton, coffee, rubber trees, cashew nuts and pepper favouring the use of biomass. Favourable conditions for micro hydraulic projects. Very good amount of sunlight.

> The NORIA approach

A methodological tool for DRE planning developed by the Fondation Énergies pour le Monde, NORIA is used to prepare and propose ready to implement regional-scope decentralised rural electrification programmes to financial agencies or investors. NORIA is used to evaluate and assess the long term feasibility of a DRE programme concerning 10 to 100 villages, in taking all the analysis criteria into consideration to:

- > develop the renewable energies sector in developing countries and in facilitating implementation by private operators and investors;
- > identify the zones that are potentially interesting with respect of all the characteristics of the context, whether they be technical, economic, financial, political, institutional, geographic or social;
- > target, within these zones, the villages that meet the criteria required for setting up programmes that are both sustainable and technically and financially autonomous;
- > determine the technical, financial and organisational options adapted to each village;
- > submit to the backers and operators, the financing, implementation and exploitation of the installations.



... and will facilitate the transformation of the local products from agriculture.



40

villages targeted per province

THE PARTNERS

> FONDATION ÉNERGIES POUR LE MONDE (France)

Created in 1990, the foundation has acquired an international-wide experience in developing and implementing decentralised rural electrification programmes using renewable energies – especially in the provinces of the Southern Mekong in Vietnam, Cambodia and Laos.

> FRAUNHOFER INSTITUT SOLARE ENERGIESYSTEME (ISE, Germany)

The institute's expertise combines twenty years of research and development on photovoltaic solar technology with practical, in-the-field experience throughout the world on rural electrification, water purification and desalination projects.

> CENTRE WALLON DE RECHERCHES AGRONOMIQUES (CRA-W, Belgium)

The CRA-W has been carrying out international DRE projects since the 1990s with the study and implementation of renewable energy technologies, particularly in the field of bioenergy in Asia, Africa and Latin America.

> DEPARTMENT OF TECHNICS, MINISTRY OF INDUSTRY, MINES AND ENERGY (CAMBODIA)

> DEPARTMENT OF ELECTRICITY, MINISTRY OF MINES AND ENERGY (LAOS)

> CENTER OF RENEWABLE ENERGY AND RURAL DEVELOPMENT (VIETNAM).

CALL FOR FINANCING

At the end of 2009, during an international seminar, the electrification projects of villages of these three Southeast Asian provinces shall be presented to financial agencies and investors with a view to finalisation for implementation.

Investing in renewable energy in the Mekong signifies:

- > taking part in the fight against poverty;
- > favouring the creation of jobs and economic development;
- > improving living conditions in rural areas;
- > creating wealth while at the same time protecting the environment.

4

million of euros of estimated investment per province

FOR MORE INFORMATIONS

FONDATION ÉNERGIES POUR LE MONDE
146, rue de l'Université
75007 Paris - France
www.energies-renouvelables.org/resirea

CONTACTS

FONDATION ÉNERGIES POUR LE MONDE :
catherine.bourg@energies-renouvelables.org
FRAUNHOFER ISE : sebastian.goelz@ise.fraunhofer.de
CRA-W : crehay@cra.wallonie.be
DET (CAMBODIA) : tochsovann@yahoo.com
DOE (LAOS) : bouathepmlk@yahoo.com
RERD (VIETNAM) : lehoangto@hcm.vnn.vn

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