Southeast Asian Studies, Vol. 38, No. 1, June 2000

Farmers' Views of the Forest: Perceptions of the Forest and the Natural Environment in Northeast Thailand

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Abstract

Intensive field research in a Lao village in Northeast Thailand revealed that the villagers, Lao peasants, perceive or classify the forest or other natural environments from two different perspectives. One is a concrete, zero- or one-dimensional perspective based on their interaction with the natural environment in daily life. However, the definition or boundary of each category is ambiguous. The other is an abstract, two-dimensional perspective regarding land tenure or other social relationships, which places emphasis on the boundary of each category or territory rather than the situation within the boundary. These two contrasting perspectives correspond to the plurality of their mode of subsistence, which consists of not only agriculture but also hunting and gathering, and show the cultural importance of the interaction between man and forest in everyday life in a peasant society.

I Introduction: The Relation between Man and Forest

Thailand has been called "a rice-growing society" [Ishii 1978]. Even today, when upland cultivation has expanded, it is still true that most of rural society, except for the upland minorities, is engaged in paddy cultivation as the main mode of subsistence. In contrast to this view from the perspective of agriculture, it is also true from the geographical perspective that Thailand had been a forested country. Ecologically, like other Southeast Asian regions, most of the country could have been covered by climax forest [Takaya 1986: 7]. Before the rapid deforestation in the latter half of the 20th century, the abundant forest played a major part in people's daily lives.

Perhaps because of the view of Thailand as a "rice-growing society," most rural village studies in Thailand have not appreciated the relationship of the culture to the forest. The forest has been considered as standing in contrast to human society in Thai cosmology. From the viewpoint of the urban elite, *pa*, meaning "forest," connotes wilderness or lawlessness, outside the sphere of merit of the king, which covers *muang*, or "city state," consisting of a city as the center and surrounding paddy fields (or rural area)

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[Stott 1991: 144–145]. In the context of religious representation of the rural people, the forest is recognized in an ambiguous way. While the forest is a fearful place in which various spirits dwell, it is also a familiar place to gather necessary resources [Tanabe 1978: 98], or a would-be settlement or paddy field, which, when abandoned, will return to forest [Hayashi 1993: 659].

However, in fact, villagers do not feel frightened when they go into the forest to gather bamboo shoots or mushrooms, hunt, fish, or cut timber. During my field research in Ngon Kham Village (shown below), which is surrounded with exceptionally rich forest, villagers told me that they have never feared spirits when wandering the forest because they have never actually seen them, although they believe in the existence of several kinds of spirits. Even women walk in the forest alone at night without fear of spirits. Indeed, villagers go hunting, gathering, or herding cattle in the forest almost every day, either alone or in a group. When they need to go to the District Office or farther, they walk at night to Hung Luang Village in order to catch the public bus leaving at 4 o'clock in the morning. Women also leave before sunrise to gather bamboo shoots. The single exception occurred about 30 years ago, when the migrants from the village went to Dong Na Tham forest to open new paddy land but soon came back because they were "eaten by the spirits." The villagers explained that, in fact, it was malaria fever. Whatever the case, villagers have long been familiar with Dong Na Tham forest as a hunting ground. The spirits might have been fearful to the first migrants, who opened a new village in an unfamiliar place far from their homeland. But the residents of a long established village can enjoy hunting or gathering in peace and quiet, either in the forest remaining near the village or relatively primary forest far from the village.

The forest supplies various resources indispensable in the villagers' daily life.[1)] The interaction of man and nature forms its own domain of culture, including folk wisdom, perceptions, and a value system. This parallels the domain of religious cosmology including fear of spirits, which belongs to a different realm from routine life.

This article describes and analyzes the local people's perceptions of the forest in a Northeast Thai village. The data was collected in interviews or by participant observation by the author.

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1) So far studies have examined the local people's knowledge and usage of natural resources, mainly forest resources (for example, [Subhadhira *et al.* 1987; Somnasang *et al.* 1986; Pei 1987]). However, these studies aimed at utilizing local wisdom or techniques for rural development, and therefore they focused on material aspects, or the importance of the forest as a "resource" rather than its cultural or semantic aspects. Most of them resemble catalogues of useful materials and their uses, far from the local people's concrete activities or their perceptions on the forest.

II The Research Site

The research site is Ngon Kham Village in Ubon Ratchathani Province, situated inside Pha Taem National Park, about 6 km from the Mekong River, which forms the Thailand-Laos border (Fig. 1). Surrounded by rich forest standing on rocky hills, only the land around the village is flat (Fig. 2). According to a forest officer, about 70% of the

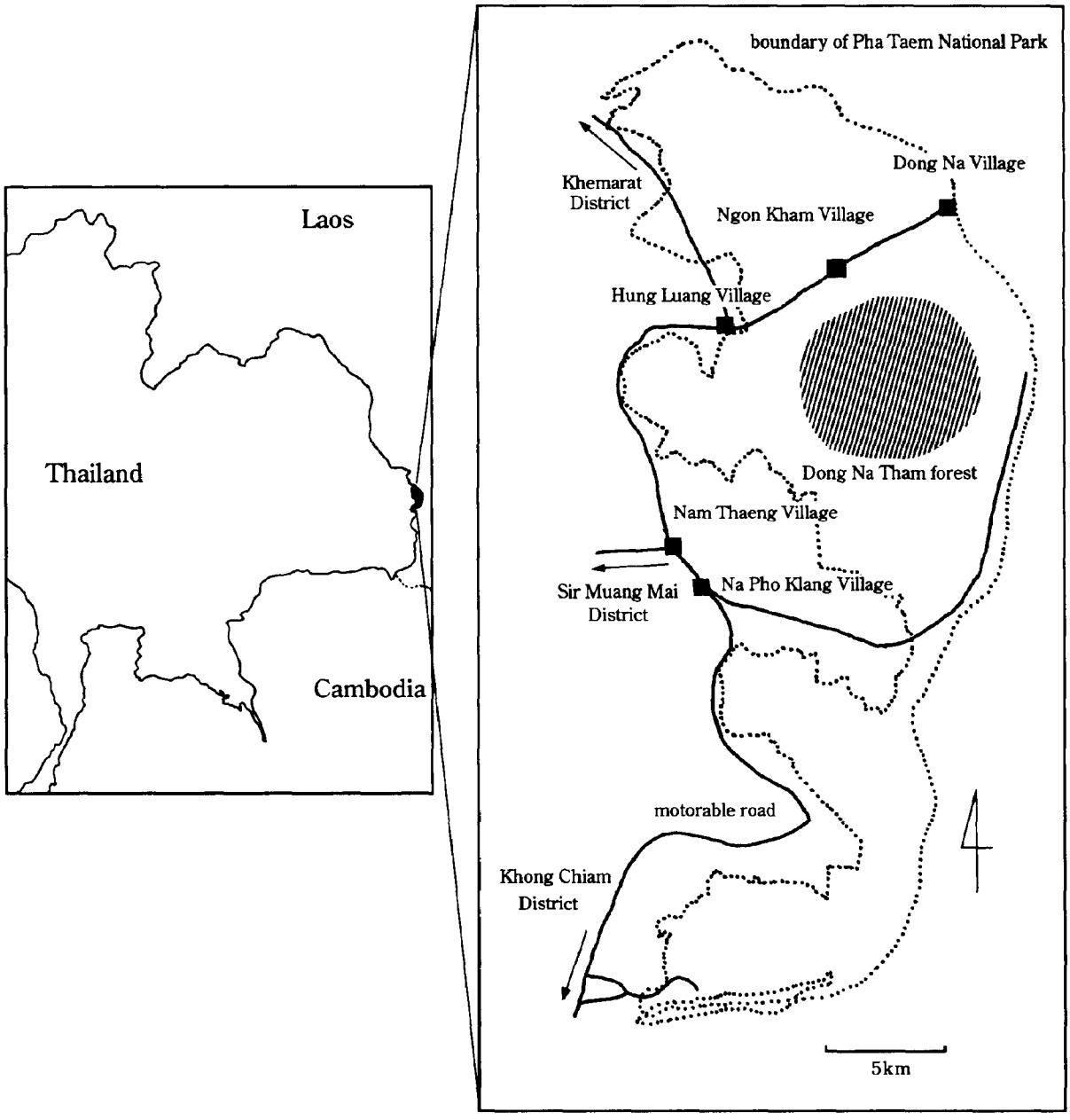

Fig. 1 The Research Site

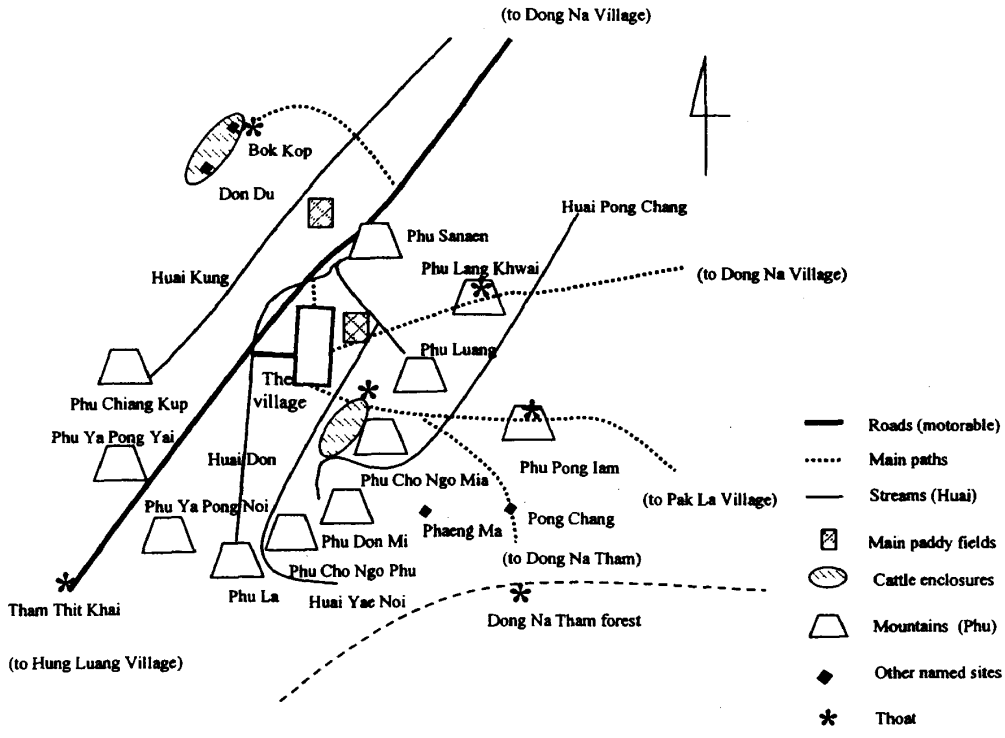

Fig. 2　Ngon Kham Village and Surrounding Area

Note : Based on the map drawn in a meeting of NGO staff and villagers with some amendments and supplememts by the author.

national park is covered with dry dipterocarp forest, 10% with dry evergreen forest, 10% with mixed deciduous forest, and 10% is rocky or sandy savanna. The pamphlet of the national park states that natural pine forest can be found at higher elevations, and dry evergreen forest occurs on wetter sites and along watercourses.

Villagers today identify themselves as ethnic Lao or Thai-Isan. However, the elders over 80 years old still remember Swai speakers in the villagers in their childhood, more than 50 years ago. They say, "once all the villagers were Swai, then they became Lao, and now they are Thai." Today, there are no Swai speakers, and some villagers who migrated into the village by marriage do not know this history. Other cultural features such as glutinous rice cultivation, utilization of natural resources and dietary habits are almost same as other Lao populations in the province or other provinces of Northeast Thailand in spite of minor differences in cooking methods or variety of plants used.

The high degree of dependence on the natural environment for daily food materials in Northeast Thailand has often been noted. The food materials besides glutinous rice, the staple, are obtained from places, such as forests, paddy fields, streams, and within the settlement. Lao people in Northeast Thailand are also famous for being least particular about food. In fact, they utilize various kinds of wildlife, including plants, animals, fish, and insects. The wide variety of edible insects, and abundant tree vegetables, mushrooms, and bamboo shoots in their diet is conspicuous.

These features are well preserved in Ngon Kham Village. In the interaction between man and the natural environment, Ngon Kham Village retains the Lao or Isan style.

Ⅲ Classification of the Forest

Through everyday interaction in various activities, the villagers have a detailed perception of the forest and other natural environments and classify them in their own way. Several criteria of classification are used, including not only geographical or ecological but also social. Being an indigenous classification, each criterion does not always have enough taxa designating all of its theoretically expected issues, and it seems that villagers are not conscious of their own taxonomic logic in daily conversation. Thus, when interviewed in the abstract without an actual situation or context, such as "what do you call forest that is occupied for paddy but not yet cultivated?," they cannot answer. However, they can answer if questioned while talking about land holding or occupancy in the village. Here I shall present the local classification of the forest and other natural environments in the village in a logical arrangement. However, this is a kind of systematic analysis of their culture as a whole, not what is felt in each villager's mind.

Ⅲ－1 *References to Landscape*

General references to landscape around the village are as follows. *Phu* means "mountain," *lang phu*, "top of mountain." Mountains are all rocky, so slopes are very steep; precipices in many cases are called *pha*. On the other hand, flat land is called *thi rap*. Streams are called *huai* or *huai nam* (*nam* means "water"), main streams *lam huai* (*lam* means "trunk"), swamps *nong* and rivers *mae nam* (the only nearby river is the Mekong, 6 km from the village). Hilly or relatively higher land is called *don* (sometimes *thi don* or *thi khok*, mentioned mostly in relation to wetness). Its antonym is *thi lum*, meaning "wetland," or also "lower land." Forest is called *pa*, which term covers quite a wide range, as the village and its paddy fields are mostly surrounded by forest.

Ⅲ－2 *Classification of Forest by Vegetation*

Paddy fields and settlements have the potential to become forestland if they are abandoned. So-called "natural" forest is also not really natural, because of human disturbance. It is quite difficult to distinguish objectively between "man-made" and "natural" environments. However, villagers recognize the forest, distinct from settlement and agricultural land, as natural, regardless of the degree of human disturbance. The forest is called just *pa* "forest" or *pa thamasat* "natural forest."

Pa thamasat is divided into three types according to the tree density, namely, *dong dip*, *dong*, and *ba*.

The forest with highest tree density is called *dong dip*, "raw forest." *Dong dip* is ecologically most diverse. In its vegetation type, *dong dip* can include dry dipterocarp forest, dry evergreen forest, and mixed deciduous forest. Natural pine forest would not be categorized as *dong dip*, as the tree density is not high, though most villagers do not recognize this forest type, and the author could not find it during the field survey.

Villagers explain that before the migration of people and the founding of the village, a considerable part of the land that is now paddy fields or settlement must have been *dong dip*. Subsequently, the forest has been cultivated little by little in parallel with population growth, as in other villages around Pha Taem National Park. Today, *dong dip* remains only in Dong Na Tham forest, which is the core of the national park, extending to the south of the village.

In fact, there is frequent disturbance of *dong dip*, by people walking through it, gathering wild vegetables, or hunting, but tree density and diversity are still high (Photo 1). It is probably most accurate to describe *dong dip* as least disturbed forest that maintains ecologically most diverse condition.

Ba, "open forest," designates a forest of thinly scattered trees, whether man-made or natural. It can be applied to secondary forest recently abandoned land, or naturally sparse forest caused, according to the villagers, by sandy soil or rocky ground (Photos 2, 3). *Ba* is divided further based on the ground type into *ba hin*, "rocky *ba*," and *ba din*, "*ba* on soil that is not rocky." Mountaintops are the most typical cases of natural *ba hin*. *Ba* is also classified by the dominant tree type. Usually a certain kind of tree is dominant in natural *ba*, and its name is used as a designation, as in *ba kok chat*, "*ba* of *chat* trees," *Dipterocarpus obtusifolius*, *ba kok daeng*, "*ba* of *daeng* trees," *Xylia xylocarpa*, and so on (Table 1). As vegetation types, natural *ba* contains dry dipterocarp forest and savanna (not really forest), and man-made forest might also contain dry evergreen forest and mixed deciduous forest.

Photo 1　Dong Na Tham Forest

Photo 2 Rocky *ba* with few trees

Photo 3 *Ba* with richer vegetation : the category *ba* is rich in diversity.

Table 1 Variety of *Ba*

Variety of *Ba*	Dominant Tree	
ba kok chat	*chat*	(*Dipterocarpus obtusifolius*)
ba kok chik	*chik*	(*Barringtonia sp.*)
ba kok hang	*hang*	(*Shorea siamensis*)
ba kok paek	*siaw*	(pine trees)
ba kok du	*padu*	(*Pterocarpus macrocarpus*)
ba kok daeng	*daeng*	(*Xylia xylocarpa*)

Ba might be evaluated as being ecologically poorer, but it is more familiar to the villagers than *dong dip* as a place to gather forest products. Generally, mushrooms are more abundant than in other types of forest (in the local categories). Besides mushrooms, *ya chot* (*Arundinaria suberecta*), a variety of bamboo, and some popular medicinal plants, as *yang daeng* (*Melastoma villosum*), *yang dam* (tree; not identified), and *siaw pa* (shrub; a kind of pine) can be gathered in *ba*.

Dong dip contains diverse kinds of trees. Thus the density of each type of tree is low. This is inconvenient for villagers who wish to utilize a particular kind of tree. For example, when they log *daeng* trees, the most popular timber in the village, it is easier to go to *ba kok daeng* in order to get the necessary amount of timber than to wander longer in *dong dip* to find sparse *daeng* trees. In addition, *dong dip* is a dense forest and hard to walk around, which is also an inconvenience for villagers seeking appropriate forest products.

Forest of intermediate density between *dong dip* and *ba* is called *dong*. *Dong* includes both man-made and natural forest. *Dong* is also closed forest, but it is not as dense as *dong dip*, or it has been fired either for cultivation or for other purposes[2] (Photo 4). *Dong*

2) For example, they fire the undergrowth in order to cause bamboo shoots to grow from the stem (called *naen*) in the dry season, or to make the rainy season shoots more delicious. Bamboo shoots in fired forest are called *no mai fai* "bamboo shoots of fire." Villagers also fire forest for the purpose of hunting : to drive game into a corner, or allow themselves to walk soundlessly. Nowadays some youths fire the forest just for pleasure, which causes serious problems of forest fire.

Photo 4 *Dong*: this *dong* is regenarating forest (*lao*), and occupied forest (*pa hua na*) at the same time.

can contain dry dipterocarp forest, dry evergreen forest, and mixed deciduous forest.

Historically, the total amount of *ba* has been increasing. Old villagers say the forest was formerly denser than it is at present, probably because of human activities such as expansion of paddy fields or logging for house construction (commercial logging has been quite rare in this village). Firing of the forest, shown in footnote 2, is no doubt one of the important causes. *Dong dip* has long since disappeared around the village, and conversion from *dong* to *ba* is still progressing gradually.

Other than the classification of *dong dip*, *dong*, and *ba*, there is a classification based on the density of undergrowth. Forest with dense undergrowth that makes it hard to walk is called *pa hok*, whereas *pa paen* holds the opposite meaning. *Dong* and *ba* contain both *pa hok* and *pa paen*, but *dong dip* is always *pa hok*.

Ⅲ－3 *Classification of the Forest Based on Land Utilization and Tenure*

Dong dip, "raw forest," is also a taxon in the classification based on land utilization and tenure. Villagers sometimes refer to the forest that has never been cultivated as *dong dip*: for example, "Dong Na Tham forest is still *dong dip*," or "before the foundation of the village, the area around the village was *dong dip*." But in fact, they recognize *dong* or *ba* in Dong Na Tham forest. They also define *dong dip* as forest that has never been fired. Firing may involve all the vegetation, when it is done for cultivation; or just the undergrowth, for bamboo shoots or hunting. However, some natural forests that have never been fired are called *dong* or *ba*, if trees are sparse and not diverse because of the soil. In short, the villagers have a vague image of *dong dip* as the least disturbed forest area. They also refer to Dong Na Tham forest as a whole by the term *dong dip*, regardless

of the vegetation variations within it. Namely, the meaning of *dong dip* as a category of land utilization is wider than as a category of vegetation.[3)]

Primary forests, either *dong dip*, *dong*, or *ba* as categories of vegetation, might be occupied (*chap chong*), then cultivated as paddy fields (*na*) or other fields (*rai* or *hai*). When a paddy field is newly opened, upland rice will be planted in the first year that the forest is cleared (and thus the field is called *rai*), during which time big trees in the field are felled and bunds are raised for a paddy field in the next year.

In earlier times, paddy fields (both *na* and *rai*) were cultivated in rotation, although not in a systematic manner. Though it is almost impossible today to open new paddy fields because of the national park regulations, a wide range of forest around the village still remains in fallow, called *lao* (secondary forest regenerating after cultivation).

Villagers say *lao* can revert to primary forest, *dong dip*, after a long time. This statement contradicts the villagers' own definition that *dong dip* has been never fired. It seems more appropriate to say that *dong dip* has been never fired within the villagers' memory. In fact, there is no *dong dip* that people remembered as having been cultivated.

While *lao* and *dong dip* refer to historical aspects of human disturbance of the forest, *pa hua na*, literally "forest of the head of paddy," meaning occupied forest, refers to the social respect. Apart from *lao*, almost all the forestland around the village that is suitable for paddy cultivation[4)] is already occupied. According to the villagers, the occupied lands at present do not include *dong dip* in Dong Na Tham forest, probably because Dong Na Tham forest is far from the village. Of course, their occupancy does not have any legal ground: the land is all in the national park. But the villagers recognize each other's tenure even though the land is not marked. And this occupancy does not prevent other persons from gathering wild vegetables, mushrooms, or bamboo shoots on the land.

Dong ta pu, "ancestral forest," also can be included in the classification based on land utilization. As mentioned in many accounts, *dong ta pu* is the residence of the spirit of the village founder. In *dong ta pu*, it is prohibited to cut large trees. A small shrine is built and rituals for the village founder are held regularly. Ngon Kham Village also has its own *dong ta pu* with an associated oral history of village foundation. Villagers still respect the founders, and there is no movement to abandon *dong ta pu* or to transform it into a *wat pa* temple or agricultural land.

Ⅲ－4 *Interrelationship between the Two Criteria*

The classification of the forest according to the two criteria of vegetation (or tree

3) Because of this dual meaning, villagers' references to *dong dip* are complicated and, in some cases, contradict each other. They do not seem to be conscious of this dual meaning of *dong dip*. *Dong dip* in its broader meaning as a category of land utilization is used less frequently than as a category of vegetation.

4) Lower, flat land is considered suitable for paddy cultivation.

density) and land utilization can be systematized as shown in Fig. 3.

Dong dip is a taxon in both systems, but its meanings are slightly different. In the classification based on vegetation, *dong dip* is the most diverse forest and enjoys the best natural condition in comparison with *dong* and *ba*. In the classification based on land utilization, *dong dip* vaguely means primary forests least disturbed by human activities, and may include primary forests that may be categorized *dong* and *ba* based on the criterion of vegetation.

Along the axis of human disturbance, *dong dip* (of vegetation) can be cultivated for paddy, then fallowed as *lao*, which is categorized as *dong* or *ba* according to its position in the succession, and finally, the villagers claim, return to *dong dip*. Other kinds of disturbance, logging or firing, can also change *dong dip* into *dong* or *ba*. Natural *dong* or *ba* on less fertile soil can also be cultivated (except for *ba hin*, "rocky *ba*") or disturbed in the same way as *dong dip*, but regeneration can produce no more than *dong* or *ba*, respectively, as its primary stage.

Pa hua na, "occupied forest," contains all *lao* and other forest never cultivated. The boundaries of the whole of *lao* and *pa hua na* and those of each plot are clearly recognized by the villagers, based on the known fact of occupation or succession in the past, in order to prevent disputes. Wandering the forest, each villager can identify the owner of each unmarked plot of forest. But *dong dip* based on the criterion of land utilization is an exception. It connotes the space land that has no relation to current land utilization and tenure, and its boundary is vague.

On the other hand, based on the criterion of vegetation, the distinctions between *dong dip*, *dong*, and *ba* are not clearly defined. There is no immediate need for a clear definition,

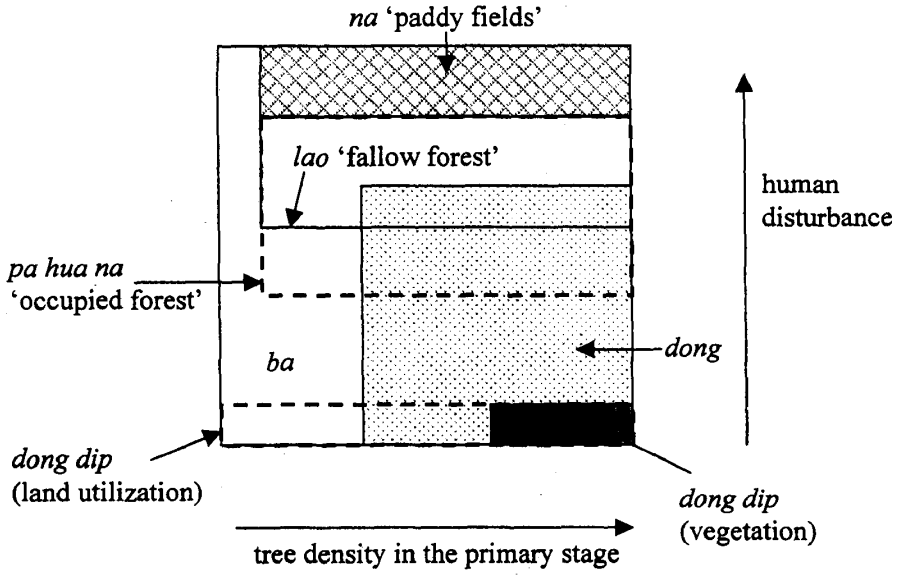

Fig. 3 Classification System of the Forest

as it is not related to any kind of social relation. Furthermore, the natural environment varies gradually. The villagers are also well aware that the forest and nature are much more complicated than their classification.

Atlan [1990] points out that folk conceptions of wildlife presume certain physical features as intrinsic characters. Though Atlan limits this argument to animals, it can be applied to the classification based on vegetation above. Like the intrinsic natures of wildlife, a certain core image or prototype is presumed in classifying the forest by vegetation. For example, in the case of *ba*, the core image is of a savanna-like forest with few trees. A villager pointed out such a forest as *ba* after we had passed through a denser forest that I later found was also categorized as *ba*. Thereafter, when asked if a particular forest was *ba* or not, the villagers sometimes answered "yes" immediately, sometimes "yes" after thinking for a moment, and sometimes "no, it has become *dong* already." With distance from the core image, the certainty of each taxon diminishes. Thus the boundary between two taxa is ambiguous, and variation remains within each taxon. In contrast, the taxonomy related to *pa hua na*, land tenure, involves clear definitions and boundaries, but ignores the diversity of vegetation.

Ⅳ Dual Perceptions of the Forest

In addition to the classification systems shown above, an attempt is made here to clarify the villagers' own views of the forest. It is impossible to grasp and describe precisely the whole of each individual's perception in any situation, but some features of it are revealed by analysis of individual behavior.

Ⅳ-1 *Arrows Drawn on a Map*

One day, I asked a villager, Mr. S, to draw a map of the village and surrounding area so that I could grasp the landscape (Fig. 4). He began by writing the cardinal points on the four edges of an A4-sized peace of paper. Then, he drew a small circle in the center, the settlement. He did not know what to draw further, so I asked him where the mountains and paddy fields were situated. He drew four mountains in each of the four directions: Phu Sanaen to the north, Phu Luang to the east, Phu Cho Ngo to the south, and Phu Cho Pong to the west.

After that, he drew arrows connecting the settlement to each of the mountains, then two small squares showing paddy fields in the northeast and northwest, and arrows from the settlement to each of them. In the response to my question about the variety of forest types, he said that the forest around the settlement and paddy fields had been all occupied by villagers (*pa hua na*). He enclosed the occupied area including the settlement and two paddy fields (broken line).

The resultant map shows his perception of the landscape around the village. The

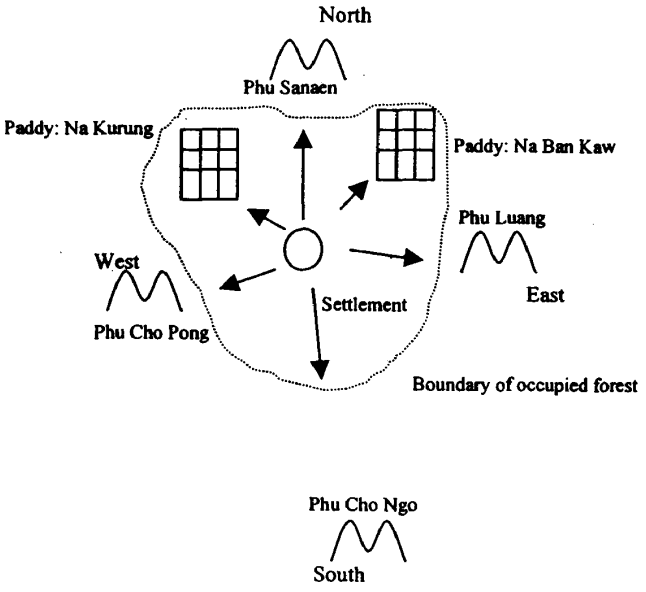

Fig. 4 Mr. S's Drawing of the Village and Surrounding Area

Note: Based on his original hand drawing, revised and translated by the author.

first point is that he drew arrows connecting the settlement to the mountains and paddy fields. This shows that his perception is linear and directive. Moreover, he drew only four mountains lying exactly north, east, south, and west, even though mountains surround the village almost completely. He probably thought first that the map needed the four directions and drew them, and then he could recall only the four mountains in these directions. This is an evidence of linear and directive perception. Because he did not think of the landscape in a bird's-eye view, he must have recalled it in each direction from the settlement, and only in the directions written on the paper. This mode of perception is, no doubt, based on actual behavior: walking from home to each of the mountains or paddy fields in daily life.

This mode of perception is commonly found among the villagers. For example, while I was walking in the forest with a villager, he sometimes told me the names of mountains that we could see on the way. However, when I asked him where the village was (the village was not visible from that point), he could not answer correctly, even though he could describe in detail the route to the village. Generally speaking, when asked about the position of a certain place on a map like Fig. 2 or an official map, villagers first aligned the map in the true direction or simply answered "I do not know."

On the other hand, the way in which Mr. S enclosed the occupied forest on the map displays the opposite feature. This is a two-dimensional perception that is separate from actual daily behavior. It is based on land ownership or occupancy and represents the social relationship among the villagers rather than the interaction between man and

nature.[5] This aspect will be examined in the next section.

IV-2 *Another Map*

As far as the boundaries and tenure of land are concerned, the villagers can recognize the landscape from a bird's-eye perspective. The map of the area around the village shown in Fig. 2 is originally developed from one that villagers drew in a meeting organized by NGOs. Villagers wanted to apply to the Royal Forest Department for exclusion of the village from the national park, and discussed about the area to be excluded. The map did not have any arrows, and almost all the mountains, streams, and other named sites around the village were shown in the right directions. The villagers' group in the meeting with NGOs included the village headman and his assistants, whereas Mr. S is a member of Subdistrict Council (*sapha tambon*). Both have frequent contact with outside society, especially the official section, so are used enough to a modern style of map. Thus, the difference between the two maps cannot be attributed to educational level or lack of modernization. Apart from the limited help provided by NGO staff, the only difference between the maps lies in the situation in which each map was drawn. In the latter case, there was the explicit purpose of setting up a boundary of exclusion from the national park, which forced the drawers to assume a two-dimensional perspective. On the other hand, in the former case, I asked Mr. S to draw a map so that I could "grasp the landscape around the village," the objective of which was ambiguous, and did not need an element of two-dimensional or bird's-eye perspective. However, when mentioning the occupied forest, he also enclosed the boundary, not employing arrows or lines and points.

Thus it can be said the villagers recognize the landscape in two different ways according to the context: a two-dimensional way from bird's-eye perspective, and a lineal, directive way based on actual walking in the forest.

Another important difference between the two modes of perception is continuity and discontinuity. The two-dimensional way of depicting boundaries is oriented towards dividing the landscape according to social relations inside the village community or between the village and outside society. Drawing arrows or lines as paths connecting the current point with some other sites keeps the continuity of natural landscape as if it were a passing scene. This contrast corresponds to the difference between the two criteria of classification of the forest shown above.

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5) The argument in this section is mostly based on one informant's drawing. It does not necessarily imply that all the villagers asked in the same way would draw the same kind of map. It might be better if the author could have collected more samples with a certain format. However, as shown above, map drawing or perception depends strongly upon the occasion or context. Imposing a certain format might introduce a prejudice. I asked Mr. S to draw a map without any intention to investigate his perception, but ironically this turned out to reveal the reality of his perception. In short, this map was a product of participant observation, not of quantitative data collection.

Ⅳ-3 *Variable Unit of Distance*

Today, the villagers are used to kilometers as a unit of distance. Every villager knows that it is 8 km from the village to Hung Luang Village, the nearest surfaced road, and 6 km to Dong Na Village, the next village facing the Mekong. There are also local units commonly used in Thailand, *sen* (40 m), and *wa* (2 m), based on the length of the spread of human arms. *Sen* and *wa* are not used to refer to distance between points, but mostly the width or length of land. These units are both abstract.

Villagers also have a system in which distance is measured by *thoat*. One day, I went to the forest with a villager to look for his lost cattle. We walked to the east from the village on the path to Phu Pong Iam by way of a cattle pen. At the gate of the cattle pen, he told me "up to here is *thoat* 1." Then he pointed Phu Pong Iam and said, "to the top of the mount is *thoat* 2." He said that *thoat* was a unit of distance. I then asked how many kilometers one *thoat* was equal to. He answered, "it depends on the case. It is not such a kind of thing." So what is *thoat*?

There are six main paths from the village (Fig. 2). Each line has *thoat*. For example, along the line from the village to Phu Pong Iam (then to Pak La Village), the gate of the cattle pen is called *thoat* 1, and the top of the mount, Phu Pong Iam *thoat* 2. In kilometers, *thoat* 1 is about 1.5 km from the village, and *thoat* 2 is 3.5 km from the village. *Thoat* along other lines are shown in Table 2. Some lines have *thoat* 2, others just 1. Each *thoat* is of a different distance.

Villagers explain *thoat* as a section. When they ask each other where they have been, they may reply "I've just walked to *thoat* 1." When villagers talk like this, they usually refer to the ways or lines from the village, and thus they can understand each other. *Thoat* is comprehensible only in concrete or fixed contexts. Strangers could not know where *thoat* 1 is without villagers' explanations.

Thoat is really a section of a walk in the forest. The sites designated as *thoat* are not

Table 2 *Thoat* along the Paths from the Village

The Village–Phu Pong Iam–Pak La Village		Distance from the Village
thoat 1	gate of cattle pen	1.5 km
thoat 2	summit of Phu Pong Iam	3.5 km
The Village–Pong Chang–Dong Na Tham		
thoat 1	gate of cattle pen	1.5 km
thoat 2	Dong Na Tham (the entrance)	3.5 km
The Village–Phu Lang Khwai–Dong Na Village		
thoat 1	Phu Lang Khwai	2 km
The Village–Bok Kop		
thoat 1	Bok Kop	5 km
The Village–Hung Luang Village		
thoat 1	Tham Thit Khai	3 km

only prominent landmarks, but also terminal points of the village. For example, when villagers go to look for cattle along the way to Phu Pong Iam, as the case shown above, they may return from *thoat* 1 if they can find their cattle in the pen. If they do not, they will walk on to Phu Pong Iam. At the summit of Phu Pong Iam, *thoat* 2, they usually take a rest, and there is a sign on the rock, which a villager has written in fun: "Oh, I'm tired, sit down and have a rest!" Other sites of *thoat* are also similar landmarks, such as resting places or cattle pens. That is, *thoat* is a section of landscape based on everyday concrete behavior.

Here again we see the contrast of concrete and abstract. Meter and kilometer, or the local *sen* and *wa*, are abstract systems of units, separated from the concrete context.[6] But *thoat* is a completely concrete perception, based on an everyday walk in the forest. This perception is impossible without shared experience and can never be applied to other places. Even among the villagers, each *thoat* can only be understood by fixing the direction. The reference to direction is usually not explicit in the actual contexts in the forest.

I am not sure if there are similar cases of perception of distance to *thoat*. However, it is certain that the *thoat* system used in Ngon Kham Village cannot be applied to any other places, as the *thoat* system does not contain any abstractions separate from people's daily activities in the surrounding landscape. This is a system arising from the long-term interaction of man and environment, and in this sense, there could be similar cases in other places.

IV-4 *Farmers and Hunter-gatherers*

It has become clear that there are two different kinds of perspective of classification or perception of forest or other natural environments. One is a zero- or one-dimensional, continuous perspective based on and related to the actual, concrete situation of the natural environment, with several core-image-centered prototypes rather than a clear definition or boundary, a view from the eyes of a wanderer in the forest. The other is a two-dimensional perspective related to land tenure, which respects clear boundaries with discontinuity and ignores diversity of vegetation, soil type, or other natural environments inside the territory, a bird's-eye viewpoint.

Ingold's argument is suggestive in considering the difference between these two

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6) One *wa* is defined as the spread of a man's arms, and thus variable depending on the individual. One villager told about his birthplace (not far from Ngon Kham Village), which has a fertile field on the bank of the Mekong. The villagers there buy and sell the right to cultivate this field by *wa* of width, and the buyer can employ as a large man as possible to be a measure of *wa*. Regardless of actual width, each *wa* is recognized as equal, that is, compatible with every other *wa*. *Wa* is not uniform, but it is still conceived as an abstract unit.

kinds of perception. Ingold points out that land tenure in hunter-gatherer society is zero- or one-dimensional: the range of land from which a certain site such as a waterfall, river, or religious point can be seen [Ingold 1987: 148–155]. The boundary of tenure is not clear, and tenures are continuous: "Land doesn't contain sites; rather the sites contain the land" [*ibid.*: 150]. On the other hand, agricultural society has two-dimensional tenure with clear boundaries, which ignores actual features, as "to turn a piece of the landscape into a field is to remove a covering of specific things that grow, leaving a general potential for growth" [*ibid.*: 154]. In fact, however, as I have shown, agrarian society also can embrace zero- or one-dimensional perceptions, because farmers engage in activities other than agriculture. Daily life in Ngon Kham Village includes diverse activities involving interaction with the natural environment, such as hunting, gathering, logging, and so on. Therefore, the villagers' perceptions are of both hunter-gatherer type and agriculture type, embracing a kind of pluralism. These two types belong to different paradigms, and never cross over. Villagers choose between the two according to situation or context.

V Conclusion

As shown so far, villagers' classification and perceptions of the forest involve two separate but coexistent perspectives. The existence of a zero-or one-dimensional perspective shows that minor activities other than agriculture also play an important role in their perceptions of the forest, which, as a cultural system, are the conjunction of man and nature formed through daily interaction between them. The considerable weight that the interaction between the villagers and the forest in daily life has in the whole of their culture requires us to amend our fixed ideas about peasant society or farmers' life itself. We should acknowledge that subsistence consists of miscellaneous activities, of which agriculture is just a part.

Nowadays, with deforestation and increasing concern about conservation of the natural environment, pressure has grown increasingly strong to delineate the forest as a protected area, which emphasizes the two-dimensional mode of perception. On the other hand, zero- or one-dimensional perceptions are likely to be disregarded. The balance between the two perspectives, which peasants have maintained so far, should be reevaluated as a cultural property and a foundation on which to construct a proper means of conservation of the natural environment that includes human subsistence and culture.

Acknowledgement

This article represents a part of the results of the research project entitled "An Integrated Study on Biodiversity Conservation under Global Change and Bio-inventory Management System: Diversity-Ecosystem-Relationship (DIVER)," funded by a Grant-in-Aid for Creative Basic Research from the Ministry of Education, Science, Sports and Culture of Japan, which started in 1997 and will end in 2000.

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