



**Universiti Putra Malaysia and
Tay Nguyen University**

Internship Report

Forest Resources and Environment Management (FREM) in
collaboration with Yok Don National Park

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1.0 Introduction

1.1 Introduction to Student Profile

We are the students of Universiti Putra Malaysia and now study in Year 1 of the Bachelor in Forestry programme. It has been two semesters we study in the university and this is the chance for us to do the internship in other country. There are so many suggestions when we want to choose the country and at last we choose Vietnam after the advice from our lecturer. After a month staying here, we know that our decision is correct and we gain a lot of knowledge in here. Even there are a lot of differences between Malaysia and Vietnam forestry sector, we are really glad to learn and to work here because the differences bring new outcome for our study. In fact, all that we have learned here, from the management to the work practical, it is really helpful for our subject of study. Even we are in the different minor of studies, with this practical we can exchange idea and specialty and it is worth to know different subjects. The information below is about the minor that we take in our faculty:

- Hani Nabilia – Minor in Recreation Forest Resources Management
- Siti Sarah – Minor in Forest Management
- Siti Asmah – Minor in Forest Management

In our university we learn so many subjects such as Forest Management, Forest Survey, Non Timber Forest Product, Dendrology and Botany as well as GIS and other topics. And we are very glad to do the practical about the subjects here. Before this we always very good in theory and now it is time for us to experience the practical of the subjects. Tay Nguyen University, especially the Forestry Department has given us the biggest opportunity to do the practices and practical in field. To work in a national park is really great honor for us because it is hard to do this kind of practical in Malaysia. The result of our practical and practices can be found in the next chapter of this report.

1.2 Introduction to Internship Course

Internship is one of the important courses in Bachelor of Forestry. It can introduce the student to the field work and the experience to be in the forestry job sector. This course consists of two credit hours and it is really important to us. It is one step closer for the student to feel the reality of working with the forestry sector. When we were in our Diploma of Forestry study, we already did the internship session for two months, and now we have the opportunity again to go abroad. It is really a new experience for us to work in different ways in a different country. We can compare the two situations; working in our own country and now working in another country. Even the management is not similar, it is good knowledge so that we can see the pros and cons and it also can be introduced to the forestry in Malaysia. Internship courses can be found in every course in Malaysia. The Ministry of Higher Education creates this course to guide the students for the experiences in finding jobs and working in the suitable department. The objective of the course is really successful and it helps the student a lot. The university and the ministry hope that students are ready to be in the working sector after they graduate from the university. In our opinion, this course teaches us a working experience and the reality of forestry as well as how to manage the national park. Study and work are really different to each other. And as students, we always need to discover more so that we can have an open mind about the problems that happened in our surroundings.

1.3 Introduction to Activities and Field Trip

At Yok Don National Park, we have met so many friendly staffs that are willing to help us with our research and field work. We felt so excited because we got a lot of attention and help from the staffs. From our opinion, Yok Don National Park is a beautiful and very high diversity forest which has good potential to develop more. It is really a waste if the management does not try to improve the system as well as to maintain the environment for a long period of time. Yok Don National Park has very unique landscape, beautiful scenery and high in biodiversity. So it is a great place for the people to know about the environment. The information below is the schedule of our internship:

Time/Date	Activities/Programmes	Where and Whom you work with
4 – 5 July	Forest Ecology	In the natural forest of Yok Don
7 – 8 July	Wildlife Conservation and Protected Area Management	In the natural forest of Yok Don Discuss with the staff of Yok Don
11 – 12 July	Ecotourism Management	Visit Buon Don Tourist site Discuss with Center of Tourist of Yok Don
13 – 15 July	Community Forest Management	Discuss with the staff of Yok Don Visit Drang Phok Village (in the core zone of Yok Don

2.0 Objective

4.1 Objectives of Internship

The objectives or purposes of our internship are:

- To gain experiences and knowledge about working sector.
- To add more practical and research in forest education.
- To give the students opportunity about the real life as a forester.

4.2 Objectives of Research

The objectives of our research are:

- To know more about the forest ecology in Yok Don National Park
- Get introduction of the Community Forest Project
- Find information about forest recreation and environmental resources
- Gain information on ecotourism sector in the national park
- To know the system and management of a national park in Vietnam
- Data analysis for the forest biodiversity in Yok Don National Park

3.0 INTERNSHIP PRACTISE

3.1 Forest Biodiversity and Wildlife Conservation

3.1.1 Introduction

Yok Don National Park has very high diversity for the plants and animals. It is one of the national parks in Vietnam which can be considered as special forest. It is not only has one type of forest but there are three different types of forest which are Deciduous Forest, Semi-Deciduous Forest and Evergreen Forest. Every forest has different types of species and it is diversify the area. As we move on to one forest and another, we can see different trees with different ecological factors surrounding it. Every forest consists of different kind of animals and wildlife. We have a chance to meet the staffs from Biodiversity Department and do the interview session. Here are the summary of the topic of biodiversity result to data:

3.1.2 Data of Species

- Fauna
 - Botanical: 22 species was recorded in Vietnam red book:
 - Vulnerable : 8 species
 - Threat : 3 species
 - Rare : 2 species
 - Insufficiently known : 9 species

The data above shows the list of species in Yok Don. As we can see, the species is not too much but they got very good in number. Rare species will be good for tourists attraction because it is hardly can be seen in other place. The management should conserve it and make it one of the attractions of Yok Don National Park. According to IUCN (2000), Yok Don National Park has 16 plants species that should be protected.

- Flora
 - 18 species of bird admitted in BirdLife International (2004) with various different levels: Threat or near threat in the world. In the Vietnam red book (2000), some threatened species at the national level, such as:
 - *Pseudibis gigantea*: is threatened in the Critically Endangered (CR)

- *Motacilla samveasnae* and *Ephippiorhynchus asiaticus* is threatened in Near Threat (NT)
- 28 species of animal listed in Viet Nam red book, and 22 species in IUCN 2006
- Critically Endangered: 5 species
- Endangered: 5 species
- Vulnerable: 4 species
- Near Threatened: 1 species (*Dialium cochinchinensis*)

Yok Don National Park is the largest Vietnam's national park, so it is one of the biggest conservation areas and full with the species and biodiversity. But however, Yok Don National Park faces the illegal logging problems. It is really down listed the diversity of species in the forest. Vietnam country faced two season in a year which are dry season and rainy season. It is really effects the animals and wildlife in the forest of Yok Don National Park. When the dry season happened, the animals having difficulties to find food and water for life. So this is one of the specialty that Yok Don have which is to be the watershed area for a long period of time, even in dry season. The Srepok River is the vein of water in the dry season because it is still full with water even the climate change. This is the resource for the animals to get the water for their living. It is really important for the nature because water is [art of the ecosystem.

Soil, is a type of commodity that is related to the diversity of species in the forest. From the interview, we got the data for types of soil in Yok Don National Park:

- Red and yellow soil on shale Feralit (Fs) is a product of weathering from sedimentary shale rock is Jurassic age, distributed in areas with low hilly terrain. Nutrient-poor soil and thin layers, from sandy to heavy meat; permeability and water retention is low, the dry season were solid cylinders, representing 2, 5% of the park.
- Yellow soil on sandstone (fq) thick soil layers 30 to 50 cm, many components of sand, little humus, often with the von; distributed in low hills on both sides of the Srepok River at a height of 300 m or less. These soils account for the largest area (64, 7%) area of the nation park.

- Group Grey soil (Xa): developed on granite and sedimentary rock mixture Mezozoi, thin soils, mild mechanical components, discrete structures, and high rate of stone. Acidic soil, humus poor vulnerable to erosion, runoff, with the von laterite. Distributed at altitudes from 200 to 250 m either side Srepok and lower foothills Srepok River right bank, accounting for 26.4%.
- Slopes converge (D) of brown soil on basaltic (Fu): This is the land of alluvium; topsoil quite porous, dark gray, and many organic materials and gravel hotel. Mechanical components sandy loam soil on better soils, capable of farming. Soils are distributed along rivers and large streams, accounting for 6.4% of the national park.

3.1.3 Discussion

What we can conclude is, the soil types is variety because of the two seasons of climates. So the change of climate has affected the soil for a long period of time. Because of that, we can see the differences of soil in different area. The soil type also affects the diversity of species in the forest. Some of the species is not suitable to live by the soil so that the population is decreasing. Soil and climate change also related to the causes of forest fire. When the dry season came, the forest temperature will be hotter and the soil will be too dry. This is the factors of forest fire happened in Yok Don National Park. The vegetation here does not have enough water to prevent the fire from burning. It is really dry and hard for the management to control the fire. Even the Srepok River is wet, but it is still not enough to control the temperature for the whole area.

For our suggestion about maintaining the biodiversity is to less the impact on the forest. How can it be done is one of the toughest decision but we can start from the bottom. At first, the park management should have effective regulations. One of the regulations should focus on the behavior of tourists. The park management can prevent the behavior like cutting branches, damage the nature, and harm the trees or animals inside the national park. If the regulations are very protective, the people who use the forest will not damage it. To make the diversity richer, the park management should make the enforcement unit more protective. It is really hard to preserve the large area like Yok Don National Park, but with adding more forest station in every part can make it safer to conserve the species. We have been told

that the forest in Yok Don National Park always burn in the dry season. So we have suggestion to decrease the case of forest fire. In Malaysia, especially in forest plantation we use the method of make the drain as boundaries to avoid fire from spread to another area. The park management can detect which area usually starts the open fire and they can use this method to decrease the chance to over burning. If the fire burning occurs every year, it will reduce the total of biodiversity in this national park.

Biodiversity is one of the veins of the forest. It is the largest commodity that determines if the forest is rich or poor. So to protect the biodiversity, the park management should concern about what happened now so that they can repair and bring the new outcome and plan for the future of the forest.

3.2 Forest Ecology

3.2.1 Introduction

Yok Don national Park is one of the National Park in Vietnam that have many types of biodiversity in this forest. The situated on the flat plain that extends from eastern Cambodia into northern Dak Lak and southern Gia Lai provinces in Vietnam. The topography of most of the site is flat, at an elevation of c.200 m. There are, however, several ranges of low hills within the national park, the highest point of which is the eponymous **Mount Yok Don** at 482 m in the south-eastern range. The aim was long-term protection of an area of 58,200 hectares, 92% of which is covered with dry deciduous forest, making it the only national park in Viet Nam conserving this particular forest type.

Otherwise, the national park has a long river to continue with the Mekong River, their river is Srepok River. The Srepok River is the only permanent flowing watercourse in the national park when the dry season, the two largest streams at the site, the Dak Ken and Dak Na, are reduced to a series of interrupted pools. There are also numerous waterholes at the national park, some of which contain water all year and the same time many biodiversity in the river

The vegetation at **Yok Don National Park** is dominated by a mosaic of deciduous forest and semi- deciduous (mixed deciduous) forest, with smaller areas of evergreen forest, particularly on hills and along watercourses.

Different with another national park in Vietnam, Yok Don National Park is lower in floral diversity in the forest because the type of forest is deciduous forest. According to Anon (1998), 474 vascular plant species have been recorded at the national park, of which 28 are listed in the Red Data Book of Vietnam. **Yok Don** is considered to be one of seven internationally important Centre of Plant Diversity in Vietnam because have many type of forest here (examples, deciduous, semi-deciduous and evergreen forest).

Yok Don National Park has a reputation as an important site for the conservation of large mammals. Indeed, scientists consider the continued occurrence of Asian Elephant *Elephas maximus*, Gaur *Bos gaurus*, Banteng *B. javanicus* and Tiger *Panthera tigris* at **Yok Don** to be confirmed. However, they report that the populations of all four species at the national park have suffered major declines. In addition, evidence from recent trophies and first-hand reports indicates that the national park may still support small numbers of the globally vulnerable Eld's Deer *Cervus eldii*. Furthermore, two globally threatened primate species also occur at the national park: Black-shanked Douc *Pygathrix nigripes* and Yellow-cheeked Crested Gibbon *Hylobates gabriellae*. Several sources list the globally critically endangered Kouprey *Bos sauveli* as occurring at **Yok Don National Park**.

A number of globally threatened bird species have been recorded at **Yok Don National Park**, in particular several large and medium-sized waterbirds, including White-winged Duck *Cairina scutulata*, Masked Finfoot *Heliopais personata* and Lesser Adjutant *Leptoptilos javanicus*. Of particular note, **Yok Don** is the only site in Vietnam from where there are recent confirmed records of the globally critically endangered Giant Ibis *Thaumatibis gigantea*. Moreover, **Yok Don National Park** is one of the few established protected areas in Vietnam to support a significant population of the globally vulnerable Green Peafowl. A recent study estimated that the national park may support around 1,200 individuals. **Yok Don National Park** contains two Important Bird Areas in Yok Don and Chu M'Lanh.

3.2.2 Method

From this practical program we do a research about forest in Yok Don National Park. The forests in the NP have several types like deciduous forest, semi deciduous forest, evergreen forest and dipterocarp forest. The forest we collect the data in dipterocarp deciduous forest and semi dipterocarp deciduous forest. This forest have 2 different type of forest that can use to know about biodiversity, ecology and the factor can impact the forest to generate more species.

There is the equipment we use in to research about the ecological factor. The data we use to know their ecological factor is:

- a) Map
- b) Soil pH
- c) Soil moisture
- d) Colour of soil
- e) High of tree
- f) Diameter of tree
- g) Abiotic factor
- h) Species
- i) Position
- j) Attitude

In this research we use line transect technique but random line transect. This type of technique is simpler and we can get more information about the different condition but the same species. The process is:

- a) Start with one position we walk straight to the one direction. Where we can found the tree.
- b) We will the stop in the species on the direction that we walk; after we stop we will collect all the data that we need and look around to get more information.
- c) After we collect the data in the tree we will continue walk and again after we see a different species or different condition of the species we will collect the data again.
- d) We process a until c in others type of forest.

- e) After we get all data that we need, we analyse the data and know the ecological factor that can relate the information in different tree, condition and others info.

From the ecological factor we can relate if with the biodiversity in the forest. He can see how to relate the condition of the forest with human activities; animal and the climate change that happen in the forest.

3.2.3 Discussion

From data collection, we can find the different type between deciduous forest and semi-deciduous forests for example please find the data as below:

1. Different structure of forest between deciduous and Semi-deciduous

The deciduous forest is the tree loses their leaves once in a year. Different than other country, in Vietnam deciduous forest dominated by members of the Dipterocarpaceae family, including *Dipterocarpus tuberculatus*, *D. obtusifolius* and *Shorea obtusa*. It because about the temperature such as monsoon tropical seasonal, has two main seasonally is dry and raining season. In the dry season, it has highest temperature between 32°C-37°C that why the forest become very dry and fall the leaves because lose a lot of water in their tree. At the same time the forest canopy is very open, it easy for the sunrise come the forest floor and become the forest floor very dry. Most trees in deciduous forest have thick and fire-resistant bark, protect for lose many water and dry.

However, in deciduous forest have the Anacardiaceae, Combretaceae, Fabaceae and Myrtaceae families are also well represented.

Different with the deciduous forest, the semi-deciduous forest at the site has a closed canopy, and is stratified into five layers. This forest type is characterized by the presence of *Lagerstroemia calyculata*, *Terminalia corticosa*, *Shorea* sp. , *Anthocephalus indicus* and forest more rich than deciduous forest with species of the tree. Semi- deciduous forest has a limited distribution in the national park, being confined to higher elevations on the range of hills in the south-east of the site. This forest type is denser, and is dominated by members of the Fagaceae, Euphorbiaceae, Sapindaceae, Ebenaceae and Meliaceae families.

2. High of moisture affect the fertility of soil.

From the data collection we can found moisture of soil are different between two type of forest which the in the deciduous forest the type of soil more dry than semi deciduous forest. It is because the semi deciduous forest more rich in diversity of species compared with deciduous forest. If we look back at level of diversity in forest, the different kind of species can attract more of microorganisms acting as a decomposer in the soil. In the same way, it can support the nutrient in soil to growing plant.

Actually soil moisture of forest can help and encourage of the decomposer microorganisms to move freely in the soil. It also helps to give more ventilation in the soil and space for root movement.

Unlikely in deciduous forest, we can found the forest a mostly stay in group of forest for example Dipterocarpaceae, only their trees in the group and we can found the either trees at the different location. That mean know, in the same location only has same microorganisms the soil is dry and thickness of the soil is thin. That means that, have a rock layer under of thickness or layers of clay under the soil. That will decrease of microorganism movement in soil and decrease of population decomposer in the dry soil.

3. Different characteristic of plant species in deciduous forest and semi deciduous forest

We can start from the simple factors, because of **lack canopy** in deciduous forest, they will be not much forest litter for the trees to receive nutrient. When it is happened, the tree have **very little nutrient** and it affects the characteristic of the trees. In diameter, deciduous forest has very small number and the trees only in small and medium size. Compared to the semi deciduous forest, there are more canopy and the percentage of canopy mostly 40% and above and it may cause a lot of forest litter and it is leads to more nutrient for the trees. As we can see, the diameter of trees in semi deciduous forest is bigger and very high density.

Next is the the differences between **the height of the trees** in the area. For deciduous forest the tree is not too high with the range of 4 to 20 meter only. It is because the sun light percentage is about 80 to 100 %. Some of the species is not

light demanding. And some of it only needs light for only 70%. When the sunlight is over the limit, it will make the trees grow slower and not to high. When the sunlight is more than the trees need, it will affect the trees and cause the burn at the bark. It is not good and sometimes affects the species.

Not only that, the differences can be seen is the **presence of rock and stone** in the soil. Most of the areas in deciduous forest have 10 to 50% of rock and it is one of the factors of causing the root of trees really hard to find the nutrient. The rock and stones will make the soil more compact than usual and it can prevent the root of trees to find nutrient. The motion of the root is disturbed by the stone and not much nutrient can be found near by. But in the semi deciduous forest, the rock and stone is rarely found and most of the soil is really thick and have high moisture. This condition is the best way for the trees to grow.

As for the **insect and animals**, there is more of it in deciduous forest and most of the insect is ants. We can find it about 10 to 15 % in the surface of soils. Most of the trees root is covered with the ants and some place got a little bit worms. We hardly can see the worm in the soil. Maybe at the surface it is only can be seen for some conditions. But, in the semi deciduous only 5 to 10% of ants can be found maybe because of the soil that is very thick so the insect cannot be seen clearly. For big animals, we only see birds but cannot identify it because it is rare. And we only saw husbandry animals like cow and not the real wildlife in the deciduous forest. But in the semi deciduous forest, we only can see some insect in very minimal number and no wildlife in our journey.

4. Human activities can damage the forest ecological

About the biodiversity and conservation in deciduous forest, the diversity of forest is not to rich compare with semi deciduous forest because the classified of forest make these forests are not rich variety of species but interesting to see because the forest has a particular group for classified the forest.

But if we look at another aspect, the poor forest needs to protect so that the forest damage has not suffered, especially in human activities. Human activities like agriculture and exploitation of forest this will affect the severe forest damage on diversity of forest. For example, **husbandry in the natural forest** if never has

boundary for animals stay or eat. It can destroy any area in the forest and maybe can eat other protected plant or rare species in forest. This will adversely affect the forests and on future generations also. For the protection, the park management should make the specific area for the husbandry activities.

3.2.4 Suggestion

Reserve the specified location for agriculture

The specified location needed to do for protect a few place from destroy or disturb by animals or husbandry. This is one way to protect any seedling or protected tree from spoil and eat by husbandry animals. Percentage of husbandry animals to destroy and spoil the forest more higher than wild animals because the movement of husbandry animals in group can affect of the forest.

As proposed, management should be provided the distribution area for agriculture or logging also to protect other diversity forest in other location. Distribution area can do it by classifying the litter sub location in the forest. That mean, not all of the forest can be destroy in consequence of agriculture or human activities. The example of classified of reserve forest:

- Protected / reserve forest – reserve the forest from disturb or any destroy for the forest. All activities need permission and permit from the manager. The forest can use for research and education about forest and ecosystem. Include the area for biodiversity conservation (species of tree and wild life protected.)
- Community and amenity forest - this forest can use for the community forest and forest production. Resident area for the people finds the food or any activities like agriculture or husbandry here.
- Production forest – is specific the forest for production and exploitation. It includes to logging but it still care about machinery and safety of the forest. The standard of the rule need to follow of the workers.

Enrichment planting in the forest

Deciduous forest is poor in diversity forest because not many of the species we can see here, but for the rich of the population in the forest, an enrichment

planting can help the forest. Enrichment planting is one way for rich back the forest. The planting can do with starting the location is very poor of trees or open space in the forest. The species we can plant in the forest is the endemic species because the endemic species more suitable to plant and we do not have do any research about the suitable plant. If we use the new plant to plant in the deciduous forest we need to taking into account about the ecological; factor like weather, soil and others process.

From what we see, Tay Nguyen University already make a research about the *Tectona grandis*, and this species can give many benefit to all of the people and to the biodiversity. It can give villagers income and increase a biodiversity and it can enrich the forest. The *Tectona grandis* have the characteristic to be in the deciduous forest. We know that to replant in the forest it may cost a lot of money and to reduce it we can organize a programme for the citizen to come and help the efforts. As in Malaysia, a lot of replanting session was done by the student from university as well as students from school. The cost is really affordable and on the other hand we can introduce the forest to the student so they know the importance to protect it.

3.3 Community Forest

3.3.1 Introduction About Community Forest

Forest community is one of the popular movements to protect the forest and trial to manage the forest thought the community people that live near the forest or inside the forest. The community forest is one of the key to make people try to protect forest and get a benefit from protect the forest. Community forest has been considered one of the most promising options of combining forest conservation with rural development and poverty reduction objectives. Drang Phok village is one of the villages in forest. These villages nearly 100 years old and they have 3 ethnic minorities like E de, Z rai and M'nong.

Before the establish of national Park the forest area is belong to private sector it is like enterprise agency how take a forest product and they give a villagers contract to protect the forest and the villager can take resource of forest. After establish of

National Park many thing starts to change and it give a big impact to the villagers and many people help them to live in the forest. The interview is to now about the villagers' opinion and any suggestion from villager to make them get more income and not use the resource from the forest.

3.3.2 Method

From the trip that we do in Drang Phok village we do the interview with a 3 leaders in Dranf Phok Village and each leader represent for one ethnic and one young women who live in the village. Their leaders whose come is from minority ethnic such as Z rai, M nong and Ede. The manager of National Park is also come with us he is Mr. Do Van truong and also ranger of national park and 2 lecturers from Tan Nguyen University join the interview with us.

We start the interview at 9 a.m at their community hall. We start the interview with one translator. The topic that we ask to the villager also the Managers of national Park is:

- 1) About their feeling after the establish of National Park
- 2) About the villagers income after the Establish of national Park.
- 3) The income enough or not to patch the family life.
- 4) About the law the National Park, whether it make trouble or not to the villagers.
- 5) What they hope from the government and the National Park.
- 6) That they do and take from the forest.
- 7) What they do if they do not get any income from forest.
- 8) About the facilities that have in their village.
- 9) Do they want to protect the forest or not in the future.
- 10)What is their expectation to the government?
- 11)About to commercial their plantation product.
- 12)What they think about the future generation, do they want the others generation move from the village and get better life or not.

The flow chart of information in The Interview



3.3.3 Result of survey/ interview

From the interview we do in Drang Phok Village with 3 of the ethnic leaders from ethnic Ede, Zrai, and Mnong, Most of the answer is the same for all ethnic in Drang Phok village.

Before we do the interview with leaders of the village we hear that the villagers do not want to give the co-operation with the party who want to help them to increase their income. The management of the National park try to remove them from the forest and want give them others place to live but they do not want to live because

the villagers say they like to live in the forest and they can take forest resource, fishing and husbandry their cow and buffalo in the forest. Some of the party say this village is so special; the government give everything to them that way they do not want to leave from the National Park.

Want we ask about why they do not stop the support to the villager, they say that is the government policy so they can do anything to change it. The villagers also always hope the support from outside like international organization. The villagers get everything from the government and they also get a resource from the forest such as Resin, wildlife, fish in the river and Non-Timber Product for their income and eating. Government also give to them a seed every 3 years for plantation and they also get a food from the government if they do not have enough food.

From the survey of population of villagers in Drang Phok village, the people in the village not increase very high, it only increase a little bit from 20 years ago only 58 household until now only 98 household. It mean the village not grow very fast it is to slow. . Even though the increase of population is only a bit but their land still not enough and they only use a limited land for building the house. The area of the village is only 60 hectares they want to expand to 100 hectares, but they do not get permission from NP.

For the public facilities in the village we only can see Primary school, telephone station and some others facilities that really important only, all the facilities were support by government and they do not worry about the thing because government will help them if they need anything. If they want to go to high school they need to go outside from their village. They also get a water system from government for their plantation but not for fresh water, the villager drinks river waters not fresh water.

This area is sensitive area because this area a located at the border between Cambodia and Vietnam. Minority people here get so many special attendances from government, that why they become so harder to do anything. The support from the government is to reduce the impact of the natural resource in forest.

About their feel after the establishment Yok Don National Park is: before the establishment of NP they have a contract with other private agent to protect the forest, so they get the income from protected the forest. But after national park take

over the forest they lost one of the income resource, so now they have to wait for a new policy to get a new contract for protecting the forest. From now on they only get income depend on agriculture like wetland cultivation, and they did not get permission to cut the tree in the forest, collect forest product and hunting in the forest. If they want to take any forest product they should apply for the permit and the leaders of villager say that it easy to apply the permit from the management. And if they want to cultivation they have to spend money or invest in fertilization, but they do not have enough money to do it.

Went we ask a villagers whether they want to continue to protect the forest or not, they give the feedback that they want to continue to protect the forest, because went they have contract to protect the forest they will get more income from it and they can use the money to cultivate their plant. On the other hands, they will have spirit to protect the forest and try their best to protect it because they think the future generation can use the forest and get a benefit from the forest if they protect it, if they do not protect it the next generation will never know the use of the forest and the forest will destroy. Furthermore if they protect the forest they can use for their own use like for cultivation, and they will be look the impact of the cultivation for the forest and they will think about it and trying to protect it.

The villagers say that is not easy to live in the village went the government start to establish National Park. Because it has so many role that they should follow, like they cannot cut the tree, hunting, and take any forest product without apply the permit. They only allow cutting the tree around their village, but from what we see around their village only have field for plantation, they do not have enough tree to make a house.

About the law of National park, it is so simple because the law is so simple and not complex to villagers to get anything from the forest. But it is not as easy as before. They can still cut the tree if they get a permit to cut and they get a tree, enough for build one house. They also can trap the wild pig because it damages their plant. The villager can fishing in the river by use a net and root but they cannot use electricity in the river to catch fish and there is no permit for fishing. From the national Park side they said that the law in the forest is flexible in the villager's area.

How about the income, where the villagers get income for their family and buy a food? Before the establishment of National Park they get the income from protected the forest, husbandry and cultivation but now they only get income from husbandry and cultivation. The income that they get from husbandry is not enough for their family, so they catch the wild animal in the forest, and they use the forest product for their family use.

The villagers want to do something to make more income. The villagers suggest, they want tourist come to their village and see their culture and buy their product, from the tourists they will get more income from selling their product and they can promote some activities that can attract the tourist.

What else they need from government is they say it is enough now for infrastructures because they already have electricity and water. Maybe for this moment they still have enough thing and they do not have anything more.

The plantation in this area is not so good, the plant that they plant only enough for their family and not enough to commercial it in others way. When we talk about the new generation they say that the new generation of their family prefer to stay at the village in the forest without go out and see others world. That is the end of our interview with the leaders of villagers ethnic.

3.3.4 Finding

From the interview there is a few things that we finding like the young villagers in the village do not want to come out from the village, they like to still at the village. It means that the young villagers want to follow the tradition of their people and do not want their people disappear from the forest. It is look like their child did not get a view of the reality life outside their village. Maybe the young villagers only follow the footstep of the old people because of something that they can break it.

The others thing that we found is the villagers want to give the co-operation if they like the things that they do and it is suitable for them. For example they like to do the eco-tourism in their village and they say that they want to tourist come to their village and they will get the income from the activities.

The government should not give everything to them; they have to think and research the impact of their step, because of them the villagers become lazier and depend to the government and other agent to support and give everything they need. We should think the better way to help them, and the way that we use must suitable and give benefit to the villagers. It is meaning the mistake in give the help.

The villager is also like to cultivation and husbandry their own animal. It may be one of the way to help them and make them know more about how to take care their husbandry and how to make it give more income for them, and they can still sell their plant not only eat for their family. This is the best way to increase their income or live hood.

The villagers also have a problem with to expand their land in NP, as we know the NP will not give more area to the villagers because it will affect the biodiversity and impact the area of NP if so they cannot do a successful conservation. The discussion with the young and old villagers also a manager of NP is important to get one result that can give effect to 2 sides.

3.3.5 Recommendation /suggestion

The community forest is one of branch of forestry that deals with the communal management of forests for generating income from timber and non-timber forest products. The community forest is the best way we can do to make people try to protect the forest and also getting an income for their family. The important of forest not only just can look by forestry but also a community in the forest and what happen if the forest was gone and finish in this word.

For our suggestion I think **the villagers should build shed for their husbandry** like cow and buffalo, not just release their livestock in the forest. They should try to manage their livestock, so their livestock will not give little effect for the forest. If they not release their livestock in the forest the biodiversity in forest will increase, because of no interference from the animal in the forest. There is the different between the damage from the livestock and wildlife. The villagers can cut the grass in the forest but they cannot leave their animal in the forest. It is can decrease the effect for the soil and biodiversity in the forest.

The managers of NP should **specific the area** that can be used for the villager, only a certain area can be used for livestock, if manager of NP separate the area for ecotourism, conservation and the forest for villagers it much better. Because it will not affect certain place, and more easy to conserve the area of forest from interference by villagers. If it is co difficult to separate it, **we can make a phase for the forest**, when villager can go to the curtain area in the forest and when they cannot go. Some of the researchers should research when the forest start to generated and when the forest is not generate, then we can separate the forest into certain the phase.

Managers of NP should have a **discussion with the all the villager about what they want and what they will do** if the managers do not want they take any forest product. We should ask them what they want to increase their income and avoid from go to forest. From the interview that we do they want the tourism come to their village, it was a good idea because they will get income. NP managers can organize the tourist tour in the village and can stay in the village. It is the good idea to **introduce the village to the eco-tourism sector**. NP managers only have to monitor and be cooperate with them by give facilities to the house, the villagers can get a money from service such as guide, boat drivers and it give a benefit to the NP also can less impact to the forest by villagers.

The management of NP should do something about to avoid the cutting tree in front of the NP. They have need to **specific the area to avoid the cutting tree in front of tourist eyes**. They should tighten the permit application to prevent the felling of commercial tree. If not they will cut the tree that they want and it give effect to biodiversity also the value of tree will decrease.

3.3.6 Frog farm in Drêch B village

Frog Farm is one of the ways to help the community people who live near the forest and wetland. The frog farm can give more incomes for the community people whose life near the wetland. The frog not only for eat but it also commercial the frog in the market. It will increase the villager income and reduce the entry of people in to the forest.

There are 2 methods that use to make a frog farm it is Small pond (artificial) and natural pond (natural). For the pond it needs a suitable pH of water around 6.5-7.5. The pond needs some criteria to raise the population of frog and to avoid the baby frog from dying. To make the pond we need to put the net to prevent frog from jumping out from the pond. For the pond 4.5 m² big it can release 900 to 1000 frog in the pond. The frog needs a several size of food; depend on the suitable of the frog. The food for the frog have a size, and type. The frog needs Vitamin C to be more health.

The frog have to avoid from the disease, the frog need a good care carefully because it is so sensitive with the water, food and disease. The factor that cause the died of the frog is chemical material, over food and food not good also the high humidity. The frog already can sell after 7 week; it is around 70 to 75 days. The percentage of the frog life is 85% it is because of the some disease or the water is dirty. The water need to change every time when the water is dirty,

The economical about this program is, it is so cheap and the villagers can get more income from the frog. They only need to buy the equipment just one time and they can use for whole life. They will get income around 320 dollar with the beginning model is 240 dollar.

This is one of the ways to reduce the exploitation to the forest, so this program is for raise the income from the frog. Easy way to get the income compares to take the forest resource. This is the cooperation between villagers, department and University.

3.3.7 Conclusion

Drang Phok village is one of the community forests in Yok Don National Park. There have many things to do with the village. The villagers can help National Park management to protect the forest from illegal activities. From the help from community people the government can decrease the user of the forest, because villager get income from protect the forest and they will protect or help any research that we do in the forest. The forest that was protected by community people will facilitate the management of the forest.

The Drang Fok village can give much benefit to the managers of National Park if they can make the community people trust and want to cooperate with them. It is easy to them to make a NP as conservation area and they can survey or measure they diversity of the forest more easy with the help from community people. Maybe community people have many behaviour but if we talk slowly with them and be patient with them, they will give their full cooperation.

3.4 Eco-tourism Data Collection

3.4.1 Introduction

Ecotourism is the types of tourism that is related to environment and will cause less impact to it. Ecotourism is an attraction which is environmental friendly and very lack of disturbances to the forest and nature. Nowadays, ecotourism have a lot of potential in the world and have a good high demand from the tourists. It is really different between Vietnam and Malaysia, the laws and regulations are different but the purpose is to protect the nature as well as giving opportunity to the citizen and tourists to feel the good experience in ecotourism. Ecotourism is only a basic programmes or activities but it is very high standard and popular among the nature's lover. What we have found in Yok Don National Park is the ecotourism sector is not fully develop and we hope that someday it will be more excellent in tourism sector.

3.4.2 Profile Area Data

Name:	Yok Don National Park
Ecotourism Area:	4,000 ha
Purpose:	To conserve the distribution of biodiversity as well as to develop ecotourism
Department:	Ecotourism Department
Numbers of Staffs:	16 people and 4 of them are minority people
Tourist Capacity:	40 – 60 visitors per month
Tourist Citizenship:	European

Favourite Months: September to January

Income per year: 600 million VD/ \$30,000 (Dollar)

3.4.3 Ecotourism Data

Yok Don National Park is one of the forest reserves that consist many kind of biodiversity which is very good for the development in eco-tourism. Yok Don have very special environment and it is really suitable for tourist attraction. As our journey continues to the park, we saw so many interesting places and environment resources along the way. From the interview with Mr.Gioi the Head Staff of Eco-tourism we got a lot of information that guided us with many reasonable things.

3.4.3.1 Types of Environmental Resources

No:	Types of resources
1	Yok Don Mountain
2	Seven Range Waterfall
3	Dak Lau Stream
4	M'Nong Village
5	Deciduous Forest
6	Drang Phok Village

The table above shows the attractions in Yok Don National Park. As we know, the environmental resources for recreation is really support the ecotourism sector. Without it, Yok Don National Park is not attractive. All tourists love to find the uniqueness of places that they want to visit. So, it is really important for the management to supports the development of recreational area so that the title of ecotourism still exist in Yok Don National Park.

3.4.3.2 Types of Activities

It is really different from the forest in Malaysia, for us, it is really worth to develop more attractions inside the park by using more methods and efforts for the ecotourism. Next is the table of the ecotourism activities in Yok Don National Park:

No:	Types of activities
1	Tour guide
2	Elephant Riding
3	Bicycle/Cycling
4	Motor biking
5	Boat Trip
6	Trekking/Hiking

3.4.3.3 Accommodations

For the accommodations in Yok Don National Park, we have been told that there are 16 rooms for the tourists to stay. And from our review, it is a good number at this time because it depends on the total of tourists. Most of the tourists that visited this national park choose to camp in the forest. So, rooms are not the first choice to stay at. But for good accommodations, the developer should think about adding more rooms or chalet in here. It is necessary because, nowadays the demand for visiting national park is increase and Yok Don has unique scenery and very big potential to go further.

3.4.3.4 The specialty / differences factors

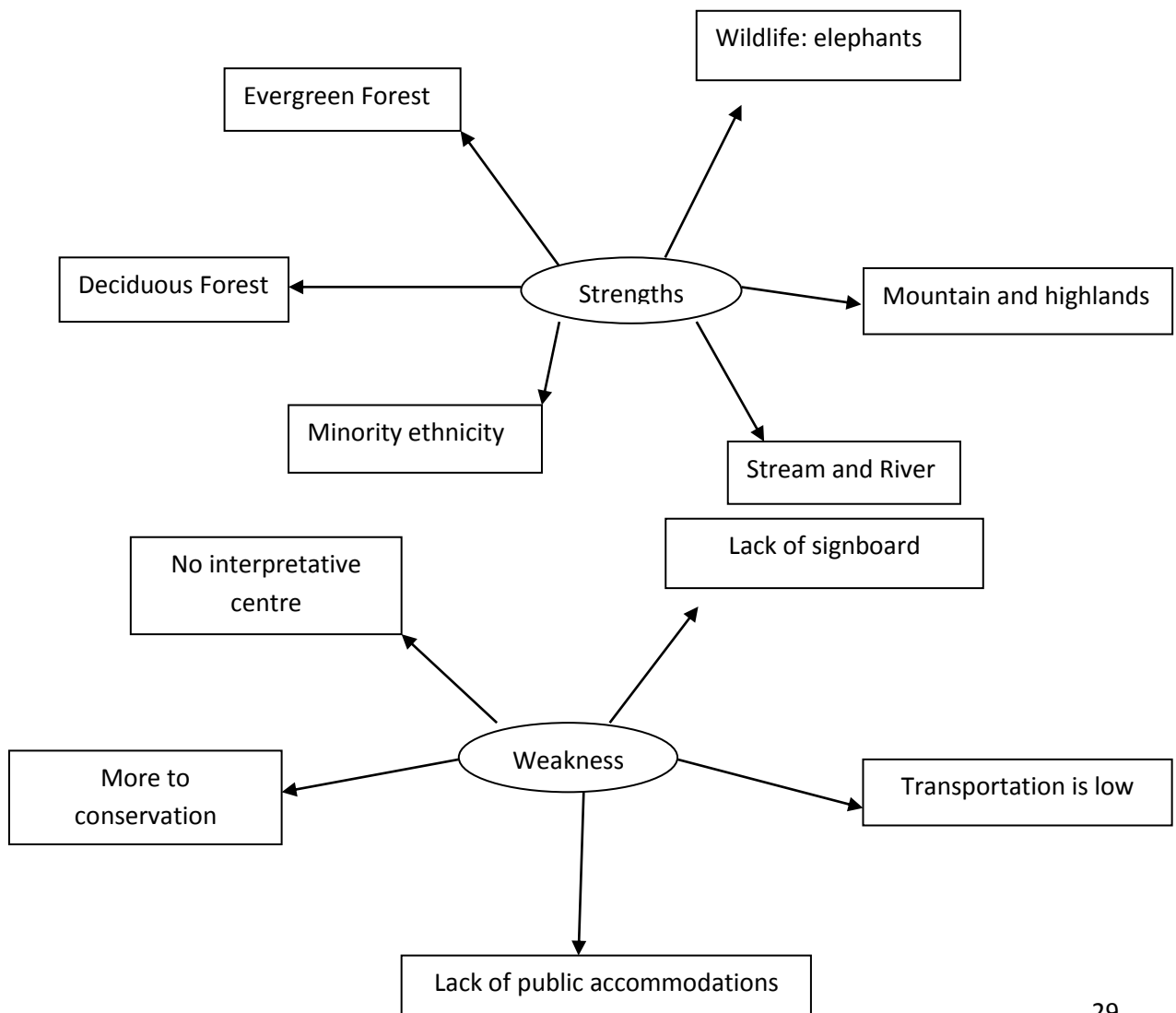
Yok Don National Park, got differences in every aspect. As we have been told by Mr.Gioi, this national park has some unique factors which make it more touristic than the other national park in Vietnam:

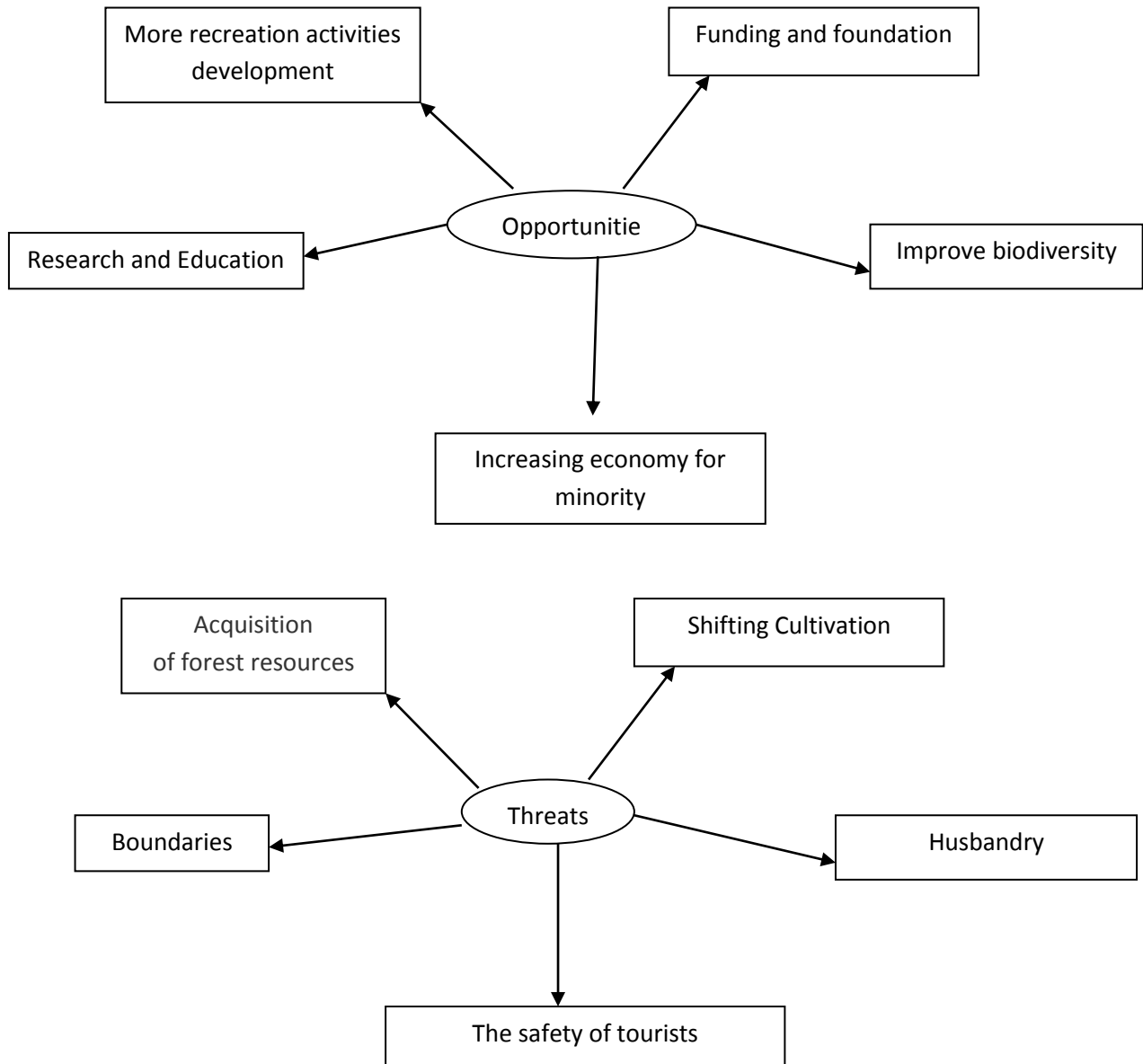
- The national park consists three different types of forest (deciduous, semi-deciduous and evergreen forest)
- High temperature and one dry season
- The forest canopy build a beautiful landscape and can change according to the climate

- Very near to the border of Cambodia-Vietnam so it is different in the management

3.4.4 SWOT Analysis

In SWOT Analysis we can discover about the strengths, weakness, opportunities and threats in the area of research. To analyze the ecotourism sector in Yok Don National Park we used this method so that the management will clearly understand what are the needs and constraints for the national park. We need to find the strengths so the management can put the efforts to develop it with more method and the weakness data are for the management to improve it. The needs of knowing about opportunities will give the management advantage to receive more help from the outside organization. And last but not least is the threats which can make the management always alert in every situation that happened.





3.4.5 Comments/Suggestions

From what have we been told, Yok Don National Park is focusing on protection to biodiversity, while the ecotourism is only the third importance aspect. In our opinion, this situation should change. It is because, this national park have something special for the ecotourism sector. The natural resources are really suitable for ecotourism activities. But, to attract more tourists to come, the management should give **attention to publicity**. From our research, there are plenty of publicity method can be used to attract more attention from tourists.

Nowadays, internet is the first medium to promote something and the management of the park should **develop a website** to introduce the uniqueness of Yok Don National Park. In Vietnam, Yok Don is one of the famous national parks but outside of Vietnam, it is really hard to know about this place. Or, the management should make the **brochure or pamphlets** for tourism in this national park. It is really worth if the brochures is made in English Version. This is one of the medium which can describe the park and very informative for tourists.

After the attraction method is successful, it is time for the staff and management to **develop skills and abilities** in conducting the ecotourism sector. It is very importance so that the interaction and communication skills can be improved. One of the skills that are really importance for the staff is to create the **interpretation centre** in the park. We saw many things in the hall that can be used as interpretation material and it is very valuable things. In recreation, interpretation is one of the methods which is important to explain critical information. It is the best way to make the tourists understand every situation that happened in the forest.

Next step, we would like to give suggestion about the accommodations. At this time, the **accommodations** are enough to meet the capacity of tourists. But when the publicity is successful, more tourists will come and it might not be enough for the accommodations. The management should think for the future demand. Maybe, the management can associate with the minority people and **build the homestay**, which is very popular nowadays. The build of homestay will cause low impact to the environment as well to maintain the budget of development which is limited.

If the objectives or the purposes to build this park for ecotourism, the management should gain **attention to the recreational activities** here. Recreational activities with low impact on the forest will provide more opportunity for the tourists to feel the excitement. Recreational activities are commonly related to the resources and if we use it properly we will have a great opportunity to attract tourists. From our observations, ecotourism sector in Yok Don National Park can be improved by some factors and solutions. One of it is to develop more activities by using the natural resources here. Recreation is always related to the tourism sector and it is the best way to give knowledge about nature in a very practical way. It is

very hard to make people trust about the attractiveness of the forest. But, by the recreational activities, it will look more attractive and more tourists will definitely visit this place.

There are a lot of activities that can be done here such as water rafting. Srepok River is a very good condition for the **white water rafting** activities. And it is one of the best resources in Yok Don National Park. As we took a walk to the waterfall nearby the headquarters, we found that the place is very suitable for white water rafting Stage 5 and 6 which is very high risk and have a good demand by the rafters. It is very rare to find the place like this in the world and it is very few in numbers. And the park should make **used the elephants** to receive more attention from the tourists. From our thoughts, in Malaysia the elephant sanctuary and conservation (Kuala Gandah Elephant Sanctuary) serve the elephants with different types of activities. It is not harm the elephants because they only work with shift time. Only certain hour is used by the elephants in the activities, and most of the time, elephants only rest and eat to recover their health. The activities in the conservation area include riding elephants and bathing with elephants. It is not dangerous for the tourists because the elephants are well trained. And with the elephants, it is easier for the staff and management to educate people about the importance of conserving the wildlife in the forests.

Yok Don National Park also has the potential to be the **education forest** in Vietnam. It is because the park consists of many types of forest in one area. For forestry student like us, it is a big opportunity if we can do researches and experiments in the national park. Maybe the management thinks that it might harm the forest because it will leads to the disturbances. But at the positive side, the students can learn based on the reality and exchange opinion with the management to control the forest and protecting the diversity. How can it can effects the ecotourism? If we have educational activities in the forest, the students will come and learn a lot of things about nature. It is not only attracting the local students but also foreign students to visit this park and the income in ecotourism sector will increase.

All in all, we believe that, all the suggestions depend on the fund and budget that the national park has for the ecotourism. A lot of help and sponsor needed from outside to make all the suggestions become reality.

3.4.6 Conclusion

As conclusion, Yok Don National Park is one of the best places to develop ecotourism in Vietnam. There will be a lot of benefits for the management as well as the minority people if the place is recognize as one of the tourism centre. The nature reserve here got a lot of potential and it will give benefits to economical sector in the area. As we wrote before, the only chance to develop the ecotourism sector is depending on the fund that the management have. The management also has to think about the risks and constraints that may occur after the development of this sector. It will take full attention to make these suggestions successful and the national park need supports from others.

4.0 Conclusion

About one month we have worked here, we found that Vietnam has different kind of forest and the diversity is very high. But, we our suggestions above, we hope that the forest department and others agencies will build the management future plan to improve the forest. Every problem that we stated, we tried to give suggestions so that it can help the management to make up the plan. All of the suggestions and comments are based on our studies in Malaysia and we are very sorry if the suggestions are not suitable here. All in all, we strongly believe that Yok Don National Park have a good potential for future development. It has to start now unless it will be so late for the management to reconstruct the planning again. Maybe Yok Don National Park needs more supports from the international agencies for the researches, protection, ecotourism, conservation and preservation. We always talk about potential; this is the key word for Yok Don National Park. It is not similar to other national park, and it is not common national park. It is contains many different criteria but development of it is very low. The department and management should try more initiative techniques so that every plan that they make is reasonable. Because this is very special forest, the role of the villagers in community forest should be emphasized. Cooperation between the management and the villagers will make the plan successful. Last but not least, we would like to thank all staff of FREM Department, as well as Yok Don National Park Management for the help and experiences when we are here. As conclusion, we are very thankful to FREM and Tay Nguyen University for giving us this opportunity so that we can more knowledge about forestry in Vietnam. This experience really helps us in forestry sector. Thank you.

5.0 Attachment

Deciduous Forest



Wetland area in Deciduous Forest

Husbandry in National park



Rock and Soil In national Park



Diptrocarpus Intricatus

Eleocarpus angustifolius



Diospiros sp

Eco-tourism sector.



Room for tourists (4 Rooms)

Information Board of Yok
Don National Park

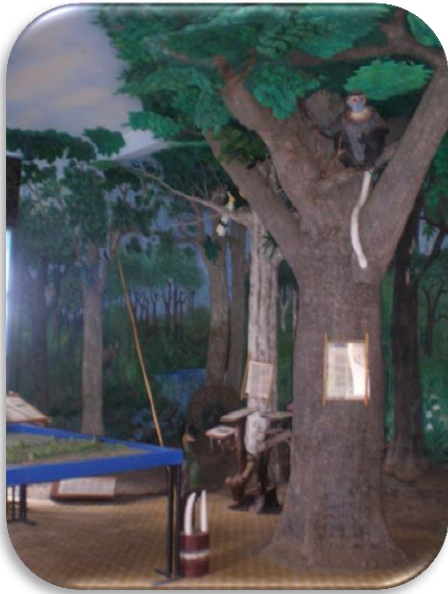


The Map Of national Park



Ecotourism activities

Front Gate of national park



Interpretative resources but not been used

Discussion with Yok Don National Park Management (Biodiversity)



Discussion with Yok Don National Park Management (Ecotourism)

