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APPENDICES

APPENDIX A

DETAILS OF RESEARCH SITE

1. **Details of National Park in Thailand (since 1960-2000)**

There are seven main categories of conservation areas in Thailand, although these are not formalized:

1. National Parks (75 national parks)
2. Marine National Parks (21 marine national parks)
3. Wildlife Sanctuaries (48 wildlife sanctuaries)
4. Non-hunting areas (54 non-hunting areas)
5. Forest parks
6. Watershed area categories
7. Biosphere reserves

All these conservation areas form 19 forest complexes (Figure A1).

The National Park, Wildlife and Conservation Department has responsibility for those conservation areas through a National Park Office, Wildlife Conservation Office and Watershed Conservation Office.

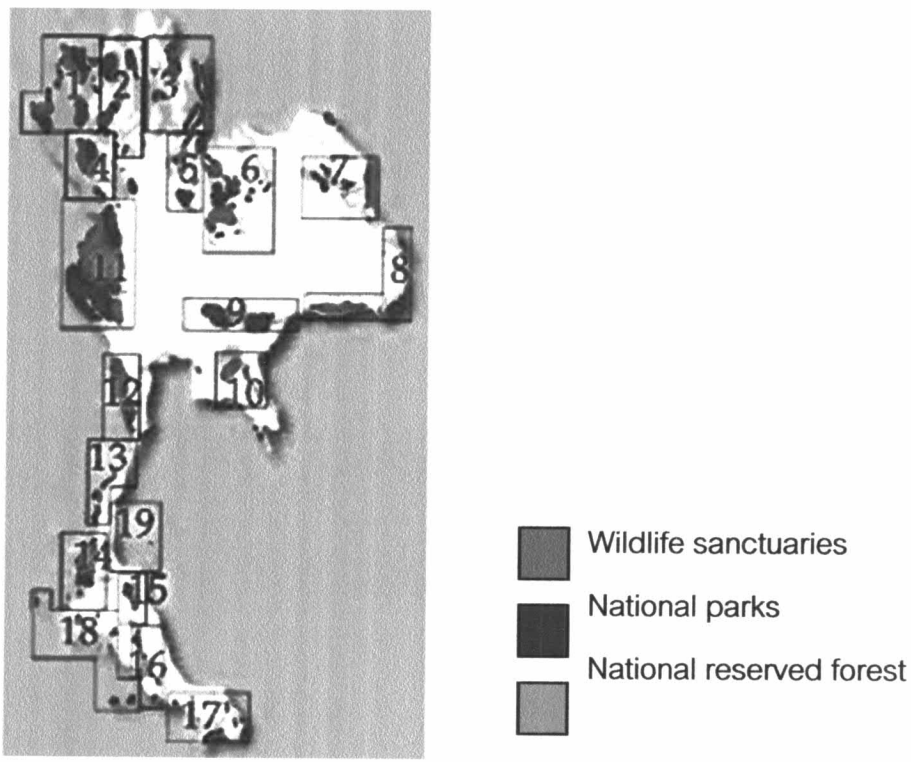


Figure A1 Forest complexes in Thailand (Brown: wildlife sanctuaries, Dark green: national parks, and Green: national reserved forest), and nineteen forest complexes.

Protected areas were given a legislative basis in the early 1960s with technical assistance from IUCN through the promulgation of the Wildlife Act (1960) and National Park Act (1961). Khao Yai was the first National Park to be established in 1961s. Figure A2 shows the number of protected areas in Thailand established during 1960s - 2000s.

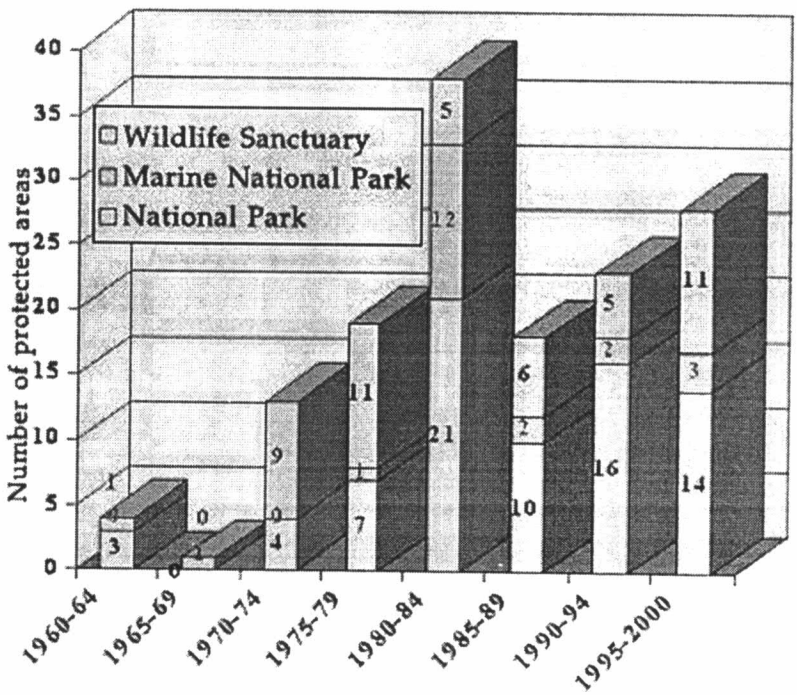


Figure A2 Number of protected areas established by year (1960s – 2000s).

(Source: RFD (1999)).

Now a day, There are 75 National Parks distributed surrounding the country. Total area is about 43,122.20 Square kilometers or 26,951,373.85 rais (84% of the whole nation area)..

1) Northern part: 29 National parks, with total area is 18,233.52 Square kilometers (11,395,951 rais)

2) North-eastern part: 19 National parks, with total area is 10,126.50 Square kilometers (6,329,092.21 rais)

3) Central, Western and Eastern parts: 12 National parks, with total area is 8,535.24 Square kilometers (5,334,522.64 rais)

4) Southern part: 15 National parks, with total area is 6,226.94 Square kilometers (3,891,837.5 rais).

2. Kaeng Krachan National Park (KKCNP)

Name:

Kaeng Krachan National Park (KKCNP)

IUCN Management Category:

Category II: National Park (protected area managed mainly for ecosystem protection and recreation).

Status:

Officially declared as the 28th National Park in Thailand, Kaeng Krachan National Park.

Area:

2,914.70 km^2 (291500 hectares, or 1,821,688 rais)

Land Turner:

Government

Altitude:

Maximum elevation 1,207 meters (Panoen Thung Mountain range).

Biographical Location:

Located between 12°35'-13°11' N and 99°07'-99°35' E, at the Tenasserim Range in southwest Thailand. The land is contagious to the international border of Burma , Petchaburi and Prachuab Khiri Khan provinces. The nearest major town is Petchaburi. The western part of the Kaeng Krachan reservoir is included within the boundary.

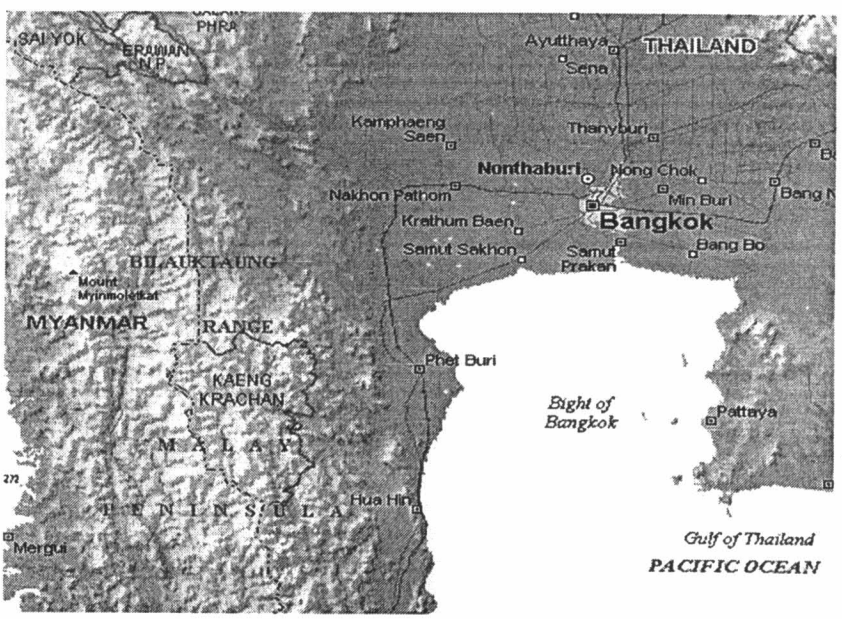


Figure A3 Kaeng Krachan National Park located in southwestern part of

Bangkok

Date and History of Establishment:

The area including Petchaburi watershed and headwater over Kaeng Krachan Dam, in Petchaburi province was first declared in Government Gazette, No.98, Section 92, to be a national park since 12 June 1981. And the park has been officially announced again by The Royal Forest Department in the 20th of April 1983. A year later, that the boundary of the park was enlarged, including some parts of Prachuab Khiri Khan province, and was declared again in the Government Gazette No. 101, Section 194, on the 27th December 1984 (Figure A3 and A4).

Physical Features:

The largest park in Thailand encompasses the full extent of the Tenasserim range in the west. The topography is mountainous, with the highest peaks at Panoen Thung (1,207 m) in the east and Khao Sam Yod (871 m) in the west. Within the area, Petchaburi headwater and Bang Kloi watershed are protected in order to feed the Kaeng Krachan reservoir, as well as Pran Buri watershed which feeds the Pran Buri reservoir located about 30 kilometers to the south (Sayer, 1981 and Dobias, 1982).

Figure A4 Kaeng Krachan National Park (KKCNP).

Climate:

The weather is really comfortable all year round. Humidity remains high throughout the year, with heavy rain during the rainy season and cool weather for much of the year. The steep forested areas of the park are even more humid than the young forest and cleared lands in the lower elevations; some days it is clear and warm at the headquarters, but it may be raining very hard in the forest 20 kilometers away. Near the headquarters, annual rainfall average is 1,100 millimeters (although within the forest, it is probably much more). The wettest month is October, when rains can be nearly continuous and almost one-quarter of the annual rainfall may arrive. The driest month in an average year is January. The coldest

months are December and January; the hottest are March and April. Temperatures in the area range from 10 to 40 Degree Celsius , and may get colder on the mountaintops within the forest.

Vegetation:

The total forest area is calculated approximately 95% of the whole park area. The land also holds a very rich and diverse terrestrial life. Figure A5 depicts that there are so much diverse in forest ecosystems. Several kinds of forest ecosystems provide large valuable forest products as well as ecosystem goods and services to local people in and surrounding area (Round,1985).

Figure A5 Evergreen forest and grassland community covered large areas of Panoen Thung Mountain range.

Wildlife:

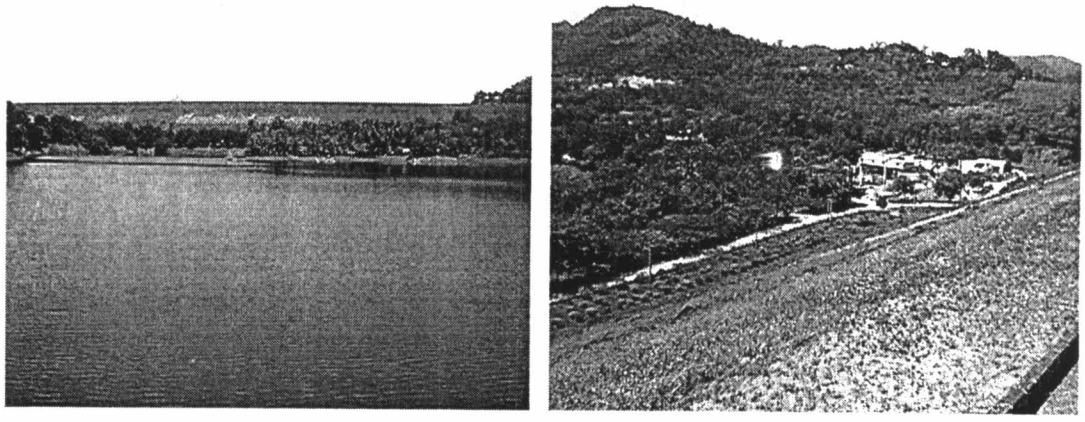
Since more than 80 % of the whole area comprises several types of vegetation, the park thus becomes an appropriate natural habitat includes, for example, for several kinds of wildlife species. Big wildlife found in the park, such as bisons, barking deers, deers, tigers, monkeys, gibbons, and bears .

Water Resource:

Kaeng Krachan Earth-filled Dam, (Figure A6 (a)), was built up since 1966. The dam is about 58 meters high and 760 meters in width of dam ridge. The dam ridge is about 106 meters higher above mean sea level. A major reservoir, Kaeng Krachan reservoir, supplies large amount of water to both agricultural and industrial sectors in Petchaburi and Prachuab Khirikhan provinces. The reservoir has an area of 46.5 square kilometers, with 710 million cubic meters of water capacity. Another main purpose of the dam is to generate of hydroelectric power. The first power station was set up since 1971 to produce large amount of electricity generate to the whole areas surrounding the park, including Petchaburi province and Aumphoe Hua Hin, Prachuab Khiri Khan province (Figure A6 (b)).

People:

Several kinds of people come to the parks with several purposes. Some are indigenous and local people. Others are hill-tribes, tourists and visitors. Almost all of those local people living inside the park are considered squatters (Dobias, 1982).



(a) (b)

Figure A6 (a) Kang Krachan reservoir, and (b) Electric plant in Kaeng Krachan dam.

Tourist attraction:

Since KKCNP is the largest national park in Thailand, there are so many interesting and authentic visiting points to visitors. After the exploring of researchers from RFD, at least 19 visiting points were recorded and allow visitors to access and stay overnight. Some popular points for visitors are as follows:

i. Kaeng Krachan reservoir

Because of having large scale covered area inside and outside the park. The reservoir becomes one of the most popular points for visitors (Figure A7). Various outdoor recreation activities are induced, for examples fishing, taking a boat upstream and bird watching etc. As shown in figure A8 and figure A9, respectively. In Kaeng Krachan reservoir, there are many small islands sprang from fragmentation. Those appear to be very interesting place for studying aquatic system and water resource management. The authentic appearances of the area induces large number of tourists to visit all the year round.

Figure A7 Kaeng Krachan reservoir

Figure A8 Camping on the island and fishing in Kaeng Krachan reservoir

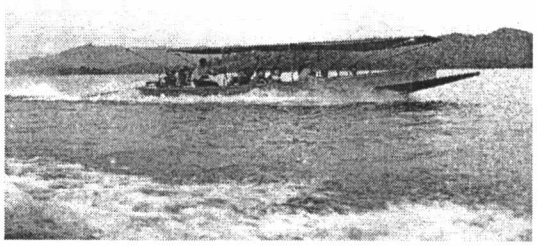


Figure A9 Motorboat rental, travel up to Petchaburi headwater.

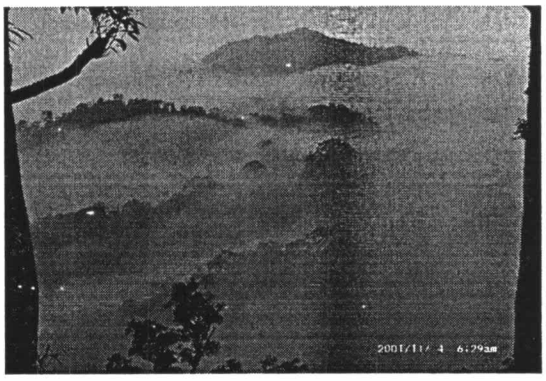
ii. **Ban Krang campsite**

Ban Krang campsite is very famous for " Bird watching" as shown in figure A10. The area is quite large and mainly composes of dry dipterocarp and mixed deciduous forests. Small stream passes through the area and fills up with water for the whole year. There are natural trails behind the camp for visitors who are interested in trekking and studying plant species. In dry season, groups of butterflies will appear along the roadside. This site is about 35 kilometers from KKCNP headquarter (or at KM 15). People who are interestied in "Ecotourism" always come to stay overnight at this campsite.

Figure A10 Watching at Ban Krang campsite

iii. Panoen Thung campsite

Panoen Thung campsite is one of the most popular places for "Sea of fog" (Figure A11). The campsite is about 50 kilometers from KKCNP headquarter (or at KM 30). Average temperature for this area is rather high and moist for the whole year. On the top of Panoen Thung mountain (the highest point in KKCNP), visitors can see an ocean of mountain range covered with evergreen forest. On the top of the mountain, grassland covers large scale making this area suitable for



camping.

Figure A11 "Sea of fog" at Panoen Thung mountain

iv. Thortip waterfall

At the end of Nam Tok Thortip (Thortip waterfall) road (at KM 36), follow the trail down by a steep 4-kilometers. The nine-level waterfall deep in the forest, water flows all year round (Figure A12). Even this concern to be the most beautiful waterfall in KKCNP, less number of visitors can reach because of uncomfortable route along the trail down, especially in rainy season.

Figure A12 Thortip waterfall

v. Paala-au waterfall

This waterfall located at Hua Hin district, Prachuab Khiri Khan province. From the KKCNP headquarter, about 63 kilometers down south to Hua Hin, Paala-au waterfall becomes the most famous visiting point (Figure A13). Large area of the waterfall comprises evergreen and dry dipterocarp forests. There are some Karein people living around the area. Visitors are not allowed to bring foods and drinks into the area.

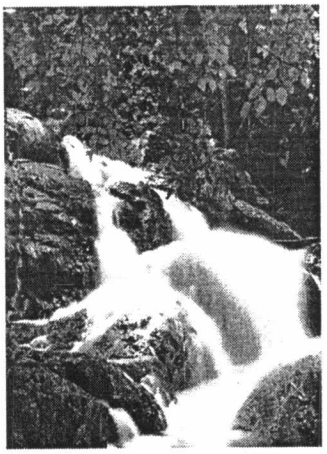


Figure A13 Paala-au waterfall located in southern part of KKCNP, Prachuab Khiri Khan province

vi. Other view points

There are other interesting points to visit at KKCNP, for examples: a) Wiman cave; b). Hot-spring; and c) Paa Nam Yod.

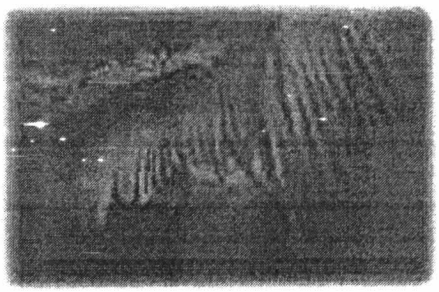


Figure A14 Wiman cave

Traveling routes:

Traveling from Bangkok:

There are number of routes to get to KKCNP. From Bangkok to Petchaburi province, it takes about 115 kilometers down to the south. And there are several ways to travel to KKCNP headquarter, As follows:

1) Personal Transportation

From Bangkok, follow the public road No. 4, passing Nakorn Prathom, Ratchaburi and then arrive Petchaburi province. Total distance for this route is about 166 kilometers. Another way going to KKCNP by personal transportation is taking the public road No. 35, passing Samut Sakorn, Samut Songkram and Ratchaburi province. Then turn left to public road No. 4 to Petchaburi province. When arriving Petchaburi province, follow Petkasem road, then drive southerly to Ta Yang district and to Phet dam (about 20 kilometers). At Phet dam junction, turn right and go along for 38 kilometers to Kaeng Krachan Dam. Then from the dam, go for another 3 kilometers to KKCNP headquarter.

2) Public Transportation

Visitor can take air-conditioned bus from the southern bus terminal station, and get off at Ta Yang district. Then take the minibus to Ban Kaeng Krachan and catch the motorcycle, (about 4 kilometers) to KKCNP headquarter.

Traveling inside KKCNP:

Since the public bus service inside KKCNP is not yet available, visitors who travel by public transportation may get into troubles sometimes. In this case, almost all of visitors will use rental bus service if they want to go for sightseeing at Panoen Thung or Ban Krang campsites. Also, if they want to go for fishing or camping on small islands in Kaeng Krachan reservoir, they need to ask for motorboat rental service. Those facilities are mainly provided by local people living around the park area.

1) Rental car to Ban Krang campsite and Panoen Thung mountain.

Rental cost is sometimes quite expensive depending on what kind of "4WD PICK-UP" do local people have and where visitors want to go. Normally, visitors will rent the 4WD pick-up when they want to go up to Panoen Thung or Ban Krang campsite (Figure A15). The average rental is between 1,700 to 2,000 THB/trip.The road from Ban Krang to Panoen Thung campsite is one-way and rather narrow. In order to escape an accident, the park needs to set up "schedule for open and closing times", for visiting (Table A1).

Table A1 Schedule for opening and closing times to access Ban Krang and Panoen Thung campsites.

Round	Time to go up from Ban Krang campsite	Time to go down from Panoen Thung campsite
1	05.00 – 08.00 am	09.00 – 10.00 am
2	11.00 – 12.00 am	01.00 – 02.00 pm
3	03.00 – 04.00 pm	05.00 – 06.00 pm

Visitors need to pay for entrance and vehicle fees at KKCNP headquarter and take a permission pass before leaving for Sam Yod forest protection unit. The Sam Yod unit open since 05.00 am and close at 06.00 pm daily.

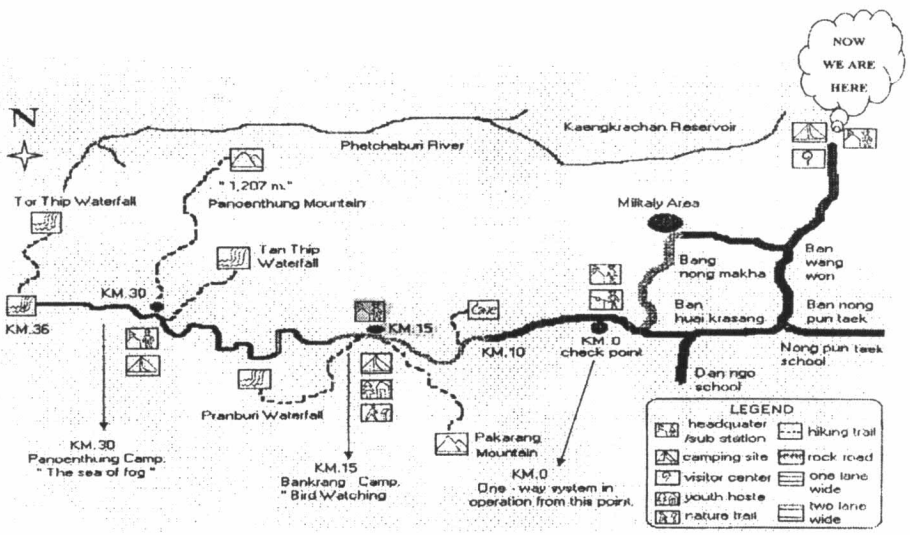


Figure A15 Map to Ban Krang and Panoen Thung campsites

2) Rental bus to Paala-au waterfall

For visitors who want to go to Paala-au waterfall, they can go directly to Hua Hin district, by both public and private transportation. If visitors come by private car, they can go directly, and buy ticket for entrance fee and vehicle fee at Paala-au forest protection unit (ticket can be bought at KKCNP headquarter as well). But if visitors come by public transportation, they can catch local bus to Paala-au waterfall at Hua Hin terminal bus station (Figure A16).

Figure A16 Hua Hin and Pran Buri Public Bus (a), and local bus travel to Paala-au waterfall (b).

Distance to Paala-au waterfall is about 60 kilometers, take at least 1 hour and 30 minutes. The cost is quite cheaper (40 THB). Visitor can also rent the local bus but the rental cost is more expensive (1,000–1,500 THB per day).

3) Motorboat rental in Kaeng Krachan reservoir

Rental boat up to Petchaburi headwater costs rather expensive (400 THB - 1,500 THB per day). This service absolutely provided by local people, not by the park office.

KKCNP Regulations:

In general, visitors who visit national park must follow these general regulations announced by RFD of Thailand.

1) General regulation

(a) Do not dispose the garbage on land, except in the garbage bins.

(b) Do not take and harm all kinds of wildlife animals, and do not take or destroy the nature such as trees, leaves and fruits.

(c) Do not bring all kinds of weapons and hunting instruments to harm or bother animals.

(d) Do not write or post any announcement/ advertisement/ or signs.

(e) Vehicles such as motorcycle, bicycle and private car, which release toxic gas, are not allowed.

(f) Do not make noises to interrupt wildlife animals and other people.

(g) Do not use National Park for your own business.

(h) Musical instruments and pets are not allowed.

(i) Please follow the regulation strictly.

2) **Entrance fee/ Vehicle fee / Camping fee**

Like traveling to other national parks in Thailand, visitors are required to pay for entrance fee/ vehicle fee/ and camping fee if they want to go to the restricted areas (as shown in Table 1, and Table 2 respectively). In KKCNP, there are 3 visiting points where visitors need to pay for both entrance fee and vehicle fee: Panoen Thung campsite, Ban Krang campsite and Paala-au waterfall. For visitor who want to stay overnight in camping areas near KKCNP headquarter, they do not require to pay for the entrance fee but for vehicle and camping fee instead.

(a) Entrance fee

Since 2000s, entrance fee for visitors had been changed for both natives and foreigners, as shown in Table A2.

Table A2 Entrance fee for Thais and foreigners.

Nationality	Level	
	Adult (THB/person)	Children* (THB/person)
Thai	20	10
Foreigner	200	100

*Children mean people whose age is less than 14 years old

(b) Vehicle fee

Table A3 Vehicle fee for different types of vehicles.

Types of vehicles	Fee (THB/each)
Bicycle	10
Motorcycle	20
Car/ Van/Pick-up	30
Truck	100
Minibus/ Coach	200

(c) Camping fee

Camping fee is 30 THB/person/night for all individuals.

At KKCNP headquarter, people can rent camping stuff if they don't have their own stuffs. The cost of rental for sleeping bag and tent is 100 THB per night.

Accommodation:

There are so many private guesthouses for visitors to rent. Almost all are provided by private sectors. The rental varies from 400 THB to more than 2,500 THB per night in general. However, there are 10 guesthouses provided inside the park. Those are manipulated under the regulation of RFD (Table A4).

Table A4 Details of public guesthouses in KKCNP.

No.	Guesthouse name	Visitor per house	Rental (THB/night)	Facility
1	Dong Pai	12	2,400	3 bedrooms/ 3 bathrooms/ sleeping sets
2	Rim Nam	12	2,400	3 bedrooms/ 3 bathrooms/ sleeping sets
3	Kra Chid	5	1,200	2 bedrooms/ 2 bathrooms/ sleeping sets
4	Kaeng Krachan	5	1,000	2 bedrooms/ 1 bathrooms/ sleeping sets
5	Kra Phee	4	800	1 bedrooms/ 1 bathrooms/ sleeping sets
6	Jan Pha	15	3,000	1 bedrooms/ 4 bathrooms/ sleeping sets
7	Phu Hin	4	800	1 bedrooms/ 1 bathrooms/ sleeping sets
8	Jai Pan Din2	8	1,600	3 bedrooms/ 2 bathrooms/ sleeping sets
9	Jai Pan Din3	8	1,600	3 bedrooms/ 2 bathrooms/ sleeping sets/ warm water
10	Jai Pan Din4	9	1,800	3 bedrooms/ 2 bathrooms/ sleeping sets/ warm water

In high season, there would be large number of visitor visit the park. Therefore, visitor needs to make reservation for accommodation before going there.

Reservation and further information:

Please contact

Kaeng Krachan national park

Kaeng Krachan District, Petchaburi

76170 THAILAND

Telephone number: +66 32 459293

APPENDIX B

SURVEY QUESTIONNAIRE

1. Survey questionnaire designed for WTP and TCM analysis.

Demand for Outdoor Recreation Services

This questionnaire is for the purpose of studying in Doctorate Degree in Biological Sciences Program (Ecology), Chulalongkorn University. The topic of study is "Multi-objective Management Model of Tropical Forest Ecosystem: A Case Study in Kaeng Krachan National Park (KKCNP), Thailand."

This questionnaire consists of 3 parts.

Part 1: Socio-economic status and behavioral pattern of tourist/visitor for outdoor recreation.

Part 2: Level of information accessibility.

Part 3: Tourists satisfaction and introducing of new recreational activities in KKCNP.

Pensri Srikanha

Part 1: Socio-economic status and behavioral pattern of tourist/visitor for outdoor recreation.

1. First name (Mr./ MS.)..... Last name.....
2. Address.....(at least please specify the country)
3. When did you answer this questionnaire?
   - ❑ 3.1 When arriving KKCNP
   - ❑ 3.2 Before leaving KKCNP
4. Sex
   - ❑ 4.1 Male
   - ❑ 4.2 Female
5. Marital status
   - ❑ 5.1 Single
   - ❑ 5.2 Married
   - ❑ 5.3 Divorced
   - ❑ 5.4 Separated
6. Age
   - ❑ 6.1 ≤ 20 yrs
   - ❑ 6.2 21 - 30 yrs.
   - ❑ 6.3 31 - 40 yrs.
   - ❑ 6.4 41 - 50 yrs.
   - ❑ 6.5 51 - 60 yrs.
   - ❑ 6.6 > 60 yrs.

7. Education

- ❑ 7.1 Primary School
- ❑ 7.2 Secondary School
- ❑ 7.3 Diploma
- ❑ 7.4 Undegraduate
- ❑ 7.5 Graduate
- ❑ 7.6 Others.....

8. Occupation

- ❑ 8.1 Student
- ❑ 8.2 Government officer
- ❑ 8.3 Businessman/ Businesswoman
- ❑ 8.4 Agriculturist/Farmer
- ❑ 8.5 Employee
- ❑ 8.6 Retired
- ❑ 8.7 Others.....

9. Incomes (Baht 45=US$ 1)

- ❑ 9.1 < 2,000 Baht/month
- ❑ 9.2 2,000 – 4,000 Baht/month
- ❑ 9.3 4,001 – 6,000 Baht/month
- ❑ 9.4 6,001 – 8,000 Baht/month
- ❑ 9.5 8,001 – 10,000 Baht/month
- ❑ 9.6 10,001 – 15,000 Baht/month
- ❑ 9.7 15,001 – 20,000 Baht/month
- ❑ 9.8 20,001 – 25,000 Baht/month
- ❑ 9.9 25,001 – 30,000 Baht/month
- ❑ 9.10 > 30,000 Baht/month
- ❑ 9.11 Others

10. Have you ever been to KKCNP?

- ❑ 10.1 No
- ❑ 10.2 Yes, how many time(s) ..... time(s)

For this trip to KKCNP

11. Is KKCNP your destination?

- ❑ 11.1 No (go to question no. 13)
- ❑ 11.2 Yes

12. What is the purpose of your trip to KKCNP?

- ❑ 12.1 Taking a vacation
- ❑ 12.2 Traveling
- ❑ 12.3 Education
- ❑ 12.4 Adventure
- ❑ 12.5 Meeting, Conference
- ❑ 12.6 Others _____.

13. Who are your travel mate(s)?

- ❑ 13.1 Alone
- ❑ 13.2 Family/cousins
- ❑ 13.3 Friend(s)
- ❑ 13.4 Group tourist(s)
- ❑ 13.5 School/Office mate(s)
- ❑ 13.6 Others _____.

14. How many people are in your traveling group? _____ person (s)

15. How long will you be in KKCNP (including traveling day(s)? _____ Day (s).

16. Will you stay over night in KKCNP?

❑16.1 Yes, how many night(s)? _____night(s).

❑16.2 No, please give reason

17. How do you travel to KKCNP?, and how much does the travel cost?

❑ 17.1 Own car, Fuel cost _____Baht/ round trip

❑ 17.2 Rental car, Rental cost _____Baht/ round trip

Fuel cost_____ Baht/ round trip

❑ 17.3 Bus, Bus fares _____Baht/ round trip

❑ 17.4 Train, Train fares _____Baht/ round trip

❑ 17.5 Motorcycle, Petrol cost _____Baht/ round trip

❑ 17.6 Others, please specify _____Baht/ trip.

18. Other expends which you have to spend while staying in KKCNP.

❑ 18.1 Park entrance fees _____ Baht /individual.

❑ 18.2 Vehicle fee (total) _____Baht

❑ 18.3 House rental cost (whole trip) _____ Baht

❑ 18.4 Camping stuffs (i.e. Tent, sleeping bag) _____ Baht/ individual/ night

❑ 18.5 Motor boat to Phetchaburi Headwater (whole trip) _____ Baht

❑ 18.6 Forest officers wages _____ Baht/day

❑ 18.7 Number of forest officers travel with you _____person(s)

❑ 18.8 Meals, Foods and Drinks (average per person) _____ Baht/day

❑ 18.9 Photographs (whole trip) _____ Baht

❑ 18.10 Other expends _____ Baht.

Part 2: Level of information accessibility.

19. Did you find the information of KKCNP before making decision to come here?

❑ 19.1No, because _____(go to question no. 21)

❑ 19.2 Yes, (go to question no. 20)

20. How much information did you get from these sources?

Sources of information	Level of information accessibility		
	Greater	Fair	Less
20.1 Friends/ cousins			
20.2 Printed matters, publications			
20.3 Mass communication media			
20.4 Web site			
20.5 Travel agencies			
20.6 Tourism Authority of Thailand			
20.7 Royal Forest Department of Thailand			
20.8 Kaeng Krachan National Park			
20.9 Others_____.			

21. Have you ever been / heard about these visiting points in KKCNP?

Visiting points	Yes	No	Visiting points	Yes	No
21.1 KKCNP Headquater			21.11 Paa-la-au-noi waterfall		
21.2 Tor-thip Waterfall			21.12 Chola-nad waterfall		
21.3 Pranburi Waterfall			21.13 Kaeng Krachan Dam		
21.4 Tor-tip waterfall 1 and 2 (Hin-lad)			21.14 Hot spring		
21.5 Mae Sa-Leang waterfall			21.15 Sa-ri-ka waterfall		
21.6 Tagel-pa-du waterfall			21.16 Paala-au waterfall		
21.7 Tagel-pho waterfall			21.17 Kra-dang-laan waterfall		
21.8 Pa-noen-thung/Ban-krang campsite			21.18 Kang-kaw cave		
21.9 Nam-yoad cliff			21.19 Wi-maan cave		
21.10 Huai-Paa-lao waterfall			21.20 Pa-ga-rang mountain		

22. How much do you like these activities available in KKCNP?

Types of activities	Degree of interesting				
	Greatest	Greater	Fair	Less	Least
22.1 Bird watching					
22.2 Rafting					
22.3 Trekking					
22.4 Night safari					
22.5 Swimming in waterfall					
22.6 Taking boat to Phetchaburi Headwater					
22.7 Sight seeing					

22.8 Staying overnight (Guesthouse, camping)					
22.9 Other .					

23. Have you ever heard about these following events/issues in KKCNP?

Events/issues	Yes	No
23.1 KKCNP is the biggest national park in Thailand.		
23.2 There's more than 80% of forestland covered.		
23.3 KKCNP has a problem of illegal land possession by local community.		
23.4 Here is one of the most popular place for Bird watching game in Thailand.		
23.5 Some villagers/communities have been moved to settle in some specific area.		
23.6 One major problem in KKCNP is animal hunting/forest products gathering (illegally).		
23.7 There are different for the cost of entrance fee between foreigner and Thai people.		
23.8 There was news about road construction to Pa-noen-thung/ Ban-krang campsite last year.		

24. In your opinion, how urgent these events/issues, in KKCNP, should be improved/revised?

Events/ Issues	Level of improvement				
	Most	More	Fair	Less	Least
24.1 Illegal land right of local community for agricultural activity in KKCNP.					
24.2 Illegal animal hunting and forest products gathering (Illegal).					
24.3 The information of KKCNP available for tourist/visitor, in general, is not enough.					
24.4 Less number of forest officers to take care of the park and tourists/ visitors.					
24.5 Communication system in KKCNP.					
24.6 Public guesthouses (10 guesthouses).					
24.7 Rest rooms/Toilets/Bathrooms.					
24.8 Not enough garbage bins.					
24.9 Unclear signs/ street signs.					
24.10 Natural scenic beauty of the park has being destroyed.					

24.11 Increasing in number of tourists/visitors over the carrying capacity of the park in high season.					

25. What kinds of facilities are you going to use while being in KKCNP?

Facilities/available activities	Yes	No
25.1 Tourist information center		
25.2 Guesthouses.		
25.3 Rest rooms/Toilets/Bathrooms.		
25.4 Camping accessories (Tent, sleeping bag).		
25.5 Motor boat.		
25.6 Forest officer.		
25.7 Public food shop near head office.		
25.8 Private foods shop in Kaeng Krachan Dam.		

Part 3: Tourists satisfaction and introducing of new recreational activities in KKCNP.

26. Do you know the meaning of the word *"ECOTOURISM"?*

- ❑ 26.1 No (go to question no.28)
- ❑ 26.2 Yes (go to question no. 27)
- ❑ 26.3 Not sure (go to question no. 27)

27. In your opinion, How much these ideas should be included for *"ECOTOURISM"* encouragement?

Issues	Most	More	Fair	Less	Least
27.1 Local community should take parts in the encouragement of *Ecotourism* development in KKCNP.					
27.2 Natural resources available in the local area should be used to Construct and develop, accompanied with *ecotourism activities* in KKCNP.					
27.3 The profits should be shared equally.					
27.4 Protection program should be induced when *ecotourism* Encouragement is introduced.					
27.5 Private organization can join and the profits will be shared equally.					

28. Please share your opinions about the present tourism management condition in KKCNP.

Issues	Very satisfied	Satisfied	Fair	Unsatisfied	Very Unsatisfied
28.1 The introduction of KKCNP information at Tourist information center.					
28.2 Roads, natural trails					
28.3 Restrooms/Toilets/Bathrooms					
28.4 Public guesthouses (10 guesthouses)					
28.5 Forest officers for facilitating tourist/visitor					
28.6 Types of natural activities to enjoy in KKCNP					

29. If we would like to introduce more new activities to service you while visiting in KKCNP, how suitable these activities should be induced?

Inducing activities	Most suitable	Suitable	Moderate	Unsuitable	Most Unsuitable
29.1 Bus service* between Headquarter and Pa-noen-thung/ Ban-krang campsite					
29.2 Home stay** service					
29.3 Forest ranger service***					

*Bus Service: This service will be provided by KKCNP. The bus, here, mean to *"Pickup truck"* and *"4WD Pickup truck"* only. Bus will be set up for 3 to 5 rounds per day depends on numbers of tourist/visitors. The distance between headquarter and Panoen-tung/ Ban-krang campsite is around 50 kilometers.

**Home Stay Service: Home stay is a type of activity, which has been introduced as a new choice for tourist/visitor, in KKCNP. Home stay service includes residence, meals, and bathroom/ restroom. This service may also include travel guide service by the host depending on agreement between host and visitor.

***Forest Ranger Service: Local villagers will be trained. They have to learn to know about the regulation and criteria of being a good forest ranger and about the visiting sites in KKCNP. Normally, one forest ranger is for 4-6 tourists/visitors.

For *"Ecotourism Development'* in KKCNP, service charges will be determined following the investment of KKCNP's improvement and development of that activity. In order to set up the reasonable price, we have to ask the opinion of tourists/visitors about how much money they can pay for the charges. Therefore, if you *"WANT"* the three new services, please, answer the *questions 30 to 40.* Otherwise, if you *"DON'T WANT"* these services please answer the *questions 41 to 42.*

Question number 30-40 (If you *"WANT"* the three new services)

30. What is your reason for the determination of "service charge" of each activity (choose 1 reason).

- ❑ 30.1 The cheapest service charges.
- ❑ 30.2 The worth of expenses
- ❑ 30.3 The most convenience
- ❑ 30.4 The reasonable prices
- ❑ 30.5 The amount of money that you can effort
- ❑ 30.6 Other reasons (please specify)

If you *"WANT" bus service* between Headquarter and Pa-noen-thung/ Ban-krang campsite

31. Are you willing to pay for the *"bus service charge"*

- ❑ 31.1 Yes (go to question no. 32)
- ❑ 31.2 No (go to question no. 35)

32. What should be the pricing system for this service?

- ❑ 32.1 Lump sum (go to question no. 33)
- ❑ 32.2 Real charges (Baht/ individual/ trip) (go to question no. 34)

33. How much can you pay for the *"lump sum"* for bus service between headquarter and Pa-noen-thung/ Ban-krang campsite?

- ❑ 33.1 600 Baht/ trip
- ❑ 33.2 700 Baht/ trip
- ❑ 33.3 800 Baht/ trip
- ❑ 33.4 900 Baht/ trip
- ❑ 33.5 1000 Baht/ trip
- ❑ 33.6 Others .....

34. If you select *"real charges"*, how much you can pay for this service?

- ❑ 34.1 50 Baht/individual/ trip
- ❑ 34.2 100 Baht/individual/ trip
- ❑ 34.3 150 Baht/individual/ trip
- ❑ 34.5 250 Baht/individual/ trip
- ❑ 34.4 200 Baht/individual/ trip
- ❑ 34.6 Others .....

If you *"WANT" home stay service*

35. Are you willing to pay for the *"home stay service"* ?

- ❑ 35.1 Yes (go to question no. 36)
- ❑ 35.2 No (go to question no. 38)

36. What should be the pricing system for this service?

- ❑ 36.1 Lump sum (Baht/ individual/ day)
- ❑ 36.2 Other systems (please specify)

.

37. If you select *"lump sum"*, how much you can pay for this service?

- ❑ 37.1 100 Baht/ individual/ day
- ❑ 37.2 150 Baht/ individual/ day
- ❑ 37.3 200 Baht/ individual/ day
- ❑ 37.4 250 Baht/ individual/ day
- ❑ 37.5 300 Baht/ individual/ day
- ❑ 37.6 Others _____.

If you *"WANT" the forest ranger service*

38. Are you willing to pay for the "forest ranger service"?

- ❑ 38.1 Yes (go to question no. 39)
- ❑ 38.2 No (go to question no. 41)

39. What should be the pricing system for this service?

- ❑ 39.1 Lump sum (Baht/ ranger/ day)
- ❑ 39.2 Other systems (please specify)

40. If you select *"lump sum"*, how much you can pay for this service?

- ❑ 40.1 100 Baht/ranger/ day
- ❑ 40.2 150 Baht/ranger/ day
- ❑ 40.3 200 Baht/ranger/ day
- ❑ 40.4 250 Baht/ranger/ day
- ❑ 40.5 300 Baht/ranger/ day
- ❑ 40.6 Others_____.

Questions no.41-42 (Either you *"DON'T WANT"* the new services or "WANT" the new services but "DON'T WANT TO PAY FOR THE SERVICE CHARGES")

In case of no interest in these new introducing services, however, the annual budget must be partially allocated in order to improve the quality of some available activities in tourism management program. So, if the park ask for the *"Money Donation"*, are you willing to donate the money, in this case? If yes, how much you will donate?

41. Are you willing to give the *"money donation"*?

- ❑ 41.1 Yes, (go to question no. 42)

❑ 41.2 No, because _____.

42. If the cost of management starts at *30 baths/individual/trip* approximately. And if the park would like to ask for the donation of this amount of money, are you willing to donate?

❑ 42.1 Yes, I will donate 30 THB exactly.

❑ 42.2 Yes, I will money donate more than 30 Baht. How much? _____ Baht.

❑ 42.3 No, I will money donate less than 30 Baht. How much? _____Baht.

Thank you.

APPENDIX C

RAW DATA AND
STATISTICAL ANALYSES BY SPSS

Table C1 Number of Visitors in KKCNP recorded by KKCNP officers.

Year	Number of tourists			Fraction values		
	Temporary	Overnight	Total	Temporary	Overnight	Total
1982	3,359	561	3,920	0.86	0.14	1.00
1983	10,196	3,242	13,438	0.76	0.24	1.00
1984	13,824	5,202	19,026	0.73	0.27	1.00
1985	18,931	9,653	28,584	0.66	0.34	1.00
1986	18,222	10,945	29,167	0.62	0.38	1.00
1987	29,461	12,196	41,657	0.71	0.29	1.00
1988	76,329	9,745	86,074	0.89	0.11	1.00
1989	88,799	7,732	96,531	0.92	0.08	1.00
1990	152,094	21,333	173,427	0.88	0.12	1.00
1997	120,006	28,918	148,924	0.81	0.19	1.00
1998	172,727	56,297	229,024	0.75	0.25	1.00
1999	152,556	50,047	202,603	0.75	0.25	1.00
2000	144,596	43,080	187,676	0.77	0.23	1.00
2001	120,685	28,992	149,677	0.81	0.19	1.00

Table C2 Number of Thais spending overnight compared with and one-day tour in KKCNP.

Year	Number of Thais			Fraction value		
	Temporary	Overnight	Total	Temporary	Overnight	Total
1986	8,820	8,482	17,302	0.51	0.49	1.00
1987	18,860	9,269	28,129	0.67	0.33	1.00
1988	36,822	6,564	43,386	0.85	0.15	1.00
1989	51,735	4,800	56,535	0.92	0.08	1.00
1990	95,526	10,675	106,201	0.90	0.10	1.00
1997	103,907	21,339	125,246	0.83	0.17	1.00
1998	139,271	39,564	178,835	0.78	0.22	1.00
1999	131,306	41,009	172,315	0.76	0.24	1.00
2000	116,115	34,170	150,285	0.77	0.23	1.00
2001	96,995	26,491	123,486	0.79	0.21	1.00

Table C3 Number of visitors in each month.

Year	Number of tourists in each month (total)												Total
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1982													3,920
1983	651	579	1,813	1,735	1,112	1,280	1,049	552	1,111	1,203	1,130	1,223	13,438
1984	1,611	1,683	1,767	2,010	1,520	1,477	1,112	1,285	1,279	1,674	1,520	2,088	19,026
1985	2,180	2,251	2,186	2,294	2,445	2,417	1,969	2,209	2,925	1,223	3,540	2,945	28,584
1986	2,915	2,673	2,006	2,936	1,944	1,989	2,165	2,527	2,157	1,986	2,568	3,301	29,167
1987	3,502	2,926	2,295	3,527	4,095	3,845	4,554	4,302	4,456	3,418	3,684	4,471	45,075
1988	5,032	4,039	7,107	8,028	8,655	7,262	7,239	8,902	5,162	3,380	8,682	12,586	86,074
1989	10,567	9,196	8,694	8,358	5,225	8,058	5,146	4,308	4,819	9,083	10,027	13,050	96,531
1990	22,911	11,933	13,050	17,070	20,729	16,317	17,651	12,127	10,719	9,466	9,256	12,178	173,407
1997													148,924
1998	22,771	13,915	14,813	28,255	22,060	10,823	12,330	14,288	14,094	22,131	16,458	37,086	229,024
1999	34,020	25,494	19,957	34,485	17,958	10,817	12,881	7,472	8,358	6,761	5,699	18,701	202,603
2000	19,788	14,821	10,115	21,787	18,064	8,584	15,062	12,442	8,860	18,120	10,622	21,892	180,157
2001	15,150	10,260	9,246	18,578	16,039	6,881	10,586	10,593	8,997	9,908	12,632	20,807	149,677

211

Table C4 Number of visitors predicted with 3.66% increasing rate.

Year	Number of visitors
1982	3,920
1983	13,438
1984	19,026
1985	28,584
1986	29,167
1987	41,657
1988	86,074
1989	96,531
1990	173,427
1991	179,774
1992	186,354
1993	193,175
1994	200,245
1995	207,574
1996	215,171
1997	148,924
1998	229,024
1999	202,603
2000	187,676
2001	149,677

Table C5 Estimation of visitor increasing rate (1997s-2001s).

Year	Number of tourists				
	Temporary	Overnight	Total	difference	I-rate (%)
1997	120,006	28,918	148,924		
1998	172,727	56,297	229,024	80,100	53.79
1999	152,556	50,047	202,603	-26,421	-11.54
2000	144,596	43,080	187,676	-14,927	-7.37
2001	120,685	28,992	149,677	-37,999	-20.25
Total					**14.63**
Average					***3.66***

Table C6 Estimation of visitor increasing rate (1982s-1990s), and (1997s-2001s).

Year	Number of tourists				
	Temporary	Overnight	Total	Difference	I-rate (%)
1982	3,359	561	3,920	0	0.00
1983	10,196	3,242	13,438	9,518	242.81
1984	13,824	5,202	19,026	5,588	41.58
1985	18,931	9,653	28,584	9,558	50.24
1986	18,222	10,945	29,167	583	2.04
1987	29,461	12,196	41,657	12,490	42.82
1988	76,329	9,745	86,074	44,417	106.63
1989	88,799	7,732	96,531	10,457	12.15
1990	152,094	21,333	173,427	76,896	79.66
1997	120,006	28,918	148,924	-24,503	-14.13
1998	172,727	56,297	229,024	80,100	53.79
1999	152,556	50,047	202,603	-26,421	-11.54
2000	144,596	43,080	187,676	-14,927	-7.37
2001	120,685	28,992	149,677	-37,999	-20.25
Total					**578.43**
Average					***44.49***

Table C7 Estimation of visitor increasing rate (1982s-1990s).

Year	Number of tourists				
	Temporary	Overnight	Total	Difference	I-rate (%)
1982	3,359	561	3,920	0	0.00
1983	10,196	3,242	13,438	9,518	242.81
1984	13,824	5,202	19,026	5,588	41.58
1985	18,931	9,653	28,584	9,558	50.24
1986	18,222	10,945	29,167	583	2.04
1987	29,461	12,196	41,657	12,490	42.82
1988	76,329	9,745	86,074	44,417	106.63
1989	88,799	7,732	96,531	10,457	12.15
1990	152,094	21,333	173,427	76,896	79.66
Total					**577.92**

Average	72.24

Table C8 Kaiser-Meyer-Olkin Measure of Sampling Adequacy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.551
Bartlett's Test of Sphericity	Approx. Chi-Square	1273.883
	df	171
	Sig.	.000

Table C9 Communality of selected variables

Communalities

	Initial	Extraction
Zscore: Region (province) indicated whe	1.000	.675
Zscore: Sex of respondance	1.000	.831
Zscore: Marital status of visitor.	1.000	.506
Zscore: Age of respondance.	1.000	.728
Zscore: Education level of visitor.	1.000	.736
Zscore: Occupation.	1.000	.685
Zscore: Level of visiotr's income.	1.000	.765
Zscore: Have you aver been to KKCNP?	1.000	.842
Zscore: Total access to KKCNP	1.000	.858
Zscore: Who are your travel mates?	1.000	.834
Zscore: Number of people travel togethe	1.000	.791
Zscore: The length of this trip (day)	1.000	.690
Zscore: total expense for this trip (TH	1.000	.522
Zscore: Is KKCNP your destination?	1.000	.744
Zscore: The reason for the trip.	1.000	.701
Zscore: Way of travel to the site.	1.000	.723
Zscore: Information assessment before v	1.000	.575
Zscore: The meaning of ecotourism.	1.000	.682
Zscore: Reason to determine "real charg	1.000	.744

Extraction Method: Principal Component Analysis.

Table C10 Statistical description Factors (components) before and after Principal Component Analysis performed.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.512	18.483	18.483	3.512	18.483	18.483	2.570	13.524	13.524
2	1.875	9.866	28.349	1.875	9.866	28.349	2.107	11.089	24.613
3	1.795	9.447	37.796	1.795	9.447	37.796	1.949	10.260	34.873
4	1.619	8.520	46.316	1.619	8.520	46.316	1.566	8.240	43.113
5	1.415	7.447	53.763	1.415	7.447	53.763	1.552	8.168	51.281
6	1.247	6.563	60.326	1.247	6.563	60.326	1.338	7.040	58.321
7	1.098	5.778	66.104	1.098	5.778	66.104	1.312	6.907	65.228
8	1.075	5.656	71.761	1.075	5.656	71.761	1.241	6.533	71.761
9	.916	4.820	76.581						
10	.790	4.160	80.741						
11	.712	3.749	84.490						
12	.576	3.034	87.523						
13	.562	2.957	90.481						
14	.496	2.612	93.092						
15	.441	2.319	95.411						
16	.284	1.495	96.906						
17	.232	1.219	98.126						
18	.205	1.079	99.205						
19	.151	.795	100.000						

Extraction Method: Principal Component Analysis.

Table C11 Communality description of selected variables

Rotated Component Matrix[a]

	Component							
	1	2	3	4	5	6	7	8
Zscore: Level of visiotr's income.	.810			.307				
Zscore: Age of respondance.	.805		.123	.107		-.175		.124
Zscore: Marital status of visitor.	.637	-.169		-.117	-.138		.156	.106
Zscore: Occupation.	.615	-.182			.384	.265	.169	-.156
Zscore: Number of people travel togethe		.870	-.134					.117
Zscore: Who are your travel mates?	-.343	.800	-.132	.141	.138		-.111	
Zscore: Information assessment before v		-.601		.221	.235		-.122	.286
Zscore: Total access to KKCNP			.892		.156	-.154		
Zscore: Have you aver been to KKCNP?		-.154	.884					.165
Zscore: total expense for this trip (TH		-.128		.684				.108
Zscore: Education level of visitor.	.204	.273	.284	.615	-.184		-.221	-.270
Zscore: Region (province) indicated whe			-.229	.523	-.105	-.224	.513	-.134
Zscore: Way of travel to the site.	-.122	.102			.823			
Zscore: The length of this trip (day)	.106	-.201	.311	.160	.655	-.161	.115	-.221
Zscore: Sex of respondance	-.241		-.132	.137		.854		
Zscore: The reason for the trip.	-.362		-.101	.362	.191	-.609		-.128
Zscore: Is KKCNP your destination?	.133						.833	.141
Zscore: Reason to determine "real charg		.116	.231		-.146		.208	.775
Zscore: The meaning of ecotourism.	.241	-.295		.254	.236		-.381	.514

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

Table C12 Real case response by questionnaire, for Bus service.

Classification Table[a,b]

Observed			Predicted		
			WTP: bus service		
			unwilling to pay	willing to pay	Percentage Correct
Step 0	WTP: bus service	unwilling to pay	0	28	.0
		willing to pay	0	199	100.0
	Overall Percentage				87.7

a. Constant is included in the model.

b. The cut value is .500

Table C13 Test of Goodness of Fit

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	135.474	.140	.265

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	19.771	8	.011

Table C14 Percentage correction of model prediction.

Classification Table[a]

Observed			Predicted		
			WTP: bus service		
			unwilling to pay	willing to pay	Percentage Correct
Step 1	WTP: bus service	unwilling to pay	9	19	32.1
		willing to pay	2	197	99.0
	Overall Percentage				90.7

a. The cut value is .500

Table C15 Beta coefficient value in logistic response model.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	FAC1_1	-.273	.234	1.366	1	.242	.761	.481	1.203
	FAC2_1	.200	.285	.493	1	.483	1.221	.699	2.135
	FAC3_1	-.529	.265	3.989	1	.046	.589	.351	.990
	FAC4_1	.713	.282	6.379	1	.012	2.041	1.173	3.551
	FAC5_1	.740	.337	4.810	1	.028	2.095	1.082	4.057
	FAC6_1	-.571	.302	3.564	1	.059	.565	.312	1.022
	FAC7_1	.126	.233	.291	1	.589	1.134	.718	1.792
	FAC8_1	-.523	.227	5.310	1	.021	.593	.380	.925
	Constant	2.595	.324	64.218	1	.000	13.403		

a. Variable(s) entered on step 1: FAC1_1, FAC2_1, FAC3_1, FAC4_1, FAC5_1, FAC6_1, FAC7_1, FAC8_1.

Table C16 Casewise list is exception for WTP analysis for Bus service.

Casewise List[b]

Case	Selected Status[a]	Observed WTP: bus service	Predicted	Predicted Group	Temporary Variable	
					Resid	ZResid
18	S	u**	.881	w	-.881	-2.724
53	S	u**	.970	w	-.970	-5.663
59	S	u**	.892	w	-.892	-2.877
68	S	u**	.861	w	-.861	-2.487
81	S	u**	.893	w	-.893	-2.892
89	S	u**	.878	w	-.878	-2.678
109	S	u**	.896	w	-.896	-2.934
148	S	u**	.980	w	-.980	-7.015
176	S	u**	.970	w	-.970	-5.663
182	S	u**	.892	w	-.892	-2.877
221	S	u**	.893	w	-.893	-2.892

a. S = Selected, U = Unselected cases, and ** = Misclassified cases.

b. Cases with studentized residuals greater than 2.000 are listed.

Table C17 WTP analysis for Bus service

WTP: bus service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	unwilling to pay	19	8.8	8.8	8.8
	willing to pay	197	91.2	91.2	100.0
	Total	216	100.0	100.0	

Table C18 Charge system determination for Bus service

WTP: charging system for bus service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	lump sum	51	23.6	25.9	25.9
	real charge	146	67.6	74.1	100.0
	Total	197	91.2	100.0	
Missing	System	19	8.8		
Total		216	100.0		

Table C19 Determining charge system (lump sum)

amount of lump sum (unit: THB/trip)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	600 THB/trip	28	13.0	54.9	54.9
	700 THB/trip	11	5.1	21.6	76.5
	800 THB/trip	7	3.2	13.7	90.2
	1000 THB/trip	1	.5	2.0	92.2
	others	4	1.9	7.8	100.0
	Total	51	23.6	100.0	
Missing	System	165	76.4		
Total		216	100.0		

Table C20 Determining charge system (real charge)

amount of real cahrge (unit: THB/visitorl/trip)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	50 THB/ind/trip	49	22.7	33.6	33.6
	100 THB/ind/trip	46	21.3	31.5	65.1
	150 THB/ind/trip	20	9.3	13.7	78.8
	200 THB/ind/trip	14	6.5	9.6	88.4
	250 THB/ind/trip	3	1.4	2.1	90.4
	others	14	6.5	9.6	100.0
	Total	146	67.6	100.0	
Missing	System	70	32.4		
Total		216	100.0		

Table C21

Classification Table[a,b]

Observed			Predicted		
			WTP: homestay service		
			unwilling to pay	willing to pay	Percentage Correct
Step 0	WTP: homestay service	unwilling to pay	0	48	.0
		willing to pay	0	179	100.0
	Overall Percentage				78.9

a. Constant is included in the model.

b. The cut value is .500

Table C22

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	32.812	8	.000
	Block	32.812	8	.000
	Model	32.812	8	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	*201.396*	*.135*	*.209*

Table C23

Classification Table[a]

Observed			Predicted		
			WTP: homestay service		
			unwilling to pay	willing to pay	Percentage Correct
Step 1	WTP: homestay service	unwilling to pay	*14*	*34*	*29.2*
		willing to pay	*6*	*173*	*96.6*
	Overall Percentage				*82.4*

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	FAC1_1	*.135*	*.170*	*.629*	*1*	*.428*	*1.144*	*.820*	*1.596*
	FAC2_1	*.375*	*.244*	*2.359*	*1*	*.125*	*1.454*	*.902*	*2.346*
	FAC3_1	*-.124*	*.202*	*.378*	*1*	*.539*	*.883*	*.595*	*1.312*
	FAC4_1	*.100*	*.168*	*.351*	*1*	*.553*	*1.105*	*.794*	*1.537*
	FAC5_1	*1.062*	*.297*	*12.756*	*1*	*.000*	*2.893*	*1.615*	*5.181*
	FAC6_1	*-.253*	*.192*	*1.741*	*1*	*.187*	*.777*	*.533*	*1.131*
	FAC7_1	*-.133*	*.152*	*.771*	*1*	*.380*	*.875*	*.650*	*1.178*
	FAC8_1	*-.358*	*.176*	*4.161*	*1*	*.041*	*.699*	*.495*	*.986*
	Constant	*1.658*	*.218*	*58.098*	*1*	*.000*	*5.249*		

a. Variable(s) entered on step 1: FAC1_1, FAC2_1, FAC3_1, FAC4_1, FAC5_1, FAC6_1, FAC7_1, FAC8_1.

Table C25

Casewise List[b]

Case	Selected Status[a]	Observed	Predicted	Predicted Group	Temporary Variable	
		WTP: homestay service			Resid	ZResid
3	S	u**	.863	w	-.863	-2.508
13	S	u**	.857	w	-.857	-2.451
18	S	u**	.901	w	-.901	-3.014
57	S	u**	.945	w	-.945	-4.149
81	S	u**	.867	w	-.867	-2.556
100	S	u**	.899	w	-.899	-2.984
169	S	u**	.899	w	-.899	-2.984
180	S	u**	.945	w	-.945	-4.149
221	S	u**	.867	w	-.867	-2.556

a. S = Selected, U = Unselected cases, and ** = Misclassified cases.

b. Cases with studentized residuals greater than 2.000 are listed.

Table C26

WTP: homestay service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	unwilling to pay	34	16.4	16.4	16.4
	willing to pay	173	83.6	83.6	100.0
	Total	207	100.0	100.0	

Table C27

WTP: charging system for homestay service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	lump sum	168	81.2	97.1	97.1
	other systems	5	2.4	2.9	100.0
	Total	173	83.6	100.0	
Missing	System	34	16.4		
Total		207	100.0		

Table C27

amount of lump sum (unit: THB/visitor/day)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100 THB/ind/day	57	27.5	33.9	33.9
	150 THB/ind/day	51	24.6	30.4	64.3
	200 THB/ind/day	28	13.5	16.7	81.0
	250 THB/ind/day	16	7.7	9.5	90.5
	300 THB/ind/day	11	5.3	6.5	97.0
	others	5	2.4	3.0	100.0
	Total	168	81.2	100.0	
Missing	System	39	18.8		
Total		207	100.0		

Table C28

Classification Table[a,b]

Observed			Predicted		
			WTP: forest ranger service.		
			unwilling to pay	willing to pay	Percentage Correct
Step 0	WTP: forest ranger service.	unwilling to pay	0	39	.0
		willing to pay	0	188	100.0
	Overall Percentage				82.8

a. Constant is included in the model.

b. The cut value is .500

Table C29

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	163.771	.178	.296

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	12.694	8	.123

Table C30

Classification Table[a]

Observed			Predicted		
			WTP: forest ranger service.		
			unwilling to pay	willing to pay	Percentage Correct
Step 1	WTP: forest ranger service.	unwilling to pay	17	22	43.6
		willing to pay	2	186	98.9
	Overall Percentage				89.4

a. The cut value is .500

Table C31

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	FAC1_1	-.218	.196	1.228	1	.268	.804	.547	1.182
	FAC2_1	.277	.247	1.255	1	.263	1.319	.813	2.141
	FAC3_1	.262	.251	1.089	1	.297	1.299	.794	2.126
	FAC4_1	.310	.211	2.156	1	.142	1.363	.902	2.061
	FAC5_1	1.529	.388	15.535	1	.000	4.615	2.157	9.871
	FAC6_1	-.651	.258	6.343	1	.012	.522	.314	.866
	FAC7_1	-.427	.154	7.738	1	.005	.652	.483	.881
	FAC8_1	-.393	.200	3.875	1	.049	.675	.456	.998
	Constant	2.290	.305	56.568	1	.000	9.879		

a. Variable(s) entered on step 1: FAC1_1, FAC2_1, FAC3_1, FAC4_1, FAC5_1, FAC6_1, FAC7_1, FAC8_1.

Table C32

Casewise List[b]

Case	Selected Status[a]	Observed WTP: forest ranger service.	Predicted	Predicted Group	Temporary Variable Resid	Temporary Variable ZResid
18	S	u**	.888	w	-.888	-2.821
35	S	u**	.929	w	-.929	-3.630
52	S	u**	.909	w	-.909	-3.156
81	S	u**	.946	w	-.946	-4.205
89	S	u**	.934	w	-.934	-3.752
109	S	u**	.937	w	-.937	-3.872
148	S	u**	.929	w	-.929	-3.625
175	S	u**	.917	w	-.917	-3.332
180	S	u**	.960	w	-.960	-4.868
221	S	u**	.946	w	-.946	-4.205

a. S = Selected, U = Unselected cases, and ** = Misclassified cases.

b. Cases with studentized residuals greater than 2.000 are listed.

Table C33

WTP: forest ranger service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	unwilling to pay	22	10.6	10.6	10.6
	willing to pay	186	89.4	89.4	100.0
	Total	208	100.0	100.0	

Table C34

WTP: charging system for forest ranger service.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	lump sum	181	87.0	97.3	97.3
	other systems	5	2.4	2.7	100.0
	Total	186	89.4	100.0	
Missing	System	22	10.6		
Total		208	100.0		

Table C35

lump sum (THB/ranger/ day)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100 THB/ranger/day	*40*	*19.2*	*22.1*	*22.1*
	150 THB/ranger/day	*22*	*10.6*	*12.2*	*34.3*
	200 THB/ranger/day	*68*	*32.7*	*37.6*	*71.8*
	250 THB/ranger/day	*10*	*4.8*	*5.5*	*77.3*
	300 THB/ranger/day	*32*	*15.4*	*17.7*	*95.0*
	others	*9*	*4.3*	*5.0*	*100.0*
	Total	*181*	*87.0*	*100.0*	
Missing	System	*27*	*13.0*		
Total		*208*	*100.0*		

Equations in ../Desktop
season=fmod(time,1)where[time=time]
Elephant from forest=elephant_to_crop_0 where[elephant_to_crop_0=Elephant to crop]
time=time(1)
Elephant to crop=elephant where[elephant=FOREST/Elephant]
Ab_mass=t_f_biomass where[t_f_biomass=FOREST/T_F_biomass]
Equations in COMMUNITY
children=2750
male=4875
female=4875
cash=10000
landuse=4000
reprod=female*birthrate where[birthrate=birthrate,female=female]
men=0.4*children where[children=children]
womwn=0.6*children where[children=children]
growthm=graph(0,100,400,100,0,400,0,21,points(394,379,360,349,333,304,290,279,250,246,240,
179,147,113,94,61,48,21,7,5,4),immigra_mull)where[immigra_mull=immigra.mull]
f_mort=mortrate*female where[mortrate=mortrate,female=female]
income=rev_pine+rev_lemon where[rev_pine=rev pine,rev_lemon=rev lemon]
expenditure=0.5*cash where[cash=cash]
encroachment=0.1*no__household*landuse+distb_area where[no__household=no.
household,landuse=landuse,distb_area=../FOREST/Distb_area]
birthrate=graph(0,100,400,1,0,400,0,21,points(373,360,337,329,316,303,291,279,261,228,213,194
,169,146,141,114,93,67,49,43,11),disease)where[disease=../COMM_DISEASE/disease]
mortrate=0.1*disease where[disease=../COMM_DISEASE/disease]
immigra.mull=graph(0,1,400,1,0,400,0,21,points(394,379,360,349,333,307,283,245,241,237,207,1
79,147,113,94,61,48,21,7,5,4),wealth_ratio)where[wealth_ratio=wealth ratio]
wealth in city=50000
no. household=no__of_pop/5 where[no__of_pop=no. of pop]
wealth ratio=cash/wealth_in_city where[wealth_in_city=wealth in city,cash=cash]
no. of pop=male+children+female where[male=male,children=children,female=female]
pine price=2
rev pine=pine_price*yield_pine where[pine_price=pine price,yield_pine=yield pine]
yield pine=150*6.25
rev lemon=lemon_price*yield_lemon where[lemon_price=lemon price,yield_lemon=yield lemon]
lemon price=20
yield lemon=200*6.25
m_mort=male*mortrate where[male=male,mortrate=mortrate]
c_mort=mortrate*children where[mortrate=mortrate,children=children]
growthf=graph(0,100,400,100,0,400,0,21,points(388,382,353,350,347,315,299,263,247,223,191,1
79,145,108,86,77,42,37,33,11,4),immigra_mull)where[immigra_mull=immigra.mull]
Equations in COMM_DISEASE
disease=4.5/water_quality where[water_quality=water quality]
water quality=no3_+no2_+e_coli+do+ph/5 where[no3_=NO3-,no2_=NO2-,e_coli=E
coli,do=DO,ph=pH]
NO3-=(if i_no3_<s_no3_ then 1 else 0)where[i_no3_=i_NO3-,s_no3_=s_NO3-]
s_NO3-=0.5
mg/l
i_NO3-=0
mg/l
NO2-=(if i_no2_<s_no2_ then 1 else 0)where[i_no2_=i_NO2-,s_no2_=s_NO2-]
s_NO2-=90
mg/l
i_NO2-=0

```
mg/l
E coli=(if i_ecoli>s_ecoli then 0 else 1)where[s_ecoli=s_ecoli,i_ecoli=i_ecoli]
i_ecoli=0
s_ecoli=0
MPN/ 100 ml
DO=(if i_do>s_do1 then 0 elseif i_do<s_do2 then 0 else
1)where[s_do2=s_DO2,s_do1=s_DO1,i_do=i_DO]
i_DO=0
s_DO1=7.5
mg/l
s_DO2=4.0
mg/l
pH=(if i_ph>phmax then 0 elseif i_ph<phmin then 0 else
1)where[phmin=pHmin,phmax=pHmax,i_ph=i_pH]
pHmin=6.0
pHmax=9.0
i_pH=0
Equations in FOREST
zclass1=337
zclass2=322
zclass3=159
zclass4=79
zclass5=60
recruitment=0.15*water_mul*0.01*n_recruited*(1-
ele_damage)where[ele_damage=ele_damage,n_recruited=N_recruited,water_mul=water_mul]
reforestration=0.02*zclass1 where[zclass1=zclass1]
gr3=0.5*zclass3*0.35*water_mul where[water_mul=water_mul,zclass3=zclass3]
gr4=0.76*zclass4*0.4*water_mul where[water_mul=water_mul,zclass4=zclass4]
Mort_s1=zclass1*m_rate1 where[m_rate1=m_rate1,zclass1=zclass1]
Mort_s2=zclass2*m_rate2 where[zclass2=zclass2,m_rate2=m_rate2]
Mort_s3=zclass3*m_rate3 where[zclass3=zclass3,m_rate3=m_rate3]
Mort_s5=zclass5*m_rate5 where[zclass5=zclass5,m_rate5=m_rate5]
Elephant=(if ele_number>=100 then elen1 else
ele_number)where[elen1=elen1,ele_number=ele_number]
m_rate1=0.045
water_mul=graph(0,50,400,20,0,313,0,21,points(278,202,116,162,198,200,199,194,108,29,1,45,94
,181,233,256,255,251,246,232,226),rain)where[rain=rain]
Tree numbers=zclass1+zclass2+zclass3+zclass4+zclass5
where[zclass1=zclass1,zclass2=zclass2,zclass3=zclass3,zclass4=zclass4,zclass5=zclass5]
gr1=0.9*zclass1*0.25*water_mul*(1-
ele_dm1)where[water_mul=water_mul,zclass1=zclass1,ele_dm1=ele_dm1]
rain=100
ele_damage=(if elephant<=100 then elephant/20*0.01 elseif elephant<=200 then elephant/20*0.02
else elephant/20*0.03)where[elephant=Elephant]
Mort_s4=zclass4*m_rate4 where[zclass4=zclass4,m_rate4=m_rate4]
gr2=0.5*zclass2*0.3*water_mul*(1-
ele_dm2)where[water_mul=water_mul,zclass2=zclass2,ele_dm2=ele_dm2]
real_officer=(if n>=re_officer then re_officer*0.999 else n)where[n=N,re_officer=re_officer]
logging=zclass5*l_rate where[zclass5=zclass5,l_rate=l_rate]
ele_dm2=(if elephant<=100 then elephant/20*0.02 elseif elephant<=200 then elephant/20*0.03
else elephant/20*0.04)where[elephant=Elephant]
m_rate2=0.504
m_rate3=0.503
m_rate4=0.238
m_rate5=0.2
```

ele_dm1=(if elephant<=100 then elephant/20*0.03 elseif elephant<=200 then elephant/20*0.04 else elephant/20*0.05)where[elephant=Elephant]
l_rate=lgr_max*(lgr_max-real_officer/re_officer)where[real_officer=real_officer,lgr_max=lgr_max,re_officer=re_officer]
lgr_max=1
Total_area=291500
re_officer=total_area/1000 where[total_area=Total_area]
st1=(if zclass1<=0 then 0 elseif zclass1<=est__tree_density then zclass1/est__tree_density else 0)where[zclass1=zclass1,est__tree_density=Est_ tree density]
st2=(if zclass2<=0 then 0 elseif zclass2<=est__tree_density then zclass2/est__tree_density else 0)where[zclass2=zclass2,est__tree_density=Est_ tree density]
st3=(if zclass3<=0 then 0 elseif zclass3<=est__tree_density then zclass3/est__tree_density else 0)where[zclass3=zclass3,est__tree_density=Est_ tree density]
st4=(if zclass4<=0 then 0 elseif zclass4<=est__tree_density then zclass4/est__tree_density else 0)where[zclass4=zclass4,est__tree_density=Est_ tree density]
st5=(if zclass5<=0 then 0 elseif zclass5<=est__tree_density then zclass5/est__tree_density else 1)where[zclass5=zclass5,est__tree_density=Est_ tree density]
F_state=st1+st2+st3+st4+st5 where[st1=st1,st2=st2,st3=st3,st5=st5,st4=st4]
l_control rate=1-l_rate where[l_rate=l_rate]
Forest area=total_area-distb_area+refores_area
where[total_area=Total_area,refores_area=refores_area,distb_area=Distb_area]
N_recruited=140000
ele_number=100
elen1=0.95*ele_number where[ele_number=ele_number]
Tmax=1750
Est_ tree density=(if tree_numbers<=0 then 0 elseif tree_numbers>=tmax then tmax else tree_numbers)where[tree_numbers=Tree numbers,tmax=Tmax]
Distb_area=14500
encroachment=ele_d*forest_area+logging_area
where[ele_d=ele_d,logging_area=logging_area,forest_area=Forest area]
refores_area=(nat_r+refor_r)*disturbed_area
where[disturbed_area=Distb_area,refor_r=refor_r,nat_r=nat_r]
refor_r=0.02
nat_r=0.01
ele_d=(if elephant<=100 then 0.001 elseif elephant<=300 then 0.002 else 0.003)where[elephant=Elephant]
logging_area=forest_area*l_rate*0.01 where[l_rate=l_rate,forest_area=Forest area]
total tree number=tree_numbers*forest_area where[tree_numbers=Tree numbers,forest_area=Forest area]
N=100
F_biomass=356.52*tree_numbers where[tree_numbers=Tree numbers]
T_F_biomass=forest_area*f_biomass where[forest_area=Forest area,f_biomass=F_biomass]
Equations in CROP
product=10
vegetation=6250
storage=0
prod_growth=1*wa_mult2*f_mult2*(0.8*veg_mult)where[wa_mult2=wa_mult2,veg_mult=veg_mult,f_mult2=f_mult2]
prod_loss=(if elephant<200 then 0.03*product elseif elephant>200 then 0.05*product else 0.1*product)where[product=product,elephant=Elephant from forest_0]
harvest=(if season>0.75 then(if product>maxharvest then maxharvest/dt(1)elseif product<0 then 0 else product/dt(1))else 0)where[product=product,maxharvest=maxharvest,season=season_0]
growth=(if it_mult>2 then 0 else gr*w_mult*f_mult1*wa_mult1*(1-vegetation/maxharvest))where[f_mult1=f_mult1,it_mult=It_mult,w_mult=w_mult,wa_mult1=wa_mult1,gr=gr,vegetation=vegetation,maxharvest=maxharvest]

```
veg_loss=(if p_mult>0 then 0.001*vegetation else
0)where[vegetation=vegetation,p_mult=p_mult]
yield=0.9*harvest*area where[area=area,harvest=harvest]
discard=(if (storage>0,season<0.01)then 0.1*storage else
0)where[storage=storage,season=season_0]
store_loss=(if elephant>0 then 0.01*storage else 0)where[storage=storage,elephant=../Elephant
from forest]
selling=storage-discard-store_loss where[storage=storage,store_loss=store_loss,discard=discard]
f_mult2=graph(0,1,400,1,0,400,0,21,points(89,90,93,95,97,100,102,102,105,110,117,124,129,132,
133,137,148,158,164,168,171),fertilizer)where[fertilizer=fertilizer]
wa_mult2=graph(0,1,400,1,0,400,0,21,points(70,67,65,65,67,71,77,85,94,107,117,131,146,162,17
4,188,200,212,224,244,260),water)where[water=water]
wa_mult1=graph(0,1000,400,1,0,400,0,21,points(390,371,355,285,266,252,218,202,184,180,170,1
60,142,130,102,92,80,48,36,24,14),water)where[water=water]
water=100
gr=element([200,3],index(1))
f_mult1=graph(0,1,400,500,0,400,0,21,points(195,188,177,158,155,129,111,97,88,63,43,35,15,11,
3,3,3,3,2,4,7),fertilizer)where[fertilizer=fertilizer]
life_time=0
lt_mult=graph(0,1,400,4,0,400,0,21,points(6,24,45,49,69,91,118,126,142,174,192,240,260,294,30
4,318,321,352,357,369,379),life_time)where[life_time=life_time]
w_mult=graph(0,1,400,10,0,400,0,21,points(15,32,66,89,122,128,148,170,176,213,231,257,271,29
5,319,323,340,348,351,360,384),weed)where[weed=weed]
weed=graph(0,7,400,5,0,400,0,21,points(27,32,44,81,97,103,116,137,147,168,192,202,216,231,25
9,271,308,324,336,348,370),herbicide)where[herbicide=herbicide]
herbicide=3.125
veg_mult=1*vegetation where[vegetation=vegetation]
p_mult=graph(0,15000,400,1,0,400,0,21,points(4,35,67,83,117,139,147,184,198,204,242,258,280,
286,308,322,336,352,364,372,392),pets)where[pets=pets]
pets=graph(0,100,400,100,0,400,0,21,points(4,35,67,83,117,139,147,184,198,204,242,258,280,28
6,308,322,336,352,364,372,392),pesticide)where[pesticide=pesticide]
pesticide=0
market=200*365*0.5
fertilizer=1250
area=1600
hectare
maxharvest=62.5
conv=(if selling<market then selling else market)where[selling=selling,market=market]
sell out=price_p_kg*conv where[price_p_kg=price p kg,conv=conv]
price p kg=7
season_0=season where[season=../season]
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BIOGRAPHY

Miss Pensri Srikanha was born in September 5, 1971 at Samutprakarn province. In 1994, she hold Bechelor degree in Biology from Department of Biology, Faculty of Science, Chulalongkorn University, Bangkok, THAILAND. The research topic is " Structural Characteristics and Successional Trend of Plant Community in Deciduous Forest Ecosystem, Huai Kha Khaeng Wildlife Sanctuary, Thailand", under the supervision of Assistant Professor Dr. Kumthorn Theerakhupt.

Three years later, she's got Master degree of Science, concentration in Zoology (Ecosystem Ecology) from Faculty of Science, Chulalongkorn University, Bangkok, THAILAND, in 1997. The research topic is "Structural Characteristics and Successional Trend of Plant Community in Deciduous Forest Ecosystem, Huai Kha Khaeng Wildlife Sanctuary, Thailand", under the supervision of Associate Professor Dr. Jiragorn Gajaseni.