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## 1. Introduction

One out of nine districts in Ratanakiri province that locates along Se San river is Taveng, north borders to national park, south to O' chum district, east to Andong Meas district and west to Veun Sai district. Most indigenous communities in Taveng (Preu and Kreng) and like other district people are being developed by IOs, NGOs and government agencies to serve the purpose of rehabilitating and enhancing people's living standard, both in term of spiritual and stuffing support, food security, informal education, hygienic health, gender, etc.

Taveng Leu and Taveng Krom are the two consistent communes in Taveng district. Taveng Krom comprises of 9 villages, at the south of Se San river, whereas Taveng Leu makes up of 11 villages in which only 9 of them are adjacent to Se San river and their paddy farm lands and most of their residents are in buffer zone in Virakchey national park.

Today, people living in Soan, Keskoung, Riengven, Bangket and O' Tabok village are consuming natural resources in the core zone of national park that is prohibited and under competency of the Ministry of Environment. To secure the local natural resources management with sustainability, the community development and natural resource management division of BPAM in Virakchey national park have identified some criteria to select the target commune following as:

- Villages or communes that affect to natural resources in the core zone of Virakchey national park:
  - locate in or nearby the national park
  - use natural resources in the national park
  - involved trading zone with productions, NTFP, wildlife from the national park
- People have suggested BPAMP to help in management the natural resources
- People have willingness to incorporate in natural resources conservation with BPAM
- People get used to indigenous management of natural resources. Taveng Loeu has been evaluated to cause more impact to the Virakchey national park than Taveng Krom. Therefore this commune was selected as a target location for reducing any pressure from those communities to biodiversity in the national park. It supposed to replace with the sustainable utilization and management plan of natural resources by local communities living nearby or in the park.

O' tabok village, one among 11 villages, and Bong village (a new village) that have been settled for 4 years in the core zone of national park are defined as villages in which their entire garden farms that completely in the national park area and almost of people have been consuming natural resources in the national park too, which required a strict information study to be referred as a primary information for consideration and discussion with people in order to find out implementing strategy based on the real situation and lead to the preparation of management plan of natural resources both in the core and buffer zone efficiently.

## 2. Objective

Before stepping ahead into the objective of the information collection, first the readers shall be aware the objective of the entire project and the particular objective of the community development division.

### 2.1 The objective of the project of Virakchey national park

The general objective of BPAM project in Virakchey is to strengthen the MoE capacity in order to ensure in planning, implementing and the system of monitoring of protected areas effectively in Cambodia.

Toward the last stage, BPAM project in Virakchey has two urgent objectives:

- Set up a preventive measure to lessen any unsustainable exploitation and reduction of biodiversity in Virakchey national park up to minimum standard.
- Convert experiences from Virakchey national park to other protected areas as a model for development system in the whole country.

### 2.2 The objective of Community Development Division

The major objective of the community development division is to set up, endeavor and implement the preventive measures that make local communities involve in planning directly and implement management plan of the

national park. The CD division will more focus on initiative concept of the local community to reduce a negative pressure of men on biodiversity resources in Virakchey national park.

The detailed objectives of the division are:

- Protect and conserve natural resources in buffer zone and core zone of the national park through management mechanism with local community participation.
- Enhance participatory protection and conservation of natural resources, from communities both in buffer zone and core zone of the national park, in order to improve living standard, food security, health, general awareness of the people living nearby and inside Virakchey national park.
- Set up land use planning and natural resources utilization of local communities, within participation and sustainability in buffer zone and core zone of the national park.

### 2.3 Objective of the information study

The above two mentioned objectives have driven us more understandably about what importance of information study is. Here we will describe only two main views that express the whole objectives of the study.

- Strive to study the local community living condition, geographical situation and management of natural resources utilizations in buffer zone and core zone of Virakchey national park in order to have basic concept of development and management natural resources planning.
- Present result of the study to line-institutions, commune, district authorities and two villages to share comments and make decision for developing this area.

## 3. Documentation technique

### 3.1 Approach

The study team applied a Participatory Rural Appraisal (PRA) technique with local people to find out information about earning a living, natural resources utilizations, problems occurred so far, and initiative concepts to deal with the problems. The key procedures handled are:

- Collect existing documents that involved in the area for verification
- Divide facilitators into two groups: in charge of socio-economic and natural resource utilization and management
- Conduct officially and semi-interview with people and local authorities
- Participatory assessment on natural resources utilizations
- Draft village's map with participation from local people
- Set up seasonal calendar
- Verify information collected with local people to be updated
- File the collected information to present people and local authorities
- Compile and write down PRA in simple way, less in scientific and technical context, because the document will be hand out to O'tabok and Bang villagers to complete some missing information and to keep as a reference for village use.

### 3.2 Task force and Activities

The table displays the participants involving in collection information and their tasks

No.	Participants	Function	Tasks
1.	Kim Sovan	Team leader	Monitoring, interviewing, recording
2.	Suong Tev	Facilitator	Monitoring, interviewing, recording
3.	Khan Soulot	Facilitator	Monitoring, interviewing, recording
4.	Van Khanravy	Facilitator	Monitoring, interviewing, recording
5.	O'tabok villagers (42)	Villager	Info. providing, discussion, interpretation
6.	Bang village (11)	Villager	Info. providing, discussion, interpretation

After cooperation with officials of Virakchey national park in Taveng district, the task force has contacted and informed the district, commune and villages in Taveng Leu commune about the purpose to the study.

For this information collection, after task delegation, the study team spends four days for each villages.

#### ➤ 18 January 2001

- Discussion meeting and information recording that related to both villages, with O' tabok village
- Sum up and verify information collected among facilitators to complete the missing information for tomorrow

#### ➤ 19 January 2001

- Discussion meeting and information recording continuously with O' tabok villagers
- Summarize the result of collected information

#### ➤ 20-21 January 2001

- Directly monitor the geographical situation in O' tabok watershed area

#### ➤ 22 January 2001

- Discussion meeting and information recording that related to two villages and O' tabok villagers
- Summarize and verify information collected among facilitators for completion the missing information for tomorrow.

#### ➤ 23 January 2001

- Discussion meeting and record information relevant to both villages, with Bang villagers
- Summarize information collected

#### ➤ 24-25 January 2001

- Direct survey on geographical situation in O' tabok watershed area that its natural resources in core zone used by Bang villagers

## 4. History of the Village

### 4.1 O' tabok village

In French colony (before 1953), O' tabok was along O' Santhey creek (above the current O' tabok Plantation) and around Panday lake (see mind map), led by an old man, Ta Yang.

Until the Sangkum Rasniyum (1954–1968 ), Ta Yang died. Then another new leader, was elected, Ta Ourn. Early of that time, O' tabok villagers moved to live at the end of the creek. Perhaps in the early of 1960s, the Government had evacuated the villagers from the mountainous area to live along Se San riverbank in order to better administration and to serve the nationalized policy, because at that time the civil war was occurred by the Khmer Isarak and the French colonial followers. The war was re-happened after Lon Nol government toppled the Sankum Rasniyum (1970–1975). Conflict between Lon Nol arm forces and Khmer Rouge made O'aboke villagers seek the suitable relocation to live in their previous site (Panday lake). At that time, people of Beung Panday were strongly stroke by Lon Nol air forces.

At the end of 1975 of Pol Pot genocide, O' tabok villagers forced again to leave Panday lake to cultivate along Se San river. Dislike several changes of settlement that suppressed by Pol Pot colleagues during 1975 to 1980, people led by Mr. Bouthang and Seuy Keo fled to Yapork Commune, Yalay Kanthom Province, Vietnam, supported by Vietnam Red Cross.

Early 1980, the whole country was liberated by Hun Sen's arm forces and people also repatriated. In the first year after liberation, O' tabok villagers were allowed to settle along O' trav creek in Yaklom commune, Banloung

district (in O' chum at that time), Ratanakiri province.

Taveng Leu commune was an unsecured and conflicted area at that time between government and Khmer Rouge. According to Taveng district where is full of security, up to 1985, and to the insist of people in moving back to their native land, the government agreed to send back O' tabok villagers resettle along Se San river until now.

## 4.2 Bang village

Bang village has move many times like O' taboke has too. Bang's ancestors, so far had an experience to settle along O' tabok and some parts of O Kham Pha creek. Reference with the information briefly given by village elderly, before 1970 they lived and farmed along Kham Pha creek on the north, below the current Rieng Vin and Sornh plantation. From 1970–1973, they moved to live along O' tabok creek, above O' tamol'. From 1974 to 1979, they fled to refugee's camp near Cambodia-Vietnam border and came back to their native land after liberation in 1979 from Pol Pot and Ing Sary.

Up to the late of 1993, after liberation day, Taveng district, particularly Ta Veng Leu commune was an overlapping area between Hun Sen's forces and Khmer Rouge'. Bang villages were allowed to transitional settle near the provincial town, Banloug (currently known as village 7<sup>th</sup>, Laban Seark, Banloug district) without land allocation yet.

Only up to 1994, Taveng district was fully deliberated. 12 families of Bang village who were born and lived along O' tabok creek, came back to their home site. However some people did not move back to their native village, and others went to live in Sornh and Pleu Thom village.

During the first year of returning, these 12 families had lived along O' taboke creek on the Northeast, from O' praya to O' lampang creek.

Every 2-3 years they move to work on another plantation, toward the north (core zone of Virakchey national park). But since 1997, they were back to the current village, Bang, and has not changed the settlement yet, because they think it's hard from few causes:

1. Impact to the protected area,
2. Far from the market.

However, we still doubt whether they will keep or stop moving in the future.

## 5. Geographical location and major natural resources

### 5.1 Geographical location

#### 5.1.1 O' tabok administrative village (officially)

O' tabok, a village in TaVeng Leu Commune, northeast Taveng district, along Se San river, has not clearly had administrative boundary yet so far. Hence, to avoid conflicts that may happen of land use with other villages nearby, Tabok agreed with other villagers to delimit their village boundary traditionally, acceptance by river, stream, lake, and forest to remark following as:

- North borders the national park
- South borders Chuy village
- East borders the national park
- West borders Bangket village

Generally, besides the administrative village along Se San river , Preuv tribe in O' tabok village also has their residences in Sweden Agricultural area in the national park too. (see chapter on Sweden Agriculture).

#### 5.1.2 Bang Village

Bang, a village has recently resettled in permanent and unofficially for 4 years. Bang village has its residences, rice fields, and plantations near each other along O' tamol creek and are in the whole core zone of the national park. It borders:

- next to O' tabok plantation on the south
- core zone of national park on the west and the north
- next to O' tabok stream on the East

## 5.2 Major natural resources in the area

Tabok and Bang village have the plantation nearby and in the core zone of the national park which surrounded by many kinds of natural resources: trees, wildlife, timber and non timber products (construction wood, wood oil, Chong oil, Sauong oil, bamboos, vine, rattan, Samrong, wild vegetables and fruits, etc). Land for agricultural production and water resource (river, lake, stream, which provide importance for both villagers: water for drinking, cooking, irrigation, waterway, and sources of fish, ect.)

Before 1979, there were many kinds of trees near village as: Teal, Beng, Neang Nuon, Kro Gnung, Thnung, Sokraom, Phdiek, Phchek, Phchek Rang, Koki, Kokoh, Popel, Sralao, Trach, Thbeng, Khlong, etc. that are the habitats of all kinds of animals: tigers, bears, elephants, batengs, gaurs, wild pigs, sambars, muntjacs, snakes, tortoises, sundra colugo, sundra pangolin, and many other kinds of birds.

Since 1979, the forest loose management of the royal government including the prolonging war more than two decades, forests resources was seriously threatened. The anarchy of woods exploitation extremely happened between 1997 to 1999 in that area especially in the Veal Khak, Veal Veul, O' tayak, and O' tuk forest almost depletion.

In addition, the population growth in the area increase rapidly, the small forests along Sea San river, O' tabok, O' yay, O' lampang, O' tamol in the core zone of Virakchey national park were cut, burnt for Sweden agriculture by O' tabok and Bang villagers.

Moreover, the local communities as well as the outsiders have come to hunt wildlife for trading and for family food. However, there have been many other big forests, animals that are far from the sources of water where the Sweden agricultural farmers could not access.

Reference with the general information studied by a group of community development division of the project, it shows that the natural resources were gradually degraded, especially the forest resources that seriously threatened by villagers who lack of environmental awareness, the marketing requirement concepts.

The Law on Environmental Protection and Natural Resources Management requires the protection and management of the ecological system with the sustainable uses of forest resources.

## 6. Land use and land tenure

Land uses where both villagers have been practicing on, agricultural and residential, are divided in two categories: land in the village and along Se san riverbank, and forestland in the catchments area for agriculture, along Tabok stream and its tributaries, from O'praya to

O' chry, O'yay, O' tamol and O' lampang (see mind map of O' tabok and Bang village).

### 6.1 Land use situation in the village along Se San river

The area is along Se San riverbank, Beung Hayu, between Se San and O' praya. It divided practically into three categories:

- Residential land, southeast Se San, with domestic fruit trees, mango, jackfruit, tamarind, etc. and substantial vegetables, egg plants, chilies, gourds, mints, etc. The local authority officially distributes the land.
- Old plantation land, northeast Se San, used in indigenous way without official recognitions. Most of the land was abandon about 7 years ago, to reforest in the natural way and do Sweden plantation again. However, the forests grow slowly, because most of lands are grown with thatches and bushes.

## 6.2 Land use situation in O' tabok watershed area (in buffer zone and core zone of the national park)

All kinds of land use in this area, mountainous, belong to the state properties and are not officially recognized. All kinds of traditional and needed land uses of minority are served as supporting lives that ones cannot object.

There are 8 villages (Bang, O'tabok, Sorngn, Keskung, Bangket, Rieng Vin, Chuy and Pleu Thom) have been using forestland indigenously in the area. It divided into 4 zones:

- Forest in plain area along O' praya that has been under pressure of Chuy and Pleu Thom shifting cultivators. This kind of forest needs to be protected, because that is the fishing ground during flooding season (according to fishermen at Tabok stream). This area is in the buffer zone of Virakchey national park.
- Forest along both sides of Tabok stream, from Se San river near O' chry. Long, it had been used as an old plantation of Pleu Thom, Rieng Vin, Bangket villages and some upper parts are in core zone of the national park.
- A large old and new plantation forests along both riversides of Tabok stream. Through practicing, O' tabok plantaion stretches along the stream from the south of O' chry and along other creeks up to some parts of O' lampang, national park boundary. Most of the new plantation forests of Tabok village are along O' lampang and O' yai. plantation forests of Bang village that most have been recently cleared are along O' tamol creek.
- And many other plains for rainy season rice(see information about rainy season rice cultivation for detail).

## 7. Tradition, belief and religion

People from these two villages are minorities, Preuv, strictly follow Brahmanism, believe in forest spirit and offer food to the spirit during feast. All village families adapt the way of producing alcoholic liquor in jar regularly. Each family has 3-5 jars of the liquor for spiritual offering or using while the wedding feast arose. Any kind of decisions (cutting trees for doing plantation, building houses or settling residence), even in the family or in the village, they always refer to their dreams. They believe their ancestors had directed them to do so. Good sign of interpreting their dreams, meaning that the spirit has let them to do thing. Therefore they start offering small present (bribe), chicken, young pig and a jar of spirit (alcoholic) and then having all together. The purpose of this celebration is to bring happiness and some good outcomes from the spirit in mountainous forest in accomplishment successfully.

In case someone got sick in the village, villagers always believe that it causes from the anger of the spirits who have been furious to the villagers or outsiders who came to cut trees or hunt wildlife in the sacred area. They don't think that it causes from diseases. First, they do not take the patient to district hospital, but a night later, even the sick still suffers or betters, they have to offer chicken or pig with a jar of liquor to demon, to prevent from epidemic causes. Two or three days later, if the sick person is not better, they take him to the hospital (the rich can pay for the treatment). In case the person is more suffered from the illness, they will bring him home and starts to pray again. this time, they have to celebrate with more food, a buffalo and many jar of liquors, and more villagers participation, three nights. At that time, entering to the patient's house is ban, other why the comer shall pay in pig, chicken or liquor.

There is a serious pray, village spirit, after rice harvesting, with the whole villagers participation. All households have to share their contributions in liquor, cash or rice to buy one or two buffaloes for celebration the party. The 3 days and nights party is for happiness of the entire villagers, with traditional music display. Those who come from outside village are not allowed to enter (besides the villagers' relatives), therefore they will be fine.

The outsiders shall be attention and respect to the ethnic minorities in O' tabok and Bang village in order to avoid any punishment. The abstinences the outsiders have to care are:

- Village abstinence, 3 days, put a tree branch on the way, where entering to the village
- Home abstinence, 1-3 days, put a tree branch on the stair
- Tortoise, lizard, python and domestic dog are forbidden to bring home (Bang is ok)
- Cutting and eating bamboo shoots are serious prohibited (Bang is ok)
- Cutting and eating Nu fruit are not allowed (Bang is ok)
- Not permit to cut wild banana tree

The chief of O' tabok village has mentioned that all the above abstinence represent the ancestor spirits or soles who passed away for long, so if someone breaks the belief down, the diseases may occur in the village. The wrong doers will pay in chicken, pig and liquor for his out rule break.

## 8. Based-Community Natural Resources Management

The relationship between natural resources and Preuv are firmly, because they rely on them for surviving. Big forests, bamboo forest, are the main point to do plantation. Wildlife and non-timber forest product are the target products to fill out food shortage, to support shelter construction and to supply as traditional medicines, and to use as the crop-protecting fence from animals.

They don't intend to cut the logs for building or exploitation, even if there are big trees through out the forests, because they often move and cannot afford for timber facilities, saws, and cars to transport.

They understand the essential and the needed of natural resources for their daily lives. O' tabok villager have the traditional thought to protect the natural resources in their areas. The natural resources O' tabok communities protect are:

- Samrong forests, at the end of O' lampang and O' tayak creek, about 25 km from new plantation (walking from 6.00 am till 3.00 pm). The reason behind what the villagers have a good tradition in preserving their nature is that, after tightening around the tree they take the vine or rope off. Cutting the trees for fruits have been forbidden and strictly respected in the village for so long, because they believe that it will cause diseases if it has done so. Therefore, they take the strict action to fine someone (insiders and outsiders) who cut Samrong trees in the forests, where they went to collect fruits. This attention may be respected, admired, and encouraged with providing the autonomous rights to manage and protect the trees.
- The species of trees, Trach, Phchek, Phdiek, around village and plantation. The species supply villagers with wood oil, and Chong oil to improve their annual incomes. So the forests that cover in the watershed field of the village and O' tabok plantation are protected, put the leaves on the tree trunk to aware that it will be collected its oil. The forests which are rich of oil productive trees are in the core zone of the national park, along O' tabok, O' lampang, O' praya, O' tayak, and Prey Arak forest around Panday lake (full of Teal trees). To strengthen the traditional management on the species, it needs to apply with the way people do with Samrong, protection and punishment. To do that, it requires support from legal entities.
- Sacred forest is defended and preserved for worship, about 3 ha. around Panday lake on the east of O' tabok plantation, near intersection of O' panday and O' tabok creek. Forest in this area is kind of Teal species and absolutely banned from cutting.
- O' tabok village also has the traditional management of fishery resource; people have advocated with local authorities, village, commune, and district, for their rights in management (see chapter on fishing).

There was a noticeable event in 1998, people in O' tabok village in cooperation with commune authority arrest illegal Vietnamese people who entered to log the trees in the village's forest on the north of Se San river and fined them 400\$. This income was used as buying surrogate sheets for cover the roof of communal houses in O' tabok.

The traditional protection the forest for social interest considered as a leading phase of based community on natural resources management with sustainability. It can be respected as the model for managing the natural resources that the community development division of the project target on.

## 9. Seasonal migration

Referring to the tradition of Preuv tribe for long time ago, they often move their habitats seasonally, based on cultivating season. At least each household has 2 to 4 houses, one in the village along Se San river, another one in paddy field, one or two other in Sweden plantation. They have time no more than three months, from late of December to March. The period they are free from dibbling farming and people move back to the village to repair the houses. But Bang villagers don't move, because they don't have their administrative village along Se San river. Besides that time, villagers have to stay at the rice fields and the plantations, near water sources, creeks, streams and rivers, which are about 16 km from the village. The reasons that people have to stay at the plantation are that, the farms are far from the village, hard to walk, (3 hours walking at least in the dry season and longer hours in rainy season). They have to walk across creeks, some parts of the road are broken by water flow and flood, furthermore, it's lack of boats and difficult to bring their babies along to the farms.

It's remarkable that the residences the government has set up along Se San river in Hayuk area are considered as the real village of O' tabok villagers, although they do plantations anywhere, they have to come back to the village to celebrate and offer food to the spirit altogether in early of every year.

In fact, Preuv dislikes staying near Khmer, Chinese, or Laos, but likes staying in a small group in mountains area. Every 2 or 3 years they have to change their plantation site to another places where there is full of trees that they can do farming.

We also recognized that Preuv in O' tabok village do not want to live with Preuv who living in another villages, even they often move their addresses. For instance, Preuv in O' tabok move and farm in the upland area along O' tabok, O' panday, O' yay, and O' layor creek, that Preuv in the other area are not. In accordance with the real migration during farming season (from the late of March till December), O' tabok village is divided into three administrative groups. However, since 1998, O' tabok village has been separated into four groups of Sweden farmers, working on dibbling farming in the core zone of national park as the following :

- 1<sup>st</sup> group lives and grows crops along O' lampang creek (in buffer and core zone of the national park) and along Veal Khak plain (buffer zone of the national park)
- 2<sup>nd</sup> group, does plantation along O' tabok creek near Douk plain (in core zone of the national Park)
- 3<sup>rd</sup> group does plantation along O' lampang creek and works on paddy field in Veal Veul plain (in core zone of the national park)
- 4<sup>th</sup> group does plantation where at the end of O' praya creek and works on paddy field in Veal Payay (in buffer zone of the national park)

There is only one group of Bang, but divided into two groups of Sweden farmers during cultivating season:

- Group 1: Planting along O' yai creek and working on the rice field in Veal yai.
- Group 2: living and farming along O' tamol creek

About 12 households of Preuv in Bang village who has just settled permanently for four years so far along O' tamol creek, above O' tabok plantation do not want to live with Bang villagers who settled for long, although, the village, commune authorities and the elderly have facilitated. There are two reasons behind that:

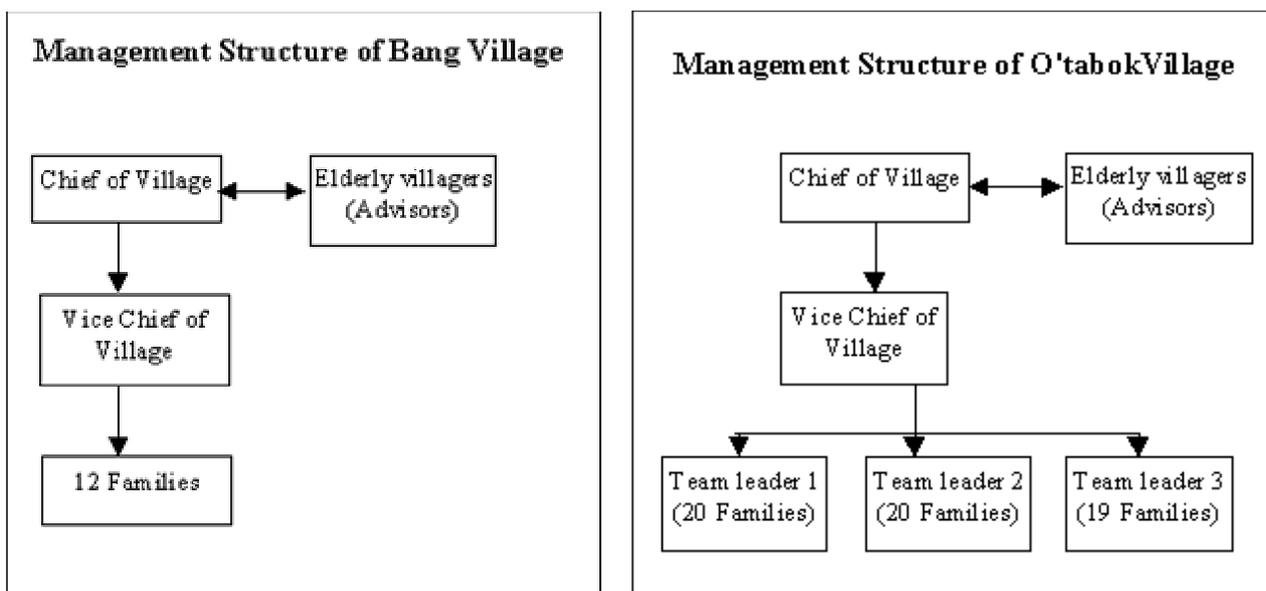
- a. Bang villagers want to conserve village's reputation that their ancestors had passed on them.
- b. Their abstinences are distinct that can cause conflict between them. (see the chapter on tradition, belief and religion)

They will have the trend to move to the national park in the future if the plantation land along the creek is infertile and no agricultural land amendments.

**Table of Seasonally Working Activities**

Activities	Month												Location		Gender
	1	2	3	4	5	6	7	8	9	10	11	12	Bang	Otabok	
<b>1. Sweden plantation</b>															
Seeking for forest to be cut													Vill.	Village	Male
Offering food and cutting tree for plantation poles													V- P	V- P	Male
Burning and slashing													V- P	V- P	Male-Fe
Rice farming, crop mixing													V- P	Plantation	Female
Clearing grass in an old plantation													V- P	Plantation	Female
Maize harvesting													V- P	Plantation	Female
Looking out a rice crop plantation													V- P	Plantation	Male-Fe
Rice collecting													V	V-P	Male-Fe





There has been unsolved yet a problem between O'tabok and Bang villages who moved to settle near O'tabok orchards for 4 years so far. Only 12 families in Bang village are Preuv, who had separated from Bang that in the previous time settled near Ratanakiri provincial town, Banlong. Taveng Leu and O'tabok authorities intended to merge Bang village into O'tabok, but Bang village has objected. There might have some inconsistency of beliefs behinds between these two villages and moreover Bang village want to be independent too. None of institutions have ever taken action to deal with this matter so far, although Bang village locates in the core zone of Virakchey national park. It requires discussion between provincial authority and the ministry of environment.

The below is an management structure of both villages.

### 10.1.2 Statistics of O' tabok villagers

Following the statistics in 2001, obtained from Taveng Leu commune office, O'tabok has 59 families of 280 populations (see the table below). In particular, in 2000, Bang village was made up of 12 families of 58 populations (within 33 women) and 2 women were dead of malaria during the year.

Population Statistics of O' tabok village, 2001

No.	Households	Population			Widow	Widower	Orphan	Disable	Miscellaneous
		Total	M	Fe					
1	59	280	153	127	9	1	2	2	

### 10.1.3 Public infrastructure

#### a. Transport

There are two ways to travel to and from O'tabok and Bang village, by land and by water.

**By land:** Traveling from and to O'tabok and Bang village, people have to walk along the paths. They cannot bicycle or drive a motorbike because of the creeks and trees fallen across the paths. In dry season, people can walk about 2-3 hours from O'tabok, 3-4 hours from Bang and O'tabok orchard to Taveng district town market. In rainy season, walking is a bit hard, because some parts of the paths are flooded and people have to come across the creek that full of water too. In 2001, under the sponsor of Seila, planning to lay down a road connected with some villages in Taveng Leu commune has been applied. Practically, a road stretched along the Se San river, Southeastern part, from Taveng Leu district town to Bangket village, performed by Taveng villagers under rice supplying for their labors has been built and a bridge across Chryl creek also has been doing in this year to ease traveling.

**Water way:** Traveling by boats or small canoes along Se San river and other creeks is preferable, comfortable

and spent less time than by foot. It takes about 1 hour from O'tabok orchard during rainy season, where water level goes up, and about 2 and half hours during dry season, where water level goes down. Traveling by boat to Sweden agricultural plantation through O'tabok during dry season is a bit difficult because the creek's dept become shallow.

#### **b. Health and sanitation**

In 1999 ICC has developed O' tabok village by providing services on health and sanitation within distribution protective nets against mosquitoes and other medicines to the people to prevent from cholera and other epidemic diseases. Since 2000, there have never seen the organization come into O' tabok village anymore. Today people in both villages get more understand about health and sanitation. To care for their health and sanitation from being other epidemics; they keep clean around their residences daily, clean up vegetables and fruits, boil drinking water, and make fire under their houses during night time or put the mosquitoes' nets while sleeping. However, some people still ignore these cares, but follow their habitual tradition. At least 10 elderly women, traditional nurses, in both villages have been passed on this skill from their families. The payment costs optionally, depends on collectivism and mutual assistant concept. In general, O' tabok villagers get malaria, fever, cholera, typhoid, caught, cold. People always apply traditional treatment to the patients, or send them off to the district hospital, because there have no care center in the village (see chapter "tradition, religion and belief"). For Bang village, people have never received support on the field of health and sanitation from any institutions, because their village is isolated from the others.

#### **c. Education**

People in both villages, before Sangkum Reas Niyum, had never obtained any training education, for their mountainous and remote area that far away from schools and other educational centers, and for their residential mobility frequencies. Only a few people (mostly men) are able to read and write in Khmer because they used to serve in army troop during war that allowed them to get training on Khmer script in the division. In 1999, ICC had established a school for illiterates, only one class, with 3 village-voluntary trainers(all are men). These volunteers got no paid, salary or supplement money from ICC. They trained the village children at night within assistances such lamps, battery, black board, chalks, training materials, notebooks and pens for both trainers and pupils. However, in 2000 that training could not be run due to the lack of budget fee for charging battery, buying the training materials as well as the notebooks. There are about 20 children, between 8-14, cannot attend the school. Most female teenagers, between 15-18, cannot speak Khmer because of their shyness and assistances to their parents in the fields. Only several women are able to speak and listen Khmer well. During PRA discussion, O' tabok community has requested for a building of school to serve the purpose of illiterate elimination in the village and to give an opportunity for their next generation in studying as well. For Bang village, educational, health and sanitary services are none. Environmental education is a primary and long-term perspective factor to bring BPAM in Virakchey project meet its goal. To get this work succeed, providing general training through informal education to people, especially to children is a needed task. Informal education, not only offers awareness of literature but also builds a conceptual understanding in environmental change that caused by unsustainable use natural resource, impacts to the people's lives. It is supposed the informal education planning shall be considered on convenient place and time of the program to be applied with the villagers' children that based on their seasonal moving residences and their children responsible work requirements.

#### **d. Security and social order**

O' tabok and Bang villagers live in peaceful and secure even they are in mountainous remote are. There have noticeably neither robbery nor serious conflict or even hard deal with the problems. Virtually, the villagers have never been worried about the yield they left in at the field far away from the village's center, after harvesting, although starvation occurred every year. So far, in the village where some small disharmonies happened, immoralities, regardless of village believes and light conflicts, have been solved by a group of village elderly in which the doer were fined or have paid in chicken, pork and a jar of toddy to the spiritual ghost. In case a serious conflict happened and the village elderly could not handle, they would send the case to the district authority to work out.

#### **e. Tourist potential**

Due to O' tabok village is along Se San river and O'tabok orchard and Bang village are along O' tabok creek, which is the direction for foreign tourists to sightsee forests, waterfalls, wildlife, etc., they almost take a chance to visit orchards in order to know more about the living of ethnic minorities Preuv in O'tabok upland. For a few number of tourists who came into the area so far (not more than 10 per month), the community of minority seem to be unclear to deal with how to get benefits from tourism area, selling products and services to them, local processed products, Kapha, arches, ancient knives, ethnical clothes, traditional shows, food stuff or guides and so on. If the management of Virackchey national park meets effectiveness in future, infrastructures will already

be adapted properly and the number of tourists increase, both villagers can earn some daily incomes that helpful for their living.

## 10.2 Economic situation

The major occupation of Preuv ethnic minorities in O' tabok village is Sweden agriculture. Besides that, there are some other minor occupations that the villagers rely on, raining season rice farming, animal raising, non-timber forest product collection, fishing and other handicrafts.

The below occupational activities are described:

### 10.2.1 Agriculture

Both villagers are farmers, working on 2 types of agricultures, Sweden agriculture, rainy season rice agriculture and other secondary cultivation that make them all busy from the whole year to year.

#### a. Sweden plantation

Preuv ethnic minority in O'tabok and Bang village are doing Sweden agriculture in the plain area and in upland area of Virakchey national park. Based on geographic condition analysis that affects to the Sweden agriculture of ethnic minority in Taveng Leu, the plain area for shifting cultivation has been divided into two parts:

- The plain along both sides of O' tabok and its branches, O' panday, O' lampang, O' praya, O' tamol, etc., that all are under the Bangket, Riengvin, O' tabok and Bang village.
- The plain along both sides of O' kapha, and other creeks' branches, which are under Bangket, Ke Kuong, Rieng Vin and Soy village.

Before French colony until Sangkum Reasniyum, ethnic minority Preuv in O' tabok and Bang village had farmed along O' tabok and other creeks. Those creeks bring the flood from mountainous areas and flow into O' tabok, O' yai, O' lampang, O' tamol and O' tayak, which all situate near the orchard where people are farming presently. Under Sangkum Reasniyum administration and Royal Government of Cambodia, especially for the late decade, O' tabok villagers were assigned to live along Se San riversides. During that times the trees about 1 km. width, that stretch along Se San river were cut down and cleared for plantation, less of fertile, after exploitation of timbers. These are the major causes of seizing and clearing mature trees and bamboo forest along creeks for doing orchards, towards northern of both villages up to the core zone of Virakchey national park. Along Se San riversides and O'tabok, from their edges that intersect with Se San river, up to O' tamol and O' lampang, currently, there have been seen only old orchards that less in productive soil, thatches, grass, and shrub grown.

From 1979 to 1997, only 10 families in O' tabok village did a Sweden plantation in core zone of the national park. However, since 1998 so far, all O' tabok villagers and 12 families from Bang village have cleared forestland for the rice cultivation in the core zone of national park.

The use of forestland for Sweden agriculture is the ethnic minority's custom through out the country, however; the royal government does not officially recognize the activities. There are neither institutions nor authorities that issued the tenure rights and uses of the forestland for them. However, among them all they accept the tenure rights of whom has first cleared the forestland for plantation and they have never confiscated each other's land. For the natural forestlands that have not been cleared yet, any people can do except that lands are warned to be preserved or selected for a soon planning. In general, people living in different villages even the same race, Preuv, they prefer distinct working places and residential areas. For instant, Bang village that bordered the northern O' tabok village presumed the forestland along O' tamol for their own plantation, without intention to work with another villagers in the same land.

The forestlands that Preuv in O' tabok has been clearing for rice plantation are alluvial mixed with sandy soil, less fertile, unlike the red soil in Phnom Veng area. From the Monsoon humidity, the natural compost getting from decaying of leaves, branches and roots of the forest cover or from the slash and burn of forest, the amount of ashes will fertilize the land to be productive that's useful for plantations, especially for upland rice farming of the ethnic minorities that considered as their key farms.

After 3 continuous years of the natural farming on the slashing and burning this new forestland, it becomes a barren land, growing thatches and grasses, hard for doing plantation, and requires to abandon for at least 5 to 10 years, then it would be possible for re-farming. Bamboo forestlands are considered as the most fertile land and easiest to slash for land used preparation. Bamboo forests in an old orchard grow fast after 2 to 3 years left

out. The forests exist dispersedly along O' tabok stream, but densely grow at other stream branches.

A hundred thousands of forestlands in old orchard were given up without any rehabilitation measurement, other large natural forestlands in the national park will also be met the same states, in the future, if there's no attention, land amendment and technical improvement for upland rice farming policies from any institutions. The upland rice that Preuv likes to farm is long-term rice, 6 months, planting and yielding naturally.

The farming approaches of Preuv in O' tabok village, like other ethnic minorities' in northeastern part, are, in February people have to seek for forestland (new and old forest field) that well grow, densely and can cut and burnt trunks, branches, leaves for ashes as fertilizers. Then at that night they pray for the forest spirit to advise whether they can cut the trees or not. If not, one week later they will celebrate a feast within a chicken and a jar of liquor to the forest spirit in order to cut the trees. They choose a good quality of trees for building houses in the farm after cutting. The remainders are dried to well burn. In general, the poles of arm have to be done during cutting before burning trees, to avoid from over burned. At the same time, Preuv have to mend or build a new house in the farm for entire farming season, from May to early of January when already harvesting. In June, while the rain falls 2 or 3 times, villagers start to plant the rice in each hole where they has just packed by a wooden stick, but they have to offer food to the forest or farm spirit again in order to have a good yield. One month later, after the rice growing farmers are a bit busy with clearing grasses. However, the busiest time for them is when the rice pollinated. They have to keep watching and preventing from the birds disturbances at day times and repair the fences from animals (especially the wild pigs that increase numerously) at nights. The yield the farmers obtained from their rice farming is 1-1<sup>1/2</sup> T/ha. But for the yield of what they have worked on the abandoned farm is only 600-1000 Kg/ha. Each family has its own land (old and new farm) from 6-10 plots in which each plot is about 0.6- 1 ha. Practically, each family can slash forest for farming no more than 2 plots (one is an old, another is new) that depend on the number of labors each family consists. Traditional living of ethnic minority, they do subsistent farming instead of for selling. There are about 60% of O' tabok families do Sweden farming on a plot of land. Therefore, in any years that the natural disaster arose, especially drought, the family whose farm is only on one plot, often met insufficient in term of rice supporting, 2-3 late month in each year (from August to October).

Shifting agriculture is a major occupation to support ethnic minority living, but this activity is contributing to the destruction of biodiversity in core zone and buffer zone of Virakchey national park. The new farm of entire O' tabok and Bang village, in a part of core zone of Virakchey is under the management and protection of BPAM project of the Ministry of Environment that can drive into the reduction of new farm slash through the technical improvement of rice planting.

## **b. Rainy season rice**

Besides doing rice-farm, some Preuv ethnic minority of both villages do rainy season rice to sustain demand of the family every year. There are many large plains in various areas for O'tabok and Bang villagers doing rainy season rice.

- The plains, Yakchhin, Kanchhang, Guong and Pok, in between O'praya and northern Se San river, about 2-4 km from village.
- These four plains have not been split up yet for doing rice because the land are barren (in 1998, two families of O' tabok tried to farm the rainy season rice on Yakchhin plain, but did not gain well output). Also, following people's report those plains are flooded annually during rainy season after building an hydro-electricity dam in Vietnam.
- Krak, Pang Dan, Chang Luach and Klaong plains in between O' praya and O'lampang that have not planted rice yet, and Paklat plain (3 ha), Prayay (10 ha) and klaok plain that O' tabok villagers have been practicing on rainy paddy rice field.
- 10 ha of Veul and Deng Taya field, upper part of O' lampang in the core zone of national park that have been farming rice.
- Duk (about 25 ha) that 2 households of O' tabok working on and Yay (about 15 ha) that 4 households of Bang village working on the two large plains, in north O' tabok stream of O' tabok and Bang village.

Reference with the number given by O' tabok village during applying PRA, there are about 32 households have been farming rainfed paddy rice on Veul, Khaok, Payay and Palak plains ( in the core zone of national park), about 8-12 km from village. However, there are only 2 households who have been working in Deng Taya plain, about 2 km north Bang village. Because of the long distance to walk to the farm; it's hard in rainy season to come here and there; to protect the crops and poles against wildlife and birds, those who have farm lands have to build the houses in their fields to stay on until the end of harvesting form May to December, that they go back to the village. After harvesting, the villagers store their rice in the loft at the farm for the whole year due to the problem of transportation. O' tabok villagers go back home wherein along Se San river with bringing the amount of rice only enough for 2-3 months to support their lives during they are in village. In common, each household has rainfed paddy rice field about 0.5-1 ha, based on the number of labor forces the family consists. There's no

exact statistics on paddy fields of O' tabok village because those plains are remote mountainous forest areas, and unofficially recognized in using land that belong to the protected areas on the Ministry of Environment.

There are two kinds of rainfed paddy rice people prefer using, medium term rice, 4 months, Kache, Silipine and early rice 3 months, IR. The IR just has been applied in 2000 (seeds were bought from one another). The best turnout is IR (1.5 T/ha), then Kache and the last one is Silipine.

The way of farming of Preuv ethnic minority from O' tabok and Bang village do is similar to the way of Laos and Khmer do. They do with hoes, difference from both minorities who are not used to plow with buffaloes. Looking at output, there is 1-1<sup>1/2</sup> T/ha if the natural disaster does not occurs. However, when there are flood, drought, or insect disturbances, the output is low, 800 Kg/ha. Thinking over the farming areas, average outputs per year, village population, there are not be responded to the needs of the people; they have to do dibbling rice in addition. There are several factors that contribute to the output of rainfed paddy rice that O' tabok villages gains:

- Less awareness in dibbling rice. The villages follow the way Vietnamese do near their refugee camp at the border of Cambodia-Vietnam and come after the way of Khmer and Laos do in Veunsai.
- Applying with human forces and hoes to prepare paddy field without cows, buffaloes, that spend long times on the small plots.
- Insufficient of pulling forces (only 20 buffaloes living in forest presently)
- Lack of facilities in producing ploughs and harrows (chisels, saws, nails. etc)
- Encounter with natural disaster, flood or drought
- No insecticide to survive their crops.

About 10-15 families who have never practiced with rainfed paddy rice field intend to do it in the rainy season in 2001. Moreover, O' tabok villagers wish to do so in 2001 on Yak Chhin plain, north of village and of Se San river, about 2 km from their village.

There is suggestion from Bang village to have instructors on how to work in rice fields; it seems to them that working in rice field is easier than in vegetable farming. Particularly, Bang villagers who have less of rainfed paddy fields have proposed the distribution of paddy fields where are not far away from district town, along Se San river, to the concerned institutions of land tenure, especially local authorities. They don't want to live in isolated area, far away from the market.

Working in the rice fields is the second business of Preuv ethnic minority of O' tabok village, after plantation farming and less impact to the national resources in core and buffer zone of national park than Sweden farming. Therefore the improvement effort on rainfed paddy field technique to gain better output has been considerate. The rice-farming skills shall be handed over to the farmers who wish to work in the rice fields and can persuade Sweden farmers to cut trees less and turn to work in rainfed paddy rice field instead. Distribution paddy fields along Se San river to Bang villagers is a major factor to make them leave out from core zone of national park spontaneously and efficiently. But it requires the district authorities to take appropriate measures on time to deal with them. This option does not only assure of food security but also decreases from human pressure on biodiversity in buffer and core zone of Virakchey national park too.

### **c. Mixed-crops**

There are many kinds of crops, corns, beans, papayas, bananas, pineapples, chilies etc. that planted at the same period (rice-farming season) between clumps of rice plants in the field. This is the traditional planting of Preuv ethnic minority in O' tabok and Bang village. These outputs supply the family's demands only. They cannot sell their products to merchants, because, their farms are far away from the market, moreover, at that time these products are available at everywhere with the cheap prices. In dry season, it's hard to plant, several people whose residencies near creeks grow mixed-crops to support their daily needs, chilies, lemongrass, wax melons, gourds on their plots that easy to water. Most seeds are locally supplied; the exports are expensive and hard to plant. There are other fruit crops that both villagers plant on their residential plots, banana trees, jackfruit trees, and coconut trees. Villagers have never planted these crops even on a new or an old plantation farm, because every year they slash and burn forest for farming that drive to the depletion of plants. The numbers of crops that have been planted on residential land s are small, because villagers have a short period to stay in their village. However, the temporary dwelling places in the farms are often changed every 3-4 years.

### **d. Animal raising**

There is a family animal raising in O' tabok and Bang village. The preferable animal raising are chickens, pigs, buffaloes. All families in both villages raise chickens (but only in few numbers 2-3 nest chickens per family). Those chickens mostly serve as food for the family and for demon ceremony. It's hard for any pass-by who wants to buy chickens for food. The villagers do not want to sell them, because they have few and some died of

diseases and some caught by a type of eagle.

As for pig rearing, there are about 50% of the whole villagers who breed. Pig rearing here seems to be care less without pens, let them walk freely that easy to get diseases. Breeding them with meal is different in season. In rainy season, various vegetables, water greens, other edible plants, yam and potato leaves, banana trees are available. Rice porridge mixes with those vegetables are what villagers give to their pigs twice a day. But in dry season, they eat less food that left from villagers after eating. Pigs that reared in both villages are slow grown. Virtually, after one year breeding, each only weights 50 Kg because it was a breeding stock and there is insufficient of food to support them. Diseases (parasites) the village veterinarians are not able to cure and lack of technical prevention are also the causes. In previous time, the ethnic minorities rear pigs for spiritual praying, but now they understand and wish to breed pigs for selling. In case there are a pray, they mostly kill only a small ones, 3-5 Kg, the big ones are for sale to buy foodstuff. In general businessmen come to buy pigs and chickens where people gathering is, along the Se San riverbank when villagers came back home in January and February. The annual income from selling pigs and chickens, the O' tabok and Bang villagers earn is between 50,000-150,000 riels. Pigs are the domestic animals villagers like to raise and high demand in market in which both villagers can earn more satisfactory incomes. Therefore, to encourage people to rear pigs with supporting treatment services, veterinarian training, are very indispensable, in term of improving the community living standard as well as enhancing women's business.

For buffalo raising, villagers care free of them too, without pens or ropes to attach them. The purposes of raising these animals are not for sale or use as labor forces, but for offering as food to the spirits. Gradually, the domestic buffaloes seem to be the wild ones. It's hard for them to catch buffaloes to celebrate or pray demons. For that reason, many buffaloes are lost. The villagers have mentioned that in O' tabok, there are only 10-15 buffaloes and living in forest, but in Bang, none of buffaloes exist.

Through interviewing O' tabok villagers, they express the willing in using buffaloes to help work instead of using their physical forces in doing rainfed paddy fields. In the future, buffaloes in O' tabok village will be supplied as the purpose of agricultural farming.

### **10.2.2 Other income sources, besides agricultural'**

O' tabok and Bang villagers always suffer from food inadequacy annually, from May to October due to the low farming output. To avoid this insufficiency, both villagers take the opportunity to have another work to do such, working for the other farms, fishing, seeking for non-timber forest products, hunting and handicraft, etc. However, Bang villagers who approximately have 12 households, rarely walk out off village (includes a few O' tabok villagers), go to the forest seeking for wild potatoes, manioc tubers and other edible vegetable to be mixed with rice boiled, during short of rice. The below is a brief description of minor business for annual income betterment.

#### **a. Non-timber forest product collection**

##### **➤ Samrong (hachong)**

Samrong tree, big, 20-30 height, naturally grow in groups along the valley, in the top of mountains, red soil, at the remote area of O' lampang (Phnom Thom) and O' tayak ( Phnom Yakrak), about 30 Km from new plantation of O' tabok village. There are three types of Samrong, Samrong Bay, Samrong Thmor and Samrong Lving that villagers commonly pick for sale. Naturally the ripe fruits are available in late April or early May in every year, but for only some trees. Therefore, villagers do not pick them annually. They pick them every 3 or 7 years in which most of them are good in producing fruits.

The kind of 7 year producing trees are best for people to collect their fruits rather than the 3 year ones. There are three techniques in collecting fruits that Preuv ethnic in O' tabok uses:

- Collect from the ground while the ripe products fell
- Use vines to tie up a tree or burn garbage under it in order to make the fruits ripe swiftly from the smoke and drop down
- Pick up on the trees or slash their branches

Seasonally available of Samrong, younger, elderly, men and women spend about 15 days in forest to collect the fruits, each person can earn 15-50 Kg. Before 2000, people could collect more fruits than this year and sell in 600-800 riels/Kg. They notice that the trees produce much fruits in 2001, but they can collect fruits less (20 Kg/household in average), due to many arrival of outsiders ( from various villages of Taveng district, Veun Sai, O' chum Banlung and Andong Meas). However, the price is better in this year than the previous ones ( 1000-1200 riels/Kg).

What conspicuously in 2001 is that the provincial authorities have issued a regulation on Samrong collection in Virakchey national park. All concerned institutions, Taveng district authorities (policemen and soldiers) and rangers in Taveng Checkpoint have also taken control on the kind of collection. Many businessmen reach the field ready to buy Samrong.

The depletion of Samrong trees in this year is less comparing to the previous years, after cooperative effort among village, commune, district authorities, concerned institutions, with the traditional management of O' tabok village was set up.

### ➤ Wood oil

The trees the villagers cut, hole, burn for oil use or exploitation are Dipterocarpus species, Teals, Trachs, Tbeng and Khlongs. Most Teals grow near O' tabok, O'praya, O' lampang, O'chhri, near forest around Panday lake and near old and new forest plantation, which are not far away from village. Almost households in Tabok village and 7 households in Bang village do a living by taking wood oil for households' consuming need (torch- for lighting at night and glue for sticking boat against water come in) and for selling. Villagers can take wood oil in the whole year, however, the productive period is from January to May only.

In dry season, wood oil comes out much more than in rainy season.

People can earn wood oil about 500 liters seasonally. the extra wood oil after households need will be sold to the traders in Taveng district by boats, but sometimes sold at place where the traders come directly to buy. In general, wood oil costs the same price at anywhere, 500 riels/liter.

### ➤ Chong oil

This kind of oil is taken from, Pchek, Pdiek and Koki trees where the scratches or broken branches are. This oil comes out and function with atmosphere, then becomes hard, sticky. Those kinds of trees mostly grow at scattered forest, plains and sandy dunes, in Park Lak plain, Klaong plain, Veul plain and in plantation forest, about 6-8 Km from village. People collect Chong unexpectedly. During slashing trees for farming, walking dogs for wildlife, collecting wild vegetations, wild potatoes, .... They start collection it from time to time until they got 5-10 Kg, they sell it to the traders where their stores in Bangket village (entering approach near Se San river intersection) with 200 riels/Kg. Only 2-3 households got extra oil over their needs for selling to the businessmen. People have been using Chong oil for producing torches and glues.

### ➤ Sauong oil

Most Sauong appear in Sra Lao tree. People take notice of Sauong because of bee (familiar wit bee species) flying around the tree holes. People have been using the oil mixing with wood oil to produce glue for sticking the boats. The way people take the oil is cutting the trees. Forest that are rich of Sra Lao trees and Sauong oil are in the scattered forest and in the hill forest of the core zone of national park (even villagers are not familiar with the name of the areas) about 5-15 Km from farm. Both villages do not like to seek for Sauong oil, because it costs cheap, far away and hard to transport. They only seek to serve the need of households while they see Sra Lao with the oil unintentionally.

### ➤ Bee

There are many kinds of bees, Chang E, Phlet, Tradaok, Pruot. Seeking bees is not considered as a major business as seeking Samrong that villagers do seasonally to generate income of their households. According to the men from both villages, they can find bees more in cool season, from December to January. Beehives mostly found in Sparse forest, mountainous forest, bush forest, old plantation forest, or high-tree jungle forest, about 5 Km from village.

There are two ways of seeking bees:

0. Break down the branch where a small beehive is, without smokes
1. Make the bees fly out of their hive by using smokes, if their hive is big

Honeybee is used for desserts or traditional cures, but its waxes for candles, lighting at night. The extra waxes and honeys over the family needs will be sold in the market at Taveng district, of about 4000-5000 riels/liter and 10000 riels per small bowl of wax.

## b. Hunting

Both villages have traditional hunting while they are free from field works to survive as daily food in family. Traditional tools they use for hunting are: snares, traps, crossbows, walking dogs etc. Hunters usually are male over 14, strong in mental and physical in long distance walk and brave while meeting dangerous wildlife. The favorable hunting forest is about 2-6 Km from plantation:

- In national park, Veul plain, Panday plain, forest along O' tabok, O' lampang and other large forest in core zone of the park
- In buffer zone, some part of the forest that remain after clearing for plantation along foothill, old plantation forest along O' tabok etc.

Most wildlife that people catch currently are small, wild chickens, pangolins, lizards, pythons, cobras, muntjacs, wild pigs, deers, squirrels, flying squirrels, loris and pheasant, etc. If there are extra over the households need, villagers will sell them to the traders in Taveng district or directly to whom ready come to buy at the village. Sometimes, they exchange the hunting animals with tobaccos, salt, fish sour and prohok that can be stored for long term consuming. The wildlife the hunters got cost differently:

- Lizard, 5000 riels/Kg
- Pangolin, 80000 riels/Kg
- Cobra, 70000 riels/Kg
- Python, 5000 riels/Kg
- Turtles, 3000 riels/Kg
- a pair of small parrots, 20000 riels
- a pair of small Sarika Keo, 40000 riels

In frequently, hunting can survive households from daily inadequate of food, especially from August to November.

Both villagers are much concerned in hunting and trading wildlife in core zone of national park, practiced by a small group of gun holders in district, by outsiders (people from Veun Sai, Andong Meas, O'Chum, and other Vietnamese who come across border). These activities cause to the destruction and endangerment of wildlife. People often complain about the gun holders and boat-traders who come to buy wildlife, but they dare not to step in the matter directly. Villagers understand the benefit of wildlife, and wish to manage natural resources by themselves. Both communities have suggested for officially traditional management of wildlife. Comparing the condition of wildlife up to 1979 with the presents, the numbers of them are decrease and some species, tigers elephants, bears are endangered. These also cause from population increase. The more population, the more demand of wildlife meats, medicines, and incomes.

Illegal exploitation of clearing forest for Sweden agriculture, weak of law on wildlife protection, possible of wildlife transportation through out the province are the major factors that drive the wildlife to endanger. To secure the wildlife, both in core and buffer zone in national park, the cooperation among provincial department of environment, local authorities, especially the communities living nearby or in the park, who directly supply the resources, shall be reinforced.

## c. Fishing

There are many kinds of aquatic resources, turtles and tortoises, etc in river, lake and stream before 1985. These resources supply the daily demand of the households, food, a few cashes (by trading). Both villages have good cooperation with each other in preserving their resources within their boundary. They have never used illegal fishing tools, but treat against any fishing that negatively impacted to the communal interest virtually, from 1999-2000, O'tabok villages were unable to survive from fishing due to the local authorities allowed Vietnamese investors put the barrage in to O'tabok creek where fishes enter. O'tabok and other concerned villages (Sornh, Bangket, Phlen Thom villages) have suggested the commune and district authorities to end the activity from 2001.

The tools the people use for fishing are: nets, cast nets, fishing rod, Chan, Sayeun, Tom, Paong, Trou, Loap, Thnours etc. These simple facilities can help people to catch many kind of fishes such, trout, catfish, archer fish, Chhpin, etc. there is another traditional way people are to catch fishes is to poison them, using tree trunk, tree root, fruit within 30 minutes to 1 hour. This way is serious impacted to the aquatic resources; both small ones and a big ones are suffered and also distracted to the fish breeding too. However, we don't know how much the poisonous substances will spoil the fisheries in this area.

Today villages no use more the way mentioned above, they find easier with the fishing tools at the market such,

fishing rods, fishing nets, etc. There are two types of fishes:

- Fishes from paddy field and natural lake, can be sold at 2500 riels/kg
- Fishes from river and stream, Chhpien, Soar, Romeas, Por etc. can be sold at 3000 riels/kg

In the lake, fishes are more than in the river, especially where is around the Sweden plantation. In dry season, people just spend only 1 hour with cast net in the lake, they can earn at least 5 kg of fishes. But as tradition, Preuv in O' tabok and Bangket villages prefer to have Prohok or salt rather than fresh fishes. The market is far from their village, therefore, they don't want to go fishing. Each families in O' tabok and Bang village can earn 20000-30000 riels a year from selling fishes they catch in river, lake or stream.

#### **d. Handicraft**

Besides working in the paddy field, doing Sweden plantation and collecting non-timber forest product, there are some manual works that both villagers, especially O' tabok, can earn daily.

##### **➤ Boat and mill works**

There are 5 men from O' tabok and 2 men from Bang village can produce boat. This knowledge they got from their parents. Commonly, the boats they produce are used only in their villages. If anyone needs boat, he or she has to inform the producer in advance so that he can prepare a good wood for doing it. In case the wood the producer needs is available in where is long distance, Veal Yai, Yakrak, Dengtaya, 8-10 Km from the village, the producer can ask for help from villagers and consumer to transport wood from the forest where he has found. In case the wood for boat is not far from the village, the producer brings the tools, axes, adzes, to where the wood is and start making. While the boat is ready made, he pushes it to the water toward village.

One producer can make one boat for a year (if there is a request). One boat costs 180,000 riels and the payment can be seen in two ways, in cash and in rice, pig, or buffalo that are match to the price of boat.

Besides producing boats, people are familiar with making a rice mill too. In general, mills are not produced for selling. Mills are produced when there is a request. The payment for that product is seen in rice, chicken or liquor as in turn.

##### **➤ Bamboo furniture**

People use bamboo where they grow along creeks, along old and new plantation to produce some housing furniture, fishing tools, (Tru, Loap, Chuch), baskets, Kapha, hoe's and knife stalk, housing wall-attached, roofed covers, housing floor etc. All household members are able to produce bamboo objects. some product are used in family, some are for sale to the traders in Taveng district market to generate daily income. Only about 15 households of both villages, that work hard for the productions. Their annual income is between 30000-40000 riels.

One Kapha costs 3500 riels, basket- 2000 riel, housing wall-attached- 200 riels, each roofed cover- 200 riels, and each housing floor- 200 riels.

##### **➤ Blacksmiths**

In Tabouk village, there are five blacksmiths making choppers, knives, adzes and axes. These make those materials for their community's use only. In return, to pay the gratitude to and to encourage the blacksmiths for these products used in the whole community (people who have steels ask them to produce for them) the people provide a jar of wine and chicken in kind.

##### **➤ Textile**

Traditionally, the textile work is for women. Before 1979, in O' tabok and Bang village, there are 4-5 women and elderly who know how to operate this work in order to produce traditional cloths such as blankets, skirts and breechclouts. The textile products of traditional clothes in O' tabok and Bang village are almost not produced any longer. On the observation, the Preuv ethnic people in these two villages are rarely found dressing the traditional clothes. Presently, these villagers have not used such these traditional styles anymore since 1993, but occasionally used on special occasions such as traditional festivals or spirit sacrifice ceremonies. The Preuv ethnic women did the textile work for long time. Nowadays, almost nobody operates. In order to restore this kind of traditional textile art, the relevant development of this shall be raised and targeted for the village and

commune development project that lift up the participation of women for their traditional and cultural causes.

## 9. Classification of people according to their properties

Having gone through the research studies of the socio-economy of these two villages, the discussion on the property classification of the people in these villages was made respectively.

Overall, these two villages are slight similar and people of these villages are classified into two:

\* The better-off family (totaling 253 of people in Bang village and 405 of O' tabok villagers).

The reason that proves these families are well off relies on the following criterions:

- Having sufficient rice for the whole year.
- Having buffalos from one to two.
- Having a machine boat.
- Having fishing tools to catch fish for food and daily minimum sale.
- Having a big house with zinc or tile roof.
- Doing on rice farm (0,5- 1 ha) and plantation (land areas of 1-2 ha).
- The family members are mostly men who are at the age of workaholics.
- Some of family members are hunters.

\* Poor family (approximately 755 of the totaled Bang villagers and 605 of O' tabok villagers).

The reason that proves these families are poor relies on the following criterions:

- Not having sufficient rice for the whole year.
- Not having buffalos.
- Having only a small oar boat, not machine boat.
- Having fishing tools to catch fish for only family food.
- Having a bamboo cottage with hatched roof or bamboo panel.
- Doing on plantation farm (land areas of 0,8-1,5 ha), not rice farm.
- The family members are mostly children and women.

Totally, even though there are different classes between these two people, there is one common thing as follows:

- Leading their lives like in the ancient time; helping each other in emergency period.
- Being poor or rich based on a limited point " Just enough to live one ".

## 10. Community Development Program

- NTFP Organization has conducted the survey of forest by-product utilization at O' tabok plantation.
- WF organization has conducted the study research in 5 villages of Taveng Leu commune and has conducted the study research of wildlife in the protected zones.
- Seila program raised the rural development planning within one year (2001) for O' tabok village and Taveng Leu commune.
- ICC organization has implemented the community development program, emphasizing on informal education in O' tabok village in 1999-2000.

## 13. Problem and constrain

By complaining of their daily life, they have been facing with a great deal of hardship and problems such as insufficient rice products that can not support most of the people through months of the year, the gradual decrease of natural resources causing from excessive exploitation and access to those resources. There are the

following problems of agricultural fields occurring in O' tabok and Bang villages:

➤ Sweden plantation

- Forestland becomes unfertile and full of hatch that affects the decrease of rice output.
- Forest cleared for plantation along Se San River, O' tabok canal, and other canals adjunct to this that are located near the administration villages nearly no longer exists.

They need to chop down the forests in the national park zones, which are the protected areas and located far from the villages and local markets.

- Crops are destroyed by wild animals, especially wild pigs.

➤ Rainy season rice paddies:

- Floods inundated often.
- Not knowing how to cultivate the rainy season rice (plowing, raking, sowing, transplanting and care etc.) and lack of driven forces.
- Insufficient farming lands that can provide the villagers with adequate food.

➤ Education:

No schools, nor informal teachers, that's why, most of the children in these villages are illiterate. They cannot speak, write and read Khmer language.

➤ Health and Hygiene:

Not sufficient health services; having no village health care centers, this causes the villagers to be easily infected with malaras, typhoid, diarrhea and cholera etc.

## 14. Conclusion

This research study reflects on the utilization and management of the natural resources in the previous, present and future time, on the living conditions, traditions, customs and creeds, infrastructure, and activities of the ethnic groups who live in O' tabok and Bang village, especially O' tabok village which is needed to focus on the traditional community-protected natural resources management in the primary and core zones of the national parks Virakchey. Some recommendations regarding the living conditions and seeking a common solution to the future impacts on both villages during the feasible study are appreciated. Information in this document is so useful for taking into consideration and having a possible discussion with the people in order to take measures and actions appropriate for the succeeding phase implementation and in order to better the living conditions of the ethnic community, and also educate them how to prevent natural resources and multi- biology with participation and sustainability. Pursuant to the result of the feasible study, the community development team of the Multi-biology project and two-village community can gradually prepare the plans properly applicable to the preference of the people in an attempt to protect and conserve the natural resources, which are using now and in the future. Meanwhile, this study can be verified with laws and prevention guidelines and natural resources conservation imposed by the Ministry of Environment in order to limit the access to land for every cause of ethnic living conditions of the people who live in these villages and in other targeted zones.