

DEVELOPING SUSTAINABLE TOURISM AT KHAO SAM ROI YOD NATIONAL PARK

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Abstract

Khao Sam Roi Yod National Park, as a famous tourist attraction and the biggest freshwater marshland in Thailand, is at the crossroads. This place has already been explored for several decades but the difficulties are still in front of the tourism planners and supervisors. A lot of ideal measures have been planned out by the local authority. The problem is whether all these plans are practical and concerned with all stakeholders' interests and how can all the plans be implemented effectively and efficiently. This paper focuses on the managerial and environmental problems in this area. The first part provides a briefly overview of Khao Sam Roi Yod National Park. The second part reviews the problems threatening the sustainable tourism development in this area. The last part presents some pre-emptive and corrective measures and policy implications for combating the negative impacts in the Park.

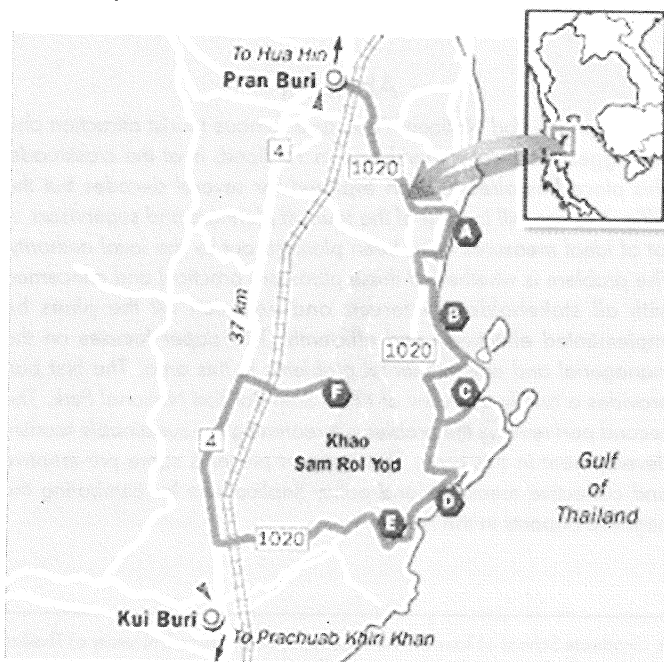
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Introduction

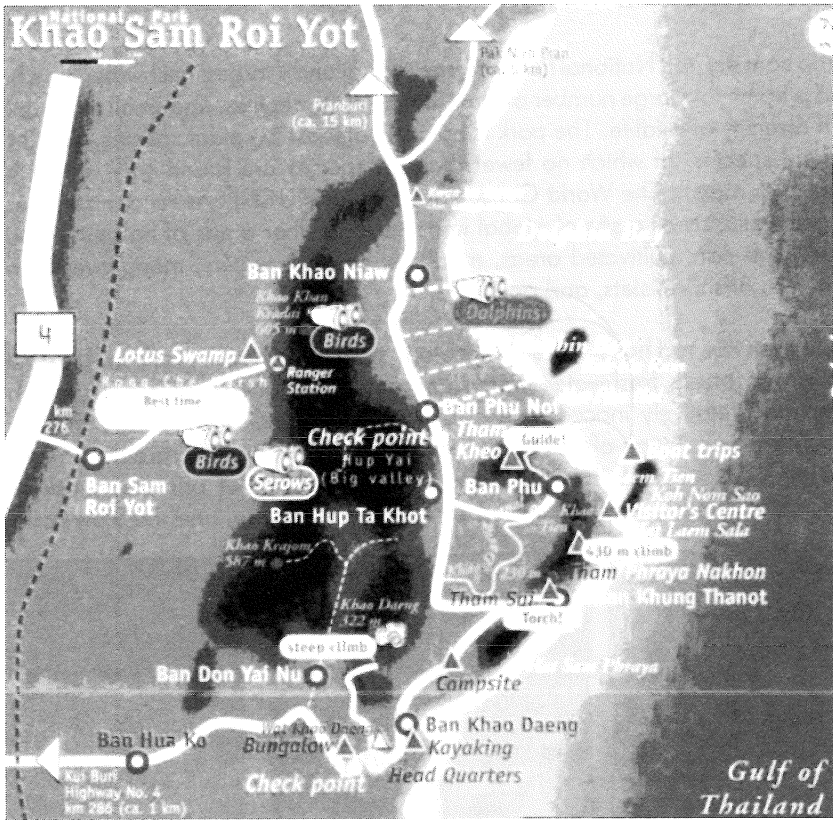
Khao Sam Roi Yod National Park is Thailand's first coastal National Park in 1996, covering the area of approximately 98.8 sq.km. It is located in the west of Thai Gulf, in the territory of Kui Buri District, Sam Roi Yod Sub District, Prachuapkirikhan Province, approximately 300-km southwest of Bangkok. The landscape is high steep limestone mountains by the beautiful coast, matching with plain area stand by the sea, which are marshy beach and shallow sea pond. There are limestone islands nearby the coast e.g., Sattakut Island, Kho Ram Island, Nom Sao Island, Rawing Island, Rawang Island and Khi Nok Island. The flat area with stagnant water through the year on the west of the park is Thung Sam Roi Yod, which is the large freshwater marsh, covering around 36.8 sq.km. The name Khao Sam Roi Yod is translated into "The Mountain with Three Hundred Peaks", a series of magnificent grey limestone mountains, which rise dramatically from the Gulf of Thailand and adjacent coastal marsh to a maximum height of 605 meters (<http://www.dnp.go.th>).

Map of Study Area



Source: Bangkok Post (2005)

Khao Sam Roi Yod National Park is Prachupkirikhan province in the southern part of Thailand. The main focus of the study area inside the National Park includes Khao Daeng Canal, Tham Phraya Nakhon and Lotus Pond (the marshland). This paper is based on the results of a total of over four months (September-December 2005) of fieldwork by a group of four students as researchers. In-depth interviews were conducted with several groups of people comprising foreign tourists, officials of the Park, locals employed concerning park activities and not employed. Aside from in-depth interview, participant-observation also yielded a significant amount of information regarding the ways tourism is practiced on a daily basis.



source: <http://www.thailand-huahin.com>

Climate, Seasons and Rainfall

As the Khao Sam Roi Yod National Park is located in the southern part of Thailand, the climate is hot and humid. The rainy season is from September to November, and the rest of the year is summer. The average temperature varies from the lowest in January at around 25°C, to the high of approximately 29°C from April till September. The rainfall in the area is most in October and November, averaging around 200mm, followed by the average of approximately 90-100mm between May through to September.

Flora & Fauna

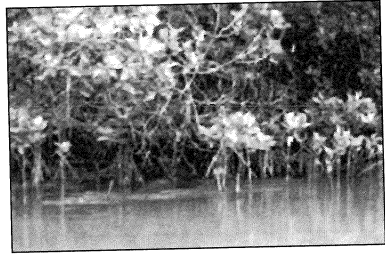
Khao Sam Roi Yod National Park has one of Thailand's largest freshwater marshes and is home to a large number of birds, amphibians, reptiles, and small mammals' rich diversity of wildlife. The park is home to at least 50 plant species, and 349 animal species, of which no fewer than 28 species are found only within this particular marsh. The World Conservation Union (IUCN) has recognized these fragile wetlands as a site of global importance. Other areas of habitat include scrub, salt pan, cultivated areas, mudflats, brackish waters, mangroves, sand beaches, offshore islets, and open sea.

Khao Sam Roi Yod has a variety of ecology system, composing of sea, beaches, mangrove forests, freshwater, marsh land, and Limestone Mountain. Due to the steep and relatively inaccessible nature of its mountainous interior, the park supports a population of Serow, a blackish goat antelope now rare in Thailand. The park also supports populations of three species of primate: Dusky or Spectacled Langur, Crab-eating, or Long-tailed Macaque, and the Slow Loris.



The visitor is virtually guaranteed views of the delightful Dusky Langur as the park is one of the best spots in the world to observe this amusing primate, which is easily recognized by its distinctive spectacle eye patches.

Khao Khao Sam Roi Yod National Park has become a popular spot with bird watchers with approximately 300 recorded species found here. The large number of species found within a relatively small area can be attributed to the unique diversity of habitat, and because the park is located on the East Asian/Australian Flyway. Migratory visitors



account

for half of all the listed species. Between September and November hundreds of migratory shorebirds from Siberia, China, and Northern Europe arrive at the mudflats to feed and rest, before continuing their southern journey. Some will spend the winter months (November to March) here. These birds begin the long return journey to their northern breeding grounds between March and May.

Plant communities found are beach forests, mangrove forests, limestone-hill forests and hydrophobic plant social. General plants found in the park are *Casuaria equisetifolia* (Sea oak), *Diospyros mollis* (Ebony tree), *Wrightia tomentosa* (Ivory), *Rhizophora mucronata* (Red mangrove), *Rhizophora apiculata*, *Ceriops decandra*, *Xylocarpus granatum*, *Avicennia marina*; whereas social plants found in fresh pond are *Cyperus* spp., *Neyraudia reynaudiana*, *Arundo donax*, *Themeda arundinacea*, *Hymenachne pseudointerrupta*, *Leersia hexandra*, *Nymphaea* spp., *Marsilea crevata* (Water clover) *Alocasia* sp., *Water chestnuts*, etc. (<http://www.dnp.go.th>).

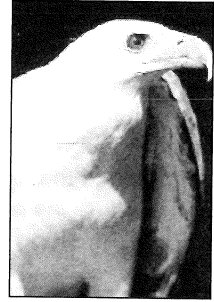
Tourism

There are numerous tourism activities that visitors can be engaged in inside and around the National Park. This is because the National Park possesses variety of natural characteristics, including beaches, mountains, forests, water falls, caves, etc.



The visitors to Khao Sam Roi Yod National Park could visit one of the beach or nearby island to enjoy the sun, sand and sea, or trekking into the forest or kayaking and canoeing along the canal. Some may like to visit the caves for geological touring. Most of all, the National Park is famous for its birds. Many

tourists come from around the world and throughout Thailand to this National Park for bird watching. Rare bird species and migrating birds can be observed around this park. In the year 2004-05, a total of 79,151 tourists comprising 65,496 domestic and 13,655 foreigners arrived (National Park, annual report, 2005). Tourists can visit the Park in one day for bird watching and cave exploring but for watching sun rise and sun set at the top of the mountain, tourists have to stay over night in the Park. There is accommodation facility for tourists inside the park.



Zoning

Khao Khao Khao Sam Roi Yod National Park is divided into six zones. This is aimed at preserving the quality of the environment by separating some activities that may be harmful to the environment from the natural sensitive areas. This is also in an attempt to create a balance between providing facilities to the tourists, while maintaining the quality of the surrounding environment.

Intensive Use Zone

It is an area where there is no sensitive natural resource. This zone provides for most of the activities and facilities for visitors (e.g. visitor information center, kiosk, accommodation for tourists and staff, camp site, natural study center) and is easily accessible.

Outdoor Recreation Zone

This zone is where the tourists can study and appreciate the natural environment of the area. It includes the beach area, the caves, the islands, the canal, and the nature study trails.

Primitive Zone

This covers the area where the flora and fauna are plentiful. Access to the area is restricted for research purposes only. Construction of any kind is prohibited in this area, except for working stations for the National Park's officers.

Strict Nature Reserve Zone

This is the environmentally sensitive area where it is the habitat for some protected or endangered animal and plant species. The area is guarded and access to the area is strictly prohibited.

Recovery Zone

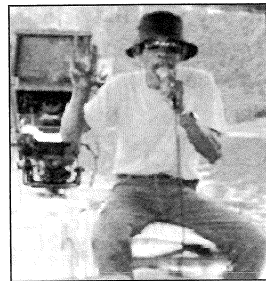
Any area which has been environmentally damaged or left unused is included in this zone. The National Park looks after this area and tries to recover the area back to its original state.

Special Use Zone

This zone is the area outside the responsibility and control of the National Park, even though the area may be inside the National Park boundary. This occurred because some of the local residents were able to prove that they have been living in the area before the second annexation of the National Park in 1982, and so their land were exempted from being included as the National Park.

Local People

Most of people who live around Khao Sam Roi Yod National Park, work as the tour guides and boat drivers for the tourists who visit there. The children also guide tourists'; they work as their part time job during school holidays. These children are familiar with the destination and they provide knowledge and entertain the tourists.



Background

In Thailand the first National Park was Khao Yai opened in 1961 and the first marine National Park, Khao Sam Roi Yai opened in 1966. But it was not until 1993 that Marine National Parks were managed separately from terrestrial parks. Tropical marine ecosystems are very diverse and are represented in Thailand by such important habitats as; open water, coral reefs, sea grass beds, mangrove forests and beaches. These habitats are important for many people as they provide both subsistence and cash crop fisheries and wood from mangrove forests. But the value of these resources is declining through over-exploitation, pollution and conversion to other uses. The main factors affecting the sustainable development of tourism can largely be attributed to socio-political-environmental issues in the park area.

Current Issues, Opportunities And Threats At Khao Sam Roi Yod National Park

Management of the National Park

From the perspective of management, this area is in lack of the effective and efficient implementation of the plan.

Problems Experienced By Those Managing

The problem arises mostly in the Special Use Zone as the park has no control over that area. Those having the ownership of the land are able to use the land in any way they desire, which sometimes causes damage or degrade the surrounding environment. It is in this zone that give rise to problems like conflict with the community, changes in land use pattern, and pollution.

Conflict With Community

Reported in a Bangkok Post newspaper article (Sukpanich, 2005) regarding the land dispute between the National Park and the local community. The conflict started when the National Park wanted to expand its boundary to include the freshwater marshland in 1982, where some of the local community protested that the park's boundary is encroached upon their land. The park also recognizes that this problem exists and has been trying to resolve the issue, but so far without much progress.

Changes In Land Use Pattern

There are 21 villages with over 3,600 households within its vicinity, whose inhabitants depend on the marsh. It includes the 98 sq km of Park. The prawn farming industry began in the area in the late 1980s, initially along the coast, then later moving along two major canals and finally into the freshwater marsh. In early 1993 disease hit the prawn farms, forcing farmers to abandon their farms, and leading to some farmers moving cultivation even further into the marsh. More than 10% of the total area that had previously been natural wetlands inside the Park has now become prawn farms. The intrusion of the prawn farms into the freshwater marsh has altered the wetland's hydrology by bringing in salt water, changing the composition of the soil, as well as decreasing the areas of unique vegetation, in both the marsh and the mangrove areas.

Pollution and Other Damages

Since the National Park does not have control over the use of land in the Special Use Zone,



the improper conducts of the land owners could be harmful to the environment.



Waste water from the shrimp farms are discharged to the nearby canal without being treated first.

There are also other pollution problems outside this zone. This includes the improper waste management by the local authority and the oil leakages from the tourist boats in Khao Daeng canal. From observation during the field trips and from inquiring with the locals, it was found that the trash collection is only done once a week and this is clearly insufficient. It was also noticed that there is some oil residue on the surface around the pier. However, both the waste and oil leakage problems are still of minimal effect to the environment as from observation the surrounding plants and living creatures still in good conditions.



It was also observed during the visit that the cave walls in Tham Phraya Nakhon have been damaged. Despite the prohibit sign, some irresponsible tourists had carved their name and messages onto the cave walls, permanently damaging the beauty of the cave.

Lack of Education and Awareness among Residents

Officials of local tourism organization are trying to find the best way to educate and train the local people to understand the vitality of the environmental education and awareness. However, the process is not going very well, for the lack of cooperation from local people.

Environmental Degradation

As the biggest freshwater marshland in Thailand, the freshwater is comparatively pure. At the same time, some threats are coming to the water. Raising shrimps make the soil saltier and this will affect the circulation of freshwater. Drought is a big enemy to this area. The two phenomena are seriously troubling. The garbage and the waste oil from all kinds of boats, pollute the water of sea and fresh water canal in this area.

Solutions

Patch up with Community and Land Encroachment Solutions

National Park has set up a special team of government officials to focus solely on these specific issues to find solutions. A plan drawn up by the team is to establish clearer National Park boundary, by re-surveying the area and place markings along the boundary, and also to establish an official maps in the appendix of the decree (Khao Sam Roi Yod National Park Annual Report, 2004). This is to avoid any further disagreement and unclear boundary with the local community and land owners inside or on the boarder of the National Park.

Another possible solution is for the National Park to try to persuade the shrimp farm owners to relocate to other area outside the National Park. To do this, the National Park must offer fair and reasonable price for their land and to provide guidance or educate them to earn their living by other means. For those land owners who do not have desire to move out from their land, the National Park could in turn try to convince them to take on some other jobs, such as tour guide or as staff of the National Park. This way, locals would be satisfy that they can stay on their land and can get involved and gain benefits from the tourism development in the area.

These issues can also be resolved through increased cooperation and involvement between the National Park and the local community. By involving the locals in the decision-making process for tourism development of the area, they would feel that their needs and concerns are not being neglected, and increase their sense of ownership.

Park management should start a broader community development programme. The program could address the need to develop local business by more than just provision of casual labor.

Shrimp Farm Waste Treatment Solution

There has been a study, which outlined the appropriate way for operation of shrimp farm that would minimize the environmental impacts. The suggestions included the recommendation to set up a waste water treatment reservoir and adopting the closed or recycled system for the farm. Lining the bottom of the pond would reduce seepage of waste water into the natural freshwater system. Aerating the pond water to expose the water to circulation of air would help to increase oxygen and purify the water. Effective use of settling pond during harvest to reduce nutrient discharge to nearby canals is also recommended to reduce excess nutrient to be discharged to nearby canals. Disposal of pond sediments should also be done properly, by not discarding the sediments into the nearby sites as this would cause the soil to be too salty for growing crops (<http://www.enaca.org>).

Impact Assessment

It may be necessary to examine certain individual plan proposals before their commencement to reduce the chances of conflict. Environmental impact assessment needs to be undertaken for this purpose (involving land use, protection of the environment, social effects etc).

Other Miscellaneous Recommendations

It is recommended that the National Park improve on its Nature Study Center (located near the Lotus Pond) and the Visitor Center. Although the information displayed throughout the centers is adequate and quite informative, the current setting and display of the information is not very attractive, and hence the visitors would not be inspired to walk around the center and be educated about the ecology of the area.

At the same time, it is also important to create awareness among the local residents of the importance of the environment of the area. Activities, such as trainings, protect the environment program, etc., may be organized to increase their appreciation for the ecology of the National Park area.

Park administration can have a check on the number and condition of motorboat use in the area along with oil seepage through them in the water.

Conclusion

Park has tremendous potential for tourism development. At present, the development of tourism and its resultant benefits are under severe threat.

Unplanned exploitation of the area is steadily eroding the suitability of the park as an ideal location for tourism development. The main challenges facing the park are to resolve the park-community conflicts for the benefit of sustainable tourism, keep existing land-use pattern and prevent further pollution in such a way that the wilderness character of park remains intact.

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