Executive Summary

Introduction

Mu Ko Chang National Park, Trat Province is located in the Gulf of Thailand between Latitude 11^{o} 45' and 12^{o} 10' N, and between Longitude 102^{o} 15' and 102^{o} 31' E. The National Park cover area, both land and marine, about 650 km^2 or 406,250 Rai. Ko Chang is the second largest island of Thailand. In the past, there is Tan Mayom Waterfall Forest Park on the island until 15 June 1982, National Park Committees agreed to establish Ko Chang as the 45^{th} national park of Thailand.

Mu Ko Chang National Park has very abundant and beautiful resource such as forest area, waterfalls, wildlife, aquatic animals, beaches, islands, coral reef and important historical area. This National Park is one of the most popular destinations of the eastern coast of Thailand. There are a large number of visitors each year that cause land use change from agriculture to travel industry. If the environmental management and preservation is not suitable enough, the impacts from that change will cause many problems not only to ecology but also human community and national travel industry.

The integrated plan on the basis of conservation and development is a good solution for National Park management. Land use around the national park should have a good plan or law and regulation to control and then, it will be develop to support travel industry with the least impact to environment.

Information Technology is one of the potential tools for environmental resource management. It can be used to support management plan setting and decision making by giving covered data to the officer. These data include physical data, biological data, social and also economics data of the national park and the surrounding areas. In this study, the information technologies used are database system and Geographic Information System. Database was used to collect all data of

the national park such as data about resources in the area and the list of officers and also data of the surrounding area. GIS was used for collecting and assessing both non-spatial and spatial data. These tools will help concerned officers of the national park to understand the whole situation of the area. The results from the study can be used to select activities which will be done in the national park, this will reduce impact occurs from development. The less impact means resource and environment will not be destroy.

Objectives

1. To prepare Natural Resource & Environmental Database for Mu Ko Chang National Park
2. To create Management Information System for Mu Ko Chang National Park

Expected Outcomes

1. Information System for National Park Management.
2. Information Technology can be used to support the decision making for activities concerning with natural resource and environment.
3. Management Information System received from this study can be applied for the other national park in Thailand

Scope of the Study

Study area

This study is base of on Mu Ko Chang National Park and surrounding area in 3-5 kilometer buffer.

Study framework

This study is focused on information system establishment to support the management activity of Mu Ko Chang National Park.

Methodology

1. Research Preparation
    1.1 Review document concerning with the national park, GIS application, Management information system and database
    1.2 Pre-survey and interview national park officer about the information system requirement of the area
    1.3 Set data collection plan
    1.4 Collect map and Air photograph of the study area
2. Investigation in study area
    2.1 Study and assess working system of the national park by interview and literature review
    2.2 Collect all relevant physical data of the national park using GPS
    2.3 Collect all relevant biological data of the national park from by interview, literature review and survey
    2.4 Collect all relevant data about law and management of the national park
    2.5 Collect all relevant environmental data of the national park
    2.6 Input secondary data
3. Information system creation for national park management
    3.1 Apply GIS for spatial data management
    3.2 Evaluate potential of the area
    3.3 Use Microsoft Access 97 for database management
    3.4 Design management plan using the result from 3.1-3.3 and create the home page in order to promote national park information via internet
4. Information system test and evaluation by national park officers
5. System improvement
6. Documentation

Result and Conclusion

Mu Ko Chang National Park covers 650 km^2 or 406,250 Rai, which is, land about 146.5 km^2 and marine about 503.5 km^2.

Potential Analysis of the area

The aim of this study is creating the information system to support Mu Ko Chang National Park management, the potential to maintain National Park was evaluated. The processes of potential analysis are analysis of individual theme and Overlay theme. The result from overlay shows the lack of potential to maintain the national park in some areas. Some areas has the overlapping of responsibility, in contrast, some area has no responsibility from any park headquarters.

Data received from this study can be used in planning for responsibility distribution or new park headquarters. setting in order to receive higher capacity to maintain the whole area of the national park.

Database Creation

In this study, the database was created using Microsoft Access 97. This program is selected because it is easy to use and it also has high capacity to receive data both individual and company data.

After the database has been created, it was tested and evaluated by database creation expert. The results show that design of the database is in middle level. The tool that is selected to use in design is suitable. However, the tool used for design is in the middle level because there are the other tool that is more up to date. The accuracy and completion of the database are also in the middle level. The detail is quite good. The overall quality of the database is in the middle level.

Home Page Creation

In this study, the home page was created using data from GIS, database and basic data. This home page was created in order to promote National Park information via Internet.

After home page was created, it was tested and evaluated by three groups of assessor; 12 government official, 5 experts and 25 general user. The general user means the people who come to use Internet in the Internet shop, which the home page has been set.

The result from questionnaire shows that almost of general users and government official said the home page is good. Almost of experts said the home page is good. The tool used for home page design and pictures in the home page are acceptable.