

# Experiences in community forest fire control in Viet Nam

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## Abstract

This paper focuses on the policy to allocate forestlands to communities as the most effective measure for forest protection and fire control in Viet Nam. Forestland is assigned to organizations, households or individuals, for sustainable forest management. This policy has decreased substantially the area of forests burned annually. Steps to execute community forest fire control include making plans based on data that span at least the previous five years, followed by implementing technical measures, such as organizing forest fire control crews who are trained and provided with proper equipment. A forest fire forecasting grading system was also developed, which defines five degrees of fire risks. Recommendations for more effective forest management, protection and development as well as forest fire control are presented.

## 1. Community forest fire control in Viet Nam

Viet Nam's total land area in 1999 was 32.9 million ha, of which 10.9 ha are forests (9.4 million ha natural and 1.5 million ha plantation forests). As part of its national economic development, the government of Viet Nam has decided to improve forest management and protection by allocating forestlands to organizations, households and individuals for long-term sustainable forest uses. Considered one of the most effective measures, this policy has resulted in a remarkable development of forest sources, forest fire prevention and control, and increased rural welfare, especially in mountainous areas.

The policy directly or indirectly affects about 25 million people living in or adjacent to forests. At present, there are about 50,000 villages in around 9,000 communes with forestlands that can be allocated, apart from their traditional community forests. Management of these forests usually incorporates forest preservation and forest plantation development. In the past few years, villagers' efforts to prevent logging, grazing, land clearance by burning and other damaging activities in forested areas have benefited communities tremendously.

## 2. Progress and performance of allocating forestlands

The impact of forestland allocation and protection on areas of forests burned can be seen in Table 1. The percentage of area burned in relation to total forest areas has decreased substantially since the policy has been implemented.

**Table 1: Allocation of forestland and forest protection on area of forest burned**

Year	Allocated forestlands (ha)	Forestlands assigned for protection (ha)	Burned forest areas (ha)	Burned forests/ total forestlands (%)
1998	298,435	367,872	19,712	0.18
1999	631,544	490,580	7,019	0.06
2000	124,567	222,400	1,517	0.01

Source: Annual reports of the Forest Protection Department, Ministry of Agriculture and Rural Development

The allocation of forests has motivated villagers to keep their commitments to forest protection and community development. They actively try to reduce fuel loads and practise sustainable agriculture. As a result, forests have regenerated rapidly, even on steep lands. Forest

cover also increased, forest products have multiplied, watersheds are protected, soil erosion is reduced, the natural environment has improved, and in particular, incidences of forest fires have decreased. All these outcomes have helped satisfied the objectives of Viet Nam's 5 Million Hectare Reforestation Programme.

Community-based forest protection has partially met villagers' subsistence demands for forest product (e.g. firewood, timber, bamboo for construction, fruits, medicine and fodder). Villagers could even derive income from forest products, and did not have to rely on payments from the government, thus saving the state an average of VND 50,000/ha/per year in forest protection fees.

The government is concerned about forest fires. Important legislation has been enacted to facilitate forest fire control activities in Viet Nam. Community forest fire control is carried out according to the steps outlined below:

Step 1: Forest fire control plans are made based on fire data from at least the previous five years. The data are analysed according to:

- ◆ Causes of the fire.
- ◆ Timing of the fire (is it influenced by climate and time of day?)
- ◆ Location of the fire (marked on maps.)

The plans should include:

- ◆ objectives;
- ◆ relevant legislation;
- ◆ maps showing forest fire location and vulnerable areas;
- ◆ warning schedules;
- ◆ charts summarising forest control programmes;
- ◆ human resources for forest fire control (e.g. communities, forest rangers, army, police); and
- ◆ development of community education programmes on forest fire control.

Some measures for minimising forest fire risks include asking households to sign on for forest protection, and compiling feedback from the field.

Step 2: Implement technical measures:

- a. Organize and prepare forest fire control crews, including local forest rangers, to help People's Committees at all levels plan and set up Forest Fire Control Steering Committees to be chaired by the Chairperson or Vice Chairperson of People's Committees. Representatives from other relevant agencies are members of the Steering Committees. These Committees help authorities at all levels direct, supervise and monitor forest fire control activities, especially in fire-prone areas, during the dry seasons.

During high fire risk period and in fire-prone areas, the following teams should be set up:

- ◆ Forest fire control teams of two or three members who are forest protection staff (forest rangers); and
- ◆ Voluntary forest protection teams at the local level comprising 15-30 people mobilised from the armed and police forces, and workers of agroforestry enterprises. The teams are equipped with firefighting equipment and trained in appropriate techniques. Together with forest rangers, they patrol and safeguard forest areas regularly.

Communities living near the forests protect forests in accordance with community customs and traditions. In some places, they have initiated a common village fund for forest protection (e.g. Yen Bai Province). In others, social organizations and households work together to develop community forests and organize forest protection (e.g. Cao Bang Province).

- b. Annually, the District Forest Protection Departments assist forest owners in forest fire prevention and control during the dry seasons. A forest-fire forecasting grading system was developed and posted on large signboards at key fire-prone areas as follows:
- ◆ Grade 1: Safe, conditions not likely to start a fire.
  - ◆ Grade 2: Fair, conditions likely to start a fire.
  - ◆ Grade 3: Alert, dry weather conditions likely to start a fire.
  - ◆ Grade 4: Dangerous, lengthy dry weather conditions very likely to start a fire.
  - ◆ Grade 5: Extremely dangerous, lengthy dry weather conditions extremely likely to start and spread a fire quickly.

In addition to involving communities in fire prevention and control, Viet Nam has also created firebreaks, including green belts.

### 3. Recommendations

To strengthen forest management, protection and development as well as forest fire management, further attention should be paid to the following issues:

- ◆ Develop policies to encourage community involvement in forest protection and management. This is a key strategy for forest protection in general and for forest fire control in particular. As long as people understand and see the benefits, they will have a sense of ownership and take more responsibility for forest and fire management.
- ◆ Empower communities to manage, utilise and protect forests.
- ◆ Allocate forestland, especially customary land used and managed by communities and forests with no clear ownership.
- ◆ Alleviate poverty and hunger, improve knowledge of people in rural and mountainous areas, and invest in infrastructure (electricity, roads, schools, health clinics, potable water and irrigation in mountainous areas) in collaboration with other development programmes.
- ◆ Develop policies on investment, tax, food security and human resource development.
- ◆ Develop models of forest management and protection at communal and village levels, carry out the signing of inter-household, inter-village commitments to forest protection, especially during the dry seasons when the risk of forest fire is extremely high.
- ◆ Increase dissemination of information and invest in education to improve the awareness of local people living in forests, establish forest fire control teams and provide appropriate equipment and tools.
- ◆ Strengthen management capacity to direct the enforcement of the Law on Forest Protection and Management at various levels.
- ◆ Set up a mechanism to notify communities about forest fires and mobilise firefighting teams and tools.
- ◆ During high risk periods, Steering Committees and Management Boards of forest fire control have to establish guidelines on:
  - ⇒ on-site directives;
  - ⇒ on-site fire control teams;
  - ⇒ on-site tools and equipment; and
  - ⇒ on-site logistics.
- ◆ Increase co-operation among agencies, and provide guidelines and directives on zoning for permanent agriculture to minimise slash-and-burn practices, a major cause of forest fire.