RESEARCH ON
INDIGENOUS KNOWLEDGE OF THAI, H’MONG AND DAO PEOPLE
IN THE NORTHERN PART OF VIETNAM

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TABLE OF CONTENTS

1 GENERAL INFORMATION ...................................................................................... 1

1.1 INTRODUCTION AND SCOPE OF THE RESEARCH ........................................... 1

1.1.1 Introduction ................................................................................................. 1

1.1.2 Objective: .................................................................................................... 2

1.1.3 Target groups and scope of the research: .................................................... 2

1.2 RESEARCH METHOD: ..................................................................................... 2

2 REVIEW EXISTING RESEARCHES ON INDIGENOUS KNOWLEDGE ................. 2

2.1 FOREST AND UPLAND FIELD PROTECTION AND MANAGEMENT: ............... 3

2.2 UTILIZATION AND DEVELOPMENT OF FOREST RESOURCES: ..................... 7

2.2.1 Experience in breeding and planting special species with high economic value ... 7

2.2.2 Experience in exploitation and utilization of herbal medicine: ......................... 8

3 RESEARCH RESULT ............................................................................................. 11

3.1 INTERVIEW AND SURVEY .............................................................................. 11

3.2 GENERAL FEATURES OF RESEARCH TARGET GROUPS ................................ 12

3.2.1 Thai ethnic villages .................................................................................... 12

3.2.2 H’Mong ethnic villages ............................................................................. 13

3.2.3 Dao ethnic villages: .................................................................................. 14

3.3 ASSESSMENT OF TRADITIONAL EXPERIENCE ............................................. 15

3.3.1 Regulations and experience in forest protection and management: ................. 15

3.3.2 Experience in breeding and planting some species with high economic value .... 17

3.3.3 Other experience in exploitation, utilization of herbal medicine and some special forest products like bamboo shoot, brown tube. ............................................................. 18

3.3.4 Experience in predicting the yield of dried cinamomum bark by observing the cinamomum field 19

3.3.5 Experience in using timber, restore and improve the value of soft timber ......... 20

3.4 APPLYING THE TRADITIONAL EXPERIENCE IN COMMUNITY FORESTRY OR COMMUNITY PARTICIPATING IN THE FOREST MANAGEMENT AND LESSONS LEARNED ........................................ 20

3.4.1 Making forest protection and utilization regulations ..................................... 20

3.4.2 Sustainable utilization of forest resources and diversification in land use: ........ 22

3.4.3 Lessons learned .......................................................................................... 22

4 CONCLUSION .................................................................................................... 23

REFERENCES ...................................................................................................... 24
1 GENERAL INFORMATION

1.1 Introduction and scope of the research

1.1.1 Introduction

Today, many Asian countries pay interest in community forest and community forest management. In Vietnam. These issues have been researched and piloted in the mountainous areas and some foreign donor projects' regions. The approach of community forest and community forest management opened a positive prospect to forest protection, management and development for Vietnam. Moreover, community approaches have been existing in the lives of ethnical minority groups in mountainous areas, in forms of village regulations and traditional experiences that they learnt and sum up from reality.

During recent years, more and more research activities have been done on indigenous knowledge of different fields like economics, society, culture and health. The indigenous knowledge, known as traditional or local knowledge (as Mr Hoang Xuan Ty, 1998), exists and develops in certain conditions, in certain geographical regions and with the contributions of all members in the community. Research and assessment on the indigenous knowledge of ethnic people in mountainous areas in Agriculture and Natural resources management were implemented by Dr Hoang Xuan Ty within the project frame named “Assessment on the indigenous knowledge of mountainous ethnic people in agriculture and natural resources management in Vietnam” funded by the International development research center (IDRC), Canada and Ford foundation in the period of 1997 to 1999. The research outcomes were edited and published by the Agricultural publishing house in Hanoi in 1998.

Within the framework of research program on Shifting cultivation, funded by the Institute of International environment and development (IIED), England. The Japanese Oversea forest cooperation association (JOFCA) also supported one research on indigenous knowledge in upland cultivation, combination of agro-forestry, regulations in upland cultivation and forest selection, done by Do Dinh Sam, the principal of this research, and other cooperators in 1994 – 1998.

The research done by the Asian Forestry Network in cooperation with the Forest Inventory and planning institute in 1998 covers some issues of community forest management from the angle of indigenous knowledge.

The Vietnamese Thai study done by the Vietnamese study and cross-culture center of Hanoi national university in 1989, which was edited by Cam Trong and published in 1989 under the name “Culture and history of Thai people in Vietnam”, mentions some aspects related to the regulations for forest and upland field protection of Thai people.

Below are some more previous researches on indigenous knowledge relating to the management, protection and development of forest:

- The traditional laws and regulations for forest resources and upland field protection of Thai, M’Nong, Tay and Nung people.
Experience in development and utilization of some non timber forest product like cinamomum of Dao people in Yen bai, K’Ho people in Tra Bong, Tra Mi; amomum of Muong people in Hoa Binh and some types of herbal medicine of Muong people in Hoa Binh.

However, the collection of indigenous knowledge is not complete in terms of the issues relating to the management of different types of forest, some technical experience, application of indigenous knowledge bringing into play the community tradition of ethnical minorities in forest protection and management. Thus, those are the main contents of this research to complement to the collection of indigenous knowledge.

1.1.2 Objective:

The objective of the research is to make an assessment on the indigenous knowledge of some ethnical minorities in the northern part of Vietnam in forest resource protection and management in order to disseminate for the purpose of community forestry.

1.1.3 Target groups and scope of the research:

Due to the defined time frame, the survey collecting indigenous knowledge focuses on following target groups:
- The indigenous knowledge of 3 mainly representative ethnic groups: Thai, H’Mong and Dao.
- Research location mainly in Son la and Quang Ninh provinces.
- Types of forest for research are:
  - Water source/watershed protection forest,
  - Scare forest and ghost forest,
  - Forest for timber and non-timber forest products (Cinamomum and herbal medicines, etc).

1.2 Research method:

- Survey and interview: These would mainly used with RRA tools for experienced people like village heads, the old and women. Interview is done with a simple form of questionnaires, according to the required contents and objective of the research.
- Observation and evaluation in the field.

2 REVIEW EXISTING RESEARCHES ON INDIGENOUS KNOWLEDGE

The researches relating to the indigenous knowledge in forest protection, management and utilization that were published, as mentioned above, done by Hoang Xuan Ty in cooperation with An Van Bay, Cam Tu Lan (Vietnamese forest science institute), Vuong Xuan Binh, Ngo Duc Thinh (Ethnology institute), The Asia forestry network and Vietnamese Forest inventory and planning institute (Mark Poffenberger, Thomas Sikor, Vo Chi Trung, Nguyen Huy Phon, Nguyen Huy Dung..). In addition, there are articles in the program of Thai study (edited by Cam Trong, Hanoi national university) or in documents of project of Agriculture university No I funded by FORD
foundation, in proceeding of the international workshop on buffer zones of natural reserves in Vietnam funded by the project ALA /VIE/94/24 and Vietnam – Netherlands research program (VNRP). Most of them study indigenous knowledge with concentration on issues below:

2.1 Forest and upland field protection and management:

In the forest and upland field protection and management regulations each of ethnical group like M’Nong, Thai, Tay-Nung beside distinctive features, they share some main characteristics as follow:

- Community relationship, which is clearly presented in ethnical community via many regulations, verbally transmitted traditions that are respected and obeyed by all the members of the community respect with self-consciousness. This is an important base in community forestry or the foundation of community forest management (in the form of village forest). M’Nong people living in the Central highland, Dac Lac province, possess community regulations as below:

Lực lác dăng buộc dưới nhím. The tail of porcupine is attached to tintinnabulum
Dây máy dăng buộc mồm cop. Tiger mouth is tied by rattan rope
Đã khắc cán xã gạt sâu nắc. The hilt of knife is carved with six slots
Đã khắc cán cáo bày nắc. The helve of rake is carved with seven slots
Dây lạt dăng thật với nhau. Bamboo strings are tied together
Dây giao kết dăng thật với nhau. Regulations and agreement are made
Đã giao kết bằng chiêng to. With the witness of big gong
Đả giao kết bằng Rlung to... With the witness of big Rlung (a musical instrument)...
(Theo Ngô Đức Thịnh- Dân: Collected by Ngo Duc Thinh- Quoted: Hoang Xuan Ty, 1998).

Anybody breaking the regulations would be punished as below:

Ai phá với lời cam kết Who break the regulations
Giao kết bằng trái nó phải gom đủ Has to deliver up enough buffaloes as agreed
Giao kết bằng chỉ nó phải gom đủ Or has to deliver up enough thread as agreed
Cửa cái giao kết nó phải gom đủ Or has to deliver up his property as agreed
......
Con lơn sẽ đập ngang cổ The pig would trample his neck
Con chó sẽ đập ngang hàng. The dog would trample his groin
Người ta sẽ bắt bè đủ tôi..... Villagers would expose his mistakes.....
Thai people also have village/community concept as follow:

- **Nhiều mây thành mưa**  
  Too much cloud makes it rain
- **Nhiều người thành bản**  
  Many people together make a village
- **hoặc Nhiều bản thành muồng**  
  Or Many villages together make a Muong (an unit equivalent to commune)
- **Nhiều phương thành trời**  
  Many directions makes the sky
- **Nơi nào cùng là muồng**  
  Anywhere is Muong
- **Phương nào cùng là Pong**  
  Any direction is Pong
- **Noong nào cùng là noong ta**  
  Any Noong (young girl) is our Thai Noong

The relationship among people in the community is also clearly shown in sayings: One goes without eating then other nine will do the same; or Use the undamaged leave to cover a damaged one; or Use the bamboo mat to cover the root of the tree (According to Ha Nam Ninh - Ba Thuoc - Thanh Hoa).

- In each village, there exist boundaries among forests and upland fields. Although these boundaries are roughly presented with small stream, rivulet or mountain canyons, villagers all accept and respect. These boundaries often identified by the old or the experienced in the villages.
- There are regulations about the forest protection, cutting and fire prevention while burning for upland cultivation as well as regulations for violation cases. Those regulations can be presented in written documents or orally transmitted ones. Some of them are clear and realistic but there appear some based on spirit or superstition. Village regulations are normally proposed by the old and respectable in the village and then complemented and completed by villagers. Village regulations are regularly mentioned in community activities.

Ngo Duc Thinh has collected some regulations for forest protection and fire prevention of M’Nong people. See below for some illustration:

- **Rừng bị cháy mọi người đều buồn**  
  People are upset when the forest is burned
- **Cháy qua suối kỳ đã chết sạch**  
  The fire goes across the rivulet making vanra die
- **Cháy bãi có kỳ nhộng chết thui**  
  The fire goes though the lawn making the salamander die
- **Rừng đầu trái tự nhiên mà có**  
  The forest does not appear naturally
- **Đất đầu trái tự nhiên mà có**  
  The land does not appear naturally
- **hoặc Bắt con cá phải chưa con mẹ**  
  or When fishing have to avoid mother fish
After studying the traditions of 2 ethnic groups in Lang Son province, Tay and Nung, Vuong Xuan Binh (Ethnology institute) said that at the beginning of the year, Tay and Nung people sacrifice the God of the soil as they believe that God is the guardian and protector for their lives, their husbandry and animal in certain inhabiting area. Each village reserves one place for sacrificing the God. Forest protection and management are mentioned and added in days of worshipping with the presence of all villagers.

- Thai ethnic group:

Thai people living Thanh Hoa province have regulations that prohibited forests are the protection ones in the watershed of rivulets. The signal of prohibition is set in the gate of the forest called “Ta leo” in Thai language. Other types are allowed for the need of villagers in timbers and fuelled. There are also some forests where villagers are allowed to get in to collect bamboo shoot once or twice a year and then is closed (according to Vu Truong Giang in “Culture and history of Thai people in Vietnam”, Hanoi.1998). Villagers respect these regulations with community consciousness.

Thai people in Tat village, locating in the watershed of Da river, Son la province have established a systematic practice of forest protection under the direction of experienced and old people in the village called Xompa, local language, means forest protector (according to the study done by the Asia forestry network and Forest inventory and planning institute in 1998). Xompa is responsible for forest protection, in particular to:

a. Protect strictly the forest in the water watershed,

b. Identify production forest and where to allow villagers cutting timbers for making houses and household furniture,

c. Encourage member of the community to control forest fire.
Persons selected to be Xompa are the ones experienced in production, forest protection, especially watershed forest. They are capable of identifying where can be upland field, upland cultivation cycle, crop calendar for planting bamboo, promoting household gardens, etc. Many other Thai villages in Da river watershed have Xompa. Studying Thai ethnic in Dong Tien, Con Cuong, Nghe An province, Tran Ngoc Lan has the same remarks on the forest protection system called “Moipa” which proves the same as Xompa in Son La.

In the study by Tran Duc Vien and Pham Thi Huong in 2001, in the mountainous areas in Nghe An province, there exist traditional and indigenous practices of forest protection. But in some communities, the community forests are being changed and even disappeared like Hang Doi forest in Bong khe commune, Hang Nang Man forest in Yen Khe commune, Khe Ang forest in Na be village, Xa Luong commune, etc. Therefore, management of natural resources in community approach should be legally approved and encouraged to developed when and where they prove relevant and effective.

In the watershed of Ca river, there are forms of community forest management as follow:
- Civil forest management, Thai community.
- Forest management attached to the water sources for paddy fields, Thai community.
- Forest management attached to the water sources supplying for village consumption.
- Village forest management.
- Forest management for the poor.
- Forest management to protect alluvial soil along rivers.
- Forest management for family relatives.
- Forest management in Sung canyon.

The classification of community forest management is rather difficult as in fact each community forest contains distinguished features and there is no convincing classification among those having been done.

The success of community forest management depends on various factors including the right of utilization or benefit sharing. These are very important basic to call for the participation and long-term support of villagers in forest protection and recovery.

Through factual survey different community forest management models, it can be seen that community forest management is essential and it should be effectively promoted, based on:
1/ The agreement of community and clear identification of user group,
2/ Clear benefit and responsibilities of each member,
3/ The approval by the Authorities,
4/ The relevance to culture and traditions of the locality,
5/ The capacity of community in monitoring activities to ensure the regeneration of resources.
The participation of local people in community forest management shows that they possess valuable experience in community resource management, utilization of non-timber forest products. But still they need external support for technical options.

**2.2 Utilization and development of forest resources:**

**2.2.1 Experience in breeding and planting special species with high economic value**

a. *Amomum echinosphaera* by Dao people. (According to the survey done by Hoang Xuan Ty and An Van Bay in 1998)

Dao people select the field in the altitude of 400 to 800m, as the weather condition is suitable, cool with less hoarfrost in winter, with the crop. People say that amomum can grow on many types of soil, including soil in limestone, in either flat or sloping terrain. They believe that growing amomum in patch of 100 to 300 m² under the shade of trees around and there are stone in the soil would provide good yield. But if the shade is too much and the soil is too soft and fertile, there would be not much for harvesting. One year, each clump sprouting out 3 or 5 roots about 1 or 2 cm under-ground. They will grow to be a new regeneration of amomum later on. Flower and fruit are produced in the lower part of the tree, right near the foot but from the underground trunk, not from the root as what we can observe.

In order to induce the amomum to have more fruit, Dao people have tradition to use palm-sided pieces of stone to intercept the underground trunk right when they grow in the soil from 5 to 10 cm. As the biological habit, after grow beyond the stone, these young trucks will get into the soil once more before being a new tree. This is often done in rainy season when it is convenient for the shoot to sprout out. When the spring comes, they grow mature enough and at the point of the stone, there appear flowers and then bunches of fruit. Carefully observing, we can see flowers and fruit only grow at the underground trunk getting out of the soil. Thanks to the method of using stone, there is an increase in the productivity of fruit and in the yield of Amomum in comparison to the ones without intervention.

According to some old Dao men in Phuc San commune and in Chieng yen forest enterprise in Moc chau district, Son la, the tradition of using stone has been existing for long time. Traditionally, Dao people protect, tend and use stone for the natural amomum they found in the forest and harvest every year. Some villagers even think of planting amomum in rocky soil and the underground shoots will get out and into the soil naturally and thus, there are more flower and fruit. The technique of using stone is considered clever and effective. Although there is no careful study, in terms of principle and conditions for blossom, this technique proves its scientific reasons. At the moment, there are only some Dao farmers know and adapt this option for their own amomum.

b. *Cinamomum* by Dao people in Yen Bai province (in Van Son district), Quang Ninh province (Quang Lam, Quang An districts), by K’Ho people in Tra Mi, Quang Ngai province, and in Tra Bong (Quang Nam).

Below are the experience of Dao and K’Ho people in growing Cinamomum in the study of Nguyen Ngoc Binh on the combination of agro-forestry (1981 –1985) and study of Do Dinh Sam.
and Ngo Dinh Que (1985 – 1988) on soil classification for Cinamomum in Quang Nam and Quang Ngai:

- Dao people plant cinamomum in the upland field, in the shade of Cassava or rice. Upland cultivation rotation period is 3 years, so after a period of 3 years, they can have cinamomum of harvesting and soil fertility protection value. This method of planting cinamomum in the shade of cassava or rice is totally relevant to the biological characteristics of cinamomum in its young age as at this stage, it does not need much light. The density that Dao people apply is rather high: about 5000 to 10000 seedlings per ha as they do thinning with the big ones first and then the smaller ones can continue to grow up.

- K’Ho people in Tra My and Tra Bong, Quang Nam and Quang Ngai provinces have two ways to grow cinamomum:
  - Scattered plantation in the shade of tree or in gaps in the forest. Each household own cinamomum patches of different ages and some of them can be transferred to their children. When cinamomum tree gets impeded by the other trees in the forest, people often destroy the other trees to open cinamomum to light.
  - Plantation with the method of agro-forestry combination like the Dao in Yen Bai and QuangNinh do.

As cinamomum plantation models in those places are at the height of 600 to 900m, they grow well without diseases, especially the “Tua muc” disease that normally happens with the one being planted at lower height (200 to 300m).

**c. Model of planting Xoan after upland cultivation of Muong people in Hoa Binh province**

This model is concluded to be one type of agro-forestry combination. Muong people in Hoa Binh often sow the seed of Xoan after finishing upland crop. Xoan grows very fast; its timber can be used for making house, furniture, as it is easy to cut into pieces. Xoan can be harvested after 5 years. Each household normally has different plots of Xoan of different age in the upland field.

2.2.2 Experience in exploitation and utilization of herbal medicine.

Ethnical people in the mountainous areas hold valuable and abundant experience in exploiting and utilizing the herbal medicine and it needs to invest more researches and studies on this. Prof. Do Tat Loi has collected many tradition remedies of ethnical people in his works. We would like to mention herewith summary of his recent researches.

**Muong ethnical people with the use of herbal medicine**

According to the research of Nguyen Thi Quy in 1998, Muong people do not only use herbal medicine in case of illness but everyday as well. In every Muong family, there is always one pot containing herbal medicine for daily use of family members which can help food digestion better, being diuretic or tranquilized and have better sleep. In case one member of the family feel sleepless at night, there would be more tranquilization herbal medicine in the pot. Or if there is someone with stomach rumbles, there would be added more digestion medicine in the pot. It
means that the water for drinking of the family is often adjusted with herbal medicine to ensure a healthy life for family members. For the ones being really ill, they will take a medical liquid specially prepared by local doctor, male or female, who are mastered in using remedies made from herbal medicine and are inherited these knowledge from previous generation.

Normally, the female only pass their knowledge to their daughters or daughters-in-law, a few of them pass it to the sons. This proves why 70% of local doctors are female (according to the survey done in 1994).

Quiziner, a French ethnologist, when doing research on Muong people, give comments in her Les Muong: “Among local doctors, the female are more famous for their experience in using herbal medicine than the male do”.

Experience in using herbal medicine is orally transmitted from generation to generation as most of the local doctors do not know how to read and write.

Also according to the survey of Dr. Nguyen Thi Quy, in general Muong people in Hoa Binh province give names for the herbal medicine species with following criteria:

- The treatment effect, for instance, *Bang* is named for the herbal tree of Coconut family as it has effect to cure a disease of being always thirsty (*bang* in local language); *Dat ngach* is named for a type of tree that provide its root for treating terrible headache.

- The treatment effect and territories of the tree, for example, Bang khu is the Bang tree (mentioned above) which grow in the mountain (*khu* in local language), *Lau doi* is the herbal tree for gonorrhea (*lau* in local language) growing in the hill (*doi* in local language).

- The look and colour of the herbal medicine, for example, *Khoong cam* is Tam xoong tree (*Khoong* in local language) with thorns (*cam* in local language), *La bac ruong* is the tree with one-side silvery leaves, etc

- The figure of the part that can be taken to make medicine, for instance, *Roi ca* is one type of Bermuda grass with the leaves together like the tail (*roi* in local language) of the chicken (*ca*), etc

As traditional concept of Muong people, a good herbal remedy is the one that can effectively treat the disease of a patient. However, in fact, the same remedy can be used for one sick person but it is not successfully adapted for another and Muong people explain that the latter person’s state of health is not suitable with the herbal remedy. There is also the case that with the same patient, the same remedy but different local medical doctor can have different results and Muong people say that is due to the patient is not suitable with the doctor. For example, Triet tree can be used to treat the disease of being itching around the eyes, while it can be effective for patient in this area, it is not able to cure patient in anywhere else. Another example is some three people can use soil powder to heal the ulcerated wound on their feet. But it is unable to tell is this remedy is efficacious when we do not analyze the location, conditions and situation to know about the treatment.

Ethnical people obtain indigenous knowledge, in particular here is the prompt treatment by herbal medicine, through the lessons learnt and experience in reality. And this is the distinguished aspect of Muong’s indigenous knowledge of medical and health care.
Recent situation of medicinal herbs exploitation of Muong people: there is an increase in the exploitation and purchasing of medicinal herbs by Muong people to bring for sales in all over the country, especially in times of agricultural leisure and between-crop period. The reason is the fame for indigenous knowledge of medical and health care of ethnical people in mountainous areas in general and Muong’s efficacious remedies from herbs in particular, in the whole country. Many local medicinal products are reliable and adaptive to people in the delta and urban areas. One more reason is economic situation of ethnical people. The exploitation of these products helps to improve their income and to reduce the pressure of depending on forest. So the positive point of collecting medicinal products from forest is to promote incomes and health care services for local people as well as those in need, but the other side of this, when it increases too fast without legal control, is it can be negative for people’s health. And over exploitation also causes forest destruction and natural resources, especially when people seek for valuable and scarce medicinal products. Many people claim that it is getting more and more difficult to have some main and precious input for their tradition herbal remedies. This means that they themselves are the ones who know which species are available and which ones are scarce in their localities. Their knowledge also helps us to find out the options to reserve and protect biodiversification in general and the scarce medicinal herbs in particular.

Experience in medicinal herb exploitation and utilization in the buffer zone of Pu Mat natural reserve in Nghe An province.

In the research of Hoang Van Son, Tran Dinh Quang and Nguyen Thi Hanh in 1999-2000, it shows that:

- The classification according to used types of herbal species: in Con Cuong, in being used for herbal medicine, the family of species is 40%, the branch of species is 30.3% and the type of species is 17.2% nationwide. Medicinal herbs exploitation mostly done by local herbal doctors to meet the need in diseases treatment in locality. Only a little is sold to external people. Classifying the type of medicinal species, herbal ones cover 180 types, then is woody species with 172 types, liana is the next with 114 types and last is shrubby with 85 types. The medicinal trees often grow deep in the jungle, regeneration forest, under forest shade or sometimes in the edge of the forest.

- The classification according to treated disease: Local people use herbal medicine for different groups of diseases. In which, most types of medicinal trees are used for diseases of digestion system with 159 types, then is the ones for skin diseases with 127 types. There are 154 herbal remedies are collected for the treatment of 16 groups of diseases with the use of 185 types of medicinal species, repetition in 25 types.

The ways of preparing and making the medicine is rather simple. Most of them are dried then simmered with water or some of them can be used freshly. So it is easy for people to use immediately or store.
## 3 RESEARCH RESULT

### 3.1 Interview and survey

The target groups and contents of interview are presented in below table:

<table>
<thead>
<tr>
<th>Location</th>
<th>Target groups/people</th>
<th>Interviewing contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Son La</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Chieng Sinh commune:</td>
<td></td>
<td>Experience in collecting and using medicinal species. Experience in protection, management and relating village regulations for watershed, scared and ghost forests ...</td>
</tr>
<tr>
<td>with Thai villages</td>
<td></td>
<td>Experience in protection, management and relating village regulations for watershed, scared and ghost forests ...</td>
</tr>
<tr>
<td>a. Ban village</td>
<td>1. Mrs Quang Thi Noi, 52 years. 2. Mr Quang Van Tinh, 70 years.</td>
<td>Village management regulations for watershed, scared and ghost forests ...</td>
</tr>
<tr>
<td>b. Tham village</td>
<td>3. Mr Toong Van Dia, 75 years.</td>
<td>Village management regulations for watershed, scared and ghost forests ...</td>
</tr>
<tr>
<td>c. Gio village</td>
<td>4. Village head Quang Van Hien, 48 years 5. Mr Ca Van Chu, 65 years.</td>
<td>Village regulations and traditions in protecting watershed, using scared and ghost forests ...</td>
</tr>
<tr>
<td>2. Moc Chau district:</td>
<td></td>
<td>Experience in planting bamboo, village regulations and traditions in watershed forest protection and development...</td>
</tr>
<tr>
<td>a. Chieng Di village,</td>
<td>6. Village head Vi Van Suong, 46 years</td>
<td>Village traditions in managing special forest products...</td>
</tr>
<tr>
<td>Nong truong town (Thai people)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Hua Tat village,</td>
<td>7. Mr Trang A Khua, 76 years 8. Village head Trang A Co, 46 years</td>
<td>Experience in planting bamboo, village regulations and traditions in watershed forest protection and development...</td>
</tr>
<tr>
<td>Van Ho commune (H’Mong people)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Long Luong village,</td>
<td>9. Mr Giang A Luc, 57 years</td>
<td>Experience of local people in developing medicinal species and special products from forest...</td>
</tr>
<tr>
<td>Long Luong commune (H’Mong people)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ta Hoc commune (H’Mong people)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Quang Ninh</td>
<td></td>
<td>Experience of local people in planting, developing and using Cinamomum, in collecting herbal medicines from forest and the ways how to use.</td>
</tr>
<tr>
<td>1. Hai Ha district</td>
<td></td>
<td>Experience of local people in planting, developing and using Cinamomum, in collecting herbal medicines from forest and the ways how to use.</td>
</tr>
</tbody>
</table>
Survey on Indigenous Knowledge of Thai, H’Mong, Dao people in Northern Part of Vietnam

2. Dam Ha district

| a. Quang Lam commune | 17. Commune chairman Chiu Di Senh, 45 years  
18. Cooperative head Tang Khang Xay, 50 years  
19. Mr Chiu Xang Lin, 60 years  
20. Mr Chiu Di Thenh, 60 years. | Experience of local people in planting, developing and using Cinamomum, in collecting herbal medicines from forest and the way how to use.  
Cinamomum forest management practices |

3. Lam Ha district

| a. Quang An commune | 21. Commune chairman Nguyen Van Tu, 42 years  
22. Commune vice-chairman Ly Soi Lam, 50 years | Experience of local people in planting, developing and using Cinamomum, some valuable herbal medicines from forest. |

The interview focuses on the old people in villages, as they are knowledgable of traditional forest protection and management. Some interviewees are village heads as they are not only experienced in forest management and development but also familiar with surrounding social knowledge as well as other common norms.

With the same purpose, the interview also targets to commune authorities, mostly at middle age, for general and overall information of the commune which could help interviewers to compare, to deduce and to explain received information from other levels.

There are not many women participating in the interview. Female interviewees are mainly experienced in using medicinal species. In short, the contents of interview focuses on:

- Traditional practices for management of different types of forest.
- Experience in using medicinal species and options to protect and develop.
- Recent community regulations for forest protection.
- Other experience.

The research team study village recent forest protection regulations in order to know the relation and connection between traditional experiences and new regulations as well as to find out the essence, origin of the feasibility of village regulation in forest protection and management.

3.2 General features of research target groups

3.2.1 Thai ethnic villages

The survey and interview with the contents of Thai’s indigenous knowledge of forest management, protection and utilization have been mainly done in Thai villages in Chieng Sinh commune, Son La town and Moc Chau town in Son La province.

Features of each villages in terms of population and forest are shown in table below:
### Survey on Indigenous Knowledge of Thai, H’Mong, Dao people in Northern Part of Vietnam

#### Village Commune Population Forest area

<table>
<thead>
<tr>
<th>Village</th>
<th>Commune</th>
<th>Population</th>
<th>Protection forest: 7.5ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ban village</td>
<td>Chieng Sinh</td>
<td>164/25 hh</td>
<td>Limestone mountain: 129ha (with and without forest)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Village</th>
<th>Commune</th>
<th>Population</th>
<th>Watershed protection forest: 50ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tham village</td>
<td>Chieng Sinh</td>
<td>360/58 hh</td>
<td>Protection forest: 34 ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Production forest: 10-15 ha (1 small hill)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Village</th>
<th>Commune</th>
<th>Population</th>
<th>Limestone mountain forest: 100 ha (production and protection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gio village</td>
<td>Chieng Sinh</td>
<td>257/48 hh</td>
<td>Protection forest: 34 ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Production forest: 10-15 ha (1 small hill)</td>
</tr>
</tbody>
</table>

Most of forest area is natural forest after times of exploitation for the demand of wood and timber and now in the state of degradation with a large part belonging to watershed protection forest. The difficult topography of forest in limestone mountains helps it keep better state. Protection forest has been allotted to the communes for direct protection and utilization, under the form of village forests. Forests of Chieng Sinh commune are traditional village forests. For villages around Moc Chau town, the State forestry enterprises allocating forest for households for management and utilization (for production forest). Apart from protection and production forest, there is small area in each Thai village forest, called scared forest, being used for worship at the beginning of the year for good things happening during the new years (people’ health, animal’s health and good yields, etc). In average, each village has around 200 to 300m². There is also some area, about 2 to 3ha, reserved for village cemetery, called ghost forest. Ghost forest can be of one village or shared among several villages, depending on the population.

In terms of organization and management, since 1960, there had been cooperatives to be responsible for but in 1990, most of them were disintegrated and forest management responsibility is under the management boards.

Forests are being well protected and managed. Chieng Sinh commune received the congratulatory reward of the State President for their achievement in forest protection in 1986.

### 3.2.2 H’Mong ethnic villages

The survey and interview for Hmong’s indigenous knowledge of forest management, protection and utilization have been also done in Hmong villages in Mai Son and Moc Chau districts in Son la province. Statistics features of population and forest are mentioned in the table below:

<table>
<thead>
<tr>
<th>Village</th>
<th>Commune</th>
<th>Population</th>
<th>Forest area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pa Dong</td>
<td>Ta Hoc commune - Mai Son</td>
<td>700/99 hh</td>
<td>Protection forest: 400 ha</td>
</tr>
<tr>
<td>Hua Tat</td>
<td>Van Ho commune –Moc Chau</td>
<td>500/80 hh</td>
<td>Watershed forest: 10ha.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Limestone mountain forest: 376ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Area for natural reserve: 100ha</td>
</tr>
<tr>
<td>Loong Luong</td>
<td>Loong Luong commune - Moc Chau</td>
<td>600/120 hh</td>
<td></td>
</tr>
</tbody>
</table>
The general feature of Hmong people is their tradition of upland cultivation is still existing, thus there are village regulations defining where can be used for upland cultivation and each household is given certain area for upland field. For example, in Pa Dong village, each household is allotted 3ha for fixed upland cultivation. Hmong people, beside rice and maize, also grow Y di and arrowroot. So, generally, the forest is in good state of protection. The Unit of forest protection in Moc Chau district is allocating production forest to households, for instance, in Hua tat village, 376ha of limestone forest is allocated to households for management.

Protection forests locating in Hmong village with Forest protection Unit previously being forest owner now transferred to villages for management.

3.2.3 Dao ethnic villages:

The survey and interview with the contents of Dao’s indigenous knowledge of forest management, protection and utilization have been done in Dao villages in Quang An, Quang Son and Quang lam communes in Quang Ninh province. Statistics features of population and forest are mentioned in the table below:

<table>
<thead>
<tr>
<th>Commune</th>
<th>Population</th>
<th>Forestry land area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quang Son</td>
<td>3144</td>
<td>Forestry land: 9000 ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Natural existing forest: 4000 ha</td>
</tr>
<tr>
<td>Quang Lam</td>
<td>383 hh</td>
<td>Land with forest: 5076 ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Natural existing forest: 3851 ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plantation forest: 1225 ha (Cinamomum + Eucalyptus)</td>
</tr>
<tr>
<td>Quang An</td>
<td>3635/706 hh</td>
<td>Forestry land: 2821 ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Natural existing forest: 1817.6 ha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plantation forest: 1003.4ha (Cinamomum + Eucalyptus +Acacia)</td>
</tr>
</tbody>
</table>

One important feature of Dao villages in Quang Lam and Quang An commune where surveys have been done is Dao people’s experience in planting *Cinamomum cassia* since long time. Besides cinamomum, people have interfered with Anise taken from Binh Lieu, Quang Ninh for 11 years.

Land and forestry land allocation had been done and the results remain until to day. The provincial regulations stated that the protection forest from 300m altitude up should be strictly protected and managed by the Forest protection Unit or commune. But now, those areas are also under the management of villages. The forest areas locating at the altitude lower than 300m now managed by households with forestry log books in order to do regeneration and plantation of Cinamomum with either fund of 327 program or of the farmers themselves.
3.3 Assessment of traditional experience

3.3.1 Regulations and experience in forest protection and management.

Watershed forest (where there is a water source or rivulet):

Watershed forest in Dao villages in Quang Ninh province has been well protected, even they no longer receive any external fund. That is the awareness of the community and the lives of people have been improved via diversification of land use: paddy field and vegetation at low land, plantation of Cinamomum and Anise at altitude lower than 300m, strictly protected forest at altitude higher than 300m. Dao people stopped clearing and burning for upland cultivation. Hmong people in Son La province also perform good job of forest protection as they are allocated fixed area for upland field and limestone mountainous forest for timber is now being allocated to households.

In interviewing Thai, Dao and Hmong people, Thai people are notable for their traditional regulations for watershed forest protection. First of all, they define that the forest keep water vertically along the stream and along the mountainside, therefore, it is forbidden to take timber from these areas. In some places, people reserve big trees around the well to keep water. Upland cultivation is not allowed in the watershed forest and they often have upland field at lower land.

Hmong people have regulations that big trees in the surrounding of village are not allowed to exploit. Upland field should be done far away from the village, about 3 to 4 km. Forest around the village is for keeping water and also the place for forest experience learning and transferring.

Thai people also have experience in digging ponds in the foot of watershed mountain in order to prevent from strong flow of water in rainy season and to reserve water for raising fish in dry season.

For watershed forest and forest around villages, Thai people have tradition to plant bamboo for the next generation, just like the case of Dao or K’Ho people planting Cinamomum. The main type of bamboo to be selected for plantation is Mac hoc (local language), which can easily develop to be a grove and quick for exploitation. In terms of soil protection, bamboo is the type that can protect the soil rather well.

The survey done in Chieng Sinh commune shows that Thai people here also have Xompa in forest management like in other regions. In particular, at the moment, in villages in Chieng Sinh, Xompas have following responsibilities:

- Protect the watershed forest in upper reaches.
- Protect production forest and make decision of taking timber for making house and furniture for household demand
- Control forest fire

One interesting issue is traditional regulations are not so complicated and not much by the whole village accepted and obeyed with their selves-consciousness. That is the community aspect of the village, villagers respect the old persons in the village and select, respect also their experience and sayings. In French colonial time, local authorities, called Tao, Phia in local language and assigned by French with villagers’ agreement, had severe regulations, for instance, violation in forest being
punished 10 bottles of wine, 6 kg rice and 6kg pork to make party for the villagers and violating person is not allowed to take part, in cash, if cutting down one tree in forbidden area, the person had to pay 700 silver coins.

In Moc Chau, some village heads said that someone who breaks the village regulations has to strike the wooden bell to let the whole village know about his mistake.

It can be said that the community aspect of ethnical people, altitude of respecting old people and their ideas, traditional regulations have created the awareness for each villager towards village regulation for forest protection and management.

**Sacred forest (Thong sua):**

Thai people call sacred forest of each village Thong sua in their language. Naturally, this forest is used as the place for worship and praying to drive away bad things, diseases or any disaster of villagers. The forest holds spiritual meaning of the whole village; thus it has been well protected since long time.

Normally, each village has about 200 to 300 m² of sacred forest. Worship and praying are often held once at the beginning of the year. This is the time when diseases for human and animal and drought usually happen. The whole villagers gather in the forest to play drums and gong and to have a party all together. The waste from the party would be left in the forest. Each villager contributes to the organization of the party.

Forest to be selected to be scared forest is the one in good state. The magician of the village says that there would be some deer or muntjac in the selected place. Later, the place appearing deer and muntjac become sacred forest. If villager want to move sacred forest to another place, they have to hold a ceremony. Old villagers in Chieng Sinh commune, Son la province say that as sacred forest is rarely removed, it is well protected for long time.

Tay and Nung ethnic people in Lang Son province also have tradition to worship Tho ty (the God of land) at the beginning of the year (according to Vuong Xuan Binh). Worship is done in the place of thickset trees, in a small shrine built by villagers, with a bamboo tube inside. This is considered a holy place where people are not allowed to cut down trees and range animal. On the worshipping day, households bring their offerings to the shrine. When finishing, they gather to enjoy the cakes and wines but chicken should be brought home for other family members.

**Ghost forest**

Actually, this is the place for burying the dead bodies from the village. However, there is difference in selecting ghost forest between Dao and Hmong people. The area of ghost forest depends on the population of the village, normally is 2 to 3ha each. There are some cases that two villages can share a ghost forest. Most of ghost forest of Thai people is the mixed of wood trees, big ones of Banian family, with bamboo. It is not so strictly forbidden to take wood from the ghost forest. Villagers can take wood for family or village needs and collect non-timber forest products from ghost forest. Previously, there were a few villagers who dared to come in the ghost forest because of frightening.
For Hmong people, forest selected to be ghost forest is young forest with low density of trees, as they believe that the roots from big trees would get into the coffins of dead people. It can be said that, the concept of ghost forest of Hmong people seems not so clear as of Thai people, it is simply just a cemetery.

3.3.2 Experience in breeding and planting some species with high economic value

**May Hoc (a type of bamboo) and Mac Phong (wild longan) by Thai people.**

- May Hoc and Luong by Thai people in Son la province

Thai people have tradition to enrich poor forest with bamboo. Apart from normal ways of planting bamboo like: using the foot of the tree with about 3 or 4 internodes, putting the part in a slanting position and planting in mud, Thai people have the experience in penetrating irrigation for newly planted bamboo. The approach is as follow:

- Make small holes in each internode and the partitions between two internodes of the part to be planted and pour water in after planting. This can help the tree itself to keep water whenever it rains and penetrate water for its root. Thai people often plant bamboo in the end of second month or sixth to eighth month, Moon calendar.

- In order to provide more water for the newly planted, next to it, people put one more part of bamboo with small holes vertically along the tube and put water in the first internode. Water would be added every 5 days. The new trees need water especially in dry season when there is hot and dry westernly wind coming from Laos.

**Mac phong:**

In Son La, there are some wild fruit trees that Thai people can collect the fruit and sell in the market, including Mac phong, a kind of wild longan and medium wood. However, the number of this tree in forest does not increase and people started thinking of bringing it to their garden. Mac phong grows well in Thai’s garden, after 6 years can produce fruit and with 10m height and 8-10 cm diameter (see attached photos).

**Cinamomum by Dao people in Quang Ninh province.**

Dao people in Quang Ninh province have experience in planting Cinamomum for long time. At the beginning, they grew it in the upland fields instead of rice or maize as cinamomum’s economic value. But then, when they knew about the biological development of cinamomum, they intercropped it with cereal crops. Cinamomum is multiplied with its bared root. Dao people prick holes in the newly burnt upland field where the soil is still fertile and soft. Small nursery is often made next to the field in order to protect the seedlings from being damaged due to long-distanced delivery. People apply the combination of agro-forestry with growing maize in 11th month, Moon calendar, and planting cinamomum in 12th –1st, Moon calendar. So cinamomum grow in the shade of maize in its first stage. After harvesting maize, Dao people continue upland crop with rice in 5th or 6th month, moon calendar.

Before, the density of cinamomum if rather high, 5000 per ha, and the bark of big trees would be collected first then the smaller trees can grow. One field of cinamomum can be harvested in 2 or 3
times. The main time is in 3\textsuperscript{rd} month, moon calendar as it is easy to collect the bark without being undergone, the sub time is in 8\textsuperscript{th} month, moon calendar. The bark yield is undergone as there contain a lot of water in the bark.

As it needs fertile soil for planting cinamomum, Dao people often select the soil in accordance with the state of forest: forest with dark green leaves or big bamboo trees is the one of good soil. Cinamomum should not be planted under the *Dicranopteris linearis* as the soil there is unfertile. In the villages where surveys and interview for this research have been done, Dao people do not cultivate on upland field anymore but promote paddy rice n the valley and cinamomum on the hills. Each household is given 6 to 8ha for afforestation and cinamomum plantation. Recently, for about 10 years, Dao people have harvested from the type of cinamomum taken from Binh Lieu (with 5 petals). Using integrated and diversified soil, applying the combination of agro-forestry are the experience of Dao people living there, above 300m there should be protection forest, lower than 300m should be natural regeneration and cinamomum or cinamomum with anise and in the valley should be paddy rice, vegetation, fish ponds and poultry raising.

Cinamomum after upland cultivation can be regarded as one positive option for forest recovery as well as one of the high economic-valued and soil-protected species.

**Planting herbal medicine in household garden**

Although there are a lot of medicinal species in the forest, they are scattered and far away from the village. So, for quicker and more convenient use in emergencies, some people take their seedlings from forest to grow in their own gardens. Dao people in Quang Ninh province bring home some medicinal species for common diseases, such as diseases of bone, cold or chill, snakebite, etc. To demonstrate, see the pictures of the herbs grown in the garden of an old Hmong man, Hang A Giung in Pa Dong village, Ta hoc commune, Mai Son district, Son la province also (See photos attached)

3.3.3 Other experience in exploitation, utilization of herbal medicine and some special forest products like bamboo shoot, brown tube.

**Herbal medicine**

Surveys and interviews have been done with experienced people in collecting and using herbal medicine, including Dao people in Son la and Quang Ninh province, Hmong people in Son la province, both men and women. Some of the interviewees are still using the herbal medicine for villagers and selling in the market. Experience in making and using herbal medicine is passed from parents to their children by going to collect herbs and making medicine together. It is very important to recognize the right herb for the right disease. There are a great many herbs for many diseases, but some common ones are the medicine for: diseases of bone, snake bite, pains in belly, allergic, cold and chill and even some women’s diseases. Especially, some women can go to work in the upland field only 7 days after giving birth for her child. Those diseases are the ones the commonly happen to people living in mountainous areas. A few men are able to collect herbs for more severe disease gravel in kidney, cystitis, stomachache, and hepatitis. The parts that can be taken to make herbal medicine mostly are leaves, bark and root.
Some experience in collecting herbs:

In conversation with some old men who often go to forest to collect herbs, we know some main principles in collect herbs. They are:

- the best time for going to forest is from 7a.m to 10a.m or 2p.m to 4p.m,
- the direction to go up to the mountain or hill should be the East (facing the Sun),
- use one hand to pick up herbal leaves,

The scientific basic of those things are the most stored nutrition substances of plants in the morning and the east side of the hills can help to avoid strong respiration in strong illumination power in the afternoon.

According to Dao people, herbal medicine should be take in the afternoon with the direction depending on the date as follow:

- Day 1, 2: do not take medicinal herbs at East,
- Day 3, 4: do not take medicinal herbs at South,
- Day 5, 6: do not take medicinal herbs at West,
- Day 7, 8: do not take medicinal herbs at North.

And for the rest, any direction is possible.

Protecting the medicinal herbs

Ethnic people also mention the ways to keep medicinal herbs from dying when continuously taking:

- Take only 1/2 of the leaf and take the leaves but not the tops,
- Take the lateral roots and a part only,
- Take only a part of the bark with diagonal and sharp cut.

Those things are scientific in order to prevent the tree from dying.

Bamboo shoot and brown tube

Bamboo shoot is the largest part in non-timber forest products used by ethnic people and they are also have a lot of experience in how to take bamboo shoot without affecting the development of the bamboo clump. People often collect bamboo shoot at the time of shoot developing.

In Quang Ninh province, previously, Dao people often collected brown tube to sell to sailors, as they needed to dye the sails in brown before going. People took the big tubes and left the small one for further development. However, today, there is no longer the need and market for brown tube.

3.3.4 Experience in predicting the yield of dried cinamomum bark by observing the cinamomum field

People often sell dried cinamomum bark, therefore, ethnic people also have experience in predicting and calculating the yield of cinamomum harvested to be dried. They say 2 or 3 kg of
fresh bark would give one kg of dried one. The bark has to be peeled from the tree of 4 to 5 m height and 10 cm of diameter. In order to see if the bark is dried enough, people break samples and if it is easy to be broken, the bark can be brought to the market. Normally, three pieces of sample would be take from each bunch. They also lift up then drop dried cinamomum to hear the sound and they can know whether it is dried enough or not. In order to predict the yield of the whole field, Dao people firstly use the bamboo string to tie the trees for harvesting. They then cut down three trees with different diameters: big, medium and small; then measure the bark collected from these trees, divide by three and multiply to the total trees to know the yield of the field.

3.3.5 Experience in using timber, restore and improve the value of soft timber

Previously, ethnic people like Thai or Hmong in Son la province took timber from limestone mountain as the trees growing on this type of mountain are valuable and hard-wood trees like Nghien, Trai, Dinh. This type of forest is now being well protected around villages in Son la because it is difficult to cultivate and exploit forest products.

Ethnic people also have experience to restore and prolong the life-span of some soft timbers. For example, timber from May phay (local name of with diameter of about 50 - 60cm) after being sawed can be quickly rotten but it can be harder and last for longer time after being soaked into water.

3.4 Applying the traditional experience in community forestry or community participating in the forest management and lessons learned

3.4.1 Making forest protection and utilization regulations

From the traditional experience in village forest management and utilization, recently, many villages have made their own regulations for forest protection and utilization. Those regulations made by villagers and agreed by the whole village, thus they are accepted and respected by all members of the community. By doing survey, it can be classified into 3 types of community forest management models of Thai, Hmong and Dao people in Son La and Quang Ninh province as follow:

- Long-term traditional village forests: Thai people in Chieng Sinh commune, near Son la town have watershed forest, sacred (holy) forest and ghost forest.
- Forest previously managed by the cooperatives but after the disintegration of cooperatives managed by the village (in Chieng Sinh and Moc Chau).
- Protection forest managed by Forest protection line agencies and state enterprises but now under the management of the villages (Hmong villages in Moc Chau, Son la province and Dao villages in Quang ninh province). For some villages, protection fund is available but in some villages where there is no support, people still protect the forest. Apart from that, land and production forest are allocated for household to use and protect (Hmong people in Moc Chau and Dao people in Quang Ninh have forestry log books, Hmong people in Pa Dong, Son la are given fixed area for upland cultivation).

Although there exist different types of forest management with different forest owners, there are points in common in regulations of Dao, Thai and Hmong people in protecting forest:
a. Identification of punishment:

Who cuts one tree with diameter of 20cm has to pay 20,000VND for one cm of diameter for the cooperatives (regulated in 1960, Ban village, Son la) and 500 VND for one bamboo tree. In Tham village in Son la, it is regulated that 10,000 VND for 1cm of diameter and 10 times of the real value of the bamboo tree. Gio village, it is 5 times the value of the tree being cut.

Hmong people also have regulation: illegal exploitation of timber and timber trade are not allowed. One tree with diameter of 10cm costs 25,000VND and 20 cm costs 30,000VND for the violator in pa Dong commune, Moc Chau district, Son la province. Or in Loong Luong village of Hmong people in the same district, village regulation punishment for cutting the tree with diameter of 40 to 50 cm is 40,000 to 50,000 VND and bigger ones is 100,000VND.

Fire prevention, economizing in using timber and bamboo

Thai villages in Chieng Di, Moc Chau district, Son la province regulate that the whole village should go to extinguish the fire. To prevent the fire spreading from burnt upland field of Hmong people, they make fire prevention belt of 4m width.

Villages have been also convincing villagers to give up the tradition of making bamboo or woody fence around the field as it waste a lot of wood and bamboo, in average, each family needs 200 pickets. In 1998: 90% households followed this regulation. Besides, the village head has the decisive role in wood exploitation and exploitation location. People should not pull the cut trees from forest home as it could damage the small tree for regeneration, regulated in 1957-1958.

b. Identification of benefit sharing

Using timber, bamboo or taking bamboo shoot is the legitimate demand of people. Therefore, in most village regulation, benefit from forest for villagers is mentioned and depending on the area and the available volume of the forest.

- Timber for making or repairing houses from forest are allowed but with limited amount and right species. For example, Tham village in Chieng Sinh commune, Son La has regulated that: each household member in the village is allowed to take 5-10 bamboo piles and 11 woody trees of 10 cm diameter for family demand. If someone needs more timber, they have to apply proposal to the village where remaining more forest. Dao people in Quang Ninh say that within one village, one can ask for timber of another household if necessary.

- For fuel wood, some village regulated that each household member can take one bunch of fuel wood from forest, or every 5 family members can use 1 bunch, or one household of 8 to 10 members can use 2 bunches, etc. The regulations are made depending on the population and the forest area of the village. Village regulations also mention that fuel wood should be collected once or twice in dry season.

- Taking bamboo shoot: Bamboo shoot taking is restricted by villages. Villagers are allowed to collect bamboo shoot in rainy season (in July and August) when the bamboo shoot is growing.
3.4.2 Sustainable utilization of forest resources and diversification in land use:

Experience in using medicinal species of Thai, Dao and Hmong people, in planting bamboo of Thai people and in developing Cinamomum of Dao people is truly valuable for effective forest protection and management, particularly community forest.

There have been changes in the living and cultivation of Hmong people, from shifting to fixed upland production, thus there are positive results in forest protection and development. In some areas in Son la province, Hmong people have very good regeneration forest with Pauwlonia, a valuable variety which is being studied and developed (See attached photos). During the time cultivating on upland field, people did keep the species with high economic value or promising for development.

Watershed protection forest in Dao villages in Quang Ninh is well protected even when villagers do not receive any more external fund. That is the awareness of the community and the lives of people have been being improved via diversification of land use: paddy field and vegetation at low land, plantation of Cinamomum and Anise at altitude lower than 300m, strictly protected forest at altitude higher than 300m. Dao people stopped clearing and burning for upland cultivation. Hmong people in Son la province also perform good job of forest protection as they are allocated fixed areas for upland field and limestone mountainous forest for timber is now being allocated to households.

3.4.3 Lessons learned

Traditional experience and village regulations in community forest protection and management are valuable when:

- They are made on the common agreement of the whole community (being discussed and agreed among community members). Traditional and recent regulations for forest protection and management are accepted and respected by villagers as they have very important basis:
  - The community aspect of the village
  - The regulations are made, adjusted and complemented among villagers, in discussion and agreement of all community members.

- They ensure partly villagers’ need in forest products (like timber, fuel wood and bamboo shoot, etc). Regulations of ethnic people including Thai, Dao and Hmong all concern two main important parts:
  - Responsibilities and obligations of community members.
  - Benefit sharing for villagers.

  It can be seen from the regulation that within the regulations, there are parts for responsibility and obligations but also concerns to meet the demand of villagers for forest products.

- Community forest management is done in combination with the development of high economic forest products like Cinamomum, Anise, Bamboo, Pauwlonia and medicinal species, etc; long-term forest and forestry land allocation and diversification in land use, including agricultural
land. This serves an important base for community forest management and effective participation of community members in forest protection.

4 CONCLUSION

1. Traditional regulations in protection of watershed forest, ghost forest and sacred forest show the community aspect of ethnic people, their knowledge of the importance of forest in reserving water and spirit for villagers. Thai people still remain Xompa, the traditional model of forest protection and management. Hmong people, inspire of mainly depending on upland cultivation, now keeping forest surrounding for water reserve and studying about forest species. Dao people know to promote Cinamomum after upland cultivation as one model of forest recovery gaining high economic value.

2. Abundant experience of ethnic people in using, reserving and developing medicinal species, in breeding and planting high economic-valued trees like Cinamomum, Anise, Bamboo is useful indigenous knowledge in understanding the nature and effective use of forest resources. Community awareness in forest protection and management still remains even when there is no support fund for those activities as before.

3. Traditional experience of ethnic people in community forest protection or making forest protection and management regulations, including punishment and benefit sharing, with the discussion and agreement of all community members should be promoted.

4. Lessons learnt in developing the traditional experience of ethnic people in community forest management and community participation in forest protection are:

   - Community-based agreement
   - Ensuring villagers’ demand in forest product
   - Combination of community forest protection and sustainable way of forest resources utilization and land use.
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