

Summary

JAPAN INTERNATIONAL COOPERATION AGENCY

SDF
CR(3)
89-026

Contents

Chapter 1: INTRODUCTION

1.1 Background

1.2 Objectives

1.3 Scope

1.4 Methodology

Chapter 2: CURRENT POLITICAL, ECONOMIC AND SOCIAL SITUATION

2.1 Political Situation

2.2 Economic Situation

2.3 Social Situation

Chapter 3: POLICY AND PROGRAMME REVIEW

3.1 Policy Review

3.2 Programme Review

Chapter 4: ECONOMIC AND FINANCIAL EVALUATION

4.1 Economic Impact

4.2 Economic Analysis

4.3 Financial Analysis

Annex 1: Minutes of Meeting on Interim Report II

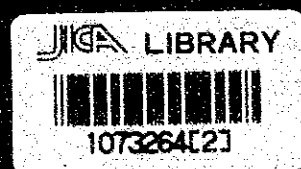
Annex 2: Minutes of Meeting on Draft Final Report

Annex 3: Study Staff

Volume 3: Appendices

Chapter 1: DATA AND INFORMATIONS OF THE VOLUME 1 REPORT

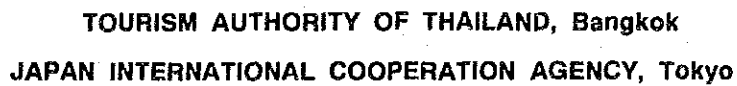
Chapter 2: DATA AND INFORMATIONS OF THE VOLUME 2 REPORT



国際協力事業団

18926

25.7



JAPAN INTERNATIONAL COOPERATION AGENCY, Tokyo

PREFACE

In response to a request from the Government of the Kingdom of Thailand, the Government of Japan decided to conduct a study on Potential Tourism Area Development for the Southern Region in Thailand and entrusted the study to the Japan International Cooperation Agency(JICA).

JICA sent to Thailand a study team headed by Mr. Sohiko Yamada, comprising experts from JCP Inc. and Pacific Consultants International, on four occasions during the period from November 1987 to December 1988.

The team held discussion with the officials concerned of the Government of the Kingdom of Thailand and conducted field surveys.

After the team returned to Japan, further studies were made and the present report has been prepared.

I hope that this report will serve for the development of the project and contribute to the promotion of friendly relations between our two countries.

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

March 1989



Kensuke Yanagiya
President
Japan International Cooperation Agency

TABLE OF CONTENTS FOR SUMMARY REPORT

PART I TOURISM DEVELOPMENT IN SOUTHERN REGION

I.1	GENERAL.....	1
I.2	STUDY OF SOUTHERN REGION	1
2.1	POLICY FOR TOURISM AND REGIONAL DEVELOPMENT.....	1
2.2	TOURIST ATTRACTIONS	1
2.3	SOCIO-CULTURAL CONSIDERATIONS.....	1
2.4	TOURISM MARKET AND DEMAND FORECAST	1
2.5	HOTEL REQUIREMENTS.....	1
2.6	REGIONAL TOURISM STRUCTURE.....	7
2.7	TRANSPORT NETWORK	7
2.8	ENVIRONMENTAL CONSIDERATIONS ON BEACH RESORT DEVELOPMENT.....	7
2.9	INTERNATIONAL TOURIST DESTINATIONS	7
2.10	TOUR PACKAGE AND ROUTE	7
2.11	TOURISM PROMOTION.....	7
I.3	REVIEW AND ASSESSMENT OF THE THREE PRIORITY AREAS	
3.1	PHUKET CLUSTER.....	9
3.2	SURAT THANI CLUSTER.....	9
3.3	SONGKHLA/HAT YAI CLUSTER	9
3.4	REGIONAL INCOME	9
3.5	EMPLOYMENT PROJECTION	9
3.6	EDUCATION AND TRAINING.....	11
3.7	TOURISM RELATED INDUSTRIES.....	11
3.8	PROPOSED PLANS/PROJECTS TO BE IMPLEMENTED.....	11

PART II TOURISM DEVELOPMENT IN GREATER PHUKET

II.1	BASIC CONSIDERATIONS	
1.1	TOURISM DEVELOPMENT POLICIES AND STRATEGIES.....	13
1.2	PHUKET AS AN INTERNATIONAL TOURISM DESTINATION.....	13
1.3	HOTEL ROOMS REQUIREMENT.....	15
1.4	TOURISM PROMOTION.....	15
1.5	RESOURCES	15
1.6	SPATIAL DEVELOPMENT CONCEPT	17
1.7	TOUR ROUTE FORMATION.....	17
1.8	LAND USE.....	17
1.9	INTEGRATION OF LOCAL COMMUNITIES.....	17
II.2	INFRASTRUCTURE DEVELOPMENT	
2.1	ENVIRONMENT	19
2.2	AIR TRANSPORT.....	19
2.3	WATER SUPPLY.....	21
2.4	SEA TRANSPORT	21
2.5	LAND TRANSPORT	23
2.6	SANITARY UTILITIES.....	23
2.7	TELECOMMUNICATION.....	25
II.3	TOURISM RESOURCES DEVELOPMENT	
3.1	TOWN TOURISM.....	25
3.2	VILLAGE TOURISM	27
3.3	CULTURAL TOURISM AND ANDAMAN CULTURAL RESOURCES CENTER	29
3.4	NATIONAL PARK.....	31
3.5	TOURISM RELATED INDUSTRIES.....	33
II.4	IMPLEMENTATION PROGRAM	
4.1	MAJOR DEVELOPMENT PROJECTS TO BE IMPLEMENTED.....	33
4.2	THAI MUANG/KHOK KLOI RESORT DEVELOPMENT.....	35
4.3	MARINE CENTER.....	35
4.4	IMPLEMENTATION AND INSTITUTIONAL ASPECTS.....	37
4.5	ECONOMIC IMPACT.....	37
4.6	ECONOMIC FEASIBILITY.....	37
4.7	FINANCIAL FEASIBILITY.....	37
	ANNEX: STUDY TEAM.....	39

PART I

TOURISM DEVELOPMENT IN SOUTHERN REGION

1.1 GENERAL

The study objective of this section is to prepare guidelines for tourism development in Southern Region as a whole, based on an assessment of tourism resources in each region which takes into account existing plans which have individually prepared. This study, started in November, 1987, focuses on presenting a number of key issues to be tackled by the public and private sectors in a properly coordinated manner.

1.2 STUDY OF SOUTHERN REGION

2.1 POLICY FOR TOURISM AND REGIONAL DEVELOPMENT

The Sixth National Plan has placed special emphasis on international tourism promotion with the expectation that the tourism industry will contribute greatly to boosting the national economy and balancing the trade and current account deficits. The tourism sector had a 6.9 percent annual growth rate on the average in terms of international arrivals during the Fifth National Plan period. Based on this performance, the Sixth National Plan has set an average annual growth target of 7.5 percent. In line with this national context, growth in international tourism is a key issue in Southern Region as well. However, this can be realized only by undertaking a dual policy: facilitating strategic growth in selected areas with tourist potential as tourism growth poles, and stimulating local tourism activities to ensure dispersed development by a bottom-up approach in the long-run.

2.2 TOURIST ATTRACTIONS

The major tourist attractions in Southern Region are beaches and island resorts, especially in Phuket and Ko Samui, which offer a tropical atmosphere along the coast. These natural attractions have already been developed to some extent, especially in the islands of Phuket and Samui. Cultural and historical attractions which vary in different localities are valuable for tourism development in Southern Region. It is important to

maintain and facilitate both natural and cultural/historical attractions in the context of the ASEAN resort tourism structure.

2.3 SOCIO-CULTURAL CONSIDERATIONS

The socio-cultural aspect can be interpreted in two ways: one is that the socio-cultural assets/characteristics are invaluable tourism assets, therefore, should be fully utilized for this purpose; and the other is that the socio-cultural endowments are so vulnerable to new socio-economic influences like tourism development, therefore, they need to be protected from such influences. Tourism development always faces this contradictory problem. Most important is the policy that the local people should always take part in tourism development and that it should be directed in their favor. It is recommended that a monitoring system be developed and applied in this regard.

2.4 TOURISM MARKET AND DEMAND FORECAST

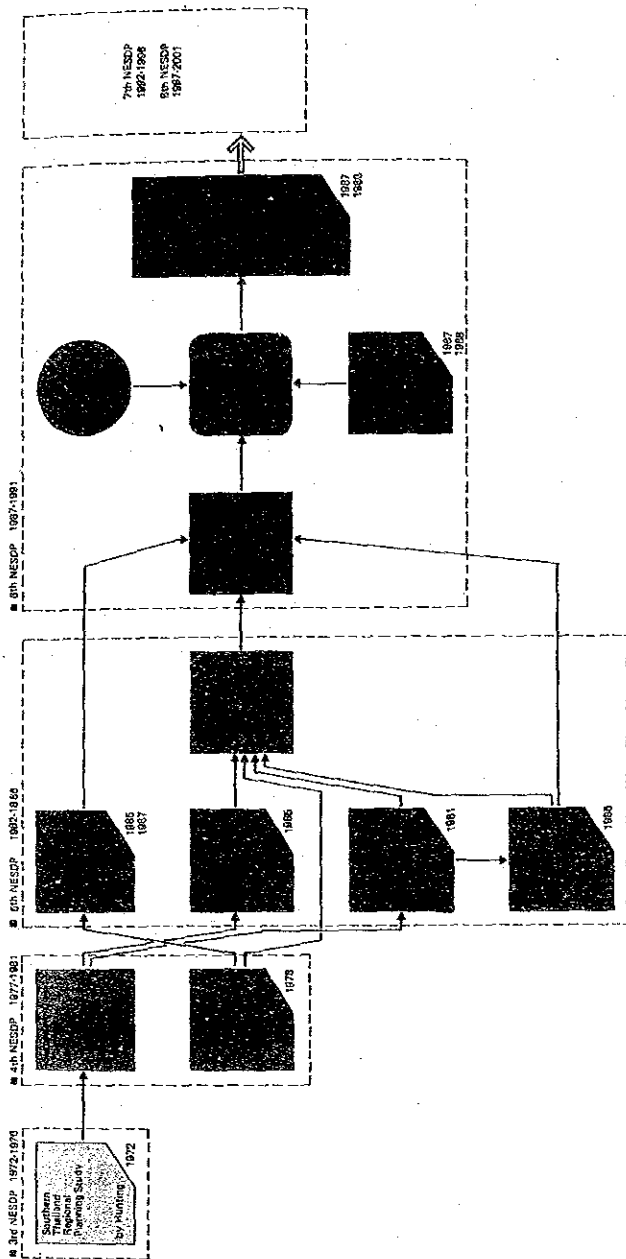
The number of foreign tourists who will visit Thailand in 1991 is estimated at 5,700,000 by this study. This estimate is larger by 23% than that in the 6th National Plan. As for the long-term estimates in 1996 and 2001, a macro frame was assumed by assuming fixed average growth rates. The results of the distribution forecast in terms of the number of foreign and domestic hotel guests visiting the three clusters in Southern Region are shown as follows.

2.5 HOTEL REQUIREMENTS

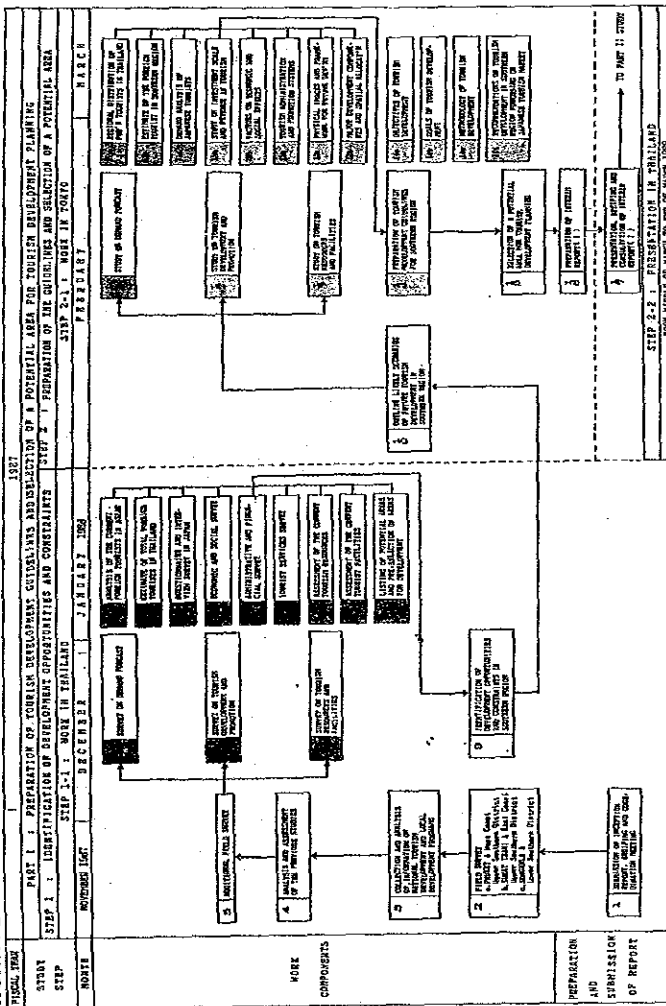
As a result of forecasting the number of hotel rooms required in the future, taking into account the number of hotel rooms currently available in Southern Region and a strategy of dispersed development, the overall number of hotel rooms required will be as follows.

The numbers of rooms required in 1991 and 2001 are estimated to be: 16,600 and 32,100 in the Phuket cluster; 12,200 and 20,700 in the Surat Thani cluster; and 14,100 and 24,000 in the Songkhla/Hat Yai cluster respectively.

INTEGRATION OF DEVELOPMENT PLANNING



WORK FLOW CHART - PART I



WORK FLOW CHART - PART II

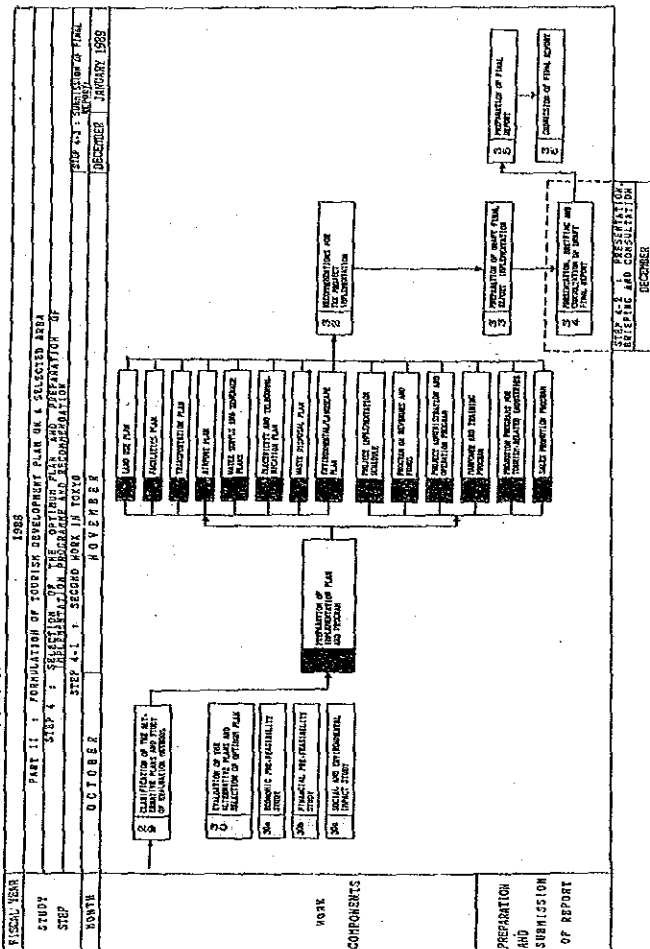


Table 1 LIST OF NATURAL ATTRACTIONS

Code No	Name of Attractions	Type	Degree	Code No	Name of Attractions	Type	Degree	Code No	Name of attractions	Type	Degree
CHUMPHON				D 3	Surin Islands National Park	Island	***	G 3	Yong Waterfall	Waterfall	*
A 1	Rap Ro Cave	Others	*	D 4	Khao Lak Park	Others	***	G 4	Len Waterfall	Waterfall	*
A 2	Kapo Waterfall	Waterfall	*	D 5	Bang Sak Beach	Beach	*	G 5	Phommakot Waterfall	Waterfall	*
A 3	National Park	Others	*	D 6	Khao Pi Lai Seaside	Others	*	G 6	Al Khleo Waterfall	Waterfall	*
A 4	Samet Island	Island	*	D 7	Tha Nun Seaside	Others	*	G 7	Hin Ngam Beach, Sichen	Beach	**
A 5	Maitra Island/Tang Kuan Island	Island	*	D 8	Thal Muang Seaside	Beach	*	G 8	Saboa Beach	Beach	*
A 6	Rang Ka Chlu Island/ Rang Kok Island	Island	*	D 9	Lampl Waterfall	Waterfall	*	G 9	Raet Cave	Others	*
A 7	Thong Leng Island	Island	*	D 10	Ton Phral Waterfall	Waterfall	*	TRANG			
A 8	Raet Island	Island	***	D 11	Tao Thong Waterfall	Waterfall	*	H 1	Khao Chong Waterfall	Waterfall	*
A 9	Pharadonphas Beach	Beach	**	D 12	Raman Waterfall	Waterfall	*	H 2	Pekmao Beach	Beach	*
A 10	Phanang Tak Bay	Beach	*	D 13	Sa Nang Manora Park	Others	*	H 3	Chao Mal Beach	Beach	*
A 11	Thung Wua Laen Bay	Beach	***	D 14	Ko Yao Island	Island	*	H 4	Talibong Island	Island	*
A 12	Name Lot Cave, Khao Phlu	Others	*	D 15	Tham Rishi Sawan and Tham Luk Sua	Others	*	H 5	Tonte Waterfall	Waterfall	*
A 13	Thung Yo Waterfall	Waterfall	*	D 16	Tham Phung Chang	Others	*	H 6	Song Hong Sea	Beach	*
A 14	Bo Mao Bay	Beach	**	PHUKET				H 7	Pina Hill	Others	*
A 15	Laem Thaen	Beach	***	E 1	Khao Rang	Others	*	PHATTALUNG			
A 16	Kho Ram Cave	Others	*	E 2	Ton Sai Waterfall	Waterfall	*	I 1	Noi Sea	Others	*
A 17	Pak Nam Ta Ko	Others	**	E 3	Ton Sai Waterfall	Waterfall	*	I 2	Khao Khrum Waterfall	Waterfall	*
A 18	Sawt Chan Ratsami Garden Plant Experimentation Station	Others	*	E 4	Rawai Beach	Beach	***	I 3	Khao Son Chai Hot-Water Spring and Cold-Water Spring	Others	**
A 19	Fl Beach	Beach	***	E 5	Nai Han Beach	Beach	***	I 4	Rangnok Island	Island	***
RANONG				E 6	Pa Tong Beach	Beach	***	I 5	Lampa Lake	Others	*
B 1	Tham Phra Khayong	Others	*	E 7	Surin Beach	Beach	**	I 6	OK Thalu Hill	Others	*
B 2	Punyaban Waterfall	Waterfall	*	E 8	Nai Yang Beach	Beach	**	I 7	Khuhasawan Cave	Others	*
B 3	Hot Water Spring	Others	**	E 9	Nai Khao Beach	Beach	*	SATUN			
B 4	Ngao Waterfall	Waterfall	*	E 10	Nai Thon Beach	Beach	*	J 1	Tarutao National Park	Island	**
Surat Thani				E 11	Kalim Beach	Beach	*	J 2	Panan Waterfall	Waterfall	*
C 1	Ba Thon Beach	Beach	***	E 12	Nakhale Beach	Beach	*	J 3	Ban Sea	Beach	*
C 2	Thong Yang Beach	Beach	***	E 13	Laem Ka Beach	Beach	*	SONGKHLA			
C 3	Lamal Beach	Beach	***	E 14	Kala Beach	Beach	*	K 1	Samila Beach	Beach	***
C 4	Chaweng Beach	Beach	***	E 15	Kala Noi Beach	Beach	***	K 2	Pakbongsakom Beach	Beach	*
C 5	Bo Phut Beach	Beach	***	E 16	Karon Beach	Beach	***	K 3	Pakbangnathap Beach	Beach	*
C 6	Mae Nam Beach	Beach	***	E 17	Kamala Beach	Beach	*	K 4	Sathingphra Beach	Beach	*
C 7	Bang Rak Bay	Beach	***	E 18	Makham Bay	Beach	*	K 5	Muanggam Beach	Beach	*
C 8	Thong Takhian Beach	Beach	**	E 19	Chalong Bay	Beach	*	K 6	Nu Island-Maeo Island	Island	*
C 9	Choeng Mon Beach	Beach	**	E 20	Phanwa Cape	Beach	**	K 7	Kham Island	Island	*
C 10	Yai Noi Beach	Beach	**	E 21	Phromthep Cape	Beach	**	K 8	Ban Khu Khut Bird Sanctuary	Others	***
C 11	Hin Lat Waterfall	Waterfall	**	E 22	Phang Sea	Beach	*	K 9	Ton Nga Chang Waterfall	Waterfall	**
C 12	Na Muang Waterfall	Waterfall	**	E 23	He Island	Island	*	K 10	Boriphat Waterfall	Waterfall	*
C 13	Taen Island	Island	**	E 24	Lon Island	Island	*	K 11	Tanguen Hill-Thual Hill	Others	*
C 14	Wiphawadi Waterfall	Waterfall	**	E 25	Nai Thon Island	Island	*	PHATTANI			
C 15	Wang Hin	Others	**	KRABI				L 1	Phanare Beach	Beach	*
C 16	Chiao Lan Dam	Others	**	F 1	Khao Khanap Nam	Others	**	L 2	Khao Khao Beach	Beach	*
C 17	Khao Sok National Park	Others	**	F 2	75 Million-Year Shell Fossils	Beach	***	L 3	Palatmo Beach	Beach	*
C 18	Tao Nai Island	Island	*	F 3	Ang Phra Nang	Island	***	YALA			
C 19	Ban Tal Bay	Beach	*	F 4	Noparat Thara Beach	Beach	**	M 1	Thanto Waterfall	Waterfall	*
C 20	Hat Rin Bay	Beach	*	F 5	Tham Sadet	Others	*	M 2	Sai Khao Waterfall	Waterfall	*
C 21	Angithong Island National Park	Island	**	F 6	Khao Phanom Bencha National Park	Others	*	NARATHIWAT			
C 22	Khao Tha Phet Natural Studies Center	Others	**	F 7	Huay To Waterfall	Waterfall	*	N 1	Bacho Waterfall	Waterfall	*
PHANGNGA				F 8	Tham Bok Khorani Botanical Garden	Others	*	N 2	Chatwarin Waterfall	Waterfall	*
D 1	Phangnga Bay National Park	Others	***	F 9	Tham Lot Nua-Tai	Others	*	N 3	Narathat Beach	Beach	*
D 2	Similan Islands National Island	Others	***	F 10	Tham Phet	Others	*				
				F 11	Hin Phoeng Waterfall	Waterfall	*				
				F 12	Pipile Pipidon Island	Island	***				
				F 13	Tham Phi Hua To/Tham Hua Kalok	Others	**				
				NAKHON SI THAMMART							
				G 1	Krung Ching Waterfall	Waterfall	***				
				G 2	Krator Waterfall	Waterfall	*				

Notes:

Degree High :***

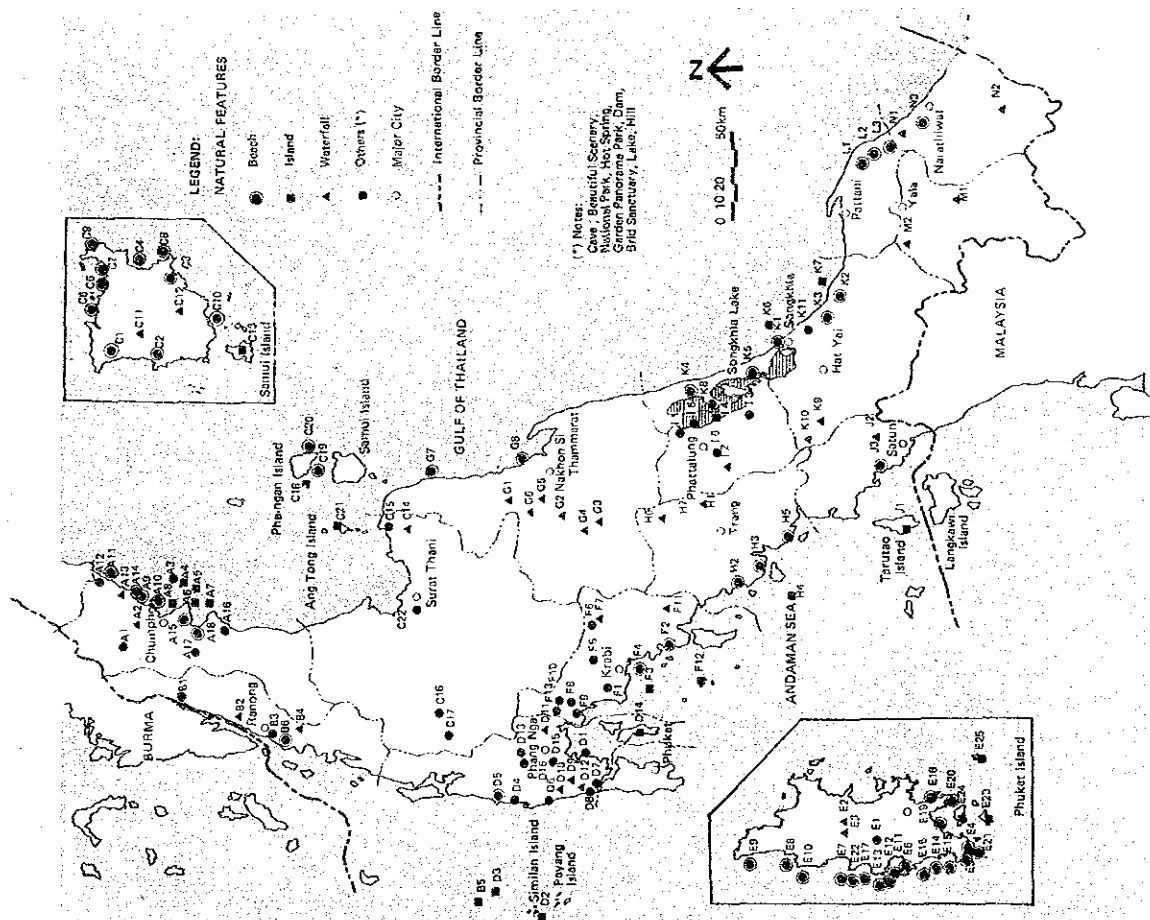
Medium :**

Low :*

(Evaluated by Chulalongkorn University)

Fig. 2 TOURISM ATTRACTIONS

NATURAL ATTRACTIONS



CULTURAL AND HISTORICAL ATTRACTIONS

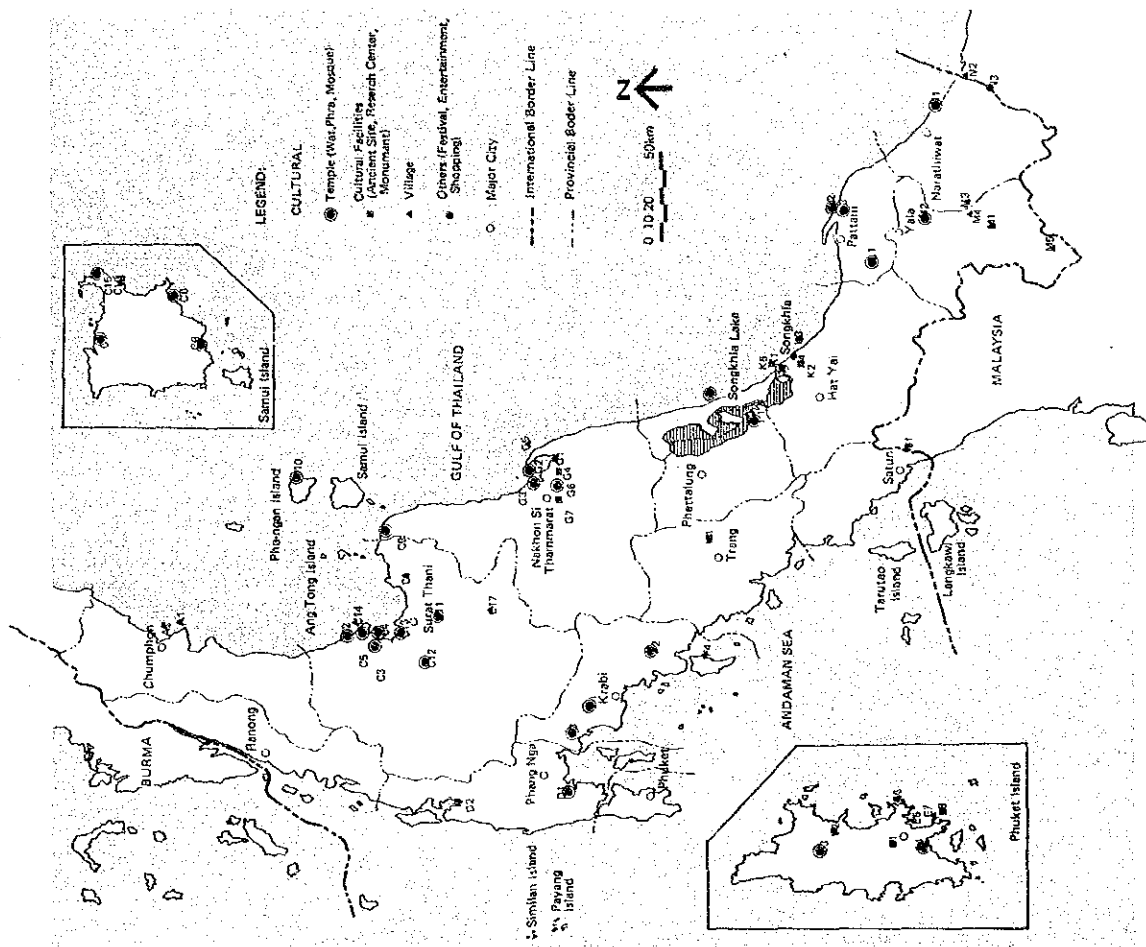


Table 2 LIST OF CULTURAL AND HISTORICAL ATTRACTIONS

Code No.	Number of Attractions	Type	Degree	Code No.	Number of Attractions	Type	Degree	Code No.	Number of Attractions	Type	Degree
CHUMPHON				PHUKET				SATUN			
A 1	Nai Piu's Coffort	Village	*	E 1	Ancient Building	Cultural Facilities	***	J 1	To Ya Wang Cave	Cultural Facilities	*
	Plantation	Village	**	E 2	Heronine Monument	Cultural Facilities	**				
A 2	Wat Tham Sanuk	Village	*	E 3	Wat Phra Thong	Temple	*	SONGKHLA			
	Pak Nam Chumphon			E 4	Wat Chalong	Temple	*	K 1	Yo Island	Cultural Facilities	***
	(Fishermen's Village + Boat Trip to Island)			E 5	Chao Le Village	Village	***	K 2	Institute of Southern Studies	Cultural Facilities	***
				E 6	Si Re Island	Village	**	K 3	Hal Yal	Others	***
				E 7	Pearl Farm	Village	*	K 4	Songkhla	Others	**
				E 8	Marine Biological Center	Cultural Facilities	**	K 5	Khao Daeng Ancient Town	Cultural Facilities	**
RAHONG								K 6	Phakho Temple	Temple	*
B 1	Phayam Island		*						Kao Seng Hill	Others	*
SURAT THANI				KRABI				PHATTANI			
C 1	Oyster Farm	Village	**	F 1	Tham Sua Meditation School	Temple	*	L 1	Chang Hai T(G)empe	Temple	*
C 2	Wat Chiya	Temple	***	F 2	Wat Khlong Thuan Museum	Temple	***	L 2	Leng Chu Kiao Shrine	Temple	**
C 3	Wat Suan Mok	Temple	*	F 3	Tham Phra	Temple	*	L 3	Phasao Mosque	Temple	**
	National Museum	Cultural Facilities	**	F 4	Lanta Island	Village	*		Ban Paseyao		**
C 4	Wat Kaew	Temple	**	NAKHON SI THAMMARAT				YALA			
C 5	Wat Long	Temple	**	G 1	Museum	Cultural Facilities	***	M 1	Banglang Dam	Others	*
C 6	Wat Sra Ngu	Temple	*	G 2	Wat Maha That	Temple	***	M 2	Wat Khuhaphimuk	Temple	*
C 7	Wat Na Phra Lan	Temple	*	G 3	Vora Maha Viharn	Temple	*	M 3	Thanto Self-Help Settlement	Village	**
C 8	Chdi Leem So	Temple	*	G 4	Ancient Moat and Wall	Cultural Facilities	*	M 4	Tham Thatu Cave	Village	*
C 9	Wat Khao Suwan Pradit	Temple	**	G 5	Tahumphuk Headland	Village	*	M 5	Amphoe Batong	Village	*
	Suan Phat Wenwan	Temple	*	G 6	Pra Chedi Yak	Temple	*				
C 10	Wat Khao Tham	Temple	**	G 7	Shiva Hall/Narayana Hall	Others	*	N 1 HARATHIWAT			
C 11	Phra Chedi Si Surat	Temple	**						Phaksin Ratchanwet		
C 12	Wat Tham Singkhon	Temple	**	TRANG				N 2	Palace	Temple	**
C 13	Wat Khao Si Wichai	Temple	**	H 1	Phraya Rattanupradit Monument	Cultural Facilities	**	N 3	Takbal	Village	**
	Phum Chiang	Temple	**						Sungakolok	Others	**
C 14	Fabric Weaving Village	Village	**	PHATTHALUNG							
C 15	Ko Fan Monk Residence	Temple	**	I 1	Phra That Wat Teklan	Temple	***				
C 16	Buffalo Fighting	Others	**	I 2	Muang Phathelung	Others	***				
C 17	Rambutan Garden	Village	*								
PHANGNGA											
D 1	Wat Suwankhuha	Temple	***								
D 2	Ancient City at Ban Thung Tuk	Cultural Facilities	**								

Notes:

Degree High :*** Medium :** Low :*

(Evaluated by Chulalongkorn University)



Samui Island (Post Card-photo by Pisit Jiropas)

Fig. 3 PRESENT STRUCTURE

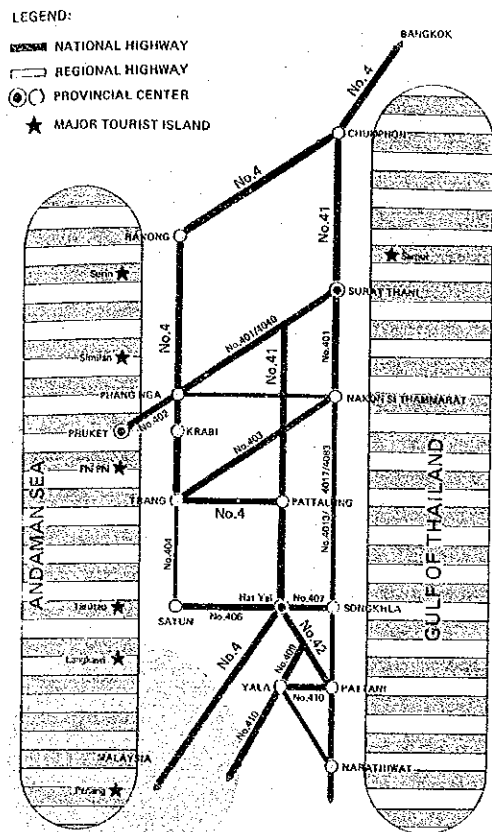


Fig. 4 TOURISM DEVELOPMENT AREAS AND CLUSTERS

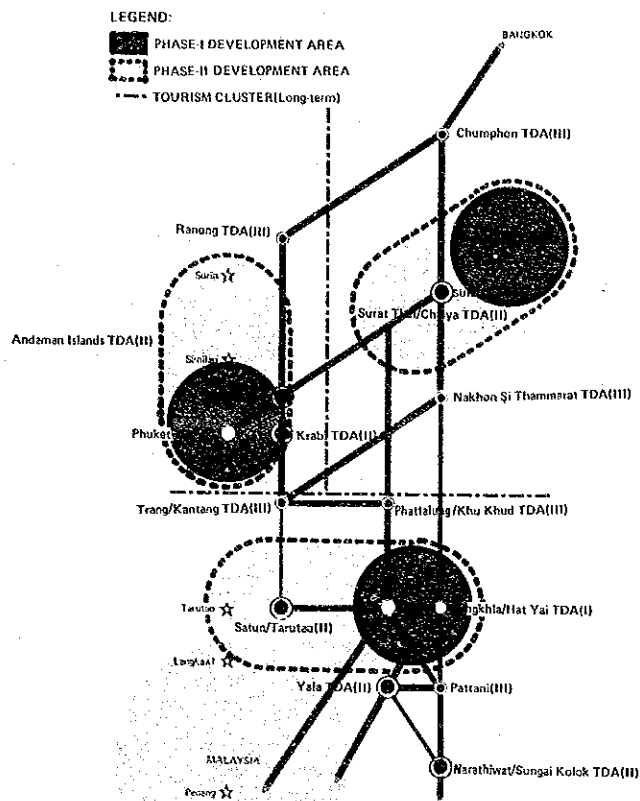


Fig. 5 TOURIST DESTINATIONS

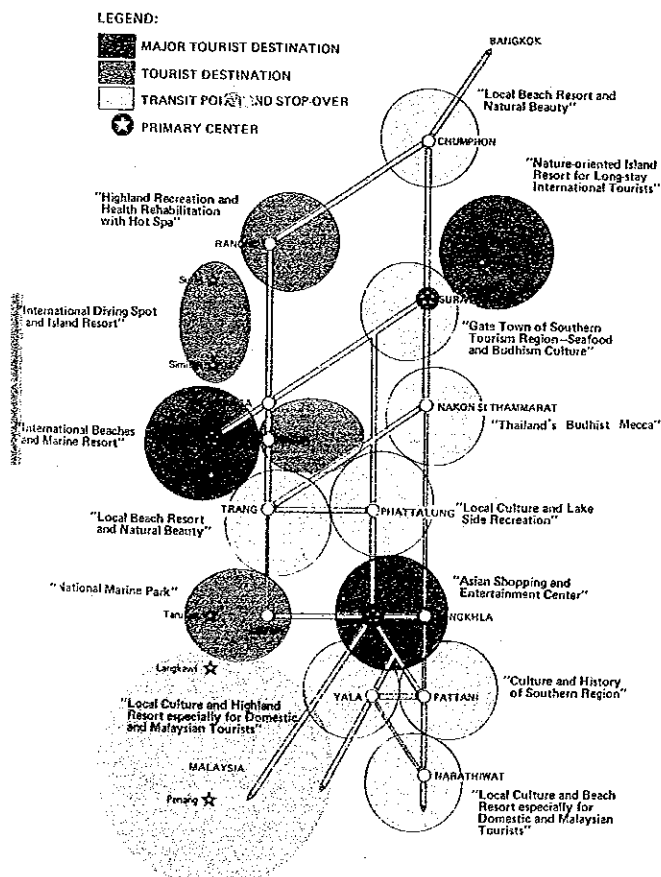
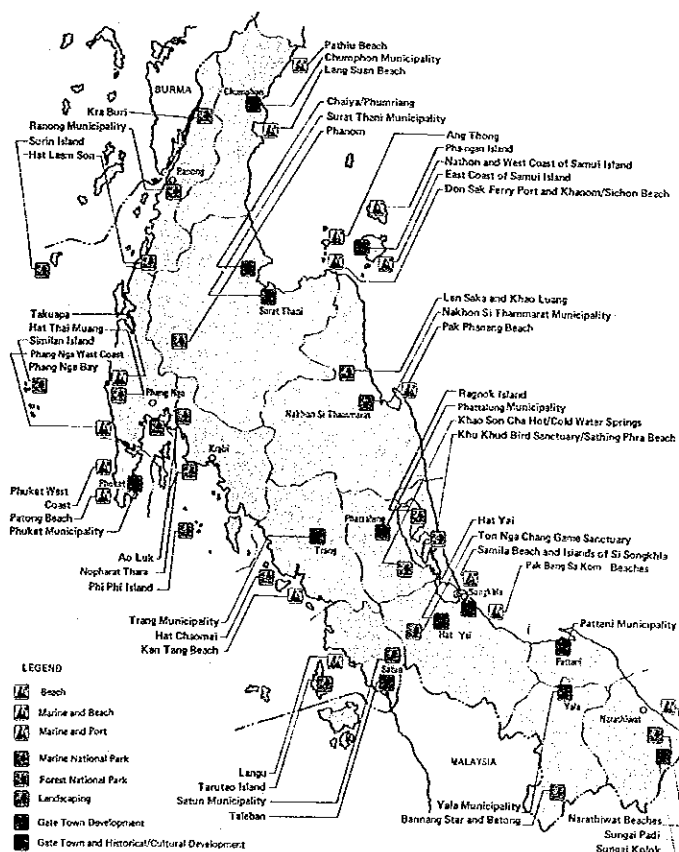


Fig. 6 TOURISM DEVELOPMENT CENTERS



2.6 REGIONAL TOURISM STRUCTURE

As a result of the assessment of tourism resources, a hierarchical structure of tourism in Southern Region can be delineated into three levels. The primary order areas, which are endowed with invaluable resources and have the greatest potential for further development are: Phuket; Songkhla/Hat Yai; and Ko Samui. The second level areas, which are capable of supporting or supplementing the primary centers with particular attractiveness are Surat Thani, Phang Nga and Krabi in the upper-southern region, and Satun, Yala and Narathiwat in the lower southern region. All other areas with small and the medium-scale attractions are classified as third level areas. This structure implies that a spatial guideline should be followed for strategic tourism development in Southern Region.

2.7 TRANSPORT NETWORK

Three major high priority issues to be tackled are identified in terms of transport networks development as follows: 1) respond to the current international mass-tourism demand, 2) structure a more effective inter-regional transport system, and 3) integrate dispersed tourism assets/places located around tourism areas. The development of a comprehensive transport network system, integrating air, sea, and land transportation, should be initiated in a planned manner. It is recommended that particular emphasis be placed on projects/programs to meet and facilitate international mass-tourism demand such as:

- Measures to expand and improve Phuket International Airport, especially with regard to up-grading the aviation safety level;
- Sea excursion development with appropriate port facilities;
- Arrangements regarding the integration of the Trans-Asia Highway and road networks to each region; and
- Arrangements of the Singapore-Malaysia-Thailand railway, and promotion of an Orient Express Asia operation.

2.8 ENVIRONMENTAL CONSIDERATIONS ON BEACH RESORT DEVELOPMENT

Coordination among governmental agencies and the private sector is needed to promote sound development and conservation of natural assets. "Marine and Shoreline Conservation Areas" should definitely be designated in the areas where conservation is strongly desired, such as the areas along the west coast of the Phuket, Samui and Pha-ngan Islands. Environmental considerations

should be given high priority when developing tourism in these areas.

2.9 INTERNATIONAL TOURIST DESTINATIONS

The international tourism resources of the three clusters in Southern Region vary in their development stages and each cluster has its own characteristics in terms of tourists market as well as its inherent attractiveness. The Phuket cluster is a full-fledged and self-sustaining tourist destination for all market segments which will stand competition from other types of destinations in the ASEAN region. On the other hand, Samui and Songkhla/Hat Yai are identified to being distinct tourist destinations for some limited segments of the tourist market.

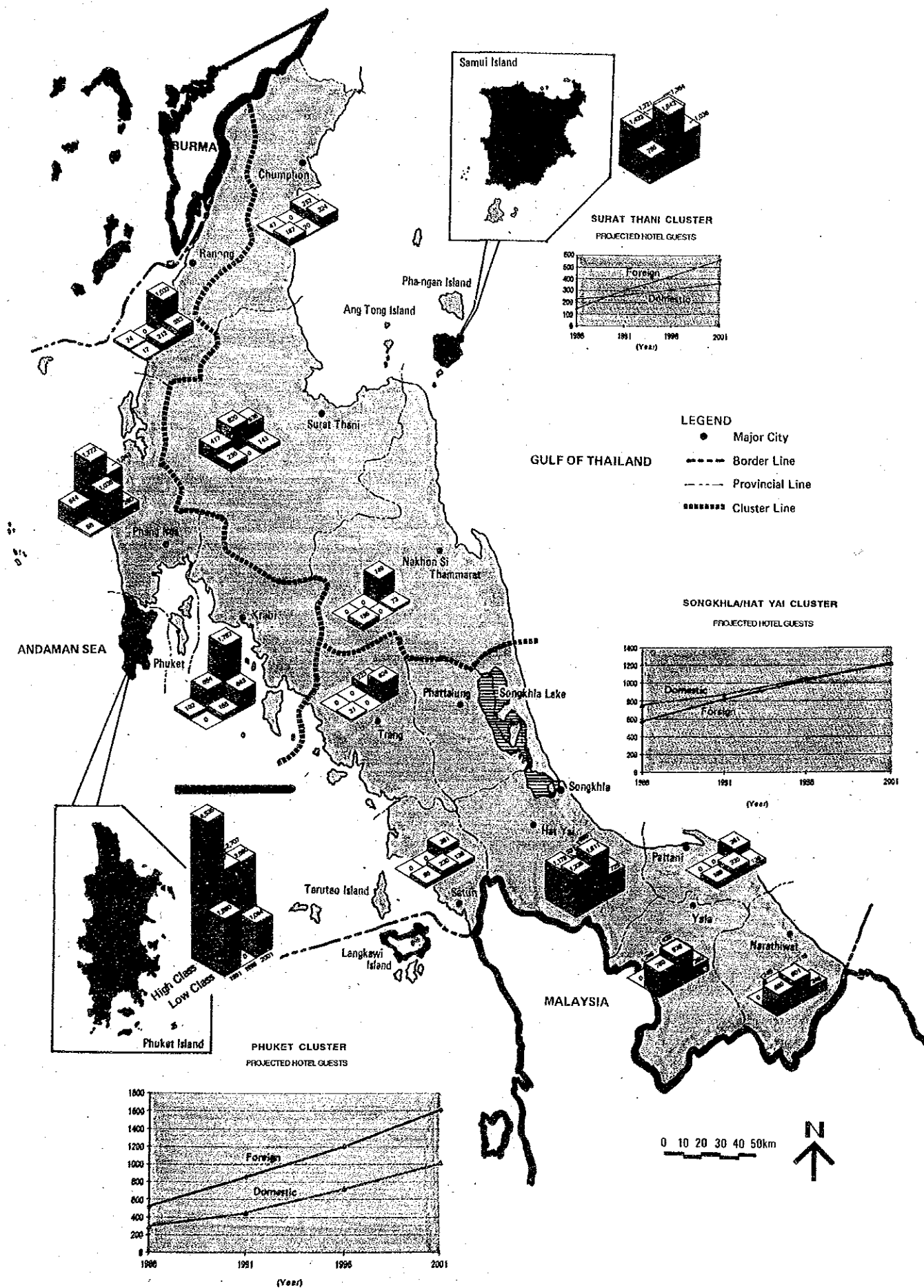
2.10 TOUR PACKAGE AND ROUTE

A proposal is made on package tour patterns and tour routes to integrate selected major spots into a comprehensive tourism area/cluster in order to attract more international tourists to the area. Existing tour packages are developed basically around the three major tourism clusters, namely, Phuket, Surat Thani/Ko Samui and Songkhla/Hat Yai, without having an organic inter-linkage. There is an urgent need to establish well-organized model tour routes covering all three clusters in Southern Region.

2.11 TOURISM PROMOTION

"A Unique Selling Message/Proposition" should be set up for Southern Region so that a clear and unified regional tourist image/product can be created. The attractiveness of its natural, peaceful, tropical atmosphere, with mixture of the tradition and modern, and the possibility of a wide variety of marine resort life provides an effective image, especially for the Japanese market. TAT's promotional efforts should be directed more to the travel-trade (tour wholesalers, operators, agencies and the travel media) than to individual consumers. The travel-trade has more direct access/influence to high-yield consumers who will be good potential generators of tourist revenue in Thailand. Promotional activities with emphasis on the travel trade must bring about more cost-effective results.

Fig. 7 PROJECTED HOTEL GUESTS AND ROOM REQUIREMENTS



I.3 REVIEW AND ASSESSMENT OF THE THREE PRIORITY AREAS

3.1 PHUKET CLUSTER

In a broad meaning, tourism development in the Phuket cluster is thought to consist of two types: beach resorts and town tourism. Regarding the beach resort development, it is important to maintain the resorts so as to be compatible with international tourist requirements and avoid a disorderly development pattern. Although it is a fact that Phuket is endowed with enough potential to become an outstanding, highly competitive, quality international beach resort in a relatively short period, a significant problem remains in delayed development of the infrastructure sufficient to support tourism activities/industry. Much more effort should be made to solve this problem, in association with a long-term environment management policy. For further tourism expansion, the vicinities of Phuket such as Phang Nga and Krabi, should be incorporated into the overall Phuket tourism area by providing proper sea, air and land transportation systems. On the other hand, it is recommended that town tourism be encouraged by revitalizing the existing historical/traditional districts, as well as by providing more convenient tourist services. Town tourism would be important in order to make Phuket tourism more varied and attractive.

3.2 SURAT THANI CLUSTER

The tourism assets in this cluster vary: beach resorts in Samui; marine and natural attractions/scenery in the Pha-ngan and Ang Thong National Parks; and historical/religious attractions in Chaiya. The cultural assets in Nakhon Si Thammarat are also involved in this cluster. These attractions are located in a dispersed manner, hence, need to be integrated with a well-developed transport network. As for the beach resorts, Samui, in fact, is already an international tourism destination, but it is limited in its spatial capacity to respond to increasing international mass-tourism. Seasonal fluctuations is another constraint in the same sense. Samui is quite popular among tourists who prefer staying for a long term at less expensive accommodations, however, it is noted that a number of shanty bungalows have been converted into hotels, of which large-scale investment has been injected to develop luxurious hotels. This indicates that Samui tourism has just entered a new phase of development. However, for further tourism promotion, development of basic infrastructure such as water supply, electricity distribution and sanitary facilities is indispensable. Generally,

tourism development in this cluster should be performed step by step so as to make full use of the tourism assets for both domestic and foreign tourists with no environmental deterioration.

3.3 SONGKHLA/HAT YAI CLUSTER

Hat Yai has attracted a tremendous number of tourists internationally, mainly from Malaysia, and domestic tourists from Bangkok. However, the potential for beach resorts in Songkhla is assessed to be comparatively low from an international tourism development point of view. Accordingly, this cluster is based mainly on town tourism supported by the neighboring countries and this characteristic should be further promoted in the future as well. Also, because the city is promising enough to grow up as the second largest business center with commercial, trading, financial and industrial functions in Southern Region, it is important to improve the urban facilities so as to meet the requirements of business people as well as tourists. The beaches stretching over the eastern area of Songkhla city should also be developed and maintained in good condition as a recreational park mainly for domestic tourists and local people. The Tarutao National Park, a beautiful archipelago in the Andaman Sea, has a lot of potential for ocean resorts or recreational places, and needs an easily accessible transportation system from the major tourism centers such as Phuket and Hat Yai. Development should be carefully done on a long-term perspective linked to natural conservation/management policy.

3.4 REGIONAL INCOME

Tourism development can generate substantial benefits for employment, personal and regional income, government revenue, and provide a stimulus to the other economic sectors. Total receipts from both foreign and domestic tourists in the three clusters, Phuket, Surat Thani and Songkhla/Hat Yai, is projected to be about 49.0 billion baht in 1996 and about 70.0 billion baht in 2001. A large amount of tourism income will be generated in the Phuket and Songkhla/Hat Yai clusters: about 34.5 billion baht in Phuket; and about 23.9 billion baht in Songkhla/Hat Yai in 2001.

3.5 EMPLOYMENT PROJECTION

Tourism development has considerable potential to create additional employment opportunities both directly and indirectly. The direct impact, defined as the increase in employment of the hotel industry, is estimated to be 15,700 in Phuket,

The map illustrates the geographical layout of Krabi Province, highlighting various tourism resources and development zones. Key features include:

- Development Areas:**
 - Andaman Island Development Area:** Located in the northwest, featuring inter-island dining spots and island markets.
 - Phuket Development Area:** Situated in the southwest, noted as an important beach and resort destination.
 - Krabi Development Area:** Located in the southeast, promoting a "Back to Nature" theme on virgin islands and beaches.
- National Parks:**
 - Hat Thai Muang National Park:** Located in the north-central region.
 - Hat Noppharat Thara National Park:** Located in the southeast.
- Coastal and Marine Features:**
 - Phang Nga West Coast:** A designated area on the west coast.
 - Phuket West Coast:** A designated area on the southwest coast.
 - Phang Nga:** A coastal town in the north-central area.
 - Phi Phi Islands:** A group of islands in the Andaman Sea, accessible via a ferry from Krabi.
- Infrastructure and Facilities:**
 - International Airport:** Centrally located.
 - Golf Course Convention Hall:** Situated near the airport.
 - Phuket Seaport:** A major port on the southwest coast.
 - Krabi Seaport:** A port on the southeast coast.
 - Takuapa:** A small coastal town in the north.
- Legend:**
 - Tourism Road:** Represented by a solid line with cross-ticks.
 - Hotel Compound:** Represented by a rectangle with vertical lines.
 - National Park:** Represented by a solid black area.
 - Sports Complex:** Represented by a square with a diagonal line.
 - Ocean Cruise:** Represented by a dotted line.
 - Tour Boat:** Represented by a dashed line.
 - Ferry:** Represented by a line with cross-ticks.
- Other Landmarks:**
 - Ancient Paintings In Many Caves:** Located near the Hat Noppharat Thara National Park.
- Directions:** Arrows indicate directions to Ranong, Surat Thani, Trang/Hat Yai, and the Isthmus of Kra/Panapa/Singapore.

[illegible][illegible]

9,300 in Surat Thani and 16,600 in Hat Yai/Songkhla in 2001. The indirect impact will take place in the relevant industrial sectors. Based on an analysis of the structure of tourists expenditure, the indirect impact on employment is supposed to be approximately 3.5 times as much as the above defined direct impact. Consequently, total increases in both direct and indirect employment account for about 216,200 in Phuket, 89,300 in Songkhla/Hat Yai, 86,600 in Surat Thani in 2001, compared with those in 1987.

3.6 EDUCATION AND TRAINING

Shortages of trained service personnel and training opportunities will become a critical problem. It is estimated that in Phuket, about 7,500 more people will be required additionally for the middle and the upper technical staff positions in the hotel service sector by 2001. This means that an average of about 580 persons annually should be trained from now till the year 2001. In order to cover the three clusters, an average of about 1,350 persons should be trained annually for higher technical positions. Based on this projection, it is strongly recommended that a large scale institute exclusively for training tourism service personnel be established in Southern Region under TAT's initiative.

3.7 TOURISM RELATED INDUSTRIES

Through linkages in the economy, tourists' expenditure yields a multiplier economic effect on other sectors in the region. The transport, commercial, restaurant/food supply, personal services, and the other services sectors are influenced directly. By encouraging tourists' purchases of domestic/local products, the manufacturing sector will considerably benefit from tourism. The additional benefits taking place in this sector will, in turn, affect the commercial and service sectors through the market mechanism, thereby, creating a regional growth system. A policy for stimulating the economy is strongly required at the local level. For this purpose, it is recommended that a "Tourist Shopping Center" functioning for promoting the local industry as well as selling its products be established by the public sector in Phuket and Hat Yai.

3.8 PROPOSED PLANS/PROJECTS TO BE IMPLEMENTED

It is proposed that a number of projects/programs be implemented in a phased manner, based first on the regional development strategies underlying the existing plans/studies, and second on

the desired direction of tourism development in each cluster so that they may make full use of its endowments and potentials. Particular attention has been paid to the projects in the short and medium-term which may urgently resolve critical problems and development bottle-necks. Since tourism development cannot exist alone, it should be implemented in relation to the regional development as a whole.



Shell Processing

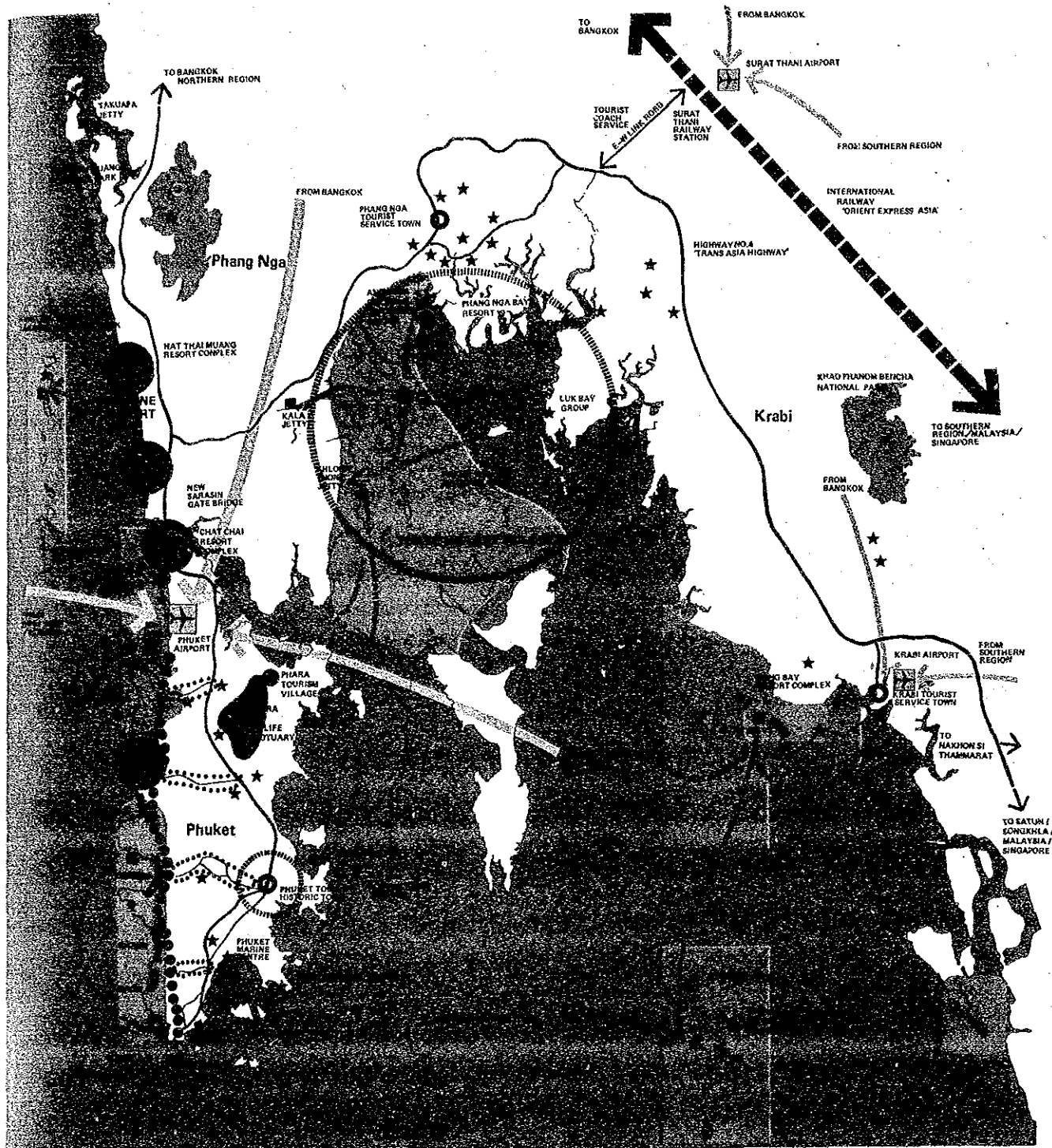


Shells Stock Yards



Cashew Nut Factory

FIG. 2-3-2 DEVELOPMENT IMAGE OF GREATER PHUKET



LEGEND

- INTERNATIONAL & MAJOR DOMESTIC FLIGHT
- LOCAL DOMESTIC FLIGHT
- MAJOR SEA NETWORK
- MINOR SEA NETWORK
- ORIENT EXPRESS ASIA RAILWAY
- MAJOR ROAD NETWORK
- TOURISM ROAD IMPROVEMENT
- TOURISM CORRIDOR DEVELOPMENT

- NATIONAL PARK
- WILDLIFE SANCTUARY
- TOURISM VILLAGE
- PARK CENTER
- CULTURAL RESOURCE CENTER
- INTERNATIONAL AIRPORT
- LOCAL AIRPORT
- MAJOR BEACH RESORT

- MARINE, PORT PRIMARY
- SUB-MARINE, PORT SECONDARY
- LANDING JETTY, TERTIARY PORT
- TOURISM ATTRACTION
- FUTURE RESORT DEVELOPMENT AREA
- EXISTING BEACH RESORT AREA
- PROVINCIAL CAPITAL TOWN

PART II

TOURISM DEVELOPMENT IN GREATER PHUKET

II.1 BASIC CONSIDERATIONS

1.1 TOURISM DEVELOPMENT POLICIES AND STRATEGIES

The Sixth National Plan has placed special emphasis on international tourism promotion realizing that the tourism industry will contribute greatly to boosting the national economy and reducing the country's trade deficit. The tourism sector enjoyed a 12.2% growth rate during the Fifth National Plan period, and the Sixth Plan has aimed at a target of 7.5% growth per annum on the average. However, based on foreign tourist arrivals in 1986 and 1987 which are greater in number than expected, the government has recently amended the target to 4.65 million foreign tourists in 1991 (the end year of the Sixth Plan), instead of the original target of 3.70 million. Thus, the internationalization of tourism has been given great emphasis in the national economic development strategies.

Phuket tourism is assessed to be potentially capable of playing an important role in achieving this national target. The specific tourism development strategies are identified as follows:

- 1) Promotion of International Markets
- 2) Creation of a Greater Phuket Resort Zone to be Promoted as an International Resort Center
- 3) Establishment of an Organization for Tourism Development
- 4) Conservation of the Environment
- 5) Up-Grading of Socio-Cultural Environment and Resources
- 6) To Encourage and Cater to the Domestic Thai Tourists

1.2 PHUKET AS AN INTERNATIONAL TOURISM DESTINATION

Thailand has enjoyed a great growth in the tourism sector. It accommodated 3.5 million international tourists in 1987 with a 23.6% growth from the previous year. Thailand is undoubtedly becoming one of the leading countries in the Asian and Pacific region in tourism sector.

As a significant international tourism destination in Thailand, Phuket has been growing particu-

larly since 1986. This is demonstrated by the fact that Phuket's share in the Thai tourism market has increased drastically year by year in terms of percentages of international tourists: 4% in 1983; 6.2% in 1984; 6.4% in 1985; 9.0% in 1986; and 11.5% (estimate) in 1987.

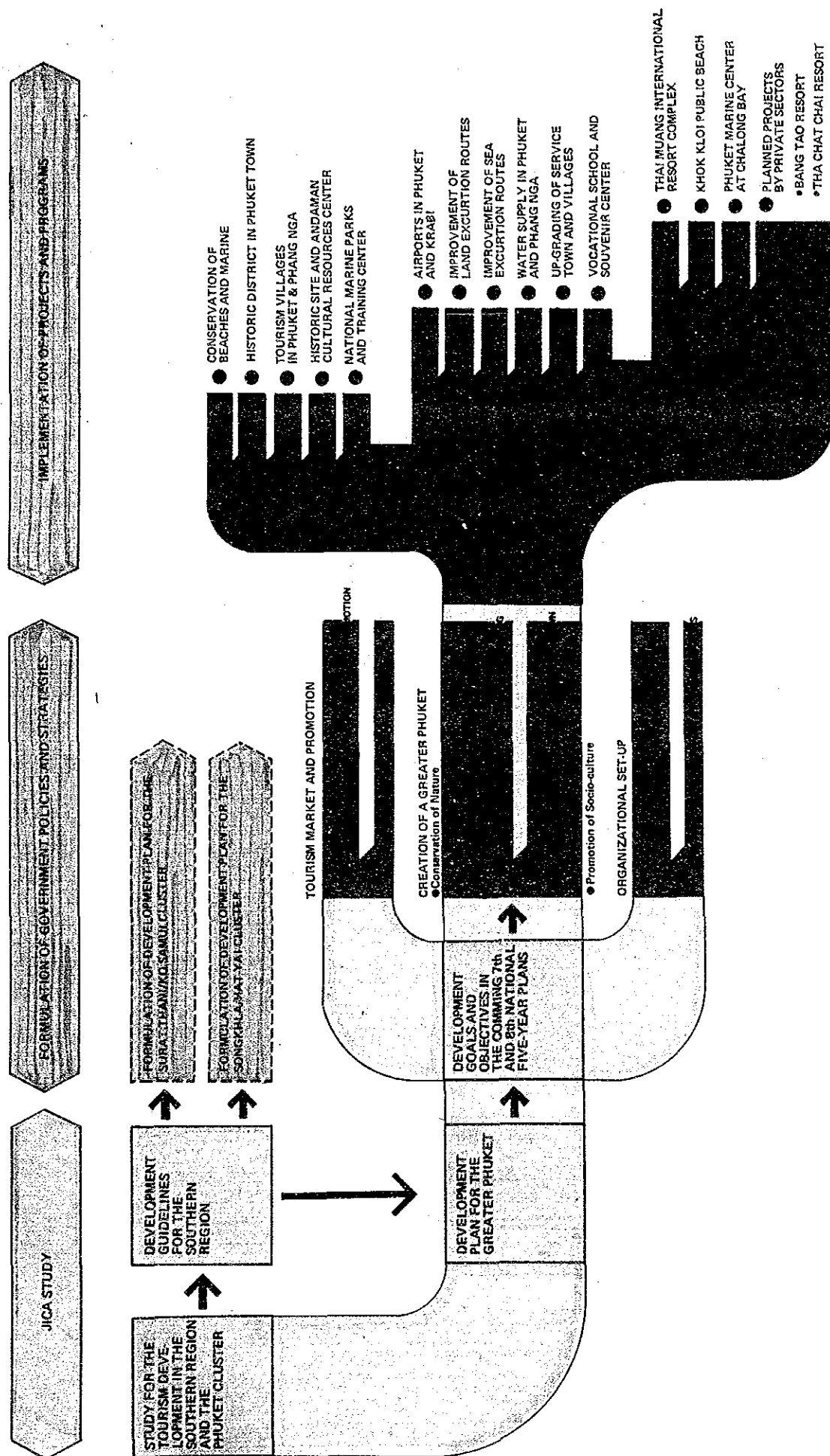
Such a drastic growth in the Phuket tourism industry has been brought about mainly by favorable supply factors, i.e., a hotel construction boom took place in 1985 and there are about 8 thousand rooms including luxurious class hotels in 1987. Including rooms under construction and proposed, there will be more than 11,000 hotel rooms in the near future. Such momentum in private sector investment in tourism will continue for the time-being, since it will be supported, in turn, by a push effect of the demand side economy.

In assessing the nature of market demands, it is specially noted that Asian tourists, especially from Asian NIEs and Japan, have been significantly predominant in Phuket tourism. Thai domestic tourists have also been a large market. It is recognized that Phuket tourism now needs a shift in response to such a change in the demand structure.

Greater Phuket, including the three provinces of Phuket, Phang Nga and Krabi, is endowed with a wide variety of tourism resources, beside fascinating beaches. These latent resources have not been developed adequately yet. Integrating these resources into "Greater Phuket" will expand its tourism development potential as well as its tourism attractiveness to a considerable extent, thereby making it be a more versatile destination. Emphasis should be placed on fully utilizing the existing endowments in a planned manner while eliminating constraints and bottle-necks in development.

Based on demand analysis, it is anticipated that demand will increase at a high rate in response to supply in the short run, but that such a steep increase will gradually shift to a moderate increase in the long run. The number of tourists to Greater Phuket will be about 1.6 million in 1991, 2.2 million in 1996 and 3.0 million in 2001, compared with 655 thousand in 1987.

Fig. 12 DEVELOPMENT POLICIES AND STRATEGIES FOR GREATER PHUKET



1.3 HOTEL ROOMS REQUIREMENT

Based on the demand projection, future hotel room requirements were examined. In 1987, there were 7,939 rooms in Phuket Island, and about 3,300 rooms are reportedly under construction or being planned.

Considering such a rush momentum in hotel construction in the short run, the nature of the business cycle, and the effects of a control policy to be undertaken in the long run, it is estimated that the number of hotel rooms will be about 16 thousand in 1991, 22 thousand in 1996 and 30 thousand in 2001 in Greater Phuket.

1.4 TOURISM PROMOTION

A questionnaire survey was conducted in the stream of the Study in July and August, 1988 at three major destinations in Thailand; Bangkok, Pattaya and Phuket. Based on the results of the survey, several programs for tourism promotion in Greater Phuket are suggested as follows;

- 1) To expand accommodation facilities so as to meet increasing demand in Greater Phuket, to extend the length of stay, and to diversify quality and service;
- 2) To provide a major gateway terminal providing up-to-date information materials and promoting Greater Phuket as a destination representing all typical tourist attractions in Thailand;
- 3) To fully utilize the various resources (natural, cultural) available in the region so as to attract tourists who visit in any season;
- 4) Some of the areas where improvement is urgently required are:
 - a. Promotion of ideal diving spots;
 - b. Development of Phuket Town as a tourism center; and
 - c. Development of fully qualified golf courses.
- 5) To strategically promote the basic movement of visitors who are in groups of 3-5 persons, the spatial development of the supporting facilities and models of movement patterns in Greater Phuket have to be provided to have them stay for several days ranging from a minimum of 4 night and 5 days;
- 6) "Environment" is Phuket's key selling point. An environmental design criteria must stipulate the scale, layout, design, height, color of the afore-mentioned facilities, and top priority should be given to the conservation of the

beach front areas, including artificial measures where necessary to reinstate the natural environment.

- 7) The demand for quality restaurants is very large. Although the quality standard of the guest rooms available in Phuket is fairly high, there is much room to improve the meals, facilities and services of restaurants.

1.5 RESOURCES

There is a tremendous amount of tourism resources in Greater Phuket. It is recommended that the following resources be integrated into the entire Greater Phuket tourism project so that these will facilitate tourism development without any deteriorating the present value:

1) Cultural Resources;

- Historical architecture and streets in Phuket Town and
- Cultural resources in Phang Nga and Krabi.

2) Natural Resources;

- Khao Lampi-Hat Thai Muang National Park in Phang Nga,
- Mu Ko Similan National Park,
- Ao Phang Nga National Park,
- Hat Nai Yang National Park and
- Hat Nopharat Thara-Mu Ko Phi Phi National Park.

3) Village/Indigenous Resources;

- Panyee Village (oceanic village) in Phang Nga,
- Phara Village (rubber woody village) in Phuket,
- Lipon Village (pottery industry) in Phuket and
- Ban Kuan Village (rattan baskets and furniture) in Phuket.



Phi Phi Island

1.6 SPATIAL DEVELOPMENT CONCEPT

Greater Phuket consists of two areas connecting with each other by a comprehensive transport network system: The "Phuket Resort Belt" and the "Phang Nga Bay Circuit".

The Phuket Resort Belt faces the Andaman Sea, with 100 km (60 miles) of beautiful beaches from the western coastal strip of Phuket Island through the Hat Thai Muang National Park in the west part of Phang Nga. This Resort Belt offers a number of international marine/beach resorts in harmony with nature. The Phuket International Airport, located in the middle of this belt, functions as an international gateway.

The Phang Nga Bay Circuit is the vast marine-inland area enclosed by Phuket Island, Phang Nga, Krabi and Phi Phi Island. This circuit consists of various tourism resources: pearl culturing farms in Phuket; archipelago with fantastic features in Phang Nga; a number of invaluable cultural assets associated with natural resources in Krabi and beautiful coral beaches on Phi Phi Island.

1.7 TOUR ROUTE FORMATION

A number of tour routes in Greater Phuket are recommended to be provided. Sea and land excursion routes should be stressed. Potential sea routes are the ones between Phang Nga Bay with natural and cultural attractions, Phi Phi and Similan Islands. Land excursion routes offering a wide variety of historic, cultural and natural attractions must be attractive as well.

1.8 LAND USE

The land use study shows that the land for expansion to meet further accommodation requirements will be limited especially in the southern part of Phuket, where the rush tourism development has been taking place. The available land for beach resort facilities in this area, including 12 potential beaches, is assessed to be only 136 hectares. If all the land were developed with a favorable density of 32.5 rooms/ha (gross), it could accommodate about 4,400 rooms additionally. Since about 10 thousand hotel rooms are projected to be necessary in Phuket before 1996, a land shortage will apparently occur.

New land development should, therefore, be deliberated. Potential areas are located in the northern part of Phuket and the western part of Phang Nga. It is recommended that these areas be developed for anticipated future expansion, paying attention to environmental conservation.

A "New Resort Development Zone" should be designated in order to promote planned development and control disorderly development. This zone involves the coastal areas from Bang Tao Beach in Phuket through the southern boundary of the Hat Thai Muang National Park. This may include large-scale resort complex projects initiated by both the private and public sectors, associated with the development of public beaches and related communities. The following projects are major components in this zone:

- 1) Bang Tao Integrated Development,
- 2) Hat Nai Yang Public Beach Development,
- 3) Tha Chat Chai Integrated Development,
- 4) Khok Kloi Public Beach Development and
- 5) Thai Muang Integrated Development.

The built-up areas of the southwest coast of Phuket such as Patong, Karon/Kata Beaches should be designated as a "Development Control Zone" with much emphasis on upgrading the environment, the services and infrastructures rather than further development of resort facilities.

1.9 INTEGRATION OF LOCAL COMMUNITIES

Tourism development should be associated with the development of local communities to support tourism activities on the one hand, and to positively receive the benefits from tourism development on the other hand. Related to the development of the Phuket Resort Belt, "Beach Town Communities" may be planned in the following order:

- 1) Community I :Phuket Urban Center, a city size tourist community to serve Greater Phuket;
- 2) Community II :Sub-Center of "Thalang" to serve the northern part of Phuket;
- 3) Community III :Sub-Centers of "Khok Kloi" and "Thai Muang" to serve the new potential tourism areas in the western part of Phang Nga.

Fig. 14 PRESENT STRUCTURE OF RESORT DEVELOPMENT IN PHUKET AND PHANG NGA

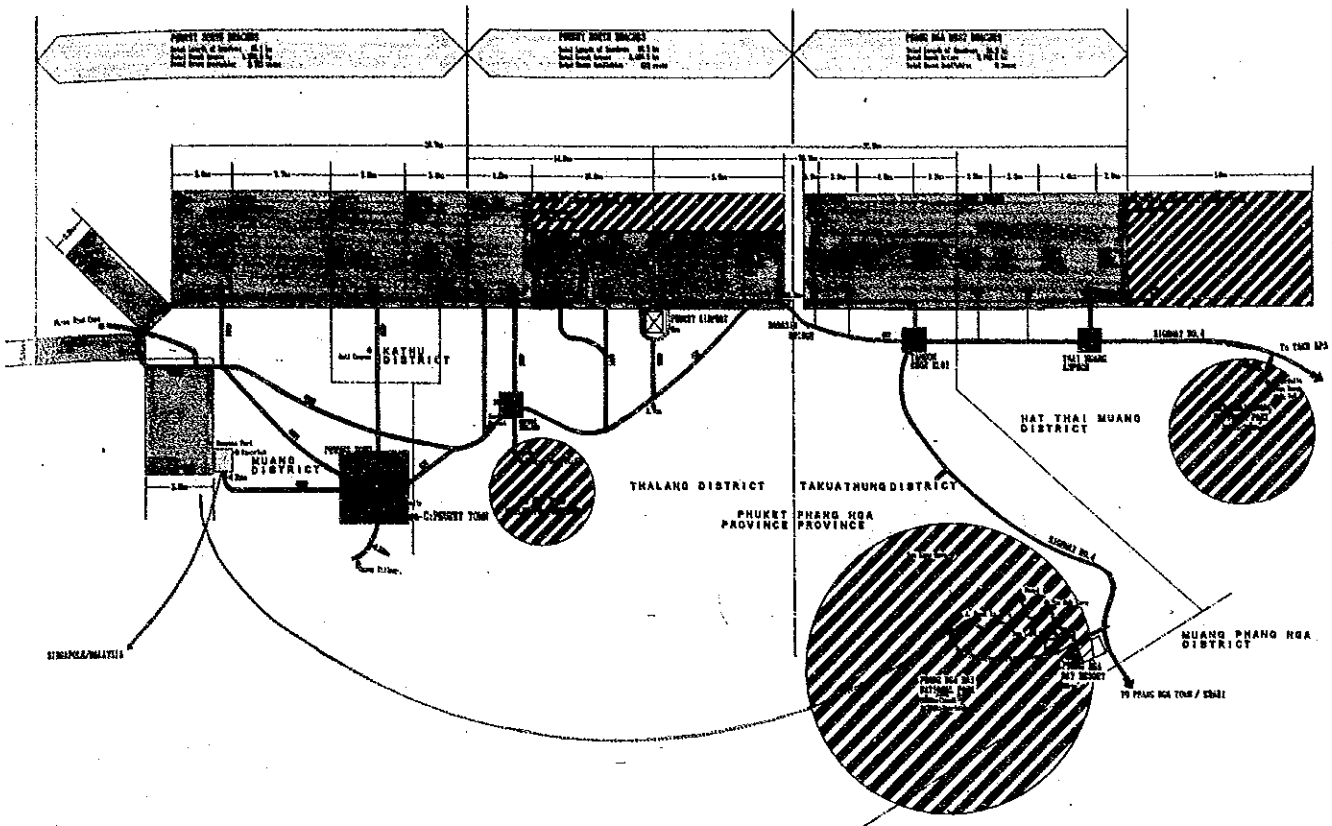
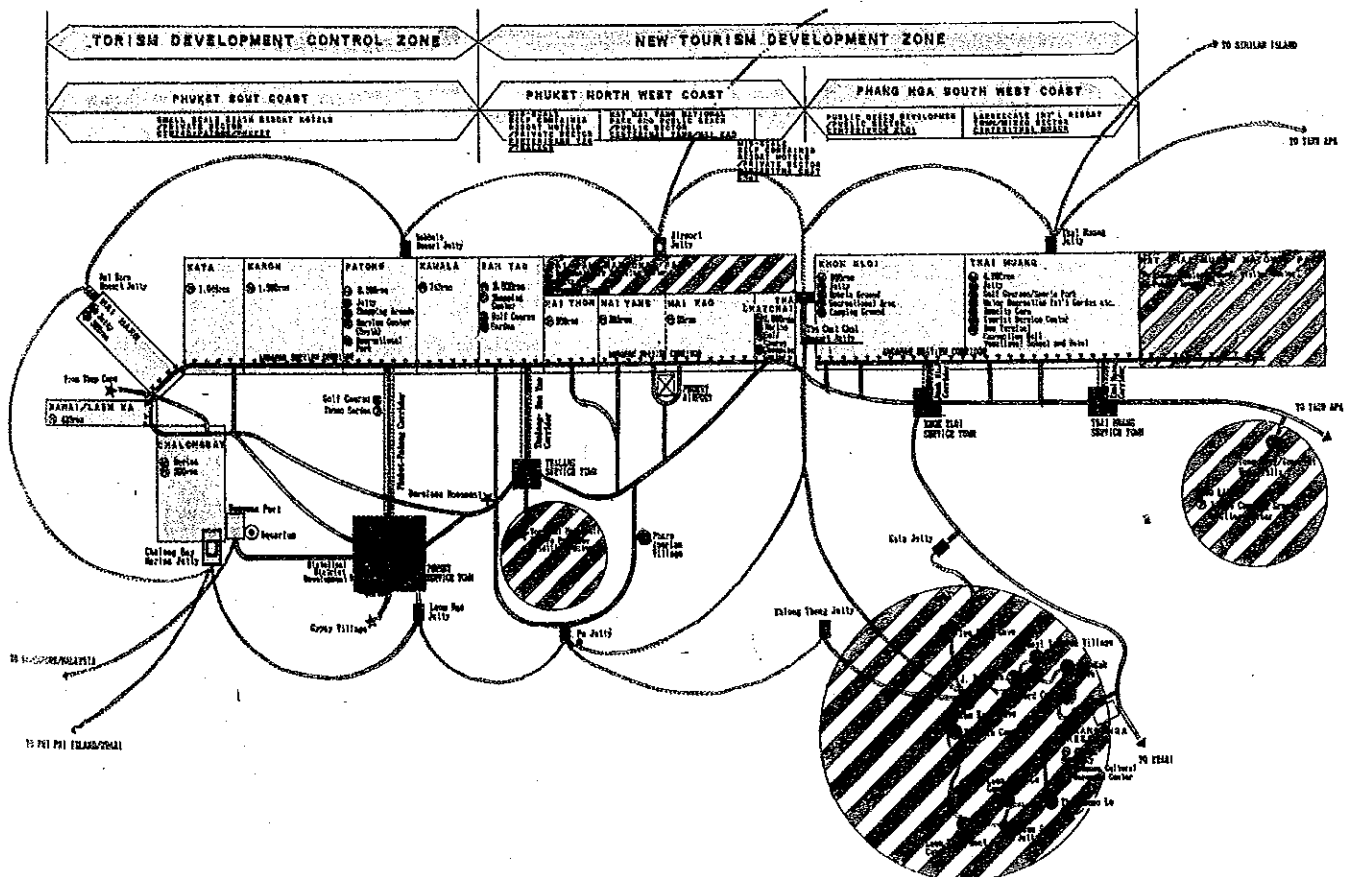


Fig. 15 FUTURE STRUCTURE OF RESORT DEVELOPMENT IN PHUKET AND PHANG NGA



II.2 INFRASTRUCTURE DEVELOPMENT

2.1 ENVIRONMENT

Environmental Preservation is strongly required to maintain the value of Phuket tourism in the long run. A balanced development system should be explored with attention being paid more to the environment than to development.

For this purpose, the government has an extremely significant role to play in terms of legislative, monitoring, supervising and directing actions. More local institutions are needed to respond to matters which are taking place at the local level, especially for controlling the environmental standard of sewage effluent. Environmental issues to be tackled inherently vary and cover broad areas, thereby requiring inter-governmental coordination. Beside the institutional arrangement, five projects are recommended with an aim at putting environmental preservation policies into action:

- 1) Road erosion protection project;
- 2) Ex-tin mining land rehabilitation projects;
- 3) Environmental monitoring system formation projects;
- 4) National park management project; and
- 5) Coastal corrosion protection project.

The most crucial one is a road erosion protection project particularly for the Phuket West Coast Link (Surin to Rawai) which is scheduled to be developed as a scenic drive. The road-side shoulders and cut-slopes should be protected with covering plants or by some engineering methods. A special budget should be allocated for this project.

2.2 AIR TRANSPORT

Air transportation is crucial simply because it directly affects the scale of development as an international tourism destination. In terms of air transportation development, emphasis should be placed firstly on upgrading the navigation safety level for large scale aircraft so as to meet the ICAO standard for international airports, and secondly on improving the airport facilities so as to increase a carrying capacity to meet future demand. In addition to the on-going project for Phuket International Airport, several new projects are recommended from this point of view.

The demand study shows that since half of the tourists visiting Phuket are estimated to use air transportation, air transport will account for

approximately 2.2 million passengers in 1996 and 3.0 million in 2001, compared with 764 thousand in 1987. This means that demand in the coming decade will be three times as large as that at present.

After completion of the on-going project, the Phuket International Airport will be greatly improved in terms of navigation safety and terminal passenger handling capacity. However, it will still be vulnerable from a safe operation point of view. Four additional projects for the Phuket International Airport are recommended to improve safety:

- 1) Development of a parallel taxiway;
 - 2) Expansion of the runway strip (from 150 m to 300 m);
 - 3) Improvement of navigation aids; and
 - 4) Clearance of obstacle limitation surface.
- 5) Creation of "Sense of Arrival"

Aircraft availability limitation is another issue. Some administrative measures should be undertaken to increase the carrying capacity.

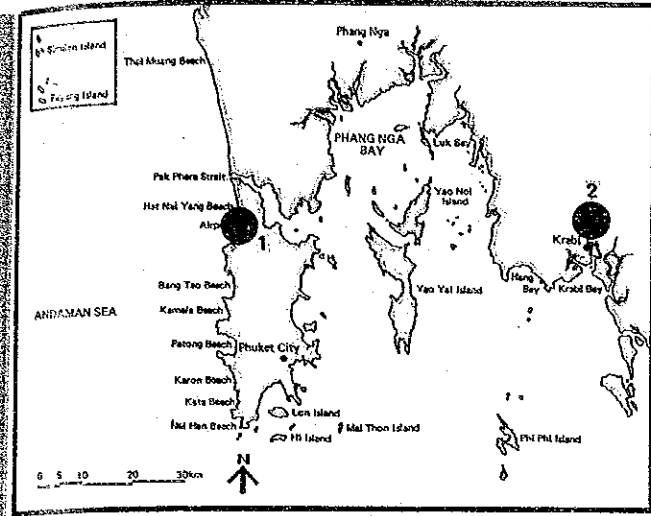
Meanwhile, it is recommended that Krabi Airport with its 1,200 m long and 12m wide runway, which has been closed since 1987, be utilized as a feeder airport connecting with the major cities in Southern Region such as Phuket, Surat Thani and Hat Yai. For this purpose, with an emphasis on upgrading the safety level, the following projects are recommended:

- 1) Widening the runway from 12 m to 30 m, including improvement of the existing runway;
- 2) Widening the runway strip to 150m;
- 3) Improving the access road to the terminal and renovation of the terminal building.

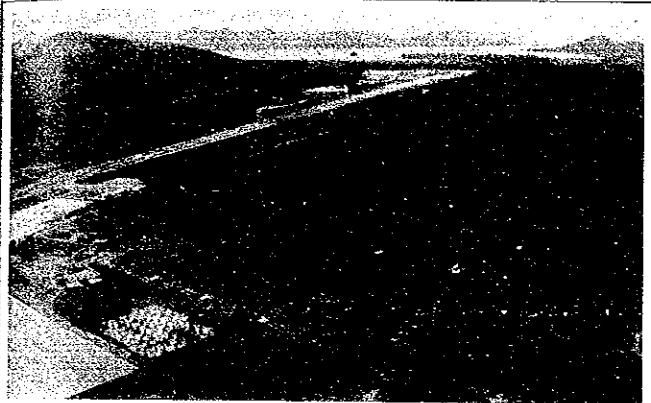


Hat Nai Yang National Park (Erosion)

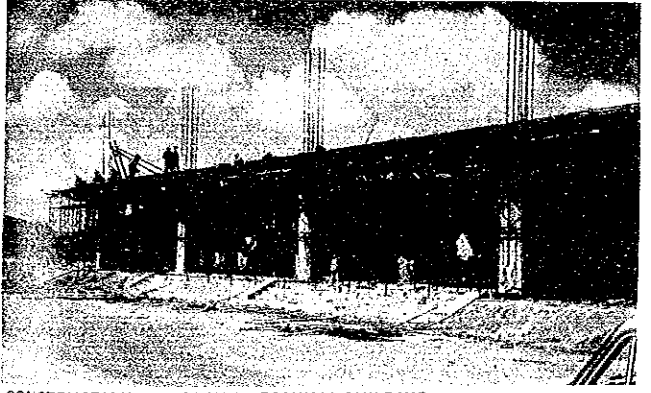
Fig. 16 IMPROVEMENT PLAN OF PHUKET INTERNATIONAL AIRPORT



1. Phuket International Airport 2. Krabi Airport



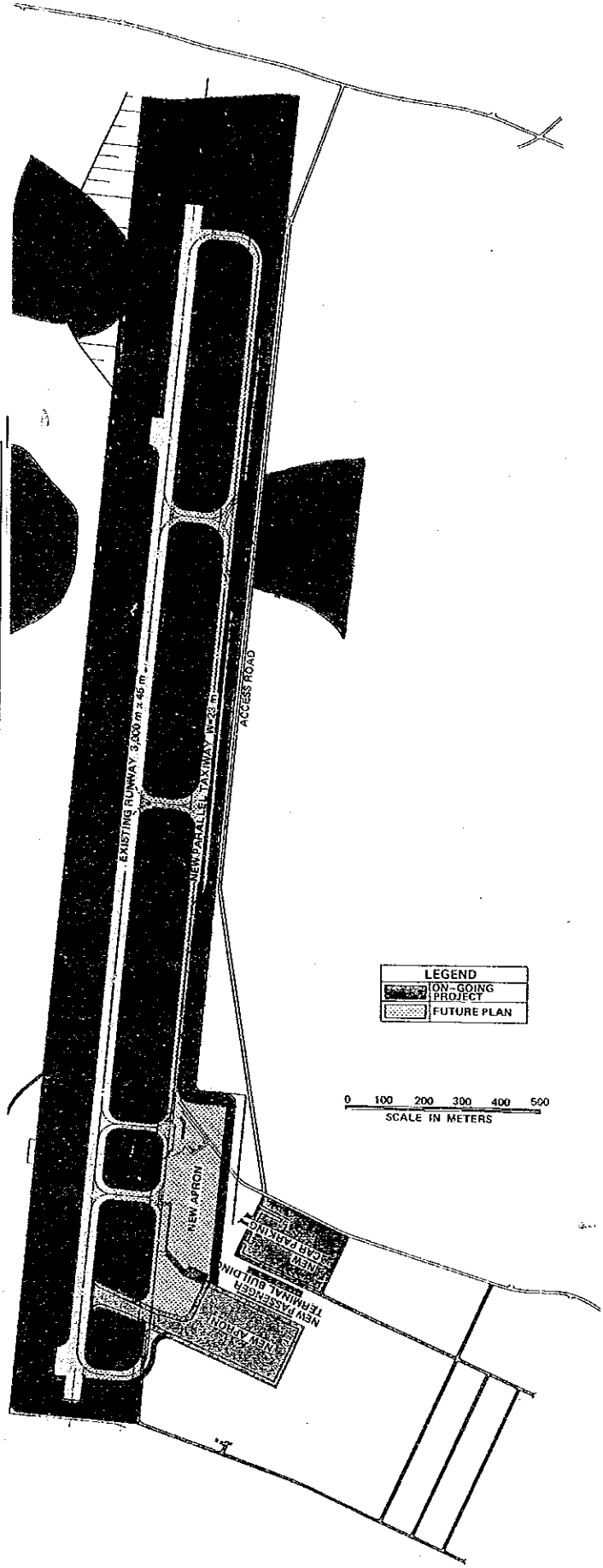
TERMINAL BUILDING (Under Construction)



CONSTRUCTION SITE OF NEW TERMINAL BUILDING



PRESENT CONDITION OF KRABI AIRPORT



2.3 WATER SUPPLY

Although the total volume of raw water that can be caught and stored on the island is sufficient for present and future demand, even in the long run, water is a chronic problem on Phuket Island. Much effort should, therefore, be made to develop a comprehensive water supply system, not only for tourism, but also for all local development on Phuket Island.

It is estimated that in 2011 water demand for the whole island will be 16.2 million cbc.m/year (mcm) including the demands of residents, hotels, public facilities and industrial facilities. The present supply capacity including Bang Wat Dam and Phuket municipal facility is 7.4 mcm, hence, new water supplies of about 8.8 mcm should be obtained by 2011.

For meeting this anticipated demand, out of 7 possible dam sites identified by the RID in the island, 3 sites with a total capacity of 9.7 mcm are recommended to be developed in a planned phased manner, and should be commenced as soon as possible. The three dams are:

- 1) for serving the northern part of Phuket,
-Ban Nio Dam (4.4 mcm);
- 2) for serving the southern part of Phuket,
-Bang Tao Sung Dam (2.7 mcm), and
-Pak Bang Dam (2.0 mcm).

Two sites for purification plants, concomitant with the dams, will be required: the one with a treatment capacity of 20,000 cbc.m/day for serving the northern part of Phuket Island; the other with 20,000 cbc.m/day for the southern part including the Phuket municipality.

Some temporal measures to promptly meet the apparent demand at present are also needed. Utilization of ex-tin mining ponds and deep well underground water should be explored for this purpose.

2.4 SEA TRANSPORT

A nautical circuit system should be developed in order to provide a wide variety of sea excursions. This includes development of tourist ports/jetties classified into three categories as follows:

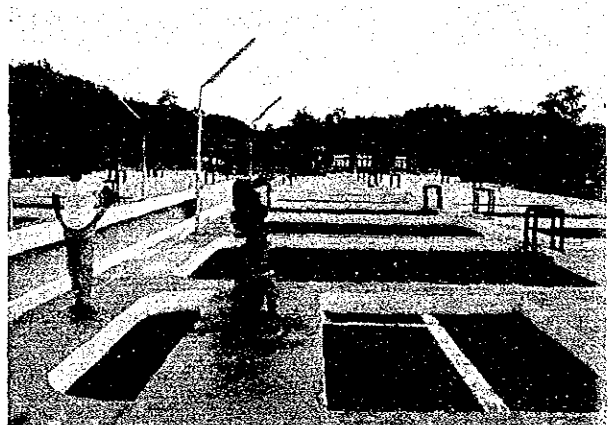
- 1) Primary Port : "Marine Center" as a focal point of Greater Phuket Resort at Chalong Bay;
- 2) Secondary Ports : as sea excursion centers at three locations, namely, Phang Nga Bay, Krabi Town Port, and Phuket International Airport;

- 3) Stop-Over Ports : as landing spots with jetty and small-scale terminal at fourteen locations around Greater Phuket.

High-speed tourist boats such as "Hovercraft" or "Hydrofoil" are recommended to be introduced for the major sea transport link services, by initiation of the public sector. A nautical circuit system is proposed.



Bang Wat Dam

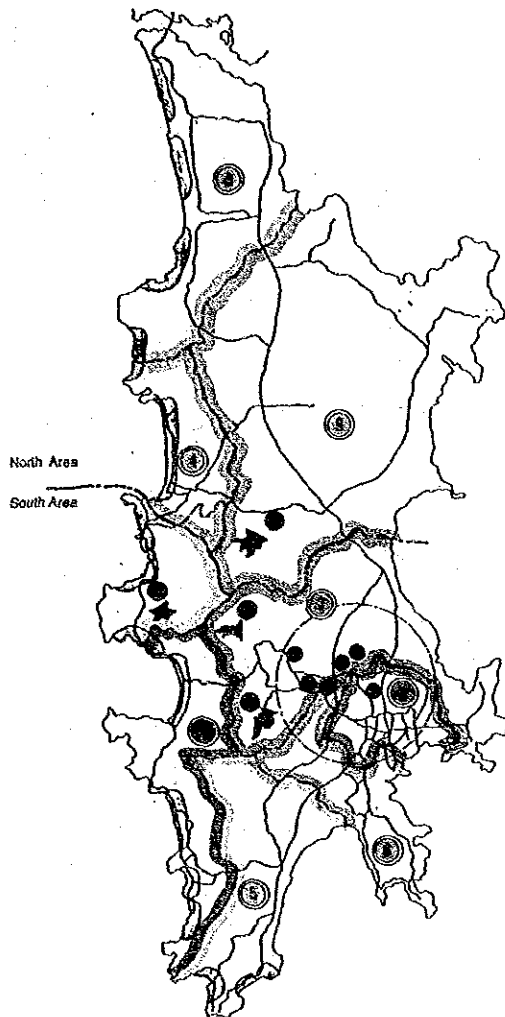


Water Purification Plant



Chalong Bay

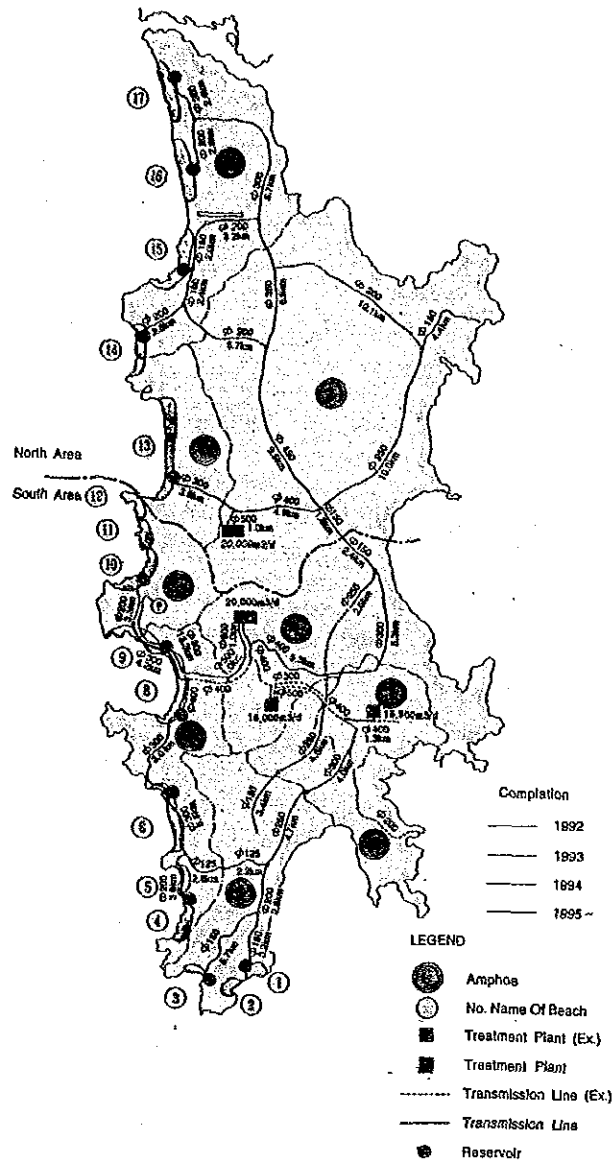
Fig. 17 SELECTED POTENTIAL WATER RESOURCES IN PHUKET



LEGEND

- Dam (Ex.)
- Dam (Program)
- Storage Reservoir (Ex.) (Supply To Phuket Town)
- Bang Wat Dam (4.27 Mm³/y)
- Pak Bang Dam (2.04 Mm³/y)
- Bang Niou Dam (4.43 Mm³/y)
- Ban Tho Sung Dam (2.69 Mm³/y)

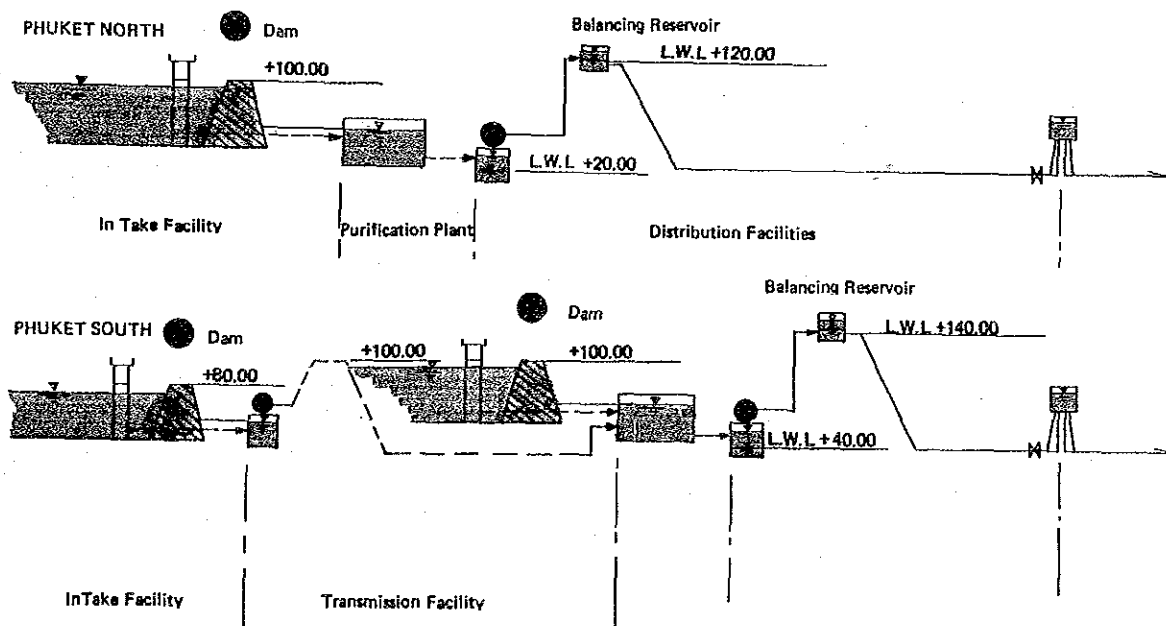
Fig. 18 WATER DISTRIBUTION SYSTEM IN PHUKET



LEGEND

- Amphos
- No. Name Of Beach
- Treatment Plant (Ex.)
- Treatment Plant
- Transmission Line (Ex.)
- Transmission Line
- Reservoir

Fig. 19 CONCEPT ON WATER SUPPLY SYSTEM DEVELOPMENT



2.5 LAND TRANSPORT

Highway network, bus transport and railway connection are major issues in the land transport development.

1) Highways:

A number of improvement projects of major highways have been outlined in the Sixth Plan to strengthen the highway network in the region. If all projects are completed on schedule, major problems on the highway network would be almost resolved except for the following requirements:

- a. Development of the East-West Highway Link (Surat Thani - Phuket) with 206 km in length and a high design standard to strengthen an inter-regional linkage, especially with Bangkok;
- b. Improvement of the access road to the Phuket International Airport (Route 4026), and the junction with Route 402 with attention to landscape to promote a "Sense of Arrival";
- c. Environmental Protection of the Phuket West Coast Link;
- d. Provision of a promptly responsive system for improvement of local roads to maintain tourism areas in favorable condition.

2) Bus Transport:

There are three issues to be tackled in terms of improvement of bus transport system, referring to basic requirements of tourists: safety, time-conservation, and comfort.

Buses should be reliable, safe transportation. Improvement of a safe operation system including drivers management programs and an inspection institution of coaches should be urgently undertaken by the relevant agencies. A thoughtful passenger insurance system for compensation of accidents should also be provided.

Regarding time-conservation, highway improvement is associated with this goal. Given the East-West Highway Link, the travel time from Bangkok to Phuket would be reduced by 2 hours.

Pursuing comfort of bus transport, it is recommended that even for the fixed route buses, more luxurious coaches be used to cater to the public.

3) Railway Connection:

The Phuket Line diverting at Surat Thani and running into the Phuket Deep-Sea Port is an idea that has been proposed in several studies previous to this one. However, this study cannot recommend this project, because such a huge investment could not be justified from purely a tourism point of view. Instead, establishment of a smooth connection/transfer system at Surat Thani Station is recommended in order to attract international tourists using the forthcoming "Orient Express Asia" and passengers of the southern line from Bangkok. A joint promotion of railway and coach transportation should be encouraged by inviting the private sector's participation.

2.6 SANITARY UTILITIES

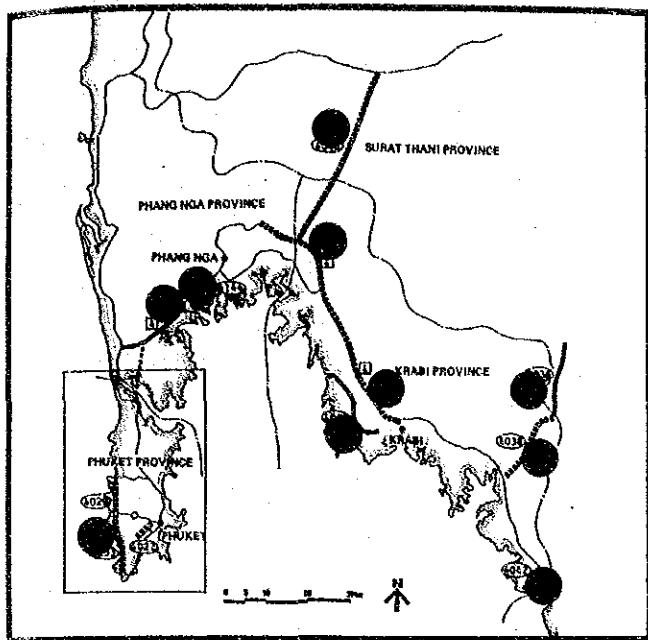
Poor development of sanitary facilities is one of the crucial constraints to be overcome in order for Phuket to become an outstanding international resort.

1) Sewage Treatment System:

For planning, it is recommended to designate a "treatment service zone" where a centralized treatment system may serve, in accordance with the land use plan. In Phuket Island, seven zones are identified. Taking into account the economy of scale and efficiency of the facility, the centralized system with a treatment plant should be applied when the tributary population density is more than 30-40 persons per hectare. Until the area reaches that level, an individual treatment system shall be enforced in accordance with NEB regulations. From an environmental point of view, attention should be paid to the following aspects:

- a. The existing environmental regulation on sea water quality (NEB), which has been applied only to the Karon/Kata beaches (to protect coral), should be in effect for all beaches with tourism potential in Greater Phuket.
- b. A definite standard for accommodation facilities should be prepared as soon as possible. Until then, the strict standard with D rank should be applied for all areas regardless of the number of rooms.
- c. A well-organized monitoring system is necessary to check whether the standard is being kept. At the same time, a training program should be prepared for fostering environmental specialists at the local level.

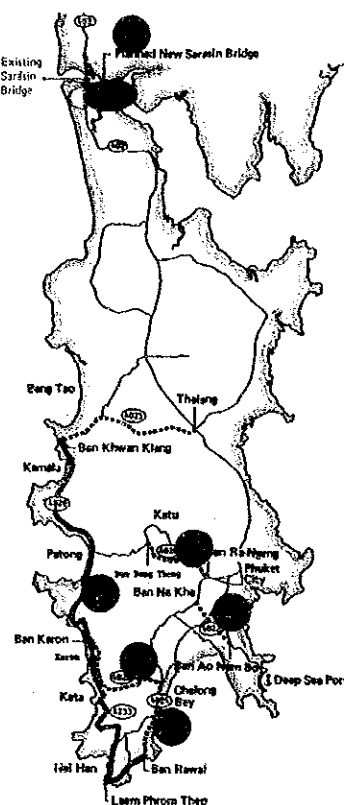
Another problem is the training of personnel who can properly manage the facility at the local gov-



LEGEND
 — Road Improvement Project on 1988
 - - - - - Road Improvement Project on 1989
 Road Construction Project on 6th National Plan
 □, ○ Road Number

Fig. 20 LOCATION MAP OF ROAD IMPROVEMENT PROJECTS IN PHUKET

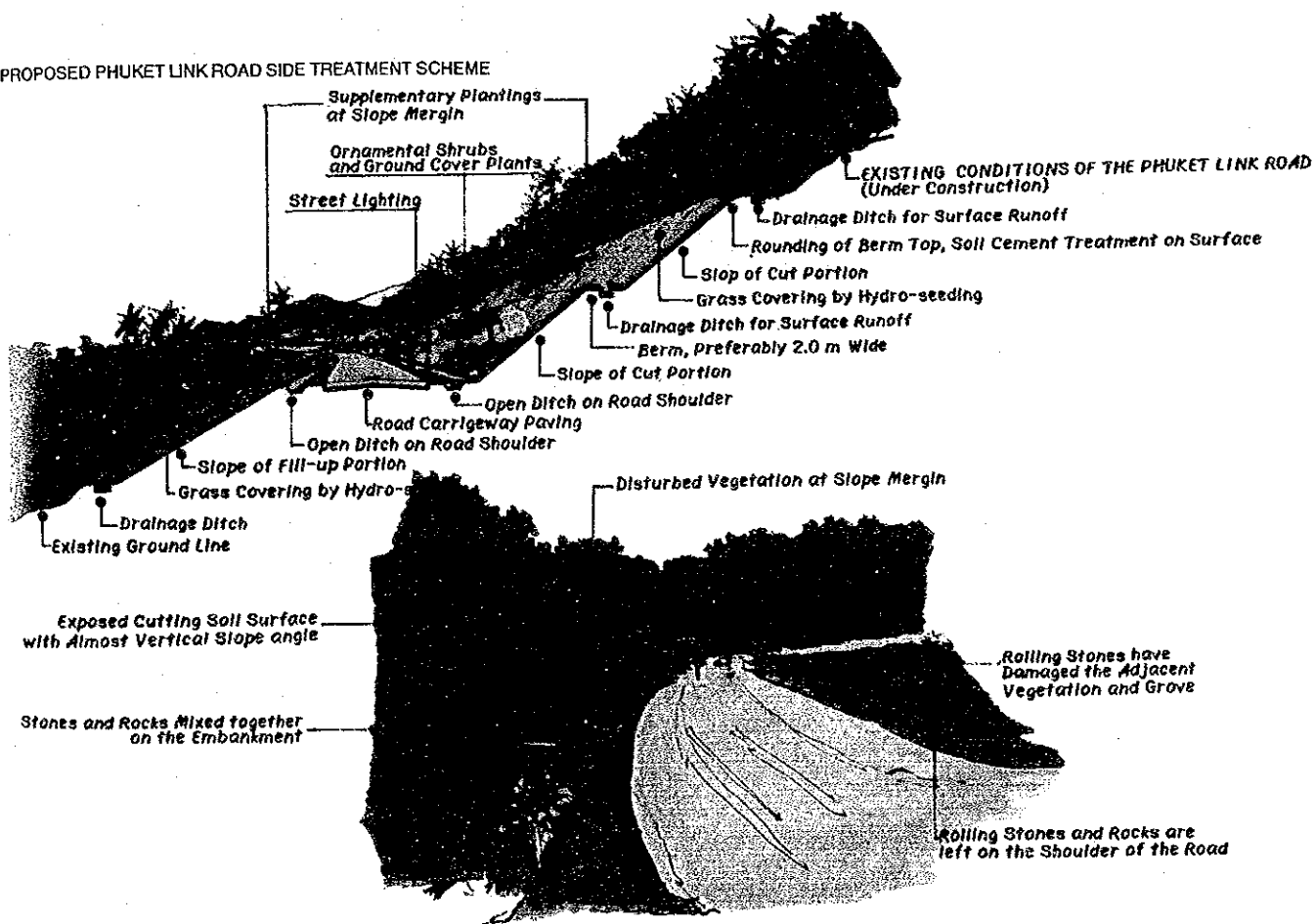
- A. IMPROVEMENT MAJOR HIGHWAY NETWORK**
- IMPROVEMENT**
 A1 NO.4: Krok Koi Talua Tling
 A2 NO.4: Ban Klong Tab Pod
 A3 NO.4: Krok-Ban Mang
 A4 NO.4000: Phangon Tab Pod
- NEW CONSTRUCTION**
 A5 NO.413: New Phuket bridge
 A6 NO.413: Ta Yu Village
 A7 NO.4022/402: By-pass 4023
- B. FACILITATING TOURISM AREAS**
- IMPROVEMENT**
 B1 NO.4020: Phuket Kathu US
 B2 NO.4024: Chalong-Rawal
 B3 NO.4028: Chalong-Karon
 B4 NO.4144: Phat Thang Hga Bay
 B5 NO.4042: Phat Thang Muang
 B6 NO.4034: Krok-Khao Tong
- NEW CONSTRUCTION**
 B7 NO.4233: Phat Thang
- C. FACILITATING LOCAL ACTIVITIES**
- IMPROVEMENT**
 C1 NO.4038: Lan Tab-Thung Yai
 C2 NO.4038: Klong Ton-Lan Tab



LEGEND
 — New Construction: on going
 New Construction: Planned
 - - - - - Betterment
 — Existing Major Road

Fig. 21 ENVIRONMENTAL TREATMENT FOR IMPROVEMENT OF THE LINK ROAD IN PHUKET.

PROPOSED PHUKET LINK ROAD SIDE TREATMENT SCHEME



EXISTING CONDITIONS OF THE PHUKET LINK ROAD (Under Construction)

ernment level. A national organization responsible for personnel training needs to be established.

2) Solid Waste Management:

The problems in Phuket are threefold: 1) capacity limit of the existing dumping site; 2) illegal dumping activities; and 3) inefficiency of solid waste management system.

As for problem 1), there is only one dumping site with a sanitary land fill system in the Sapanhin area, the southern end of the Phuket municipality at present. All solid waste collected by all organizations is dumped there, however, it will be full in 5 to 7 years. A new dumping site on a long term perspective should be prepared at an early stage.

In order to solve problems 2) and 3), a centralized management system is recommended to be established in such a way that an organization shall be responsible for collecting waste in the whole provincial area and managing the legally designated dumping site in a proper manner.

One possible scheme to consider would be that establishment of an organization (e.g., the Phuket Solid Waste Management Company) involving the private sector's participation with some public subsidy.

3) Fire-Fighting System:

The following measures are recommended to be taken into account:

- a. Development of a "Zone Defense System"
- b. Installation of Hydrants
- c. Utilization of Pool Water: The water stored in a swimming pool of dimensions 15 m x 15 m x 1 m can be used for 2 to 3 hours of extinguishing activity. This can contribute greatly to quickly and effectively extinguishing a fire.

2.7 TELECOMMUNICATION

The major subscribers in the tourism sector are hotels. An increase in the number of lines must be a basic requirement for them. The future demand for telecommunication lines in the tourism sector can be estimated, based on a premise that one hotel requires at least 5 lines on the average. The result indicates that a total of about 1,600 lines will be additionally required by hotels in year 2001.

Including the demands for telecommunication lines for residential use, about 19 thousand lines

will be additionally needed in Phuket Island. This means that the lines should be increased at a 11.1 % growth rate per annum. This is a considerably large figure. Special emphasis needs to be given to Phuket development.

Along with the tourism development in the Thai Muang and Khok Kloi areas, facilities for telecommunication services are also required. A capacity of about 400 lines will be necessary only for this large-scale tourism development with 4,000 hotel rooms. A new exchange station might be required to meet this demand. The convenience of international calls is essential. The new system, which is to be applied, is expected to be developed on schedule.

II.3 TOURISM RESOURCES DEVELOPMENT

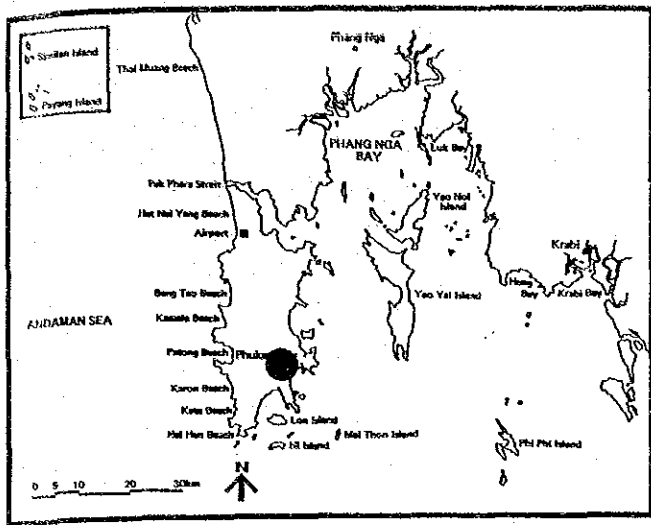
3.1 TOWN TOURISM

The Phuket Town tourism development is recommended to be undertaken as a package development with a view of strengthening its cultural assets. By developing the historic area as one tourism resource, the tourism patterns at Phuket could be further diversified and this could attract more international tourists, particularly Asian tourists who favour shopping, sightseeing, and cultural performances.

In the central part of Phuket town, centering on the Thalang Road, there are a number of architecturally unique buildings which were built during the island's most prosperous era in the 19th century. This is a rare example where historically valuable cultural assets are still in use in Thailand.

These buildings, however, are now unable to meet the needs of the owners in terms of function, durability and appearance. At the same time, there are no defined preservation institutions to protect against the economic pressure for change. A system is needed to preserve the buildings while recognizing the residents' needs, and creating harmony between the old and new.

The area selected will contain the most significant concentration of buildings that offer the greatest tourism potential and feasibility for conservation development. The buildings located mainly along Thalang Road are considered.



CONCEPT OF HISTORIC DISTRICT

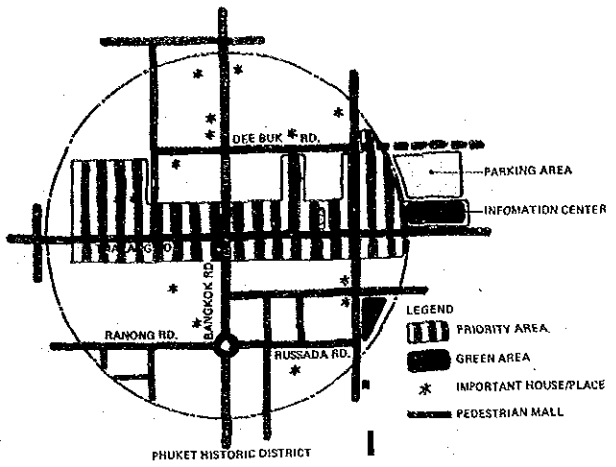


Fig. 22. PROPOSED PLAN FOR HISTORIC DISTRICT

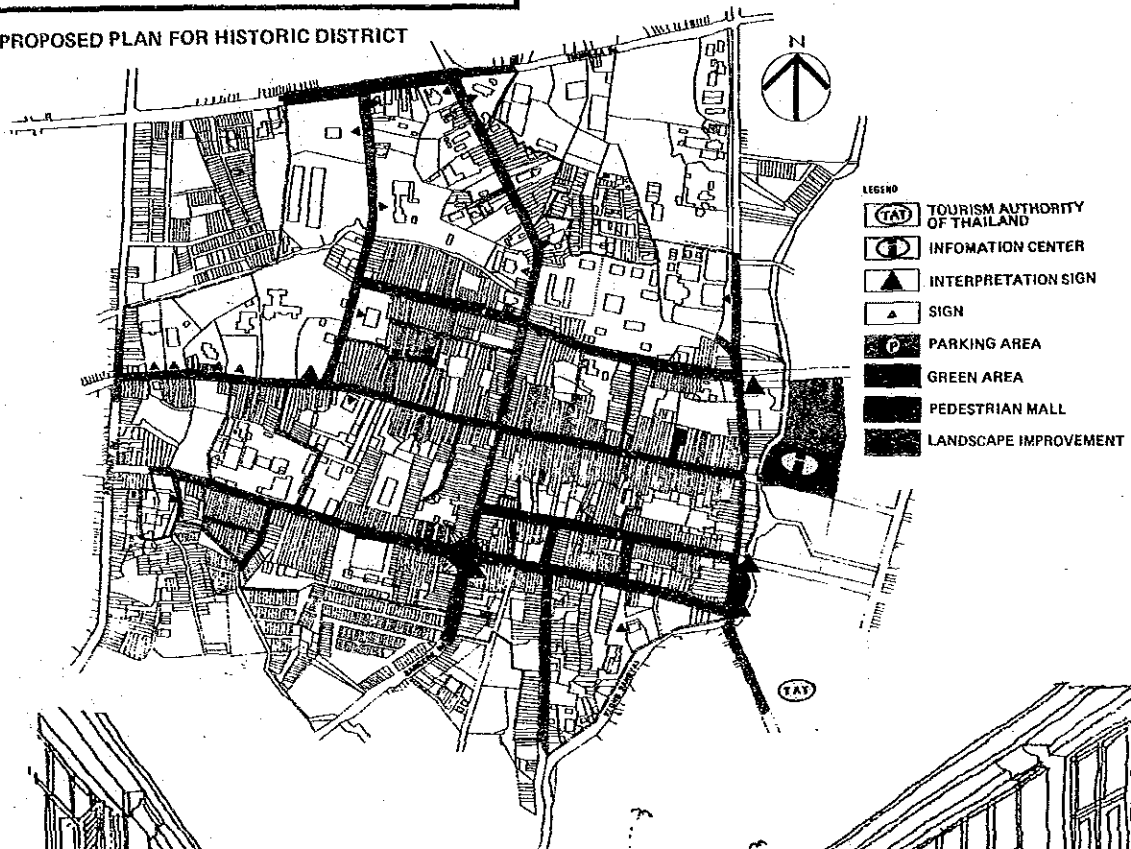


IMAGE OF THE PROPOSED PEDESTRIAN MALL

3.2 VILLAGE TOURISM

The principal objectives of facilitating village tourism are: 1) to bring economic benefits of tourism more directly to village residents; 2) to stimulate local socio-economic activities through tourism impacts; and 3) to encourage the local people's participation in the tourism sector, thereby creating more employment and earning opportunities. As a result of assessment of the potential for village tourism in the above sense, two types of village tourism are recommended to be further developed in Greater Phuket: Panyee Oceanic Village and Phara Woody Village.

1) Panyee Oceanic Village (Phang Nga)

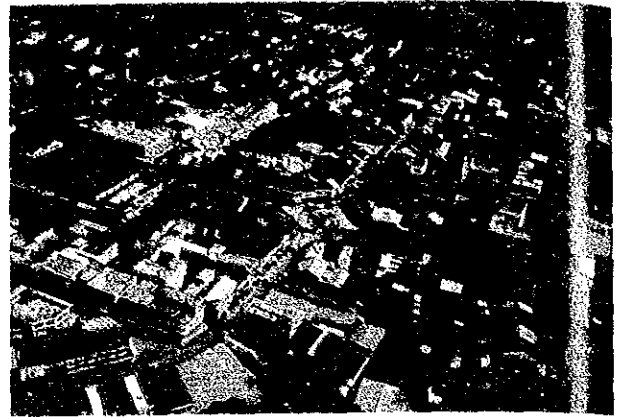
Panyee village, with 1.5 ha and a 1,500 population, offers its peculiar settlement, unique community and traditional type of fishery. It is located in the Phang Nga Bay and conveniently accessible by boat from both Phuket and Phang Nga, given a Phang Nga Bay Sea Excursion Route.

Attention should be paid first not to impose on the existing villagers' lives by the introduction of mass-tourism. Since this village is a small community, it would inherently be susceptible to changes from external impacts. Based on this recognition, a concept is proposed: a new tourism village on the deck be developed with the same characteristics of structure as those of the existing village, connecting with the original village. A visitor center, a number of restaurants, shops and exhibition place are planned to be in the new village.

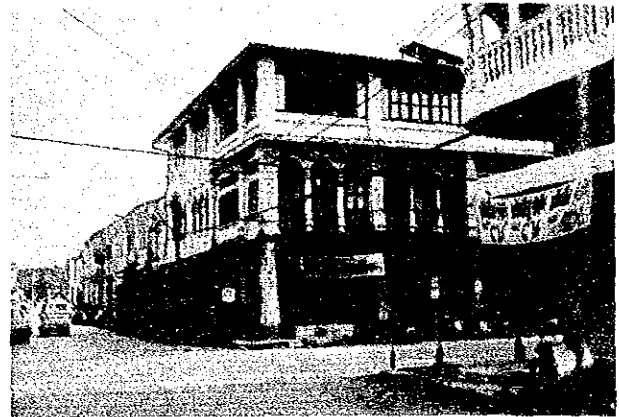
2) Phara Woody Village (Phuket)

The village of Phara in the Thalang district is one of the outstanding rubber growing villages, located in the northeastern part of the Phuket Island, and presenting a comfortably woody life atmosphere and refreshing "woody bath".

This village tourism program includes development of a traditional and cultural world with an exhibition hall of rubber processing, information center, shops and restaurants with unique styles of architecture in the well-managed rubber forest. Villagers' participation is a basic requirement, the initial investment for improvement of basic infrastructure, technical guidance, and promotion activities are the public sector's roles.



Aerial View of Phuket Town



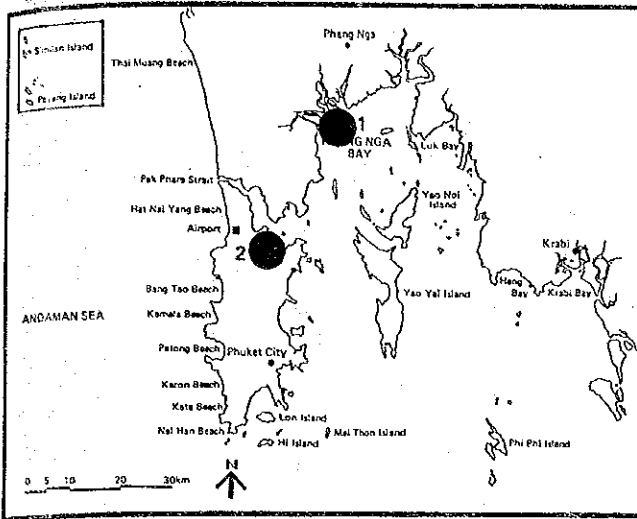
Historic District in Phuket Town



Architectural Significance in Phuket Town



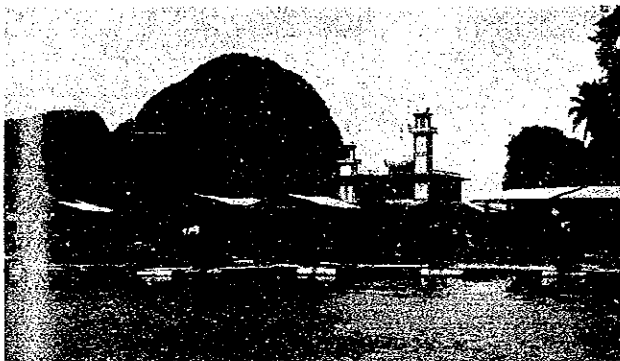
Detached Historic Building



1. Panyee Village 2. Phara Village

CHARACTORS OF THE 2 VILLAGES

PANYEE OCEANIC TOURISM VILLAGE	PHARA WOODY TOURISM VILLAGE
<p>1. CHARACTER : OCEANIC</p> <p>2. OCCUPATION : FISHERMAN "SEA GYPSY"</p> <p>3. RELIGIOUS : ISLAMIC</p> <p>4. VILLAGE APPEARANCE</p> <p>Island rising from the sea - in spectacular profusion.</p> <p>Village on the deck</p> <p>Settled on the Sea</p> <p>5. NEW TOURISM VILLAGE</p> <p>New tourism Village near by existing Panyee village</p> <p>Existing Village to keep for "Villager's" settlement with extended deck.</p>	<p>1. CHARACTER : TERRESTRIAL</p> <p>2. OCCUPATION : AGRICULTURIST FOR PLANTATION</p> <p>3. RELIGIOUS : BUDDHISM</p> <p>4. VILLAGE APPEARANCE</p> <p>Luxuriant rubber forest</p> <p>Village in the forest</p> <p>Settled on the flat Terrestrial</p> <p>5. NEW TOURISM VILLAGE</p> <p>Existing Village</p> <p>New tourism Village in inside of luxuriant rubber forest</p> <p>PAVILLION : TSAX TENSEK</p>



VILLAGE SCAPE OF PANYEE VILLAGE



PRESENT WELCOME SPACE OF PANYEE VILLAGE

Fig. 23 CONCEPTUAL SCHEME OF PANYEE OCEANIC VILLAGE

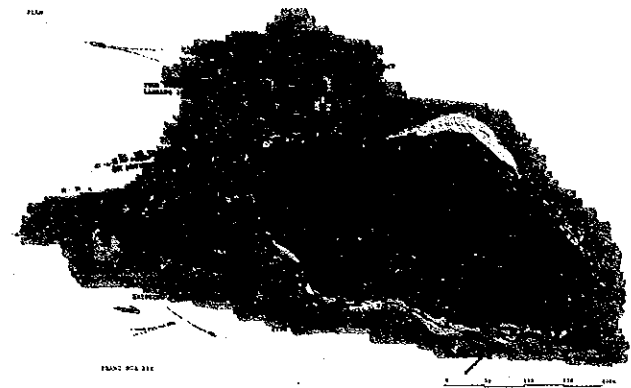
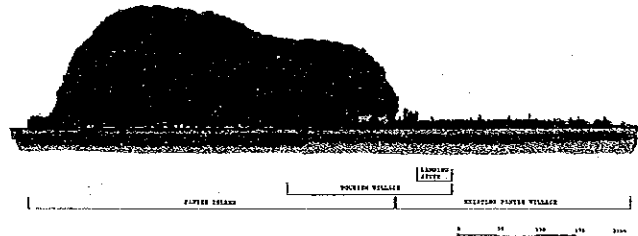
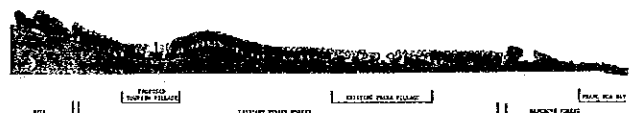


FIG. 2.3.14 LONGITUDINAL ELEVATION



RUBBER, RUBBER'S CORRIDOR TO PHARA VILLAGE

Fig. 24 CONCEPTUAL SCHEME OF PHARA WOODY VILLAGE



3.3 CULTURAL TOURISM AND ANDAMAN CULTURAL RESOURCES CENTER

Apart from the natural attractions of beautiful beaches, clear waterfalls, and magnificent limestone cliffs that have long been familiar to tourists, there is a wide variety of less well-known cultural attractions in Phuket, Phang Nga and Krabi provinces. The rich cultural resources of the region have the potential to attract many tourists.

1) Andaman Cultural Resources Center

The proposed Andaman Cultural Resources Center will function as a resource center for both natural history and cultural research, and will provide both research and exhibition facilities. It will provide a forum for the sharing and exchanging of ideas and knowledge for both experts and lay people who are involved or interested in Andaman cultural history.

As more international tourists visit the Andaman Coast, especially Phang Nga Bay, with its magnificent natural formations and unique rock painting sites, their curiosity will be satisfied at the Andaman Resource Center. Although both the natural and cultural sites are scattered around the Andaman sea, the center makes a good departure point for visiting sites in the Andaman coastal region. The proposed site is convenient for visitors and its readiness for development makes this site both feasible and practical.

2) Project objectives of the center are as follows;

- To give information about the Andaman cultural and natural heritage
- To preserve the Andaman cultural and natural heritage
- To promote scientific and socio-cultural research
- To train skilled staff such as inspectors/ guides/guards/etc.

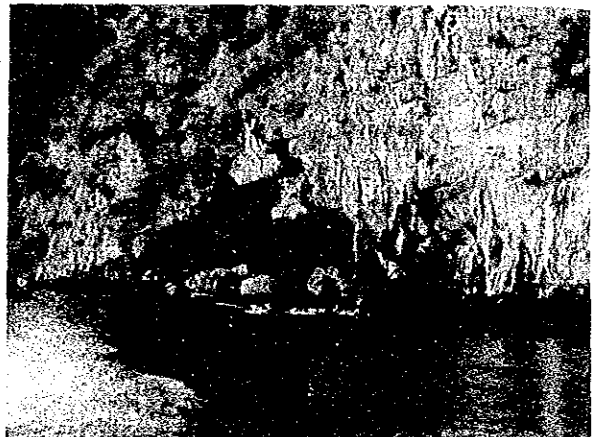
3) Project Function

Visitors to the Andaman Center will be able to gain a fuller understanding and appreciation of the region's natural and human culture history, the wildlife, and the marine resources through modern and visually stimulating exhibits. Handicraft displays and demonstrations, revived traditional festivals, seminars and conferences will operate intermittently. A selection of unique souvenirs and informative literature will be available at the gift shop. A library and research section will serve as a central depository for multi-disciplinary research projects directly related to the large Andaman coastal region. It will further

provide dependable information for the people who are seeking a more comprehensive understanding of their surroundings. Existing information, expanded and temporary exhibits, and interpretations will be supported and broadened through continuous research. A research vessel is proposed for marine-life studies and underwater archaeology.

The Andaman Center will be the initial and final stop for visitors interested in exploring the Andaman Coast at Phang Nga Bay. Organized tours by speed boat, preferably a hydrofoil, and helicopters will depart from the pier and helicopter landing pad.

The proposed site will be located on the bank of the Phang Nga Estuary, Phang Nga province. The site will cover an area of 105,991 sq. m. (66 rai).

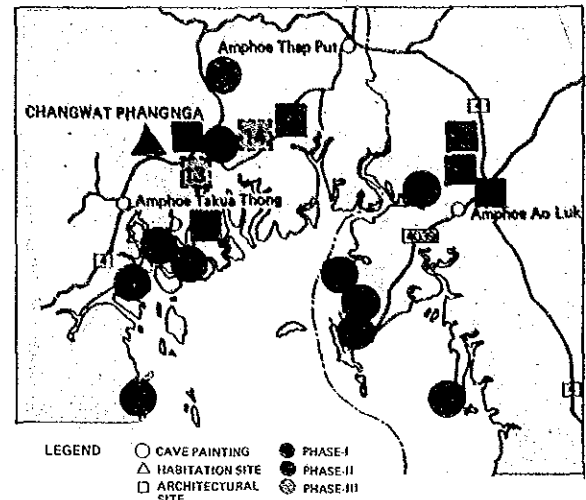
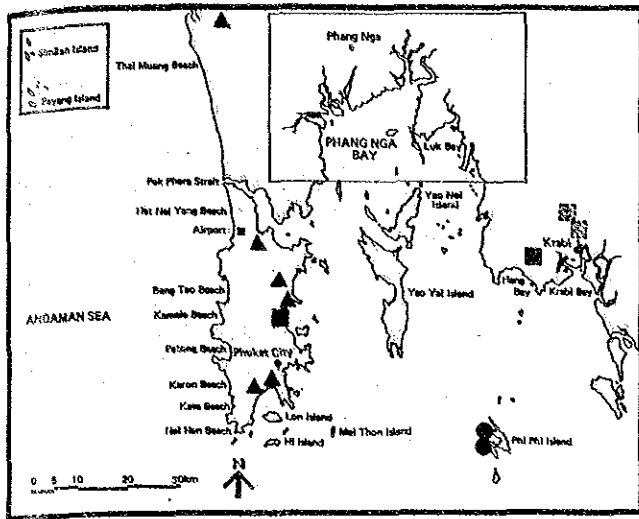


Prayanaga Cave (Viking Cave)

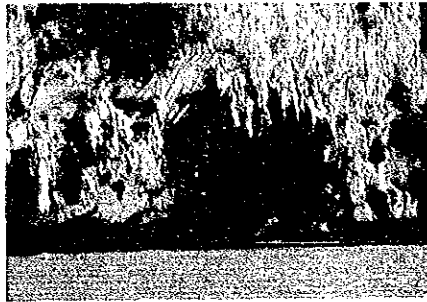


Rock Painting

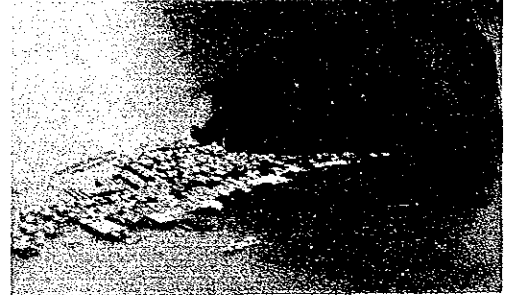
Fig. 25 CULTURAL TOURISM AND ANDAMAN CULTURAL RESOURCES CENTER



CAVE PAINTING AT KHAO KHIAN



TAM LOD (CAVE)



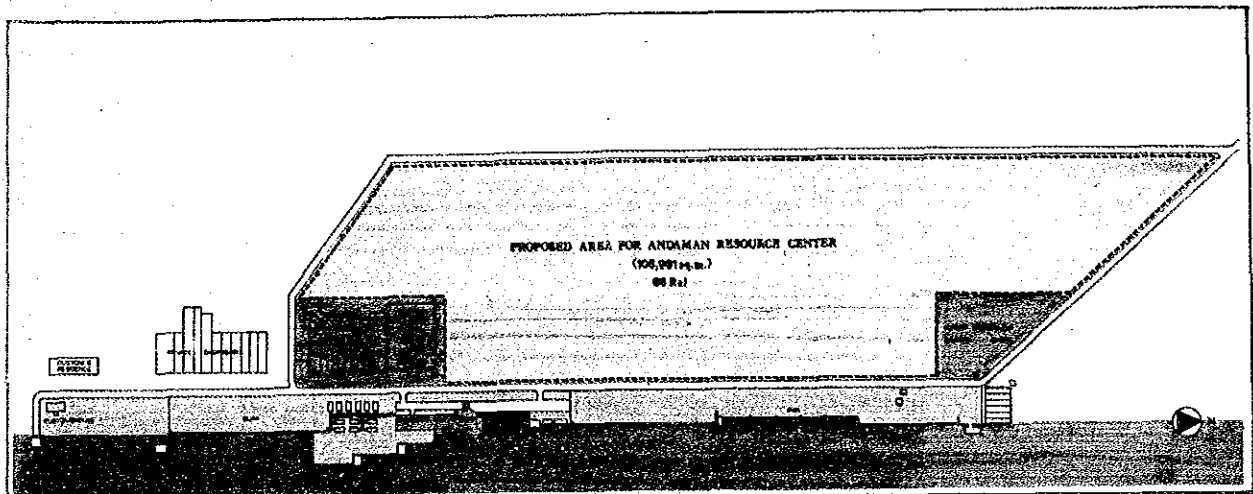
PANYEE ISLAND



PROPOSED SITE FOR THE ANDAMAN CULTURAL RESOURCES CENTER



KHAO PING KAN (FAMOUS JAMES BOND ISLAND)



3.4 NATIONAL PARK

There are five National Parks in the greater Phuket area which are under management of the central government. The five National Parks have different features according to their surrounding environments. The parks have simple outdoor recreation facilities and park offices. To deal with a growing number of tourists in the future, development plans should be worked out for sufficient management of the parks, while considering their unique features.

1) Preparation and Implementation of Management Plans

The preliminary research has already been completed for the five National Parks, and the management plan was studied only for Mu Ko Phi Phi in 1987. The area should be developed according to the management plan along with implementation of the plan. Meanwhile, it is necessary to formulate management plans for the following four parks at an early date.

- a. Hat Thai Muang National Park
- b. Hat Nai Yang National Park
- c. Ao Phang Nga National Park
- d. Mu Ko Similan National Park

2) Establishment of Training Centers

It is necessary to train staff to take charge of the five National Parks. The government is studying the establishment of two training centers in Thailand for the management of 55 numbers of National Parks. One will be set up in the northern part of Thailand and the other is in the southern part. Considering the fact that marine-related parks are mainly located in the south, the center in the south are proposed in the Hat Nai Yang Marine National Park in Phuket.

3) Urgent Action Plans

It is proposed that the basic facilities for the improvement of National Parks in the Greater Phuket area be constructed mainly in Phase I.

4) Pier Construction in the Hat Nai Yang National Marine Park

The construction of a pier has many advantages. A new pier will facilitate trips to islands in the Greater Phuket West Coast area, integrate facilities in the Hat Nai Yang National Park, and provide easy access to the airport. However, the marine park is a very sensitive area from an environmental point of view. Therefore, full consideration should be

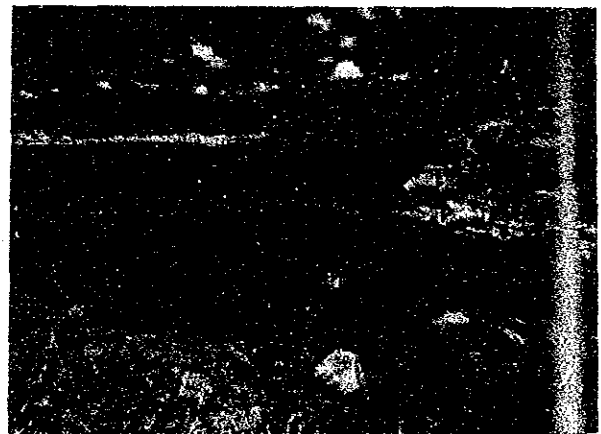
given to site selection, development scale, design and construction methods.

Recommendation:

It is necessary to work out National Park management plans and at the same time map out long-and medium-term plans for fund raising and management. Some facilities in the National Parks might be constructed and operated by the private sector to accommodate an increasing number of domestic and international tourists.

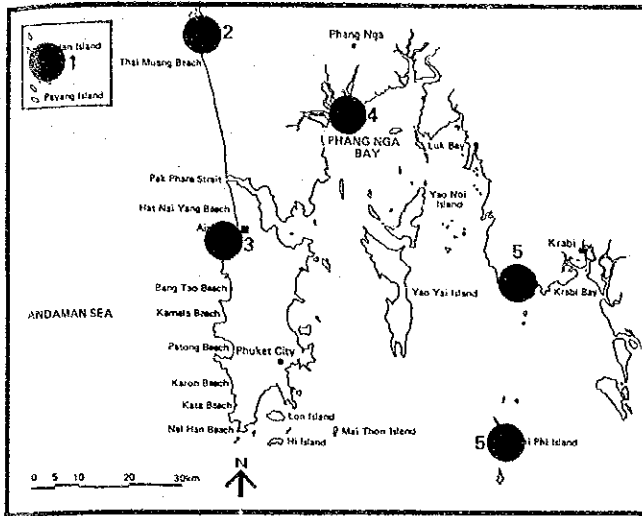


Hat Thai Muang National Park



Similan Island National Park (Post Card-photo by Pisit Jiraporn)

Fig. 26 NATIONAL PARK



1. Similan 2. Hat Thai Muang 3. Hat Nai Yang 4. Ao Phang Nga
5. Hat Naphpharat Thara-Phi Phi

IMAGE OF TOURIST PLAZA

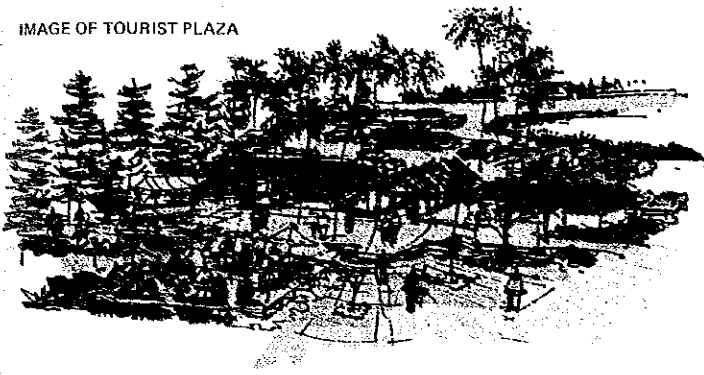
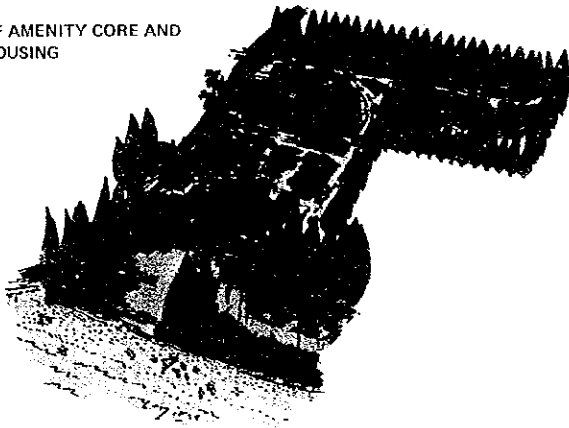
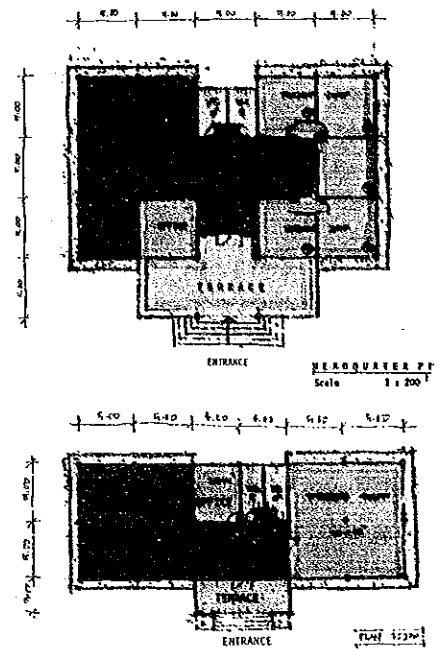


IMAGE OF AMENITY CORE AND STAFF HOUSING

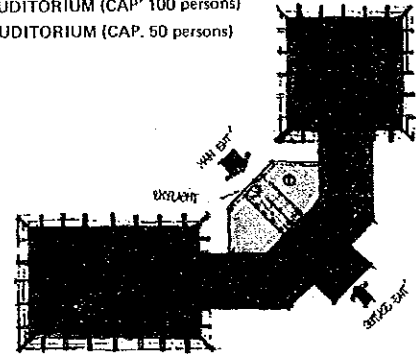


AEROVIEW OF THE NORTHERN PART OF THAI MUANG NATIONAL PARK

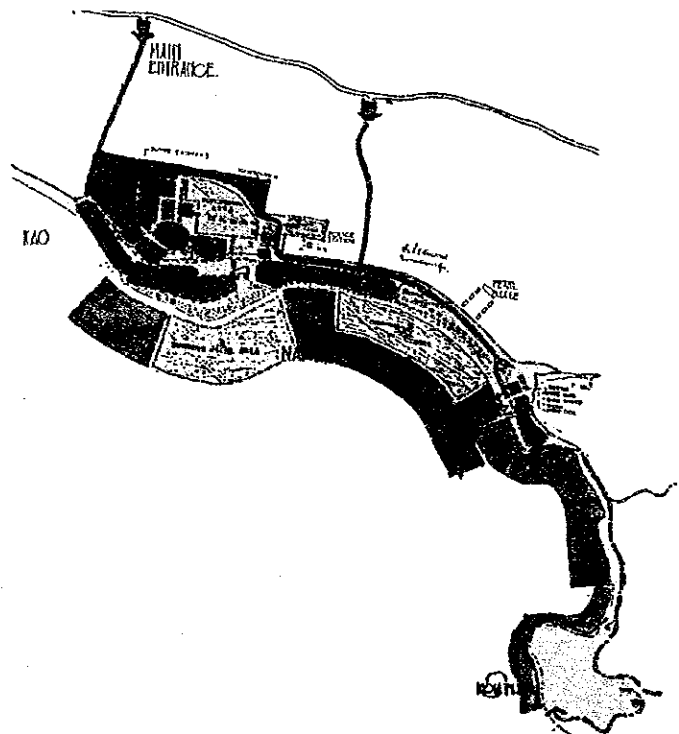
THE PROPOSED TRAINING CENTER AT NAI YANG NATIONAL PARK



- 1) HALL, LOBBY AND SERVICE
2) AUDITORIUM (CAP. 100 persons)
3) AUDITORIUM (CAP. 50 persons)



LAND USE ZONING OF THE HAT NAI YANG NATIONAL PARK



3.5 TOURISM RELATED INDUSTRIES

According to the tourist expenditure survey conducted by the TAT, apart from "accommodation", "shopping" is the major item of the expenditure (more or less 30%), followed by "food and drink" (around 20%). These two sectors are recognized as significant benefit receivers.

1) Restaurants:

In order to meet the international tourist requirements, there is much room for improving in terms of hygiene, variety of foods and training of waiters. The following measures are recommended to be taken by the public sector in this sense:

- a. to establish a vocational school for hotel and restaurant business and supply educated personnel to this sector;
- b. to prepare standards/guide-lines for equipment, facilities and services to meet the recommendable hygienic and service levels;
- c. to provide seminars or instruction meetings occasionally for the restaurant managers regarding improvement and betterment of the business to meet international requirements.

Beside the above measures, it is also recommended that an internationally famous food center of a large scale be developed as a tourist spots on Phuket Island.

2) Souvenir Shops and Industry

It is difficult to find original local souvenirs except some kinds of shell work and pearls. The existing local souvenir products in the Greater Phuket are mainly produced by home manufacturing industry. There is also much room for improving the technique in processing, the quality in package and the design of products. It is recommended to receive some technical assistance and guidance on design and processing from advanced foreign experts and designers.

A "Souvenir Center" is proposed to be established by the initiation of the public sector. This center would have various roles to play in promoting and boosting the industry as a whole: as a technical, training and educational center as well as a sales center.

Another policy should be undertaken that is related to the local industry: a joint promotion of tourism and local industry. Potential activities

are pearl culture farming in the surrounding islands of the Phuket Island and rubber plantation and its processing.

II.4 IMPLEMENTATION PROGRAM

4.1 MAJOR DEVELOPMENT PROJECTS TO BE IMPLEMENTED

The following list shows the main projects which the government should initiate in promoting tourism development of Greater Phuket

1) Development of tourism resources

- a. Historic district in Phuket town
- b. Tourism villages in Phuket and Phang Nga
- c. Archaeological/Historic sites in 3 provinces and the Andaman Cultural Resources Center in Phang Nga
- d. National parks in 3 provinces and a training center in the Nai Yang National Park in Phuket

2) Up-grading of tourism infrastructure

- a. Airports in Phuket and Krabi
- b. Water supply in Phuket and Phang Nga
- c. Land excursion routes among the 3 provinces
- d. Sea excursion routes among the 3 provinces
- e. Service town/village improvement in Phuket and Phang Nga
- f. Tourism Vocational School

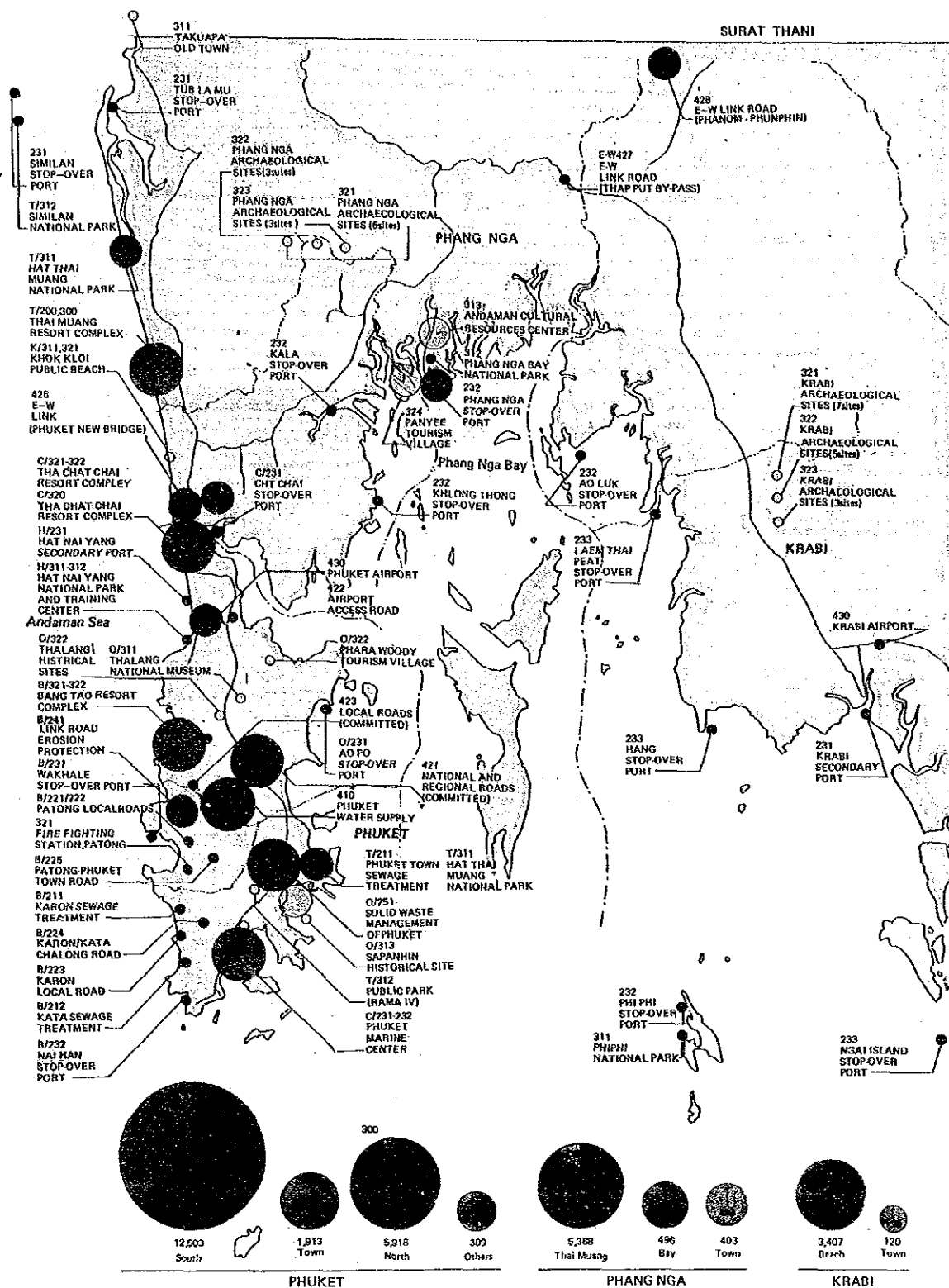
3) Construction of new resort complexes

- a. Thai Muang International Resort and Khok Kloi Public Beach in Phang Nga
- b. Phuket Marine Center at Chalong bay in Phuket



Handicraft Center

Fig. 27 IDENTIFIED DEVELOPMENT PROJECTS (PHASE I, II, III)



4.2 THAI MUANG/KHOK KLOI RESORT DEVELOPMENT

1) The proposed project is an unique and challenging development in Phuket area having the following objectives;

a. Creation of a new resort center in the south-west coast of Phang Nga Province, which is not yet developed, would provide a tourism development core in the north part of greater Phuket to stimulate the private investors and realize an integrated resort complex.

b. The two proposed development areas are:

- Thai Muang International Resort Complex Development Area. Accommodating 5,000 high class hotel rooms and other related resort facilities mainly for international tourists.
- Khok Kloi Public Beach Development Area. Accommodating 1,000 economy class hotel rooms and other related resort facilities mainly for domestic and budget tourists.

c. The execution and management of the project is the responsibility of the newly organized "Public Tourism Corporation" proposed in the Study, composed of TAT, Ministry of Interior and local government.

2) The following are the development concept for the resort development of Thai Muang Beach.

a. Integration of tourism and regional development involving the provision of region-wide infrastructure, improvement of local communities and regional socio-economic development.

b. Construction of a large-scale resort complex offering year round resort life activities with high quality services and also providing facilities for long-stay guests.

c. Introduction of an environmental sound development approach so as to develop an artificial resort in harmony with the sensitive natural beauty and environment.

3) The proposed Thai Muang resort development area is composed of one tourist's amenity core block and four hotel accommodation blocks with the following characters;

a. Block-00: Thai Muang tourist's amenity core(Phase-II/III),

b. Block-N2: Hotel accommodations with golf course and water recreation park(Phase-II),

c. Block-N1: Hotel accommodations with convention park(Phase-III),

d. Block-S1: Hotel accommodations with indoor/outdoor sports complex(Phase-III) and

e. Block-S2: Hotel accommodations with 36-hole championship golf course(Phase-III).

4.3 MARINE CENTER

A nautical circuit system development would have a significant role to play in the Greater Phuket tourism activities. This would make full use of the endowment of Greater Phuket, and incorporate the dispersed tourism assets into the entire Phuket resort.

A primary port with a wide variety of marine facilities is recommended to be developed with special emphasis as a focal project. It is called "Phuket Marine Center". The Phuket Marine Center will be a gateway to accept international cruising tourists and become a symbol of Phuket tourism. This will provide the following services: yacht harbor, tourist boat terminal, workshop of marine boats/ships, marine recreational center, logistic station of oceangoing nautical activities and so on.

The Phuket Marine center is proposed as a primary port consisting of the following facilities;

a. Yacht harbor for mooring 200 ships and yacht club,

b. Yacht storage and work shop,

c. Tourist boats piers including a Hovercraft landing station,

d. Hotel accommodations with 200 rooms

e. Marine center building with restaurants, supermarket, shops, festival hall, amusement center, clinic, information office and administration office,

f. Fuel station and

g. Parking.

The total area is assumed to be 100 hectares, of which 50 hectares are to be reclaimed. For this reclamation, a governmental coordination with the Harbor Department is indispensable.

Fig. 28 DEVELOPMENT PHASING OF THAI MUANG/KHOK KLOI DEVELOPMENT AREA

RESORT DEVELOPMENT IN THE SOUTHWEST COAST OF PHANG NGA

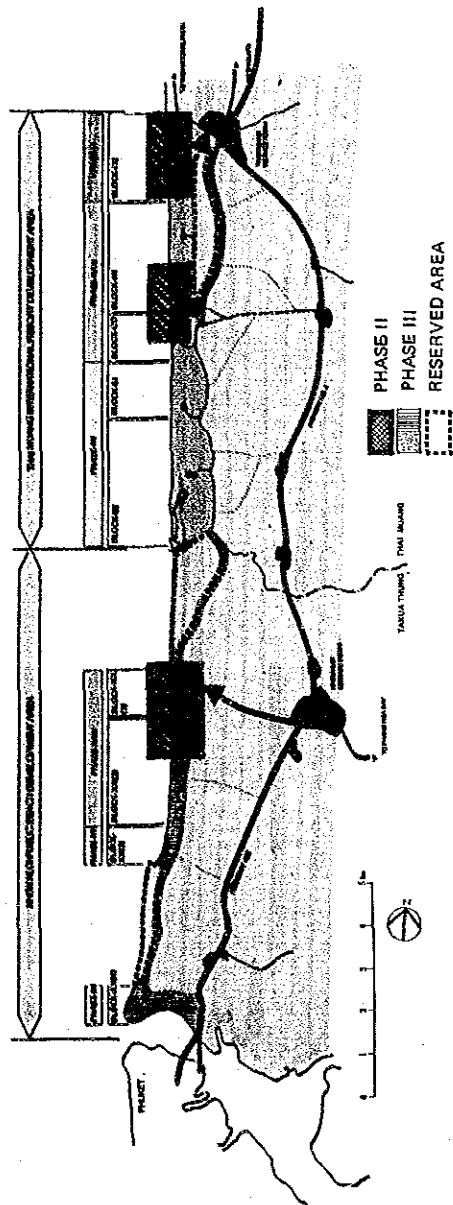
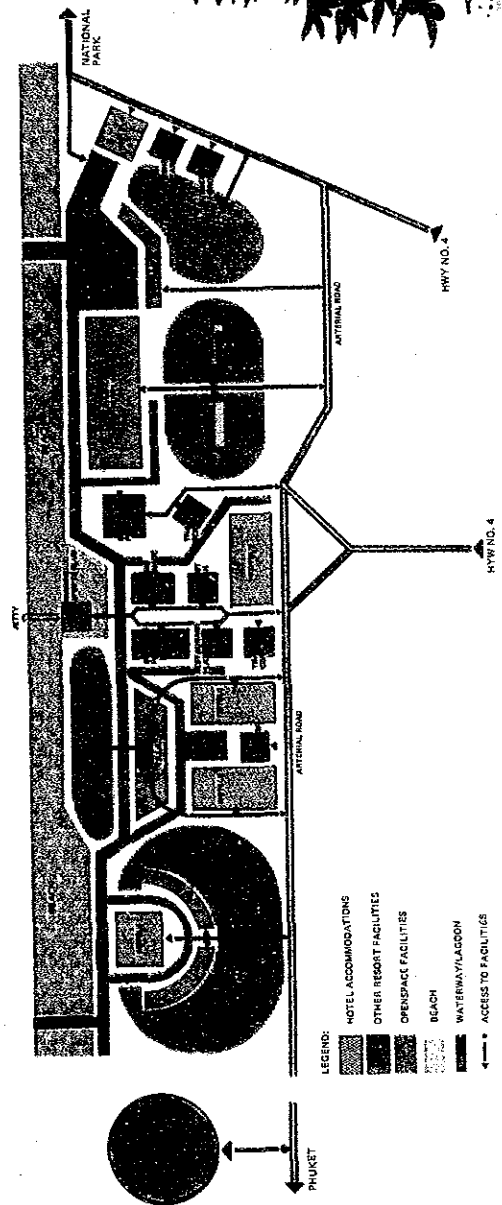


Fig. 29 FACILITIES LAYOUT PLAN OF THAI MUANG INTERNATIONAL RESORT

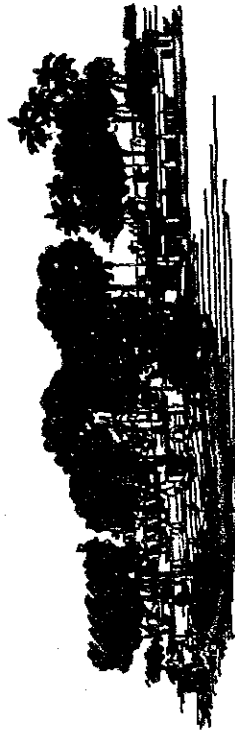
ANDAMAN SEA



Supplemental planting to enhance beach environment.



Solid-type water front landscaping creates more dynamic resort environment.



Landscaping of amenity zone and atmosphere of plaza.



4.4 IMPLEMENTATION AND INSTITUTIONAL ASPECTS

There are four major issues to be tackled regarding institutional arrangements in implementation and organization: 1) public and private coordination in terms of the implementation of and financing of the planned development; 2) structuring of a proper governmental organization effective in managing the planned development; 3) financial arrangements required for the execution of the development; 4) legislative preparation for environmental conservation, land use, construction of building and public facilities to ensure balanced development.

Regarding the first issue, it should be noted that the principal role of private sector in tourism development embraces idea generation, financial risk taking and the management of operation. With a common recognition of public benefits, the governments role is to positively initiate and invite the private sector's participation in selected tourism development projects. Joint ventures, subsidies and incentive schemes should be prepared for this purpose.

As for the second issue, both vertical and horizontal inter-governmental coordination is needed. Particularly, since tourism development in Greater Phuket involves three provinces, emphasis on interprovincial coordination will be needed. A well-functioning organization to perform these coordinations should be established, centering on TAT.

As for the third issue, a thoughtful mobilization of available funds is significant. Private banks, the statutory financial institutions, and international financial organizations should be fully involved to raise the necessary capital. Beside this, introduction of a bond system should be explored to utilize the growing national economy.

As for the fourth issue, people's values and social acceptance are a core consideration deliberate decisions are required for these legislative arrangements. bearing in mind that it would cost very much to take back what is lost.

4.5 ECONOMIC IMPACT

The tourism development projects can contribute to the economy and society of the Greater Phuket area as outlined below:

- 1) Compared with per capita GRP in 1987, per capita GRP will increase 26.8 percent in 1991, 55.4 percent in 1996, and 86.6 percent in 2001.

- 2) Employment created by the tourism development will double in 1991, 2.7 times in 1996, and 3.3 times in 2001 compared with the 1987 level.

- 3) Net foreign exchange earnings will increase 2.7 times in 1991, 3.7 times in 1996, and 5.5 times in 2001 over the 1987 level.

4.6 ECONOMIC FEASIBILITY

An economic feasibility study was conducted of both the Greater Phuket project and the Phang Nga West project. EIRR shows that the tourism development in this area is quite feasible.

	EIRR
1) Greater Phuket Project	34.6%
2) PHANG NGA WEST PROJECT	37.9%

4.7 FINANCIAL FEASIBILITY

A financial feasibility study was conducted of the Phang Nga West project and the Sea Network project. These two projects are feasible in terms of financial profitability.

	FIRR
1) Phang Nga West Project	12.9%
2) Sea Network Project	13.4%

As for the fund repayment ability, the Phang Nga West project is viable, while the Sea Network project may have some difficulty in repaying loans. The important factor is equity. If the development body fails to raise the equity which is 30 percent of the total amount of the initial investment, the repayment ability is not stable for either of the two projects.

Exchange Rate (As of April 1988) Adopted in This Report;

- Japanese Yen	: US\$1=Y 124.93
- US Dollar	: US\$1=B 24.146

Fig. 30 CONCEPTUAL SCHEME OF PHUKET MARINE CENTER AT CHALONG BAY

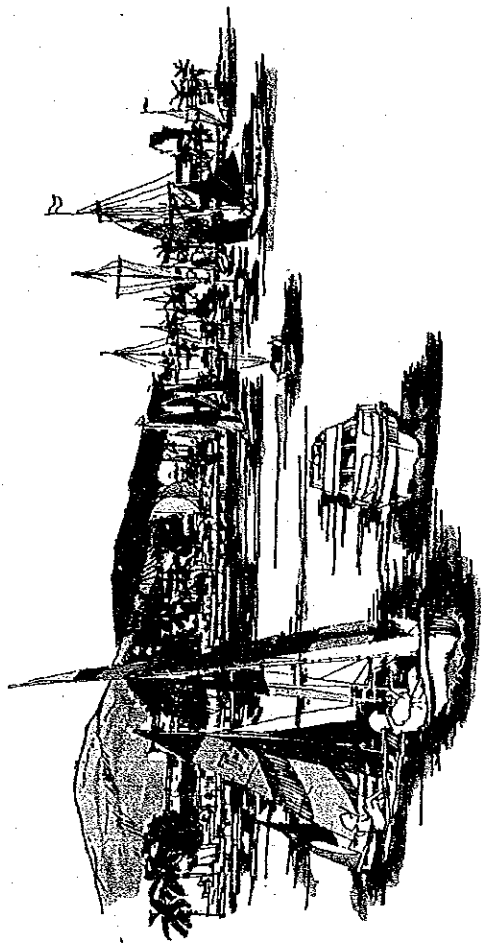
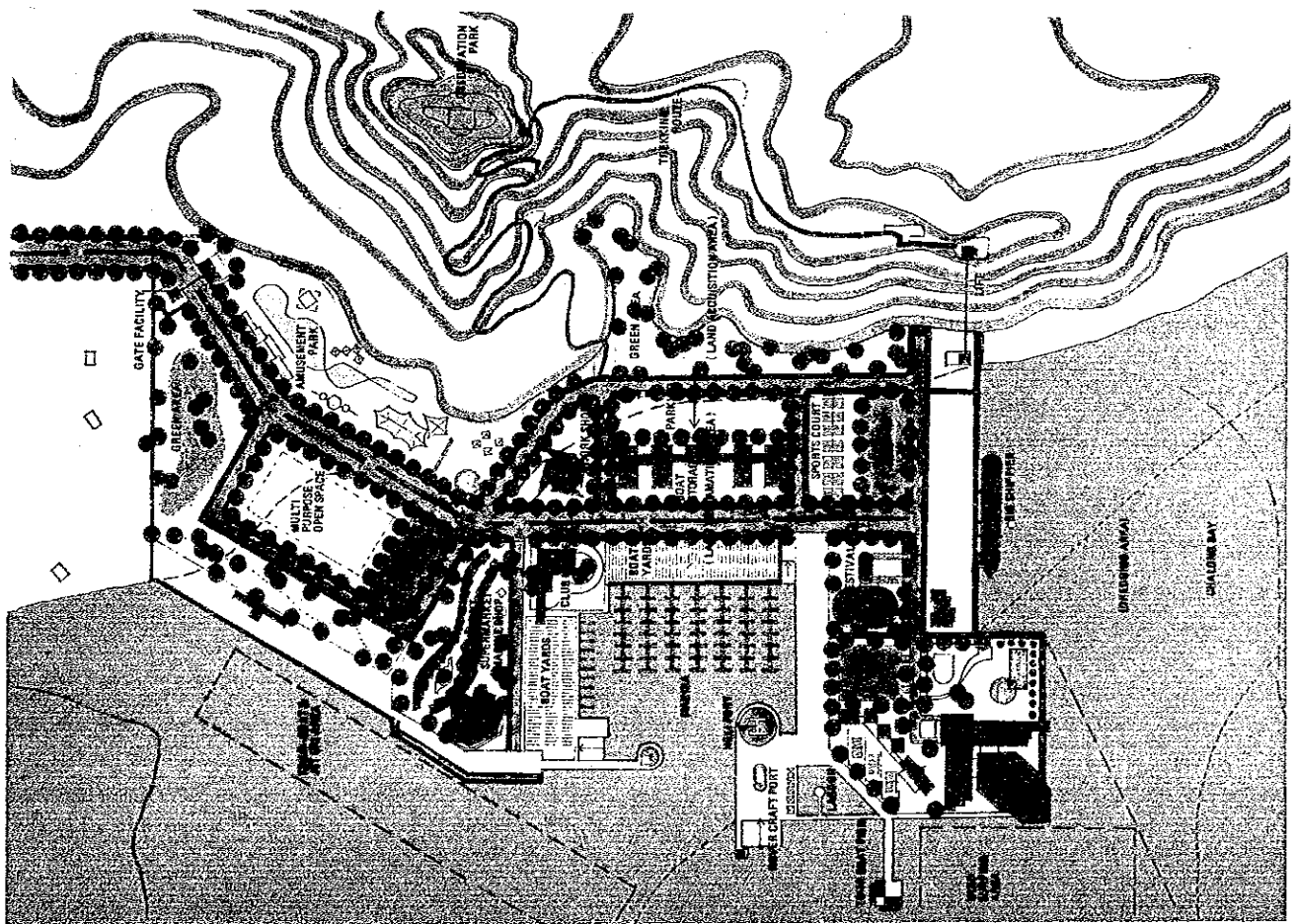
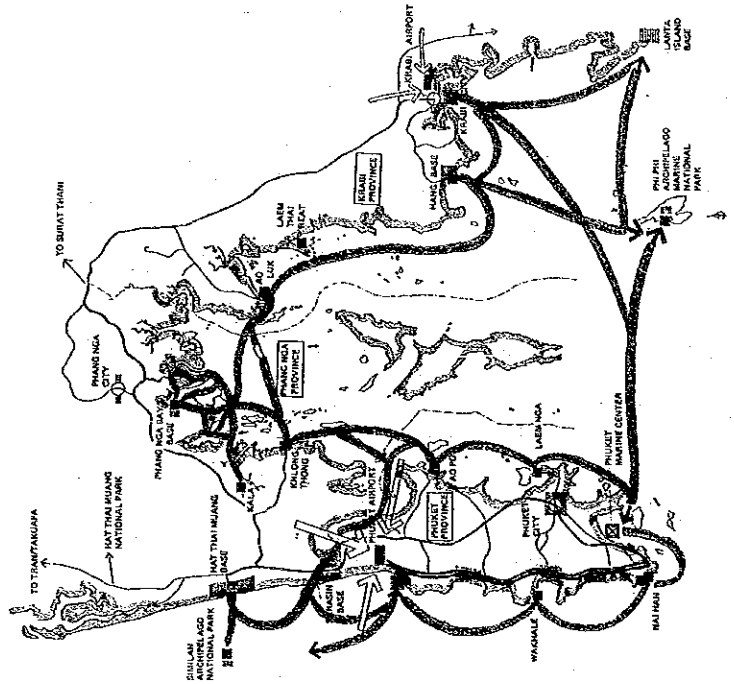


IMAGE OF MARINE CENTER

SEA NETWORK IN GREATER PHUKET



LEGEND

- Major Land Excursion Route
- West Coast Ring Road (Andaman View Road)
- Major sea Excursion Route
- Sea Excursion Route
- Tourist Base
- Primary Port (Marine Center)
- Secondary Port
- Stop-Over Port
- International Airport
- Local Airport

ANNEX: STUDY TEAM

1. JICA'S STUDY TEAM

1) Project Manager/Tourism Promotion/Administration	: Mr. S. Yamada
2) Tourism Facilities	: Mr. G. Hirata
3) Regional/Land Use-1	: Mr. H. Matsuo
4) Tourism Infrastructure	: Mr. K. Seki
5) Market Analysis	: Mr. K. Kokubo
6) Demand Forecast	: Mr. K. Takakuwa
7) Economic and Social Analysis	: Mr. T. Yoshino
8) Finance and Implementation	: Mr. Y. Hara
9) Transportation	: Mr. K. Nagayama
10) Water Supply	: Mr. S. Komatsu
11) Sewerage	: Mr. N. Gonohe
12) Airport	: Mr. H. Sugiura
13) Waste Disposal	: Mr. M. Hattori
14) Environment	: Mr. M. Furumatsu
15) Regional/Land Use-2	: Mr. T. Ohmura
16) Finance and Implementation	: Mr. H. Shimizu (Part 1 Study)

2. JAPANESE ADVISORY COMMITTEE

1) Chairman	: Mr. T. Hirano
2) Member	: Mr. M. Kokubo
3) Member	: Mr. M. Koseki
4) Member	: Mr. S. Yoshizawa
5) Member	: Mr. R. Maeda (Part 1 Study)

3. JICA STAFF

Project Officer	: Mr. T. Hirai
-----------------	----------------

4. TAT COUNTERPARTS STAFF

TAT	
1) General Coordinator	: Mrs. Jutamas Siriwan
2) Administrative Coordinator	: Mr. Kamron Chalermroj
3) TAT Marketing Specialist	: Mrs. Chureerat Kongtrakul
4) TAT Socio-economic Specialist	: Mrs. Shujitt Potong
5) TAT Tourism Specialist	: Mr. Amnuay Thiamkeerakul
6) TAT Resource Specialist	: -
Chulalongkorn University	
7) Culture & History Specialist	: Mr. Chunchade Promseranee
8) Infrastructure Specialist	: Dr. Thavivongse Sriburi

5. STUDY COLLABORATION

1) Fine Arts Department Study Team	: Mr. Nikom Musigakama
2) National Park Division Study Team Royal Forestry Department	: Ms. Thada Sutthithum
3) Remote Sensing Division Study Team	: Mr. Seri Wetchabootsakorn
4) Marketing Study Team	: Dr. Chumphon Suckaseam
5) Culture and Community Study	: Mr. Suthat Wannalart
	: Thailand Remote Sensing Center
	: United Marketing and Consultant Co.Ltd
	: Assoc. Prof. Manop Bongsadat (Chulalongkorn University)

6. STEERING COMMITTEE

Mr. Dharmnoon Prachuabmoh	Governor TAT
Mr. Seree Wangpaichitr	Deputy Governor
Mr. Kovit Kuvanonda	Ministry of Transport and Communications
Ms. Nualnapa Tiancharoen	Ministry of Transport and Communications
Ms. Wilaiporn Liwgasemsan	NESDB
Mr. Suchai Piyapatkarn	NESDB
Mr. Palakorn Suwanarat	Office of Policy and Planning, MOI
Mr. Srisopa Petchsuwan	Office of Policy and Planning, MOI
Mr. Chartree Chueyprasit	NEB
Mr. Weera Sakultab	NEB
Mrs. Jutamas Siriwan	TAT
Mr. Nikom Musigakama	FAD, MOE
Mr. Seri Wetchabootsakorn	NPD, RFD

