SGP The GEF Small Grants Programme 25 YEARS

SUSTAINABLE RESTORATION AND DEVELOPMENT

▸ of the ethnic peoples' red lac insect farming in Muong Lat Dist., Thanh Hoa Province

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SUSTAINABLE RESTORATION AND DEVELOPMENT OF THE ETHNIC PEOPLES' RED LAC INSECT FARMING IN MUONG LAT DIST., THANH HOA PROVINCE

IMPLEMENTING AGENCY: *Thanh Hoa Union of Scientific and Technical Associations*
DURATION: *2007 - 2013*
PROJECT SITE: *Communes of Quang Chieu, Phu Nhi, Tam Chung and Muong Lat Township, Muong Lat Dist., Thanh Hoa Province*

PHASE 1
Total budget: ***VND 1.675.320.000***
- GEF: VND ***798.850.000***
- Cofinancing: VND ***876.470.000***

PHASE 2
Total budget: ***VND 1.591.900.000***
- GEF: ***VND9 74.500.000***
- Confinancing: ***VND 617.400.000***

01. BACKGROUND

1. Lac resin is the only natural substance secreted by a species of insect (Kerria lacca). K. lacca as parasites live along the branches of some specific plants called as host plants. Lac resin is an environmentally friendly product used by many industries. The production of lac resin is popular in many countries. In Vietnam, this career was once developed in some northern mountainous provinces as well as in Nghe An and Thanh Hoa ones. Previously lac resin was harvested mainly for export and this career was lost in the end of the 1970s due to unavailable market after the Eastern European Block collapsed.

2. Muong Lat district is a locality where the Indian Red Pear (Protium seratum) - one of their host plants, was grown in an area of more than 1,000 ha, and yielded the largest producer of lac resin in the the country. In 2007, when the project was launched, there remained only 100 households of six communes involving in the farming of the lac insects in the district.

3. In Thanh Hoa, Muong Lat is the poorest, remote uplands district where 98 % of its population are ethic peoples. Its infrastructure was poorly developed and it has a harsh climate, particularly in summer when the prevailing dry and hot wind comes from the west (Laos).

4. The UNDP/GEF SGP project aimed to enable local people to restore and develop their traditional farming of red lac insects, thus create sustainable livelihoods based on the protection of local forest ecosystems to increase the coverage of forests and halt the process of desertification and soil deterioration.

PROJECT OBJECTIVE

- To promote awareness among local people in Muong Lat upland region of biological and economic values of local red lac insect genetic resources and forest ecosystems conservation; and of benefits and favorable conditions to develop the farming of red lac insects for red lac resin.
- To conduct a survey of the status of local red lac insect farming and identify a local colony of host plants suitable for their parasite and development.
- To compile a guidance for local communities on how to restore and develop the production of lac resin by applying relevant scientific and technical advancements along with traditional experiences to the career.
- To promote the commercialization of red lac products to create a sustainable livelihood for local poor people.

02. OUTCOMES

I. ENVIRONMENTAL IMPACTS

1. Indigenous Genetic Resources and Natural Ecosystem Conservation:

As the result of the survey, the project identified the potential for cultivating red lac insects in Muong Lat dist. i.e. it is endowed with suitable natural conditions, a plentiful colony of host plants, a large area of hilly soils that is suitable for intercropping crops with host plants for rearing red lac insects:

From a colony of host plants, the project selected:

- *Perennial host plants: Indian Red Pear (Protium seratum) and Hardy Rosewood (Dalbergia hupeana).*
- *Short-day host plants: Pegeon Pea (Cajanus cajan) (can be monocultured or intercropped with crops).*

The project also made use of traditional experiences in defining lac insect farming timing/ seasonal crops. Specifically :

- *Summer crop: 15 days from April to early May*
- *Winter crop: 15-20 days from later September to early October*

Keeping lac insects in winter and conserving their genetic resources on Pegeon Pea: In winter it is so cold that lac insects may be killed. India pea is a short plant that enable lac insects to survive the severe winter.

> As the result, local red lac genetic resources have been well preserved and developed on select host plants within well conserved mountaineous and hilly ecosystems in Muong Lat.

2. Sustainable Natural Resources Exploitation and Conservation:

After six years of its implmentation, a wide range of outcomes produced by the project, specifically:

- ***220 ha of host plant, Pegeon Pea (Cajanus cajan) forests was reforested in an area of exhausted soil and thank to inreased Pegeon Pea (Cajanus cajan) vegetations, thus fertility of the soil improved; 60 ha of perennial host plant forests were well***

tended; and 40 ha of select host plants dispersed; and 30 ha of other host plants, Hardy Rosewood (Dalbergia hupeana) were planted. These diversified a colony of host plants of great economic, environmental and social values.

220ha
hecta of host plant

- ***16 crops carried out in models for rearing red lac insects:***

» *A model for keeping the lac insects in winter on Pegeon Pea (Cajanus cajan) and Hardy Rosewood (Dalbergia hupeana): out 16 lac insect farming crops carried out, the project had only to purchase breeds of lac insect from areas outside of the project area for the first two and then it produced and supplied 16 tons of lac insect breeds to local communities.*

» *A technical guidance for rearing red lac insects was compiled and disseminated.*

16 crops
carried out in models for rearing red lac insects

- ***VThe farming of red lac insects for lac resin has expanded to a large area and involved a large number of local people from 900 households and this initiated a new stage in this traditional career that once was lost***

involved a large number of local people

900 household

By making use local prime lands and particular weather conditions favourable to the growth and expansion of the red lac insects.

By making use local prime lands and particular weather conditions favourable to the growth and expansion of the red lac insects, the project exploited rationally local natural resources i.e. Indian Red Pear (Protium seratum) and Pegeon Pea (Cajanus cajan), and Hardy Rosewood (Dalbergia hupeana) forests were newly planted on unoccupied and barren hillside areas facing desertification to serve as host plants for rearing the lac insects, improving the fertility of soil and controlling soil erosion; and the project also made use of trees dispersed in depleted forests as host plants for farming the lac insects.

These have resulted in well protected watershed forests, restored forest ecosystems, improved biodiversity resources, and increased coverage of forests to 49-52% leading to reduction in CO2, prevention of risks of soil deterioration and desertification, and curbs on flash floods and droughts; better improved environment and wildlife habitats; and improved socio-economic conditions and living standards of ethic peoples in the remote frontier

II. SOCIAL IMPACTS

Through 40 technical training courses and 10 workshops on the integration of traditional experiences with advanced techniques for the selection of lac insect breeds, the rotating, pest control, and marketing of lac resin, involving more than 2500 times (of which 40% were female), the project enabled local people to:

- Establish a network of forest extension run by communal/ village women's unions; develop various mechanisms for information sharing and dialogues on the preservation of forests and the improvement of income and livelihood.
- Develop local red lac insect farming and business cooperatives; provide training of various methods for developing their production and business plans; governing and monitoring financial activities, and developing their human resources through their " farmers' field schools" and/or "women's field schools".

40

technical training courses

10 workshops

on the integration of traditional experiences with advanced techniques for the selection of lac insect breeds

- Establish groups of personal preferences in villages to support e other to adopt techniques for rearing the lac insects and developing various models.

- Establish a cooperative for red lac insect technical and commercial services; develop its policy on production and commercial services approved by the district authority; and provide five cadres of agricultural extension with advanced red lac insect farming techniques.

>2500
of participants

which
40% were female

Various activities have been conducted to improve the understanding and capacity of local authorities, divisions and communities at district and communal levels in Muong Lat district of red lac insect rearing, rational natural resource exploitation and their productions contributing a great part to poverty reduction in this remote area of the district.

The market of red lac products has much developed not only for domestic consumption but also for export to such countries as China , Japan and India. The local career of red lac insect farming has been well restored and gradually expanded across the district, and thus created employments for local people and contributed greatly to district soio-economic development.

The project colaborated with the district People's Committee (PC) in planning the intensification of red lac insect farming in an area of 530 ha in Quang Chieu commune to serve as a demonstration site and developing relevant policies to support the development of the career of red lac insect cultivation in future.

III. ECONOMIC IMPACTS

① Due to the improvement of awareness of natural resources management, adopting red lac insect product processing techniques, and its business and marketing skills, etc. the local people has expanded their forest gardens of shorth-day and perrenial host plants for rearing the lac insects, and intercropping crops with red lac insect farming. The number of households involving in red lac insect farming has now increased to 900 throughout the district.

② The project has provided 16 metric tons of high-quality red lac breeds for local farmers. In addition, tens of metric tons of red lac breeds are preserved by local people. Throughout 16 red lac insect rearing crops, its productivity increased by 4-6 times by rearing on Indian Red Pear (Protium seratum); and by 8-10 times by rearing on Pegeon Pea and Hardy Rosewood (Dalbergia hupeana) by average. Annually the farming of red lac insects produce a yield of 70-80 metric tons, and local households receive an income of VND. 90-160 million per hecta of forest garden and many of them have relieved poverty.

③ The establishment of groups of personal preferences and their effective operations have involved a great number of households, and as the result a cooperative of red lac insect technical service and procurement was established and owned by women and this is the first high-profit and sustainable community based organisation in upland region of Thanh Hoa province.

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900 households

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03. SUSTAINABILITY OF THE PROJECT

01

Sucessful models with socio-economic efficiencies developed by the project have attracted interest from provicial authorities and communities, various international organisations, Ministry of Science and Technology, Vietnam Union of Scientifc and Techical Association and local businesses.

02

All the project outcomes were disseminated through mass media such as the forestry extention and western renovation program of the Thanh Hoa Television, and several national newspapers: VietNamnews, UNDP Website, the Science and Life, the Vietnam's Agriculture Newspaper, The Vietnam Press Agency, The Thanh Hoa Newspaper, and the Thanh Hoa Scientific Magazine etc.

03

The project outcomes have been used to serve as a basis to mobilize the policy, i.e. the farming of red lac insects was included into the district's socio-economic development program; the Hardy Rosewood (Dalbergia hupeana) was included into the 2011-2020 structure of forestry plants for the farming of red lac insects; and serve as a set of criteria for developing a set of national technical standards for red lac insect farming being compiled by Vietnam Administration of Forestry, MARD.

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04

The project outcomes have enabled to attract financial assistance from relevant international organisations involved in various projects on the development of red lac insect farming and community's capacity: various projects funded by WB in Việt Nam; CARE International; and the Denish Embassy funded project provided an amount of VND 6.9 billion for the Dai Viet Company to develop community based red lac insect product processing and build a factory to produce red lac insect material based nylon bags that are naturally decomposed to protect the environment; and two state-level research projects on a model for farming red lac insects on Hardy Rosewood (Dalbergia hupeana) and the preservation of red lac insect breeds in Muong Lat.

05

The project's models have been widely replicated to other localities across the district and other districts such as Quan Hoa, Quan Son, and Thuong Xuan in the province. And relevant experiences for the farming of red lac insects have been shared with Nghe An and Son La provincial DOSTs in Muong Lat.

04. CHALLENGES

- The development of a model for farming red lac insects on Pau palm as a host plant failed and this was attributed to large canopies of its leaves preventing ventilation required for the growth and development of the red lac insects.

- The model for rearing red lac insects on Hardy Rosewood (Dalbergia hupeana) failed because these palms of 20 years old that were destroyed by pests and diseases and not settled by the lac insects.

- For the first three years, the productivity of red lac insect farming was not high and stable and this was attributed to the improper adoption of breeding techniques and the absence of a stable breed supply.

The career of lac insect farming in Muong Lat has favourable natural conditions, i.e. weather, available host plants and a colony of lac insects, and local people's technical capacity and skills. If the farmng is well developed, it is a major source of high income for local ethnic peoples. The most difficult issue is its stable consumption and this needs support both administrative and technical from local authorities and professional institutions..

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