

THE KINGDOM OF THAILAND  
THE TOURISM AUTHORITY OF THAILAND

# HUA HIN, CHA-AM

THE TOURISM DEVELOPMENT STUDY ON  
THE HUA/HIN / CHA-AM BEACH AREA  
IN THAILAND

FINAL REPORT

VOLUME 1: SUMMARY

DECEMBER 1992

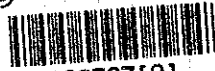
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## PREFACE

In response to a request from the Government of The Kingdom of Thailand, the Government of Japan decided to conduct the Tourism Development study on Hua Hin/ Cha-Am Beach Area in Thailand and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Thailand a study team headed by Mr. Kazunari Makino, Pacific Consultants International, three times between January and October 1992.

The team held discussions with the officials concerned of the Government of the Kingdom of Thailand, and conducted field surveys in the study area. After the team returned to Japan, further studies were made and the present report was prepared.

I hope that this report will contribute to the promotion of the projects and to enhancement of friendly relations between the two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Kingdom of Thailand for their close cooperation extended to the team.

December, 1992

Kensuke Yanagiya  
President  
Japan International Cooperation Agency





## **ABBREVIATIONS**

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<b>Baht</b>	<b>25 Baht = 1 US Dollar</b>
<b>EIRR</b>	Economic Internal Rate of Return
<b>FIRR</b>	Financial Rate of Return
<b>GDP</b>	Gross Domestic Product
<b>GRP</b>	Gross Regional Product
<b>LDC</b>	Land Development Corporation
<b>NEB</b>	National Environment Board
<b>NESDB</b>	National Economic and Social Development Board
<b>NESDP</b>	National Economic and Social Development Plan
<b>OARD</b>	Office of Accelerated Rural Development
<b>PSD</b>	Private Sector Developers
<b>PWD</b>	Public Works Department
<b>RID</b>	Royal Irrigation Department
<b>TAT</b>	Tourism Authority of Thailand



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## **1. INTRODUCTION**





# 1. INTRODUCTION

---

## 1.1 Introduction

### (1) Objectives of the Study

The objectives of the Study are described as follows:

- 1) To prepare a Tourism Development Master Plan for the Study Area with target year 2006, based on the existing Master Plan for Tourism Development of Phetchaburi Province and Prachuap Khiri Khan Province, prepared by the Tourism Authority of Thailand (TAT) and the Thailand Institute of Scientific and Technological Research in November 1987 (Master Plan 1989).
- 2) To carry out feasibility studies on priority projects which are fundamental for future tourism promotion of Hua Hin/Cha-Am Beach Area and its surroundings.
- 3) To propose a set of institutional arrangements to prevent progress of disorderly tourism development in the Study Area.

### (2) The Study Area

The Study Area is located at a distance of roughly 200 km south of Bangkok and includes Hua Hin/Cha-Am Beach Area and its surroundings, covering the total area of Phetchaburi and Prachuap Khiri Khan provinces. Figure 1-1 shows the location of the Study Area.

More than half of the Study Area is classified as forest land, the majority of which is located in the mountainous part of the Study Area, and 36% is in use for agriculture. Rice cultivation is dominant in Phetchaburi Province, and in Prachuap Khiri Khan most of the agricultural land is in use for field crops, which explains its comparatively strong performance in the primary sector.

The population of the Study Area was 861,212 in 1991, contributing 1.5% to the Whole Kingdom, and shows an average annual growth of 1.1%, which is slightly lower than the growth rate for the Whole Kingdom. Phetchaburi and Prachuap Khiri Khan provinces share the population of the Study Area with approximately 50% each. Both provinces are characterized by a predominantly rural population with a share of 62.7% and 64.3% for Phetchaburi and Prachuap Khiri Khan provinces respectively. 12.5% of the population of Phetchaburi Province and 11.7% of Prachuap Khiri Khan Province live in the municipalities and 24.8% and 24.0% respectively in sanitary districts.

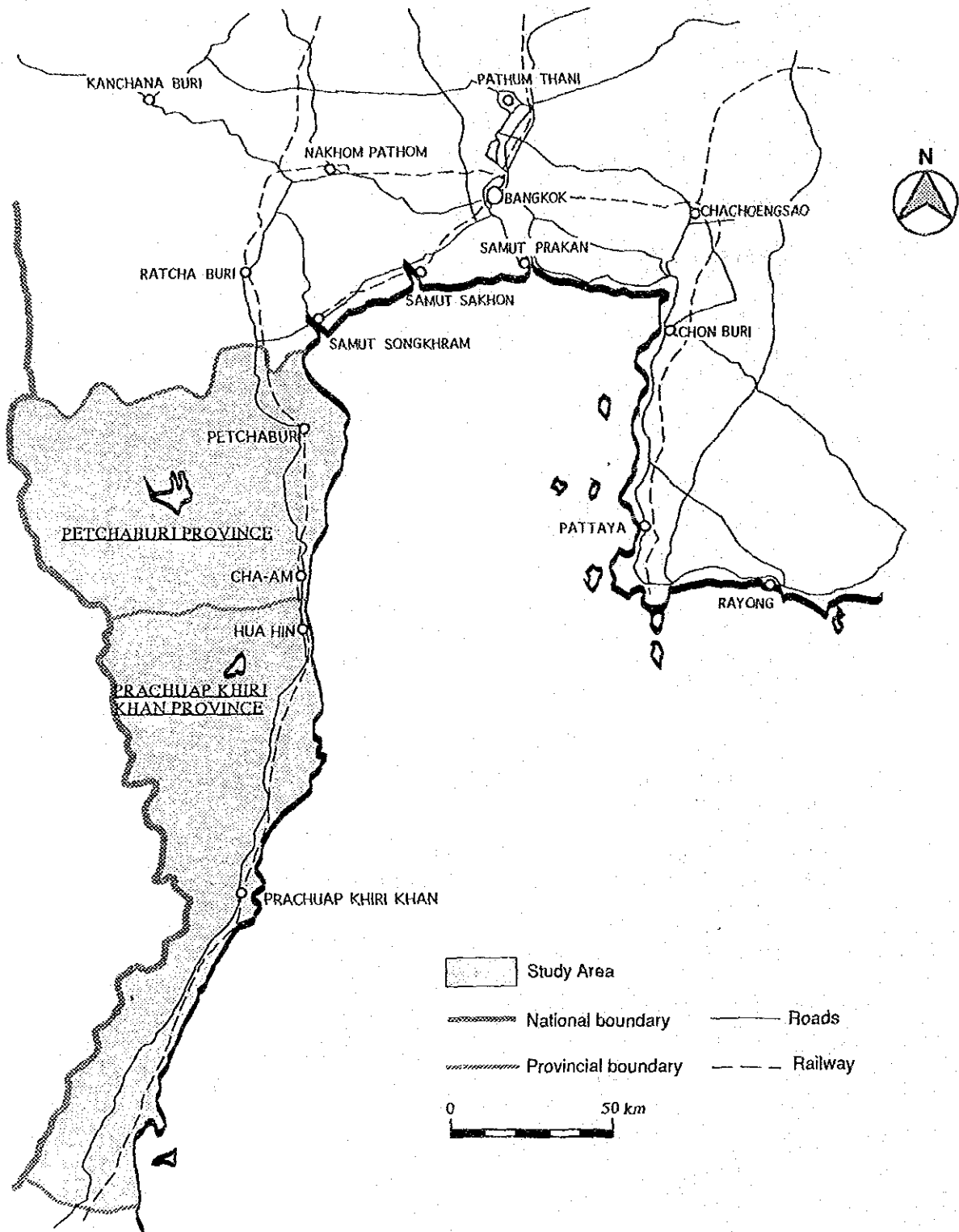


Figure 1-1 Location of the Study Area

**(3) Tourism in the Study Area****1) Tourism Market**

International tourist arrivals to Thailand showed a dramatic increase in the 1980s and amounted to 5,298,860 in 1990. The estimated tourist arrivals to Hua Hin / Cha-Am Beach Area were 1,496,197 in 1990, showing an increase of 13.5% compared with the previous year (refer to Table 1-1). Data for the entire Study Area are not available, but it is assumed that above figures roughly represent the tourist arrivals to the whole Study Area since the Study Area derives its popularity from Hua Hin / Cha-Am Beach Area. Table 1-2 presents data on tourist arrivals to major beach destinations in Thailand.

**Table 1-1 Domestic and International Tourist Arrivals in the Hua Hin / Cha-Am Beach Areas (1986-1990)**

units: persons; %

	Thai Arrivals		International Arrivals		Total Arrivals	
	Number	Share	Number	Share	Number	Share
1986	1,445,004	93	111,905	7	1,556,909	100
1987	1,738,414	92	155,430	8	1,893,844	100
1988	1,038,144	86	166,956	14	1,205,100	100
1989	1,069,510	81	248,627	19	1,318,137	100
1990	1,217,597	81	278,600	19	1,496,197	100
1991*	1,303,000	83	276,000	17	1,579,000	100

source: Tourism Authority of Thailand  
\* preliminary figures

**Table 1-2 Market Share of Major Beach Destinations in Thailand (1990)**

units: persons; %

	Thai Arrivals		International Arrivals		Total Arrivals	
	Number	Share	Number	Share	Number	Share
Pattaya	1,018,379	25	1,429,069	49	2,447,448	35
Rayong	1,226,981	30	57,201	2	1,284,182	18
Cha-Am / Hua Hin	1,217,597	29	278,800	9	1,496,397	21
Phuket	499,874	12	754,341	26	1,254,215	18
Koh Samui	174,908	4	403,429	14	578,337	8
Total	4,137,739	100	2,922,840	100	7,060,579	100
		(15)		(27)		(18)

source: Tourism Authority of Thailand  
note: (...) = share of total major tourist destinations in Thailand

Comparison of the popularity of Hua Hin / Cha-Am Beach Area with other major beach destinations in Thailand, and especially with Pattaya, shows that:

- Hua Hin / Cha-Am Beach Area receives 21% of the tourist arrivals at major beach resorts, only second after Pattaya, which receives 35%.
- Yearly domestic arrivals in Hua Hin / Cha-Am Beach Area are comparable to the corresponding figures for Pattaya and Rayong.
- Relatively few international tourists visit Hua Hin / Cha-Am Beach Area.

- The above leads to a relative high share of domestic tourists in Hua Hin / Cha-Am Beach Area (81% in 1990). Corresponding figures are 41% and 40% for Pattaya and Phuket respectively.
- Compared with other major beach destinations the number of tourists staying overnight is with 62% of the total tourist arrivals relatively low in Hua Hin / Cha-Am Beach Area. Figures for Pattaya and Phuket are 72% and 99% respectively.

## 2) Tourism Resources

Figure 1-2 shows tourism resources identified in the Study Area, divided into Natural Attractions, Historical, Religious and Architectural Resources, and Cultural and Handicraft Resources.

The figure shows that the Study Area is rich with Natural Attractions such as scenic beaches, of which Cha-Am and Hua Hin are the most outstanding, National Parks and Forest Reserves, hills and mountain scenery and that it also offers various interesting resources in the Historical, Religious and Architectural Resources group such as temples and caves (e.g. Khao Luang and Khao Wang in Phetchaburi and Tham Phraya Nakhon in Sam Roi Yot National Park).

## 1.2 Opportunities and Constraints for Tourism Development

### (1) Opportunities

Above tourism data show that the Study Area is well established as domestic destination but that relatively few international tourists visit the area. However, the share of foreign tourists is growing which, together with the study area's following characteristics, offers considerable possibilities for its development into an international resort with its own distinctive identity.

#### 1) Proximity to Bangkok

Bangkok is the major source of domestic tourists to the Study Area and the most important gateway for international tourists visiting Thailand.

The possibility of visiting the Hua Hin / Cha-Am Beach Area on day and weekend trips, makes it a very interesting destination for residents of the capital. For international tourists the proximity to Bangkok offers opportunities to combine the capital's cultural and historical tourism resources with the natural environment of the Study Area. In this context the Study Area also has potential to function as accommodation base for day or short overnight trips to Bangkok.

#### 2) Potential for Multi-type Development

Generally speaking famous tourist destinations around the world thank their reputation to the combination of at least two types of tourism attractions, e.g. "Beach and Culture", "Beach and Mountain" or "Mountain and Culture". The Study Area offers various natural resources, including both beaches and mountains, and also has some interesting cultural-historical attractions.

In combination with the cultural-historical appeal of Bangkok, the Study Area has potential to develop into a prominent international destination by combining "Beach", "Mountain" and "Culture".

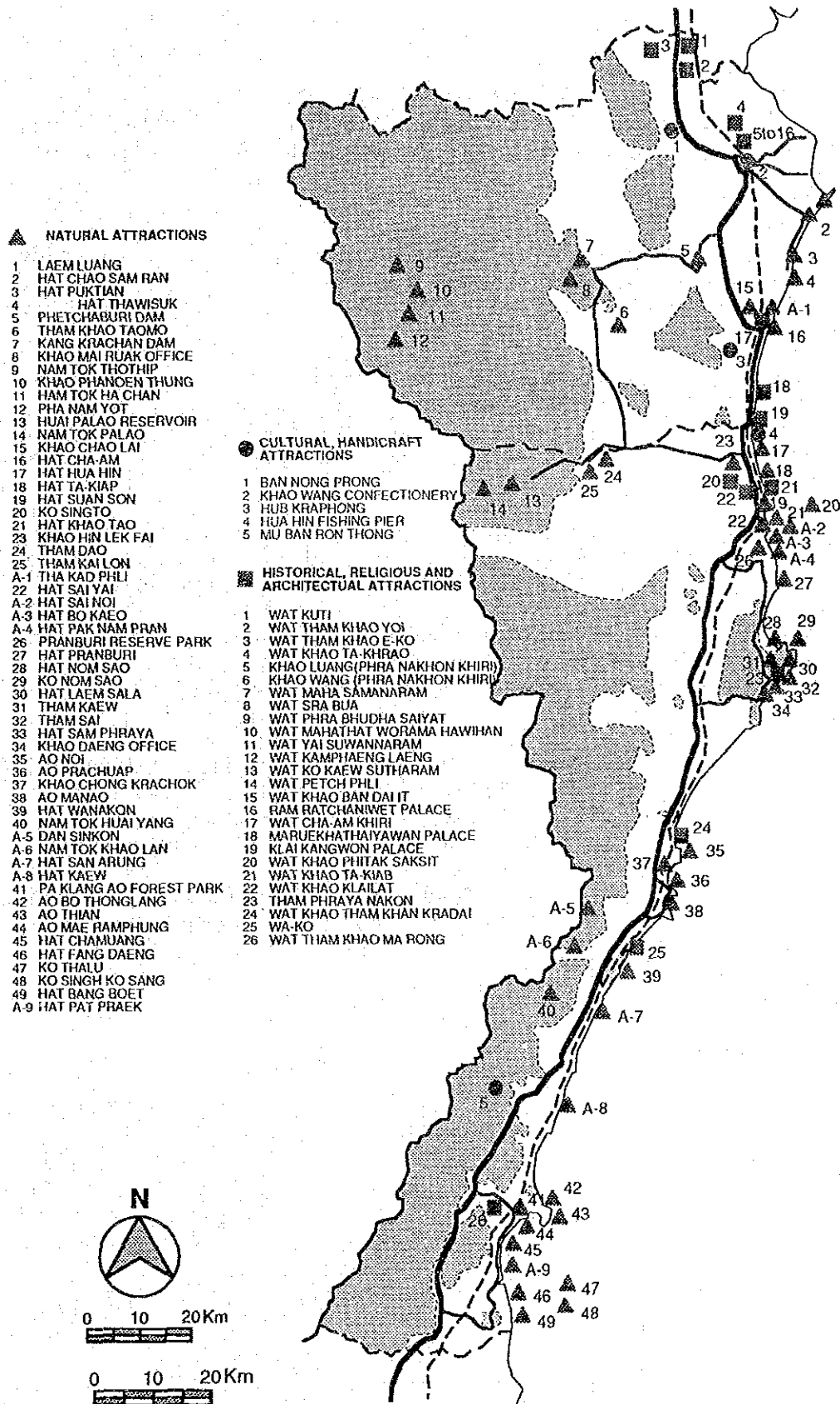


Figure 1-2 Existing Tourism Resources

3) Historical Beach Resort

Hua Hin / Cha-Am Beach Area is renowned as "royal resort" since the beginning of this century, and has developed as an upper-market resort during the last 50 years.

(2) Constraints

The Study Area offers ample opportunities to develop into a internationally recognized tourist destination, but to prove successful its potential will have to be put to use in an adequate manner. In this context the following constrains for future tourism development are distinguished in the Study Area:

- The Study Area is rich with tourism resources, but interviews conducted by the Study Team with the travel trade, learned that many attractions lack distinctive appeal. In addition, analysis of tourism resources showed that many tourist attractions in the Study Area require improvement to cater for international tourists.
- In interviews with travel agents and tour operators conducted by the Study Team, lack of middle to upper-middle class accommodation was reported to be a weakness of Hua Hin / Cha-Am Beach Area compared to Pattaya.
- Market awareness of the Study Area in Asian countries, such as Japan, Taiwan and South Korea was reported limited in the interviews, expressing the need for adequate tourism promotion especially aimed at forenamed countries.
- Ongoing tourism development in the Study Area and its indirect effects such an increase in population and economic activitiess, require expansion and improvement of the existing infrastructural network, including transportation, water supply, sewerage, solid waste disposal, power and telecommunication.
- Uncontrolled development could easily result in deterioration of the natural and social environment of the Study Area impairing its attractiveness both for tourists and residents.

## **2. TOURISM DEVELOPMENT STRATEGY**





## **2. TOURISM DEVELOPMENT STRATEGY**

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### **2.1 Tourism Development Strategy**

#### **(1) Tourism Development Policy**

The following policy is set forth for further, but controlled development of the Study Area into an international resort with a clear identity:

- 1) Differentiation from other beach resorts close to Bangkok and especially from Pattaya, to supplement rather than compete with those destinations;
- 2) Strengthening the tranquil and natural atmosphere of Hua Hin/Cha-Am Beach Area and its surroundings;
- 3) Enhancement of the image of Hua Hin/Cha-Am as "royal resort";
- 4) Strengthening the Study Area as a destination for the family market;
- 5) Diversification of tourist attractions by development of attractions other than beaches; and
- 6) Strengthening the link between the Study Area and Bangkok, which forms the main source of tourists to the Study Area and may also be the most important cultural destination for tourists who stay in the Study Area.

#### **(2) Tourism Development Targets**

Based on analysis of potentials and constraints, the following targets were formulated to develop the Study Area in the direction set forth in above policy:

- 1) Development and improvement of tourist attractions for both Thai and international tourists;
- 2) Development and improvement of circulation roads in the Study Area, and development of a sea transportation network;
- 3) Expansion of the accommodation base to meet the future demand;
- 4) Effective development of infrastructure in coordination with government and private sector plans, including transportation, water supply, sewerage, solid waste disposal, power supply and telecommunication;
- 5) Enhancement of the quality of the environment to maintain and publicize Hua Hin/Cha-Am's favorable image as "royal resort" with a tranquil and natural atmosphere; and

- 6) Tourism development with consideration for local communities.

### (3) Tourism Development Strategy

Within the Study Area various parts of different character, hereinafter called "tourism clusters", are distinguished. If properly linked in an overall concept, differences between these tourism clusters offer opportunities for the development of the Study Area into a multi-type resort. Therefore, the role of each distinctive tourism cluster needs to be formulated based on and aimed at enhancing its specific characteristics. The strategy set forth for each tourism cluster and the relation with other clusters is described as follows:

- 1) Phetchaburi Cluster

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.

- 2) Phetchaburi Coast Cluster

To develop the cluster as subordinate beach resort of Hua Hin / Cha-Am, whilst giving priority to continued subsistence of the fishing villages along the coast and the cluster's role as supportive accommodation base for Phetchaburi City.

- 3) Cha-Am Cluster

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.

- 4) Hua Hin Cluster

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.

- 5) Pranburi Cluster

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.

- 6) Prachuap Khiri Khan Cluster

To develop the tourism resources in Nam Tok Huai Yang and Wanakon National Parks, and to allow small scale, low density tourism development along the beaches, whilst giving high priority to protection of the environment.

- 7) Bang Saphan Cluster

To allow small scale, low density tourism development along the beaches, whilst giving high priority to protection of the environment.

## 2.2 Tourism Development Framework

### (1) Population Forecast

NESDB projects a slowdown of the present population growth for Thailand from the present 1.5% to 1.1% in 2006. A similar trend is expected for the Study Area, resulting in a population of 899.8 million in 1996, 936.5 million in 2001 and 977.9 million in 2006. The projections for the various districts and municipalities within the Study Area were based on the NESDB forecasts and are shown in Tables 2-1 and 2-2.

### (2) Tourism Demand Forecast

The number of tourists visiting the Study Area is expected to grow to 4.26 million visitors in 2006, and the share of international tourists is expected to rise to 26.8% in the same year from 17.5% in 1991. The projected tourist arrivals in the Study Area for 1996, 2001 and 2006 is shown in Table 2-3.

**Table 2-3 Projected Tourist Arrivals to the Study Area**

	Domestic Tourist Arrivals	Int'l Tourist Arrivals	Total	Share of Thai tourists
1991*	1,303,000	276,000	1,579,000	82.5
1996	1,827,000	508,000	2,335,000	78.2
2001	2,445,000	801,000	3,246,000	75.3
2006	3,121,000	1,142,000	4,263,000	73.2

unit: persons; %  
Source: Study Team  
\* preliminary figures

### (3) Projected Accommodation Requirement

Table 2-4 shows the projected distribution of accommodations over the Study Area. Following the development strategy described in the previous section, accommodation expansion focuses mainly on the northern part of Pranburi Cluster and Phetchaburi Coast Cluster. As the last named cluster may also serve as accommodation base for Phetchaburi City, only limited expansion is projected for this city. Moreover, expansion of especially middle class and high class accommodation is proposed.

**Table 2-1 Population Forecast for Phetchaburi Province  
(1996, 2001 and 2006)**

unit: thousand persons, %

Area	1991	Average Annual Growth	1996	Average Annual Growth	2001	Average Annual Growth	2006	Average Annual Growth
Phetchaburi District	111.6	0.4	116.9	1.0	121.9	0.9	127.4	0.9
(Phetchaburi municipality)	30.7	-2.1	28.2	-1.6	25.7	-1.7	23.5	-1.7
Cha-Am	56.8	2.0	64.1	2.6	72.1	2.5	81.2	2.5
(Cha-Am municipality)	22.1	2.1	25.0	2.7	28.2	2.5	31.9	2.6
Tha Yang (Kang Krachan)	104.8	0.9	112.2	1.4	119.5	1.3	127.6	1.4
Khao Yoi	37.5	0.9	40.2	1.4	42.8	1.3	45.7	1.4
Ban Laem	58.8	0.8	62.7	1.3	66.6	1.2	70.9	1.3
Ban Lard	50.0	0.7	53.0	1.2	55.0	1.1	59.1	1.2
Nong Ya Plong	11.3	1.5	12.5	2.0	13.7	1.9	15.0	2.0
Total Province	430.7	0.9	461.5	1.4*	492.4	1.3	526.9	1.4

source: Study Team

\* NESBD Report: "Population Projections for Thailand 1980-2015", June 1991

**Table 2-2 Population Forecast for Prachuap Khiri Khan Province  
(1996, 2001 and 2006)**

unit: thousand persons, %

Area	1991	Average Annual Growth	1996	Average Annual Growth	2001	Average Annual Growth	2006	Average Annual Growth
Prachuap Khiri Khan District	66.8	1.0	67.3	0.1	67.3	0.0	67.3	0.0
(Prachuap K.K Municipality)	14.3	-0.4	13.4	-1.2	12.5	-1.3	11.7	-1.3
Hua Hin	63.8	2.6	69.1	1.7	74.4	1.5	80.1	1.5
(Hua Hin Municipality)	35.3	2.1	37.4	1.2	39.3	1.0	41.4	1.1
Pranburi	105.8	0.8	105.2	-0.1	104.0	-0.2	102.8	-0.2
Bang Saphan	64.4	1.2	65.4	0.3	66.0	0.2	66.6	0.2
Tub Sakae	50.9	0.0	48.7	-0.9	46.3	-1.0	44.0	-1.0
Kuiburi	48.1	1.3	48.9	0.4	49.5	0.2	50.1	0.2
Bang Sapannoi	30.8	2.9	33.7	1.9	36.7	1.8	40.0	1.8
Total Province*	430.5	1.2	438.3	0.4	444.1	0.3	451.0	0.3

source: Study Team

\* NESBD Report: "Population Projections for Thailand 1980-2015", June 1991

Table 2-4 Estimated Room Requirement by Cluster (1996, 2001 and 2006)

unit: number of rooms

Cluster	Accommodation Type	Existing Rooms (1991)	Total Required Rooms			Additionally Required Rooms		
			1996	2001	2006	1996	2001	2006
Phetchaburi	High Class	0	0	0	55	0	0	55
	Middle Class	96	149	232	328	53	83	96
	Low Class	645	612	658	710	-33	46	52
	Total	741	761	890	1,092	20	129	202
Phetchaburi Coast	High Class	0	0	139	300	0	139	161
	Middle Class	10	236	498	801	226	262	303
	Low Class	82	424	835	901	342	411	66
	Total	92	660	1,472	2,002	568	812	530
Cha-Am	High Class	1,657	2,126	2,661	3,276	469	534	615
	Middle Class	354	1,000	1,448	1,966	646	448	517
	Low Class	901	953	1,120	1,310	52	166	191
	Total	2,912	4,080	5,229	6,552	1,168	1,149	1,323
Hua Hin	High Class	664	1,063	1,406	1,802	399	343	396
	Middle Class	104	398	593	819	294	195	226
	Low Class	542	516	581	655	-26	65	74
	Total	1,310	1,977	2,580	3,276	667	604	696
Pranburi	High Class	231	488	836	1,238	257	348	402
	Middle Class	143	259	569	928	116	310	359
	Low Class	354	404	647	928	50	243	281
	Total	728	1,151	2,052	3,094	423	901	1,042
Prachuap Khiri Khan	High Class	0	0	152	328	0	152	176
	Middle Class	131	203	413	655	72	210	242
	Low Class	282	307	469	655	25	161	186
	Total	413	511	1,034	1,638	98	523	604
Bang Saphan	High Class	0	0	0	55	0	0	55
	Middle Class	0	0	44	191	0	44	147
	Low Class	158	161	199	300	3	38	101
	Total	158	161	243	546	3	83	303
Total	High Class	2,552	3,678	5,194	7,053	1,126	1,516	1,859
	Middle Class	838	2,245	3,798	5,688	1,407	1,553	1,890
	Low Class	2,964	3,377	4,508	5,460	413	1,131	952
	Total	6,354	9,300	13,500	18,200	2,946	4,200	4,700

source: Study Team



### **3. TOURISM DEVELOPMENT PLAN**





### **3. TOURISM DEVELOPMENT PLAN**

---

#### **3.1 Introduction**

Based on the development strategy and framework presented in Chapter 2, the Tourism Development Plan for the Study Area is described hereafter. The plan comprises of the following components:

1) Tourism Development Zoning (3.2)

Zoning aims to introduce guidelines and control measures to protect the Study Area from developments which may cause adverse impact on its natural and social environment. Especially in areas along the beach, where tourism development already has taken place or where opportunities for future tourism development are existing, control measures will be indispensable.

2) Tourism Development Sector Plans

- a. Tourism Attractions and Facilities Plan (3.3)
- b. Infrastructure Plan (3.4)
  - Transportation Plan
  - Water Supply Plan
  - Sewerage Plan
  - Solid Waste Disposal Plan
  - Power Supply and Telecommunication Plan
- c. Tourism Promotion Program (3.5)
- d. Environmental Management (3.6)

The Sector Plans discuss the activities to be undertaken and the projects proposed to realize the development strategy set forth for each sector. The Development Plan for the Study Area, covering all 4 sections, is visualized in Figure 3-1, and a list of the proposed projects is shown in Table 3-2.

3) Implementation Plan (3.7)

Implementation of the projects proper shall be carried out in 3 phases, as discussed in the Implementation Plan.

#### **3.2 Tourism Development Zoning**

Complementary to the development strategy described in the previous chapter and aiming at its appropriate implementation, the following five tourism development zones were distinguished in the Study Area and shown in Figure 3-2:

- 1) Traditional Beach Conservation Zone
- 2) Tourism Development and Historical Beach Conservation Zone
- 3) Scenic Beach Conservation Zone

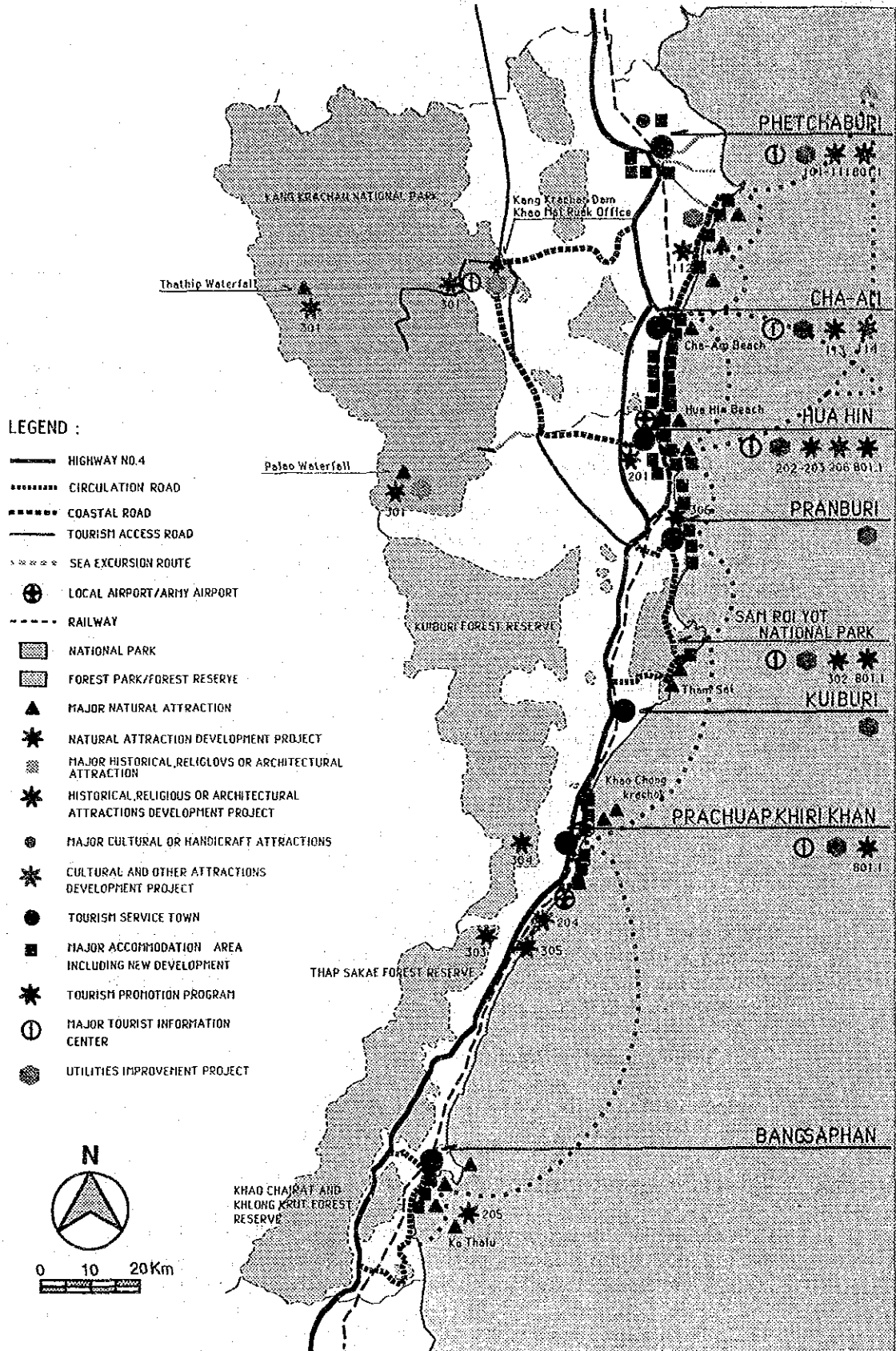


Figure 3-1 Tourism Development Plan

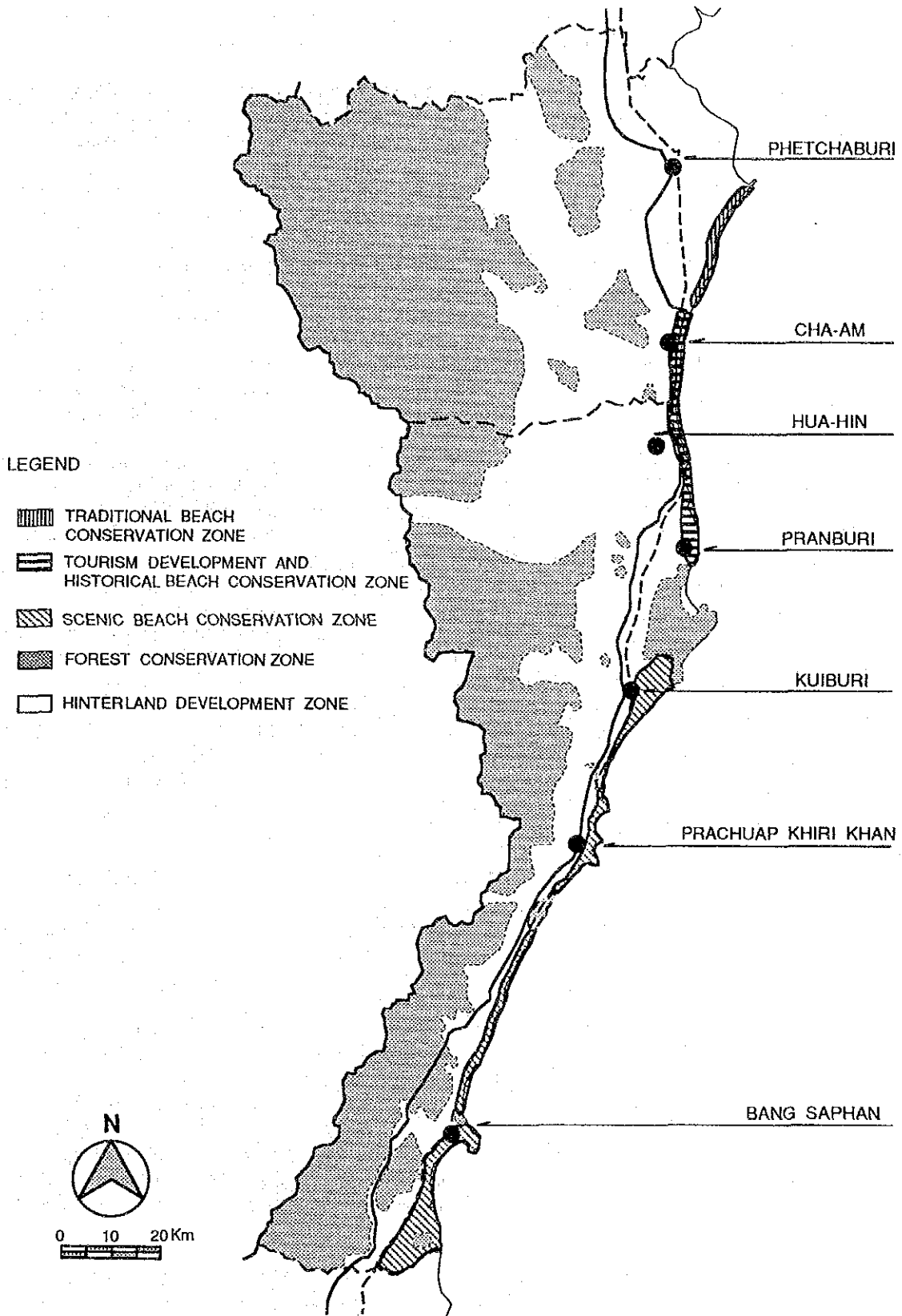


Figure 3-2 Tourism Development Zones

- 4) Forest Conservation Zone
- 5) Hinterland Development Zone

Additional to the guidelines for each zone described here after, the introduction of water quality standards, monitoring and enforcement measures under the jurisdiction of NEB are recommended for all beaches in the Study Area.

It is noted that, since the zoning only regards tourism development, review by relevant agencies will be required to coordinate with other sector plans.

#### **1) Traditional Beach Conservation Zone**

This zone covers a 1,000 m. wide stretch along the coast, measured from the coastline, in the northern part of the Study Area. The zone is bounded by Laem Luang in the north and Khlong Tian in the south.

The following guidelines are proposed for the zone:

- To identify the areas to be designated as Fishing Village Sub-zone. These sub-zones shall include fishing villages and their surroundings, where fishing related activities still determine the village's livelihood. In this sub-zone tourism development shall not be allowed, with exception of small scale development which can be combined with fishing activities and directly benefits the village.
- To identify environmentally vulnerable areas to be protected under environmental protection laws, e.g. mangrove forests. Tourism development shall not be allowed in these areas.
- To apply "Area 2", "Area 3" and "Area 4" of the Building Code and the regulations contained herein as introduced in Hua Hin Municipality to this zone, with exception of the Fishing Village Sub-zones and environmentally vulnerable areas described above. For "Area 4" a building height limit of 20 m. is recommended additionally.

#### **2) Tourism Development and Historical Beach Conservation Zone**

This zone covers the coastal area from Khlong Tian in the north to the northern boundary of Sam Roi Yot National Park in the south. The proposed width of the zone is approximately 2,000 m.

Further tourism development is envisaged for this zone, whilst giving due consideration to scenic and environmental control. To this end the following guidelines are proposed for the zone:

- To apply "Area 2", "Area 3" and "Area 4" of the Building Code and the regulations contained herein as introduced in Hua Hin Municipality to the entire zone, with exception of areas otherwise designated in the Building Code. For "Area 4" a building height limit of 20m. is recommended additionally.
- To define the extent of and establish guidelines for an additional stretch beyond the restricted area stipulated in the Building Code (to the west of "Area 4"), to include areas on both sides of existing highway No.4 in the entire zone. Because these areas offer ample opportunities for future tourism development, development guidelines, such as restrictions on building height,

density and maximum building area are highly recommended here in addition to the areas defined in the existing Building Code.

- In addition to regulations in the existing Building Code, to establish visual control measures for buildings and guidelines for landscaping, in terms of design, materials, coloring etc., in order to maintain and enhance Hua Hin ? Cha-Am's image of "royal resort".

### **3) Scenic Beach Conservation Zone**

This zone extends from the northern boundary of Sam Roi Yot National Park in the north to the southern boundary of the Study Area (Bang Saphan Noi), and is bounded by the coastline to the east and the north-south railway to the west.

Small scale resort development is envisaged for this zone, with high priority for environmental protection and conservation of the zone's distinctive atmosphere. To achieve this the following guidelines are recommended for this zone:

- To identify environmentally vulnerable areas to be protected under environmental protection laws, e.g. mangrove forests. Tourism development shall not be allowed in these areas.
- To identify and define the extent of areas to be designated as Scenic Beach Conservation Sub-zone, including beaches and their hinterland. The regulations applicable to "Area 2" of the Hua Hin Building Code shall be applied to these sub-zones.
- To apply the regulations for "Area 3" of the Hua Hin Building Code in the rest of the zone. Additional to "Area 3" regulations a maximum building density of 20-25% is recommended.

### **4) Forest Conservation Zone**

This zone covers the National Parks, Forest Parks and National Forest Reserves in the Study Area, which are managed by the Royal Forestry Department (RFD).

These parks and reserves include various tourist attractions, such as waterfalls and caves, whose improvement and further development is proposed, in compliance with the guidelines for conservation of the natural (forest) resources in this zone established by RFD.

### **5) Hinterland Development Zone**

This zone covers the remaining part of the Study Area, i.e. the entire Study Area excluding zones 1 to 4.

Although for the establishment of development guidelines for this zone studies and plans of other sectors are indispensable, from a tourism development point of view the following recommendations are made:

- 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.

### **3.3 Tourism Attractions and Facilities Plan**

Based on the strategy set forth in Chapter 2.1, the following activities are recommended to enhance the tourism resources of the Study Area:

- 1) Phetchaburi Cluster
  - To develop a cultural/historical city tour 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.
- 2) Phetchaburi Coast Cluster
  - 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) Cha-Am Cluster
  - 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.
- 4) Hua Hin Cluster
  - 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 beatification of Hua Hin Beach and Khao Ta-kiap.
- 5) Pranburi Cluster
- 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.
- 6) Prachuap Khiri Khan Cluster
- 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.
- 7) Bang Saphan Cluster
- 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 projects proposed to realize above strategy are listed in Table 3-2 and their location is shown in Figure 3-1.

### 3.4 Infrastructure Plan

#### (I) Transportation Plan

Improvement of access to the Study Area with public transportation is planned, including:

- Introduction of a special tourist train to Cha-Am and Hua Hin,
- Improvement of bus terminals in Phetchaburi, Cha-Am and Hua Hin,
- Improvement of tourist piers in every cluster, and
- Improvement of airport and air transportation services.

Road development to improve access to the various tourism attractions and facilities within the Study Area and to link attractions to form excursion routes is planned, including the following roads:

- Circulation roads in Phetchaburi Province,
- Pranburi - Sam Roi Yot circulation road,
- Prachuap Khiri Khan circulation road, and
- Bang Saphan circulation road.

Road development to improve the access to and safety in major tourist areas within the Study Area is proposed, including:

- Phet Kasem road (existing Highway No.4), and
- Phetchaburi coastal road.

New development or improvement of piers in each tourism cluster is recommended, to be used as boat landing for sea access and boat trips.

The projects proposed to realize above strategy are listed in Table 3-2 and their location is shown in Figure 3-3.

## **(2) Water Supply Plan**

A long term water supply development plan to make optimum use of the Study Area's restricted water resources is formulated and linkage of the following areas with the existing water supply system is urgently recommended, in order to guarantee continued water supply to the various parts of the Study Area:

- Hua Hin City,
- Cha-Am City,
- Phetchaburi City, and
- Pranburi and Kuiburi Towns.

The projects proposed to realize above strategy are listed in Table 3-2 and their location is shown in Figure 3-4.

## **(3) Sewerage Plan**

Development of sewage systems with priority for densely populated and environmentally vulnerable areas is proposed, including:

- Phetchaburi City,
- Cha-Am City,
- Hua Hin City, and
- Prachuap Khiri Khan City.

The projects proposed to realize above strategy are listed in Table 3-2 and their location is shown in Figure 3-5.

## **(4) Solid Waste Disposal Plan**

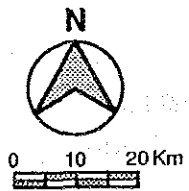
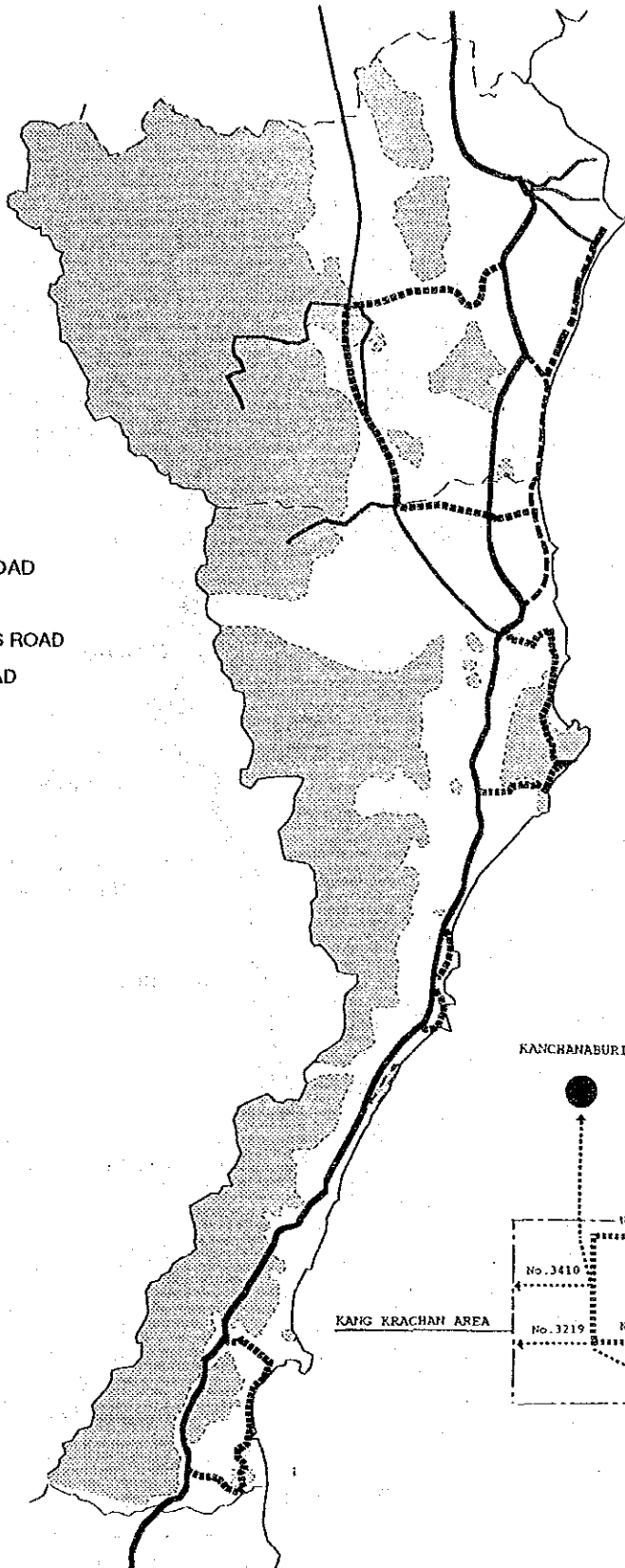
Development of systematic collection and haulage systems, procurement of collection trucks and other equipment, and development of sites for sanitary landfill is recommended for the following cities:

- Phetchaburi City,
- Cha-Am City, and
- Hua Hin City



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

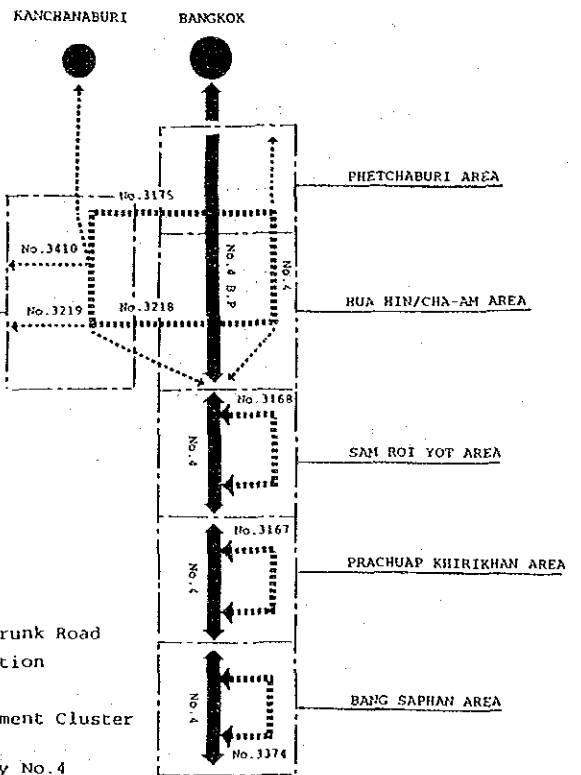


Figure 3-3 Transportation Development Plan

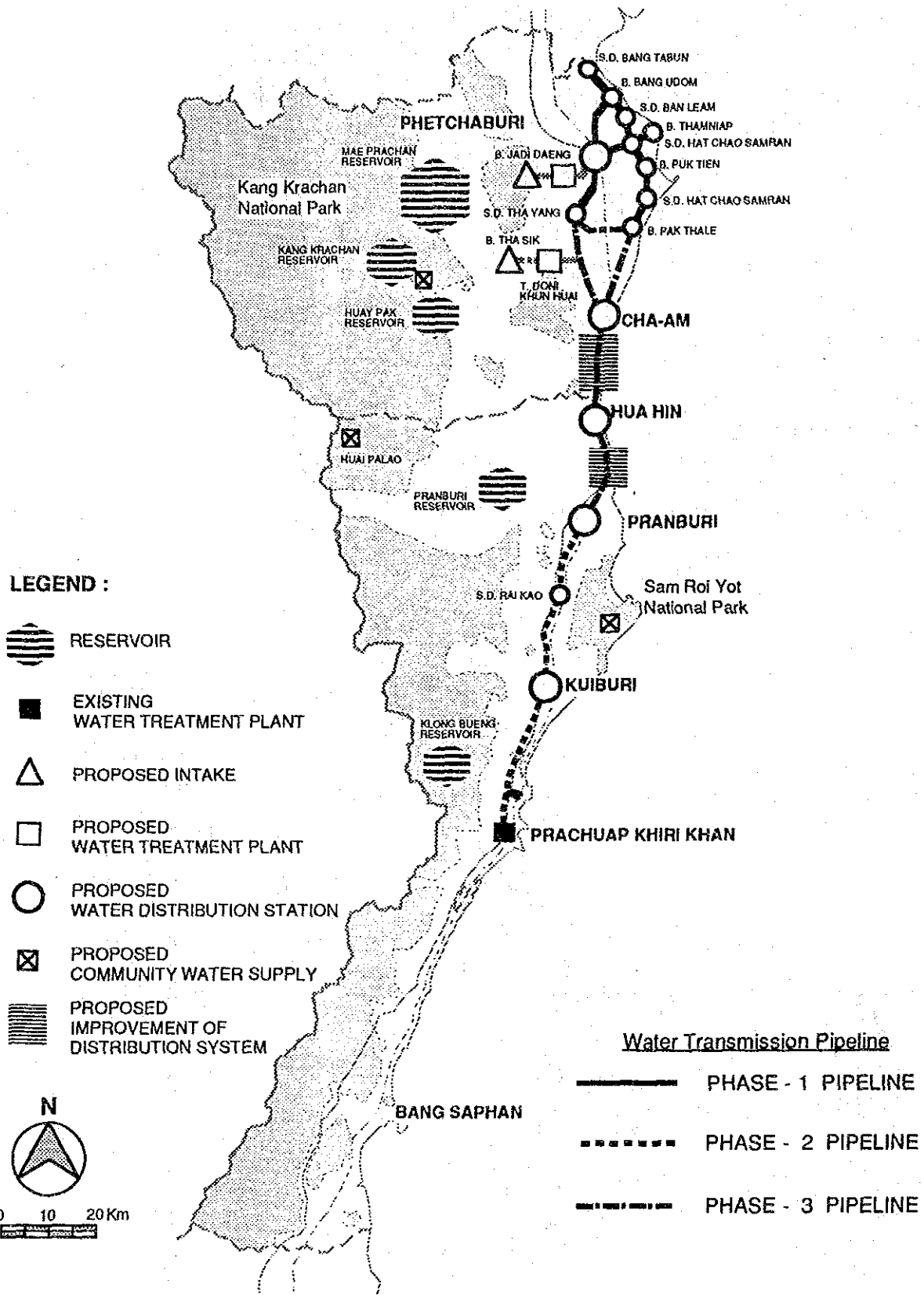


Figure 3-4 Water Supply System Development Plan

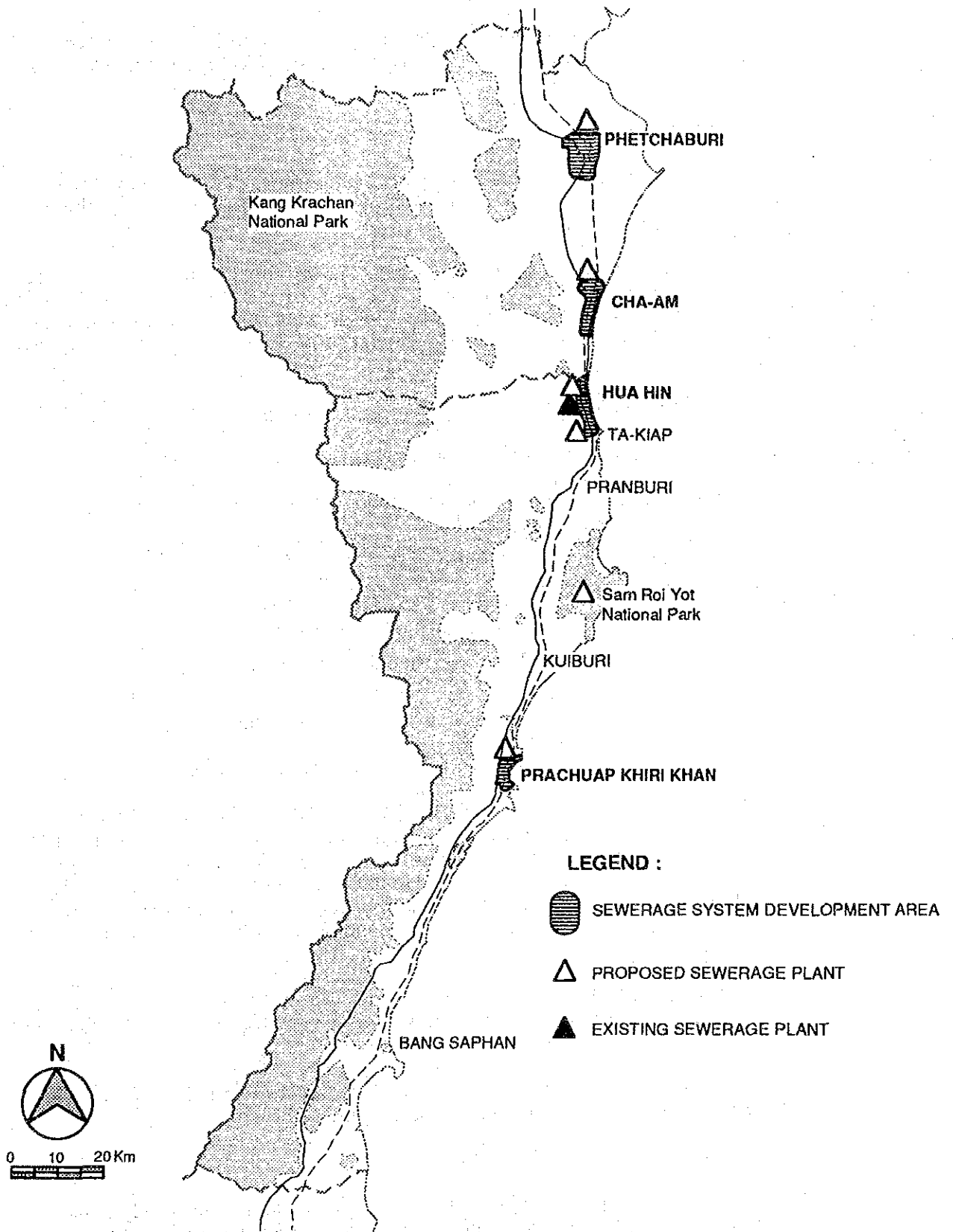


Figure 3-5 Sewerage System Development Plan

### **(5) Power Supply and Telecommunication Plan**

Development plans have been prepared by the provincial governments of Phetchaburi and Prachuap Khiri Khan provinces, which are expected to adequately solve the existing problems.

## **3.5 Tourism Promotion Program**

In order to add competitive edge to the destination image of the Study Area, the formulation of an integrated regional promotion program covering the two provinces is recommended.

For the implementation of the program the establishment of a "tourism coordination committee" is proposed. 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, under guidance of TAT through their Cha-Am Office.

### **(1) Visitor Facilitation Measures**

The following improvements are recommended:

#### **1) Provision of Signs and Boards at the following locations:**

Phetchaburi (refer to Figure 3-6)	- Khao Wang/Phra Nakhon 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**

- a) Emphasis of the service of TAT's Cha-Am Office 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.
- b) Improvement of the existing municipal tourist centers in Hua Hin and Prachuap Khiri Khan, and the Park visitor centers in Kang Krachan and Sam Roi Yot National Parks.
- c) Opening of new information centers operated by the respective municipalities at Khao Wang, Phra Nakhon Khiri and Cha-Am Beach.

### **(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 listed in Table 3-1.

PHETCHABURI

Recommended Spots for Sign, Map and Board

- Case Studies of
- Khao Wang
  - Mahathat Woraviharn
  - Yai Suwanaram
  - 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

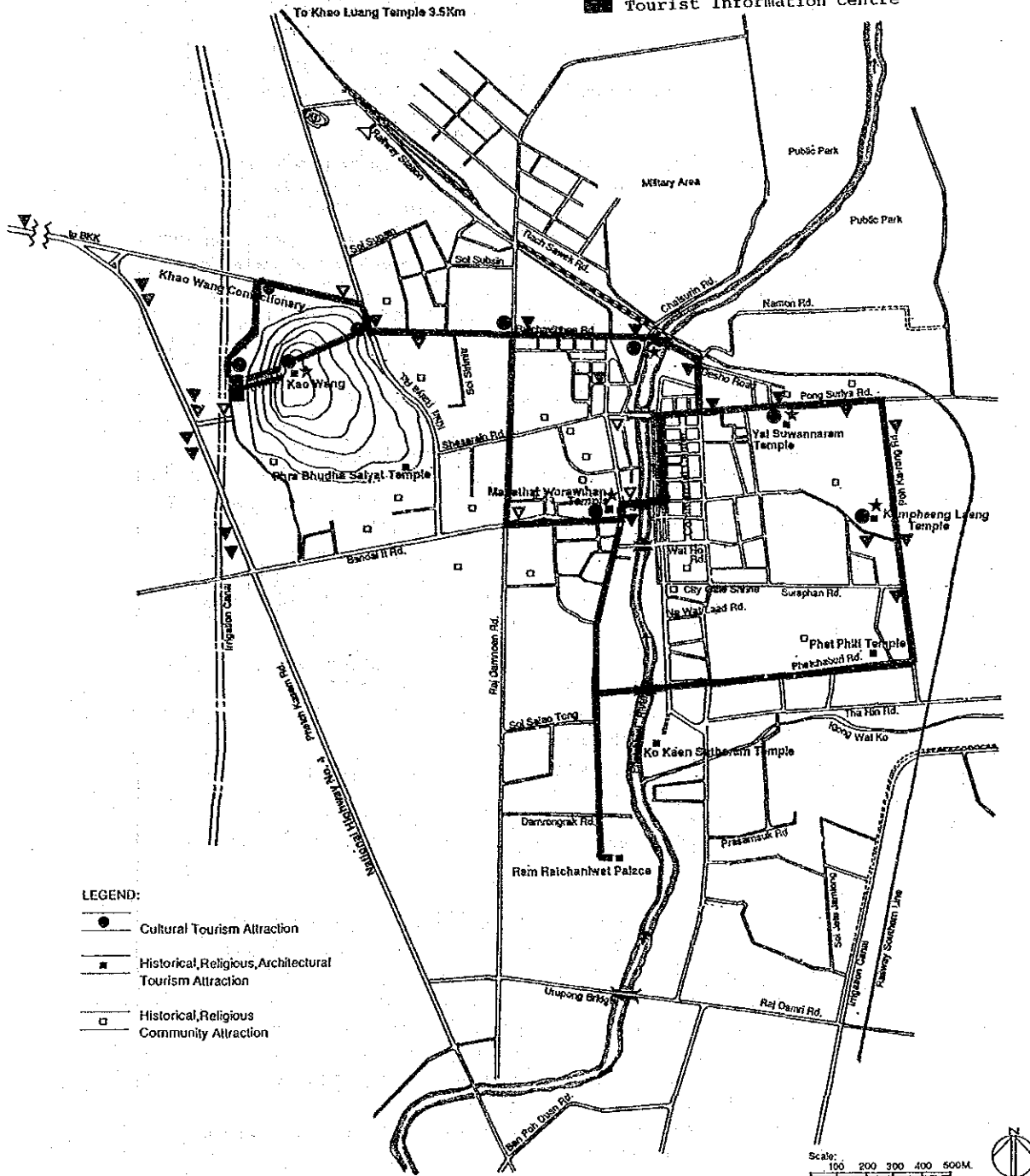


Figure 3-6 Recommended Location of Signs and Information Boards in Petchaburi City

**Table 3-1 Inventory of Recommended Promotion Materials**

	Title	Issued by	Format	
Motivation/Inducement Materials				
	1. Promotion Brochure	Cha-Am	TAT	as presently existing
		Hua Hin	TAT	as presently existing
		Phetchaburi	Province (with TAT's supervision)	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	
On-site Information Materials				
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	
2. Municipality Brochure	Hua Hin	TAT	ditto	
	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 Nation Park	RFD, Park Headquarters (with TAT's guidance)	ditto	

### (3) Community Awareness Campaign

Awareness campaigns shall be organized at major tourist centers such as Phetchaburi, Pranburi, Prachuap and Ban Saphan in the form of tourism seminars for provincial and municipal officers and community leaders, and publicity events with attractions and entertainment to activate public participation (e.g. tourism week, with feature song, dance, film show).

Community mobilization activities in the form of "Keep... Clean Campaigns" are proposed for Phetchaburi River Park, Cha-Am Beach, Hua Hin Beach and Prachuap Bay.

## 3.6 Environmental Management

### (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. Furthermore, the tourism development strategy envisages consideration for local communities in the Study Area, by making efforts to secure and support their livelihood.

Considering the background of the Study, environmental issues to be dealt with and describe here after focus on those parts of the Study Area which are environmentally vulnerable in the context of tourism development. These areas are distinguished as follows:

- Coastal Area,
- National Parks and Forest Reserves, and
- Local Communities.

### (2) Countermeasures

#### 1) Water Quality

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:

- a) To develop municipal sewerage urgently as proposed in Chapter 3.4, to prevent discharge of untreated waste water to the sea. Furthermore, 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;
- b) To apply the government standards for domestic effluents approved by the National Environment Board in 1985, as guideline in the Study Area;

- c) To introduce sea water quality standards for beach tourism. The early implementation of the standard for sea bathing established by the Ministry of Technology and Energy in 1983 to the Study Area is recommended. A standard for visual/olfactory nuisance has not been established in Thailand, but its introduction is recommended. The standards used for industrial areas may serve as basis for the visual/olfactory standard,
- d) To establish a monitoring system to periodically evaluate the sea water quality; and
- e) To introduce sanctions to enforce the regulations concerning water quality.

## 2) Littering

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

- a) 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 3.4; and
- b) To introduce a set of measures for tourist areas not covered by the municipal collection system, and to reduce the problem of littering, as follows:
  - 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;
  - to install garbage bins at strategic places, e.g. close to shops/stalls, along frequently used routes;
  - to inform tourists of the location of the garbage bins, e.g. by means of announcements in the bus; and
  - to appeal to the residents to give their support for cleaning work.

## 3) Aesthetics

In order to adequately protect the visual environment of the Study Area, the extent of the Building Code 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. Furthermore, additional restrictions in some areas such as design control and regulations concerning materials and colors may be considered. Refer to Chapter 3.2 for a more details description of recommendations.

## 4) Beach Erosion

The so-called Artificial Cape Method, which involves the construction of T-groins is recommended to control beach erosion in the Study Area. 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.

## 5) Natural Resources

Zoning, as described in Chapter 3.2, is one of the measures which may contribute to effective protection of the natural resources in the Study Area. In this section 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 RFD employs to protect the forest resources. It is stressed that their utmost efforts must be undertaken to effectively implement its policies.

### **6) Local Communities**

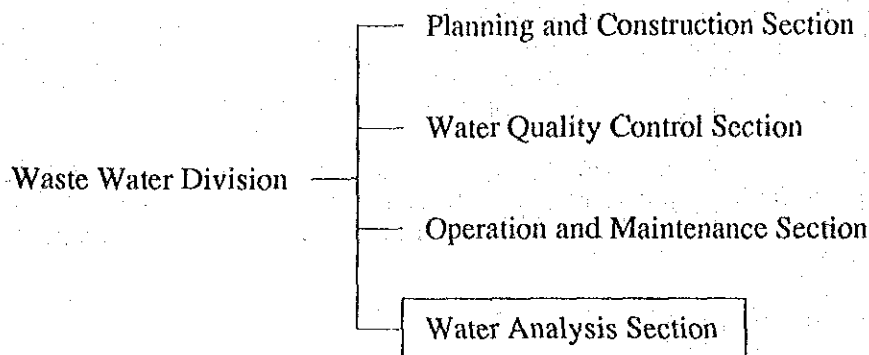
In order to activate the local economy and to improve the income situation of its people, the following ideas for more involvement of the villagers in tourism are recommended:

- a) Improvement and expansion of job opportunities through the introduction of training courses for local people working in the tourism sector;
- b) Proper organization of fishing tours operated by local residents, including promotional activities, price setting, safety standards and insurance, etc;
- c) Introduction of agro-tourism in the Study Area. 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;
- d) Strengthening the link between tourism and the agricultural sector in the Study Area through the supply of local agricultural products to hotels and restaurants. This offers a good opportunity to diversify the agricultural production in the Study Area and may offer increased income to local farmers; and
- e) Cottage industry exists only on a very small scale in the Study Area, but Ban Nong Ya Plong, which is located close to Phetchaburi municipality along Highway No. 4, may have opportunities for tourism through its handicrafts, i.e. Laotian cloth weaving and woodcarving, and its small Laotian Museum.

### **(3) Sea Water Quality Monitoring**

Decentralization and delegation of environmental authority to the provincial and local levels is urged, to establish more frequent and adequate monitoring. In Pattaya an environmental division was established as shown in Figure 3-7. Similar divisions of 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.



**Figure 3-7 Organization of Water Quality Monitoring**

Note: 1. This includes monitoring work as well as the work for sewerage treatment.  
 2. The Water Analysis Section is the main Section for monitoring work.  
 3. 2-4 well qualified officials are necessary for monitoring work.

#### (4) Enforcement of Environmental Regulations

##### 1) Legislation

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

- Environmental Promotion and Protection Act of 1992,
- Improvement of Ministries and Department Act (6th) of 1992, and
- 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. 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. The violators may pay fines, but often it is more efficient to publicize the violation to consumers. Degradation of violators' products or services to consumers are deadly where there is enough market competition.

### 3.7 Implementation Plan

Implementation of the projects proposed in this Tourism Development Plan shall be carried out in 3 phases, as follows:

- Phase 1: 1992-1996 (under Thailand's 7th 5 year plan),
- Phase 2: 1997-2001 (under Thailand's 8th 5 year plan), and
- Phase 3: 2002-2006 (under Thailand's 9th 5 year plan).

The phasing for each proposed project is shown in Table 3-2. It is noted that projects may be implemented in an earlier phase than scheduled if the required preparations are completed.

Although all of the projects listed in Table 3-2 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 3-2 with "XXX" indicating the highest level of significance. Following the method used in the 1987 Master Plan, 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 25 projects were ranked as highly significant for tourism development in the Study Area, including 11 projects aimed at enhancing the Study Area's environment.

Table 3-2 List of Recommended Projects and Programs - 1

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		
Tourism Facility Development	101	Khao Wang Palace	0		37.00	17.00	20.00		FAD/TAT	XXX
Projects in Phetchaburi Cluster	102	Khao Luang Temple	0		4.00	4.00			FAD/TAT	XX
	103	Kamphaeng Laeng Temple	0		6.00		6.00		FAD/TAT	XX
	104	Maha Samanaram Temple	0		5.50		5.50		FAD/TAT	XX
	105	Phra Bhudha Saiyat Temple	0		15.80	3.80	12.00		FAD/TAT	XX
	106	Yai Suwannaram Temple	0		39.00		5.00	34.00	FAD/TAT	XX
	107	Ko Kaew Sutharam Temple	0		16.00		8.00	8.00	FAD/TAT	XX
	108	Mahathat Worama Hawihan Temple	0		8.00			8.00	FAD/TAT	XX
	109	Sra Bua Temple	0		2.30			2.30	FAD/TAT	XX
	110	Ram Ratchaniwet Palace	0		40.00	22.00	18.00		FAD/TAT	XX
	111	Pailom Temple	0		0.80			0.80	FAD/TAT	XX
Tourism Facility Development	112	Beach Conservation Operation			7.87				Province	XXX
Projects in Phetchaburi Coast Cluster		Laem Luang Beach	0			2.50				
		Chao Sam Ran Beach	0			4.11				
		Puktian Beach	0			1.26				
Tourism Facility Development	113	Cha-Am Public Beach Improvement	0		85.48	85.48			Municipality	XXX
Projects in Cha-Am Cluster	114	Cultural and Recreational Center in Cha-Am	0	0	618.84	66.10	307.50	245.24	Province, TAT, Municipality	XXX
		SUB TOTAL			886.59	206.25	382.00	298.34		
Tourism Facility Development	201	Khao Hin Lek Fai Development	0		12.42	12.42			TAT, Municipality	XX
Projects in Hua Hin, Prachuap Khiri Khan and Bang Saphan Clusters	202	Queen's Park Development	0		12.00	12.00			TAT, Municipality	XX
	203	Hua Hin Public Beach Improvement	0		1.38	1.38			TAT, Municipality	XXX
	204	Prajomkiao Science Park Development	0		471.24			471.24	Province, MOS	X
	205	Ko Thalu Conservation Operation	0		16.15	6.90	9.25		Province	XXX
	206	Trade Center Development at Hua Hin	0	0	20.70			20.70	Municipality	XX
		Fishing Pier								
		SUB TOTAL			533.89	32.70	9.25	491.94		
National Park/Forest Park Development Projects	301	Kang Krachan National Park Improvement			56.98				National Park, TAT	XXX
		Khao Mai Ruak Office	0			7.15				
		Palao Waterfall area	0			5.20				
		Huai Dungla Waterfall / hot spring area	0			2.95				

unit: million baht

Table 3-2 List of Recommended Projects and Programs - 2

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		
National Park/Forest Park		Camping Site near reservoir	0		20.80				
Development Projects - continued		Palao Tourist Information Center	0		20.88		National Park, TAT	XXX	
	302	Sam Roi Yot National Park Improvement	0	30.80					
		Road and Parking Improvement	0		21.60				
		Nature Trail Improvement	0		1.40				
		Utilities Improvement	0		4.50				
		Tourist Facilities Improvement	0		3.30				
	303	Nam Tok Huai Yang National Park Improvement		17.15			National Park, TAT	XX	
		Road and Parking Improvement	0		9.15				
		Nature Trail Improvement	0		1.20				
		Utilities Improvement	0		2.20				
		Tourist Facilities Improvement	0		4.60				
	304	Kuiburi Forest Reserve Improvement	0	58.85			Forest Reserve, TAT	XX	
		Road and Parking Improvement	0		34.66				
		Utilities Improvement	0		15.45				
		Tourist Facilities Improvement	0		8.74				
	305	Wanakon National Park Improvement	0	32.60			National Park, TAT	XX	
		Road and Parking Improvement	0		19.40				
		Utilities Improvement	0		6.90				
		Tourist Facilities Improvement	0		6.30				
	306	Pak Nam Pran Forest Park Improvement	0	4.45			Forest Park, TAT	XX	
		Road and Parking Improvement	0		0.30				
		Utilities Improvement	0		1.75				
		Tourist Facilities Improvement	0		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	0	30.82	30.82		Municipality, DOH	XXX	
	402	Phet Kasem Road Improvement in Hua Hin	0	106.33	70.93	35.40	Municipality, DOH	XXX	
	403	Improvement of Circulation Roads in Pheichaburi Province		63.25					
		RID Road (20.5 km)	0		35.41		DOH, RID	XXX	

Table 3-2 List of Recommended Projects and Programs - 3

unit: million baht

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	404	OARD Road (14 km)	O			27.84			DOH, OARD	XXX
	405	Improvement of Phetchaburi Coastal Road Improvement of Bus Terminals Phetchaburi Cha-Am	O	O	56.39 60.00	56.39			DOH, RID Municipality, Private Sector	XXX X
		Hua Hin	O	O		20.00				
	406	Tourism Train Operation between Bangkok and Hua Hin / Cha-Am Beach Area	O	O	120.00	120.00			STR, Private Sector	XX
	407	Improvement of Circulation Roads in Prachuap Khiri Khan Province Pranburi (20 km)		O	47.30		18.90		DOH, Province	XX
		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	Private Sector	XX
		Prachuap Khiri Khan Army Airport Service		O	12.00					
	410	Local Road Development/Improvement in Hua Hin Municipality (Missing Links)		O	85.30				DOH	XX
		Ta-kiap Village Road Development		O			7.80			
		Naeb Kei had 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 3-2 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 Pramburi		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 Pramburi and Kuiburi		O	108.94	108.94			Pramburi, Kuiburi, PWA	XX
	508	Municipal Water Supply Development for Pramburi and Kuiburi		O	23.90		23.90		Pramburi, 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 3-2 List of Recommended Projects and Programs - 5

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		
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-kiap 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		



Table 3-2 List of Recommended Projects and Programs - 6

unit: million baht

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,	XXX
		Provision/Improvement of Direction Signs and Information Boards					1.92		Province	
		Improvement of Tourist Information Centers					1.50			
		Production of General Purpose Publicity Materials					0.50			
		Production of Information Brochures					1.50			
		Awareness Campaign at Major Tourist Centers					1.50			
		Community Mobilization Activity					1.50			
	702	Training Programs for Tourism Service Personnel and Entrepreneurs			11.48		11.48		TAT, Municipality,	XX
		Education Improvement Programs in the Tourism Sector			2.30		2.30		Province, MOE	
	703	Agricultural Products Promotion Program to support Tourism			7.65		7.65		TAT, Province,	XX
		Promotion Program for Production and Sales of Souvenirs and Local Goods							MOE, Private	
	704	Development Projects on the Arts, Culture and Traditions			11.48		11.48		TAT, PAO, MOE,	X
		Seawater Quality Monitoring			2.30		2.30		DAE, DOF, MOC,	
Environmental Management	707	SUB TOTAL			51.28		50.13		Private	
							1.15		TAT, PIO, MOC,	X
							1.15		Province, Private	
									TAT, Province,	X
									FAD, Private	
									Municipality, NEB	XXX
Accommodation Development	801	Accommodation Development in Phetchaburi Cluster								
		High Class			66.00		0.00	66.00	Private Sector	X
		Middle Class			109.20		49.80	27.60		
		Low Class			19.60		9.20	10.40		
	802	Accommodation Development in Petchaburi Coast Cluster							Private Sector	X

Table 3-2 List of Recommended Projects and Programs - 7

Project/ Packaged Project Accommodation Develop- ment - continued	Project Code	Sub-Project	Dev't Body Public/Private	Dev't Cost	Development Phase			Organization	Level of Significance
					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		
	803	Accommodation Development in Cha-Am Cluster	O					Private Sector	XX
		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	O					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 Pranbun Cluster	O					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		
	806	Accommodation Development in Prachuap Khiri Khan Cluster	O					Private Sector	X
		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	O					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		
				16,260.00	3,684.80	5,415.80	7,159.40		
		SUB TOTAL							
		GRAND TOTAL		21,072.99	5,730.79	6,600.37	8,741.83		

unit: million baht

**4. RULES AND REGULATIONS FOR PRIVATE  
INVESTMENT**



## **4. RULES AND REGULATIONS FOR PRIVATE INVESTMENT**

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### **4.1 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, but the following issues remain:

- 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 1987 Master Plan have not been effective, resulting in developments similar to Pattaya.

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. Reinforcement and expansion of TAT's authority requires legal support, which is expected to be settled with the amendments proposed under the 7th NESDP described in Chapter 2-6.

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.

### **4.2 Land Transaction**

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. 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 designates certain areas where abrupt increases in the land price are

anticipated as surveillance area. In these surveillance areas 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, his name and the 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.

**5. ECONOMIC FEASIBILITY OF THE TOURISM  
DEVELOPMENT PLAN**





## 5. ECONOMIC FEASIBILITY OF THE TOURISM DEVELOPMENT PLAN

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### 5.1 Benefits from Tourism Development

The development of tourism is expected to have the following direct and indirect effects on regional communities and their economies:

- promotion of regional economy through increased revenue from tourism as well as from related industries;
- increased employment opportunities;
- consolidation of such social infrastructure as roads, water supply and sewerage, etc. which are improved in accordance with the development of tourism;
- active conservation of cultural resources as tourism resources; and
- increased exchange between regional people and tourists.

The economic benefits resulting from the development of tourism in a local area are the incremental tourism revenue following an increased number of tourists and the incremental production value in the Study Area due to increased income in tourism-related industries. These economic benefits can be quantitatively measured as the difference between the total revenue with the Projects' implementation and the total revenue without implementation of the Projects.

#### 1) Direct Economic Benefit

The EPD (Tourist Expenditure per Person per Day) for a Thai tourist is assumed to increase in proportion to the GDP growth while the future increase of the EPD for a foreign tourist is estimated based on past trends. Given the geographical proximity of the Study Area to Bangkok, it is unlikely that the number of Thai overnight tourists will substantially increase in the future and the maximum LST (Average Length of Stay) will be approximately the 2.0 days currently recorded for Pattaya. In contrast, the LST for foreign tourists appears to have room for prolongation provided the area improves its tourist attractions. Table 5-1 presents the projected incremental tourism revenue, based on above conditions and the number of tourists expected to visit the Study Area, and the estimated direct economic benefit of the Projects.

#### 2) Indirect Economic Benefit

The total value of indirect benefit of tourism expenditure, estimated on the basis of the incremental tourism revenue and the rate of indirect benefit for each industrial

sector, is estimated at 1,735 million baht in 2001, 4,842 million baht in 2006 and 6,244 million baht in 2016 as shown in Table 5-1.

**Table 5-1 Projection of the Economic Benefit of the Projects and Programs**

	unit: million baht				
	1996	2001	2006	2011	2016
<b>Incremental Tourism Revenue</b>					
Thai Tourists	0	2,091	5,589	6,799	8,272
Foreign Tourists	0	4,764	13,521	14,928	16,482
<b>Total</b>	0	6,855	19,109	21,727	24,754
<b>Direct Economic Benefit</b>					
Thai Tourists	0	1,215	3,247	3,950	4,806
Foreign Tourists	0	2,806	7,964	8,793	9,708
<b>Total</b>	0	4,021	11,211	12,743	14,514
<b>Indirect Economic Benefit</b>					
<b>Thai Tourists</b>					
Hotels and Restaurants	0	215	576	701	852
Transport	0	141	378	460	559
Other Services	0	133	355	431	525
<b>Sub-Total</b>	0	490	1,308	1,592	1,937
<b>International Tourists</b>					
Hotels and Restaurants	0	775	2,199	2,428	2,680
Transport	0	128	363	401	443
Other Services	0	342	971	1,072	1,184
<b>Sub-Total</b>	0	1,245	3,534	3,901	4,307
<b>Total</b>	0	1,735	4,842	5,493	6,244

source: Study Team

## 5.2 Cost of Tourism Development

The estimated project cost included in Table 3-2 is spread over the project years in accordance with the projects' implementation schedule. The project cost, which is expressed in terms of the market cost, was converted into the economic cost where the transfer cost (customs duties, business tax and sales tax, etc.) is deducted from the market cost for economic evaluation purposes. Land cost is included in the economic cost as the estimated opportunity cost, even though the market cost estimate disregards the land cost in the case of public land.

## 5.3 Overall Economic Evaluation of the Projects and Programs

The cost benefit flow from 1993 to 2016 which is included in Table 5-2, shows that the economic internal rate of return of the projects and programs (EIRR) is 30.3%. EIRR in general should be larger than the opportunity cost of the country's confirms capital. Thailand's capital opportunity cost is estimated at around 16 % judging from loan interest rates provided by commercial banks. The calculated EIRR is sufficiently greater than their capital opportunity cost, which therefore confirms the economic viability of the Projects.

One of the reasons why the evaluation result is significantly higher than forenamed capital opportunity cost, is that the development cost of infrastructure development, such as roads, water supply, sewerage and power supply is not included in the cost calculation of the Projects. Plans for the development of such basic infrastructure have already been settled, and would be implemented irrespective of further tourism development.

Table 5-3 shows the result of sensitive analysis of fluctuations of construction costs or the number of tourists. The table shows that the Projects are economically

viable, the even if the construction cost will be 40% higher or tourist arrivals will be 40% lower than projected.

**Table 5-3 Result of Sensitive Analysis for Overall Evaluation**

	unit: %
	Economic Internal Rate of Return
Base Case	30.3
Cost 20 % up	26.8
Cost 40 % up	24.0
Tourists 20 % down	24.7
Tourists 40 % down	17.5

source: Study Team

Table 5-2 Cash Flow for Overall Evaluation of the Projects and Programs

(Unit: Million Baht)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
<b>Cost</b>																									
Investment Cost	1,904	1,904	1,296	1,296	1,296	1,296	1,296	1,296	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	
Land Acquisition			0	0																					
Construction Cost	1,797	1,797	1,234	1,234	1,234	1,234	1,234	1,234	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	
Tourism Promotion & Others	17	17	0	0	0	0	0	0																	
Design & Supervision 5%	90	90	82	82	82	82	82	82	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	
(Residual Value)																									
Operating & Maintenance Cost	0	45	90	328	595	859	1,196	1,563	1,939	2,381	2,880	3,443	4,084	4,223	4,322	4,424	4,523	4,639	4,750	4,865	4,984	5,106	5,232	5,282	
Operating Cost	0	0	0	191	429	672	969	1,305	1,650	2,050	2,508	3,028	3,629	3,725	3,824	3,926	4,032	4,140	4,252	4,367	4,486	4,608	4,734	4,794	
Maintenance Cost	0	45	90	135	166	186	227	258	289	331	372	414	456	498	498	498	498	498	498	498	498	498	498	498	
Total	1,904	1,949	1,984	1,622	1,850	2,165	2,492	2,858	3,682	4,133	4,633	5,195	5,837	4,223	4,322	4,424	4,523	4,638	4,750	4,865	4,984	5,106	5,232	5,282	
<b>Benefit</b>																									
Direct Benefit				593	1,330	2,078	2,990	4,021	5,089	6,324	7,740	9,351	11,211	11,500	11,797	12,104	12,419	12,743	13,077	13,421	13,774	14,139	14,514	14,894	
Indirect Benefit				256	575	888	1,281	1,735	2,195	2,729	3,341	4,038	4,842	4,965	5,091	5,221	5,355	5,493	5,635	5,781	5,931	6,085	6,244	6,244	
Benefit Total				849	1,905	2,976	4,281	5,756	7,284	9,053	11,080	13,389	16,053	16,465	16,898	17,325	17,774	18,236	18,712	19,201	19,705	20,224	20,768	20,768	
Net Benefit	-1,904	-1,949	-1,984	-773	14	611	1,789	2,887	3,592	4,926	6,448	8,194	10,216	12,242	12,567	12,901	13,245	13,588	13,932	14,276	14,620	14,964	15,308	15,056	
NPV(23 Years, 15%)																									
IRR(23 Years)																									

Note: Calculation Method  
 (1) Design & Supervision : Construction Cost x 5%  
 (2) Residual Value : Constant Rate 25 Years, Residual Value 10%  
 (3) Operating Cost : Value Added in Tourism-related Sectors x (30.6-36.7%)  
 (4) Operating Cost : Accumulative Construction Cost x 2.5%