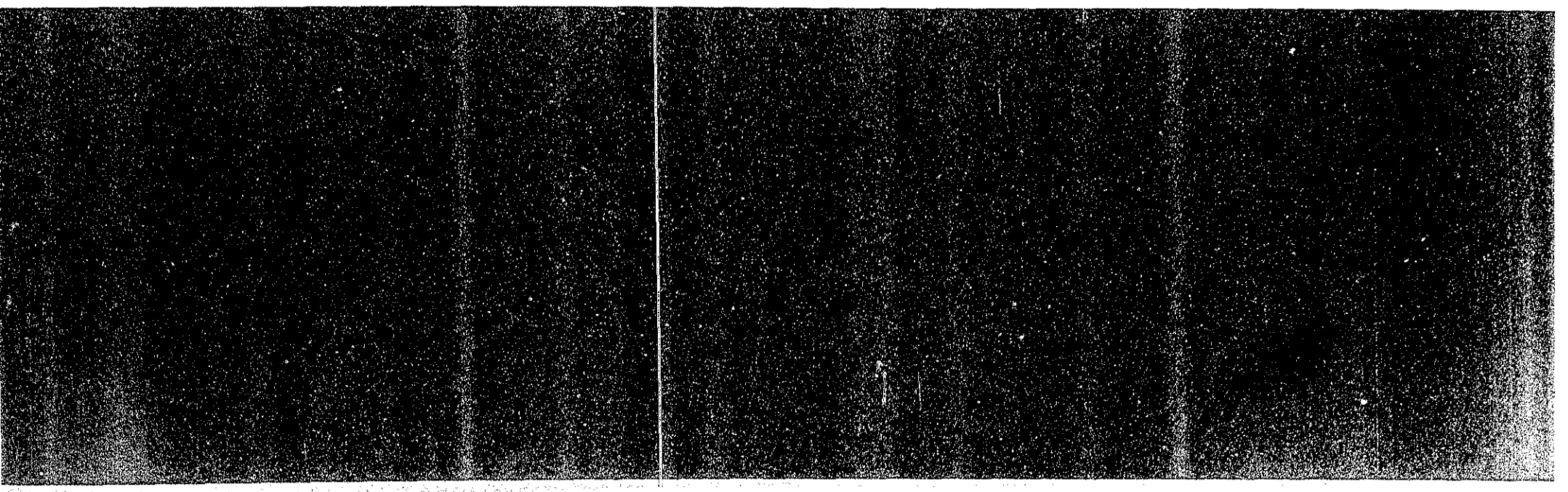
CHAPTER 4 ECONOMIC AND FINANCIAL EVALUATION



4.1 ECONOMIC IMPACT

According to the 6th National Plan, reduction of regional income disparities and the creation of employment opportunities are the most crucial socio-economic problems to be solved in Thailand. Tourism development will contribute to the regional economy as well as to the national economy in terms of resolving these problems. Furthermore, the tourism industry has been and will be expected to fill the role of key foreign exchange earner.

4.1.1 IMPROVEMENT OF REGIONAL INCOME

1) PER CAPITA GRP

exceeds that of the whole Kingdom, however, it is far below that of the Bangkok metropolis as shown in Table 4-1-1 and Fig. 4-1-1.

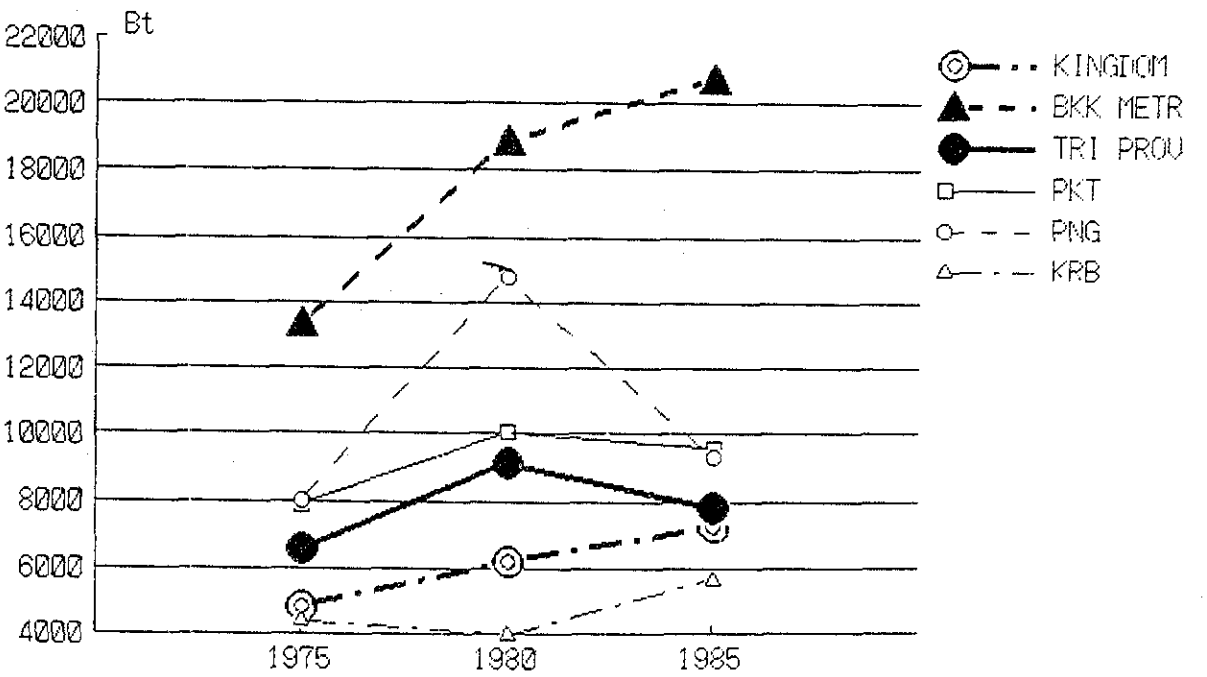
TABLE 4-1-1 PER CAPITA GNP

Unit: Baht at 1972 constant prices

	1975	1980	1985
WHOLE KINGDOM	4,918	6,269	7,328
BANGKOK METRO	13,400	18,908	20,812
SOUTHERN REGION	4,072	5,015	5,400
TRI-PROVINCE AREA	6,613	9,156	7,885
PHUKET	7,965	10,123	9,621
PHANG NGA	8,088	14,822	9,374
KRABI	4,462	4,012	5,731

Source : Gross Regional and Provincial Product

FIG. 4-1-1 PER CAPITA GRP



Note: Constant 1972 Price

2) INDUSTRIAL STRUCTURE

- **Krabi is Characterized by Intensive Agriculture Economy**
- **Service Sector is the Largest in Phuket**
- **Phang Nga Economy Depends on Tin and Rubber**

Compared with the industrial structure of the whole Kingdom (shown in Table 4-1-3), that of Krabi is characterized by an intensive agriculture economy. In contrast, the service sector is the largest among eight industrial sectors in Phuket. In this province, a reduction in the mining and quarrying sector caused a slow down in the increase in the GPP (Gross Provincial Products). This tendency is strongly shown in the industrial structure of Phang Nga. Value added of the mining and quarrying sectors of the province increased keenly in 1980 compared with that of 1975. In 1985, however, the output of the sector slipped to one third of 1980. This was caused by the fluctuation of tin prices in the international market. Thus, the existing Phang Nga economy depends on the prices of tin and rubber.

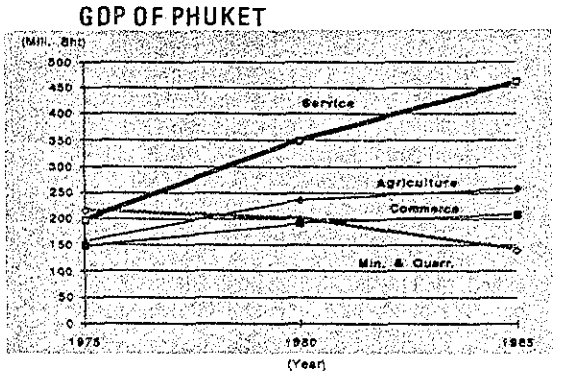
TABLE 4-1-2 INDUSTRIAL STRUCTURE OF THE TRI-PROVINCE

Phuket

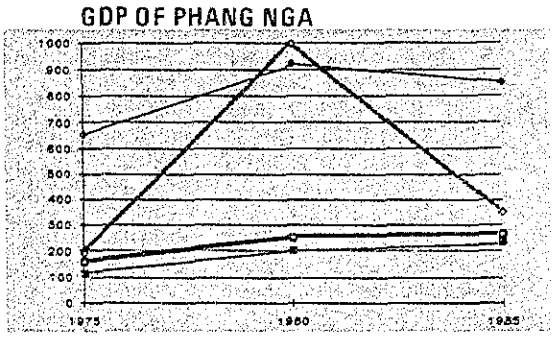
(Million baht at 1972 constant prices) (%)

	1975	1980	1985	1975	1980	1985
AGRICULTURE	156.0	235.2	258.6	16.7	17.3	17.6
MIN. & QUARR.	214.7	200.0	139.7	23.0	14.7	9.5
MANUFACTURING	61.2	93.6	57.8	6.6	6.9	3.9
CONSTRUCTION	37.5	90.2	78.8	4.0	6.6	5.4
ELEC. & WATER	36.5	46.1	70.6	3.9	3.4	4.8
TRANS. & COMM.	80.4	149.3	195.5	8.6	11.0	13.3
COMMERCE	149.0	192.2	208.2	16.0	14.2	14.1
SERVICE	196.6	349.9	462.4	21.1	25.8	31.4
TOTAL	931.9	1,356.5	1,471.6	100.0	100.0	100.0
PHANG NGA						
AGCRICULTURE	653.9	923.3	851.8	53.5	35.4	45.0
MIN. & QUARR.	191.3	997.4	353.8	15.7	38.2	18.7
MANUFACTURING	26.9	35.0	37.9	2.2	1.3	2.0
CONSTRUCTION	16.2	77.1	39.6	1.3	3.0	2.1
ELEC. & WATER	9.1	10.4	19.4	0.7	0.4	1.0
TRANS. & COMM.	50.0	106.8	90.7	4.1	4.1	4.8
COMMERCE	115.8	203.1	234.5	9.5	7.8	12.4
SERVICE	158.2	255.7	265.9	13.0	9.8	14.0
TOTAL	1,221.4	2,608.8	1,893.6	100.0	100.0	100.0
KRABI						
AGRICULTURE	447.8	375.7	829.8	56.7	42.8	55.0
MIN. & QUARR.	7.7	40.2	49.9	1.0	4.6	3.3
MANUFACTURING	32.1	30.9	38.2	4.1	3.5	2.5
CONSTRUCTION	27.6	43.4	57.1	3.5	4.9	3.8
ELEC. & WATER	14.1	24.5	48.4	1.8	2.8	3.2
TRANS. & COMM.	39.0	53.6	45.6	4.9	6.1	3.0
COMMERCE	118.0	156.7	227.9	14.9	17.8	15.1
SERVICE	103.6	153.8	210.5	13.1	17.5	14.0
TOTAL	789.9	878.8	1,507.4	100.0	100.0	100.0

GDP OF PHUKET



GDP OF PHANG NGA



GDP OF KRABI

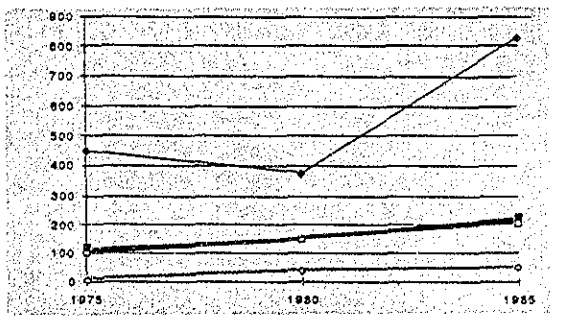
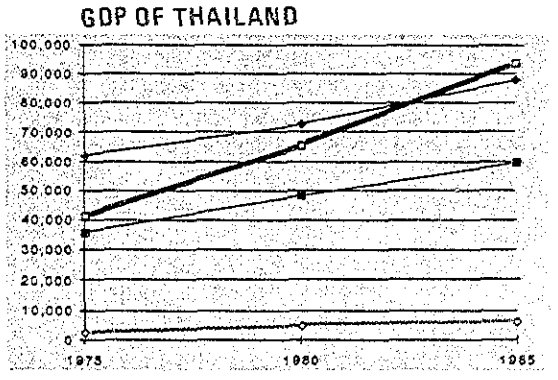


TABLE 4-1-3 GROSS DOMESTIC PRODUCTS (WHOLE KINGDOM)

(Million baht at 1972 constant price) (%)

	1975	1980	1985	1975	1980	1985
AGRICULTURE	62,083.2	72,785.3	87,895.7	30.5	24.9	23.2
MINING & QUARR.	2,485.0	4,780.4	6,012.0	1.2	1.6	1.6
MANUFACTURING	36,831.7	60,639.2	78,927.3	18.1	20.7	20.8
CONSTRUCTION	8,514.3	16,575.9	17,602.7	4.2	5.7	4.6
ELEC. & WATER	3,181.2	5,559.9	8,875.2	1.6	1.9	2.3
TRANS. & COMM.	13,445.5	18,811.2	26,242.1	6.6	6.4	6.9
COMMERCE	35,774.1	48,226.9	59,496.9	17.6	16.5	15.7
SERVICE	41,246.9	65,517.7	93,709.2	20.3	22.4	24.7
TOTAL	203,561.9	292,896.5	378,761.1	100.0	100.0	100.0

GDP OF THAILAND



As shown in these tables, the value added of the manufacturing sector is small in any province concerned. The promotion of the manufacturing sector is expected as well as the development of the tourism sector to diversify away from the tin and rubber intensive economy.

However, considering the centralization of the manufacturing industry to Bangkok, the invitation of some factories such as electrical parts makers to the region seems to be difficult. It would be a realistic idea to develop food processing and handicraft as tourism related industries.

● Tourism Related Industries

3) EFFECTS ON THE REGIONAL ECONOMY

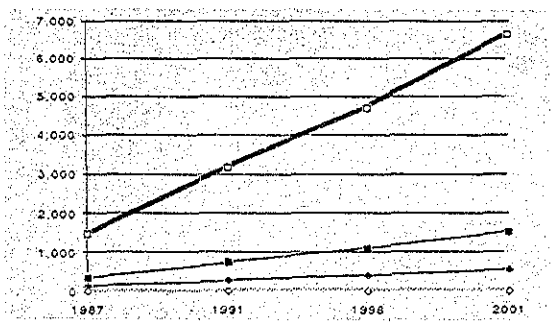
As a result of the tourism development which is planned on the basis of the demand forecast conducted by the Study Team, value added will increase not only in the tourism sector but also in a wide range of other related industries. Amounts of value added in related industries was estimated by using a multiplier element (the multiplier is described later). The results of the estimation of value added generated by the tourism development are shown in Table 4-1-4.

TABLE 4-1-4 EFFECT ON REGIONAL INCOME IN GREATER PHUKET

Unit: Million baht in 1972 constant prices

	1987	1991	1996	2001
AGRICULTURE	127.0	277.4	411.3	578.0
MIN. & QUARR	3.0	6.6	9.7	13.7
MANUFACTURING	239.5	523.0	775.5	1,089.8
CONSTRUCTION	4.0	8.7	12.9	18.2
ELEC. & WATER	32.2	70.2	104.1	146.4
COMMERCE	340.2	743.0	1,101.7	1,548.2
SERVICE	1,457.9	3,184.4(218)	4,721.6(148)	6,635.4(141)
TOTAL	2,294.8	5,012.4	7,431.9	10,444.3
INCREASE (against. 1987)		2,717.6	5,137.1	8,149.5

REGIONAL INCOME



Source: Study Team

In accordance with the increase in the number of tourists, the value added of the service sector will double in 1991 against 1987 and will induce value in several other industries such as the manufacturing and agricultural industry. Some portion of the induced value added, however, takes place outside of the Greater Phuket area. In other words, the total amount of induced value added does not contribute to increase the regional income fully. In this study, therefore, it is assumed that the value added of the service sector will wholly contribute to the regional economy, and half of the value added in other sectors is also generated in the region. With these assumptions, the per capita GRP generated by tourism development in the tri-province is estimated as shown in Table 4-1-5. Per capita GRP will increase by 26.8 percent in 1991 over that in 1987 (Bts 7987). Additional value added due to tourism development in 2001 is near 90 percent of the per capita GRP in 1987.

GENERATION OF PER CAPITA GRP

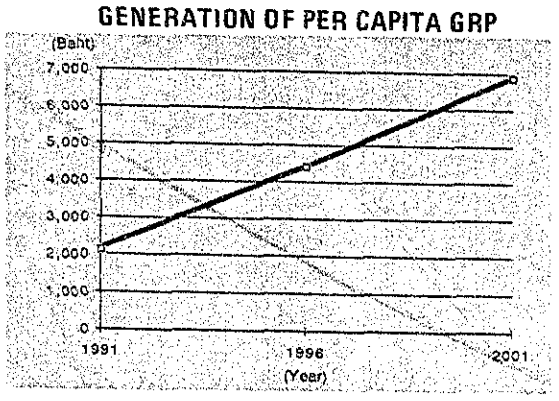


TABLE 4-1-5 PER CAPITA GRP IN GREATER PHUKET

	1991	1996	2001
GRP GENERATED (mil. Baht)	1,493	3,471	5,935
POPULATION	698,000	785,000	858,000
PER CAP GRP GENERATED (Baht)	2,139	4,422	6,917
PERCENTAGE SHARE(%) out of 1987	26.8	55.4	86.6

Note : Per capita GRP of Tri-province is 7,987 Baht in 1987
Source : Study Team

4.1.2 EMPLOYMENT CREATION

1) SIZE OF LABOUR FORCE REQUIRED

According to the statistics of the unemployment ratios for the whole Kingdom and each relevant province (e.g. Phuket by Department of Labour), unemployment ratios in Phuket and Phang Nga provinces were relatively high, while that of Krabi was quite low in 1985, as shown in Table 4-1-6.

TABLE 4-1-6 UNEMPLOYMENT RATIO IN 1985

	Unemployment Ratio
Whole Kingdom	9.1%
Southern Region	10.2
Phuket	10.6
Phang Nga	9.4
Krabi	3.1

Source : Year Book of Labour Statistics 1985, Dept. of Labour, Ministry of the Interior

As for the employment condition of Phuket province, the Phuket Employment Office mentioned that the unemployment ratios in recent years decreased due to absorption by the tourism industry and the hotel construction boom which has taken place on Phuket since 1985.

It will be still necessary to continue to create jobs for regional people in the tri-province, even though the employment condition has improved as mentioned above.

● **Direct and Indirect Employment**

Tourism development can provide both direct and indirect employment. Direct employment, i.e. jobs accruing from, and dependent on the sector, includes that in the accommodation, shops, restaurants and transport sectors. Indirect employment, i.e. jobs in sectors supporting the tourism sector, or activities benefiting from expenditure generated by it, embraces the construction, agriculture and fishing, manufacturing and processing sectors.

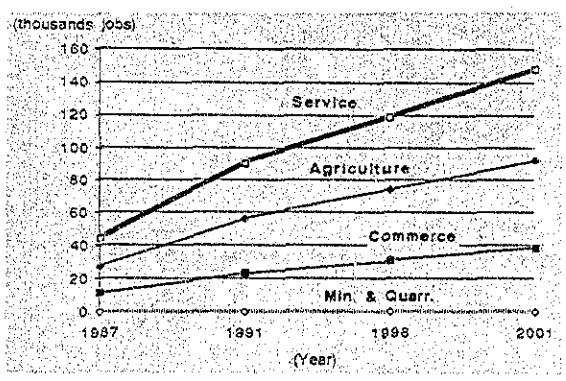
Employment created by the tourism development planned in this study is expected to be as follows:

TABLE 4-1-7 EFFECT ON EMPLOYMENT IN GREATER PHUKET

Unit: thousands of jobs

	1987	1991	1996	2001
AGRICULTURE	27.6	56.1	73.9	92.2
MIN. & QUARR.	0.0	0.1	0.1	0.1
MANUFACTURING	6.8	13.7	18.1	22.6
CONSTRUCTION	0.1	0.3	0.3	0.4
ELEC. & WATER	0.4	0.8	1.0	1.3
TRANS. & COMM.	1.4	2.9	3.8	4.8
COMMERCE	11.6	23.5	31.0	38.7
SERVICE	44.4	90.3	118.9	148.4
TOTAL	92.3	187.7	247.2	308.5
INCREASE(agst.1987)		95.4	154.9	216.2

JOB CREATION IN GREATER PHUKET



As shown in this table, tourism development can provide an additional 95.4 thousand jobs by 1991, and 216.2 thousand by 2001.

2) MANPOWER TRAINING

As shown in Table 4-1-7, the increase in employment in the service sector from 1987 are as follows:

1991: 45,900;
1996: 74,500;
2001: 104,000.

The service sector includes not only the tourism industry such as hotels, restaurants and entertainment services, but also banking, real estate, hospitals, and other service sectors.

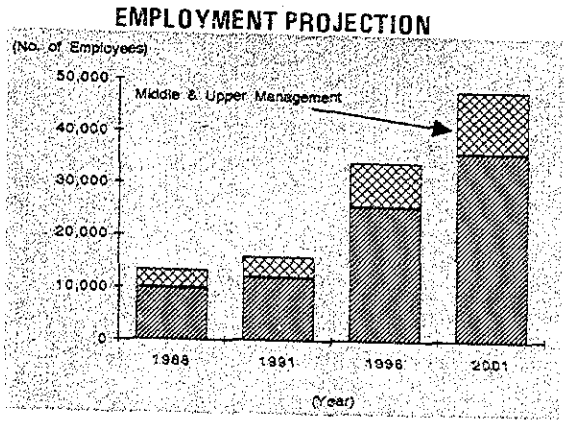
The number of employees in the tourism industry in Greater Phuket was estimated on the basis of the following assumptions:

a. No. of employees per hotel room : 1.5 employees
b. Percentage share of middle and upper management out of the total number of employees : : 25%

The following table shows the results of the estimation.

TABLE 4-1-8 EMPLOYMENT PROJECTION

	No. of Rooms	No. of Employees	No. of People in Middle and Upper Management
1988	8,912	13,368	3,342
1991	10,628	15,942	3,986
1996	22,787	34,181	8,545
2001	31,987	47,981	11,995



As shown in this table, it is necessary to produce around 5,000 managers for the tourism industry by 1996. The number of middle and upper managers will increase to approximately 12,000 in 2001.

At this moment there are only two vocational schools which have hotel courses in the tri-province. However, their courses are only two years long, which is not sufficient to educate students who will become future managers.

3) ESTABLISHMENT OF A HIGHER EDUCATIONAL INSTITUTE

In order to meet the anticipated human resource requirement, a higher educational institute should be established to supply well-trained people to hotels, restaurants and other tourism industries in this region. The outline of the hotel college is proposed as follows:

● Vocational School

a. Objective:

To train students to be future cadre managers who have a wide knowledge of tourism, and also understand hospitality.

b. Years for Education:

Students can select either a two-year graduation course or a four-year one, and additionally, there is a possibility of combining with two existing vocational schools (hotel course).

c. Number of Enrolled Freshmen:

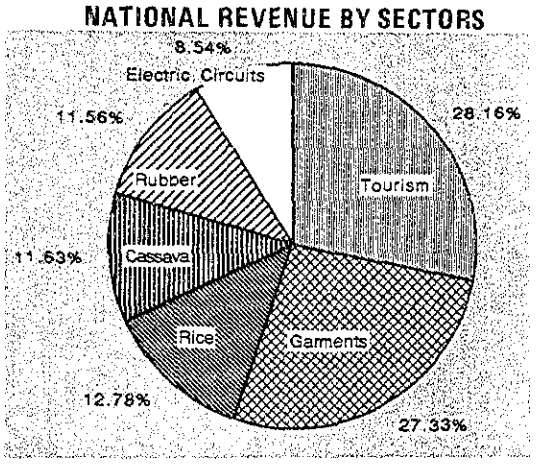
Four-Year Course : 80 students (150 in future)
Two-Year Course : 150 students (200 in future)

d. Curriculum:

- Primary Subjects (Economics, Organization management, human resources management, etc.)
- Financial Management
- Food and beverage Management
- Marketing and tourism
- Property Management
- Others (Communications, Computer Skills, Law etc.)

A key factor is to provide good teaching staff. It is necessary to train the staff and to establish fine curriculums in collaboration with the existing institutes which have many years experience.

This study recommends the establishment of a hotel college in the second phase at a cost of 91,560 thousand bahts with a grant from abroad.



4.1.3 INCREASE IN FOREIGN EXCHANGE EARNINGS

According to the tourism data from TAT, tourism is Thailand's most important foreign exchange earner as shown in Table 4-1-9. The amount of foreign exchange earned by tourism in this table does not include a deduction of foreign exchange payment made for tourist consumption imports.

TABLE 4-1-9 REVENUE FROM TOURISM AND EXPORTS IN 1987

(Million of Baht)

Category	1987
Tourism	50,024
Garments	48,555
Rice	22,703
Cassava	20,661
Rubber	20,539
Electric Circuits	15,179

Source : Tourism Data 1987,TAT

Foreign exchange earnings generated by the tourism sector are equivalent to the difference between tourist expenditure and the amounts of import caused by the increase in tourists. The deduction ratio is calculated at 17.3 percent of foreign exchange earnings using an input coefficient table and an inverse matrix of the Input/Output Table in Thailand. (See Volume 3.)

TABLE 4-1-10 FOREIGN EXCHANGE EARNING EFFECT

Unit: Million Baht at 1988 prices

	1987	1991	1996	2001
NO. OF FOREIGN TOURISTS	399.00	856.00	1,201.00	1,607.00
AVE. LENGTH OF STAY	4.42	5.50	5.50	6.00
AVE. EXPENDITURE (Bht per person)	3,022.00	3,022.00	3,022.00	3,022.00
F/E EARNING	5,329.50	14,227.60	19,961.80	29,138.10
IMPORT RELATED	921.00	2,458.80	3,449.80	5,035.60
NET F/E EARNING	4,408.50	11,768.80	16,512.00	24,102.50
INCREASE (agst. 1987)		7,360.30	12,103.50	19,694.00

As shown in Table 4-1-10, the amount of gross foreign exchange earnings of Greater Phuket in 1987 was about 5.3 billion baht which is equivalent to around 10 percent of the total foreign exchange earnings from the tourism sector. As a result of the tourism development of Greater Phuket, net foreign exchange earnings will be 2.7 times and 5.5 times as much as that of 1987 in 1991 and 2001, respectively.

4.2 ECONOMIC ANALYSIS

4.2.1 GENERAL

The purpose of this economic analysis is to evaluate the economic feasibility of the development project from a national economic point of view. The economic internal rate of return (EIRR) based on a cost benefit analysis is adopted to evaluate the feasibility of the project. The EIRR is calculated using the equation shown below:

● EIRR

$$\sum_{i=0}^{n} \frac{B_i - C_i}{(1 + r)^i} = 0$$

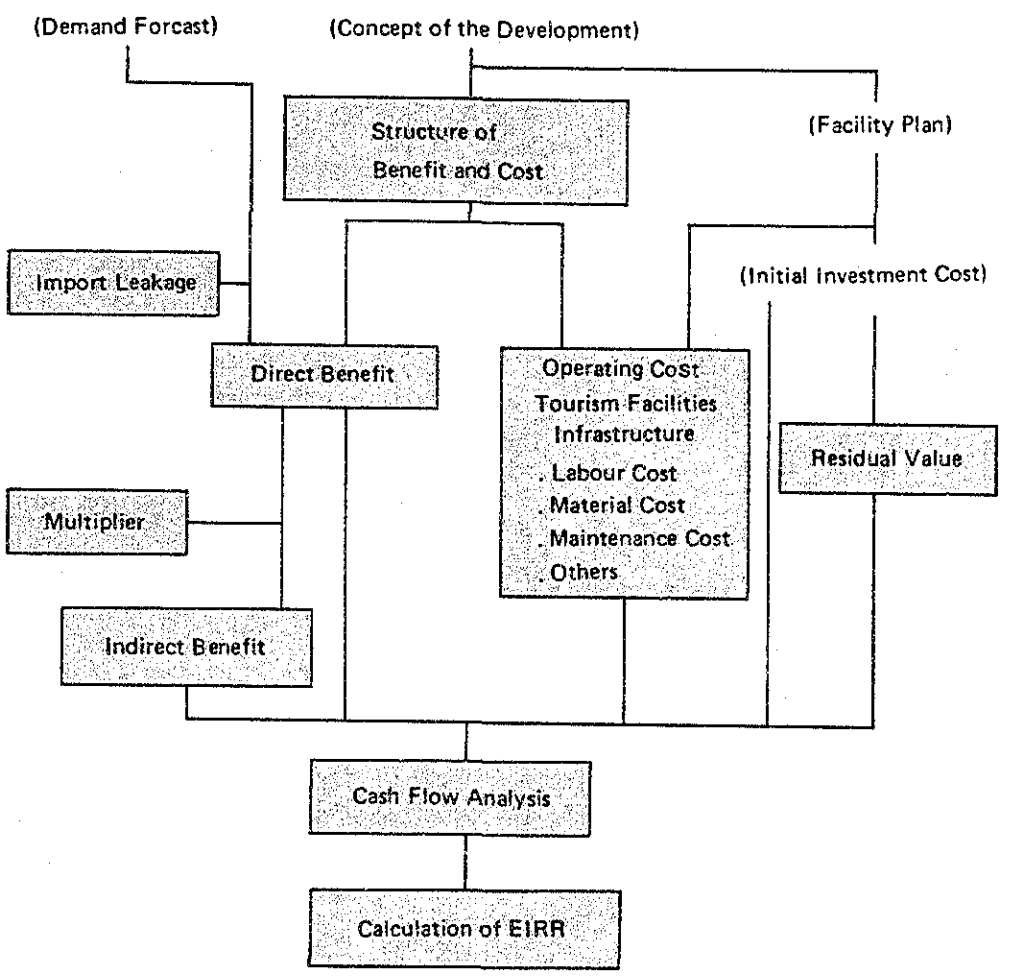
where, Bi : Benefit at the i-th year
Ci : Cost at the i-th year
r : Rate of discount

The value of "r" that satisfies the equation above is called the internal rate of return (IRR).

Sensitivity tests are also conducted to check the feasibility of the project under changeable conditions. ● Sensitivity Tests

The process of the economic analysis is shown in Fig. 4-2-1.

FIG. 4-2-1 PROCESS OF THE ECONOMIC ANALYSIS



4.2.2 MAJOR ASSUMPTIONS

1) STUDY PERIOD

Large scale development projects by the public sector are usually accepted by the cabinet and are authorized in the National Economic and Social Development Plan (Five Year Plan). Tourism development projects which are planned in the Study might be mainly in the 7th National Plan period. On the other hand, the life of tourism facilities and their related infrastructure is approximately 20 years. Considering these factors, the study period is assumed to be from 1989 to 2016.

2) PRICE

a. Base Year

● Exchange Rate Adopted

All costs and benefits are expressed in prices as of Apr. 1988, and are calculated at 1988 constant prices. The exchange rate adopted in this report is assumed as follows:

Japanese Yen	:	US$1 =	¥124.93
US dollar	:	US$1 =	B24.146

Source: International Finance Statistic (IMF)

b. Shadow Price

● Land Acquisition Cost

There are three shadow pricing elements to be considered in this study: land acquisition cost, unskilled labour cost, and the exchange rate.

- Land Acquisition Cost:

● Land Price

Major portions of the land used for the project site are located in exhausted tin mining areas, idle land, open forest, coconut fields, rubber plantations and rice fields. The land prices which are identified through an interview survey to the chief of the village (Tambon) are listed as follows:

Changwat	Ampho	Tambon	Land Price (Beach Front)
Phuket	Thalang	Cheang Tale	1,500 thousand Bht/Rai
		Saku	2,000
		Maikao	400 - 500
Phang Nga	Thai Muang	Na Tuay	20 - 30
		Thai Muang	100
	Takua Thung	Khok Kloi	300 - 400

These prices are supposed to be already affected by the land speculation now prevalent in the Phuket area. Therefore, the land price used in the economic analysis should be adjusted by using the method of land productivity calculation in the economic price of land.

For this purpose, rubber is adopted as the opportunity product, because rubber is the typical crop in Southern Region with the following productive conditions:

Producer price of rubber in 1987	:	15.6 Bahts/Kg
Productivity of rubber	:	90.11 kg/rai
Price index in 1988	:	137.9
Price index in 1977	:	116.1
Rate of net value	:	0.709384
Opportunity cost of capital	:	16%

Source: Agricultural Statistics of Thailand 1986/87, Ministry of Agriculture & Cooperatives, and Shadow Prices for Economic Appraisal of Projects, World Bank, 1983

Based on this data, the economic land price is calculated at 7,403 Bahts/Rai.

- Unskilled labour Cost:

● Minimum Wage Rates

The minimum wage rates designated by region are as follows:

Phuket, Phang Nga	:	73 Baht/day	(66 Baht in 1985)
Krabi	:	61 Baht/day	

In some countries the minimum wage rates are after set politically and have no relationship with the productivity of unskilled labours. Therefore, it is necessary to compare the minimum wage rate and value added per worker in the agriculture sector which would absorb the underemployed labour force, as follows:

Agriculture Sector in Southern Region

Value added in 1985	:	37,208.6	Millions Bht
Labour force	:	2,022.9	Thousands
Value added per laborer in 1985	:	18,008.8	Bts/labor•year

Yearly Minimum Wage

Workable days	:	297	Days/year
Yearly wage in 1985	:	19,602	Bts/labour•year

Afterwards, since the difference between the value added per labour and the minimum wage rate is not so large, it might be said that the wage rate of unskilled labour is not heavily distorted in this country.

- Exchange Rate:

According to the report, "Shadow Prices for Economic Appraisal of Projects, An Application to Thailand, 1983", the standard conversion factor is 0.937. Since this factor is considerably small, the shadow exchange rate may not be taken into account for this prefeasibility study.

3) TRANSFER ITEMS

In the economic analysis, transfer items such as tax, import duties and taxes, subsidies and interests should be excluded from both benefits and costs.

- Tax, Import Duties, Subsidies and Interest are Excluded

Income tax and interest expense are excluded from the cash out flow. The tax and interest which are included in indirect benefits are not deducted from the benefits.

As for indirect taxes, for example, commodity taxes and service tax, import duties and taxes, the composition ratios of tourist expenditure by category are calculated using the Input/Output Table. The results of the calculation are as shown in Table 4-2-1.

TABLE 4-2-1 INDIRECT TAXES AND IMPORT DUTIES AND TAXES

Category of Tourist Expenditure	Indirect Taxes (%)	Import Duties and Taxes (%)	Total (%)
Accommodation	6.33	1.37	7.70
Food	4.89	0.55	5.44
Transportation	0.35	2.35	2.70
Shopping	1.25	0.28	1.53
Entertainment	2.64	1.19	3.83
(Average)	3.09	1.15	4.24

4) WITHOUT PROJECT

IRR is calculated based on the cash flow table which is composed of "with project" and "without project" components.

"With project" means the situation in which investment is made not only in the private sector such as hotels, but also in public sector for infrastructure development such as water supply systems, sewage and roads.

- "With Project"

There are two notions concerning "without project": One is that the infrastructure investment will not be made while some private entrepreneurs construct hotels or other tourism facilities. In the other situation development is frozen. The latter means that any investment by the private sector should not be permitted without improving infrastructure so as to prevent deterioration of the natural environment in an international tourism spot.

- "Without Project"

In practice, although the backwardness of the infrastructure relatively discourages investment in tourism development, even if there are no well-developed infrastructure, hotel construction activities are taking place to some extent. In this condition, given the former notion, it would be difficult to identify the differences quantitatively between the "with project" and the "without project", at the same time, there are actually some difficulties in restricting the construction of private facilities. Hence, the latter notion was applied as "without project" in this study, taking into account the conservation of existing circumstances.

5) BENEFITS

There are two kinds of benefits to be considered in this study: direct benefits and indirect benefits.

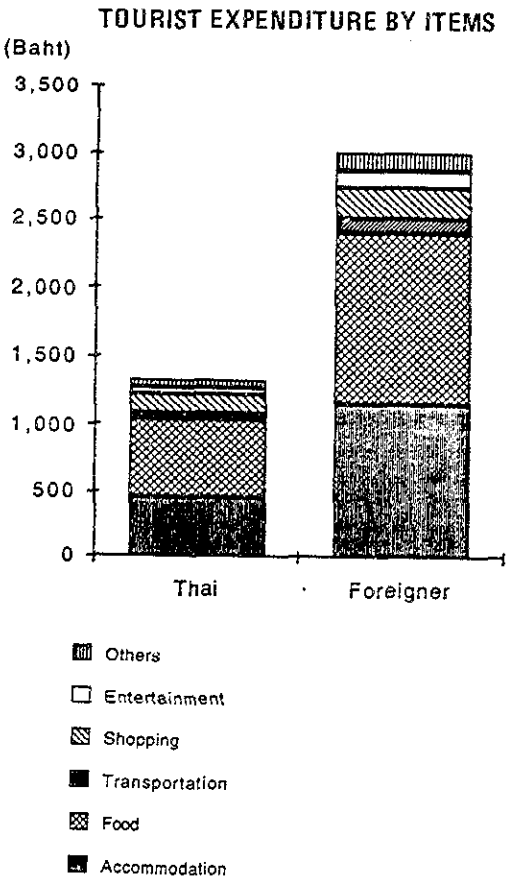
a. Direct Benefits
Tourist expenditure by category in Phuket is estimated as shown in Fig. 4-2-2. However, leakages to abroad, such as the value of import goods which are consumed by tourists, are deducted from the direct benefits accruing from the tourist expenditure.

TABLE 4-2-2 TOURIST EXPENDITURE

Unit: Baht at 1988 prices

	Thai		Foreigner	
Total	1324	(100.0%)	3022	(100.0%)
Accommodation	458	(34.6)	1176	(38.9)
Food	587	(44.3)	1251	(41.4)
Transportation	53	(4.0)	103	(3.4)
Shopping	127	(9.6)	233	(7.7)
Entertainment	54	(3.5)	124	(4.1)
Others	53	(4.0)	136	(4.5)

Note : Tourist expenditure per person per day 1988 price
Source : Study Team (based on TAT statistics)



b. Indirect Benefits

Tourist expenditure (direct benefit) is received as revenue by hoteliers, shopkeepers, restaurant operators, excursion organizers, etc. This income is mostly used to purchase a wide range of goods and services. The income which is generated within related industries is called indirect benefit. The relationship between an initial injection of tourism expenditure (direct benefit) and subsequent generation of value added (indirect benefit) is expressed as the multiplier. Given the income finally generated as A, and the initial injection of expenditure as B, the multiplier is given by the expression of A/B. In this study, the multiplier is calculated at 0.58 by using the Thailand's Input/Output Table inverse matrix (see Volume 3). The total amount of production of related industries includes not only value added by the industries, but also intermediate input.

Therefore, the value added of the related industries is given by the following formula.

(Value Added)= (Total value of production) x (Value Added Ratio),

where value added ratio out of total value of production is calculated at 0.48, which is given by the input coefficient table of the Input/Output Table.

6) COST

a. Investment Cost

Land acquisition cost in terms of economic price is calculated using shadow land cost as referred to before. Construction costs of tourism facilities and infrastructure are listed in Section 2.7. In this economic study, transfer items are deducted from the construction cost.

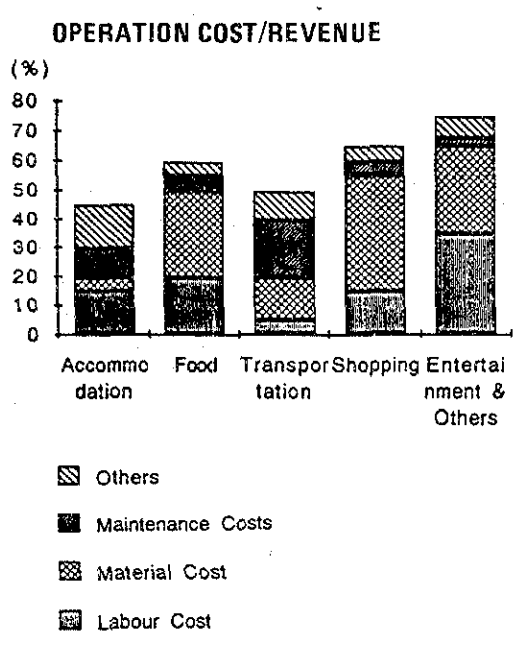
b. Operating Cost

Operating costs for tourism facilities by category are estimated by using Table 4-2-3 which is based on the cost structures of existing facilities in Thailand (refer to Volume 3, Appendices). From these operating costs, transfer items are deducted as well as investment costs. Operating costs for infrastructure are estimated by each category of facility.

TABLE 4-2-3 PERCENTAGE OF OPERATING COSTS TO THE REVENUE

%

Category	Labour Cost	Material Cost	Maintenance Costs	Others	Total
Accommodation	15	5	10	15	45
Food	20	30	5	5	60
Transportation	5	15	20	10	50
Shopping	15	40	5	5	65
Entertainment & Others	35	30	3	7	75



4.2.3 RESULTS AND CONCLUSIONS

1) GREATER PHUKET

The cash flow of the Greater Phuket tourism development projects is shown in Table 4-2-4. The economic internal rate of return (hereinafter referred to as EIRR) is calculated at 34.6 percent. This means that generally the EIRR should exceed opportunity cost of capital in the host country. The opportunity cost of capital in the Thai economy is estimated at 15 - 20 percent in the report of "Shadow Prices for Economic Appraisal of Projects" by the World Bank in 1983.

Compared to the opportunity cost of capital in Thailand, the Greater Phuket tourism projects are quite feasible in terms of profitability from a national economic point of view.

The following tests were carried out.

Test 1 : An increase of 10 percent in the initial investment costs
Test 2 : An decrease of 10 percent in the number of tourists
Test 3 : A lack of indirect benefit

The results of these sensitivity tests are shown in Table 4-2-5.

TABLE 4-2-5 CHANGES IN ECONOMIC PROFITABILITY

Case	EIRR (%)
Base Case	34.6
Test 1	31.5
Test 2	31.0
Test 3	21.6

As shown in Table 4-2-5, in any case, the EIRR exceeds the opportunity cost of the capital.

TABLE 4-2-4 CASH FLOW TABLE-GREATER PHUKET

<< CASH FLOW TABLE >> (GREATER PHUKET)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
BENEFIT													
DIRECT BENEFIT	0.0	2255.3	4240.1	5951.8	7110.6	8329.3	9613.4	10986.5	12301.3	13853.0	15468.4	17163.2	18946.6
INDIRECT BENEFIT	0.0	633.9	1191.7	1672.8	1998.5	2341.0	2701.9	3087.8	3457.3	3893.4	4347.4	4823.8	5325.0
TOTAL	0.0	2889.2	5431.7	7624.6	9109.1	10670.3	12315.2	14074.2	15758.7	17746.5	19815.8	21987.0	24271.6
COST													
INVESTMENT COST	4142.6	4130.6	4130.6	3223.1	3217.6	3217.6	3217.6	3217.6	2172.6	2172.6	2172.6	2172.6	2172.6
LAND ACQUISITION	12.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOURISM FACILITIES	3274.4	3274.4	3274.4	1961.1	1961.1	1961.1	1961.1	1961.1	1551.2	1551.2	1551.2	1551.2	1551.2
INFRASTRUCTURE	856.2	856.2	856.2	1256.4	1256.4	1256.4	1256.4	1256.4	621.4	621.4	621.4	621.4	621.4
OPERATING COST	0.0	1121.2	2227.9	3274.9	3873.9	5287.0	5936.9	6620.2	6525.2	7297.2	8105.4	8950.1	9838.6
LABOUR COST	0.0	361.9	735.9	1034.4	1239.1	1837.8	2049.0	2269.2	2107.7	2356.5	2617.8	2890.2	3176.2
MATERIAL COST	0.0	439.4	852.8	1233.3	1462.8	1700.3	1950.8	2218.4	2483.3	2785.7	3100.6	3430.9	3779.6
MAINTENANCE COST	0.0	144.7	309.7	517.6	592.2	670.7	753.7	842.2	942.9	1042.8	1147.0	1256.2	1371.1
ADMINISTRATION & OTHER	0.0	175.2	329.5	489.6	579.9	1078.1	1183.4	1290.4	991.3	1112.1	1240.1	1372.8	1511.8
TOTAL	4142.6	5251.8	6358.5	6498.0	7091.5	8504.5	9154.4	9837.8	8697.8	9469.8	10278.1	11122.7	12011.2
NET CASH FLOW	-4142.6	-2362.6	-926.7	1126.6	2017.6	2165.8	3160.8	4236.4	7060.9	8276.7	9537.8	10864.2	12260.4

NET PRESENT VALUE 540,827 (Million Baht)

(Million Bt)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
20100.1	20767.6	21458.6	22023.2	22576.5	22697.7	22697.7	22697.7	22697.7	22697.7	22697.7	22697.7	22697.7	22697.7	22697.7
5649.2	5836.8	6031.0	6189.7	6345.2	6379.2	6379.2	6379.2	6379.2	6379.2	6379.2	6379.2	6379.2	6379.2	6379.2
25749.2	26604.4	27489.5	28212.8	28921.6	29076.9	29076.9	29076.9	29076.9	29076.9	29076.9	29076.9	29076.9	29076.9	29076.9
117.7	117.7	117.7	117.7	117.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3420.8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-17.6
102.7	102.7	102.7	102.7	102.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3409.2
15.0	15.0	15.0	15.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10426.5	10759.1	11103.5	11383.8	11658.1	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7
3367.7	3474.6	3585.3	3676.0	3765.0	3788.5	3788.5	3788.5	3788.5	3788.5	3788.5	3788.5	3788.5	3788.5	3788.5
4008.1	4138.3	4273.0	4383.0	4490.7	4516.6	4516.6	4516.6	4516.6	4516.6	4516.6	4516.6	4516.6	4516.6	4516.6
1448.8	1492.0	1536.9	1572.8	1607.9	1616.8	1616.8	1616.8	1616.8	1616.8	1616.8	1616.8	1616.8	1616.8	1616.8
1601.9	1654.2	1708.3	1751.9	1794.5	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8	1803.8
10544.1	10876.8	11221.2	11501.4	11775.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	11725.7	8298.9
15205.1	15727.5	16268.3	16711.4	17145.9	17351.2	17351.2	17351.2	17351.2	17351.2	17351.2	17351.2	17351.2	17351.2	20778.0

2) PHANG NGA WEST PROJECT (THAI MUANG AND KHOK KLOI RESORT DEVELOPMENT)

The cash flow of the Phang Nga West Project is shown in Table 4-2-6. As a result of the cash flow analysis, the EIRR is calculated at 37.9 percent and this figure also exceeds the opportunity cost of capital in Thailand.

The following tests were carried out.

Test 1 : An increase of 10 percent in the initial investment costs
Test 2 : A decrease of 10 percent in the number of tourists
Test 3 : A lack of indirect benefit

The results of these sensitivity tests are shown in Table 4-2-7. This indicates that all of the EIRR exceed the opportunity cost of capital.

TABLE 4-2-7 CHANGE IN ECONOMIC PROFITABILITY

Case	EIRR (%)
Base Case	37.9
Test 1	34.6
Test 2	34.1
Test 3	22.8

TABLE 4-2-6 CHANGE IN ECONOMIC PROFITABILITY

<< CASH FLOW TABLE >> (PHANG NGA WEST) [BASE CASE]

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
BENEFIT													
DIRECT BENEFIT	0.0	343.5	615.4	970.3	1342.7	1772.0	2616.1	3201.5	3963.5	4400.7	4917.3	4904.1	4890.8
INDIRECT BENEFIT	0.0	96.5	173.0	272.7	377.4	498.0	735.3	899.8	1113.9	1236.8	1382.0	1378.3	1374.6
TOTAL	0.0	440.1	788.3	1243.0	1720.0	2270.0	3351.4	4101.3	5077.4	5637.5	6299.4	6282.4	6265.4
COST													
INVESTMENT COST	628.3	628.3	628.3	628.3	628.3	1137.9	1137.9	1137.9	1137.9	1137.9	10.7	10.7	10.7
LAND ACQUISITION	8.5	0.0	0.0	0.0	0.0	15.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOURISM FACILITIES	545.9	545.9	545.9	545.9	545.9	1082.5	1082.5	1082.5	1082.5	1082.5	6.2	6.2	6.2
INFRASTRUCTURE	82.4	82.4	82.4	82.4	82.4	55.3	55.3	55.3	55.3	55.3	4.5	4.5	4.5
OPERATING COST	30.8	223.9	376.8	576.5	786.1	1048.7	1523.7	1853.2	2282.0	2528.2	2826.1	2819.0	2812.0
LABOUR COST	11.7	77.2	129.1	196.8	267.9	365.5	526.6	638.3	783.7	867.2	969.6	967.2	964.7
MATERIAL COST	5.8	81.7	141.7	220.1	302.4	399.5	586.0	715.4	883.8	980.5	1095.9	1093.1	1090.3
MAINTENANCE COST	13.3	36.3	54.4	78.2	103.1	135.1	191.6	230.8	281.8	311.2	347.7	346.9	346.1
ADMINISTRATION & OTHER	0.0	28.8	51.6	81.4	112.6	148.7	219.5	268.7	332.7	369.4	412.9	411.9	410.8
TOTAL	859.1	852.2	1005.1	1204.8	1414.4	2186.6	2661.6	2991.0	3419.9	3666.1	2836.8	2829.7	2822.7
NET CASH FLOW	-659.1	-412.1	-216.8	38.2	305.7	83.4	689.8	1110.3	1657.5	1971.4	3462.6	3452.7	3442.7

(Million Bt)

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
4805.9	4926.2	4930.5	4930.5	4930.5	4930.5	4930.5	4930.5	4930.5	4930.5	4930.5	4930.5
1378.8	1384.5	1385.7	1385.7	1385.7	1385.7	1385.7	1385.7	1385.7	1385.7	1385.7	1385.7
6284.7	6310.7	6316.2	6316.2	6316.2	6316.2	6316.2	6316.2	6316.2	6316.2	6316.2	6316.2
10.7	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1789.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-24.3
6.2	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1789.2
4.5	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2820.0	2830.8	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1
967.5	971.2	972.0	972.0	972.0	972.0	972.0	972.0	972.0	972.0	972.0	972.0
1093.5	1097.7	1098.7	1098.7	1098.7	1098.7	1098.7	1098.7	1098.7	1098.7	1098.7	1098.7
347.0	348.3	348.5	348.5	348.5	348.5	348.5	348.5	348.5	348.5	348.5	348.5
412.0	413.5	413.9	413.9	413.9	413.9	413.9	413.9	413.9	413.9	413.9	413.9
2830.7	2841.5	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	2833.1	1043.8
3454.0	3469.2	3483.2	3483.2	3483.2	3483.2	3483.2	3483.2	3483.2	3483.2	3483.2	5272.4

4.3 FINANCIAL ANALYSIS

4.3.1 GENERAL

The objective of the financial analysis is to evaluate the financial feasibility of the project. This analysis focuses on the following two aspects:

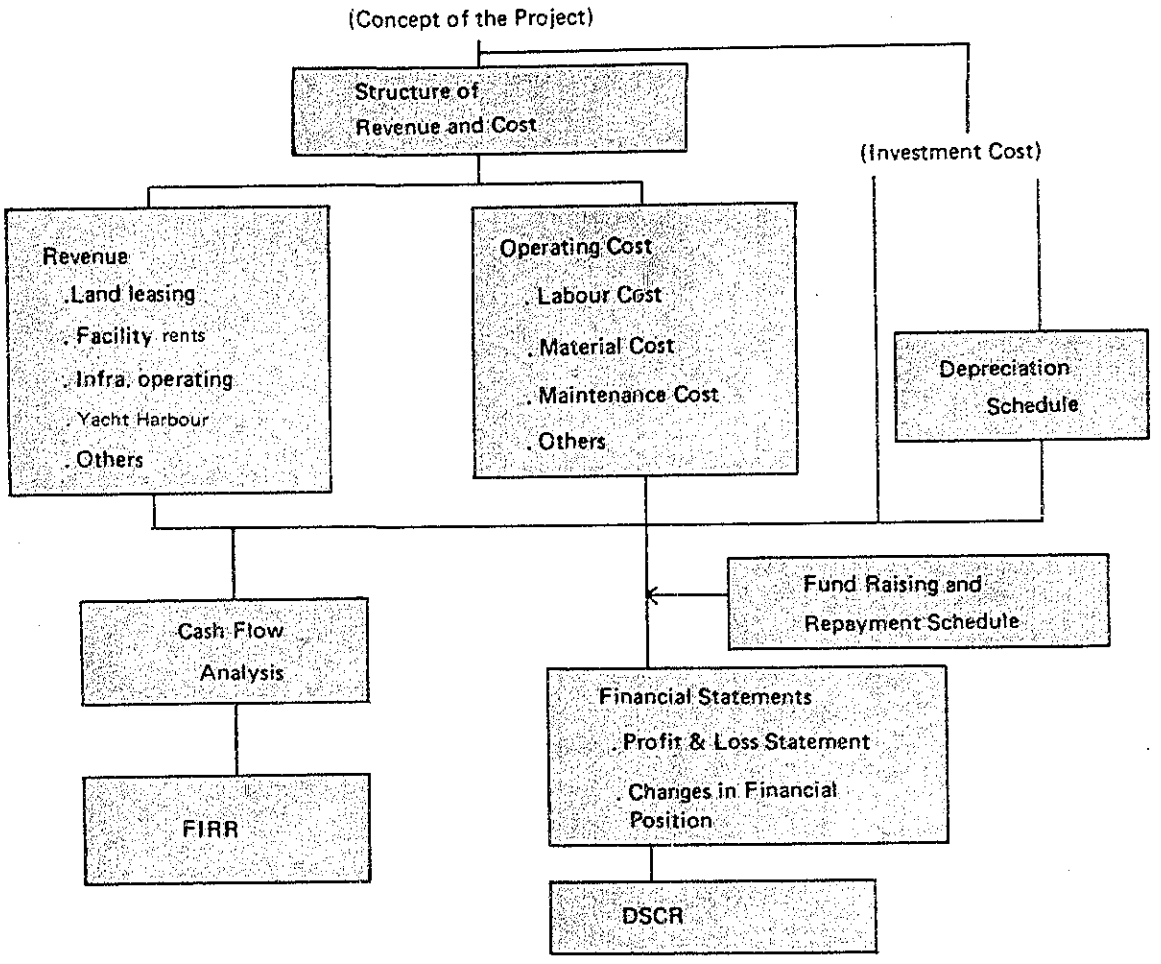
1) Profitability of the project itself, and
2) Financial viability of the development body

The profitability of the project itself is examined by using a financial internal rate of return (FIRR) based on the discounted cash flow method. A sensitivity test is also conducted to check profitability under different conditions.

The financial viability of the development body is evaluated, using a projected financial statement such as a Profit and Loss Statement and a Cash Flow Statement.

The financial analysis process is shown in Fig. 4-3-1.

FIG. 4-3-1 PROCESS OF THE FINANCIAL ANALYSIS



4.3.2 MAJOR ASSUMPTIONS

1) PROJECT ENTITY

The entity of the project is assumed as follows:

a. Phang Nga West Project

The area is approximately 3,500 rai (560 ha), and consists of 10 lots of tenure which are not necessarily equal to the number of landlords.

There are two ways of development: 1) each landowner develops his own land by himself independently in accordance with his intentions in a piecemeal manner; and 2) a certain body conducts the development exclusively by purchasing land based on a comprehensive scheme designed to develop the whole area in a planned manner.

As for the former, since each landowner is profit-oriented and myopic with regard to the entire development, the development to overcome the seasonability aspect and attract tourists from other market segments might not be explored if it is not profitable in the short run. Therefore, based on the recognition that thoughtfully planned development is indispensable, the latter is desirable: an organization responsible for management of the entire development should be established.

For pursuing the latter, three types of organizational schemes are conceivable in terms of the relationship between the tenure of land and facilities and development management as follows:

Type A : A development body owns all the land and facilities, and manages the whole development as well;

Type B : A development body owns the land and leases it to individual investors, but controls and manages the whole development;

Type C : A co-operative organization established by landowners is responsible for the management of the entire development, but each lot and facility is owned by each landowner/developer.

	Tenure		Management of Development
	Land	Facilities	
Type A :	x	x	x
Type B :	x		x
Type C :			x

Notes: x stands for the responsible area owned by the organization.

Each type has advantages and simultaneously disadvantages as described in the Table 4-3-1.

Type A has the principal disadvantage in terms of management and investment risk in a sense that the organization has to be responsible for a huge amount of funds by itself. However, this also makes development more easily controllable and manageable. On the other hand, Type C would have difficulties in forming a consensus because of the different intentions of the landowners, thereby negating the best feature of such a development structure.

Of the three options, Type B is recommended, since it is not likely to have any significant disadvantages. It is recommended that a development body based on Type B be established as a joint venture of the *public and private sectors so as to integrate their respective inherent merits.*

Basically, the managerial skill of the private sector should fuily be utilized in order to make the project feasible in a financial sense, however, at the same time, the social welfare and regional economic view-points must be taken into account. The compromising process for this purpose itself would be meaningful.

In order to mobilize funds, the public sector could possibly raise long term foreign concessional loans, while the private sector may introduce some short- and medium- term commercial funds. Such a joint venture may hold the land and lease it to entrepreneurs who wants to operate tourism facilities, such as hotels and golf courses planned in the project site.

TABLE 4-3-1 COMPARISON OF TYPE OF ORGANIZATION

	Advantages	Disadvantages
Tape A:	- Ensures overall development in a planned manner	- Necessary to raising a large amount of funds with full responsibility
	- Managing the whole development	- Need for a lot of experts to execute
		- Acquiring the whole land
Type B:	- Second best to ensure the whole development	- Acquiring the whole land
Type C:	- Not necessary to raise funds	- Takes a lot of time to form a consensus
	- Not necessary to acquire the land	- Likely to be interrupted by disorganization of the co-operative
		- Difficult to invest in the infrastructure

Source: Study Team

b. Phuket Marine Center Project

As for the Phuket Marine Center project, the conditions of the project entity is almost the same as that of the Phang Nga West Project. Furthermore, a public or a joint venture is expected to develop and manage the project because reclamation requires the governmental intervention.

Accordingly, it is assumed that a public and private joint venture, which will reclaim the seashore and acquire the hinterland, will be established. Such a development body constructs infrastructure such as roads and sewage treatment systems, hotels and other tourism facilities, and operates them exclusively. The development body may raise a foreign concessional loan under a guarantee of the Thai government.

2) ACCOUNTING SYSTEM

In this study, the analysis is based on the business accounting system commonly employed by business entities in Thailand.

3) TERMS OF LOANS

It is assumed that funds for initial investments will be raised as follows:

- Capital fund (equity) : 30 percent of the total investment;
- Low interest rate loan from abroad mainly for foreign currency portion and
- Domestic term loan for the rest of the funds.

Whenever a working capital shortfall occurs, the developing body will raise a short term loan.

Table 4-3-2 shows the terms of the loans.

TABLE 4-3-2 TERMS OF LOANS

Loan	Grace Period (years)	Repayment Year (years)	Installment	Interest Rate (% per annum)
Low Interest Rate Loan from Abroad	3	10	equal annual	3
Domestic Term Loan	3	8	ditto	11.5
Short Term Loan	-	-	-	11.5

Source: Bank of Thailand Monthly Report, Apr. 1988
Intensive Survey

4) REVENUE

a. Phang Nga West Project

As mentioned before, it is assumed that the project development body leases the land to private entrepreneurs and some facilities to tenants. The land leasing fee and facility rents are assumed to be calculated by the following formulas.

(Land leasing fee) = (LAC + ICI) x i x r
(Facility rent) = (ICF x i + DEP) x r

where,
LAC : Land acquisition cost;
ICI : Investment cost for infrastructure;
ICF : Investment cost the facilities for rent;
DEP : Depreciation of the facilities;
i : Interest rate of loan;
r : Coefficient for operating expenditure and profit of the development body.

In addition, the development body receives fees for water and sewage services and a pier admission fee which is to be developed in the project site.

b. Phuket Marine Cenetr Project

The development body is assumed to perform the exclusive management of the facilities which are to be developed in the project site. The body may receive the revenue from hotels, restaurants and shop operations, along with yacht harbor, mooring and storage fees and the revenue from Hovercraft operation.

5) COSTS AND EXPENSES

a. Investment Costs

Land acquisition costs are estimated based on the interview survey as follows:

Phang Nga West project site : 100 thousand Baht/Rai;
Phuket Marine Cenetr project site : 200 thousand Baht/Rai.

In Phuket and the west coast area of Phang Nga, land speculation is reportedly taking place. Taking into consideration such a situation, the land acquisition costs listed above might be a little low. On the project site of Phang Nga, however, a certain portion of the land is possessed by the Government and the average acquisition cost will be lower than the price of privately owned land.

The investment costs for these tourism facilities and related infrastructure are summarized in Chapter.3.

b. Operating cost

Operating costs for labour, materials, maintenance and other miscellaneous costs were estimated, based on the same cost ratios to the revenue used in the preceding section, economic analysis.

According to the revenue code, the depreciation schedules are assumed as follows:

Permanent Facilities : 30 years;
Equipment : 10 years.

4.3.3 RESULTS AND CONCLUSIONS

1) PHANG NGA WEST PROJECT

a. Profitability

The development cash flow is shown in Table 4-3-4. The FIRR was calculated at 12.9 percent which exceeds the existing prime rate in Thailand.

The following sensitivity tests were carried out.

Test 1 : An increase of 10 percent in land acquisition cost;
Test 2 : An increase of 10 percent in the initial construction cost of tourist facilities and infrastructure;
Test 3 : A reduction of 10 percent in land and facility rents;
Test 4 : Fund raising without equity;
Test 5 : Not to be able to raise foreign concessional loan

The results of the tests are summarized in Table 4-3-3.

TABLE 4-3-3 CHANGES IN PROFITABILITY

	FIRR (%)
Base Case	12.9
Test 1	12.5
Test 2	11.7
Test 3	10.9

Note: The FIRRs are not changed in Tests 4 and 5.

The difference between Test 1 and the base case is only 0.4 points, and the results of Test 2 is almost the same as that of Test 1. However, a reduction in the revenue (Test 3) seriously affects the FIRR, compared with the base case.

b. Stability

As well as profitability analysis, financial viability was examined, looking at an indicator of debt service cover ratio (DSCR) on the profit and loss statement and the changes in the financial position table as shown in Tables 4-3-5 and 4-3-6 respectively.

● DSCR(Debt Service Cover Ratio)

The DSCR is expected to exceed 1.0 almost every year. As shown in Table 4-3-5, every year, except 1994, can exceed 1.0 after the operation is started. Accordingly, this project is assessed to be viable in terms of its ability to repay the debt.

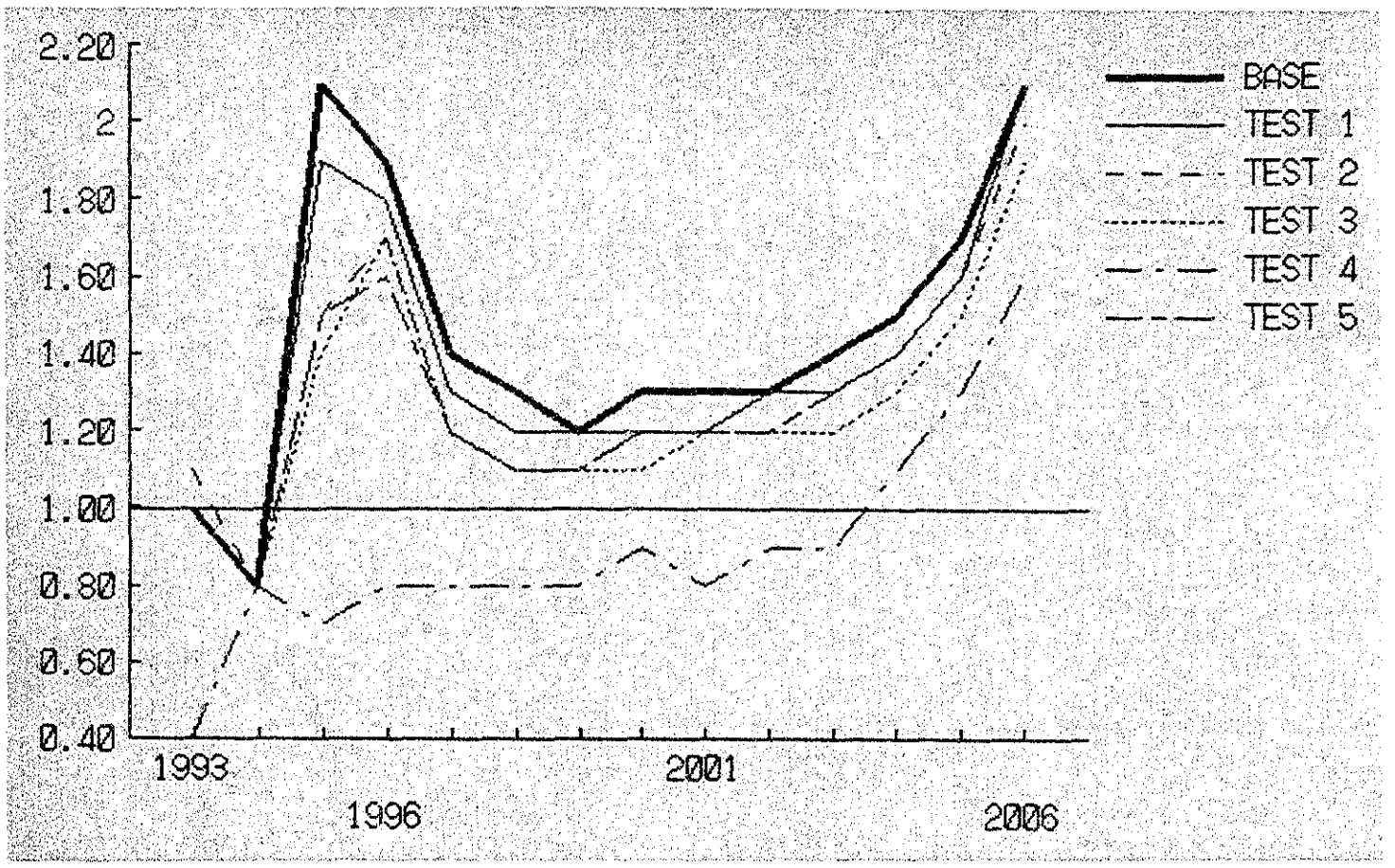
The DSCRs of the above test cases are indicated as shown in Fig. 4-3-2. As shown in this figure, the DSCR of every year up to 2002 is below 1.00 in Test 4, in which are all funds raises by loan. In the case of Test 5, that low interest loans from abroad are not available, the DSCRs are slightly below those in the base case, however, repayment ability is not so inferior.

Tests 1 and 2 indicate almost the same situation as Test 5.

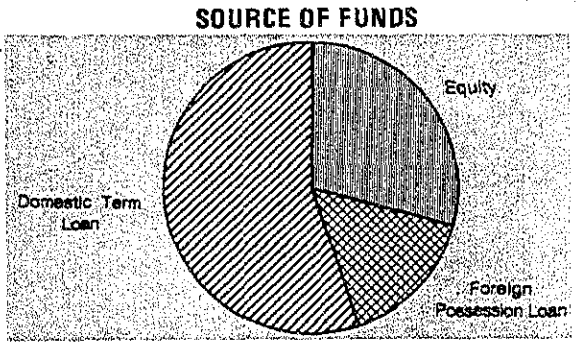
c. Fund Raising Scheme

The development body should raise a total of 1,196.9 million baht in development funds during the construction period of 15 years. In this study, it is assumed that 30 percent of the investment costs are expected to be covered by the equity from the public and private sector. Total amount of foreign currency portion (in other words import portion) and a certain amount of the local currency portion (three sevenths of the foreign currency portion) are raised as low interest rate loans from foreign cooperation institute of fund. And the rest is raised as a commercial loan. The composition of the sources of funds and the uses of the funds are proposed below:

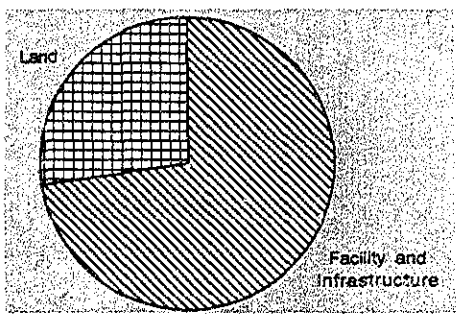
FIG. 4-3-2 DEBT SERVICE COVER RATIO (DSCR) TEST



SOURCE OF FUNDS



USE OF FUNDS



Sources of Funds (million Baht):		
Equity:	350.0	(30%)
Foreign Possession Loan:	183.9	(15%)
Domestic Term Loan:	663.0	(55%)
Total:	1,196.9	(100%)
Use of Funds (million bahts):		
Facility and Infrastructure:	868.9	(73%)
Land:	328.0	(27%)
Total:	1,196.9	(100%)

TABLE 4-3-4 CASH FLOW TABLE-PANG NGA WEST (BASE CASE)

<<CASH FLOW TABLE>> <PANG NGA WEST> [BASE CASE] (Million Bt)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CASH IN FLOW	0.0	45.6	72.1	99.0	126.0	151.9	172.8	196.0	220.1	242.8	256.9	257.6	259.0
CASH OUT FLOW	254.8	140.3	140.8	141.3	141.9	328.1	116.0	116.4	116.9	117.4	68.4	68.4	68.4
INVESTMENT COST	224.0	108.6	108.6	108.6	108.6	273.2	60.6	60.6	60.6	60.6	4.6	4.6	4.6
LABOUR COST	11.7	11.7	11.7	11.7	11.7	27.4	27.4	27.4	27.4	27.4	31.1	31.1	31.1
MATERIAL COST	5.8	5.8	5.8	5.8	5.8	8.0	8.0	8.0	8.0	8.0	9.1	9.1	9.1
MAINTENANCE COST	13.3	13.3	13.3	13.3	13.3	16.5	16.5	16.5	16.5	16.5	18.4	18.4	18.4
OTHERS	0.0	0.9	1.4	2.0	2.5	3.0	3.5	3.9	4.4	4.9	5.1	5.2	5.2
NET CASH FLOW	-254.8	-94.7	-68.7	-42.3	-15.9	-176.2	56.8	79.6	103.2	125.4	188.5	189.2	190.6

(Million Bt)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
CASH IN FLOW	260.4	261.9	262.5	263.0	263.5	264.1	264.7	265.3	266.0	266.7	267.4	268.2
CASH OUT FLOW	68.4	68.5	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	63.9	-536.7
INVESTMENT COST	4.6	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-600.7
LABOUR COST	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1
MATERIAL COST	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
MAINTENANCE COST	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
OTHERS	5.2	5.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.4
NET CASH FLOW	192.0	193.4	198.7	199.2	199.7	200.2	200.8	201.4	202.1	202.7	203.5	804.9

TABLE 4-3-5 PROFIT AND LOSS STATEMENT-PANG NGA WEST (BASE CASE)

PROFIT AND LOSS STATEMENT <PHANG NGA WEST> [BASE CASE] (Million Bt)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
REVENUES	0.0	45.6	72.1	99.0	126.0	151.9	172.8	196.0	220.1	242.8	256.9	257.6	259.0
LAND LEASING	0.0	33.1	51.6	70.1	88.7	102.4	119.5	136.6	153.7	170.9	179.0	179.8	180.6
RENT(FACILITY)	0.0	10.8	17.5	24.1	30.7	37.4	37.1	40.3	43.6	46.8	50.0	49.6	49.8
MARINE SPORTS CENTER	0.0	0.0	0.0	0.0	0.0	4.1	4.3	4.6	4.9	5.2	5.6	5.9	6.3
WATER & SEWAGE	0.0	1.7	3.0	4.8	6.6	8.0	11.8	14.4	17.9	19.9	22.3	22.3	22.3
COST & EXPENSES	30.8	31.7	41.1	46.1	51.0	77.1	79.6	82.3	84.9	87.5	96.6	96.8	94.6
LABOUR COST	11.7	11.7	11.7	11.7	11.7	27.4	27.4	27.4	27.4	27.4	31.1	31.1	31.1
MATERIAL COST	5.8	5.8	5.8	5.8	5.8	8.0	8.0	8.0	8.0	8.0	9.1	9.1	9.1
MAINTENANCE COST	13.3	13.3	13.3	13.3	13.3	16.5	16.5	16.5	16.5	16.5	18.4	18.4	18.4
DEPRECIATION	0.0	0.0	8.9	13.3	17.7	22.1	24.3	26.4	28.6	30.7	32.9	33.0	30.8
OTHERS	0.0	0.9	1.4	2.0	2.5	3.0	3.5	3.9	4.4	4.9	5.1	5.2	5.2
OPERATING PROFIT	-30.8	13.9	31.0	53.0	75.0	74.8	93.1	113.8	135.2	155.3	160.2	160.8	164.4
INTEREST RECEIVABLE	0.0	0.0	0.0	1.8	5.9	10.6	15.0	20.2	27.3	36.5	47.6	60.9	76.4
INTEREST EXPENSE(TERM	0.5	6.4	16.9	27.4	37.9	48.6	55.8	58.3	59.5	59.3	55.3	47.7	39.5
INTEREST EXPENSE(SHORT	1.9	3.6	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PROFIT BFR INCM TAX	-33.3	4.0	12.5	27.3	43.0	36.7	52.4	75.7	103.0	132.4	152.8	173.9	201.3
INCOME TAX	0.0	0.0	0.0	11.4	21.2	20.6	26.8	35.7	46.1	57.1	64.9	72.4	81.2
NET PROFIT	-33.3	4.0	21.3	29.2	39.4	38.2	49.8	66.4	85.5	106.0	120.6	134.5	150.8

(Million Bt)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
REVENUES	260.4	261.9	262.5	263.0	263.5	264.1	264.7	265.3	266.0	266.7	267.4	268.2
LAND LEASING	181.4	182.2	182.2	182.2	182.2	182.2	182.2	182.2	182.2	182.2	182.2	182.2
RENT(FACILITY)	50.0	50.3	50.5	50.5	50.5	50.5	50.5	50.5	50.5	50.5	50.5	50.5
MARINE SPORTS CENTER	6.7	7.1	7.6	8.1	8.6	9.1	9.7	10.4	11.0	11.7	12.5	13.3
WATER & SEWAGE	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
COST & EXPENSES	93.5	92.5	91.5	91.3	91.1	90.9	90.7	90.5	90.5	90.6	90.6	90.6
LABOUR COST	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1	31.1
MATERIAL COST	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
MAINTENANCE COST	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
DEPRECIATION	29.7	28.7	27.6	27.4	27.2	27.0	26.8	26.6	26.6	26.6	26.6	26.6
OTHERS	5.2	5.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.4
OPERATING PROFIT	166.9	169.4	171.1	171.8	172.5	173.2	174.0	174.8	175.4	176.1	176.9	177.6
INTEREST RECEIVABLE	94.5	115.7	140.2	168.2	199.7	234.8	273.1	315.0	360.3	409.2	461.5	517.4
INTEREST EXPENSE(TERM	31.2	23.8	17.4	12.0	8.0	5.1	3.0	1.5	0.8	0.5	0.3	0.1
INTEREST EXPENSE(SHORT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PROFIT BFR INCM TAX	230.1	261.2	293.9	328.0	364.2	402.8	444.2	488.2	535.0	584.8	638.1	694.9
INCOME TAX	90.9	101.5	112.5	124.4	137.0	150.5	164.8	180.2	196.5	214.0	232.6	252.5
NET PROFIT	168.9	188.4	209.0	231.0	254.4	279.4	306.1	334.7	365.0	397.4	432.0	469.0

TABLE 4-3-6 CHANGES IN FINANCIAL POSITION - PHANG NGA WEST (BASE CASE)

(Million Bt)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
SOURSE OF FUND	226.4	122.5	157.3	199.6	310.5	592.5	513.1	645.9	816.2	1025.5	1205.4	1474.0	1782.7
DEFERRED ACCOUNT	0.0	0.0	0.0	0.9	63.6	149.9	233.8	312.1	423.2	570.4	755.1	976.7	1237.8
PROFIT BEFORE DEPRECIA	-30.8	13.9	48.7	88.4	132.5	158.9	203.7	252.9	305.1	358.0	398.0	431.8	463.9
ECQITY	197.5	0.0	0.0	0.0	0.0	154.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN LOAN RAISED	23.0	23.0	23.0	23.0	23.0	12.8	12.8	12.8	12.8	12.8	1.0	1.0	1.0
DOMESTIC LOAN RAISED	36.7	85.5	85.5	85.5	85.5	105.7	47.9	47.9	47.9	47.9	3.6	3.6	3.6
INTEREST RECEIVABLE	0.0	0.0	0.0	1.8	5.9	10.6	15.0	20.2	27.3	36.5	47.6	60.9	76.4
USE OF FUND	226.4	122.5	157.3	199.6	310.5	592.5	513.1	645.9	816.2	1025.5	1205.4	1474.0	1782.7
INVESTMENT	224.0	108.6	108.6	108.6	108.6	273.2	60.6	60.6	60.6	60.6	4.6	4.6	4.6
FOREIGN LOAN REPAYMENT	0.0	0.0	0.0	0.0	2.3	4.6	6.9	9.2	11.5	12.8	14.1	15.3	16.6
DOMESTIC LOAN REPAYMEN	0.0	4.0	29.3	0.0	0.4	11.1	21.8	32.5	43.2	56.4	62.4	68.4	73.9
INTEREST EXPENSE	2.5	10.0	18.6	27.4	37.9	48.6	55.8	58.3	59.5	59.3	55.3	47.7	39.5
INCOME TAX	0.0	0.0	0.0	0.0	11.4	21.2	20.6	26.8	35.7	46.1	57.1	64.9	72.4
DIVIDEND	0.0	0.0	0.0	0.0	0.0	0.0	35.2	35.2	35.2	35.2	35.2	35.2	35.2
DEFERRED ACCOUNT	0.0	0.0	0.9	63.6	149.9	233.8	312.1	423.2	570.4	755.1	976.7	1237.8	1540.4
LOAN BALANCE													
DOMESTIC TERM LOAN	3.5	89.0	174.5	260.1	345.2	439.8	465.8	481.1	485.8	477.2	418.5	353.7	283.4
FOREIGN TERM LOAN	23.0	46.1	69.1	92.1	112.9	121.0	126.9	130.4	131.6	131.6	118.5	104.2	88.5
SHORT TERM LOAN	33.3	29.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CASH	0.0	0.0	0.9	63.6	149.9	233.8	312.1	423.2	570.4	755.1	976.7	1237.8	1540.4
DSCR	-12.5	1.0	0.8	2.1	1.9	1.3	1.2	1.2	1.3	1.3	1.3	1.4	1.5

(Million Bt)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
SOURSE OF FUND	2134.5	2540.5	3005.0	3538.2	4137.4	4806.3	5539.0	6336.7	7201.3	8134.7	9133.5	10200.0
DEFERRED ACCOUNT	1540.4	1895.1	2311.3	2788.7	3328.6	3935.0	4601.9	5330.5	6122.5	6979.8	7898.9	8882.1
PROFIT BEFORE DEPRECIA	495.0	525.1	553.4	581.3	609.0	636.6	664.0	691.2	718.5	745.8	773.1	800.5
ECQITY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN LOAN RAISED	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC LOAN RAISED	3.6	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INTEREST RECEIVABLE	94.5	115.7	140.2	168.2	199.7	234.8	273.1	315.0	360.3	409.2	461.5	517.4
USE OF FUND	2134.5	2540.5	3005.0	3538.2	4137.4	4806.3	5539.0	6336.7	7201.3	8134.7	9133.5	10200.0
INVESTMENT	4.6	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN LOAN REPAYMENT	17.9	15.7	13.5	11.3	9.1	6.9	5.6	4.3	3.0	1.8	0.5	0.4
DOMESTIC LOAN REPAYMEN	69.2	59.0	48.7	38.5	25.7	20.2	14.2	8.3	2.3	1.8	1.4	0.9
INTEREST EXPENSE	31.2	23.8	17.4	12.0	8.0	5.1	3.0	1.5	0.8	0.5	0.3	0.1
INCOME TAX	81.2	90.9	101.5	112.5	124.4	137.0	150.5	164.8	180.2	196.5	214.0	232.6
DIVIDEND	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2
DEFERRED ACCOUNT	1895.1	2311.3	2788.7	3328.6	3935.0	4601.9	5330.5	6122.5	6979.8	7898.9	8882.1	9930.7
LOAN BALANCE												
DOMESTIC TERM LOAN	217.8	162.5	113.8	75.2	49.5	29.3	15.1	6.8	4.5	2.7	1.4	0.5
FOREIGN TERM LOAN	71.6	56.9	43.5	32.2	23.1	16.2	10.6	6.3	3.3	1.5	1.0	0.6
SHORT TERM LOAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CASH	1895.1	2311.3	2788.7	3328.6	3935.0	4601.9	5330.5	6122.5	6979.8	7898.9	8882.1	9930.7
	1.7	2.2	2.8	3.9	6.1	8.8	13.6	23.9	59.9	97.7	203.1	327.7

2) PHUKET MARINE CENTER PROJECT

a. Profitability

The financial cash flow was examined as shown in Table 4-3-8. The FIRR is calculated at 13.4 percent, which exceeds the prime rate in Thailand. Accordingly, this project is assessed to be profitable from a financial point of view.

The following sensitivity tests were carried out:

Test 1 : An increase of 10 percent in land acquisition cost;
Test 2 : An increase of 10 percent in the initial cost; and
Test 3 : A reduction of 10 percent in revenue.

The results are summarized as shown in Table 4-3-7.

TABLE 4-3-7 CHANGES IN FIRR

	FIRR (%)
Base Case	13.4
Test 1	13.3
Test 2	12.3
Test 3	12.0

The difference between the base case and Test 1 is only 0.1 percent. This result is due to the fact that the percentage of the land acquisition cost is only 4.4 percent to the total investment costs in the base case. A reduction in revenue (Test 3) greatly affects the FIRR.

b. Stability

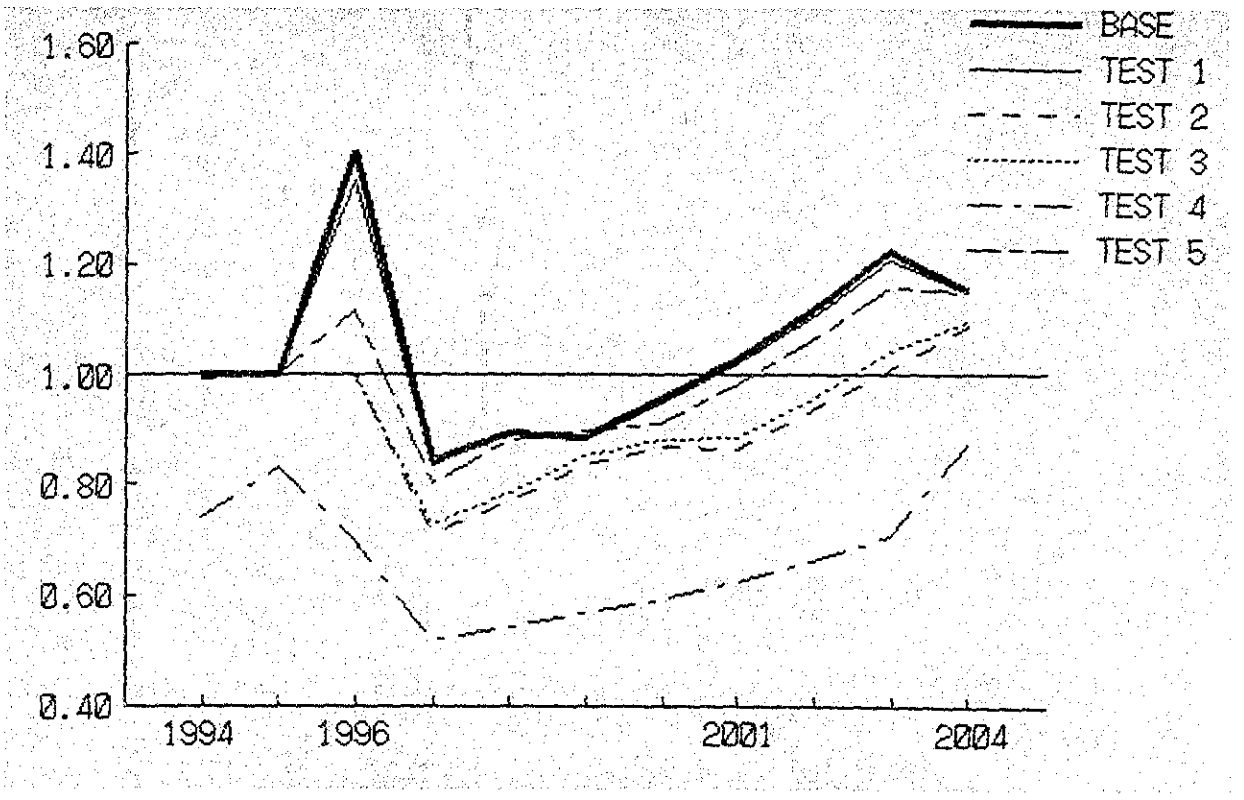
In order to look into the stability of this project in depth, a sensitivity analysis was carried out, adding two more test cases to the above three cases:

Test 4 : Without capital fund; and
Test 5 : Without low interest rate loan from abroad.

The annual changes in the DSCRs from the beginning of the operation (1994) up to 2004 by each case are shown in Fig. 4.3.3. This result implies that the loan repayment fund (profit before depreciation and after tax) will exceed the expenses for repayment and interest in 2001 only in the base case and Test 1. However, even in these cases, it would be necessary to raise short term loans during the construction periods from 1992 through 1994 and the development body will have to raise a short term loan again in the opening year and 2000 through 2004, because of the burden of domestic term loan repayment and tax payment.

Without any low interest rate loan from abroad (Test 5), the DSCRs will never be over the 1.0 level up to 2005. Thus, the availability of the low interest rate loans affects the DSCRs to a considerable extent. On the other hand, if the development body cannot raise capital funds (Test 4), this project would have some difficulties in paying the debt service coverage: the annual profit before depreciation and after tax will be less than the amount of repayment and interest expense.

FIG. 4-3-3 SENSITIVITY TEST



c. Fund raising scheme

This project would require about 1,130 million bahts for the initial investment. Based on the same assumptions as those of the Phang Nga West project, its financial arrangement is proposed as follows:

Equity:	339.0 million bahts	(30.0%)
Foreign Concessional Loan:	61.5	(5.4%)
Domestic Term Loan:	729.5	(64.6%)
Total:	1,130.0	(100.0%)

TABLE 4-3-8 CASH FLOW TABLE-PHUKET MARINE CENTER (BASE CASE)

<<CASH FLOW TABLE>> <SEA NETWORK> [BASE CASE] (Million Bt)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CASH IN FLOW	0.0	0.0	279.4	322.6	366.7	391.5	405.1	416.6	428.8	441.7	455.5	470.2	485.8
CASH OUT FLOW	392.7	737.3	175.5	203.1	231.0	243.5	249.9	255.1	260.5	266.3	272.5	279.1	286.1
INVESTMENT COST	392.7	737.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LABOUR COST	0.0	0.0	39.5	45.9	52.3	55.6	57.2	58.6	60.0	61.5	63.1	64.8	66.6
MATERIAL COST	0.0	0.0	75.6	86.6	97.8	104.5	108.0	110.8	113.7	116.9	120.2	123.8	127.5
MAINTENANCE COST	0.0	0.0	20.7	23.2	25.7	26.7	27.2	27.6	28.0	28.4	28.9	29.4	29.9
OTHERS	0.0	0.0	39.7	47.4	55.2	56.7	57.5	58.1	58.8	59.5	60.3	61.1	62.0
NET CASH FLOW	-392.7	-737.3	103.9	119.6	135.7	147.9	155.2	161.5	168.3	175.4	183.0	191.1	199.8

(Million Bt)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
CASH IN FLOW	502.5	520.2	539.0	559.1	580.4	603.2	627.4	653.1	680.5
CASH OUT FLOW	293.5	301.4	309.9	318.9	328.4	338.6	349.4	361.0	-271.0
INVESTMENT COST	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-644.2
LABOUR COST	68.5	70.6	72.8	75.1	77.6	80.2	83.1	86.1	89.2
MATERIAL COST	131.6	135.9	140.4	145.3	150.5	156.0	161.8	168.0	174.7
MAINTENANCE COST	30.5	31.1	31.7	32.4	33.1	33.9	34.7	35.6	36.5
OTHERS	62.9	63.9	64.9	66.1	67.2	68.5	69.9	71.3	72.8
NET CASH FLOW	209.0	218.7	229.1	240.2	252.0	264.6	277.9	292.1	951.5

TABLE 4-3-9 PROFIT AND LOSE STATEMENT-PHUKET MARINE CENTER (BASE CASE)

PROFIT AND LOSS STATEMENT <SEA NETWORK> [BASE CASE] (Million Bt)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
REVENUES	0.0	0.0	279.4	322.6	366.7	391.5	405.1	416.6	428.8	441.7	455.5	470.2	485.8
HOTEL	0.0	0.0	85.3	106.6	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9	127.9
YACHT HARBOUR	0.0	0.0	12.5	15.0	17.5	20.0	20.5	20.5	20.5	20.5	20.5	20.5	20.5
TRIST BOATS PIER	0.0	0.0	43.7	47.3	51.1	54.4	57.8	61.5	65.5	69.6	74.1	78.8	83.8
RESTAURANT	0.0	0.0	59.1	65.9	72.9	81.1	85.2	88.6	92.1	95.9	99.9	104.2	108.7
SHOPS	0.0	0.0	78.8	87.8	97.3	108.1	113.6	118.1	122.8	127.8	133.2	138.9	144.9
COST & EXPENSES	0.0	0.0	212.2	239.7	267.7	280.2	286.6	291.7	297.2	303.0	309.1	315.7	298.0
LABOUR COST	0.0	0.0	39.5	45.9	52.3	55.6	57.2	58.6	60.0	61.5	63.1	64.8	66.6
MATERIAL COST	0.0	0.0	75.6	86.6	97.8	104.5	108.0	110.8	113.7	116.9	120.2	123.8	127.5
MAINTENANCE COST	0.0	0.0	20.7	23.2	25.7	26.7	27.2	27.6	28.0	28.4	28.9	29.4	29.9
DEPRECIATION	0.0	0.0	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	36.7	11.9
OTHERS	0.0	0.0	39.7	47.4	55.2	56.7	57.5	58.1	58.8	59.5	60.3	61.1	62.0
OPERATING PROFIT	0.0	0.0	67.2	82.9	99.1	111.3	118.5	124.9	131.6	138.8	146.4	154.5	187.9
INTEREST RECEIVABL	0.0	0.0	0.0	0.0	1.1	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
INTEREST EXPENSE(T	2.1	45.0	85.7	85.7	85.5	79.9	69.2	58.5	47.9	37.2	26.5	15.9	5.4
INTEREST EXPENSE(S	0.1	3.0	5.0	2.4	0.3	0.0	0.0	0.0	0.0	1.4	3.5	4.3	3.4
PROFIT BFR INCM TA	-2.2	-48.0	-23.5	-5.3	14.4	32.8	49.7	66.3	83.7	100.2	116.3	134.3	179.0
INCOME TAX	0.0	0.0	0.0	0.0	0.0	0.0	6.3	23.2	29.3	35.1	40.7	47.0	62.7
NET PROFIT	-2.2	-48.0	-23.5	-5.3	14.4	32.8	43.4	43.1	54.4	65.1	75.6	87.3	116.4

(Million Bt)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
REVENUES	502.5	520.2	539.0	559.1	580.4	603.2	627.4	653.1	680.5
HOTEL	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8	127.8
YACHT HARBOUR	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
TRIST BOATS PIER	89.2	94.9	101.0	107.4	114.3	121.7	129.4	137.7	146.6
RESTAURANT	113.5	118.7	124.2	130.0	136.2	142.8	149.8	157.3	165.3
SHOPS	151.4	158.2	165.6	173.3	181.6	190.4	199.8	209.8	220.4
COST & EXPENSES	305.4	313.4	321.8	330.8	340.3	350.5	361.3	372.9	385.2
LABOUR COST	68.5	70.6	72.8	75.1	77.6	80.2	83.1	86.1	89.2
MATERIAL COST	131.6	135.9	140.4	145.3	150.5	156.0	161.8	168.0	174.7
MAINTENANCE COST	30.5	31.1	31.7	32.4	33.1	33.9	34.7	35.6	36.5
DEPRECIATION	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
OTHERS	62.9	63.9	64.9	66.1	67.2	68.5	69.9	71.3	72.8
OPERATING PROFIT	197.0	206.8	217.2	228.3	240.1	252.6	266.0	280.2	295.4
INTEREST RECEIVABL	2.4	8.0	15.0	22.8	31.3	40.6	50.7	61.7	73.7
INTEREST EXPENSE(T	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INTEREST EXPENSE(S	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PROFIT BFR INCM TA	197.9	214.8	232.2	251.1	271.4	293.2	316.7	342.0	369.1
INCOME TAX	69.3	75.2	81.3	87.9	95.0	102.6	110.8	119.7	129.2
NET PROFIT	128.7	139.6	150.9	163.2	176.4	190.6	205.9	222.3	239.9

TABLE 4-3-10 CHANGES IN FINANCIAL POSITION-PHUKET MARINE CENTER (BASE CASE)

(Million Bt)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
SOURSE OF FUND	394.6	785.3	103.9	119.6	136.8	188.9	167.2	162.2	168.4	199.1	196.3	192.1	199.8
DEFERRED ACCOUNT	0.0	0.0	0.0	0.0	0.0	39.5	11.7	0.6	0.0	0.0	0.0	0.0	0.0
PROFIT BEFORE DEPRECIA	0.0	0.0	103.9	119.6	135.7	147.9	155.2	161.5	168.3	175.4	183.0	191.1	199.8
ECQITY	339.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN LOAN RAISED	22.5	39.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC LOAN RAISED	33.1	746.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INTEREST RECEIVABLE	0.0	0.0	0.0	0.0	1.1	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
USE OF FUND	394.9	785.3	103.9	119.6	136.8	188.9	167.2	162.2	168.4	199.1	196.3	192.1	199.8
INVESTMENT	392.7	737.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN LOAN REPAYMENT	0.0	0.0	0.0	0.0	2.3	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
DOMESTIC LOAN REPAYMEN	0.0	0.0	13.2	31.4	9.3	91.2	91.2	91.2	91.2	91.2	91.2	91.2	103.9
INTEREST EXPENSE	2.2	48.0	90.7	88.2	85.8	79.9	69.2	58.5	47.8	38.6	30.0	20.2	8.9
INCOME TAX	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	23.2	29.3	35.1	40.7	47.0
DIVIDEND	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.9	33.9	33.9	33.9
DEFERRED ACCOUNT	0.0	0.0	0.0	0.0	39.5	11.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0
LOAN BALANCE													
DOMESTIC TERM LOAN	31.2	729.5	729.5	729.5	725.6	634.4	543.2	452.0	360.9	269.7	178.5	87.3	0.0
FOREIGN TERM LOAN	22.5	61.5	61.5	61.5	59.2	53.1	46.9	40.8	34.6	28.5	22.3	16.2	10.0
SHORT TERM LOAN	1.9	49.9	36.8	5.4	0.0	0.0	0.0	0.0	0.2	23.9	37.2	38.2	21.6
CASH	0.0	0.0	0.0	0.0	39.5	11.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0
<SEA NETWORK>													
BASE CASE DSCR	0.000	0.000	1.000	1.000	1.406	0.843	0.886	0.887	0.957	1.033	1.117	1.226	1.154

(Million Bt)

	2005	2006	2007	2008	2009	2010	2011	2012	2013
SOURSE OF FUND	211.3	312.3	449.3	603.3	771.4	954.7	1154.5	1371.9	1608.1
DEFERRED ACCOUNT	0.0	85.6	205.2	340.3	488.1	649.6	825.9	1018.0	1227.1
PROFIT BEFORE DEPRECIA	209.0	218.7	229.1	240.2	252.0	264.6	277.9	292.1	307.3
ECQITY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN LOAN RAISED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC LOAN RAISED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INTEREST RECEIVABLE	2.4	8.0	15.0	22.8	31.3	40.6	50.7	61.7	73.7
USE OF FUND	211.3	312.3	449.3	603.3	771.4	954.7	1154.5	1371.9	1608.1
INVESTMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN LOAN REPAYMENT	6.2	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOMESTIC LOAN REPAYMEN	21.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INTEREST EXPENSE	1.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCOME TAX	62.7	69.3	75.2	81.3	87.9	95.0	102.6	110.8	119.7
DIVIDEND	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9
DEFERRED ACCOUNT	85.6	205.2	340.3	488.1	649.6	825.9	1018.0	1227.1	1454.5
LOAN BALANCE									
DOMESTIC TERM LOAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOREIGN TERM LOAN	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORT TERM LOAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CASH	85.6	205.2	340.3	488.1	649.6	825.9	1018.0	1227.1	1454.5
	4.864	38.333	########	########	########	########	########	########	########

ANNEX

1 : Minutes cf Meeting
2 : Study Staff

MINUTES OF MEETING ON INTERIM REPORT II FOR THE STUDY ON POTEUTIAL TOURISM DEVELOPMENT FOR THE SOUTHERN REGION IN THAILAND

SEPTEMBER 12, 1988 Bangkok, The Kingdom of Thailand

1. Japan International Cooperation Agency (hereinafter referred to JICA) dispatched the advisory committee headed by Mr. T. Hirano to the Kingdom of Thailand for the purpose of discussing the outcomes of the Part II of the Study with the Thai Government.

The JICA Study Team submitted 30 copies of the Interim Report II in English comprised of Summary Key Issues, Main Report, Graphic Issues and Appendices to Tourism Authority of Thailand (hereinafter referred to TAT) on September 7, 1988.

The Steering Committee Meeting chaired by the Governor of TAT, Mr. Dharmnoon Prachuabmoh was held at TAT on September 12, 1988 with attendance of the Steering Committee members, the JICA Advisory Committee members, officials from the relevant agencies and the Study Team as shown in the attached attendants list.

The overall direction explored in the Interim Report II which is in conformity with the Scope of Work, was accepted by the Steering Committee of the Thai Government.

2. The both parties agreed that the study should be continued, taking into account the following points raised at the Meeting.

1) The critical environmental problems are caused by the on-going road development project linking beaches in the western part of Phuket. An appropriate implementation policy should be explored with attention to the environmental preservation.

2) The water development study has been recognized as one of the critical factors and will be followed by another JICA Study, entitled "Development Plan and Feasibility Study on Provincial Water Supply Projects in the Kingdom of Thailand".

3) The development guidelines of private and public investment for Krabi should be elaborated, taking into account its tourism potential.

4) Planning concepts and methods of village tourism should be referred to the experiences of hill-tribe tourism communities in Chiang Mai.

5) As for the sea transport network, additional potential ports such as Tub La Mu Port and Ngai Island should be incorporated into the entire network.

6) A study of telecommunication related to tourism development is required in the further study.

7) Much emphasis should be placed on the management of National Parks including establishment of a training center.

8) A further study should be concentrated on impacts of major tourism development projects on socio-economic activities as well as on the environment.

3. Draft Final Report is to be submitted in December 1988, in conformity with the Scope of Work.

Tulbamas Siriwan

for Mr. Dharmnoon Prachuabmoh

Chairman of the Steering Committee,
Governor,
Tourism Authority of Thailand

Mr. Sohiko Yamada

Team Leader,
JICA Study Team

Tadakuni Hirano

Mr. Tadakuni Hirano

Chairman of the Advisory Committee,
Japan International Cooperation Agency

Appendix

Attendants List
at
The Steering Committee Meeting, on September 12, 1988

A. Steering Committee

1. Mr.	Dharmnoon Prachuabmoh	Governor, TAT
2. Mr.	Palakorn Suwanarat	Office of Policy and Planning, MOI
3. Ms.	Nualnapa Tiencharaen	MOTT
4. Ms.	Wilaiporn Liwgasemsan	NESDB
5. Mr.	Chartree Chueyprasit	NEB
6. Mr.	Seri Wetchabootsakorn	NPD, RFD, MOA
7. Mr.	Nikom Musigakama	Fine Arts Department, MOE
8. Ms.	Juthamas Siriwan	TAT
9. Mr.	Pannara Chucharn	TAT
10. Mr.	Kamron Chalermroj	TAT
11. Ms.	Shujitt Potong	TAT
12. Ms.	Sukunlaya Rithirak	TAT

B. JICA Advisory Committee

1. Mr.	Tadakuni Hirano	Ministry of Transprot
2. Mr.	Masao Koseki	Ministry of Transport
3. Mr.	Shinichi Yoshizawa	Japan National Tourist Organization

C. JICA Staff

1. Mr.	Tadashi Shinoura	
2. Mr.	Takashi Yoshida	

D. JICA Study Team

1. Mr.	Sohiko Yamada	Team Leader
2. Mr.	Goro Hirata	Co-Team Leader
3. Mr.	Hiroshi Matsuo	
4. Mr.	Kazunori Seki	
5. Mr.	Katsuhide Nagayama	
6. Mr.	Tadahiko Yoshino	
7. Mr.	Keizo Kokubo	
8. Mr.	Takeshi Ohmura	
9. Mr.	Atsushi Saito	

E. Counterparts

1. Ms.	Juthamas Siriwan	TAT
2. Mr.	Kamron Chalermroj	TAT
3. Ms.	Shujitt Potong	TAT
4. Mr.	Amnuay Thiamkeerakul	TAT
5. Mr.	Seri Wetchabootsakorn	NPD, RFD, MOA
6. Mr.	Nikom Musigakama	Fine Arts Department, MOE
7. Ms.	Thada Sutthithum	Fine Arts Department, MOE

F. Relevant Agencies

1. Ms.	Kueparn Wanijchai	MOI
2. Mr.	Suthat Wannalert	NPD, RFD, MOA
3. Mr.	Jamlong Rattanaphan	TAT, Phuket

MINUTES OF MEETING ON DRAFT FINAL REPORT II FOR THE STUDY ON POTEUTIAL TOURISM DEVELOPMENT FOR THE SOUTHERN REGION IN THAILAND

DECEMBER 15, 1989 Bangkok, The Kingdom of Thailand

1. The JICA Study Team for the study on "Potential Tourism Area Development for the Southern Region in Thailand" visited Thailand from 6th December to 20th December, 1988, to submit and explain the draft final report to the Tourism Authority of Thailand.

2. The report was discussed at the steering committee chaired by the governor of the Tourism Authority of Thailand, Mr. Dharmnoon Prachuabmoh, with the representative officers concerned on 15th December, 1988. The proposals contained in the report were accepted.

3. It was agreed that the JICA Study Team would examine and keep in view the comments from the steering committee members on the draft final report, while preparing the final report.

4. Further comments with regard to the contents of the draft final report from the Tourism Authority of Thailand, if any, will be furnished within thirty (30) days after the explanation of the draft final report.

Bangkok, 17th December 1988

D. Prachuabmoh

Mr. Dharmnoon Prachuabmoh
Chairman of the Steering Committee
Governor
Tourism Authority of Thailand

Sohiko Yamada

Mr. Sohiko Yamada
Team Leader
JICA Study Team

Witnessed by: Tadakuni Hirano

Mr. Tadakuni Hirano
Chairman of The Advisory Committee
Japan International Cooperation Agency

A3

Attendants List

at

The Steering Committee Meeting, on December 15, 1988

A . Steering Committee

1.	Mr. Dharmnoon Prachuabmoh	Governor, TAT
2.	Mr. Seree Wangpaichitr	Deputy Governor, TAT
3.	Ms. Nualnapa Tiancharoen	MOTT
4.	Ms. Wilaiporn Liwgasemsan	NESDB
5.	Mr. Palakorn Suwanarat	MOI
6.	Mr. Veera Sakultab	NEB
7.	Mr. Seri Vejaboosakorn	RFD
8.	Mrs. Juthamas Siriwan	TAT
9.	Mrs. Shujitt Potong	TAT
10.	Mr. Kamron Chalermroj	TAT
11.	Mr. Jaruboon Pananon	TAT

B. JICA Advisory Committee

1. Mr. Tadakuni Hirano
2. Mr. Masayasu Kokubo
3. Mr. Shinichi Yoshizawa

C. JICA Staff

1. Mr. Tokukiyo Hirai

D. JICA Study Team

1.	Mr. Sohiko Yamada	Team Leader
2.	Mr. Goro Hirata	Co-Team Leader
3.	Mr. Katsuhide Nagayama	
4.	Mr. Tadahiko Yoshino	
5.	Mr. Kiyoaki Takakuwa	

E. Counterparts

1.	Mrs. Juthamas Siriwan	TAT
2.	Mrs. Shujitt Poyong	TAT
3.	Mr. Kamron Chalermroj	TAT
4.	Mr. Amnuay Thiamkeerakul	TAT
5.	Mr. Nikom Musigakama	Fine Arts Department, MOE

F. Relevant Agencies

1.	Ms. Thada Sutthitham	Fine Arts Department, MOE
2.	Mr. Udom Metatamrongsiri	TAT
3.	Mr. Samporn Maneemaitreejit	TAT
4.	Mr. Chaiwat Charoensuk	TAT

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. Furumatu
15)	Regional/Land Use-2	: Mr. T. Ohmura

2. JAPANESE ADVISORY COMMITTEE

1)	Chairman	: Mr. T. Hirano
2)	Member	: Mr. M. Kokubo
3)	Member	: Mr. M. Koseki
4)	Member	: Mr. S. Yoshizawa

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. Chunhade Promseranee
8)	Infrastructure Specialist	: Dr. Thavivongse Sriburi

5. STUDY COLLABORATION

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