Forest fire in the context of territorial rights in northern Thailand

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Abstract

Territorial rights are important for establishing the roles of those who should protect natural resources. Different property rights regimes may affect the characteristics of fires. This paper compares fires on land managed under a common property regime with fires on land owned and managed by the state. According to the definition of the Royal Forest Department (RFD), fire that occurs on communal land is not a forest fire because it is under "systematic" control, through traditional wisdom and knowledge, by the members of each community. The local people use fire for their daily household activities and to manage local ecosystems. Fires that occur on state land are classified as forest fires because they are assumed to be out of control and unwanted. The law claims all natural resources for the state, but in practice they are openly accessible to everyone. Thai people are barred from participating in forest management. As a result, they have no sense of resource ownership and may use fire carelessly. Limited staff and budget are major constraints of the RFD's forest fire control efforts. One way to improve fire management is to grant management rights to local communities. Through legislation, the conflicts between the legal and traditional systems can be resolved, and co-operation between the state and the community improved to develop sustainable and equitable resource management systems.

1. Property regimes and the forest fire management

Property rights are a key factor that determines resource use and influences behaviour of resource users. Property rights are also the main incentive for resource management (Libecap, 1989, cited in Suthawan Sathirawan, 1996).

Different property rights regimes may affect the characteristics of fires. This paper compares fires on land managed under a common property regime with fires on land owned and managed by the state.

2. Fire management on common property

Communal land is an area controlled and managed through community institutions. The Royal Forest Department (RFD, 1996) defines forest fire as *a fire that occurs [on forestland] for any reason and in the absence of any control*. So, a fire on communal land is not a "forest fire" under this definition since it is under "systematic" control by the community. Local people use fire for their daily household activities and to manage local ecosystems even if the land is *de jure* state or public land. The RFD regards fires as "forest fires" when they occur on public land. This perception is misleading and based on a disregard for local knowledge and local management of resources.

2.1. Fire management in community forests

A community forest is used and managed by a community according to community rules and regulations. It can be classified into conservation forest and production forest. In northern Thailand, the conservation forest is evergreen, dense and moist throughout the year. It is usually a watershed area and conserved. Sometimes it is also protected for religious and traditional beliefs.

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The production forest is usually a dipterocarp and mixed deciduous forest. Local people use these forests as a source of food, firewood, fodder and for other purposes. They may light fires in these forests for several purposes (e.g. to accelerate the germination of mushrooms, bamboo shoots and other edible forest plants). Smoke and heat are also used to force animals from their hideouts so that they can easily be hunted. The burning of ground cover accelerates the growth of tender new shoots and grasses as fodder for domestic animals.

Local people practise "early" or "prescribed" burning by setting fire to dry leaves and grasses in the forest to reduce the fuel load and thus the severity of dry season fires. The heat of the fire also assists the germination of thick-skinned seeds and helps to eradicate pests. Such uses of fire are valued by local people (Atchara, 2001).

Local fire patrols and firebreaks are also established in areas where fire would have a negative impact, particularly on the conservation forests. If a forest fire breaks out in this area, the villagers will extinguish the fire or construct a firebreak to stop the fire from spreading.

Many forest fire management techniques are employed by local communities who combine a number of methods to suit the diversity of ecosystems in their forests.

Box 1: From firebreaks to early burning: fire management in Mae Tha Sub-district, Chiang Mai Province

Mae Tha Sub-district in Chiang Mai Province is composed of 7 villages and 1,235 people. Located 500 m above sea level, it is surrounded by dipterocarp forest at higher elevations, mixed deciduous forest with teak and bamboo as the dominant species, and dry evergreen forest in the vicinity of water sources in the valley bottoms.

Farming is the main source of livelihood with one wet rice cultivation per year, along with orchards, cash crops and cattle. Some villagers also work in the Lamphun Industrial Estate.

Severe drought and forest fires in 1993 spurred the villagers to initiate a forest conservation plan. Logging from 1901 to 1908 and 1937 to 1964 had degraded the forests considerably. Since 1995, the villagers have implemented a natural resource management plan, dividing the communal land into three sections: 34,000 rai of conservation forest, 17,000 rai of production forest and 21,000 rai for agriculture.[2] Committees manage the community forests at the village level and the sub-district level for all seven villages.

Every February, the villagers construct firebreaks around their villages and community forests to prevent fires from entering the Mae Tha forest and to mark the boundaries of their forests. Between March and April, volunteer fire patrols are organized.

The forests are recovering and forest fires over the past few years were minor. Villagers have started to burn the dry leaves during January and March to reduce the severity of potential fires. According to Phoa Luang Suk Macham of Mae Tha (Atchara, 2001):

The burning method starts from the mountain ridge down to the plain. This way, fire moves slowly. By nightfall, the fire will have died away. If we do the burning in January, by February new leaves and new branches are coming out of the trees. Both big and small trees survive. Compared to firebreaks, which prevent fire over a period of two years, fire that happens after that period will be severe and lead to the death of many large trees.

The management of forest fire in Mae Tha is an integrated initiative and a learning process for the local people to manage their resources sustainably. Although most community forests have been managed by local communities, the forests are formally classified as National Forest Reserves, National Parks and Wildlife Sanctuaries and belong to the state. Communities have formulated regulations that lay down penalties for burning the forest.

Source: Surin Onthon, 2000

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[2] 6.25 rai = 1 ha

2.2. Fire management in agricultural fields

Most agricultural fields belong to individual households. However, households remain bound to traditional rules and community management (e.g. rules of kinship and community irrigation management organization). Hence the village organization continues to be the ultimate decision-making unit concerning land management.

People living in the forest have used fire to prepare agricultural land for thousands of years. Farmers usually burn at mid-day when winds are lighter to reduce the risk of fires spreading. In orchards, farmers burn grass in piles to avoid damaging the fruit trees. The heat from the fire destroys seeds of weeds, insects and diseases. Burning breaks down the organic matter and enables planted crops and indigenous plants to establish themselves in the burned areas.

Alternatives to fire use are not readily available due to the limited resources and skills. Instead, local knowledge of appropriate fire use achieves the same objectives, as shown by the Mae Pon Village, a Karen community in Chiang Mai Province.

Box 2: Local knowledge of appropriate fire use in rotational shifting cultivation in Mae Pon Village, Chiang Mai Province

Mae Pon Village, Ban Luang Sub-district, Chom Tong District, Chiang Mai Province, is a Pakagayaw (Karen) community. It is situated between 600 and 1,000 m above sea level and comprises 74 households. The village is divided into four communities: Ban Mae Pon Nawk, Ban Huey Wak, Ban San Din Daeng and Ban Glang. Village members in Ban Mae Pon Nawk plant terraced wet rice fields while the rest relies on rotational slash-and-burn farming. All four villages have orchards, practice livestock husbandry and work as labourers.

The Pakagayaw clear their fields in February. They cut only the branches of the large trees and fell smaller trees at waist level. They leave the vegetation to dry for 1-2 weeks and then burn them. The people who burn the fields must have knowledge of wind direction, slope, weather, environment and landscape. Households with adjacent fields usually help each other to build firebreaks and burn the fields together. Burning starts at the outer boundary and moves towards the centre of the fields, and from upland to lowland areas.

The Pakagayaw manage fire through traditional knowledge and wisdom. When the paddy in the field is about 30 cm tall, they carry out ceremonial offerings to the spirits and show respect and gratitude to Dtah Lu Me, the fire spirit. The Pakagayaw believe that all resources belong to the spirits, and as part of the natural world, humans are allowed to use these resources, but they must only take what they need, or the spirits will punish them.

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3. Management of fire in the state common property regime

According to the law, all natural resources are owned by the state. However, in practice, they are openly accessible to everyone. The state is not capable of managing and maintaining all the natural resources, while local people are officially barred from participating in the management processes, which contributes to resource degradation.

All fires that occur on state land are "forest fires" because they are assumed to be out of control and unwanted. Fires in the forest may be caused by agricultural practices as burning for hunting and gathering purposes. The root cause of forest fires is the absence of a feeling of ownership over the resources. As a result, people are careless about how they treat the environment. This contrasts with the use of fire in community forests, where fire is used carefully to avoid damage to communal property. In the latter case, community members know each other well and are able to find the culprit responsible for the fire more easily.

A basic problem is a conflict over the interpretation of "fire". The local people consider fire as a tool, controlled by traditional techniques, for managing resources. However, the provincial governor considers all these fires to be "forest fires" that spread and destroy ecological systems.

The state rejects local knowledge and management techniques. Being confident of the legality of its actions, it maintains that knowledge of appropriate fire use lies within its hands only.

The villagers' interpretation of the causes of forest fires can be markedly different:

> *"The local RFD unit sets the fires themselves because if fire occurs they will get a larger budget." - Gam Nan Anan Duang Gaiyo Ruen, Mae Tah Sub-district, Mae On District, Chiang Mai Province.*

> *"Every year, fires spread from the RFD plantations. I think the staff do it themselves because in the years that they do not have fire they get little money, but in the years they do have fire they get a lot of money." - Duang Gaiyo Salee, Ban Mae Yah Noi, Ban Luang Sub-district, Chom Tawng District, Chiang Mai Province.*

RFD officials explained that the people mix up prescribed burning with wildfires. It is difficult to confirm accusations. Since the state monopolises control over resources, the public is unable to evaluate or monitor what is happening. Forest fires on state-owned land are also caused by villagers' malicious actions designed to anger officials. This is due to the general dissatisfaction with the way RFD staff uses power to control resources and reflects the conflict between government and the community.

Although the state claims ownership over all natural resources, in practice it has limited staff and budget to implement proper management. For instance, in Doi Luang National Park, the number of forest fires increased after the RFD relocated people from their forest village.

> *"The outsiders always start fire for hunting at the base of the hill and it then rises to the top. The RFD staff cannot take care of all of them. When the villagers were there, the outsiders were wary of the villagers. If the villagers saw a fire starting anywhere they would help to put it out immediately. In the past, villagers brought the cattle to graze in the forest and this also reduced the risk of fire from dry grass on the forest floor." - Su Rueng Sa Forng, Ban Mae Tom, Wang Nueha District, Lampang Province.*

> *"After the villagers were moved out, the officials did not have enough labour to suppress the fires. We have just nine people per unit and have only nine units. In 1988, forest fires happened a lot and destroyed large areas of forest." - An official of Mae Hom Watershed Management Unit in Doi Luang National Park (Benja Silarak, 1998).*

The RFD spends a huge budget on public relations to encourage local people to share in protecting the forest. This will not solve the problem because the state only assigns people the duty to take care of the forest but grants them no rights. As a result, local people feel they have no stake in the land and are not motivated to conserve the forest. As Somsak Sukwong (2000), the Director of the Regional Community Forestry Training Center (RECOFTC), commented:

> *"If we want the villagers to grow the forest and protect it from forest fire it is not hard to do – simply allow the village members to manage the forest themselves. We do not utilise 100 percent of the forest community potential. If the villagers manage the forest, they will utilise the full potential themselves."*

4. Conclusions

Secure rights to natural resources are necessary conditions for establishing rules and responsibilities in resource management. Presently, the law does not recognise community the traditional rights of local communities. They have their own community forestry management systems, including a forest fire management plan that works in harmony with the local ecology and local traditions. The state must enact legislation that acknowledges these community rights, in accordance with the Constitution. Through legislation, the conflicts between the legal and traditional systems can be resolved, and co-operation between the state and communities improved to develop sustainable and equitable resource management systems.

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