

**PARTICIPATORY FOREST CONSERVATION AND AFFORESTATION
IN DEGRADED FORESTLAND FOR
SUSTAINABLE FOREST MANAGEMENT IN THE VANG VIENG DISTRICT
(CASE STUDY)**

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BACKGROUND

Participatory forest management has become a worldwide topic since existing systems of forest management have failed to sustain natural forest ecosystems. Landsat imagery indicates that not just in Lao, but around the world the remaining natural forests are being rapidly degraded. As forest resources are depleted, communities dependent upon them become impoverished. As forests are lost, hundreds of millions of rural people lose their sources of fuels, fodder, and raw materials for village industries, medicine and shelter. As the vegetative cover is removed, soil and water are lost, leaving the land drier and less fertile.

Thus, the importance of worldwide forests in meeting the needs of its vast rural population is immense. If the governments of these countries pay attention towards this urgent matter, no doubt they can save a lot. It is also evident that the forestry sector alone has a limited capacity to manage and protect vast tracts of natural resources. It can also be argued that the commercial value of timber and pulp in the natural forests is worth far less to a nation than the forest's role in sustaining the livelihood of rural people, and conserving soil and water. Therefore, there is a need for reorienting forest management systems with major shifts in policy, procedures and attitudes that respond to the needs of rural people, and allow them to participate in re-forestation and protection of these vast natural resources. In the early 1980's many Asian countries began to encourage the spread of these promising practices and strategies. This new concept realized by policy makers and governments is called participatory forest management.

Extensive experience has revealed that no program to regenerate degraded forests and to save these natural resources would succeed without the willing and active participation of rural people and forest dwellers. It is very clear to the people concerned that they have a right to enjoy the enhanced benefits from forests, but this right is accompanied by a duty to nature to protect and manage forest wealth.

This paper was prepared for the International Workshop on Forest Conservation Strategies in Asia and the Pacific Region at the University of Tokyo Sept. 7-9, 1999. It deals with a project description and an overview of forest degradation. The main activities described are the participatory actions of local people for forest conservation and rehabilitation, and multilateral collaboration with other organizations. Most of the information in this paper is based on the project's evaluation report of Phase I and its one-year implementation in Phase II.

PROJECT DESCRIPTION

The Lao/Japan Forestry Co-operation Unit was created July 16, 1996 for the Forest Conservation and Afforestation Project (FORCAP) in degraded forest areas on private, community and state forest lands in the upper Nam Ngum reservoir.

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The project area is located in the Nam Ngum Dam Watershed area (Upper part of Nam Ngum Reservoir) of Vang Vieng district, Vientiane province. It is a hilly district about 150 km from Vientiane city. It is located at the center of the eastern border of the province, sharing boundaries with Kasy to the north, Mead and Fuang district to the west, Keo Oudom and Hin Heup district to the south and the special Zone to the east. Its total area is about 1750 sq. km, corresponding to about 0.7% of the total land area of Lao P.D.R., or about 11% of the Vientiane province. There are 41,860 people living in the region with a population density 23.9 square kilometers. The family size is about 6.14 persons per household on average.

Vang Vieng district is divided into five sub-districts for development, but only two of them were used as a study area for the development of the Japan International Cooperation Agency (JICA). Only one sub-district is the model (pilot) area of the FORCAP. It is comprised of fifteen villages, including 6 villages of the Hin Heup sub-district. The total area is about 45,000 ha.

The Narn Xong River is the lifeline of Vang Vieng's inhabitants and traverses the district from the north to the south. The alluvial and older terraces of the Narn Xong River and its tributaries cover about 20% of the district territory. The remaining part is hilly land.

National roads 13A and 3B are the main transportation routes in the district, running North to South and West to East, respectively.

The main forest types are mixed deciduous and young fallow forest. The total natural forest cover in the Vang Vieng district is about 51.9 % of the total district land. The remainder is young fallow forest including grassland, where the local people practice slash and burn agricultural production. Illegal cutting of timber and inappropriate non-timber forest products (NTFP) utilization is very common.

The area includes two climatic zones; one is mountainous and the other is a lower climatic zone. The average rainfall in the project area varies from 1,500 mm to 2,500 mm a year. The average annual temperature is 24 degrees Celsius.

OVERVIEW OF FOREST DEGRADATION

More than half of the hilly land area was converted into upland agriculture, especially for shifting cultivation. This is one of the main causes of deforestation, which has had a negative socio-economic and environmental impact. According to the District Agriculture and Forestry Office (DAFO) on paddy-harvested areas, about 3000 ha of land are under shifting cultivation practices. Along with shifting cultivation, other causes of forest degradation include forest fires in the dry season and inappropriate systems of forest utilization practiced by the local people and authorities. From 1996 to 1999 the volume of timber, and NTFP rapidly declined, especially after the completion of the Nam Ngum Dam. Soil erosion and landslides in the rainy season occur often, leading to soil sedimentation in the Nam Ngum reservoir.

BASIC CONCEPT OF THE PROJECT

The goals of the project were to: enhance the full participation of the local people, especially the shifting cultivators living in the area; promote forest conservation and afforestation activities, as well as improving the living conditions of villagers through development action plans; strengthen the capability of local government staff, especially at the district level, through on-the-job training and the implementation of the project activities in close collaboration with villagers.

OBJECTIVES OF THE PROJECT

1. Overall Goal

To contribute to the promotion of the Forest / Watershed Management plan of Lao P.D.R. by establishing technical and management methods for forest conservation and afforestation in the project area.

2. Project Purpose

To prepare a concrete action plan for forest management and stabilization of shifting cultivation, which local people and local government in the model area in the Nam Ngum watershed area will implement.

3. Outputs

- An action plan for forest management and stabilization of shifting cultivation, implemented by local people and local governments in the model area
- (2). Experiments in silvicultural technologies for forest conservation and afforestation.

PARTICIPATORY REHABILITATION IN DEGRADED FORESTS AND GRASSLANDS .

In 1997, a participatory program for forest conservation and afforestation was introduced in the FORCAP called the "Profit Sharing System in Degraded Forests (PSS)".

The Profit Sharing System (PSS) is "a system of which the plantation jointly established by the state and citizens with mutual agreement of profit sharing". In other words, the District Agriculture and Forestry Office (DAFO) as the representative of the state provides initial funds, technical know-how and materials (such as seedlings and barbed wire for fencing), under the assistance of FORCAP. The PSS participants (individuals, collectives and organizations) involved bear the responsibilities of site preparation, planting and maintaining the plantation using their own resources. The areas to establish the plantations must be degraded forestland, barren hills and grasslands officially recognized or allocated by the local authority.

When the plantation reaches the suitable age for timber harvest, the DAFO and PSS participants will estimate the profits to be shared between the partners under the assistance of FORCAP. The profits will be shared by percentage, based on the agreement that part of the profits gained by the DAFO will be accumulated to form the future Forest Development Funds.

The overall goal of the PSS is to develop the forest resources of the country, aiming to rationally satisfy the demand on timber and forest products, and also conserve the equilibrium of ecosystems, which includes water, soil and wild animals. The PSS aims to create favorable conditions for underprivileged farming families, which lack initial funds or technical know-how, but are still keen to be involved in the plantation projects. The project also aims to provide alternatives to shifting cultivation that are able to generate more income and a better life for project participants. It also aims to develop a sustainable use of forest and forestland at village and household levels, and to support the reduction and stabilization process of shifting cultivation in the target areas.

1. PSS Plantation for Individuals, Collectives and Organizations

The PSS will supply seeds, seedlings and barbed wire to PSS participants interested in plantation establishment on their own lands.

The profit-sharing will be implemented using the following steps:

- (a) When the plantation reaches the ages for the thinning, in accordance with the Individual Management Plan of the standard contract, the profit gained from the products of thinning will be shared between the DAFO and PSS participants at a rate of 20% and 80%, respectively.
- (b) When the planted forests reach the age of 15-20 years, DAFO and PSS participants will jointly calculate the estimated volume and value of the timber in the plantation, and then the profit to be shared using the same ratio as the thinning. If the PSS participants have enough money to pay the whole part of the DAFO's profit, he or she may keep the plantation as his or her property, or vice versa. The third alternative is an extension of the PSS agreement between DAFO and the PSS participants.
- (c) DAFO can add or reduce materials providing to the PSS participants while changing the ratio of above-mentioned profit-sharing appropriately.

2. Management of Timber and Forest Products from the PSS Plantation

To apply the related regulations and instructions on land use, any plot of plantations established by PSS participants must be registered at the office of the local authorities concerned (as stated in the article 13, on Allocation of land and forestland to individuals and organizations for use and management of the Chapter 1 concerning the forest management). The local authorities concerned must recognize the legal establishment of plantation by issuing a certification of the right of land use to the PSS participants.

3. PSS Plantation Management

In the establishment of the plantation by the PSS, the government allocates the right to use the degraded forest lands, bare hills or grasslands to the PSS participants for re-forestation, based on their labor and financial resources. For individuals, the government will allow the allocation of three hectares of land for one laborer in a family. In the case of the need for a larger land area, the interested persons have the right to rent or lease from the government. For organizations, the request for land for plantation will be considered according to the resources ability for production. For this reason, the land areas allowed for plantation are defined as degraded forest land, bare hills and grass land and the areas where it would not be able to convert into agricultural land. So, before establishing the plantation, the PSS participants must make a request to the DAFO for checking and certifying the planting site. To conduct thinning and harvesting operations, it is recommended to inform the authorities concerned for checking and follow-up. The DAFO must be notified and conduct inspections when participants wish to transport the products from the plantation to other Districts. To harvest plantation timber for selling, a request for permission should be submitted to the PAFO through the consideration of the DAFO.

4. Land Ownership of an Established Plantation

Once the profit-sharing operation is completed, and full property rights of the plantation are granted, the land and planted trees become the property of the PSS participants who established the plantation. They have the right to harvest, use and sell the products of the plantation to generate family incomes, as long as the regulations on forest management and the approved individual management plan (IMP) are followed.

The PSS participants have the right to transfer the ownership on plantation to their children, relatives, or other parties, as stated in forestry law (Chapter 1, Article 5 on the ownership on forest and forestland).

5. Establishment of Forestry Groups

To facilitate the co-ordination between the DAFO and the PSS participants for an effective management of the re-forestation activities, Forestry Groups need to be organized.

Six to ten PSS participants will be members of a group. Each group has to appoint a leader and a deputy to be its representatives for dealing with the DAFO and the other organizations concerned. In the case of many groups in a village, it is possible to set up a village plantation association. The organizational structure of the Association will be similar to the Forestry Groups, but different in size. In other words, the Association is composed of many Forestry Groups.

6. Establishment of Funds

To ensure the effective development of the forest conservation and reforestation projects, the DAFO established "Forest Resources Development Funds".

The initial capital funds will be provided by the DAFO, in the form of the PSS plantation.

During two years of implementation in 5 villages, more than 100 families were very interested in this PSS model. However, the area planted was only 40 ha; seemingly small if compared with the number of families. This was due to the limited budget capacity of the district and a lack of experience in the PSS model. However, this was the first time the PSS forest rehabilitation model for degraded land was introduced in the Vang Vieng District, contributing to confusion and a lack of comprehension of the rural people about the PSS policy.

WEAKNESSES AND STRENGTHS OF PARTICIPATORY FOREST MANAGEMENT MODELS

1. Weaknesses

The model has many advantages for rural people, the state and the forests, but weaknesses or disadvantages cannot be ignored. These are:

- (1) Resolutions were not implemented fully in the PSS, due to administrative problems and a lack of skilled foresters;
- (2) The distribution of profits from the PSS was not defined in the resolution, creating great confusion to the PSS participants and communities;
- (3) PSS participants and communities were not skilled, and the PSS model does not provide for enhancement of income, to the rural poor;
- (4) The PSS model is applicable only in very small areas, except for exceptional cases. It seemed an empty slogan.

- (5) Monitoring and evaluation of the PSS did not function properly, due to the frequent transfer of forest officials;
- (6) And unclearly defined forest rehabilitation policies may have led to confusion.

2. Strengths of the Profit Sharing System (PSS) Model

The following are the strengths applicable in the small villages of the remote, hilly, barren and other degraded areas:

- (1) The PSS model encourages positive development of the small hillside villages and degraded lands.
- (2) The environment will be improved if there is full involvement of the local people for forest conservation and rehabilitation of degraded forest.
- (3) Hill and upland villagers usually have better land resources. This model attracts better management from the people as its protection is more vital.
- (4) The PSS strengthens the local economies of the participants and communities.
- (5) Shifting cultivation by upland people will gradually be reduced.
- (6) The PSS model can help local authorities stabilize slash and burn for agriculture, reduce the degradation of forest and improve environmental conditions.
- (7) Most of the leases of PSS boundaries, as well as tenure for usufruct rights have been defined in the PSS model.

CONCLUSION AND RECOMMENDATIONS

The model for the functioning of the Profit Sharing System is approved by the Forest Department and other organizations on the basis of various situations and strategies, taking into account the geographical location and the demands of the people. It can not be denied that they are useful for the rural people. Also, field surveys indicate that the PSS is the best organizational model at the grass roots level for environmental management.

However, in many situations, the PSS is not playing fair game in providing advantages to the rural people. In areas where barren and degraded land was regenerated, protected and managed completely by the PSS participants, it has been seen that the local people of the area are not getting the economic benefits as compared to the DAFO.

To strengthen the PSS model the following suggestions are given:

- (1) This program can achieve greater success if the benefits or compensation packages offered to the PSS participants are designed to be realistic and appealing.
- (2) Most poor villagers want paid employment, but the limited budget of the DAFO covers only a small amount of the needs of the poor. Means of getting cash should be developed.
- (3) There is a need to orient the packages towards soil and water conservation support activities like sericulture, mushroom cultivation, and cattle breed improvement, as well as leveraging other government programs through linkages.
- (4) Training should be provided to the PSS participants for seed collection, seedling production, thinning techniques, and proper harvesting. Forestry officials should receive training in providing technical guidance.
- (5) Industries based on forest raw materials such as grasses, bushes, fodder trees and non-timber forest products (NTFPs) should be encouraged to provide economic assistance in the area.
- (6) Funds or facilities should be given to the PSS participants for wasteland development and plantation.

- (7) Selection of the area should be based on both the degradation of the forest area and socio-economic conditions.

PSS. Frame work
FORCAP

