Sufficient convention of Tahsida people in Phukambok forest
Tahsida district, Amphur Nongpok, Roi Et Province

“Somehow, we managed to live”
“Try to read slowly and you’ll find that biodiversity is more interesting than you think.”
There was a time where we had a chance to consort with villagers of Tahsida and we found that they use four requisites from Phukambok forest which include fruits and vegetables like Khraea ma noi (Cissampelos pareira), I lok (Pseudodracontium kerrii), Kra chio (Curcuma sp.), Bamboo shoot, Phak wan (Melientha suavis), Phak kut, Phak mek, Kra don (Careya shaeric), Sa dao (Azadirachta indica), Tio (Cratoxylum sp.), Wai (Dendrobium pensile), Kra bok (Irvingia malayana), Mak mo, Mak yang, Wa (Eugenia sp.), Ma hua (Lepisanthes rubiginosa), Samo (Terminalia chebula), Ma kham pom (Phyllanthus emblica) and Tako. They also use underground tuber crops instead of flour-made food such as Kloi (Dioscorea hispida), Man Hoeb (Dioscorea sp.), Man non, Man nok, Man nam (Dioscorea pierrei), Man thian, herbs like Sam sip kip (Stemona phyllantha) and else, mushrooms like Termitomyces spp, Amanita vaginata, Astraeus hygrometricus, Botellus sp. and insects like dung beetle, true water beetle, cicada, mantis, mole cricket, scarab beetle, bee, etc.

In forest exploitation, people in Tahsida will use them wisely, appreciating the value of the forest. For example, villagers will pick only large size Kloi (D. hispida) and leave small ones for further propagation so that they can use or eat it lastingly. Biological resources from Phukambok forest is like an immune system of the Tahsida villagers that protect them from the swooping consumptionism trend, letting them live happily and peacefully and be kind to their neighbors and visitors, help each other and make sacrifices in public works. Though how many times consumptionism trend will swoop Tahsida people, they can say “Somehow we are able to live” in the clasp of them forest.

Dr. Surang Thienhirun
Forest Biodiversity Division
Stories inside...

1 Background of the Project
2 History of Phukambok forest
3 Dongmaei

The Village Elder Who Succeeded the Knowledge of Phukambok Forest 4

Tourist Attractions around Phukambok Forest 7

Conservation and Development of Biodiversity 8
Folk Wisdom and Utilization from Biodiversity 12

Ma Noi jelly 12
Khi non 14
Kloi 15
19 Tattoo medicine to prevent poisonous snakes
19 Yam, a rice substitute
20 Working group
In 2008, Forest Biodiversity Division, Royal Forest Department did an exploration and database preparation on the forest biodiversity of Chi basin which we select a sample area at Phukambok forest, Tahsida district, Amphur Nongpok, Roi Et province because it’s a small mountain forest that remained from the advancing of industrial crops and its characteristic as a headwater forest known as Young headwater forest, a sub branch of Chi basin. There are also villages who have skills in conservation and teamed up as an organization called “Forest Conservation People Volunteer.”

The dimension of this project is to let the villagers engage in the work, from defining research manner, study, sustaining utilization and generational inheritance. The government service will be supporting the exploration process divided into 4 fields, namely plant, animal, microbe and traditional knowledge diversity. One part of the exploration result had offered 3 key issues, which are community capital, conservation and development of biodiversity and utilization of forest biodiversity.
Phukambok forest is one part of the Dongmaei national park which is declared to be one of the national park on 12 December 1978. Dongmaei has the area around 2,500 rais and a mountain-like landscape that comprise of various mountains like Phudin, Phumaipoa, Phusim, Phutamphra and Phukambok. Its heights from the sea level is about 300 - 373 meters with Phumaipoa as its highest mountain.

Phukambok forest is located on the northeast of Tahsida village in Tahsida district, Amphur Nongpok, Roi Et province which is now a location for food, herbs and animal husbandry of the 1,293 households and 5,930 Tahsida villagers including nearby district such as Robmueng district and Koksawang district in Amphur Nongpok.

The information on the characteristic of the 17th and 22nd set of soil from plane areas has relatively bad or bad ability to drain off water with the textures of mold with sand, sand with mold or just plain mold, also its pH value is around 4.5 - 5.5 with is suitable for agriculture. The 35th, 40th and 44th ability to drain off water is between relatively well, well and relatively too well with the textures of mold with sand, plain mold and sandy soil with mold. Its pH value is around 4.5 - 5.5 with low fertility but suitable for growing agricultural crops, fruits and perennial plants. The mountain itself has good to relative too well ability to drain off water with the soil textures up to the characteristic of the stones which is not suitable for agriculture.

The climate received some influences from southwestern and northeaster monsoon with the average annual rainfalls of 1,384.6 ml and the average temperature of 22.7 Celsius in December and 29.6 Celsius in April, including the relative humidity of 39% in March and 94% in September.
Practical........Facts

...Dongmaei...

It is assumed to be occurred from the cicada’s cries which are mostly found in this area. Cicada, or its scientific name Meimuna opalifera in Homoptera order, CICADIADAE family, is a large size insect which drink nutriments from trees. It can be found mostly at Kung or bamboo shoot groves. A male cicada can make 200 decibels noise to find a mate but a female cicada can’t, it will also die after breeding when all the eggs have been laid. Villagers like to eat raw cicada sometimes cook them by frying, parching, preserving, mixing, make a curry, mashing, etc.

Phukambok is assumed to be occurred from the name of a tree called Kra bok which is very distinctive in the area. Kra bok is a perennial tree found in dry dipterocarp forest, its scientific name is Irvingia malayana in the IXONANTHACEAE family, an auspicious tree bestowed on us as an endemic tree of Roi Et province which is mostly used as firewood because it gives high heat capacity, strong and produce less smoke.
# The village elders

*Successors of the knowledge of Phukambok forest*

<table>
<thead>
<tr>
<th>Category</th>
<th>Doctors</th>
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<tbody>
<tr>
<td>Herbal experts</td>
<td>Mrs. Juang Sarabun, Mr. Bua Bupha</td>
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<td></td>
<td>Mrs. Mueng Wongkaso</td>
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<tr>
<td>Blowing traditional healers</td>
<td>Mr. Sawad Natewong, Mr. Lam Hongthong</td>
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<td></td>
<td>Mr. Shon Pratumchai, Mr. Puan Surithamma</td>
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<tr>
<td>Blessed water healers</td>
<td>Mrs. Mueng Wongkaso</td>
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<tr>
<td>osteopaths</td>
<td>Mr. Prai Panomkate</td>
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<td></td>
<td>Mr. Home Nongkunsan</td>
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<td></td>
<td>Mrs. Yupaporn Pancharee</td>
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<td></td>
<td>Mrs. Daorueng Shinnabutr</td>
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<td></td>
<td>Mrs. Thongkam Pratumchai</td>
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<tr>
<td>Midwife</td>
<td>Mrs. Krai Thongthong, Mrs. Oon Gatemashom</td>
</tr>
<tr>
<td>Fire pedicure</td>
<td>Mr. Jun Sangpol, Mr. Thongluen Kimhun</td>
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<tr>
<td>Oil tattooist</td>
<td>Mr. Kongkeaw Sampan, Mr. Kamde Gatemashom</td>
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<td>Sutra Doctor</td>
<td>Mr. Bunma Selao</td>
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<td>Mor Doctor</td>
<td>Mr. Kamnai Phromshat</td>
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<tr>
<td>Taojum</td>
<td>Mr. Mee Pratumchai, Mrs. Mool Jantanoi, Mrs. Foi Sanghuachang</td>
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<tr>
<td>JaoKot</td>
<td>Mr. Bua Kotesri, Mr. Bun Shumpah, Mr. Suthee Jamnongjitri</td>
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<tr>
<td>Program Manager</td>
<td>Mr. Pun Kotewong, Mr. Bunliang Delomrun</td>
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<td></td>
<td>Mr. Saneh Matrin</td>
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<td></td>
<td>Mr. Thaworn Sawangwong</td>
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<td></td>
<td>Mr. Chalee Ritisri</td>
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<tr>
<td>Middleman</td>
<td>Mr. Ubol Jantanoi</td>
</tr>
<tr>
<td>Artist</td>
<td>Mr. Tem Wongsri, Mr. Mee Sesjan, Mr. Nak Katemachom</td>
</tr>
<tr>
<td>Paya-ist</td>
<td>Mrs. Thongsai Sairat, Mrs. Data Sampan</td>
</tr>
<tr>
<td>Category</td>
<td>Names</td>
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<td>-----------------------------------------------</td>
</tr>
</tbody>
</table>
| Inventors                 | Mrs. Bualai Namsharee  
|                           | Mrs. Buntham Srigerndi                        |
| Geological and Plant experts | Mr. Gonggeaw Sampan  
|                           | Mr. Lee Warishol                              |
| Wildlife experts          | Mr. Wiset Shotewong  
|                           | Mr. Sompong Parkpol                           |
|                           | Mr. Samart Songbutr                           |
|                           | Mr. Somchai Romejan                           |
| Fish experts              | Mr. Bungwang Suraarmat                        |
|                           | Mr. Sombat Kornchaiya                         |
|                           | Mr. Bunruam Sola                              |
| Food experts              | Mrs. Ratree Deelomrum                         |
|                           | Mrs. Rabieb Pukpol                            |
|                           | Mrs. Jumlong Polyium                          |
| Mushroom experts          | Mrs. Nil Somajan                              |
|                           | Mrs. Samnieng Sawangwong                      |
|                           | Mrs. Thongyoun Sonbutr                        |
|                           | Mrs. Nuhieng Matwiset                         |
| Local texture/dye experts | Mrs. Nual Mekkatal  
Mrs. Arun Wongkham  
Mrs. Sawai Lamlerl |
|---------------------------|-------------------|
| Agricultural experts      | Mr. Pai Yanuphrom  
Mr. Noi Nernsanit  
Mr. Bungong Suriyakamol  
Mr. Thongdee Matwiset |
| House construction experts| Mr. Bunpeng Sansiri  
Mr. Sawad Wanthong  
Mr. Satirapong Somwong |
| Weaving experts           | Mr. Tal Wangwan  
Mr. Thongsuk Manud  
Mrs. Duan Burakiti  
Mr. Suban Sopha |
| Soil healers              | Mr. Shushat Namsharee  
Mr. Thongsuk Pimsak  
Mr. Sutin Kodera |
Tourist Attractions around Phukambok Forest

**Phusim** is a mountain located on the same mountain range as Phukambok. In 1949, there were monks on pilgrimage who built temples and sanctuaries which is one reason why this forestland didn’t get the wood concession. Aside from the sanctuary, there were also stone inscriptions in Pali and Sanskrit. Villagers who are looking for forest items usually come and rest around the area due to good atmosphere.

**Phuthamphra** is a mountain with a statue of Buddha lies within the cave, later on there were believers from Na Pompetch family from Bangkok who believes in buddhist and built a temple in the same area. Now, the area is used by villagers to organize the annual “Bun BungFai” ceremony.

**Hintak brook reservoir** is the 5th water reserve area located on the Young basin that blocks the Hintak brook’s water from Phukambok, created by Royal Irrigation Deparment in 2001 with the water storing capacity of 0.76 million cubic meters. There are 1,000 agricultural areas benefit from it with water available throughout the year. Now, villagers utilize water in agriculture and creating the village’s water supply.
Conservation and Development of Biodiversity

Don Puta

*Ceremony & Belief of the community in conserving biodiversity*

DonPuta BaanTahsida, located on the west of the 5th and 8th area, is a public forestland occurred from a belief of the villager about their ancestor’s spirits which they called them “Puta”. Villagers admit that “DonPuta” is owned righteously by “Puta” so no one come and cut down trees in the area.

If someone did improper actions, “Puta” will be angry and cause disaster to occur. From that belief and adherence until it becomes the center of the villager’s faith, DonPuta begins to have a good condition forest with various biological resources.

Some of the plants are gone from Phukambok but can still be found in DonPuta such as Krung Khamao or Khraea ma noi. Plant that villagers use as food and Kra bak wood, Teng dong wood which is the source of Lentinus polychrous Lev. and else.

From the study, it is found that DonPutaBaanTahsida is a habitation that plants and animals can live safely, be able to reproduce and breed in large amount then extend further to Phukambok forest so that people can later utilize them. We can say that DonPutaBaanTahsida is “a conservation of biodiversity by using traditional knowledge”.

8
Puta treat ceremony is actually a worship ceremony for the ancestor spirits done at the first Wednesday of the 6th month which is on June 7 this year. The ceremony began at 8 o’clock and “Taojum” will persuade all the villagers to gather up at the Puta shrine with many offerings like unmilled rice, sticky rice, chickens, flowers, incenses and candles, grains, salt, chili and money. What’s interesting is that the symbols of animals like cows and buffalos, pigs and chickens, etc. which are weaved coconut tree’s leaves. It can be noticed that if there are villagers who can’t join the ceremony, he/she will entrust their offering with those who can come. Important offerings are chicken because it will be used to cast lots so most of the chickens owner want them killed rather than letting them free.

We can say that the Puta treat ceremony is a trick to make villagers participate in the conservation of biodiversity.
“Taojum”

Taojum is a leader in spiritual area which is an important man assigned to be the delegate of the community, communicate with the Puta spirit or receive orders from the spirit and then notify the villagers as well as running activities related to Puta spirit and take care of product resources from DonPuta so that it remains in regular conditions according to the orders from Puta. The characteristics and personalities of Taojam is the person to be respected, worshipped and trusted by the villagers including Puta. Sometimes can be called in many names such as Krajum, Khajum, Khawjum, Taoprajum, Jaojum or Jum

Taojum of BaanTahsida is Mr. Mee Pratumchai, 69 years old, began to take charge of this duty inherited from his father, Lee, in 1939 and continue until now.
**Forest in the garden : The propagation of Wai species (Dendrobium pensile)**

Mr. Tat Harakote, an agriculturist with sufficient convention, is one of the villagers in Tahsida that propagate Wai seeds and plant them in his own plantation in order to bring its shoot to cook food for himself or sell it to other villagers for 4-5 baht/shoot. The next development of occupation is the cultivation of seedlings and allow large Wai to be the main substitution of wood from the forest. This indigenous knowledge can be count as an indirect way of protecting the forest.

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**Forest in the garden : The propagation of Khraea ma noi species (Cissampelos pareira)**

Mr. Chaiya Kongshingkoon, the village coordinator, has the idea of propagating Khraea ma noi species in his plantation for food in his family and the rest will be planted back in Phukambok forest or shared with his neighbors.
Ma Noi jelly is made from Ma noi leaf can be cooked as snacks for villagers, especially those who’re just recovered from illness. Drinking it will help them feel fresh and energetic.

Ingredients
1. 10-20 old, greenish leaves of Khraea Ma Noi
2. 1 cup of clean water
3. fish, pickfled fish water, parsley
4. seasoning in case of sweets such as sugar, honey and flavors

Tools
1. bottomless shape utensils
2. thin, white fabric
3. other necessary tools

Khraea Ma Noi
1. Khraea Ma Noi is its local name. Its common name is “Krungkhema” and also known as “KrungBadal” and “Baikonbid”. Its scientific name is Cissampelos Pareira, with its character of creepers.
2. Properties: Squeezed leaves gives out Pectin, 100 grams of dried leaves gives out 12.5 - 15 grams of Proteins, 44.3 - 60.3 grams of dietary fiber, 596 - 2,004 milligrams of Ca and 171 - 370 milligrams of Mg, can also be used to elevate facial skins.
3. Medical properties: help curing gastritis, apthous ulcer and liver disease. Its roots have sweet fragrance and can also be used to cure fever or even use it as an elixir.
How to make Ma Noi jelly

1. Rinse all Khraea ma noi leaves with water until they’re clean.
2. Squeeze them in water and filter out all the crumbs.
3. Cook with seasonings as needed
   3.1 Leave the food for 10-15 minutes and it will begin to clot.
   3.2 In case you need a jelly, put it in the freezing compartment of your refrigerator.
Utilization of Biodiversity

Khi Non

Prevent maggots from the preserved pickled fish jar.

Pickled fish is an important flavor enhancer for the Northeast people. Clean pickled fish must be without maggots and worms. In the preservation of pickled fish, Tahsida people will use leaves and stems from Khi non as the preventive for maggots that will come into the jar.

Ingredients
1. Pickled fish
2. Leaves and stems from Khi non

Tools
1. jar
2. knife and chopping block

Procedures
1. ferment the pickle fish in the jar
2. chop all the leaves and stems
3. put the chopped leaves and stems in the jar

Botanic appearances
Common name: “Khi non” or “Kong khao yen / Mak paep phi”, “Ham pa yao”, “Anchan pa”, “Ueangchan pa”. Scientific name: *Clitoria macrophylla*, LEGUMINOSAE (GABACEAE) PAPILIONOIDEAE family. Characteristics: Apart from the ability to prevent maggots in the preserved fish far, it also has other properties such as the ability to stop the bleeding and wound healing.
...Kloi... the fantastic food of Tahsida people

**Botanic characteristics :**

Common name : Kloi, Scientific name : *Dioscorea hispida*, DIOSCOREACEAE family, has the character of a creeping plant. More than 32 types can be found in Thailand which 3 of them are edibles, namely
1. Kloi khao niao or Kloi Lueang, Kloi hua kiao, Kloi nok, Kloi khai
2. Kloi khao or Kloi khao
3. Kloi chuet

**Important substance :**

Tryptophan is a beneficial substance that can mostly be found in sticky rice and helps healing depression. On the other hand, we found Dioscorine which is a toxic substance that has the power of a sedative. Those who take in the toxin will have an irritation at the mouth or tongue, slightly intoxicated, feel nauseated or sick, palpitate or astigmatism. The preparation of kloi will be in April to May because its size is big and can be easily cropped. There’s a belief that the toxicity will be at its lowest at this time as well. Kloi cropped in August will have the highest possible toxicity. Tahsida villagers mostly cropped large size kloi and left small ones behind and cover up the area to further propagation which is considered a wise utilization of the villagers.

**Benefits of Kloi**

**dietetics :** Its blossom contains large amount of starch so it can be used to process various kinds of food, such as steamed sticky rice, kloi, Kloi phla, fried kloi, crisp rice, etc.

**handicraft :** solvent made from kloi’s blossom will help the silk shine and harden to traction

**herbal :** used as an ingredient to make a medicine, melt to make oils or apply to cure blemishes
Utilization of Biodiversity

Agricultural: Water squeezed from fresh kloi blossom can be used as insecticides for pests, termites and ants. It can be used to get rid of golden apple snails by slicing the blossom and disseminate them at the rate of 20 kilograms per rai. Its roots can also be crushed and mixed with coconut oils, seed leaves, lampong leaves or chillies to apply on animal’s wounds.

Detoxification

1. **method one:** peel off and slice the blossom into thin sheets and soak it in water for 5-7 days

2. **method two:** slice kloi into thin sheets and then mix with salt at the rate of 10 kilograms of kloi per 1 kilogram of salt, pickle for 3 days and the wash in water for 6 hours. It will then start to soft.

3. **method three:** when there’s no flowing water, you can use the benefit from salts by slicing it into thin sheets and pickle in salt water at the rate of 10 kilograms of kloi per 10 kilograms of salt for 4-5 days. In the mean time, we can change the salt water everyday and squeeze all the water out then wash it a couple of times before parching.
Kanom Ramjan (Kloi)

In the year where farmlands are dry and unable to grow rice, Tahsida villagers will dig up kloi from the forest to eat because its big size made it edible for many days. Its importance can be seen from the Bunkaw ceremony, pradubdin or Thai festival where villagers will make lots of dessert to offer to the monks, showing effort and intention which they can get good deeds.

Tools
1. steam case
2. banana leaves
3. bowl
4. tablespoon

Ingredients
sheets of sliced kloi 1 kg.
rolled ripe bananas 6 pieces
measuring cups of scraped coconut 2 cups
sticky rice flour 1/2 kg.
sugar 3 cups
undiluted coconut milk 1 cup
mashed salt 2 tablespoons
Utilization of Biodiversity

Traditional knowledges concerning kloi are seasons to crop, detoxification and leaving some of the plant for further propagation to make it last together with the forest.

- Mix all the ingredients
- Steam for 45 minutes then it’s edible
- Clean all the banana leaves and torn it apart with 9 inches in length each
- Dip the admixture and wrap it in banana leaves
Tattooing medicine to prevent poisonous snakes

The nature of Phukambok forest including the farmlands of the villagers are abound of poisonous snakes which is harmful in rainy seasons because of the flood.

The indigenous knowledge of the villagers in preventing poisonous snakes by Mr. Kongkeaw Sampan, a local doctor, using created herbs that “counteracts snake poisons”.

How to:
Dry up the herbs then grind and put into the lid of a pot, which later tattooed on a sole for 2-3 times, provide protection up to 12 months

The medicine is composed of *picrasma javanica* and herbs like Phut root, Samat yai(Song fa), Nguang chang root, Khai hao, Kom koi(Rod kon), Khruea sa than, Wan Ngu

Prohibition: Sum and Rakmai medicine are not allowed due to its counteract power. If got bitten by a snake, take a shower and tattoo more medicine with controlling incantation.

Yam, a starch giving plant to compensate rice in crucial times

Farmlands depend on rainfalls and growing rice also pins its hope on the nature as well. At the time where there are rain-shortages and villagers and cultivate any rice, they use yam, an underground tuber crops, to compensate for the rice. Many types of tuber crops can be found in Phukambok forest like Man nok (*Dioscorea myriantha*), Man thian (*Dioscorea dauneae*), Man sao (*Dioscorea alata*), Man non, Mon nam, Man hub which can be boiled or cook for various kinds of food.
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Head of the project

Ms. Renu Suwannarat  
Forestry academician  
Assistant of the project

Mr. Thanee Pansang  
Head of the project in  
Roi Et provincial area

Ms. Busaba Dankanob  
Ms. Wattana Anupan  
Ms. Waraporn Chimplee

Mr. Nopporn Tungjitngam

And

Volunteers from villagers  
1. Mr. Tat Harakote  
2. Mr. Chaiya Gongsinghkun  
3. Mr. Taworn Sawangwong  
4. Mr. Kongkeaw Sampan  
5. Mr. Bunliang Delomrun  
6. Mr. Lee Wareeshol