

# TAMDAO NATIONAL PARK, VIETNAM

## Forest utilization by the forest dwellers

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### 1. General description of the research sites

#### 1-1. Tam Dao National Park

Tam Dao National Park is located about 80 km northwest of Hanoi. The park consists mostly of limestone mountains overlooking the edge of the Red River Delta. The length of the mountain range is 80 km; the width is 10 to 15 km. The Tam Dao Mountain range has 20 peaks, including the highest one called Tam Dao Nord (1592 m above sea level). Since ancient times, residents in the Delta have worshipped it as a sacred place. In 1906, French colonists began to develop a summer resort called Tam Dao Town at an altitude of 900 m above sea level. In the Vietnam-French War, most of the buildings were destroyed, but a rebuilding phase began in 1959. Tam Dao Town now has a population of about 500 with many more domestic visitors arriving in the summer season.

The total area of the park is 36,889 ha: 17,295 ha as a Core Zone (higher than 400 m); 17,286 ha constitute an Ecological Zone (100m-400 m); and 2,302 ha serve as Administration (and Tourist) Area. The park also has a 15,515 ha Buffer Zone out of the boundary of the park (see Figure 1). About 150,000 people live in the Buffer Zone where 3 Provinces, 6 Districts, and 23 Communes are involved.

In Vietnam, there are 10 National Parks, 49 Nature Reserves and 31 Historical and Cultural Areas as well as Nature Protection Areas. The Central Government (Ministry of Agriculture and Regional Development) directly manages the National Parks and some important Nature Reserves, while Local Government manages most of the Nature Reserves, Historical and Cultural Areas and Nature Protection Areas. In 1991, the Ministry of Forestry (presently MARD) divided all forests into three categories: Production Forests, 60% of the total forest area; Protection Forests, 32%; Special Use Forests, 8% for nature conservation, biodiversity conservation, research, heritage reserves, recreation and tourism. Areas higher than 400 m in Tam Dao were first designated to the Nature Reserve in 1976, and in 1990, all the area above 100 m was designated "special use forest". Finally in 1997, all the area was declared a National Park. In 1998, a new headquarters building for the Park Office was built, where 65 to 70 officers (including station staff) are now working.

#### 1-2. Nin Lai and Thien Ke Commune

Three organizations are now involved in socio-economic research on the Buffer Zone in Tam Dao National Park. IGES (Institute of Global Environmental Strategies) in Japan is responsible for the Son Duong District of Tuyen Quang Province, the Forest Science Institute of Vietnam (FSIV) is mainly responsible for the Dai Tu District, and the JOFCA (Japan Overseas Forest Cooperation Association) oversees the Lap Thach District. This year, the IGES team focused its field survey on the Nin Lai Commune and the Thien Ke Commune in Son Duong District.

In the Nin Lai Commune, there are three ethnic groups: San Dieu, population 4,409, with 756 families; Kinh, population 1,913, consisting of 355 families; and Dao, population 130, home to 24 families. The San Dieu and Kinh groups live together, while the Dao live together in their own village. The total population is 6,452. 74% of the total land area in the commune is "Forest" including 37% bare land, 25% natural forest, and 12% classified as plantation forest. 49% of the land is in the boundary of the National Park.

21% of the land is used for agricultural production. This 531ha farmland was allocated to 1,135 families. The farmland allocation program has already been completed in this commune. On the other hand, allocation of forest land (bare land) by a "Red Book" System or "Green Book" System (See Table 1) is a much longer process. Of the 648 ha forestland outside of the park, only

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305 ha was allocated to villagers. According to Vietnamese statistics in 1997, families in the commune were divided into four categories of wealth: Rich, 15%; Fair, 25%; Average, 30%; Poor, 30%. In the commune, two major rice crops and one minor maize crop per year is the most popular food for cultivation, Rich people introduced livestock breeding, food processing (tofu, cheese, etc.), fruit production and Eucalyptus plantations to make money.

In Thien Ke Commune, the total population is 5,274 with 865 families. There are seven ethnic groups: San Dieu, 52% of the total population; Kinh, 37%; Dao, 5%; Hoa, 5%; Tay, 0.5%; Cao Lan, 0.5%. The commune consists of 11 villages. In 1963, about 60 families moved from Ninh Binh Province to this area under the central government's re-settlement policy beginning in the mid-1950s. Before the re-settlement, the percentage of Kinh ethnic group was much lower. The total land area is 2,301ha: consisting of forest, 1,844 ha, 80.1%; and agricultural land (including homesteads, ponds and others), 441 ha, 19.2%. All the agricultural lands have already been allocated to families. In terms of forestland, 74% of the total land area is covered by natural forest, while only 3.5%, or 80ha is covered by plantation forest that was allocated to 60 families. Area covered by natural forest is the very same with that of the national park. In the park area, the 200ha natural forest under the protection program of the National Park Office is allocated to 10 families and one village by contractual basis (See Table 1). According to Vietnamese statistics in 1997, families in the commune were divided into three categories in wealth: rich and fair, 20%; average, 65%; and poor, 15%.

## **2. Forest management system**

### **2-1. Land Classification in the National Park**

As mentioned above, there are four categories under management in the national park: a Core Zone; Ecological Zone; Administration Area; and Buffer Zone. In the Core Zone, all human activities are prohibited. Permission of the Park Office is needed to enter this zone. Only residents can enter without permission. As there are hardly any trails to climb the peaks of the Tam Dao Mountains, eco-tourism is not yet an issue. In the Ecological Zone, most of the land is bare or grass-covered because too much cultivation has taken place, shifting cultivation or firewood collection. In Cuc Phuong National Park, the oldest national park in Vietnam established in 1962, there were some cases of enforced re-settlement of indigenous peoples' villages. Fortunately it is said that this was not the case in Tam Dao, and one village actually exists inside the boundary.

The Park Office and Tam Dao Town (summer resort) are located in the Administration Area. However, the Park Office does not manage Tam Dao Town. Due to past circumstances, the town is under the jurisdiction of Tin Phuc Province. It is very strange that the Province made a gate on the boundary of the National Park, and collects an entrance fee from visitors. As the town is extraterritorial for the Park Office, there is not any economical feedback system from the resort town to the national park management.

### **2-2. Regulations in the Buffer Zone**

In the Buffer Zone, life of the resident people is partly regulated and partly left to the judgement of the residents. Concerning the former side, cutting live trees (collecting dead trees or branches is unofficially permitted), hunting and grazing are strictly prohibited in the park. Thirteen Forest Protection Stations (or Forest Protector's Offices) are strategically placed in the area bordering the National Park (there are 23 Communes) to watch for illegal cutting. Arrest and confiscation is very common in the area. In addition, immigration to the area is prohibited in principle. Mass-settlement, which was campaigned by the Government as a "New Economic Zone" Policy until the 1980s is strictly banned. The only exception is if a person outside of the area marries a person inside.

### **2-3. Support to Resident People in the Buffer Zone**

On the other hand, some programs have been introduced to encourage forest conservation. Table 4 shows the Park Office's support program for local residents: the Forest Protection Program in the Ecological Zone and the Support Program in the Buffer Zone. The Forest Protection Program is aimed at promoting bare land reforestation and natural forest conservation in the Ecological Zone. However, the Natural Forest Protection Program (NFPP) is implemented even in the Core Zone. For

example, in Nin Lai Village, Nin Lai Commune, three members of the Veterans Association of the village manage 65.5 ha of natural forest. The boundary of the forest reaches the ridgeline of the Tam Dao Mountains, and half of the forest is in the Core Zone. Concerning NFPP, the Park Office planned to try three models which are identified by who has a responsibility to manage the forest: household; village; and a resident's organization. But the latter two models seem to be unpopular because the job is too hard for its reward. As well, Forest Protection for local people can sometimes be dangerous. On the other hand, the Plantation Program has become popular because this is a good business for a person having technical knowledge in silviculture. For example, a resident in Nin Lai village earned 10.44 million Don in 1998, his first year of the contract.

Compared with programs in the Ecological Zone, those in the Buffer Zone are not sufficient because jurisdiction in the Buffer Zone for the most part belongs to the Provincial Government. To mitigate human pressure on National Park land, the promotion of a local economy is definitely needed. However, the Park Office does not have any support program in agriculture that the Provincial Government could implement. The Park Office can be seen as an extension service carried out by Forest Protectors and his staff in Forest Protection Stations of the National Park Office. The Forest Protector's duties involve forest conservation education in schools and the community at large; communication with local authorities; technical advice such as plantation techniques, as well as keeping watch over the forest. Concerning subsidies, the Forest Protection Station can only receive monies for plantation programs such as Project 327 by the Central Government, or a grant from the WFP (World Food Program: in Vietnam, usually called PAM in French).

#### **2-4. Customary Forest Management**

Officially or unofficially in the field survey, we could not recognize the presence of a community forest or a forest managed in a traditional manner based on communal relationships. Concerning the Tam Dao Mountains, before the establishment of the protected area, the surrounding villagers could go to the mountains and collect forest products freely. There was no boundary in the forest excluding the utilization of outsiders and no rule regulating the utilization of insiders. In Vietnam, especially in the northern half, as private ownership in forest areas were completely destroyed and where a socialist economy had been prevailing for a long time, resident people may have forgotten the presence of a traditional forest management system.

#### **3. Present state of the utilization of forest products**

Table 2 and 3 show examples of forest utilization in Nin Lai Commune and Thien Ke Commune. At present, firewood is the main forest product in the area. In Nin Lai Village, Nin Lai Commune, households even in the "Fair" or "Average" class, go to the mountains 3 km from the village, collect firewood and go back with 30kg to 40kg wood per person. It takes 7 hours to complete this process. Usually they repeat it three or four times a week. In the "Poor" class, they go to the mountains almost every day. They then sell the wood at the market to get food. In the "Rich" class, they have already stopped collecting from the mountains. They instead substitute branches from the plantation forest or fruit trees and residues of rice or maize for firewood. As minor forest products, villagers sometimes hunt birds, bats, squirrels, etc. and collect medicinal plants. However, impacts of these activities are not so serious compared with firewood collection

In Thien Ke Commune, the situation is slightly different. Frequency of collection is significantly lower and they use buffalo to carry firewood. It seems that having a plantation forest makes it easier for them to get enough fire-building materials. A further survey is needed to identify reasons for the differences between the two communes.

#### **4. Changes of forest utilization**

In the Tam Dao area, forest utilization has definitely been influenced by changes in the national nature conservation policy. The year 1976, when a part of the area was designated to Nature Reserve, was a turning point for Tam Dao. From that point on, nature conservation received the highest priority and forest utilization by local residents became unwelcome. However, shifting cultivation was allowed in practice.

In 1986, the Vietnamese Government decided to establish a nationwide full-scale nature reserve system. At that point, shifting cultivation was strictly prohibited, but firewood collection was

still allowed. When Tam Dao National Park was established in 1997, all the forest utilization except reforestation in the Ecological Zone became illegal.

A leader of the Nin Lai Village said that before 1985, most of the villagers usually entered the mountains, cut trees and sold them at market to gain cash income. But after 1986, regulations became strict and most of the villagers could not enter the mountains. Therefore they had to use their agricultural land more intensively. Table 2 and 3 show that shifting cultivation in Nin Lai and Thien Ke Commune had mostly ceased by the 1980's. Further research is still necessary to see if changes in agricultural management are related to the limitation of forest utilization and the subsequent managerial intensification of agriculture.

#### **5. An evaluation of forest utilization from the view point of sustainability**

As mentioned before, forest being cut for firewood collection is still a widespread practice in Tam Dao. From the viewpoint of the sustainability of the forest in Tam Dao, the situation is still very serious. To conclude this report, there two focal points to consider with regard to sustainable forest management of this area.

- 1) We should pay attention to the fact that households in the "rich" class have already stopped the cutting of the natural forest.. They substitute materials from plantation forest products and agricultural products. Intensification might be a key.
- 2) From our interviews with villagers, we know that most of the resident people do not recognize that they live in the Buffer Zone of the National Park and they do not know from where the National Park begins. Extension of the Buffer Zone and further education would be a simple but effective solution to preserve the natural beauty of the region.

Table 1. Forest Land Allocation System

Name	Aim	Allocator	Term for Rent	Grant by Government	Law Specified
“Green Book”	-Afforestation of bare land -Protection of natural and plantation forest	-Forest Enterprise -Department of Forest Protection in District Government	Not specified	50,000 Don / ha	Decision 264/CT, dated 22 July 1992, by the Chairman of the Council of Ministers, on policies encouraging investment for forestry development
“Red Book”	-Afforestation of bare land	-District People’s Committee	50 Years	-	Government Decision 02/CT, dated 15 January 1994, on allocation of forest land to organizations, households, and individuals for long-term forestry purposes
Contract	-Protection of natural and plantation forest in special forest area	-Forest Enterprise -Department of Forest Protection in District Government -Public Organization (Park Office in National Park, Forestry College, etc.)	Not specified	50,000 Don / ha	Decision 202/TTg, dated 2 May 1994, by the Prime Minister, on contracts for forest protection, maintenance, natural regeneration and planting

Table 2. Livelihood and Forest Use of Villagers in Nin Lai Commune

Village	Classification	Ethnic Group	Migration	Family (Working Force)	Farm-land (2 major crops) <i>sao</i>	Forest <i>ha</i>	Firewood Collection	Shifting Cultivation	Notes
Nin Lai	Fair	San Diu	No	10(6)	13(4)	0	3 times/ week, 3 persons/ time, 40kg/ person	Until 1985, 2 <i>sao</i> / year	
Nin Lai	Rich	San Diu	No	6(3)	8(5)	0	No (from 1997 when he bought a threshing machine)	Until 1982, 3 <i>sao</i> / year	Rent a threshing machine for villagers
Nin Lai	Poor	San Diu	No	6(3)	5(2)	0	6 times/ week, 2 persons/ time, 30kg/person, 1/2 to market	Until early 1980s, 2 <i>sao</i> / year	
Nin Lai	Average	San Diu	1965	8(7)	10(3)	0	3 -4 times/ week, 1person / time, 30-35kg/ person	1991-1994 20 <i>sao</i>	No experience in shifting cultivation before 1991
Nin Lai		San Diu	No	7(1)	10(4.5)	65.5 (Natural)	2-3 times / month, 2 persons/ time, 20-25kg / person	Until 1987, 10 <i>sao</i> / year	The forest is managed jointly by four persons for Forest Protection Program of the National Park.
Nin Lai	Rich	San Diu	No	11(6)	15(9)	34.5 (man-made)	No (from 1995 when he could get enough firewood from his plantation forest)	In 1970, stopped shifting cultivation. And began tea plantation.	20ha: Eucalyptus plantation in Buffer Zone, 34.5ha: native species plantation in Ecological Zone with assistance of the Park Office

Remarks: *sao*=360 m<sup>2</sup>

Table 3. Livelihood and Forest Use of Villagers in Thien Ke Commune

Remarks: sao=360m<sup>2</sup>

Village	Classification	Ethnic Group	Migration	Family (Working Force)	Farmland (2 major crops) <i>sao</i>	Forest <i>ha</i>	Firewood Collection	Shifting Cultivation	Notes
Thien Tan	Average	Kinh	1963	5(2)	21a (14a)	0	3 times/ month, 2 persons+1 buffalo / time, 120-140kg/ time	1963-1969, 5 sao/ year	Moved from Ninh Binh Province with assistance of Central Government
Thien Tan	Fair	Kinh	1963	7(2)	14(8)	0.6 (Eucalyptus)	3 times/ month, 1 person+1 buffalo / time, 120-200kg/ time	1963-1975, 3 sao/ year	Rent a threshing machine for villagers
Thien Tan	Rich	Kinh	1988	7(2)	8(7), 80a fruit garden	6 (Eucalyptus)	No (from 1992 when he could get enough fire materials from his plantation forest and farmland)	No	His wife is a nurse in a hospital. Main income is come from fruit production.
Thien Tan	Poor	Kinh	1963	7(4)	8 (4)	0.5 (Eucalyptus)	No (from 1996): He said he had "enough" fire materials from residues of maize, rice and plantation trees. Before 1991, 2 times /week, 2 persons/ time, 25-30kg / person	until 1990	Farm worker for 3 months, brick layer for 2 months to earn cash income
Thai Ba		Kinh	1995	6(4)	11(7)	67.8 (Natural) 7 (Eucalyptus) 10 (Bare land)	No(from plantation forest and confiscated firewood)	No	The natural forest is managed jointly by three persons for Forest Protection Program of the National Park.
Nhat Tan		Kinh (Dao)	-	6(2)	16(13)	32 (Natural)	No (from 1996 when he bought a threshing machine) Before 1995, 3-4 times/ month, 1 person+1 buffalo / time, 100-200kg/ time	1978-1985, 5 sao/ year	He moved from the nearby district in 1978, and married a woman in Dao ethnic group. The natural forest is managed jointly by three families for Forest Protection Program of the N.P.

Table 4. Forest Protection and Support Program for National Park Management

Name	Target	Contents	Notes	
<b>Ecological Zone</b>				
Forest Protection Program	Plantation Program	-Household	3 Years Contract: 1 <sup>st</sup> Year 2,426,000D / ha for Planting; 2 <sup>nd</sup> and 3 <sup>rd</sup> Year 580,000D / ha / Year for Protection.	Native tree species are mainly planted. After a contract is completed, ownership of standing timber belongs to the Park Office.
	Natural Forest Protection Program	-Household -Villages, A Village or Group of Villagers -Local Resident's Organization	50,000D / ha / Year for Protection	Not only Buffer Zone, but also Core Zone is included in the forest contracted.
<b>Buffer Zone</b>				
Support Program	Grant for Fruit Tree Plantation	-Household		Eucalyptus plantation becomes unpopular because of a fall in price and environmental problems.
	Extension Program	-All	Agroforestry, etc.	

Remarks: D = Don