

- Investigation of possibilities for the introduction of a new type of tourist attraction related with agriculture (agro-tourism) is recommended to diversify the tourist attractions of the Study Area.
- Due to environmental constraints and limited water supply sources, further development of golf courses shall not be permitted, as long as these problems remain unsolved.
- For the area along the beach from Laem Luang to the northern boundary of the Study Area, proper development guidelines shall be established to protect the environment.

### **3.2 Tourism Attractions and Facilities Plan**

Based on the strategy formulated in Chapter 2, development of facilities to enhance the tourism resources of the Study Area and to improve their access for tourists is set forth for each tourism cluster and described hereafter.

#### **3.2.1 Phetchaburi Cluster**

##### **(1) Present Situation and Issues**

###### **1) Phetchaburi City**

Phetchaburi city forms an interesting stop for tourists traveling further to the south, or on their way to Bangkok, to pay a visit to Ratchaniwet Palace, Khao Wang and the city's many interesting temples. Especially among Thai tourists Phetchaburi is famous for its souvenir shops, selling confectionery, local agricultural products and articles of folk craft (Ban Nong Ya Prong).

Main issues in this cluster are described as follows:

- Information to guide tourists to the various tourist spots scattered around Phetchaburi City and its surroundings, is not properly available;
- The number of hotels, restaurants and shops in the city is small, and their quality often poor; and
- Growing urbanization may easily lead to deterioration of the city environment.

###### **2) Kang Krachan National Park**

Kang Krachan National Park, with its reservoir and splendid mountain scenery forms the main attraction in the inland part of the cluster. Road linkage with the newly opened Palao Waterfall and Tothip Waterfall will enhance the potential of this attraction by offering a new tourist circuit from Phetchaburi via Kang Krachan, Tothip and Palao to Hua Hin / Cha-Am Beach Area. Part of a Kang Krachan National Park was opened to the tourists only recently, and accommodation facilities, toilets and circulation roads have yet to be developed.

##### **(2) Tourism Development Strategy**

Following the strategy to further develop Phetchaburi City's function as gateway to the southern part of Thailand, and to more adequately utilize the natural resources

of Kang Krachan National Park for tourism, the following activities are to be undertaken:

- To develop cultural-historical city tours in Phetchaburi City, including efforts for conservation and redevelopment of the historical city;
- To upgrade the tourism service function of Phetchaburi City, including hotels, various food services and souvenir shops;
- To improve road linkage with Palao and Tothip waterfalls; and
- To develop tourist facilities in Kang Krachan National Park.

### (3) Proposed Projects

Based on above strategy, implementation of the following projects is recommended for Phetchaburi Cluster:

#### 1. Cultural-historical city tours in Phetchaburi City

In order to make the historical assets of Phetchaburi City and its surroundings more accessible and attractive for tourists, projects to develop or improve access roads, parking facilities, direction signs, tourist information boards, footpaths, trash cans, etc. are recommended for:

- Phra Nakhon Khiri complex, including Khao Wang Palace and Khao Luang Temple,
- Kamphaeng Laeng Temple,
- Maha Samanaram Temple,
- Phra Bhudha Saiyat Temple,
- Yai Suwannaram Temple,
- Ko Kaew Sutharam Temple,
- Mahathat Worama Hawihan Temple,
- Sra Bua Temple,
- Ram Ratchaniwet Palace, and
- Pailom Temple.

It should be noted that Phetchaburi City has plans to house a museum in Ratchaniwet Palace.

#### 2. Kang Krachan National Park Improvement

In order to make the resources of Kang Krachan National Park more accessible and attractive for tourists, projects to develop or improve access roads, parking facilities, direction signs, tourist information boards, footpaths, trash cans, etc. are recommended for:

- Khao Mai Ruak Office (the Park's Headquarters) and surrounding area,
- Palao Waterfall area, and
- the hot spring and Huai Dungla Waterfall area (close to Thothip Waterfall), and
- the camping site located near the reservoir.

Furthermore, establishment of a tourist information center is proposed close to Palao Waterfall.

### 3. Accommodation Development

Expansion of accommodation with 351 rooms until 2006 to be developed by the private sector is recommended, to reach the target of 1,092 rooms in 2006.

#### 3.2.2 Phetchaburi Coast Cluster

##### (1) Present Situation and Issues

The total coastal area is approximately 28 km long and includes various beaches, which in former times were used by successive kings. The beaches are good for recreational purposes, because waves and winds are not too strong.

Main issues in this cluster are described as follows:

- The area has potential for tourism development, but if not controlled properly, development may easily lead to further deterioration of the scenic natural setting of the beaches in this cluster. In some areas mangrove forests were cut to make place for resort development.
- In the southern part of this cluster fishing villages are located close to the beaches. Uncontrolled resort development may easily disrupt the socio-economic structure of these villages.
- At present the road along the coast, which gives access to the beaches, is in poor condition.

##### (2) Tourism Development Strategy

Following the strategy to develop this cluster as subordinate beach resort of Hua Hin / Cha-Am, whilst giving priority to continued subsistence of the fishing villages and the clusters role as supportive accommodation base for Phetchaburi City, the following activities are to be undertaken:

- To create a small-scale resort in natural setting at Laem Luang Beach;
- To develop Chao Sam Ran Beach as destination for short overnight trips by residents of Phetchaburi City;
- To develop seaside resorts with quiet atmosphere at Puk Tian, Thawisuk and Khlong Thian beaches; and
- To improve the coastal road, including the installation of direction signs to the beaches.

##### (3) Proposed Projects

Based on above strategy, implementation of the following projects is recommended for Phetchaburi Coast Cluster:

###### 1. Beach Conservation Operation

In order to guarantee continued subsistence of the fishing villages, and to maintain the quiet atmosphere and natural setting of the beaches in the southern part of this cluster, a conservation operation is recommended for the following beaches:

- Laem Luang Beach,
- Chao Sam Ran Beach, and
- Puktian Beach,

## 2. Accommodation Development

Expansion of accommodation with 1,910 room until 2006 to be developed by the private sector is recommended, to reach the target of 2,002 rooms in 2006.

### 3.2.3 Cha-Am Cluster

#### (1) Present Situation and Issues

Cha-Am Cluster forms one of the tourism cores of the Study Area, thanks to its long-standing reputation as beach resort. The total coastal length of the cluster is 21.6 km, and includes the 5.6 km long Cha-Am Beach. The public road runs directly along the beach, creation a public environment for this stretch of beach. The area caters predominantly for Thai tourists with small scale hotels, guest houses and a limited selection of shops and restaurants located along the beach road.

The coastal area south of Cha-Am Beach attracts a growing number of foreign tourists with its large-scale resort development. The former Summer Palace of King Rama IV is located in this area. Whereas confined to the east side for a long time, recently development has expanded to the west side of highway No.4, and includes golf courses and resort condominiums.

Main issues in this cluster are described as follows:

- The attraction of this cluster is heavily focused on beach recreation, but lacks appealing alternative tourist attractions;
- The concentration of activities along Cha-Am Beach causes problems due to a lack of parking facilities, shortcomings in the traffic network and a lack of systematic garbage collection. Landscaping is urgently required; and
- Beach services and facilities to guarantee the security of visitors, such as tourist police, rescue center, clinic, etc., are essential for international recognition of this cluster as first-class beach destination.

#### (2) Tourism Development Strategy

Following the strategy to further develop Cha-Am Cluster as international beach resort, and to diversify its tourist attractions aimed at extending the length of stay in the Study Area, the following activities are to be undertaken:

- To stimulate further but controlled tourism development in the area south of Cha-Am Beach;
- To develop new tourist attractions offering alternative attractions for various target groups;
- To improve tourism related services and facilities to guarantee the security of the visitors;

- To improve the public beach area at Cha-Am Beach, including provision of parking facilities and landscaping; and
- To improve the sense of arrival in Cha-Am.

### (3) Proposed Projects

Based on above strategy, implementation of the following projects is recommended for Cha-Am Cluster:

#### 1. Cha-Am Public Beach Improvement

In order to make Cha-Am Beach more accessible and attractive for its visitors, improvement of the access road, development of parking facilities, a beach park, etc. are proposed.

#### 2. Cultural and Recreational Center in Cha-Am

In order to diversify the attractions in the cluster, the development of a cultural and recreational center is recommended on a government owned lot of 327 rai (60 ha) close to the coast in the northern part of the cluster. The center, which shall function as community and recreational center for local residents and as cultural and recreational facility for domestic and international tourists, shall include the following facilities:

- cultural exhibition hall, souvenir shops and restaurants,
- multi-purpose stadium, tennis courts,
- indoor sports facility, including swimming pool, gymnasium, etc.,
- others, including health center, museum, amphi-theater, etc.

#### 3. Accommodation Development

Expansion of accommodation with 3,640 rooms until 2006 to be developed by the private sector is recommended, to reach the target of 6,552 rooms in 2006.

### 3.2.4 Hua Hin Cluster

#### (1) Present Situation and Issues

Hua Hin is the oldest and most reputable resort in Thailand and is endorsed with high tourism potentials and good accommodation facilities, including the former palace located along the coast, temples and of course its beach. Part of Hua Hin beach is currently still being used by the King. There are plans to make Hua Hin accessible to Pattaya by high speed and ferry boats.

Khao Ta-kiap is the most conspicuous landmark in this cluster, and Ta-kiap Beach which is located south of Hat Hua Hin has a rocky coast.

A few kilometers inland from Hua Hin Khao Hin Lek Fai is located, offering a splendid view of the beach area. The planned viewpoint and park complex on this hill will help diversity the tourist attractions in the cluster.

Main issues in this cluster are described as follows:

- The attraction of this cluster is heavily focused on beach recreation, but lacks appealing alternative tourist attractions;

- Extensive improvement and beautification activities are required both for Hua Hin Beach and Khao Ta-kiap. The majority of the public beaches in this cluster suffers from poor access and a lack of parking facilities; and
- Hua Hin municipality intends to relocate its fishing pier within 10 years, as the pier is considered to have caused erosion on neighboring beaches. Moreover, the involvement of a growing number of fishermen in the tourist industry, has led to a decline in the number of fishing boats. The municipal authorities are presently studying on this problem in cooperation with the Navy.

## (2) Tourism Development Strategy

Following the strategy to further develop Hua Hin Cluster as international beach resort with a tranquil atmosphere, and to diversify its tourist attractions aimed at extending the length of stay in the Study Area, the following activities are to be undertaken:

- To stimulate further but controlled tourism development in the cluster, especially south of Hua Hin Beach;
- To develop new tourist spots offering alternative attractions in this cluster for various target groups;
- To improve tourism related services and facilities to guarantee the security of the visitors, especially at Hua Hin Beach;
- To improve the sense of arrival in Hua Hin; and
- To improve the access to, and to provide parking facilities at public beaches, including beautification of Hua Hin Beach and Khao Ta-kiap.

## (3) Proposed Projects

Based on above strategy, implementation of the following projects is recommended for Hua Hin Cluster:

### 1. Khao Hin Lek Fai Development

In order to diversify the attractions in the cluster, the development of a tourist spot on top of Khao Hin Lek Fai, which is located west of Hua Hin and offers a splendid view over the town and beach area, is proposed. It will include viewpoints, parking facilities and a restaurant.

### 2. Queen's Park Development Project

In order to improve the access to the beach area and public space close to the beaches in this cluster, development of a new access road and public park on a government owned lot of 19 rai (3.04 ha) north of Hua Hin Beach, are proposed. The development shall include:

- the new access road,
- a public park, including gardens, a pavilion, information center, etc., and
- a recreation park, including parking lot.

### 3. Hua Hin Public Beach Improvement

In order to make Hua Hin Beach more accessible and attractive for its visitors, improvement of the access road, development of parking facilities, installation of tourist information boards, trash cans, etc. are proposed.

### 4. Trade Center Development at the Site of Hua Hin Fishing Pier

If Hua Hin Fishing Pier will be moved, the development of a trade center is proposed at the site.

### 5. Accommodation Development

Expansion of accommodation with 1,967 rooms until 2006 to be developed by the private sector is recommended, to reach the target of 3,276 rooms in 2006.

## 3.2.5 Pranburi Cluster

### (1) Present Situation and Issues

#### 1) North of Sam Roi Yot National Park

Tourism development is steadily spreading south from Hua Hin into Pranburi. At Sai Noi Beach a golf resort is under construction and some of the facilities of a newly developed resort complex at Pranburi Beach are now in operation. However, the part of the cluster north of Sam Roi Yot National Park still offers much room for further development. The 1,984 rai (317.4 ha) Pak Nam Pran Forest Park, which is located along the coast at the mouth of Pranburi River, offers good potential for tourism.

The poor condition of the access road from Phet Kasem to the beaches forms the main issue in this part of Pranburi Cluster.

#### 2) Sam Roi Yot National Park

The southern part of Pranburi cluster is dominated by Sam Roi Yot National Park, with its attractive limestone cliffs and caves. Bang Pu is the gateway to Hat Laem Sala and Tham Phraya Nakhon, main attractions of Sam Roi Yot National Park. The many tourism potentials in the area include fishing tours. Bird- and nature-watching is becoming popular in the mangrove swamp along Khao Daeng Canal.

Improvement of the access to and beautification of the main attractions in the National Park, e.g. Tham Phraya Nakhon, Tham Sui and Tham Kaew caves, is urgently solicited, including improvement of direction signs and information boards. The existing approach to Tham Phraya Nakhon cave entrance includes a severe climb, which makes the cave inaccessible for many tourists.

### (2) Tourism Development Strategy

Based on the strategy to develop the northern part of the cluster as subordinate beach resort for Hua Hin, but to control developments in Sam Roi Yot National Park, and to stimulate nature oriented tourism in the National Park and Pak Nam Pran Forest Park, the following activities are to be undertaken:

- To stimulate further but controlled tourism development along the coast in the part of the cluster north of Sam Roi Yot National Park;

- To improve the access to the beaches in the part of the cluster north of Sam Roi Yot National Park; and
- To improve the access to and attraction of tourist spots in Sam Roi Yot National Park and Pak Nam Pran Forest Park.

### **(3) Proposed Projects**

Based on above strategy, implementation of the following projects is recommended for Pranburi Cluster:

#### **1. Sam Roi Yot National Park Improvement**

In order to improve the access to and attraction of the National Park, projects to develop or improve access roads, parking facilities, nature trails, tourist facilities, utilities, etc., in Sam Roi Yot National Park are recommended.

#### **2. Pak Nam Pran Forest Park Improvement**

In order to improve the access to and attraction of the Forest Park, projects to develop or improve access roads, parking facilities, nature trails, tourist facilities, utilities, etc., in Pak Nam Pran Park are recommended.

#### **3. Accommodation Development**

Expansion of accommodation in the part of the cluster north of Sam Roi Yot National Park with 2,366 rooms until 2006 to be developed by the private sector is recommended, to reach the target of 3,094 rooms in 2006.

### **3.2.6 Prachuap Khiri Khan Cluster**

#### **(1) Present Situation and Issues**

This cluster includes an attractive combination of beaches and mountains. Attractive beaches include Ao Noi, Ao Prachuap, Khao Chong Krachok, Ao Manao and Wanakon Beach in Wanakon National Park. Nam Tok Huai Yang National Park is famous for its waterfall and mountain scenery. The cluster also includes Kasetosat University training center and the Royal Thai Air Force base has facilities open to the public.

The weekend night bazaar held in the vicinity of Prachuap Beach is another appealing attraction, but improvement of the amenities of the stalls and the sales of more typical, locally produced articles are recommended. This attraction can be combined with the week-end tourist mini-tram, which is operated by the Royal Thai Air Force stationed at Ao Manao.

Main issues in this cluster are described as follows:

- The beaches in the area have potential for further development, but if not controlled properly, development may easily lead to deterioration of the scenic natural setting of the beaches in this cluster;
- Improvement of the access to and tourist attractions in Nam Tok Huai Yang National Park, Kuiburi Forest Reserve and Wanakon National Park is necessary; and



- The cluster's relatively long distance from Bangkok (5 hours by car), forms a major problem for its further development. If the existing army airport will be opened for civil air transportation, the area's development potential is expected to increase.

## (2) Development Strategy

Following the strategy to develop the tourism resources in Nam Tok Huai Yang and Wanakon National Parks, and to allow small scale and low density tourism development along the beaches, whilst giving high priority to protection of the environment, the following activities are to be undertaken:

- To allow small scale, low density tourism development along the beaches in this cluster, and at the same time to take measures to protect the cluster's natural environment; and
- To improve the access to and attraction of tourist spots in Nam Tok Huai Yang and Wanakon National Parks.

## (3) Proposed Projects

Implementation of the following projects is recommended for Prachuap Khiri Khan Cluster:

### 1. Nam Tok Huai Yang National Park Improvement

In order to improve the access to attraction of the National Park, projects to develop or improve access roads, parking facilities, nature trails, tourist facilities, utilities, etc., in Nam Tok Huai Yang National Park are recommended.

### 2. Wanakon National Park Improvement

In order to improve the access to attraction of the National Park, projects to develop or improve access roads, parking facilities, nature trails, tourist facilities, utilities, etc., in Wanakon National Park are recommended.

### 3. Kuiburi Forest Reserve Improvement

In order to improve the access to attraction of the Forest Reserve, projects to develop or improve access roads, parking facilities, nature trails, tourist facilities, utilities, etc., in Kuiburi Forest Reserve are recommended.

### 4. Prajomklao Science Park Development

In order to diversify the tourist attractions of this cluster and to preserve the history of Wa-ko area for future generations, the development of a history and science park is proposed, in memory of King Rama IV who contributed greatly to the development of science in Thailand. The Park will include a science training center, observatory, marine science institute, beach park, King Rama IV monument and a camping site.

### 5. Accommodation Development

Expansion of accommodation with 1,225 rooms until 2006 to be developed by the private sector is recommended, to reach the target of 1,638 rooms in 2006.

### 3.2.7 Bang Saphan Cluster

#### (1) Present Situation and Issues

This area is not much developed for tourism, has beautiful bays and islands, and the water quality is excellent. Fishing games are held here, and a fish farm operated by the private sector is located in the hinterland.

Main planning issues in this cluster are described as follows:

- If boating facilities will be provided to assure an easier access from Ban Saphan, Thalu island's potential as tourism attraction may be increased. However, Thalu island is the one of the few places in the Study Area which still has coral, putting high priority on its conservation;
- The beaches in the area have potential for some tourism development, but if not controlled properly, development may easily lead to deterioration of the scenic natural setting of the beaches in this cluster; and
- The cluster's relatively long distance from Bangkok (5 hours by car), forms a major problem for its further development.

#### (2) Development Strategy

Following the strategy to develop to allow small scale and low density tourism development along the beaches, whilst giving high priority to protection of the environment, the following activities are to be undertaken:

- To allow some small scale and low density tourism development along the beaches in this cluster, and at the same time to take measures to protect the cluster's natural environment.

The relatively small importance of tourism in this area suggests that, rather than public investment by the tourism sector, development of infrastructures should be carried out as part of a regional development program.

#### (3) Proposed Projects

Implementation of the following projects is recommended for Bang Saphan Cluster:

##### 1. Ko Thalu Conservation Operation

This project aims to investigate possibilities and establish guidelines for tourism development on the island, whilst giving priority to the protection of its rich natural environment. It is one of the places in the Study Area where coral is still found.

##### 2. Accommodation Development

Expansion of accommodation with 389 rooms until 2006 to be developed by the private sector is recommended, to reach the target of 546 rooms in 2006.

### 3.3 Infrastructure Plan

#### 3.3.1 Transportation Plan

##### (1) Present Situation and Issues

Presently there are three modes of transportation giving access to the Study Area, namely rail, road and air. The travel time required by rail from Bangkok to Hua Hin / Cha-Am Beach Area is 3 hours by sprinter train and 4 hours by regular train. Transportation time is 3.5 hours by public bus with air-conditioning and 4 hours by regular bus. The travel time by private car is about 3 hours, and the flight between these areas takes 25 minutes. The current tourist transportation modal share between Bangkok and Hua Hin / Cha-Am Beach Area is mainly based on land transportation (about 99 %), shared by private cars, public buses, tour buses and trains.

Widening of Highways No. 35 and No. 4 linking Bangkok with the Study Area, as well as the construction of the by-pass from Cha-Am to Pranburi are scheduled to be completed by 1994. Widening of the road from Pranburi to Prachuap Khiri Khan will be completed by 1996. Construction of these roads is expected to improve the traffic condition tremendously and ease the access to the entire Study Area. However, access to the various tourism resources and facilities within the Study Area as well as traffic safety in major tourist areas require improvement.

The number of train operations to the Study Area shows a decreasing trend, due to the long travel time for regular trains and the inconvenient time schedule for sprinter trains. Direct access by rail from Bangkok airport is not available. Moreover, the poor quality of the railway tracks does not allow significant increase in the frequency of train operations. The level of comfort and adequacy of public bus services to the Study Area is not sufficient to satisfy international travelers. Also, bus terminals are poorly maintained. Hua Hin Airport has a limited capacity and can only handle the existing number of flights from and to Bangkok.

##### (2) Development Strategy

Based on the above and in accordance with the development targets described in Chapter 2, the following strategy is set forth to improve the circulation road network and develop a sea transportation network in the Study Area and to improve the access by public transportation to the Study Area.

###### 1) Priorities for Development

For improvement of the transportation system priority shall be given to solutions which allow a large transportation volume as follows:

- With the ongoing improvement of Highway No. 4, which will allow large capacity transportation, land transportation shall remain to be the most important mode of transportation to the Study Area;
- As the railway can offer a regular and massive transportation service, improvement of the railway system as a whole should be given higher priority;
- Public bus services may cater for a high transportation capacity, ranked immediately below the railway, and high priority should be given to improvement of this transportation system;

- Supplementary to land transportation, sea and air transportation services may be considered, based upon existing development plans; and
- Improvement of access to tourist facilities in the different clusters will heavily depend on land transportation. As a supplementary mode of transportation, sea links may be considered.

## 2) Transportation Modal Split Concept

Based on the above, the modal split for tourism transportation to the Study Area was forecasted for 1996 as shown in Table 3.3-1. The projections are based on the share for each modal in 1991 and assume the following changes, due to the introduction of additional flights, sea transportation and special tourist trains:

- for air transportation, diversion of passengers from the private car;
- for sea transportation, diversion of passengers from the public bus; and
- for tourist trains, diversion of passengers from the public bus.

However, because air and sea transportation are not expected to bring about high volume transportation to the Study Area, the share of land transportation is expected to remain at its high level of 99 %.

**Table 3.3-1 Modal Share of Visitors to Cha-Am and Hua Hin**

Type of Transportation	unit: %			
	Modal Share for Cha-Am		Modal Share for Hua Hin	
	1991	1996	1991	1996
Road				
Private Car	48.8	47.3	26.0	23.0
Tour Bus	10.5	10.5	28.5	28.5
Public Bus	27.6	25.5	30.6	26.3
Rail	12.3	13.5	14.0	16.4
Air	0.2	0.5	0.4	0.9
Sea	-	2.2	-	4.3
Others	0.6	0.5	0.5	0.5
Total	100.0	100.0	100.0	100.0

source: Figures for 1991 are based on TAT data for 1989

## (3) Proposed Projects

Based on the above strategy, implementation of the following projects is recommended for the Study Area. Their location is shown in Figure 3.3-1 and Table 3.6-1 presents a detailed list of the proposed projects.

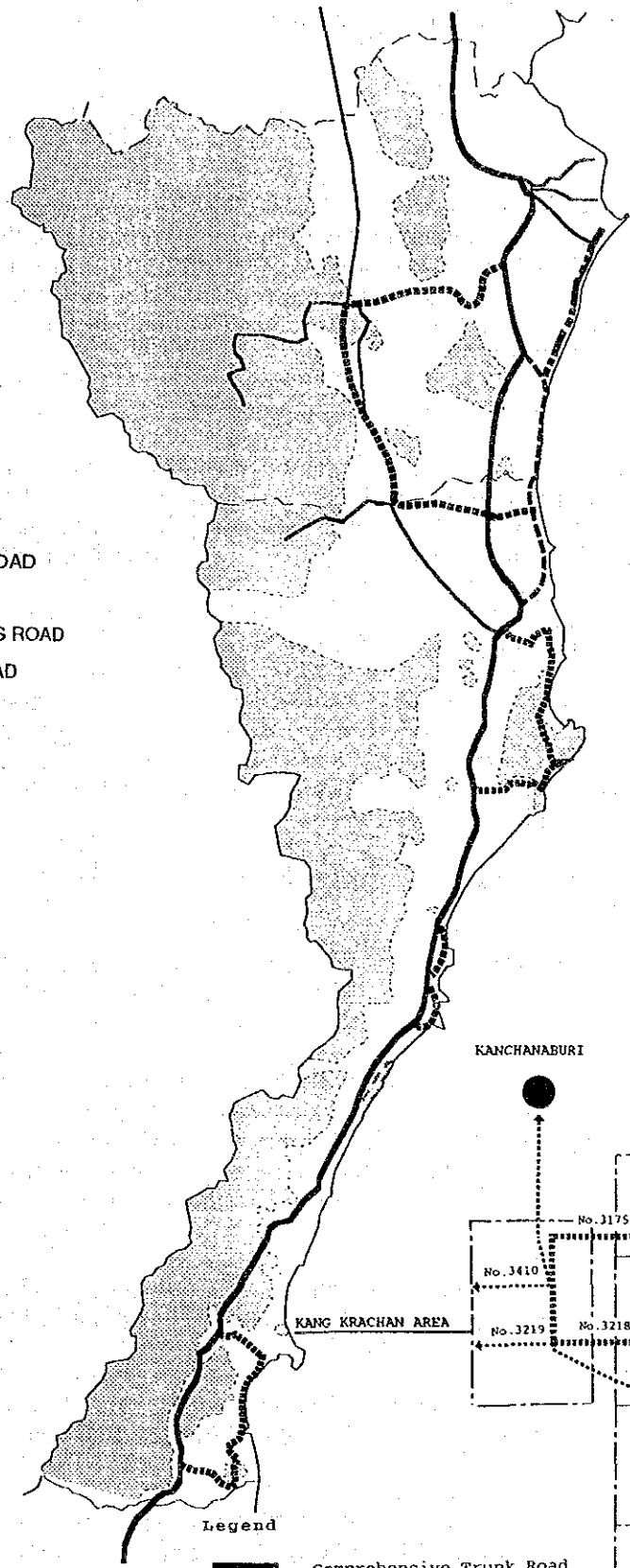
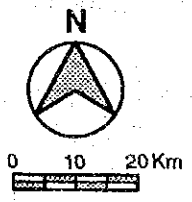
### 1) Improvement of the Access to the Study Area

#### 1. Tourism Train Operation between Bangkok and Hua Hin / Cha-Am Beach Area

In order to increase the public transportation capacity and to offer a new type of service making traveling by train more attractive for tourists visiting the Study Area, the introduction of a special tourist train linking Bangkok with Hua Hin / Cha-Am Beach Area is recommended. The time schedule for the Bangkok - Hua Hin / Cha-am run should be revised to allow introduction of the new service.

LEGEND :

- HIGHWAY NO.4
- ..... CIRCULATION ROAD
- COASTAL ROAD
- TOURISM ACCESS ROAD
- - - PHET KASEM ROAD
- ▨ FOREST AREA



Legend

- Comprehensive Trunk Road
- ..... Network Circulation
- ..... Feeder Road
- ▭ Tourism Development Cluster
- No. 4 B.P National Highway No. 4 By-Pass

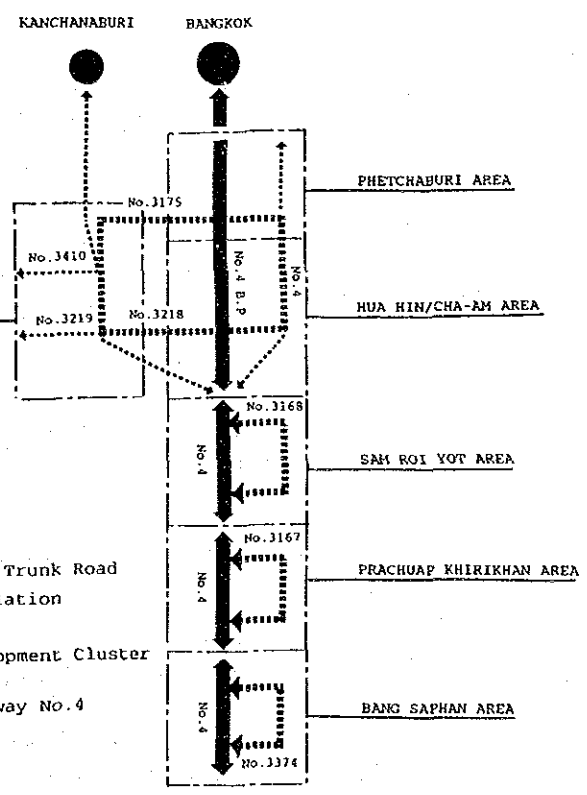


Figure 3.3-1 Transportation Development Plan

## 2. Improvement of Bus Terminals

In order to increase the public transportation capacity, bus services to the Study Area need to be upgraded, concomitant with the improvements on the major access roads. An increased number of buses, improvement of their maintenance and the provision of adequate bus terminals are required to offer suitable services to the tourists. In this context improvement of the bus terminals in Phetchaburi, Cha-am and Hua Hin is recommended.

## 3. Improvement of Tourist Piers

At present, 8 different sea transportation service routes for tourism purposes have been planned. If these plans will be approved by the Harbor Authorities, improvement of tourist piers and provision of touring boats with various attractions will be required. These facilities not only serve improved access to the Study Area, but also form starting point for boat trips.

## 4. Airport and Air Transportation Service Improvement

In order to expand air transportation, it will be necessary to extend the existing runway at Hua Hin Airport in order to allow operation of bigger aircraft. In the long run, the military airport located in Prachuap Khiri Khan Cluster is expected to be used for civil aviation, which will considerably improve the access to the southern part of the Study Area.

## 2) Improvement of the Circulation Network and Feeder Roads within the Study Area

In order to improve access to the various tourism resources and facilities within the Study Area, a circulation network was developed as illustrated in Figure 3.3-1 and described below:

- Highway No. 4 in combination with the new bypass will function as major trunk access to the Study Area as a whole. The stretch of the existing highway from Cha-m to Pranburi (Phet Kasem Road) which is to be replaced by the bypass, will change its function to local access road and will be part of the circulation network of Phetchaburi, Phetchaburi Coast, Cha-Am and Hua Hin Clusters.
- The main access to Sam Roi Yot National Park will be provided by Highway No. 4 and provincial road No. 3168 will be part of the network circulation in Pranburi Cluster.
- Prachuap Khiri Khan area will have its access via Highway No. 4, and provincial road No. 3167 will be part of the network circulation in this cluster.
- The main access to the Bang Saphan will be provided by Highway No. 4 and provincial road No 3374 will be part of the network circulation in this cluster.

Implementation of the following projects is recommended to realize above concept:

## 5. Phet Kasem Road Improvement

This road serves as main access road to the tourism centers of Cha-Am and Hua Hin. To improve the sense of arrival and traffic safety in these principal tourist

centers of the Study Area, this project includes provision of broad sidewalks, landscaping and traffic control measures.

#### 6. Improvement of Circulation Roads in the Study Area

This project aims to improve access to major tourist attractions and facilities in all clusters of the Study Area.

Apart from this circulation network, improvement of the following so-called feeder roads is recommended to improve the access to specific destinations within the Study Area:

#### 7. Improvement of Phetchaburi Coastal Road,

This project aims to improve access to the beaches in Phetchaburi Coast and the northern part of Cha-Am Clusters.

#### 8. Local and Inter-local Road Development/Improvement (Missing Links)

This project aims to improve the local road network in Hua Hin Municipality and provide an alternative inter-local route west of Phetchaburi, Cha-am and Hua Hin to reduce through traffic in these areas.

#### 9. Transportation Development for Bang Saphan Area

This project aims to improve access to Bang Saphan beach area.

### 3.3.2 Water Supply Plan

#### (1) Present Situation and Issues

Main problems concerning adequate water supply in the Study Area are described as follows:

- Some of the waterworks in the Study Area fall within the jurisdiction of the Public Works Department (PWD), and some within the Provincial Waterworks Authority (PWA). This division of administrative control hampers development of an efficient integrated water supply system for the Study Area.
- Water resources for water supply systems in the Study Area rely mostly on the dams constructed by the Royal Irrigation Department (RID). Raw water supply is sufficient at present but does not leave much room for future expansion.
- Generally, the quality of purified water does not always meet the drinking water standards, especially for turbidity and residual chlorine.
- Due to expansion of water treatment facilities in several stages, operation and maintenance of the plants have become complicated. Moreover, deterioration of mechanical equipment forms a problem in some of the plants.
- Comparatively low water pressure and a high average leakage percentages (20-30%) form the main problems of the existing water distribution and service systems.

## (2) Development Strategy

Based on PWA's ongoing plans and in accordance with the development targets described in Chapter 2, the establishment of an unified regional water supply system under PWA's administration is recommended. This regional system shall support existing individual (e.g. municipal) water supply systems and expand to new service areas presently not covered. Advantages of an integrated regional system are:

- effective use of the limited water resources;
- avoidance of duplicated investment in water intake facilities with neighboring waterworks; and
- stable and equal supply of clean water to the municipalities connected to the system.

## (3) Water Demand Forecast

The balance between the water demand in the target year 2006 and the existing plant capacity was examined. The demand forecast is based on the population forecasts for 2006, and includes water demand for tourist accommodations using the room requirement projections for 2006, as described in Chapter 2.3. Required expansion of the water supply capacity in each tourism cluster is shown in Table 3.3-2.

**Table 3.3-2 Required Expansion of the Water Supply Capacity in 2006**

Tourism Cluster	Total Demand in 2006	Existing Capacity	unit: cum/day
			Required Expansion Capacity until 2006
Phetchaburi/Phetchaburi Coast	48,650	17,520	31,130
Cha-Am	22,310	24,000	(1,690) Surplus
Hua Hin	19,980	24,480	(4,500) Surplus
Pranburi	16,780	14,160	2,620
Prachuap Khiri Khan	10,630	15,600	(4,970) Surplus
Bang Saphan	12,710	2,040	10,670
<b>Total</b>	<b>131,060</b>	<b>97,800</b>	<b>33,260</b>

source: Study Team

## (4) Proposed Projects

Based on the above strategy, implementation of the following projects is recommended for the Study Area. The proposed water supply system is illustrated in Figure 3.3-2 and Table 3.6-1 presents a detailed list of the proposed projects.

### 1) Municipal Water Supply Development

In anticipation of linkage with the regional water supply system, improvement of the distribution networks is recommended for the following municipalities:

#### 1. Phetchaburi

This projects aims to improve and expand the existing water distribution network to meet the increasing demand.



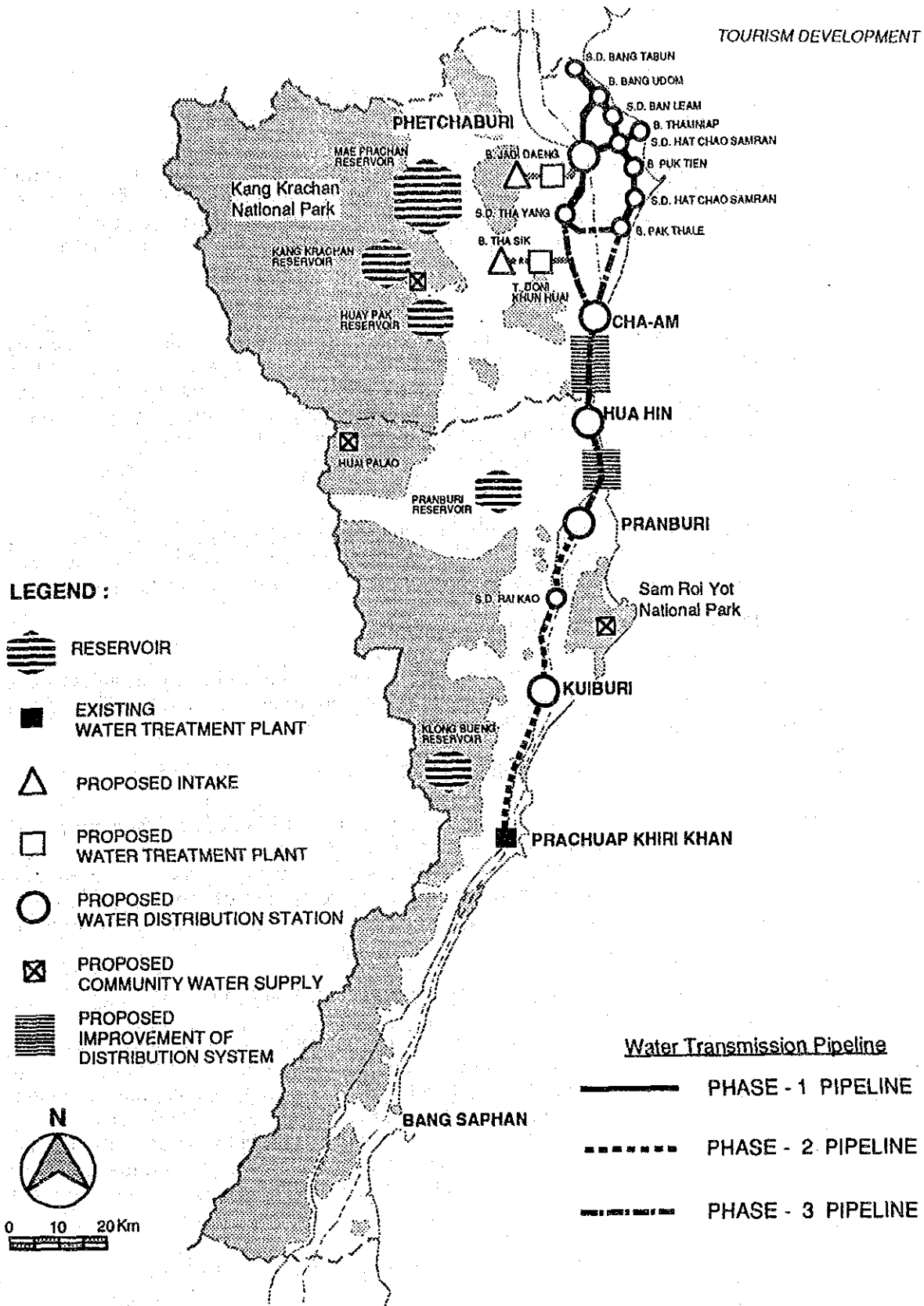


Figure 3.3-2 Water Supply Development Plan

2. Cha-Am

After completion of the on-going expansion project the capacity of Thanod Luang Plant will be sufficient to meet the demand until 2006. However, the water distribution network needs to be expanded to cover prospective development sites for hotels, condominiums, etc. within the municipal area.

3. Hua Hin

After completion of the on-going expansion project, the water supply capacity will be sufficient to meet the demand until 2006, and distribution will cover the entire service area. However, some improvements in the distribution system are required to adequately cover prospective development sites for hotels, condominiums, etc. within the municipal area.

4. Pranburi and Kuiburi

In connection with the development of the regional water supply system for Pranburi and Kuiburi, the existing distribution system needs to be improved and expanded to meet the increase of the water demand in the service area.

**2) Regional Water Supply Development**

This project aims to ensure stable water supply in the region by establishing a regional water supply system covering the area from Phetchaburi to Prachuap Khiri Khan, and includes the following components:

5. Pranburi, Kuiburi and Prachuap Khiri Khan

To meet the demand in Pranburi and Kuiburi until 2006, linkage is proposed with the waterworks of Prachuap Khiri Khan supplying an extra 2,620 cum/day to the area, on the condition that their waterworks are unified as a regional water supply system under the jurisdiction of PWA. The project includes development of the necessary transmission and distribution facilities.

6. Phetchaburi, Ban Laem, Ban Lat, Na Yang and Tha Yang

The establishment of a regional water supply system is proposed with an additional capacity of 64,000 cum/day in 2006, supplying Phetchaburi and Phetchaburi Coast Clusters (40,000 cum/day), and to complement water supply for Cha-Am (8,000 cum/day), Hua Hin (8,000 cum/day), Pranburi and Kuiburi (8,000 cum/day) to cover the demand until, but also after, 2006. The project includes development of the necessary water treatment, transmission and distribution facilities, and is based upon and replaces existing plans for Phetchaburi and Tha Yang.

7. Cha-Am and Hua Hin

This project includes development of facilities necessary to link the municipal water supply systems with the regional system.

**3) Individual Water Supply Development**

In addition to the projects aforementioned, water supply systems are proposed for:

8. Kang Krachan National Park
9. Sam Roi Yot National Park

Expansion of water supply systems to meet the future demand in Bang Saphan shall be carried out individually by the communities concerned.

### 3.3.3 Sewerage Plan

#### (1) Present Situation and Issues

The only existing sewage system in the project area is located in and operated by Hua Hin municipality. The rated capacity of the plant is 4,000 cum/day and covers 0.6 km<sup>2</sup> in the central area of the city. Insufficient capacity of the treatment plant and lift pump No. 1 causes frequent overflow of sewage into the beach area. In other municipalities stormwater drains are installed along the main streets. These drains are also used to transport sewage via the canals to the sea, which causes bad smell and ugly scenes in the city centers. In the areas without a drainage system, sewage flows directly to the sea.

Main problems in the Study Area are described as follows:

- In Phetchaburi sewage is discharged to the Phetchaburi river, which causes problems because the river is also used for raw water intake.
- Sewage from Cha-Am municipality flows through the swamp area connected with Khlong Tian, where sewage is partly treated naturally. Water contamination is slight at present, but sea water pollution is feared when the increasing sewage load will exceed the self-purification capacity of the swamp area.
- Generation of algae caused by waste water discharge to the sea is observed in the bathing area of Ta-kiap in Hua Hin.
- In Prachuap Khiri Khan, discharge of sewage and stormwater to the beach causes pollution of the bay.
- In other towns and villages water pollution is a local phenomenon at present, but the increasing amount of sewage is feared to bring about more serious contamination.
- Most hotels and factories in the area are equipped with waste water treatment facilities, but the facilities are not always operated and maintained in a satisfactory manner. Hotels without treatment facilities use waste water storage tanks, which are emptied periodically by vacuum car.

#### (2) Development Strategy

Following the above and in accordance with the development targets described in Chapter 2, the development of sewerage systems is required to prevent water pollution, especially at the beaches, based on the following strategy:

- To develop sewerage systems in coordination with tourism development and other regional development projects;
- To give priority to densely populated areas; and
- To construct easy to operate and maintenance free sewage treatment plants.

**(3) Discharge Forecast**

For the calculation of the future sewage discharge, it is assumed that the amount of sewage equals the amount of water consumption. The service area for sewerage is set to cover 50% of the water supply service area for hotels and 70% for other mainly residential areas. Table 3.3-3 shows the estimated discharge for 1991 and 2006.

**Table 3.3-3 Estimated Sewage Discharge Amount in 1991 and 2006**

Tourism Cluster	unit: cum/day	
	1991	2006
Phetchaburi	5,690	6,740
Cha-Am	5,730	11,020
Hua Hin	6,860	10,830
Prachuap Khiri Khan	2,660	4,000

source: Study Team

**(4) Proposed Projects**

Based on the above strategy, implementation of the following projects is recommended for the Study Area. Their location is shown in Figure 3.3-3 and Table 3.6-1 presents a detailed list of the proposed projects.

**1) Municipal Sewerage System Development**

The construction of sewage treatment plants and installation of combined sewers, interceptor sewers, lift stations, overflow facilities, etc. are proposed for:

## 1. Phetchaburi

The treatment capacity of the treatment plant to be located close to Khlong Wat Khao will be 7,000 cum/day.

## 2. Cha-Am

The treatment capacity of the treatment plant to be located close to Khlong Tian north of Ta Kad Phlee will be 11,000 cum/day.

## 3. Hua Hin

In addition to the existing treatment capacity of 8,000 cum/day, a sewage treatment plant with a capacity of 4,000 cum/day is proposed near Wat Wang Kai Kangwon.

## 4. Ta-kiap Area in Hua Hin

The treatment capacity of the treatment plant to be located at Wat Thama Thipa Thai will be 1,000 cum/day.

## 5. Prachuap Khiri Khan

The treatment capacity of the treatment plant to be located next to Wat Thammanmigaram of behind the prison will be 4,000 cum/day.

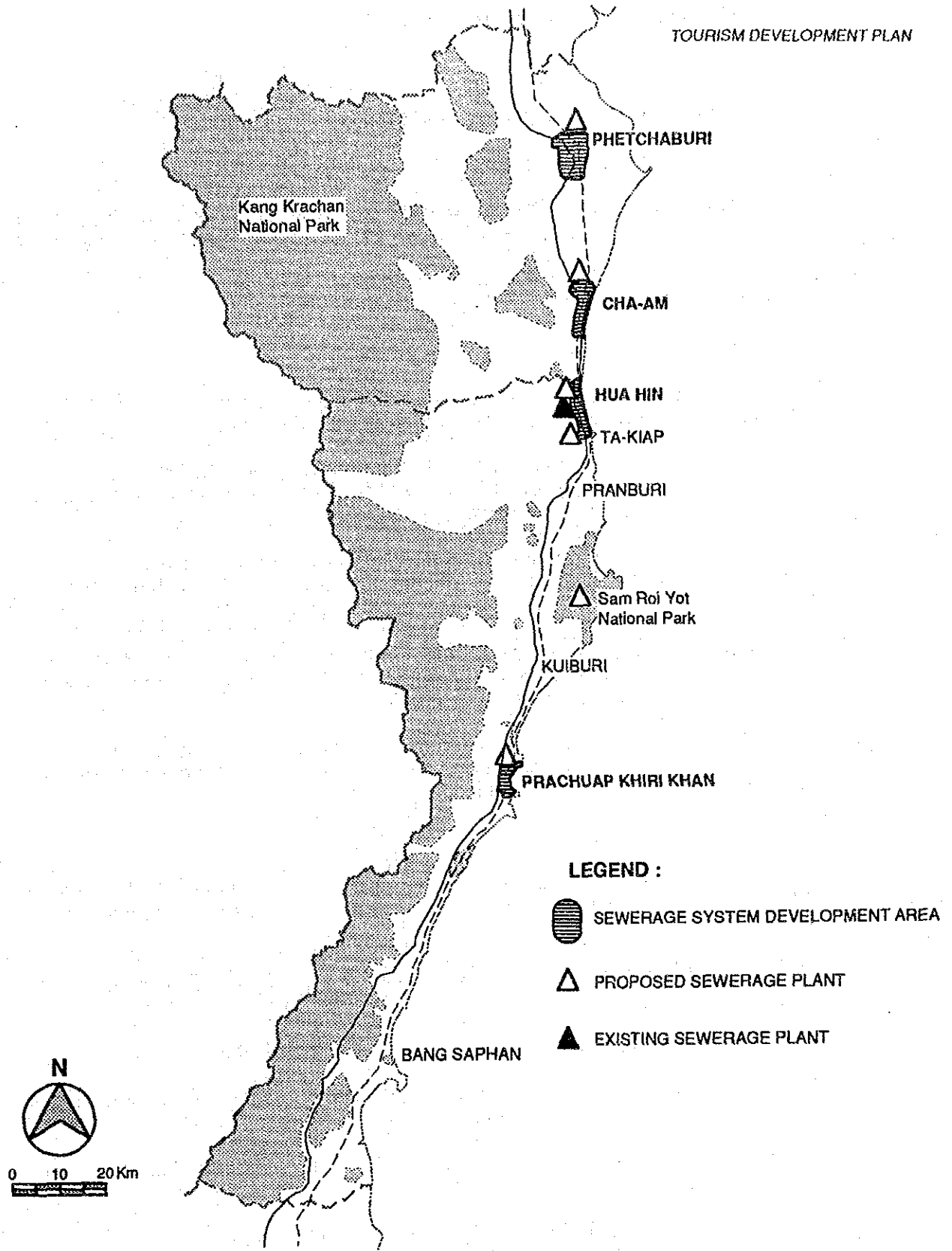


Figure 3.3-3 Sewerage System Development Plan

## 2) Individual Sewerage System Development

### 6. Sam Roi Yot National Park

This project involves the construction of a treatment plant with a capacity of 50 cum/day in Sam Roi Yot National Park, and the installation of a separate sewer.

## 3.3.4 Solid Waste Disposal Plan

### (1) Present Situation and Issues

Systematic garbage collection is being conducted only in the municipalities. However garbage collection and disposal are often inadequate:

- The municipalities do not have sufficient trucks at their disposal to collect the amount of waste generated in their service areas, and often collection trucks and equipment are not properly maintained.
- At present, open dumping is carried out at the disposal sites, resulting in environmental and sanitary problems such as bad smell, leaching, attraction of flies and animals, and potential ground water pollution.

In rural areas garbage collection by the provincial governments is available on a voluntary basis. In those areas residents collect, burn and dispose of the remaining garbage locally, which causes sanitary problems.

The increase in the amount of waste, due to especially tourism development, only magnifies above mentioned problems. Improper waste collection and littering are observed tourist areas, e.g. on beaches.

### (2) Development Strategy

Based on the above and in accordance with the development targets described in Chapter 2, the following strategy is set forth to halt environmental and sanitary problems:

- To improve the collection and haulage within the whole municipality by expanding the collection capacity;
- To introduce the sanitary landfill method at disposal sites;
- To expand systematic garbage collection outside the municipalities, especially in tourist areas; and
- To set and implement appropriate tariffs to improve cost-sharing for solid waste disposal.

### (3) Solid Waste Generation Forecast

Table 3.3-4 presents the existing collection capacity and the solid waste generation forecasts for 1996, 2001 and 2006. The table shows that at present almost 80% of the generated waste is collected in Phetchaburi and Prachuap Khiri Khan Municipalities, but that the collection capacity for Cha-Am and Hua Hin is only around 50%. Since increases in the estimated future waste generation are

especially high in Cha-Am and Hua Hin, expansion of the collection capacity is urgently required in these municipalities.

The total number of trucks required to collect the estimated waste volume of 1996, is indicated in Table 3.3-5. Prachuap Khiri Khan is excluded, because it has developed its own plan to improve garbage collection.

**Table 3.3-4 Solid Waste Collection Capacity and Projection of Solid Waste Generation (1996, 2001, 2006)**

Municipality	Existing Collection Capacity 1991		Projection of Solid Waste Generation			
	Volume	% of generated waste	1991	1996	2001	2006
Phetchaburi	14	77.8	18	22	23	24
Cha-Am	7	53.9	13	20	25	32
Hua Hin	10	47.6	21	30	35	41
<b>Total</b>	<b>38</b>	<b>62.3</b>	<b>61</b>	<b>82</b>	<b>94</b>	<b>109</b>

units: ton/day, %

source: Study Team

**Table 3.3-5 Required Number of Collection Trucks**

Municipality	unit: number		
	Existing Trucks 1991	Additionally Required Trucks	Total Trucks 1996
Phetchaburi	9	5	14
Cha-Am	4	8	12
Hua Hin	6	12	18
Prachuap Khiri Khan	4	-	-

source: Study Team

#### (4) Proposed Projects

Solid waste disposal is an urgent issue in the whole country, and the central government is studying on adequate solutions. For the Study Area improvement of the disposal system is recommended, based on the above strategy, in Phetchaburi, Cha-Am, Hua Hin and Prachuap Khiri Khan Municipalities. Hereto the following improvements are proposed for these 4 municipalities:

##### 1. Collection Improvement

Additional collection trucks shall be purchased as indicated in Table 3.3-5.

##### 2. Maintenance of Equipment

To improve maintenance and repair, a periodic check system for the trucks and the establishment of a small workshop are proposed. Using a check sheet which is to be filled out daily before starting collection work, possible trouble will be located in an early stage. Also small workshops shall be established to provide repairing service for simple defects and for regular periodic maintenance.

### 3. Disposal Site Development

The sanitary landfill method shall be introduced for all municipalities. Soil coverage should be adequate to keep sanitary conditions, taking account of the environmental conditions of surrounding areas and impact on human activities. On the other hand the limitation of the budget of the municipalities should be considered. Particularly in Cha-Am municipality, the present disposal site may pollute drinking resources which are located close to the site. A thorough environmental impact study needs to be carried out here.

#### 3.3.5 Power Supply and Telecommunication Plan

##### (1) Power Supply Plan

###### 1) Present Situation and Issues

Power supply service is operated by the Electricity Generating Authority of Thailand (EGAT) and the Provincial Electrical Authority (PEA), and the supply in Phetchaburi and Prachuap Khiri Khan provinces does not seem to meet serious problems.

EGAT and PEA hold a Coordination Meeting every year at which the future power demand is computed, and the development plan for power supply service is modified to meet the forecasted demand. Because power is supplied to Hua Hin over a long distance, from Pranburi substation, large voltage drops occur. However, it is expected that with the installation of capacitors by PEA, this situation will improve soon.

###### 2) Load Forecast

Table 3.3-6 shows the existing demand and the load forecast for 2006. The increase in power demand associated with tourism development, including the construction of new hotels, condominiums, restaurants and shops, in Cha-Am and Hua Hin is estimated to be about 60 - 70 MW.

Table 3.3-6 Power Load Forecast (2006)

units: upper: GWh, lower: MW

Substation	1991	2006
Cha-Am	183.3	455.2
25x25	31.0	72.4
Hua Hin	0.0	357.3
25x25	0.0	58.3
Pranburi	107.6	210.3
1x50	19.4	35.3
Total	290.9	1,022.8
	50.4	166.0

source: PEA

###### 3) EGAT and PEA Development Plan

A development plan for the power distribution network of Thailand, with appropriations totaling 17,000 million baht, has been established under the 7th National Economic and Social Development Plan (NESDP). About 220 million baht is allocated to the Study Area.



EGAT and PEA's plans to construct a new substation at Hua Hin to cover future increases in demand in the area is now at the equipment bidding stage, and is scheduled to be implemented in 1994. If their plans to construct facilities to supply an extra 115 MW, and if these plans go ahead as planned, this will sufficiently cover the future power demand.

## (2) Telecommunication Plan

### 1) Present Situation and Issues

International calls from the Study Area are made via the lines and the nine switching stations in the area but their capacity is too small to meet the demand. There is expected to be a waiting list of nearly 10,000 circuits toward the end of 1992, even after completion of the 6th Development Plan of the Telephone Organization of Thailand (TOT').

### 2) Line Demand Forecast

Table 3.3-7 shows the estimated demand of lines in 2006, based upon forecasts by TOT.

Table 3.3-7 Estimated Demand of Telephone Lines (2006)

	unit: number
	Line Demand (2006)
Waiting list after the completion of the 6th TOT Plan	9,832
Additional demand in Hua Hin/Cha-Am in year 2006	1,200
Total estimated demand in 2006	11,032

source: TOT

### 3) Proposed Projects

Shortage of domestic lines is a problem throughout Thailand. In order to improve the situation, the Government of Thailand plans to invest about 150 billion baht during the 7th NESDP in building up about 2 million circuits in the capital region and 1 million circuits in provincial regions. Since the demand of lines in the Study Area is relatively small in a national context, it is expected that the required expansion will be implemented based on this plan.

## 3.4 Tourism Promotion Program

### 3.4.1 Present Situation and Problems

#### (1) National Level

For the past years, TAT's promotion for Thai beach destinations has been heavily focused on Pattaya and Phuket. Not much emphasis was placed on the promotion of Hua Hin/Cha-Am, except for the production of a brochure to be used for promotion overseas.

Change of TAT's approach is observed from late 1991, when they opened a new Cha-Am Office for information provision and started introducing Hua Hin/Cha-Am as a new destination by placing advertisements in travel media in major overseas

markets. Also, TAT produced new area brochures proving practical, on-site information to facilitate tourists upon their arrival at the destination. Especially the brochure for Phetchaburi province is worth mentioning.

## (2) Provincial and Municipal level

Currently, only two municipal information centers are provided, in Hua Hin and in Prachuap Khiri Khan, and their service standard leaves much room for improvement (staff, brochures and information provided). No municipal information service is available in Phetchaburi and Cha-Am, two other major tourist centers of the two provinces. Lack of this service is regretted especially for Phetchaburi, which forms the major gateway for both domestic and foreign tourists from Bangkok metropolitan region and offers many interesting tourist attractions representative of the region, e.g. Khao Wang.

Apart from TAT produced materials, there are only a few tourist brochures available produced locally as listed in Table 3.4-1. Their standard is generally poor in design, format and the information it provides. Some use mimeograph printing, while others are produced in full color on glossy paper. No consistency is observed in their production to establish and enhance an unified destination image of Hua Hin / Cha-Am.

## (3) Tourist Signage

There is much room for drastic improvement of tourist signage in the two provinces, except for a few direction signs leading to major tourist attractions provided by the Department of Highways (DOH), e.g. Khao Wang and Palao Waterfall. No consistent method is established to systematically and properly provide tourist attractions and facilities with direction signs, name sign/information boards and interpretative boards. Presently, some major attractions do not even have Thai language information boards. Interpretative boards are almost non-existent. Figure 3.4-1 shows the existing conditions of the tourist signage in Phetchaburi City.

### 3.4.2 Promotion Strategy

Establishment of an integrated regional promotion program covering the Study Area is recommended, under the guidance of the newly opened TAT Cha-Am Office.

The objectives of the program area as follows:

1. To provide fully qualified tourist information service through information centers established at major tourist centers in the Study Area, in order to enhance the position of the Study Area as appealing destination among other competing regions in Thailand;
2. To provide practical, on-site information brochures produced under an unified format, in order to solidify the Study Area's destination identity and
3. To provide systematic and properly coordinated tourist signage, in order to facilitate tourist visitation to and appreciation of the attractions in the region and at the same time to present the region's sophisticated destination image.

PHETCHABURI

Existing Sign, Map and Information Board in Petchaburi

- ▼ Direction Sign
- Attraction Name Sign
- Attraction Location Map
- ★ Attraction Information Board

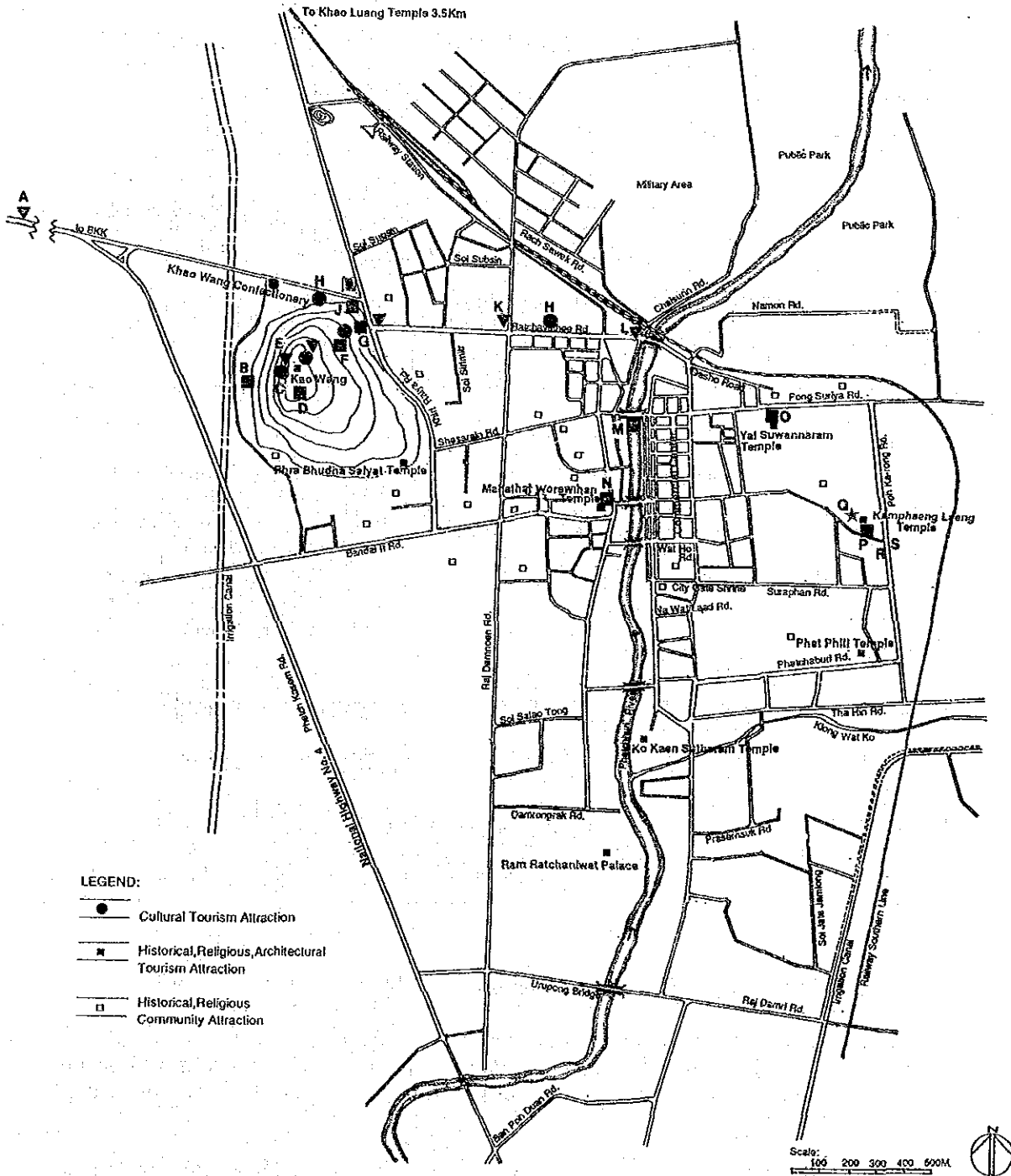


Figure 3.4-1 Location of Existing Signs and Information Boards in Phetchaburi City

4. To enhance community awareness towards the role of tourism in socio-economic development of the Study Area through community awareness campaigns and mobilization activities covering all levels of the resident community.

Table 3.4-1 Inventory of Existing Promotion Materials

	Title	Issued by	Format
Motivation/Inducement Materials			
1. Promotion Brochure	Cha-Am	TAT	standard TAT format, color (19.5x22cm)
	Hua Hin	TAT	ditto
	Prachuap Khiri Khan	Province	1 sheet, fold-away glossy, full color (21x9.5cm)
	Bang Saphan	Province	ditto
2. Promotion Poster	to be checked		
3. Promotion Video	Hua Hin	Municipality	20 minutes
On-site Information Materials			
1. Area Brochure	Phetchaburi Province	TAT	12 pages, fold-away, new format, mono-color (10x22.5cm)
	Prachuap Khiri Khan Province	TAT	13 pages, clipped sheet, old format, mono-color (21.5x30cm)
	Hua Hin	TAT	standard TAT format, mono-color (19.5x22cm), Thai language only
2. Municipality Brochure	Hua Hin (accommodation only)	Municipality	1 sheet, fold-away, mono-color
	Hua Hin (train, bus time/fare)	Municipality	12 sheets, mimeographed
3. Site Brochure	Sam Roi Yot National Park	RFD, Park Headquarters	2 sheets, mimeographed
	Kang Krachan Nation Park	RFD, Park Headquarters	1 sheet, basically in Thai, mimeographed
	Prachuap Khiri Khan	private sector (Hat Thong Hotel)	1 sheet, mono-color (illustrated city map)

### 3.4.3 Proposed Programs for Tourism Promotion

In order to add competitive edge to the destination image of Hua Hin and Cha-Am, which presently lags behind Pattaya and Phuket as internationally recognized beach destination, establishment of a "tourism coordination committee" for the Study Area is recommended.

It is advised that officials responsible for tourism development at provincial and municipal offices, and key representatives of tourism-related private sectors are solicited as members of the committee. The role of the committee shall be to coordinate, supervise and activate all aspects of development and promotion related

to tourism in the two provinces, in order to overcome above identified problems currently surrounding tourism in the Study Area. It is requested that TAT will offer technical advise and expertise through their Cha-Am office.

The committee's efforts shall focus on improvement and implementation of the programs devised for regional tourism promotion, as described here after.

### (1) Visitor Facilitation Measures

Image and identity of a tourist destination cannot be established by simple assortment of tourist attractions identified in the destination, be they natural, historical or cultural ones, but by professional efforts to group and rearrange them in order to create the tourist routes and products unique to that particular destination and appealing to prospective visitors.

Whether tourist attractions are properly signed, guided and serviced forms an integral part of tourism promotion especially on the regional level. Visitor facilitation measures will ensure whether attractions are:

- easily accessible and identifiable by first-time visitors,
- properly provided with explanatory information to help visitors appreciate the value of attractions, and
- properly serviced to satisfy visitors' expectation for destination area.

#### 1) Provision of Signs and Boards

Existing signs (direction, name, information) are very poorly provided. Immediate improvement must be implemented by providing standardized and visually-pleasing signage. A case study is made for the major attractions of Phetchaburi City, showing recommended spots for sign, map and board setting and two recommended tour routes for either walking tour or samlor tour. The recommendations are shown in figure 3.4.-2 and 3.4-3.

Adopted guidelines should be as recommended by "Graphic Identification Standard for TAT Signboards" (TAT Project Planning Department in cooperation with King Mongkut's Institute of Technology Chaokhunthaharn Ladkrabang Campus).

##### 1. Directional Signs

DOH has an excellent and long established signage system and some of major tourist attractions in the Study Area are covered in their system, e.g. Khao Wang and Palao Waterfall. Close coordination with TAT is required.

##### 2. Name Signs

Most signs are written only in Thai language. Size, shape and graphic presentation are all different and of poor standard. Location and set-up of name signs are often ill-chosen. Not a few attractions do not even have name signs. TAT's technical assistance is required.

##### 3. Information Boards for major attractions

Information boards for the major tourist attractions are indispensable in providing first-hand on-site information on the assets for visitors. Proper provision of visually pleasing boards will be conducive to enhancement of destination image and identity.

PHETCHABURI

Recommended Spots for Sign, Map and Board

- Case Studies of - Khao Wang  
 - Mahathat Woraviharn  
 - Yai Suwannaram  
 - Kampaeng Laeng  
 - Petchaburi River Park

- ▼ Direction Sign leading to attractions
- Attraction Location Board of Petchaburi
- ★ Information Board of Attraction
- ▼ Direction Sign leading to Tourist Information Centre
- Tour Route One
- Tour Route Two(extension)
- Tourist Information Centre

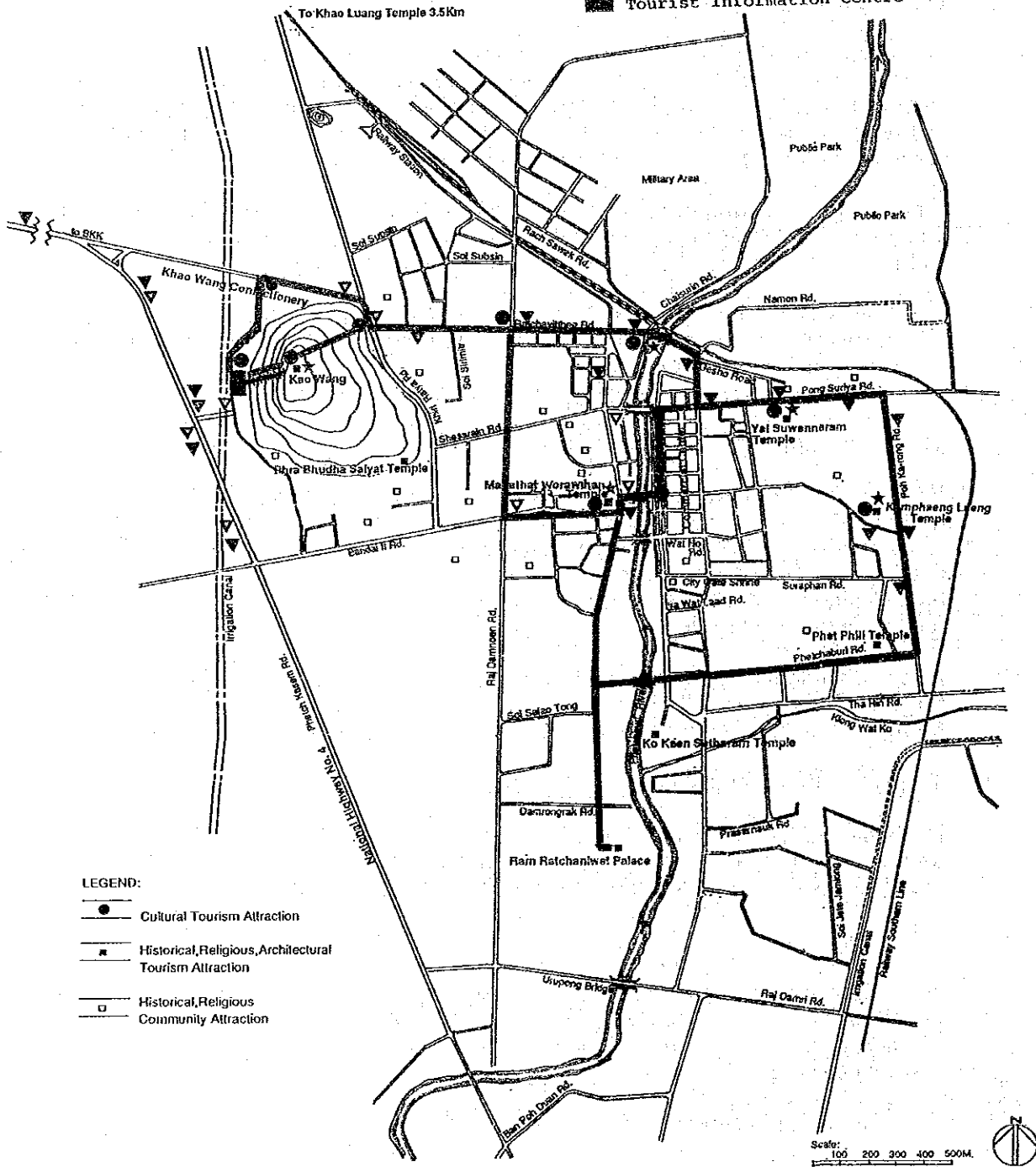


Figure 3.4-2 Recommended Location of Signs and Information Boards in Petchaburi City

- Existing      ■ Attraction Name Sign
- Attraction Location Map
- Recommended    ▼ Direction Sign
- ▲ Information Sign
- ★ Interpretative Sign

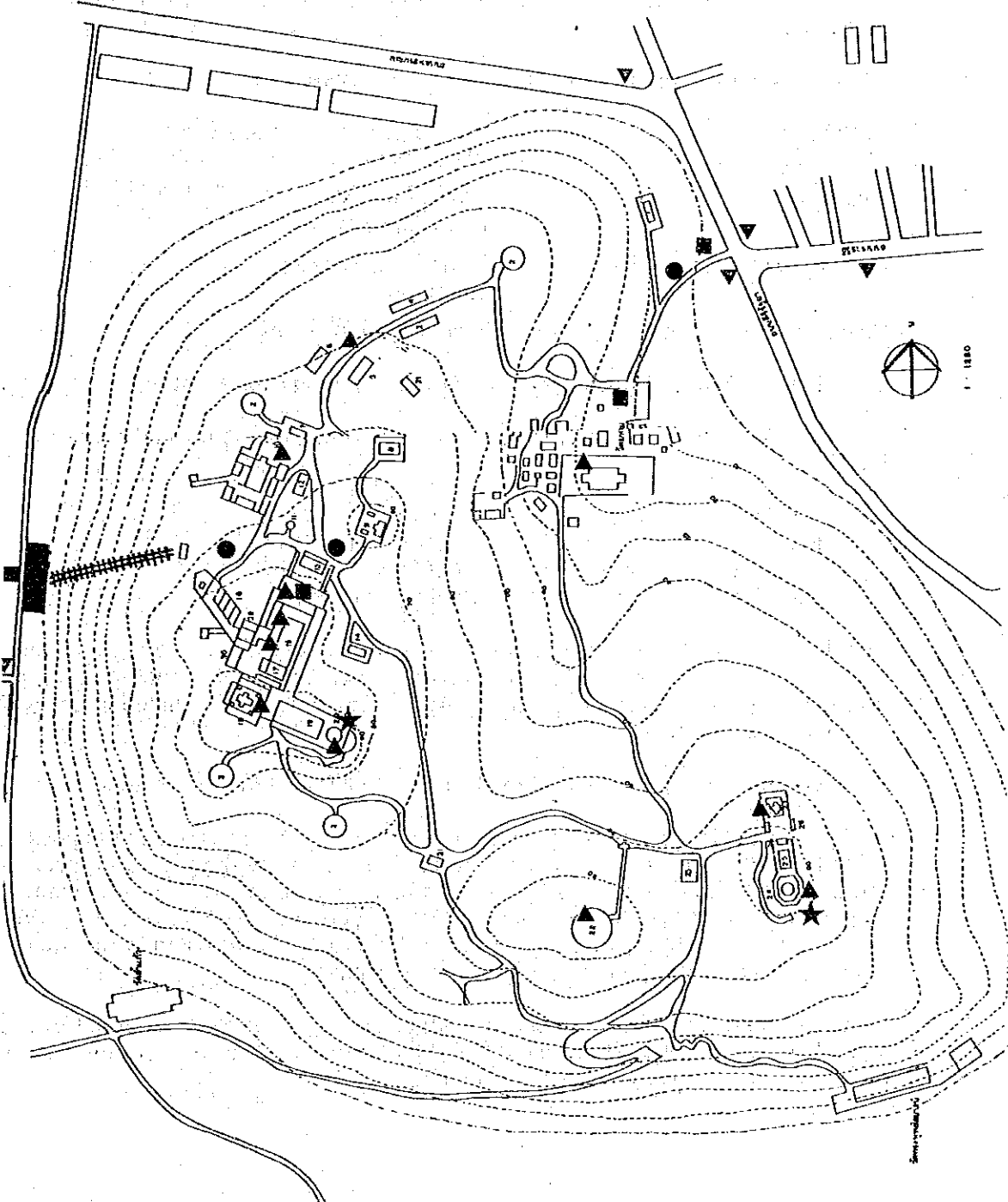


Figure 3.4-3 Recommended Location of Signboards at Khao Wang

Only several information boards are identified out of more than 100 attractions throughout the Study Area. Even Khao Wang, the landmark Phetchaburi City attraction, does not have any information board except for only one small board inside the main museum building, which is totally inadequate. TAT's technical assistance is required.

#### 4. Interpretative Boards

Provision of interpretative boards is a must for better appreciation of the attraction, especially when it comprises complex sites and features, such as Khao Wang and Sam Roi Yot National Park. Presently, there is none available throughout the Study Area.

Attractions where interpretative boards are recommended are:

Phetchaburi	-	Khao Wang/Phra Nakorn Khiri
	-	Khao Luang
Hua Hin	-	Khao Hin Lek Fai
	-	Wat Khao Klailat
Sam Roi Yot National Park	-	Tham Phrayanakorn
	-	Tham Sai
Prachuap Khiri Khan	-	Khao Chong Krachok

#### 2) Establishment/Improvement of Tourist Information Centers

Besides TAT Cha-Am Office, there are four information/visitor centers operated locally:

- Hua Hin tourist information (municipality)
- Prachuap Khiri Khan tourist information (municipality)
- Kang Krachan Park visitor center (RFD) with exhibits
- Sam Roi Yot Park visitor center (RFD) with exhibits

Standard and quality of information and materials currently available at these centers fall short of the level of tourists' expectation. Restructuring of the information center network in the Study Area is urgently recommended in line with the following directions:

##### 1. Demarcation of TAT Cha-Am Office and other information centers

TAT Cha-Am Office is the only authority in the Study Area, who is in the position of disseminating technical expertise and professional know-how on all aspects of tourism promotion, supported by its headquarters in Bangkok. In this context, emphasis of its service should be shifted from day-to-day customer (tourist) service to institutional service, offering technical expertise and assistance in order to upgrade provincial and municipal information centers.

Provincial and municipal centers, including the National Park Visitor Centers, should on the other hand concentrate their efforts on day-to-day information dissemination and services to visitors to the Study Area.



## 2. Improvement of existing information and visitor centers

Standard operational procedures and manuals, inclusive of staff training, should be established in executing day-to-day information services at the 2 different kinds of existing centers, namely:

- City Tourist Centers, in Hua Hin and Prachuap Khiri Khan, and
- Park Visitor Centers, in Kang Krachan and Sam Roi Yot National Parks.

Standardized formats should be introduced throughout the Study Area in producing on-site information sheets distributed among visitors. This helps add unified image and identity to the Study Area. TAT Cha-Am Office is requested to provide technical advice and assistance.

## 3. Opening of new information centers

In consideration of existing and anticipated tourist flows in the Study Area, new information centers are recommended at the following locations, and following similar operational guidelines as described in the previous section (improvement of existing centers),

in Phetchaburi City, to be operated by the municipality:

- Khao Wang Main Information Center, in the cable car terminal at Khao Wang, where ample vacant office space is available,
- Phra Nakhon Khiri Supportive Information Center, using the present highway patrol office,

at Cha-Am Beach, to be operated by the municipality:

- Beach Front Information Center, at the tourist police booth at the junction of Narathip Road.

## (2) Publicity and Information Materials

In order to help establish an unified and sophisticated image of the Study Area as a desirable tourist destination, standard design, format and content be established for the production of publicity and information materials, as follows:

### 1) Posters and Video Clips

#### 1. Posters

Just one combined poster is recommended for the Study Area (Hua Hin and Cha-Am). It is not advisable to produce 2 separate posters, one for Phetchaburi with Cha-Am and one for Prachuap Khiri Khan with Hua Hin, since combination of Hua Hin and Cha-Am is conceived as one tourist destination, especially among foreign tourist markets.

The recommended conceptual format will be as exemplified in the advertisement placed at the overseas travel trade media by TAT in 1992, introducing Hua Hin and Cha-Am as a new destination.

## 2. Video Clips

Just one volume-introductory video clip covering both provinces of 15-20 minutes duration, on the same ground as mentioned above is recommended.

15-20 minutes duration is ideal for its showing at travel promotion seminars, travel trade shows and gatherings of prospective visitors. A longer edition will often bore the audience resulting in an adverse effect for promotion.

## 2) Information Brochures

Aim of these brochures is to provide tourists with factual and practical on-site information. For this reason, no glossy paper or color print are required, but simple paper with mono-color print will suffice.

According to the category of the brochures, the brochure format should be uniform throughout the Study Area so as to give a solidified identity of one tourist destination.

### 1. Area Information Brochure

(area format: 10 x 22.5 cm, 3 sheets, 12 pages two-folds, mono-color, as modeled by TAT new format) Preferably, two separate editions, in Thai and English.

- Phetchaburi Province
- Prachuap Khiri Khan Province

The following information will be included:

- a general introduction of the province,
- access to major tourist centers by road, rail, air and sea with tariffs,
- a description of major tourist attractions by municipality, tourist center and district,
- a list of accommodations with indication of telephone number and tariff,
- dining, shopping and activity suggestions,
- a general map of the province,
- maps of major tourist centers, and
- the location of information centers with indication of address, telephone number and service hours.

### 2. Municipality/Attraction Information Brochure

(site format: 10 x 22.5 cm, 1 sheet, 12 pages three-folds, mono-color, as modeled by TAT new format) Preferably, two separate editions, in Thai and English. Depending on popularity of attraction, it can be unified into one edition with in both Thai and English. Production of 30,000 annually updated copies is proposed for:

- Phetchaburi City
- Kang Krachan Park
- Cha-Am Town and Beach
- Hua Hin Town and Beach
- Sam Roi Yot National Park and Pranburi
- Prachuap Khiri Khan City
- Ban Saphan and Beach

The following information will be included:

- a general introduction of the province,
- access to major tourist centers by road, rail, air and sea with tariffs,
- a description of major tourist attractions,
- a list of accommodations with indication of telephone number and tariff,
- dining, shopping and activity suggestions,
- a location map of the attractions,
- an enlarged map of the attractions in necessary, and
- the location of information centers with indication of address, telephone number and service hours.

Recommended publicity and information materials on the regional level are listed in Table 3.4-2.

### **(3) Community Awareness Campaign**

#### **1) Awareness Campaign at major tourist centers**

It is desirable that all levels of the resident community are aware of the importance of tourism in socio-economic development of the region. Currently only limited sectors and localities of the community (such as tourism-related sectors or Hua Hin and Cha-Am localities) are aware of its importance.

Tourism assets identified in the region need to be conserved and beautified through continuous efforts of relevant agencies as well as resident community where the asset is located.

Community Awareness Campaign should be organized at such urban centers as Phetchaburi, Pranburi, Prachuap and Ban Saphan in the form of:

- seminar for provincial/municipal officers related to tourism development and promotion
- seminar for community leaders
- publicity events with some attraction and entertainment to activate public participation (e.g.. tourism week, with feature son, dance, film show)

#### **2) Community Mobilization Activity**

Community participation is one of the best means to enhance their awareness of tourism's importance. One such example will be "Keep... Clean Campaign" with resident participation (primary and junior high school students, government employees, community leaders, social/charitable bodies, etc.) carried out on a certain fixed day of the year as an annual event. Costs for such campaigns can be shared by public funding and private sector contributions (tourism-related sectors).

Suggested locations for "Keep... Clean Campaign" will be:

- Phetchaburi River Park
- Cha-Am Beach Front
- Hua Hin Beach Front
- Prachuap Bay Front

**Table 3.4-2 Inventory of Recommended Promotion Materials**

	Title	Issued by	Format	
<b>Motivation/Inducement Materials</b>				
	1. Promotion Brochure	Cha-Am	TAT	as presently existing
		Hua Hin Phetchaburi	TAT Province (with TAT's supervision)	as presently existing 1 sheet, fold-away not glossy, part color, emphasis on Phetchaburi not Cha-Am
		Prachuap Khiri Khan	Province (with TAT's supervision)	1 sheet, fold-away not glossy, part color, emphasis on Prachuap Khiri Khan not Hua Hin
2. Promotion Poster	Hua Hin/ Cha-Am	TAT	4 mosaic patten of Hua Hin, Cha-Am, Phetchaburi and Prachuap Khiri Khan	
3. Promotion Video	Hua Hin/ Cha-Am	TAT/Province	15 minutes	
<b>On-site Information Materials</b>				
	1. Area Brochure	Cha-Am/ Phetchaburi	TAT	model edition, new format (change title)
		Hua Hin/ Prachuap Khiri Khan	TAT	ditto
		Cha-Am	TAT	standard TAT format, simplified, mono-color, English/Thai edition
		Hua Hin	TAT	ditto
	2. Municipality Brochure	Phetchaburi City	Municipality (with TAT's guidance)	1 sheet, mono-color, illustrated city map (sponsored)
		Prachuap Khiri Khan City	Municipality (with TAT's guidance)	ditto
		Cha-Am (accommodation only)	Municipality (with TAT's guidance)	1 sheet, fold-away, mono-color
		Hua Hin (accommodation only)	Municipality (with TAT's guidance)	ditto
		Hua Hin (train, bus time/fare)	Municipality (with TAT's guidance)	ditto
		Cha-Am town and beach	Municipality	ditto
		Hua Hin town and beach	Municipality	ditto
		Ban Saphan town and beach	Municipality	ditto
3. Site Brochure	Sam Roi Yot National Park	RFD, Park Headquarters (with TAT's guidance)	1 sheet, fold-away, mono-color	
	Kang Krachan National Park	RFD, Park Headquarters (with TAT's guidance)	ditto	

## **3.5 Environmental Management**

### **3.5.1 Environmentally Vulnerable Areas**

The Study Area largely owes its attractiveness for tourism to its excellent natural resources, including scenic beaches, mangrove forests, caves, mountain scenery, etc. Controlled tourism development to maintain and enhance the Study Area's environment and by that to sustain its attractiveness for tourism is indispensable, as was stressed in Chapter 2.2. Besides, the tourism development strategy envisages consideration for local communities in the Study Area, by making efforts to secure and support their livelihood.

This chapter describes environmental countermeasures and their enforcement necessary to comply with above strategy. Considering the background of the Study, environmental issues to be dealt with focus on those parts of the Study Area which are environmentally vulnerable in the context of tourism development. These areas are distinguished as follows:

#### **1. Coastal Area**

Tourism development in the Study Area is heavily concentrated along its coastline. Therefore, environmental issues related with tourism development, such as deterioration of the sea water quality, littering, and reduction of the area and quality of mangrove forests, are most evident in the coastal zone. Moreover, deterioration the visual attractiveness of the Study Area form a major issue is this area.

#### **2. National Parks and Forest Reserves**

National Parks and Forest Reserves are located along the coast and in the mountainous western part of the Study Area. Their scenery and wild life offer ample opportunities for tourism development which may, if not controlled properly, conflict with objectives for environmental protection.

#### **3. Local Communities**

The Study Area includes numerous scattered fishing and agricultural communities, located along the coast and further inland. Tourism development in or close to these communities may benefit its residents, but may also put strains on the village's social structure.

### **3.5.2 Environmental Issues and Countermeasures**

#### **(1) Natural Resources**

##### **1) Present Situation and Issues**

###### **1. Coastline**

The coastline of the Study Area stretches over 315 km and includes about 20 beaches. Environmental pollution is noticeable in part of the coastal area, especially around Cha-Am and Hua Hin. The natural environment of the coastal area south of Pranburi is still relatively well preserved, and to sustain its attractiveness environmental protection measures are urgently required for its beaches.

## 2. National Parks, Forest Reserves and Forest Parks

The Royal Forest Department (RFD) maintains the roughly 4.48 million rai (717,000 ha) of forest land located in the Study Area. The forest land includes National Parks, Forest Reserves and Forest Parks, the most important of which are listed in Table 3.5-1.

**Table 3.5-1 Forests managed by the Royal Forestry Department**

Category	Name	District	Province
National Park	Kang Krachan National Park	Tha Yang, Khao Yoi	Phetchaburi
	Sam Roi Yot National Park	Pranburi, Kuiburi	Prachuap Khiri Khan
	Huai Yang Water fall National Park	Thap Sakae	Prachuap Khiri Khan
	Hat Wanakon National Park	Thap Sakae	Prachuap Khiri Khan
Forest Park	Pak Nam Pran Forest Park	Pranburi	Prachuap Khiri Khan
	Pa Klang Ao Forest Park	Bang Saphan	Prachuap Khiri Khan
Forest Reserve	Nong Ya Plong Forest	Nong Ya Plong, Khao Yoi	Phetchaburi
	Yang Hak and Khao Fum Forest	Ban Lat	Phetchaburi
	Cha-Am and Ban Rong Forest	Cha-Am, Tha Yang	Phetchaburi
	Kuiburi Forest	Pranburi, Kuiburi	Prachuap Khiri Khan
	Thap Sakae Forest	Thap Sakae,	Prachuap Khiri Khan
Khao Chairat and Khlong Krut Forest	Bang Saphan, Bang Saphan Noi	Prachuap Khiri Khan	

note: Of the 35 Forest Reserves located in the Study Area, which add to a total area of 665,000 ha, only the most prominent forests are listed here.

The primary policy of RFD is protection of the forests' natural resources. However, insufficient management has caused adverse environmental impacts due to illegal settlement and uncontrolled development. It is stressed that deterioration of the natural environment of the forests also negatively affects their attractiveness for tourism.

## 3. Mangrove Forests

The Study Area includes about 50,000 rai (8,000 ha) of mangrove forests, which is 3% of total mangrove forest area in the whole country. Most of the mangrove areas are located in Ban Laem and Khao Yoi Districts of Phetchaburi Province, but the coastal area north of Cha-Am and Pak Nam Pran Forest Park, Khlong Khao and Khlong Koi Forest to its south and Sam Roi Yot National Park also include mangrove forests. However, the Study Area used to include a much larger area of mangrove forests, most of which has degenerated or completely disappeared due to tourism development, establishment of shrimp farms, etc.

### 2) Countermeasures

Protection of the remaining mangrove forests is indispensable because they offer extremely rich natural resources as habitat for a large variety animal species, including birds, mammals, reptiles, fishes and insects. Mangrove forests also serve as a link between marine and terrestrial ecosystems.

The conservation of mangrove forests should in the first place serve protection of its rich natural resources, but the forests also have potential for eco-tourism on a small scale. Eco-tourism is becoming more popular around the world and

especially in the United States and Canada. However, detailed study will be necessary for its implementation.

Zoning, as described in Chapter 3.1, is one of the measures which may contribute to effective protection of the natural resources in the Study Area. In this chapter the designation of environmentally vulnerable areas was recommended, in which tourism development will not be allowed. Detailed study will be necessary to set the boundaries of these areas, and to design regulations and restrictions, e.g. concerning trespassing, for different parts of within these areas.

Tourism development in National Parks, Forest Reserves and Forest Parks will be subject to the regulations and restrictions which RFD employs to protect the forest resources. It is stressed that their utmost efforts must be undertaken to effectively implement its policies.

## (2) Water Quality

### 1) Present Situation and Issues

For environmental protection in general and tourism purposes particularly, it is important to keep the sea water quality in the Study Area at a satisfactory level. Results of water quality surveys conducted at various beaches in the Study Area to evaluate suitability for swimming, are presented in tables 3.5-2 and 3.5-3.

**Table 3.5-2 Water Quality at Beaches in the Study Area**

Beach	Water Quality			Main Problems Identified
	Good	Fair	Poor	
Phetchaburi Hat Chao Sam Ran		x		Water was not quite clear
Cha-Am Hat Cha-Am The Regent Cha-Am Hotel	x	x		Oil and grease were found at high concentrations
Hua Hin Hat Hua-Hin  Khao Ta-kiap Khao Tao	  x x	 x  		Coliform bacteria were found at a high concentration
Pranburi Pranburi Forest Park  Hat Laem Sala		 x  	  x	Coliform bacteria were found at a high concentration Turbid water; Coliform bacteria and Oil & grease were found
Prachuap Khiri Khan Ao Prachuap  Ao Manao Hat Wanakon	  x  	   x	 x	Turbid water; high numbers of Coliform bacteria were found High numbers of Coliform bacteria were found
Bang Saphan Hat Laem Kum Ao Bo Thong Rang	 x x			

source: TISTR

Note: The water quality mentioned above is considered only from the survey results in February 1987, out of the monsoon season and with an increasing number of tourists.

**Table 3.5-3 Sea Water Quality at Cha-Am and Hua Hin Beaches**

Item	Cha-Am beach	Hua-Hin beach	Standard
pH	7.8-8.5	8.0-8.2	6.5-8.3
Salinity (ppt)	26.5-34.0	32.0-34.0	-
Suspended Substances (mg/l)	4.2-6.0	8.5-10.0	20
DO(mg/l)(mg/l)	3.4-6.7	5.3-6.5	>4.0
BOD (mg/l)	0.3-1.1	0.7-3.6	-
Coliform Bacteria (MPN/100 ml)	1,700	1,300-3,000	1,000

Note: SS is for 1987. Other data are for 1991.  
Water quality standard for swimming.

The surveys indicate that at some beaches in the Study Area the water quality is not sufficient for swimming purposes. The coliform concentration exceeds 1,000 MPN/100 ml at some places close to municipalities. Also, a green tide is observed by the Study Team at the sea near Khao Ta-kiap.

Water pollution is mainly caused by discharge of untreated waste water to the sea, due to lack of adequate sewerage. Besides government quality standards for the discharge of pre-treated waste water (BOD<20 mg/l, SS<30 mg/l) are not strict enough to be acceptable for sea bathing. This causes problems close to drain exits of secondary treatment facilities used by many hotels and factories in the Study Area.

## 2) Countermeasures

### 1. Strategy

In order to assure and maintain satisfactory water quality for environmental protection in general and for sea bathing particularly, the following strategy is set forth:

- To develop municipal sewerage urgently as proposed in chapter 3.2.3, to prevent discharge of untreated waste water to the sea. Besides, to solve the discrepancy between the standards used for discharge of pre-treated waste water and the water quality necessary for bathing, discharge of the pre-treated water further away from the beaches in the open sea may be an effective measure. As long as the pre-treated waste water complies with the government standards, and does not contain chemical materials, this method is not expected to cause environmental problems due to the self-purification capacity of the sea;
- To apply the government standards for domestic effluents approved by the National Environment Board in 1985, as guideline in the Study Area;
- To introduce sea water quality standards for beach tourism;
- To establish a monitoring system to periodically evaluate the sea water quality; and
- To introduce sanctions to enforce the regulations concerning water quality.



## 2. Introduction of Water Quality Standards

Two standards are recommended to maintain quality ocean water for tourism, namely a standard for bathing and a standard for visual/olfactory nuisance. The Ministry of Technology and Energy has established a standard for sea bathing in 1983 based on the article 17 of Improvement and Conservation of Natural Environmental Quality Act, and applied it to the Karon and other bays. The early implementation of this standard to the sea of Hua Hin and Cha-Am is recommended.

A standard for visual/olfactory nuisance has not been established in Thailand, but its introduction is recommended. The standards used for industrial area may serve as basis for the visual/olfactory standard, but requires some modifications. The standard used in Japan, shown in Table 3.5-5, may serve as reference for the necessary modifications. The standard for visual/olfactory nuisance recommended to be applied to the Study Area is presented in Table 3.5-4.

**Table 3.5-4 Recommended Water Quality Standards to avoid Visual and Olfactory Nuisance**

Item	Unit	Original Standard for Industrial Areas	Recommended Standard
Floatable Solids		not disgusting	same as left
Floatable Oil & Grease		not seen	same as left
Color & Odor		not disgusting	same as left
Water Temperature	°C	$D \leq$	same as left
PH		**	7.0 - 8.5
Salinity	ppt	**	same as left
Transparency	m	**	same as left
DO	mg/l	**	> 2
Total Coliform Bacteria	MPN/100 ml	-	same as left
Faecal Coliform Bacteria	MPN/100 ml	-	same as left
NO <sub>3</sub> -N	mg/l	**	same as left
PO <sub>4</sub> -P	mg/l	**	same as left
Total Hg	mg/l	$\leq 0.0001$	same as left
Cd	mg/l	$\leq 0.005$	same as left
Cr	mg/l	**	same as left
Cr (Hexavalent)	mg/l	$\leq 0.1$	same as left
Pb	mg/l	**	same as left
Cu	mg/l	**	same as left
Mn	mg/l	**	same as left
Zn	mg/l	**	same as left
Fe	mg/l	**	same as left
F	mg/l	**	same as left
Residual Chlorine	mg/l	**	same as left
Phenol	mg/l	**	same as left
NH <sub>3</sub> -N	mg/l	**	same as left
Sulfide	mg/l	**	same as left
CN	mg/l	**	same as left
PCB	mg/l	**	same as left
Total Organochlorine Pesticides	mg/l	**	same as left
Radioactivity	Becquerel/l	-	same as left
α - Gross	Becquerel/l	**	same as left
β - Gross	Becquerel/l	**	same as left

Note: 1 D = transformed from natural conditions  
2 \*\* = as necessary

**Table 3.5-5 Japan's Water Quality Standards to avoid Visual and Olfactory Nuisance**

	Standard
pH (hydrogenion concentration)	> 7.0, < 8.3
COD (chemical oxygen demand)	< 8 mg/l
DO (dissolved oxygen)	> 2 mg/l

**(3) Beach Erosion**

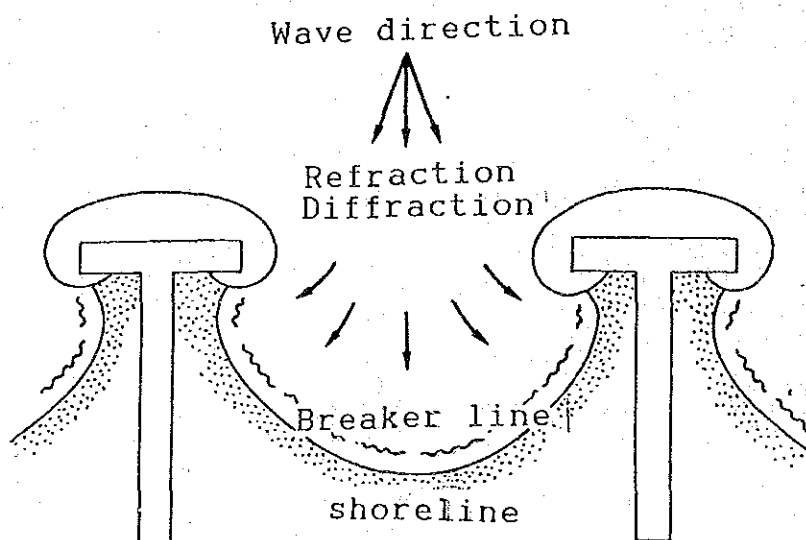
**1) Present Situation and Issues**

White sand beaches are imperative for marine resorts; therefore erosion of beaches forms a severe problem for tourism in the Study Area. Erosion is observed along the entire coastline of the Study Area, but is especially severe at the beaches of Cha-Am and Hua Hin.

**2) Countermeasures**

In the Master Plan 1987 the following 3 methods were proposed to prevent further erosion:

1. the construction of groins;
2. development of water breaking structures below or above the water surface; and
3. beach restoration and nourishment.



**Figure 3.5-1. Protection against erosion: Artificial Cape Method**

Although these methods contribute to a solution of the erosion problem, they have some disadvantages. The type of groins proposed may not be strong enough to withstand the waves in the Study Area, structures under the water surface may not attain much effect since the tidal range is over 2.5 m, structures above the water are not aesthetic and the third method is very costly. The so-called Artificial Cape Method, which involves the construction of T-groins as shown in Figure 3.5-1 may be more suitable. This type of groin is effectively applied to beaches where waves assault from different directions depending on the season. Possibilities for its application in the Study Area requires further detailed study.

#### (4) Litter

##### 1) Present Situations and Issues

Apart from serving general sanitation purposes, clean beaches and hygienic conditions in tourist towns contribute largely to a favorable image as tourist destination. Garbage on beaches and in the streets forms a distinct problem in the Study Area. As shown in Chapter 3.3.4 systematic garbage collection only takes place in the municipalities, and even there the service is limited. Also, littering forms a problem in the Study Area.

##### 2) Countermeasures

In order to improve sanitary conditions and to contribute to the image of the Study Area, the following strategy is set forth:

- To improve garbage disposal systems in municipal areas, and to set up systematic garbage collection systems outside municipalities with priority in tourist areas, as discussed in chapter 3.3.4.; and
- To introduce a set of measures aimed at reducing littering.

For systematic garbage collection in tourist areas not covered by the municipal collection system, and to reduce the problem of littering, the following measures are recommended:

1. to make an effort to reduce sales of products which potentially stimulates littering, e.g. caps which remain attached to the can or bottle after opening;
2. to install garbage bins at strategic places, e.g. close to shops/stalls, along frequently used routes;
3. to inform tourists of the location of the garbage bins, e.g. by means of announcements in the bus; and
4. to appeal to the residents to give their support for cleaning work.

The most appropriate set of measures depends on the specific conditions in each tourist area, and requires further study. Some experiences outside Thailand, e.g. in Japan, are presented here to serve as reference.

##### 1. Fund Raising

- by the private sector

Since private persons and organizations in the tourism sector, such as hotels and shops, gain income from the tourists visiting their establishments,

garbage disposal and cleaning should be partially their responsibility. They may contribute by sharing in the cost of cleaning and solid waste collection carried out by the local government.

- by the public sector

Fund raising to pay for garbage collection and cleaning activities is also a possibility. In Japan for example fees are charged for parking, etc. Fund raising by introduction of an environmental conservation tax may be also be considered.

## 2. Restrictions for Eating and Drinking Establishments

By limiting the areas where drinking and eating is allowed the littering problem may be reduced. Street stall should be strategically located, and the use of bio-degradable wrapping materials should be recommended to store and stall owners.

## 3. Keep Clean Campaign

"Keep your Town Clean" may be a slogan to encourage residents and establishment owners to contribute towards the cleaning activities and to reduce the littering problem. In Japan many resorts have launched Keep Clean Campaigns and established a patrol team to keep the beaches clean.

## 4. Deposit System to stimulate Recycling Efforts

Individuals and organizations responsible for garbage collection and cleaning work may give small monetary incentives to people who bring back their empty bottles, cans, etc.

# (5) Aesthetics

## 1) Present Situation and Issues

The construction of high rise buildings has led to deterioration of the visual appeal of Hua Hin / Cha-Am Beach Area. To prevent its further degradation, the Interior Minister and Director of the Public Works Department announced the so-called Zoning and Building Regulation in September 1991, which includes regulations concerning:

- the setback of buildings from the beach,
- limitation on the height of buildings depending on the distance from the beach,
- restrictions concerning the type of buildings allowed to be constructed, and
- requirements concerning maximum building density and floor area.

An excerpt of the Zoning and Building Regulation is included in Appendix 3.

## 2) Countermeasures

In order to adequately protect the visual environment of the Study Area, the extent of the Zoning and Building Regulation should be enlarged. The code should not only cover Hua Hin / Cha-Am Beach Area, but all beaches in the Study Area to prevent uncontrolled development. Moreover, additional restrictions in some areas such as design control and regulations concerning materials and colors may be

considered. Please refer to Chapter 3.1.2 for a more details description of recommendations.

## **(6) Local Communities**

### **1) Present Situation and Issues**

It is needless to say that in fishing villages a close relationship exists between the village and the sea. In these villages tourism development, which takes place mostly along the beach, may easily disrupt the socioeconomic structure of the village, by disturbing access to the sea. This type of villages, where fishing is still the main source of income, is especially found along the coast north of Cha-Am Beach, where the soil conditions do not allow much agriculture.

Contrary, in Pranburi District, north of Sam Roi Yot National Park, where most of the villages along the coast are engaged mainly in agriculture, the village center is located in general at some distance from the beach.

Tourism development causes socioeconomic and cultural impacts on local communities and its people. According to the socioeconomic survey conducted by the Study Team, local people in the area welcome tourism development, mainly because it brings in some extra income. However, it was also mentioned that the benefits of tourism development are distributed unevenly, and that they hardly reach the local population. The following issues were, accordingly, pointed out:

1. Tourism development has brought some job opportunities, but only in the lowest level jobs. Employment conditions are often unfavorable and salaries are low. Because the education level of many of the villagers is relatively low, they cannot expect any better jobs.
2. Local agricultural and fishery products are not fully utilized to use hotels and restaurants.
3. Tourism has resulted in an increase in the cost of living for the local people.

### **2) Countermeasures**

In order to activate the local economy and to improve the income situation of its people, the following ideas for more involvement of the villagers in tourism are recommended:

1. Improvement and expansion of job opportunities in tourism for local people

The introduction of special training courses in the tourism sector for local people interested in working at hotels, restaurants, golf courses, etc. should be considered. The courses should offer programs aimed at education local people to participate in more interesting and better paid jobs in the tourism sector. Also, training for local residents who plan to open or have established their own restaurant or guest house, is recommended.

2. Fishing Tours

In Hua Hin and some other beaches in the Study Area, local residents operate so-called fishing tours. A typical trip takes 3-4 hours in fishing boats which are adapted for tourism and can carry 30 tourists, and costs possibly 800-1,000 baht.

These type of activities however, are entirely based on people's own initiative. Organization and possibilities for expansion of these activities may be considered, including promotional activities, price setting, safety standards and insurance, etc.

### 3. Agro-tourism

In many villages in the Study Area, even relatively far from Hua Hin and Cha-Am, foreign tourists are seen driving around on motorcycles or in jeeps. They reportedly watch farmers working in the fields.

Especially for foreign tourists tropical farming may be an interesting tourist attraction. Visiting an orchard, where various kinds of fruit can be seen, picked and bought, is an idea to include as an alternative tourist attraction in Hua Hin or Cha-Am Cluster.

### 4. Crops for Tourism

The many hotels and restaurants in the Study Area, which require a wide variety of high quality products, offer a good opportunity to diversify the agricultural production in the Study Area which presently heavily relies on pineapple and sugarcane. In line with this, strengthening the link between the tourism and agricultural sector in the Study Area is expected to benefit the agricultural technology and will offer increased income to local farmers.

### 5. Handicrafts

Cottage industry exists only on a very small scale in some villages in the Study Area, e.g. sickle making in Ban Bo Rai, cloth weaving in Khao Thao and jute preparation in Khao Ta-kiap.

Ban Nong Ya Plong, which is located close to Phetchaburi municipality along Highway No. 4, may have opportunities for tourism. The original population of the village comes from Laos, but is now mixed with Thai people. Their main income is from agriculture (paddies), but in order to generate some extra income, the following activities may be developed as a tourism attraction:

#### - Laotian cloth weaving

A group of 15-20 households are involved in this activity, which is supported by Phetchaburi municipality. Their clothes are provided for school and government offices to order, and are sometimes sold to tourists who come to visit the village.

#### - Woodcarving

Another group makes vases, little pots and ash trays from toddy palm wood for export to Canada and recently to Malaysia. They sell their products to merchants in Phetchaburi, who export it.

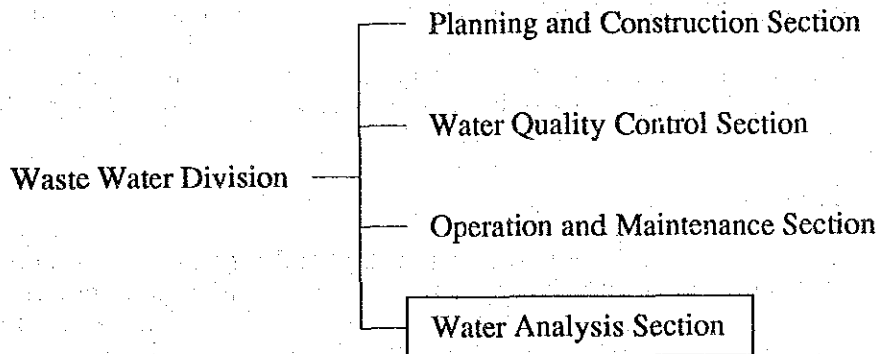
#### - Small Laotian Museum

The village headman established this museum in order to preserve Laotian culture in the area.

### 3.5.3 Monitoring and Enforcement of the Countermeasures

#### (1) Sea Water Quality Monitoring

Following the establishment of the above-mentioned environmental standards, introduction of a monitoring system to periodically evaluate the quality of the sea water is crucial. At present NEB checks the water quality a few times a year, but decentralization and delegation of environmental authority to provincial and local level is urged, to establish more frequent and adequate monitoring. In Pattaya an environmental division is set up as shown in Figure 3.5-2.



**Figure 3.5-2 Organization of Water Quality Monitoring**

- Note:
1. This includes monitoring work as well as the work for sewage treatment.
  2. Water Analysis Section is the main section of monitoring work.
  3. Two to four well qualified officials are necessary for monitoring work.

Although the decentralization process is anticipated to take some time due to the lack of human resources at a number of local governments in the Study Area, similar divisions are expected to be set up to improve the monitoring system within the Study Area.

It is noted that for the training of local monitoring staff services of the Environmental Training Center may be used. Furthermore cooperation with sewage disposal services is recommended to keep cost for monitoring equipment low.

#### (2) Enforcement of Environmental Regulations

##### 1) Legislation

Thailand has drastically strengthened its environmental administration in April 1992, among others by establishing the following new laws:

1. Environmental Promotion and Protection Act of 1992,
2. Improvement of Ministries and Department Act (6th) of 1992, and

3. Act of the Transfer of Duties and Responsibilities and Administration of the ONEB to DPC, DEQP and OPEP of the MSTE of 1992. (ONEB stands for Office of the National Environment Board, DPC for Department of Pollution Control, DEQP for Department of Environmental Quality Promotion, OPEP for Office of Policy and Environmental Planning and MSTE for Ministry of Science, Technology and Environment.)

It is expected that the new laws will significantly improve environmental regulations and their enforcement, especially through:

- the implementation of measures for pollution prevention, and
- reinforcement of penalties for polluters.

It is further expected that the fund established in October 1991 to support pollution prevention works undertaken by private organization will be very effective.

Since the recent character of this legislation, its evaluation is a little premature at this moment. However, the Study Team stresses the importance of evaluation and adjustment, if necessary, in a later stage.

## 2) Sanctions

Sanctions are important to enforce environmental regulations. According to the results of hearings by the study team, it is known that some enterprises break environmental regulations, but violators are not caught. After the establishment of a monitoring system it will be easier to identify violators and the new legislation is expected to make it easier to enforce sanctions on them. The violators may pay fines, but often it is more efficient to publicize the violation to consumers.

## 3.6 Implementation Plan

### 3.6.1 Project Phasing

The projects and programs proposed to be implemented until 2006 and described in the previous sections of this chapter are listed in Table 3.6-1. Implementation of these projects and programs, which include existing plans of regional and local government agencies, is recommended based on the present Study. In order to facilitate their implementation, a number of the projects are divided into sub-projects, as shown in Table 3.6-1. A total of 73 projects is proposed, including 33 tourism attraction/facility development projects, 33 infrastructure development projects, including transportation, water supply, sewerage and solid waste disposal and 7 tourism promotion and institutional programs.

The projects are proposed to be implemented in 3 phases, each phase covering 5 years in compliance with Thailand's Five Year NESDPs as follows:

- Phase 1 : 1992-1996 (7th NESDP)
- Phase 2 : 1997-2001 (8th NESDP)
- Phase 3 : 2002-2006 (9th NESDP)

The implementation phase and necessary budget for each project is indicated in Table 3.6-1. Phasing of each project is determined based on the criteria introduced here after, whilst taking account of the preferences of each implementation agency. It is noted that projects may be implemented in an earlier phase than scheduled if the required preparations are completed.



Table 3.6-1 List of Recommended Projects and Programs - 1

Project/ Packaged Project	Project Code	Sub-Project	Dev't Body Public/Private	Dev't Cost	Development Phase			Organization	Level of Significance
					I: 1996	II: 2001	III: 2006		
Tourism Facility Development Projects in Phetchaburi Cluster	101	Khao Wang Palace	O	37.00	17.00	20.00	FAD/TAT	XXX	
	102	Khao Luang Temple	O	4.00	4.00		FAD/TAT	XX	
	103	Kamphaeng Laeng Temple	O	6.00	6.00		FAD/TAT	XX	
	104	Maha Samanaram Temple	O	5.50	5.50		FAD/TAT	XX	
	105	Phra Bhudha Saiyat Temple	O	15.80	3.80	12.00	FAD/TAT	XX	
	106	Yai Suwannaram Temple	O	39.00	5.00	34.00	FAD/TAT	XX	
	107	Ko Kaew Sutharam Temple	O	16.00	8.00	8.00	FAD/TAT	XX	
	108	Mahathat Worama Hawihan Temple	O	8.00		8.00	FAD/TAT	XX	
	109	Sra Bua Temple	O	2.30		2.30	FAD/TAT	XX	
	110	Ram Ratchaniwet Palace	O	40.00	22.00	18.00	FAD/TAT	XX	
	111	Pailom Temple	O	0.80		0.80	FAD/TAT	XX	
Tourism Facility Development Projects in Phetchaburi Coast Cluster	112	Beach Conservation Operation Laem Luang Beach Chao Sam Ran Beach Puktian Beach	O	7.87	2.50		Province	XXX	
Tourism Facility Development Projects in Cha-Am Cluster	113	Cha-Am Public Beach Improvement	O	85.48	85.48		Municipality	XXX	
	114	Cultural and Recreational Center in Cha-Am	O	618.84	66.10	307.50	Province, TAT, Municipality	XXX	
		SUB TOTAL		886.59	206.25	382.00			
Tourism Facility Development Projects in Hua Hin, Prachuap Khiri Khan and Bang Saphan Clusters	201	Khao Hin Lek Fai Development	O	12.42	12.42		TAT, Municipality	XX	
	202	Queen's Park Development	O	12.00	12.00		TAT, Municipality	XX	
	203	Hua Hin Public Beach Improvement	O	1.38	1.38		TAT, Municipality	XXX	
	204	Prajomklao Science Park Development	O	471.24		471.24	Province, MOS	X	
	205	Ko Thalu Conservation Operation	O	16.15	6.90	9.25	Province	XXX	
	206	Trade Center Development at Hua Hin Fishing Pier	O	20.70		20.70	Municipality	XX	
		SUB TOTAL		533.89	32.70	9.25		491.94	
National Park/Forest Park Development Projects	301	Kang Krachan National Park Improvement Khao Mai Ruak Office Palao Waterfall area Huai Dungla Waterfall / hot spring area	O	56.98	7.15	5.20	National Park, TAT	XXX	

Table 3.6-1 List of Recommended Projects and Programs - 2

Project/ Packaged Project	Project Code	Sub-Project	Dev't Body		Dev't Cost	Development Phase			Organization	Level of Significance
			Public	Private		I: 1996	II: 2001	III: 2006		
National Park/Forest Park		Camping Site near reservoir	O				20.80			
Development Projects - continued	302	Palao Tourist Information Center	O		30.80		20.88		National Park, TAT	XXX
		Sam Roi Yot National Park Improvement	O			21.60				
		Road and Parking Improvement	O			1.40				
		Nature Trail Improvement	O			4.50				
		Utilities Improvement	O			3.30				
		Tourist Facilities Improvement	O		17.15				National Park, TAT	XX
	303	Nam Tok Huai Yang National Park Improvement								
		Road and Parking Improvement	O			9.15				
		Nature Trail Improvement	O			1.20				
		Utilities Improvement	O			2.20				
		Tourist Facilities Improvement	O			4.60				
	304	Kuiburi Forest Reserve Improvement	O		58.85				Forest Reserve, TAT	XX
		Road and Parking Improvement	O			34.66				
		Utilities Improvement	O			15.45				
		Tourist Facilities Improvement	O			8.74				
	305	Wanakon National Park Improvement			32.60				National Park, TAT	XX
		Road and Parking Improvement	O			19.40				
		Utilities Improvement	O			6.90				
		Tourist Facilities Improvement	O			6.30				
	306	Pak Nam Pran Forest Park Improvement	O		4.45				Forest Park, TAT	XX
		Road and Parking Improvement	O			0.30				
		Utilities Improvement	O			1.75				
		Tourist Facilities Improvement	O			2.40				
		<b>SUB TOTAL</b>			<b>200.83</b>	<b>46.10</b>	<b>154.73</b>	<b>0.00</b>		
Transportation Development Projects	401	Phet Kasem Road Improvement in Cha-Am	O		30.82	30.82			Municipality, DOH	XXX
	402	Phet Kasem Road Improvement in Hua Hin	O		106.33	70.93	35.40		Municipality, DOH	XXX
	403	Improvement of Circulation Roads in Petchaburi Province			63.25					
		RID Road (20.5 km)	O			35.41			DOH, RID	XXX

Table 3.6-1 List of Recommended Projects and Programs - 3

unit: million baht

Project/ Packaged Project	Project Code	Sub-Project	Dev't Body Public/Private	Dev't Cost	Development Phase			Organization	Level of Significance
					I: 1996	II: 2001	III: 2006		
Transportation Development		OARD Road (14 km)	O		27.84		DOH, OARD	XXX	
Projects - continued	404	Improvement of Phetchaburi Coastal Road	O	56.39	56.39		DOH, RID	XXX	
	405	Improvement of Bus Terminals		60.00			Municipality,	X	
		Phetchaburi	O		20.00		Private Sector		
		Cha-Am	O		20.00				
		Hua Hin	O		20.00				
	406	Tourism Train Operation between Bangkok and Hua Hin / Cha-Am Beach Area	O	120.00	120.00		STR, Private Sector	XX	
	407	Improvement of Circulation Roads in Prachuap Khiri Khan Province		47.30			DOH, Province	XX	
		Pranburi (20 km)	O		18.90				
		Prachuap Khiri Khan (10 km)	O		9.50				
		Bang Saphan (20 km)	O		18.90				
	408	Improvement of Tourist Piers in Phetchaburi, Chao Sam Ran, Thawisuk	O	52.50		15.00	Province	XX	
		Cha-Am	O		7.50				
		Hua Hin	O		7.50				
		Pranburi	O		7.50				
		Prachuap Khiri Khan	O		7.50				
		Bang Saphan	O		7.50				
	409	Airport and Air Transport Service Improvement							
		Hua Hin Airport		12.00		12.00	Private Sector	XX	
		Prachuap Khiri Khan Army Airport Service	O						
	410	Local Road Development/Improvement in Hua Hin Municipality (Missing Links)	O	85.30			DOH	XX	
		Ta-klap Village Road Development	O			7.80			
		Naeb Kelehad Road Development	O			9.30			
		Khao Pitak Road Development	O			7.00			
		Chomsin Road Development	O			11.00			
		Pracha Samakkee Road Development	O			2.40			
		Road on East Side of the Railway	O		18.00				

Table 3.6-1 List of Recommended Projects and Programs - 4

Project/ Packaged Project	Project Code	Sub-Project	Dev't Body		Dev't Cost	Development Phase			Organization	Level of Significance
			Public	Private		I: 1996	II: 2001	III: 2006		
Transportation Development Projects - continued		Road on West Side of the Railway	O			16.00				
		Pavement Improvement in Central Area	O			13.80				
	411	Inter-local Road Development (Missing Links)			590.00				DOH	XX
		West of Phetchaburi	O			260.00	130.00			
		West of Hua Hin and Pranburi	O				200.00			
	412	Transportation Development for Bang Saphan Beach Area	O		6.35		6.35		Municipality, TAT, Private Sector	X
		SUB TOTAL			1,230.24	709.19	521.05	0.00		
Water Supply System Development Projects	501	Regional Water Supply Development for Phetchaburi, Ban Laem and Ban Lat	O		494.80	494.80			Phetchaburi, Ban Laem&Lat, PWA	XX
	502	Municipal Water Supply Development for Phetchaburi	O		38.62	38.62			Phetchaburi, PWA	XXX
	503	Municipal Water Supply Development for Cha-Am	O		13.79	13.79			Municipality	XX
	504	Municipal Water Supply Development for Hua Hin	O		21.68	21.68			Municipality	XXX
	505	Individual Water Supply Development for Kang Krachan National Park	O		3.00	3.00			National Park, TAT	XX
	506	Individual Water Supply Development for Sam Roi Yot National Park	O		25.31	25.31			PWA, TAT	XX
	507	Regional Water Supply Development for Pranburi and Kuiburi	O		108.94	108.94			Pranburi, Kuiburi, PWA	XX
	508	Municipal Water Supply Development for Pranburi and Kuiburi	O		23.90		23.90		Pranburi, Kuiburi, PWA	XX
	509	Regional Water Supply Development for Prachuap Khiri Khan	O		79.39		79.39		Prachuap Khiri Khan, PWA	XX
	510	Regional Water Supply Development for Phetchaburi	O		415.03			415.03	Phetchaburi, Na& Tha Yang, PWA	X
	511	Regional Water Supply Development for Cha-Am	O		129.60			129.60	Cha-Am, PWA	X

unit: million baht

Table 3.6-1 List of Recommended Projects and Programs - 5

Project/ Packaged Project	Project Code	Sub-Project	Dev't Body Public Private	Dev't Cost	Development Phase			Organization	Level of Significance
					I: 1996	II: 2001	III: 2006		
Water Supply System Development Projects - continued	512	Regional Water Supply Development for Hua Hin	O	87.52			87.52	Hua Hin, PWA	XX
		SUB TOTAL		1,441.58	706.14	103.29	632.15		
Sewage System Development Projects	513	Municipal Sewage System Development for Phetchaburi	O	108.31	108.31			Province, Municipality, RID, PWD	XXX
	514	Municipal Sewage System Development for Cha-Am	O	111.17	111.17			Municipality	XXX
	515	Municipal Sewage System Development for Hua Hin	O	160.00			160.00	Municipality, PWD	XXX
	516	Sewage System Development for Ta-kiaj Area	O	14.25	14.25			Municipality, PWD	XXX
	517	Individual Sewage System Development for Sam Roi Yot National Park	O	2.00	2.00			National Park, PWD	XX
	518	Municipal Sewage System Development for Prachuap Khiri Khan	O	42.85	42.85			Prachuap Khiri Khan, PWD	XXX
		SUB TOTAL		438.58	278.58	0.00	160.00		
Solid Waste Development Projects	601	Solid Waste Disposal Project for Phetchaburi	O	9.00				Province, Municipality	XXX
		Collection Improvement			2.00	1.50			
		Maintenance of Equipment			0.50	0.50			
		Disposal Site Development			2.50	2.00			
	602	Solid Waste Disposal Project for Cha-Am	O	9.50				Municipality	XXX
		Collection Improvement			2.30	1.70			
		Maintenance of Equipment			0.80	0.70			
		Disposal Site Development			2.30	1.70			
	603	Solid Waste Disposal Project for Hua Hin	O	11.50				Municipality	XXX
		Collection Improvement			3.00	2.00			
		Maintenance of Equipment			1.00	1.00			
		Disposal Site Development			2.50	2.00			
		SUB TOTAL		30.00	16.90	13.10	0.00		

unit: million baht

Table 3.6-1 List of Recommended Projects and Programs - 6

Project/ Packaged Project	Project Code	Sub-Project	Dev't Body		Dev't Cost	Development Phase			Organization	Level of Significance
			Public	Private		I: 1996	II: 2001	III: 2006		
Promotion and Education Programs	701	Tourism Promotion Program			8.42				TAT, Municipality, Province	XXX
		Provision/Improvement of Direction Signs and Information Boards	0	0			1.92			
		Improvement of Tourist Information Centers	0	0			1.50			
		Production of General Purpose Publicity Materials	0	0			0.50			
		Production of Information Brochures	0	0			1.50			
		Awareness Campaign at Major Tourist Centers	0	0			1.50			
		Community Mobilization Activity	0	0			1.50			
	702	Training Programs for Tourism Service Personnel and Entrepreneurs	0	0	11.48		11.48		TAT, Municipality, Province, MOE	XX
	703	Education Improvement Programs in the Tourism Sector	0	0	2.30		2.30		TAT, Province, MOE, Private	XX
	704	Agricultural Products Promotion Program to support Tourism	0	0	7.65		7.65		TAT, PAO, MOE, DAE, DOF, MOC, Private	X
	705	Promotion Program for Production and Sales of Souvenirs and Local Goods	0	0	7.65		7.65		TAT, PIO, MOC, Province, Private	X
	706	Development Projects on the Arts, Culture and Traditions	0	0	11.48		11.48		TAT, Province, FAD, Private	X
Environmental Management	707	Seawater Quality Monitoring	0	0	2.30		1.15	1.15	Municipality, NEB	XXX
		SUB TOTAL			51.28		50.13	1.15		0.00
Accommodation Developme	801	Accommodation Development in Phetcha- buri Cluster		0					Private Sector	X
		High Class			66.00		0.00	0.00		66.00
		Middle Class			109.20		31.80	49.80		27.60
		Low Class			19.60		0.00	9.20		10.40
Accommodation Developme	802	Accommodation Development in Petcha- buri Coast Cluster		0					Private Sector	X

unit: million baht

Table 3.6-1 List of Recommended Projects and Programs - 7

Project/ Packaged Project/ Accommodation Develop- ment - continued	Project Code	Sub-Project	Dev't Body		Dev't Cost	Development Phase			Organization	Level of Significance
			Public	Private		I: 1996	II: 2001	III: 2006		
		High Class			360.00	0.00	166.80	193.20		
		Middle Class			474.60	135.60	157.20	181.80		
		Low Class			163.80	68.40	82.20	13.20	Private Sector	XX
	803	Accommodation Development in Cha-Am Cluster		0						
		High Class			1,941.60	562.80	640.80	738.00		
		Middle Class			966.60	387.60	268.80	310.20		
		Low Class			81.80	10.40	33.20	38.20		
	804	Accommodation Development in Hua Hin Cluster		0					Private Sector	XX
		High Class			5,125.20	1,275.60	1,687.20	2,162.40		
		Middle Class			1,086.00	238.80	355.80	491.40		
		Low Class			350.40	103.20	116.20	131.00		
	805	Accommodation Development in Prachin Cluster		0					Private Sector	XXX
		High Class			3,074.40	585.60	1,003.20	1,485.60		
		Middle Class			1,053.60	155.40	341.40	556.80		
		Low Class			395.80	80.80	129.40	185.60	Private Sector	X
	806	Accommodation Development in Prachuap Khiri Khan Cluster		0						
		High Class			393.60	0.00	182.40	211.20		
		Middle Class			314.40	43.20	126.00	145.20		
		Low Class			74.40	5.00	32.20	37.20		
	807	Accommodation Development in Bang Saphan Cluster		0					Private Sector	X
		High Class			66.00	0.00	0.00	66.00		
		Middle Class			114.60	0.00	26.40	88.20		
		Low Class			28.40	0.60	7.60	20.20		
		SUB TOTAL			16,260.00	3,684.80	5,415.80	7,159.40		
		GRAND TOTAL			21,072.99	5,730.79	6,600.37	8,741.83		

1. Tourism Attraction and Facility Development Projects

Projects in this group are proposed to achieve the inflow of more tourists to the Study Area by improving its tourist attractions and facilities. Therefore, their early implementation is envisaged. Phasing of these projects is based on requirements of preparatory planning and design, budget allocation, etc. It is understood that phasing is difficult for development of accommodation, which must be undertaken by the private sector, but its importance in relation to development of the necessary infrastructure (such as sewerage) is stressed.

2. Infrastructure Development Projects

Phasing of infrastructure development projects is determined based on the strategy described in Chapter 3.3.1, but the timing shall be adjusted if necessary depending on the progress of accommodation development in each specific area.

3. Tourism Promotion and Institutional Programs

Although coordination among central and local government agencies will be necessary, early implementation of the programs proposed to further promote tourism and protect the environment in the Study Area is recommended.

**3.6.2 Significance of the Projects**

Although all of the projects listed in Table 3.6-1 are recommended based on their significance, budgetary limitations may require selection of only a restricted number of projects to be implemented each year. In order to be able to select priority projects, the projects are rated according to their contribution to the tourism development strategy envisaged for the Study Area. Three categories are distinguished and shown in Table 3.6-1 with "XXX" indicating the highest level of significance. Following the method used in the Master Plan 1987, the projects were rated using the criteria described below.

1. The degree in which the project/program contributes to the attraction of the Study Area as tourist destination;
2. The urgency of the project/program in terms of its immediate contribution to solving existing constraints or creating new demand for the tourism industry; and
3. Possibility of implementation of the project/program in terms of consensus among the parties concerned, including implementing agencies, other government and private organizations and local residents.
4. The degree in which the project/program contributes to growth of the local economy and development of the local community.

As a result of above evaluation 26 projects were ranked as highly significant for tourism development in the Study Area, including 11 projects aimed at enhancing the Study Area's environment.



### 3.7 Rules and Regulations for Private Investment

#### 3.7.1 Government Involvement in the Investment Market

Market economies anticipate that free competition in price determines supply and demand, and as a result funds and goods are properly provided. However, as the market does not always function according to expectations, the government intervenes in the market. The government intervenes as regards both supply and demand. Governmental involvement in the supply factor, i.e. investment, takes generally the form of:

##### (1) Promotional activities:

1. Protection of specific industries, including entry restrictions and import/export restrictions,
2. Tax reductions, including customs duty, corporate tax, real estate acquisition tax, fixed asset tax, land retention tax and business operation premise tax,
3. Allocation of subsidies,
4. Lending without interest and low-interest loans,
5. Basic facility improvement,
6. Cultural and other facility improvement, and
7. Exchange control.

##### (2) Restrictive activities:

1. Prohibition of monopolies,
2. Price control,
3. Control of interest and handling charges,
4. Quantity control,
5. Conducting training courses for qualification,
6. Control on use of land,
7. Building controls, including housing area/land ration, housing cubic capacity ratio and roof oblique line control,
8. Environmental control, including environmental standards, discharge standards, landscape restrictions and preservation areas,
9. Safety control, including safety standards and inspection and surveillance, and
10. Wage control.

#### 3.7.2 Rules and Regulations on Investment for Tourism

Governmental involvement in investment can be either promotional or restrictive, depending on the environment surrounding the market. For example, in Japan government involvement in tourism is limited, and restrictive activities concern mainly land use and environmental and safety control. On the other hand, when tourism development contributes to regional development, the public sector introduces promotional measures based on the Law for Development of Comprehensive Resort Areas and similar statutes.

In Thailand the government takes an active part in the tourism sector with both promotional and restrictive activities, judging from the laws and the proclamations listed in Chapter 6 of the Master Plan 1987. However, government involvement in monopoly and price control is not clear. Government control is becoming even stronger with the new Zoning and Building Regulation which was passed in 1991, the new environmental laws which passed in 1992, and legal amendments which

have been proposed as part of the tourism development strategy under Thailand's 7th NESDP.

An excerpt of the Outline of Tourism Development as formulated in the 7th NESDP is presented below.

- Strategy 3 : Improvement of government administration and related laws and regulations to favor tourism development
- Strategy 4 : Development, dissemination and utilization of infrastructures to support a tourism network
- Courses of Action: Allow the private sector greater roles in participating in the development of essential basic infrastructure.

### 3.7.3 Tourism Development and Government Involvement

TAT launched its Master Plan for Tourism Development of Phetchaburi Province and Prachuap Khiri Khan Province in 1987, and the following year it was approved by the National Cabinet. The purpose of the plan was to contribute to the development of the region through the promotion of tourism, and the government has taken supportive action, similar to promotion of tourism is undertaken in Japan based on its Law for Development of Comprehensive Resort Areas.

Though the development has been making headway, it holds several problems calling for improvement. Some issues, such excessive concentration of development on beaches and insufficient introduction of taxi services, are expected to be solved in the course of the years, but the following issues are more serious:

1. Many tourist facilities, including hotels, were built before the necessary infrastructure was sufficiently provided. In this context there is cause for concern about the quality of the environment in the Study Area, i.e. sea water pollution in the absence of adequate sewerage, and pollution of the beaches due to the lack of proper waste disposal systems.
2. The construction of high-rise hotels and condominiums along the coast shows that the objectives concerning land use and aesthetics envisaged in the Master Plan 1987 have not been effective, resulting in developments similar to Pattaya and lacking individuality.

It is recommended that TAT uses its authority to adjust budgets for tourism related public works to solve the first mentioned issue. Especially since the tourism development plan is authorized by the Cabinet, initiatives by TAT are expected and required to speed implementation of the necessary public infrastructure.

The second issue may be solved by giving TAT, author of the Master Plan, authority to take part in the development stage as well. This involvement can take various forms and a few possibilities are described in Appendix 6. Reinforcement and expansion of TAT's authority requires legal support, which is expected to be settled with the amendments proposed under the 7th NESDP.

At the same time, support of the private sector for the improvement of public infrastructure and facilities is considered to be possible in the Study Area. The following contains a comparison between tourism related infrastructure and facilities developed through private investment in Japan, based on various incentives provided by its Law for Development of Comprehensive Resort Areas and such infrastructure and facilities in Thailand for which private funding is promoted by the county's Investment Encouragement Act. The comparison may serve as reference for further support of the private sector.

**(1) Thailand (Investment Promotion Act)**

1. Accommodations: hotels,
2. Tourism promotion services: sightseeing boats, services provided by lodges and other facilities, high speed boats, marinas with lodging and other accommodations for tourists, scuba diving services with lodging, and
3. Meeting facilities: convention hotels.

**(2) Japan (Law for Development of Comprehensive Resort Areas)**

1. Sports and recreational facilities: sports/athletic grounds, tennis courts, swimming pools, golf courses, ski resorts, marinas, artificial beaches, etc.,
2. Educational and cultural facilities: theaters, museums, libraries, aquarium, etc.,
3. Facilities for relaxation: panoramic viewing towers, hot spring additives, etc.,
4. Meeting Facilities: training centers, convention halls, exhibition facilities, etc.,
5. Accommodations: hotels, Japanese-style inns (ryokan), guest houses, condominiums, etc.,
6. Transportation facilities: buses, roads, railway and stations, aircraft and airports, terminals, car parks, etc.,
7. Shopping centers: malls, regional specialty sales centers and shops, etc., and
8. Improvements for visitors: heating systems, food supply facilities, waste disposal facilities, etc.

**3.7.4 Land Transaction**

As mentioned previously, appropriate land use is one of the major countermeasures against deterioration of the aesthetic environment. The construction of high-rise buildings, which contributes to this deterioration, is often caused by escalating land prices. Since it is expected that price control will contribute to proper land use, in the following some measures to prevent escalating land prices are recommended.

**(1) Present Situation of Land Prices**

Land prices in Thailand showed a steep rise in period from 1988 to 1990. The rise in land prices is expected to continue as is shown in Table 3.7-1, which presents forecasts of the official annual average land price for the period 1992-1995. As the land prices are expected to rise further, active investment in land is anticipated and land speculation may continue.

Though the hike stops at present owing to the effect that the government took the high interest rate policy i.e. 12 % of official discount rate in 1990, 4 % higher than it the previous year, the measures which seems more comprehensive than the single monetary adjustment are herewith introduced as references for the future.

Table 3.7-1 Official Land Price in Various Provinces of Thailand

units: baht, %

	Highest			Lowest		
	Old Price (1988-91)	New Price (1992-95)	Rate of Hike	Old Price (1988-91)	New Price (1992-95)	Rate of Hike
Kanchanaburi	30,000	50,000	13.6	3.75	5	7.4
Krabi	22,000	60,000	28.5	5	12.50	25.7
Khon Kaen	30,000	100,000	35.1	7.50	15	18.9
Chanthaburi	39,000	60,000	11.3	2.50	15	56.5
Chachoengsao	18,000	30,000	13.6	4	25	58.1
Chiang mai	60,000	200,000	35.1	2	10	49.5
Chiang rai	25,000	50,000	18.9	10	20	18.9
Chunphon	30,000	50,000	13.6	1.50	1.50	0.0
Trang	50,000	120,000	24.4	5	20	41.4
Tak	30,000	60,000	18.9	5	12.50	84.0
Nonthaburi	45,000	80,000	15.4	150	1,000	60.6
Nakhon Nayok	16,000	60,000	39.1	12.50	75	56.5
Nakhon Si Thammarat	55,000	120,000	21.5	5	7.50	10.6
Nakhon Ratchasima	25,000	100,000	41.4	5.50	7.50	8.0
Nakhon Pathom	50,000	90,000	15.8	25	125	49.5
Pathum Thani	20,000	45,000	22.4	25	300	86.1
Phetchaburi	2,000	20,000	77.8	6.25	20	33.7
Phatthalung	30,000	60,000	18.9	7.50	20	27.7
Mae Hong Son	10,000	60,000	68.1	50	100	18.9
Yala	20,000	60,000	31.6	7.50	8	1.6
Rayong	24,500	60,000	25.0	10	25	25.7
Ranong	30,000	50,000	13.6	3.75	7.50	18.9
Samut Prakan	100,000	120,000	4.6	50	250	49.5
Songkhala	80,000	200,000	25.7	12.50	15	4.6
Surat Thani	40,000	80,000	18.9	25	25	0.0
Samut Sakhon	150	55,000	146.0	75	150	18.9
Saraburi	30,000	60,000	18.9	10	50	49.5
Udon Thani	60,000	100,000	13.6	7.50	10	7.4

source: Siam Business News

**(2) Measures for Land Price Control**

The policy of the government to increase the official interest rate to 12% in 1990, which was 4% higher than the previous year, had a depressive effect on the land price, but more comprehensive measures are considered necessary to tackle the problem

Generally speaking, the following countermeasures can be considered to control land prices:

1. monetary policy : - adjustment of interest rates  
- restriction of bank lending
2. taxation policy : - restriction of bank lending  
- establishment of new tax
3. policy on land use
4. improvement on appraisal system of land price
5. surveillance of land transaction
6. dissemination and enlightenment of the idea on land

As mentioned above adjustment of the official interest rate was implemented in 1990 and had a calming effect of the land price, however, this method influences not only land transactions but the whole economy. The Zoning and Building Regulation became effective in 1991, but covers only (part of) the coastal zone in the Study Area. This method seems to restrict not only land speculation but also other land transactions.

Among the countermeasures listed above, the adoption of the surveillance system is expected to be effective for the Study Area. Under this system the local government designate certain areas where abrupt increases in the land price are anticipated as surveillance area. In this area traders must notify land transactions beyond an appointed scale to the authorities in advance, e.g. 6 weeks before the date of transfer. Local government authorities evaluate the price based on purpose of land use, etc., and if they judge the contracted price not appropriate, they may advise traders to revise their transactions. In case the trader does not take the advise, their names and content of the transaction are disclosed to the public. In Japan this system was first introduced by ordinance of Tokyo Metropolitan Government, before revision of the national law in 1987. A similar method may be applied to Thailand, by introduction of the system in the Study Area.

