
A.3. Analysis of existing conditions and description of projects in Cancun tourism region

A.3.1. Spatial tourism structure of Cancun tourism center

The Cancun tourism region has 4 tiers of the tourism structure.

The Cancun tourism region is in the Yucatan Peninsular surrounded by the Caribbean Sea on the east and Golfo de Mexico on the west and the north. The region has a rectangular tourism circuit connected to the centers of Cancun, Chetumal, Campeche and Merida. The circuit is called Northern Mundo Maya Circuit and has a variety of tourism resources such as beaches and many of Mayan ruins. The circuit is a part of routes planned in the international Mund Maya Program, the joint promotion by the five countries, namely Mexico, Guatemala, Belize, El Salvador and Honduras.

A beach resort on the Caribbean Sea has been developed in the northern area of the Quintana Roo state at Cancun, the Cozumel island and the Cancun-Tulum corridor. The area has a small tourism circuit connecting Cancun- Tulum- Coba- Chichen Itza- Cancun and is well known by the visitors of Cancun as one day excursion sites. The central area of the state has the Sian Ka'an biosphere reserve covering a vast wet land with lagoons and mangrove forests as well as beaches along the coastal area. The tourism development in the southern part of the state is lag behind and has little international market potential except Costa Maya and Banco Chinchorro which have been designated as the biosphere reserves.

Significant Mayan ruins are located between Chetumal and the Campeche state along the Federal Highway No.186. This highway is connected to the southern part of the Quintana Roo state and Guatemala. In-between the Campeche and Merida, especially along the Federal Highway No.261, various Mayan ruins also exist.

Colonies of sea birds, mangrove forests and lagoons can be found in other biosphere reserves, which are along the coastal line of Golfo de Mexico and in and surround the islands of the Caribbean Sea.

A.3.1.1. Cancun

Tourism development of Cancun was started in 1970 and has been operated by FONATUR since 1974. Before 1970, there was no tourism activities except Cozumel and Isla Mujeres. Cancun has become the largest and most prosperous international tourism center with many international standard hotels/condominiums and the tourism facilities owing to the efforts by both public and private. FONATUR has implemented the development which are divided into three phases. The first and second phases have already been completed and the 3rd phase has been started lately.

The hotels and tourism facilities constructed in the Phase-1 area, especially the western part near the Cancun downtown, are losing their attraction because they are getting old.

The hotel zone of Cancun is located at the bank of coral reefs in-between the Caribbean Sea and Laguna Nichupte (the Nichupte Lagoon), the most significant tourism resources in Cancun. The sea water of Laguna Nichupte, however, has been deteriorated due to insufficient sewerage treatment as well as the population increase in the Cancun downtown.

A.3.1.2. Cozumel

Cozumel is an island beach resort center and the most famous international cruise destination in Mexico. Since the southern part of the island has beautiful coral, it is designated as the biosphere reserve by INE and attracts many scuba divers. Many visitors to Cancun come this island in the daily excursion or short day stay.

A.3.1.3. Cancun-Tulum corridor

Cancun-Tulum corridor is located between Cancun and Tulum. The corridor has various types of beaches. At present there are many large scale resorts with hotels and condominium, their own beach, coral reef and tourism facilities. They have been developed along the corridor, especially in the south part. Puerto Morelos, Playa del Carmen and Tulum will be the tourism support towns for the corridor. At present, Playa del Carmen, which is the place to board ferries for Cozumel, has only been experienced development for tourism.

A.3.1.4. Costa Maya

Costa Maya is located in the southern part of the Quintana Roo state and may have potential as a future tourism center. Small hotels/lodges are located scattered along the coast and do not have water supply, electrical supply and sewerage systems currently. The state government intends to promote the tourism development in Costa Maya as the base of the southern part in the state. There are significant tourism resources such as a largest tollway in Mexico and a potential diving spot in Banco Chinchorro along the Caribbean Sea. In principle, the conservation of the resources is designated to be the marine biosphere reserve.

A.3.1.5. Tourism centers in the neighboring state

There are several tourism centers in the neighboring states as follows:

(1) **Yucatan state**

Merida is the capital city of the Yucatan state and one of the colonial cities in Mexico. It is a gateway city to Mayan ruins that spread in the Yucatan and Campeche states. The most famous of the Mayan ruins are Chichen Itza and Uxmal.

(2) **Campeche state**

Campeche is the capital city of the Campeche state, and has historical monuments in the downtown area.

Campeche state abounds in Mayan ruins and biosphere reserves that include Mayan ruins. The ruins in the state are less known compared with those in Yucatan state.

A.3.2. Tourism resources

The followings are the description of the major tourism resources. Table A. 58 shows types of the tourism resources in the Cancun tourism region, namely Quintana Roo state and the neighboring states.

A.3.2.1. Beaches and marine sports

These are the main and traditional tourism resources/products for the tourism centers in the tourism region, namely Cancun, Cozumel, Cancun-Tulum corridor, Costa Maya and Isla Mujeres where face to the Caribbean Sea.

A.3.2.2. Mayan ruins

In the Yucatan Peninsular the Mayan culture and numbers of the Mayan ruins either excavated or un-excavated can be found. Although some of the ruins such as Chichen Itza, Tulum and Coba are receiving visitors due to close location to Cancun, most of the ruins are not well utilized as the tourism resources. SECTUR has made an agreement on a joint promotion of the Mayan culture called "Mundo Maya Program" with the four neighboring countries, namely Guatemala, Belize, El Salvador and Honduras. There are some villages like Felipe Carrillo Puerto where the Mayan culture is still maintained.

In order to diversify the demand for tourism the region, especially for the long-haul market, resources of the worldwide famous Mayan culture and ruins should be further promoted with the cooperation of SECTUR.

A.3.2.3. Ecological resources

The region has many biosphere reserves along the coastal area, islands and inland areas. These ecological resources should be utilized for the diversified tourism attractions of the region.

A.3.2.4. Others

The rain forests laid in the southern part of the Yucatan Peninsular should be utilized as a new tourism product combined with the tour circuits of the Mayan ruins.

Table A. 58 List of Tourism resources in Cancun tourism region

Type of resources	Location	
	Quintana Roo state	Neighboring states
Tourism centers	Cancun, Cozumel, Cancun-Tulum corridor, Costa Maya, Isla Mujeres	Merida, Campeche
Beaches and Marine sports	Cancun, Cozumel, Cancun-Tulum corridor, Costa Maya, Isla Mujeres	Merida
Mayan ruins (major ones)	Tulum, Xelha, El Rey, Coba, Kohunlich, San Gervacio,	Chichen Itza, Balankanche, Uxmal, Kabah, Sayil, Xlapac, Labna, Loltun, Chacmultun (Yucatan), Xpuhil, Chicana, Becan, Edzna (Campeche)
Mayan villages	Felipe Carrillo Puerto	Veinte de Noviembre (Campeche)
Mangrove/bird watching	Sian Ka'an, Isla Holbox, Costa Maya, Isla Contoy	Rio Lagartos, Celestun (Yucatan)
Ecosphere reserve, National Park	Tulum NP, Isla Contoy SBR, Sian Ka'an BR, Yum Balam F/F, Uaymil F/F	Dzibilchaltun NP, Ria Celestun SBR, Ria Lagartos SBR (Yucatan), Calakmul BR (Campeche), Laguna de Terminos F/F, Arrecife Alacranes NMP

Note : NP=National park, BR=Biosphere reserve, SBR=Special biosphere reserve, F/F=Protection area of fauna and flora, NM=Natural monument, NMP=National marine park

Source : SECTUR data, compiled by JICA study team

A.3.3. Tourism facilities

A.3.3.1. Accommodation

(1) Accommodation at present

The number of guest rooms of lodging facilities as of October 1995 is indicated in Table A. 59. Among the 6 destinations of study area by JICA, Cancun including Cozumel, have the largest guest rooms of 29,252 respectively.

Regarding a share of hotel guest rooms in the total lodgings, Cancun has high share of around 90%. But the number of timesharing units in the S.N.I.T. would be rather small, although the role of timesharing will be very important for supply of lodgings.

Table A. 59 Guest rooms of lodgings, 199

	Cancun	
Hotel		
(a) Hotel (1 star)	533	1.8%
(b) Hotel (2 stars)	658	2.2%
(c) Hotel (3 stars)	1,654	5.7%
(d) Hotel (4 stars)	5,211	17.8%
(e) Hotel (5 stars)	10,716	36.6%
(f) Hotel (Without classification)	7,500	25.6%
(g) Country Houses and Cabins	847	2.9%
(h) Apartments	21	0.1%
(i) Boarding Houses	0	0.0%
(j) Bungalows	64	0.2%
(k) Furnished Rooms	0	0.0%
(l) Camps	0	0.0%
(m) Suites and Condominiums	1,670	5.7%
(n) Large farms and House of Maya	0	0.0%
(o) Trailer Parks	272	0.9%
(p) Time Sharing Units	106	0.4%
Total	29,252	100.0%
(a) + (b) + (c) + (d) + (e) + (f)	26,272	89.8%
(a) + (b) + (c) + (d) + (e)	18,772	64.2%
(d) + (e)	15,927	54.4%
(m) + (p)	1,776	6.1%

Source: S.N.I.T.

(2) Timesharing

Timeshare programs and sales are shown in Table A. 60 and Table A. 61, which summarized below.

The number of sold weeks in active projects have been increasing steadily in recent several years.

Concerning a share of foreign purchasers in sold weeks, It has fluctuated around 50%.

The number of timesharing unit differs depending on the data source, but RCI's data deemed to be generally the most reliable. When only timesharing units and hotel guest rooms of one star and more are taken into consideration, percentage of timeshare units in guest rooms deemed to be around 18% in Cancun

Table A. 60 Timeshare projects and sales

		Cancun
Active Projects in Sales in 1994		31
Estimated Sales*	1987	11,612
	1988	20,479
	1989	27,270
	1990	31,119
	1991	35,902
	1992	32,131
	1993	30,305
	1994	47,903
	Total**	236,721
Share of Foreigners in Sold Weeks (%)	1987	82
	1988	43
	1989	52
	1990	56
	1991	46
	1992	58
	1993	n.a.
	1994	50

Note: * : Sold weeks in active projects, ** : Total of sold weeks in active projects from 1987 to 1994
Source: RCI

Table A. 61 Equivalent role of timeshare projects in lodging supply

	Cancun
(a) Guest Rooms of Hotels*	22,209
(b) Timeshare Units**	3,914
(c) Number of Surveyed Projects	45
(d) = 100 * (b) / (a)	17.6%

Note: * : Including hotels of 1 - 5 stars and grand tourism, ** : Number of timeshare units in surveyed projects shown in column (c)
Source: (a) : SECTUR and FONATUR, (b) : RCI

A.3.4. Transportation network

From the tourism development viewpoint, the present conditions of the transportation network in the region are accessed hereafter.

A.3.4.1. Land transportation

In the state no rail transportation is available.

(1) Roads

a. Federal Highway

There are four major federal highways in the region to make a circuit in the Yucatan Peninsular, namely Federal Highways No. 307 (Cancun-Felipe Carrillo Puerto-Chetumal), No.186 (Chetumal-Escarcega), No.261 (Escarcega-Campeche-Merida), and No.180 (Merida-Valladolid-Cancun but this is connected to Villahermosa through Campeche). The section of Cancun-Kantunil of the Federal Highway No.180 has been developed in the Autopista Type as a toll road and the Highway No. 307 is scheduled to be improved in the Autopista Type by 2000 according to the action plan of SCT (the section of Cancun-Playa del Carmen is under construction). The Highways No.186 and No.261 should be improved to be in Type-A2 to meet the traffic conditions by 2010.

In the region Felipe Carrillo Puerto is an important nodal point. Federal Highways No.184 to Muna southern town of Merida on the highway No. 261, Federal highways No.295 to Valladolid, Tizimin and Rio Lagartos.

b. Other roads

Transportation networks of the state roads and the federal highways are well developed although some roads require to be improved from the tourism development aspects, especially roads to visit some Mayan ruins.

(2) Public transport services

The bus and taxi services in Cancun hotel zone, from Cancun to the downtown and Cancun-Tulum corridor are well developed. The long distance bus service needs to be improved.

A.3.4.2. Air transport

(1) Airport facilities

There are five international airports at Cancun, Cozumel, Chetumal, Merida, and Campeche in the region. ASA has a plan to improve the Cancun airport.

There is no airport in the state, however, about thirty air strips are developed throughout the state.

(2) Cities of origin and passenger flow

The followings are the current conditions on the air flights in 1995 at the major airports in the region. The details of those can be referred in Figure xxx in an appendix of this report.

a. International flight

Cancun: Total: 136 cities with 603,412 passengers
 Regular flight: 25 cities with 270,412
 Chartered flight: 17 cities with 194,684
 The cities which have a largest number of passengers: Tampa (62,466), Miami (54,218), Amsterdam (36,772)

Cozumel: Total: 17 cities with 194,684 passengers
 Regular flight: 3 cities with 133,421
 Chartered flight: 17 cities with 61,263
 The cities which have a largest number of passengers: Houston (102,985), Minneapolis (14,296), Dallas (5,428)

Chetumal: Total: 3 cities with 2,404 passengers
 Regular flight: 1 city with 2,123
 Chartered flight: 2 cities with 281
 The cities which have a largest number of passengers: Miami (22,287), Havana (4,476), Toronto (2,390)

b. Inter-regional domestic flight (regular flights only)

Cancun: Regular flight: 2 cities with 253,292 passengers
 The cities which have a largest number of passengers: Mexico City (237,461), Guadalajara (13,453)

Cozumel: Regular flight: 6 cities with 35,319 passengers
 The cities which have a largest number of passengers: Mexico City (35,003), Playa del Carmen (316)

Chetumal: Regular flight: 1 city with 34,497 passengers with Mexico City

Merida: Regular flight: 6 cities with 217,840 passengers
The cities which have a largest number of passengers: Mexico City (212,701), Oaxaca (3,100), Monterrey (1,344)

c. Intra-regional domestic flight (shown regular flights only)

Cancun: Regular flight: 5 cities with 92,376 passengers
The cities which have a largest number of passengers: Cozumel (69,418), Merida (7,354), Chetumal (6,622)

Cozumel: Regular flight: 3 cities with 92,020 passenger
The cities which have a largest number of passengers: Cancun (69,418), Chichen Itza (11,348), Merida (11,254)

Chetumal: Regular flight: 2 cities with 9,908 passengers
The cities which have a largest number of passengers: Cancun (6,622), Villahermosa (3,286)

Merida: Regular flight: 5 cities with 43,658 passengers flow
The cities which have a largest number of passengers : C.D. Carmen (15,584), Cozumel (11,254), Tuxtla Guitierrez (9,406)

A.3.4.3. Sea transport

(1) Sea ports

There are 3 sea ports in the region, namely Puerto Juarez at the northern part of Cancun and Puerto Progreso at the northern coast of Merida, and Cozumel.

(2) Sea transport services

a. International cruise ship passengers

Cozumel is the famous international cruise tour destination and receiving the largest numbers of cruise ship visitors of 925,406 in Mexico.

b. Intra-regional ferry boat passengers

There are ferry boat services in the region as follows.

- Cozumel-Playa del Carmen (1,414,867 passengers in 1994)
- Cozumel-Puerto Morelos (35,594 passengers)
- Puerto Juarez-Isla Mujeres (1,621,482 passengers)
- Isal Mujeres-Punta Sam (212,663 passengers)
- Holbox-Chiquila (9,987 passengers)

A.3.5. Infrastructure

Existing situation and future plan are summarized from Table A. 62 to Table A. 67

It seems that there are no serious obstacles for tourism on the whole.

Table A. 62 Airport facilities and capacity in Cancun (1)

Elements	Unit	Capacity	Existing 1993	Demand (High Estimate)			
				1995	2000	2005	2010
Runway	OP/Hr	38	25	31	41	48	53
Platforms	Posic.Sim	23	17	21	29	33	37
Building	Pas/Hr	2,350	1,966	2,473	3,464	4,153	4,726
Parkings	Lot	260	271	330	427	496	551

Note: 1. Platforms, Buildings & Parkings are for commercial use only in this Table.

Source: Sistem Estadistico Aeroportuario, 1994, ASA.

Table A. 63 Airport facilities and capacity in Cancun (2)

Acces to City Center	A	(2 lanes & 4 lanes highway)
Distance / time		16 km / 20 min
Taxi & bus service	A	
Airport Facility	A	(improvement is required in near future)
Ranway operable Aircraft		3,500mx60mx1.
Operation Hour		B-747
Terminal Building.		24 hrs. 26,710 m ²
Capacity and Demand.		
Runway	B	(increasing is required after 2000)
Platform	B	(increasing is required after 2000)
Building	B	(increasing is required after 1995)
Parking	C	(increasing is required)
Future Improvement Plan.	M/P	
Main Improvement		Increasin of 1 Runway Increasing of Plataform and Buildings.
Project Cost (Millions N\$) (upto 2010)		421

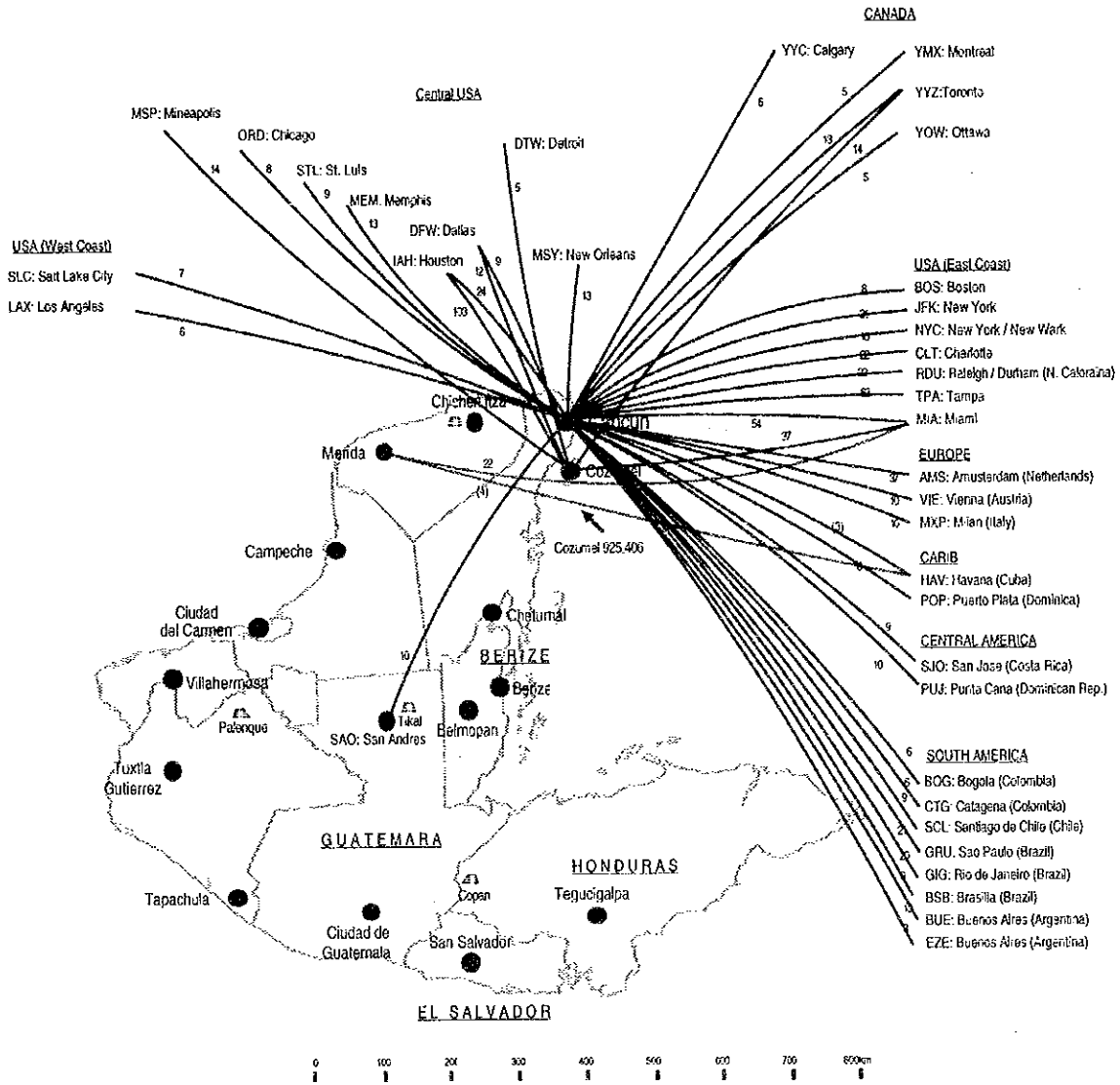
Note: The signs mean as follows: **A**/good and/or enough, **B**/some improvement is required in near future, **C**/improvement and/or countermeasure is required soom.

Table A. 64 Airport Passenger Changes and Future Demand (Cancun)

Year	Domestic	International	Charter	Transit	Total
1980	278,986	372,143	0	0	651,129
1985	446,140	700,098	222,453	95,702	1,464,393
1990	753,974	1,697,482	571,711	150,576	3,173,743
1993	1,108,699	1,567,168	1,622,787	282,935	4,581,589
1995 (High Estimate)	1,429,588	2,393,867	2,450,953	334,396	6,608,804
2000 (ditto)	2,103,573	4,130,240	4,190,406	442,484	10,866,703
2005 (ditto)	2,649,542	5,536,806	5,599,467	530,042	14,315,857
2010 (High Estimate)	3,108,448	6,719,075	6,783,834	603,637	17,214,994
2010 (Low Estimate)	2,434,844	4,963,775	3,732,806	454,446	11,585,871

Source: Sistema Estadistico Aeroportuario, ASA

Figure A.7 O-D flows of passengers of international flights and cruising ships

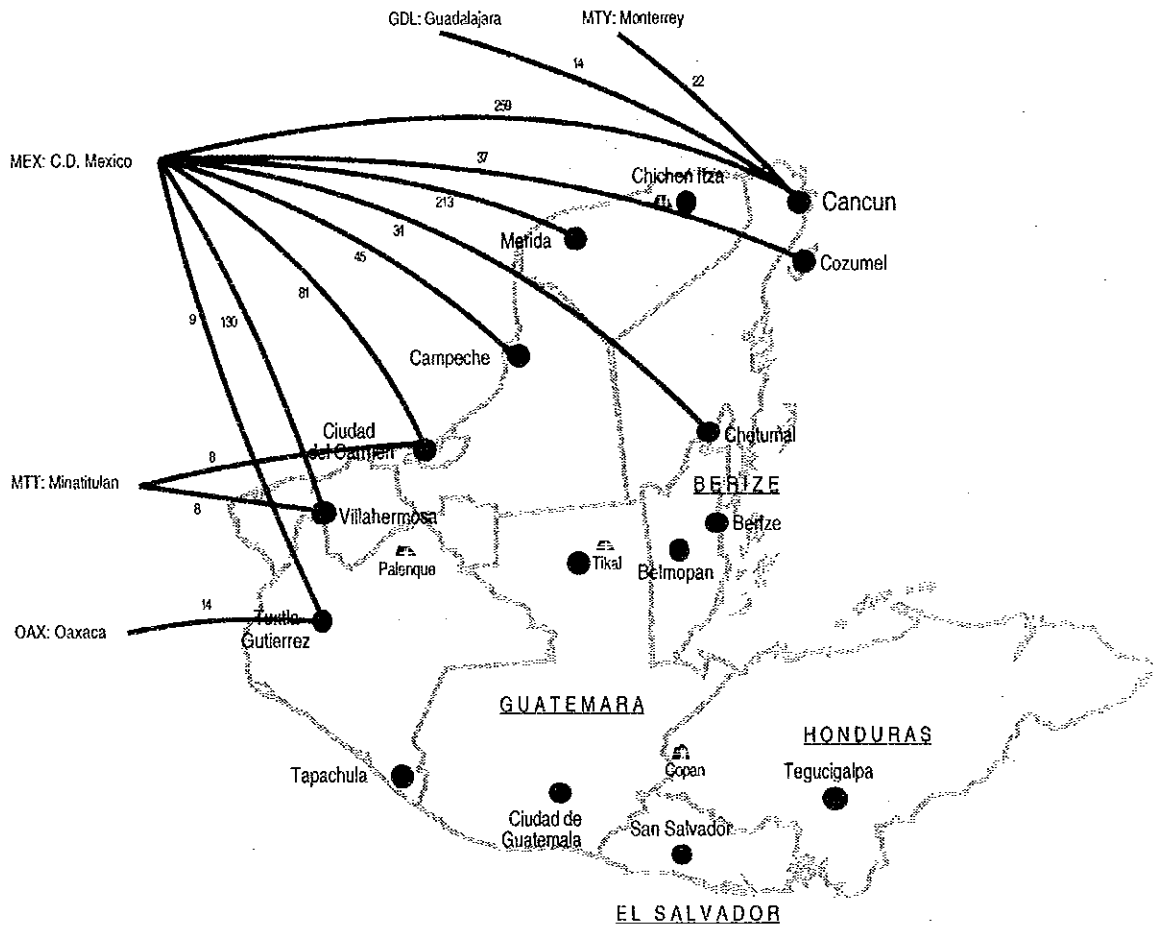


Note: (1) Number of Passengers of International Flights in 1995 (Totals of origin and destination, Totals of regular and charter flights, Unit: =1,000 passengers, Lines indicated over 5,000 passengers)

(2) Number of Visitors by Cruising Ships: 1994

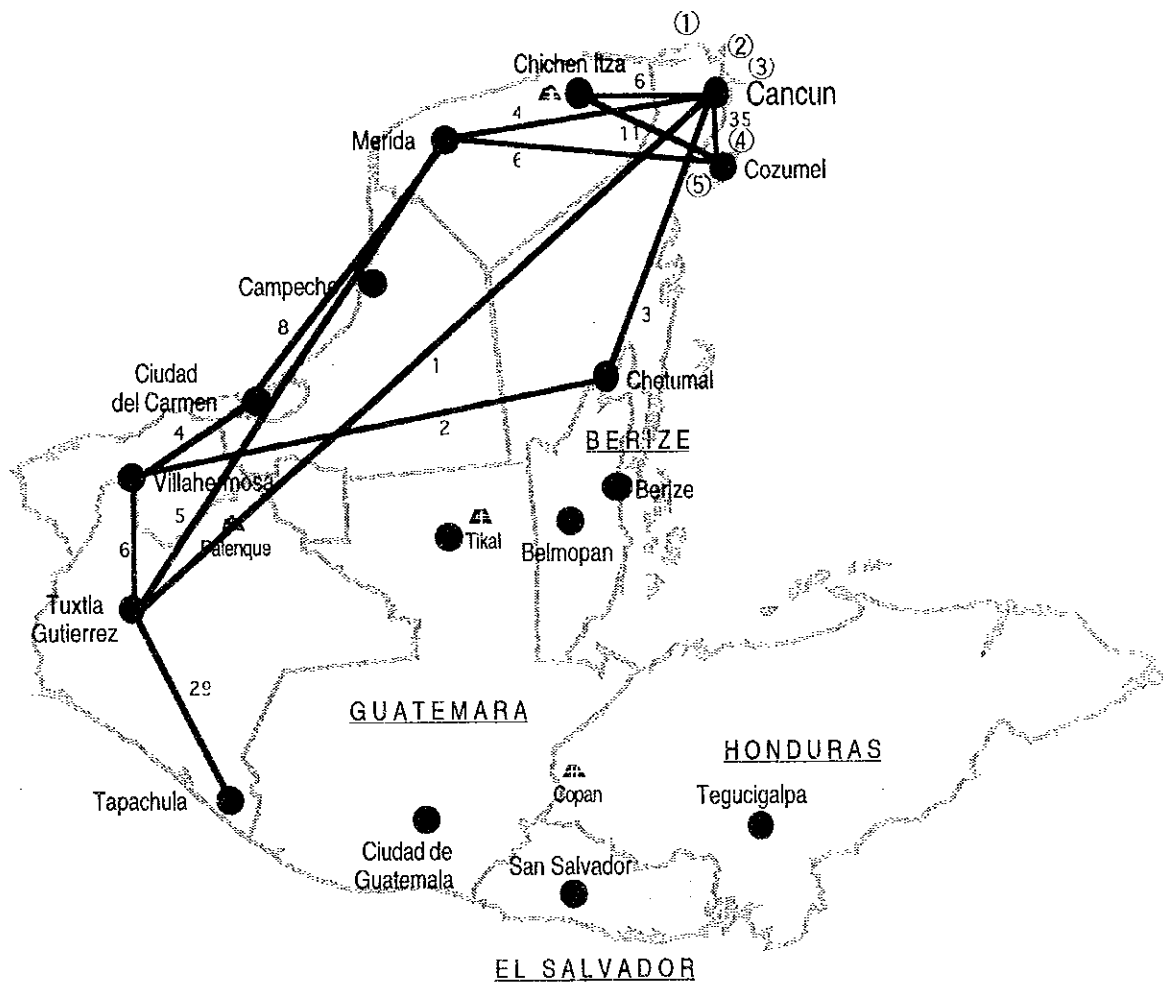
Source: SCT, ASA, compiled by JICA study team

Figure A. 8 O-D flows of passengers of inter-regional domestic flights



Note: Number of passengers of domestic flights in 1995 (Totals of origin and destination, Totals of regular and charter flights, Unit = 1,000 passengers, Lines indicated over 5,000 passengers)
 Source: SCT, ASA, compiled by JICA study team

Figure A.9 O-D flows of passengers of intra-regional domestic flights and ferryboats



Note: (1) Number of Passengers of Domestic Flights in 1995 (Totals of origin and destination, Totals of regular and charter flights, Unit = 1,000 passengers, Lines indicated over 1,000 passengers)

(2) Number of Passengers of Ferryboats: 1994

(Circle 1= Holbox - Chiquila 9,987, Circle 2= Puerto Juarez - Isla Mujeres 1,621,482, Circle 3= Punta Sam - Isla Mujeres 212,663, Circle 4= Puerto Morelos - Cozumel 35,594, Circle 5= Cozumel - Playa de Carmen 1,414,867)

Source: SCT, ASA, compiled by JICA study team

Table A. 65 Road facilities in Cancun

Principal Road Condition around Tourist Site	<p>A</p> <ul style="list-style-type: none"> - Federal No. __ (4 lanes), very good. - Hotel zone (4 lanes) very good. - Airport approach, (2 lanes) good.
Urban Area Road Condition	<p>B</p> <ul style="list-style-type: none"> - Main roads are paved and wide, but others are unpaved and narrow. - Road improvement is required correspond to urbanization.
Signals & Road's Signs	<p>A</p> <ul style="list-style-type: none"> - As a whole, good further completion is required as to signals in urban area and road signs for tourists.
Connecting Road to Major cities.	<ul style="list-style-type: none"> - To Merida. Fed. highway 249 Km. (toll road) Fed. freeway 66 Km. Total 315 Km (4:00 hrs.) - To Chetumal Fed. freeway 380 Km. (5:00 hrs.)
Future Plan	<ul style="list-style-type: none"> - CanCun-Zihuat--Tulum. Road improvement. - Nizuc--Playa del Carmen. (of 2, to lanes 48 Km) - Playa del Carmen---Tulum. (2 lanes, widening 61 Km)

Note: The signs mean as follows: **A**/good and/or enough, **B**/some improvement is required in near future, **C**/improvement and/or countermeasure is required soon.

Table A. 66 Other transport facilities

Bus Service	Service Level	B	
(Long Distance Tourist Bus)	No. of Routes.	6	
	No. of Operating Company	4	
	No. of Operations/day	34	
	Major Destinations.	Merida	29
	No. of Operations/day	México	1
		(Campeche, Cordoba, Tuxtla, Villa Hermosa)	1
Ferry Service.	Route, time, No. of operations / passengers in 1994.	-	Puerto Juárez -- Isla Mujeres, 10km, 50min. 10,793 op/year two way (aprox 14 op/day one way) 1,621,482 pas/year.
		-	Playa del Carmen-Cozumel : 20km, 1:40hrs. 16,155 op/year two way, 1,414,867 pas/year (aprox. 22op/day one way. (At Cozumel)
Cruiser.	No. of Embarkation 1994.	763	(in 1994)
	No. of passengers in 1994	925,410	(in 1994)
	Max No. of Embarkations in past.	763	(in 1994)
	Max No. of Passengers in past.	925,410	(in 1994)
	Future plan.	-	Pier Construction at Cozumel (Punta Laguna) (742 million N\$)
	-	Pier Construction at Playa del Carmen (200 million N\$)	

Note: The signs mean as follows: **A**/good and/or enough, **B**/some improvement is required in near future, **C**/improvement and/or countermeasure is required soon.

Table A. 67 Supporting infrastructure

Electrical	- Service coverage is 82% in March, 1990 (31,737 per 38,818 households) - Merida III 440Mw power plant project is under bidding
Water	- Service coverage is 94% in 1990 (36,646 per 38,818 households) - Supplied by Municipal Government to all users - Enough volume are being supplied - Raw water supplied from wells located in the south suburban area

Source: Compiled by JICA study team

A.3.6. Tourism promotion activities

Following tables show the inventory of tourism promotion activities conducted by Fondo Mixto at Cancun.

Table A. 68 Fondo Mixto in Cancun

Year of establishment	1989
Members	
SECTUR	X
STATE GOVERNMENT	X
PRIVATE SECTOR	
Hotel association	X
- No. of member hotels	73
- No. of non-member hotels	50
Restaurant association	no participation
Travel agencies association	no participation
Financial institute	no participation
Others	no participation
FONATUR	-
OTHERS	
Budgets in total (1,000 Pesos)	
1991	27,553.0
1992	0.0
1993	29,639.0
1994	29,639.0
1995	23,260.0

Source: Compiled by JICA study team

Table A. 69 Inventory of promotion activities (for the international market)

	Country name	Amount (1,000 Pesos)
Advertisement in newspapers or magazine	X (USA/Canada)	na
Campaign on TV and/or Radio	X (USA/Canada)	2,380.0
Participation in travel trade show	X	na
Seminar or presentation	X	na

	Countries from	Amount (1,000 Pesos)
Frnilialization trip for travel agents	X	na
Frnilialization trip for mass media	X	na
Press release	X	489.6

	Yes/No	Amount (1,000 Pesos)
Production of printed materials	X	13.9
Production of video	X	122.4

	Yes/No	Amount (1,000 Pesos)
Support to events (sports, festival, etc.)	X	na

	Activity	Amount (1,000 Pesos)
Others	X	1,224.0

Note: "X" shows Yes

Source: JICA study team

Table A. 70 Inventory of promotion activities (for the domestic market)

	Yes/No	Amount ('000 N. Pesos)
Advertisement in newspapers or magazine	X	11.5
Campaign on TV and/or Radio	X	2,847.0
Seminar or presentation	X	na
Emmialization trip for mass media	X	na
Press release	X	36,000.0

Note: "X" shows Yes
Source: JICA study team

A.3.7. Tourism administration and institution

A.3.7.1. State level

The tourism administration and institution of Quintana Roo state government level at the present are summarized in Table A. 71. The followings are general outline of them:

Quintana Roo state has its own section to administrating tourism in the government.

Quintana Roo state does not have their own laws or guidelines for the tourism development, but following the federal tourism law.

For the tourism development, Quintana Roo state has their own organization such as a trust of Quintana Roo, which is the same as FONATUR.

For the tourism education or training, the state has courses in the university in the state for the higher management level, and some college and technical institute for the middle management level. The state also have public training centers (Centro de Capacitacion) as vocational school including personnel of tourism related industries.

Table A. 71 Inventory of tourism administration (State level)

Data and Informations	Destination State	Cancun Quintana Roo
Name of the department or section for the tourism administration		SEDETUR
Other Organizations related to Tourism Administration	Name	N.A.
	Activity	
Governmental or sem-governmental organization of the state related to tourism dvelopment	Name	Caribe & Xel-Ha Tourism Dev. Trust
	Activity	Costa Maya Dev.
State laws, guidelines, etc. on tourism Development		No specific law
Specific income sources (i.e. tax) related to tourism		No specific income source by tourism
Training and education system to tourism (No. of facility and students)	Superior level	2
	Medio-superior	2
	Bacico	3

Source: JICA study team

A.3.7.2. Municipal/destination level

Table A. 72 shows the existing tourism administration and institution in the municipal or destination level. The followings are outlines of them:

The municipality of Benito Juarez has respective sections for the tourism administration in their organization.

They have no specific tourism sub-laws or guidelines after the federal tourism law from and to the tourism developments.

In the municipality, there is an association of hoteliers, restaurants, travel agencies and landoperators.

For the tourism training in the destination level, some provide courses by Fondo Mixto and/or by the associate of hoteliers. Through the country including Cancun, a principle tourism education is conducted in the primary and secondary schools using a textbook prepared by SECTUR to teaching pupils the significance of the tourism.

Table A. 72 Inventory of tourism administration (Municipality & Destination level)

Data and Informations	Destination Municipal	Cancun
Name of the department or section for Tourism Administration		Benito Juarez N.A.
Other Organizations related to Tourism Administration	Name	N.A.
	Activity	
Tourist police		No
Municipal laws, guidelines on tourism Development		No specific law
Numbers of Associations and their members (in number)	Hotelier	1 Association (124 in total; 74-attending to Fondo Mixto, 50-not attending)
	Travel Agency	N.A.
	Restaurant	N.A.
Training and education system		Training center and program by Hotel association

Source: JICA study team

A.3.8. Social issues

A.3.8.1. Population and labor force

(1) Internal migration

In Mexico, over 4 million or 5% of population migrated from 1985 to 1990. Quintana Roo state was net in-flow as well as Jalisco and Baja Carifornia Sur, while Guerrero, Oaxaca and Sinaloa were net out-flow.

Net migration of Quintana Roo State is 86 thousand or 40% of population in 1995, it is the second large number following to Baja Carifornia State and the largest rate in the country.

In municipality of Benito Juarez is the most atracted migration from 1985 to 1990, fifty six thousand or 39% of population immigrated from the other states. This number is the largest in Quintana Roo State. The major origins of migration into Quintana Roo State are the Yucatan Peninsula (Yucatan, Tabasco, Chiapas and Canpeche), Federal District, Veracruz and Gerrero.

(2) Population structure

Pre-school and school age population

The national average of school age population (14 years-old or less) ratio is 38.3% in 1990. This ratio of municipality of Quintana Roo is 39.6%.

The population ratio of 4 years-old or less is 12.5% in national. Benito Juarez exceeds the national average, more school facilities will be required in future.

Indiginous population

In mexico indiginous population is estimated as 8.7 million or 10.7% of total population in 1990.

Among the six tourist destinations, Cancun are indegineous people's place as well as Huatulco. The ratio is 22.7% in the Municipality of Benito Juarez. The major indiginous groups are Maya in Cancun.

(3) Labor force

National total economic activities population is 24 million or 43% of 12-years and over population. Among this economic activity population, 660 thousand or 2.7% are unemployment.

Participation rate of economic activities in the Municipality of Benito Juarez is the highest (58.4%) among the six tourist destinations.

However, unemployment ration is lower than national average. In the Municipality of Benito Juarez, unemployment ratio is extremely low, under 2%.

In this municipality, restaurant and hotel service is the most important industry, around 20% of working population engage in this service.

A.3.8.2. Housing conditions and development

The availability of basic services in the Mexican homes has increased. Of every ten houses, 9 have electricity, 8 have safety water and 6 have sanitary facilities. In municipality of Benito Juarez, some services are better and the others are poorer.

Rapid growing of tourism causes un-planned urban expansion because many people come to find job in tourism and related industries. In many cases, they are poor and start live on cheap land which do not have enough basic services.

Cancun was developed by FONATUR based on the master plan including urban area and housing area. But the tourism industry has growed rapidly and population increased unexpected level.

In order to supply housing lots for new immigrants, the state government expropriates *ejido* lands and the state housing authority (INVIQROO) develops and sell. However, these new areas have lack of enough basic services.

A.3.8.3. Social services

(1) Education

In Cancun, enrollment ratio of primary and secondary schools in municipality is higher than state average.

There are many pre-school age population in the municipalities of Benito Juarez, school facilities will be required more in the future.

(2) Health

In Mexico, social security institutes provide health and medical services for their members, covered ratio is 55%. The rest of population receive health service from Ministry of Health and Ministry of Social Development.

In Benito Juarez, these institutes have own hospitals and cover 87.7% in 1992 of population.

A.3.8.4. Participation of local peoples in tourism/recreation Activities

By the law, beach areas are public, but almost of beach front are privately owned by hotels and general public can not access to beach in tourism area of Cancun. There are two beaches where can be accessed by general, but one is far from residential area.

Opportunities for local peoples to participate tourism or recreation activities is not enough and many peoples hope to suport and cultural facilities.

Table A. 73 1990 population in Cancun by living place in 1985

Municipality of Benito Juarez	
Total	143,950
Same State (Quintana Roo)	85,530
Out of the State	56,469
Yucatan	22,526
Federal District	8,716
Veracruz	4,497
Tabasco	3,881
Chiapas	3,476
Campeche	2,982
Guerrero	2,928
Others	7,463
Out of Mexico	685
Not Specified	1,266

Source: National institute of statistics, geography and informatics

Table A. 74 Population by age structure and indigenous groups in Cancun

	Population by Age Group					Indigenous Population(5-)
	Total	0-5	6-11	12-14	15-	
Municipality of Benito Juarez	176,765	32,815	27,360	9,961	106,629	32,966

Source: "Annual statistics, 1994" of Quintana Roo state, INEGI

Table A. 75 Labor force in Cancun

	Population 12 yrs.+	Economic Activity Population	Working Population	
			Total	Restaurant & Hotel
Municipality of Benito Juarez	116,590	68,053	67,104	16,827

Source: "Annual statistics, 1994" of Quintana Roo state, INEGI

Table A. 76 Housing conditions in Cancun

	Percentage of Houses with Service of		
	Water	Electricity	Sewerage
Municipality of Benito Juarez	94.4%	81.8%	71.7%

Source: "Annual statistics, 1994" of Quintana Roo state, INEGI

Table A. 77 Gross enrollment ratio of school and covering ration of social securities in Cancun

	Number of Students in 1992		Covering Population of Social Security
	Primary	Secondary	
Municipality of Benito Juarez	32,279	8,526	154,956

Source: "Annual statistics, 1994" of Quintana Roo state, INEGI

A.3.9. Past performance of tourism economy

A.3.9.1. Investment, financial resources and development entities

In 1975, there were only 1,300 hotel rooms and less than 30,000 foreign tourists, but now there are more than 18,800 hotel rooms and about 1.5 million tourists staying in a year.

As concerns Cancun, FONATUR examined the study of economic and financial evaluation of Ex-Post in the period from 1973 to 1989. But it was difficult to collect the data after 1990 in the same level, therefore in this chapter, the investment are calculated under the assumptions as follows.

- After 1990 until 1994, the investment of hotel is calculated based on the increment of hotel rooms according to the rank of hotel. Construction costs assumed are as the following table. The investment costs of hotel in the period from 1975 and 1989 are adjusted by the inflation rates of 1994 and 1989.

Table A. 78 Hotel construction cost (\$1,000/Room)

Hotel Rank	1994
GT	710
5 star	646
4 star	487
3 star	311
2 star	263
1 star	217

Source: FONATUR

- The investment of infrastructure, facilities constructed by public sector and Indirect investment in the period from 1990 to 1994 is modified based on the information from FONATUR.
- The investment of restaurants and bars are in proportion to the investment of hotels based on the Service industries census. The investment of condominium and villas after 1990 is also assumed to be in proportion to the investment of hotel.
- Other investments includes the development of marines and golf courses as follows.

Table A. 79 Construction cost of marina and golf course

Marina	Year	Capacity	million \$
Marina "Aqua Tours"	1976	100	24.6
Marina Munda Marina	1978	40	9.8
Marine Hacienda del Mar	1990	62	15.2
Puerto Isla Mujeres	1992	200	49.1
Golf course	Year	Course	million \$
Robert Trent Jones Golf Course*	1976	18	94.5
Meria Cancun	1990	18	94.5
Caesar Park Beach & Golf Resort	1994	18	94.5

Note: * FONATUR constructed first, and sold to the private companies, therefor they are included in the investment of FONATUR.

Source: FONATUR, Private Companies

- Investment for residential houses is assumed in proportion to the investment of hotels, though the investment costs from 1975 to 1989 for these houses are based on the above-mentioned study.

The result of calculation of past investment is summarized in Table A. 80.

Table A. 80 Past investment of Cancun

		1973- 1989	1980- 1984	1985- 1989	1990- 1994	Investm ent total	%	Residual Net value	investment
		unit: million pesos in 1994 price							
FONATUR	Infrastructure	1,179	955	650	129	2,913	5.7	-1,449	1,463
	Facilities	394	92	57	70	613	1.2	-281	332
	Indirect	374	197	261	362	1,194	2.4	-446	748
	sub-total	1,946	1,243	969	561	4,719	9.3	-2,176	2,543
Private	Hotel	1,266	3,318	9,122	7,053	20,758	40.9	-10,184	10,574
	Condo. etc.	742	205	412	727	2,086	4.1	-736	1,350
	Restaurant & Bar	67	177	486	376	1,107	2.2	-543	564
	Others	169	37	75	385	665	1.3	-334	331
	sub-total	2,244	3,737	10,095	8,540	24,616	48.5	-11,796	12,819
	Housing	1,306	3,424	9,412	7,277	21,419	42.2	-10,508	10,911
	Invest total	5,497	8,403	20,475	16,379	50,754	100.0	-24,481	26,273

The table shows private sector investment for tourism facilities, infrastructure development cost and housing investment constitute approximately 48.5%, 9.3% and 42.2%, respectively.

Administration costs for public services are assumed as the budget scale of Puerto Vallarta municipality. On the other hand In generally ADM costs of private companies depend on the expenditure of tourists, therefore these costs are assumed to be 60 percent of tourist expenditure.

The investment costs and ADM costs from 1980 to 1994 are shown in the attached Table A. 84.

A.3.9.2. Expenditure of tourists and revenue of tourism industries

As concern benefit, the viewpoints from regional economy are considered, though economic evaluation is usually used to evaluate projects from the viewpoints of national economy.

The original sources of revenue are the consumption of tourists in the destination. It depends on the number of tourists, unit expenditure and stay-nights.

(total expenditure) = (number of tourists) x (unit expenditure) x (stay-nights)

The Ex-post study in Los Cabos reported the changes of these figures, which is summarized as follows.

Table A. 81 Changes of number of tourists, unit expenditure and stay-night

		1981	1989
number of tourists (1,000)	International	276.8	857.2
	Domestic	264.0	296.5
unit expenditure (peso in 1989 price)	International	2,317	3,125
	Domestic	690	781
stay-night	International	4.1	5.6
	Domestic	3.7	4.1

Source: FONATUR

In order to calculate the economic internal rate of return(EIRR), the unit expenditure from 1990 to 1994 is calculated by the simple regression model of year, though the coefficient rate is very bad.

Table A. 82 The result of the regression analysis of unit expenditure

	International	Domestic
Y(constant term)	-22804 (57.685)*	-6611 (28.142)*
R2 (coefficient of determination)	0.4675	0.2438
X=Year(regression coefficient)	11.646 (3.4474)*	3.4429(1.6818)*

Note: * means "standard error"

Source: JICA study team

The result of calculation of 1994, the unit expenditure of foreigners in 1994 is 419 peso in 1989 price, which is about 1,380 peso in 1994. The figures of domestic tourists is 254 peso in 1989, which is about 838 peso in 1994. The average stay-night in Cancun in 1994 is reported to be 5.4 nights for foreigner and 4.4 nights for domestic tourists. The average expenditure of hotel guest in 1994 is reported by SECTUR as 4,770 peso for foreigners and 3,090 peso for domestic tourists per person, though the average expenditure of tourists at airport interview survey by FONATUR is 740 USD in 1994, which is about 2,910 peso in 1994. The total expenditure adopted to calculate EIRR is shown in the attached Table A. 84.

A.3.9.3. Direct and indirect impacts of tourism development

The most important concepts to evaluate the effects for regional economy is the process of economical circulation in region. In Cancun, economic viability system has not established, therefor almost all goods are imported from USA or Mexico city.

In the calculation the rate of self sufficient is assumed as follows based on interview survey.

Table A. 83 Rate of distribution of consumption and self supply in the area

		Cancun
Distribution of* consumption		
	Lodge	31
	Food	31
	Shopping	6
	Other	32
Self supply (%)**		
	Lodge	50
	Food	20
	Shopping	20
	Other	80

Source: * compiled by JICA team based on SECTUR data

** Interview conducted during Site Reconnaissance

Concerning indirect benefits, employment creation and multiplier effects are considered. the benefit of indirect employment of hotel workers, the number of workers in related industries are supposed to be 2.5 times of hotel workers multiplied cumulative hotel rooms. The creation of construction industry workers is assumed in proportion to construction investment. Concerning multiplier effects, both of tourist consumption and construction is considered. According to the input-output table in 1985, the intermediate input of hotel and restaurant is 14%. There was no description of the intermediate input of construction industry in the input-output table in 1985, therefore the intermediate input of the table in 1980 is adopted, that is 53%. To estimate multiplier effects, it is assumed that 30% of intermediate input of hotel and restaurant and 53% of that of construction industry are circulated locally.

The regional economic effects to calculate EIRR is shown in the attached Table A. 84.

The table shows the regional effects constitute 76% of the benefit while that of employment creation constitutes 10% and multiplier effects constitutes remaining 14%.

A.3.9.4. The result of trial calculation of EIRR

The calculation of EIRR has been done under the assumption above mentioned and conversion factors to economic prices based on the report of "Socio-Economic Evaluation of Ex-post Cancun" by FONATUR.

- Construction of infrastructure 0.726
- Construction of facilities 0.699
- Operation and maintenance 0.692

The economic internal rate of return(EIRR) in Cancun to is 4.3% during the 1980-1994 period based primarily on FONATUR data under the assumption that the residual value of past investment was counted to be a benefit in 1995. This shows the past tourism investment was not so effective in Cancun, though EIRR is the highest in the three destinations. The cost side analysis shows infrastructure investment cost, private sector investment, and housing investment, and operation costs constitute approximately 2.6%, 15.2%, 12.9%, and 69.3%, respectively. The benefit side analysis shows the regional economic effects constitute 70.1% of the benefit while that of employment creation constitutes 17.4% and multiplier effect constitute remaining 12.5%.

One of major problems in Cancun is the quality of goods supplied in the region, though the economic viability system has established a little bit. It is necessary to create additional values for the destination using the resources maximally.

Table A. 84 Investment and benefit in Cancun tourism region

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	
Investment cost																							
by FONATUR	56	132	216	126	31	46	190	284	214	117	33	46	43	32	104	66	227	40	13	11	12	17	
Facilities	4	32	109	113	17	1	10	6	7	41	2	9	15	2	3	0	21	15	5	9	10	13	
Indirect	21	41	61	65	32	23	23	20	25	14	39	45	59	27	20	21	63	51	55	43	48	66	
sub-total	120	225	386	303	80	77	222	310	246	172	74	100	116	62	127	88	311	106	72	62	70	97	
by private companies	0	0	339	197	174	82	43	694	714	439	300	172	777	319	818	2,025	2,406	3,257	482	96	378	635	
Cond. etc	0	0	167	155	35	34	48	35	8	42	6	32	60	69	113	11	15	339	50	10	39	71	
Restaurate & Bar	0	0	21	11	9	4	2	35	38	23	18	9	41	17	44	103	130	175	26	5	20	37	
Otros	0	0	30	32	6	13	16	6	1	8	1	9	11	16	20	2	3	138	9	36	7	79	
sub-total	0	0	606	455	224	134	149	741	761	512	355	242	869	442	966	2,146	2,583	3,839	567	149	444	871	
Vivienda	0	0	401	204	179	85	44	685	737	483	341	178	802	330	844	2,060	2,513	3,391	498	101	300	707	
investment total	120	225	1,363	962	494	236	415	1,736	1,745	1,137	770	520	1,807	883	1,967	4,824	5,408	7,436	1,137	312	904	1,675	
ADM(public)	21	37	57	57	38	39	41	44	57	59	52	46	42	27	27	34	57	94	25	35	39	55	
ADM(private)	0	0	76	211	318	407	488	554	685	814	1,311	1,273	1,373	1,748	2,071	1,938	2,645	3,900	4,521	5,062	5,142	5,271	
ADM total	21	37	134	268	355	446	535	598	752	873	1,363	1,319	1,415	1,776	2,098	1,972	2,702	3,994	4,545	5,097	5,181	5,326	
Ground total	141	262	1,528	1,230	639	742	950	2,334	2,497	2,010	2,133	1,840	3,222	2,609	4,065	6,235	8,109	11,430	5,682	5,408	6,084	7,001	
Benefit																							
of Consumption			57	212	322	538	681	815	1,000	1,206	2,444	2,538	2,706	3,382	4,385	4,083	5,366	8,109	9,423	10,559	10,613	10,786	
NAL			130	295	383	442	497	519	674	755	715	528	601	629	582	584	973	1,284	1,465	1,632	1,770	1,901	
Total			187	507	765	980	1,188	1,334	1,674	1,961	3,159	3,066	3,307	4,210	4,987	4,667	6,371	9,393	10,888	12,191	12,383	12,686	
regional economic effect	50		29	78	119	152	184	207	260	304	490	475	513	663	773	723	968	1,456	1,688	1,880	1,919	1,968	
Food	20		12	31	47	61	74	83	104	122	196	190	235	261	309	289	365	582	675	755	768	787	
Shopping	20		2	6	9	12	14	16	20	24	38	37	40	51	60	56	76	113	131	146	149	152	
Other	80		48	130	195	251	304	341	429	502	309	785	847	1,078	1,277	1,195	1,631	2,405	2,767	3,121	3,170	3,250	
sub-total			91	246	371	475	576	647	812	951	1,532	1,487	1,634	2,042	2,419	2,283	3,090	4,536	5,281	5,912	6,006	6,158	
Employment creation			16	30	183	127	64	39	55	28	150	101	68	238	110	259	569	712	979	150	41	119	220
Indirect employment			0	0	43	56	82	91	100	134	178	184	244	261	279	315	368	480	669	686	713	747	
sub-total			16	30	226	192	145	190	155	363	407	334	346	329	517	425	617	1,039	1,237	1,647	833	967	
Multiplicar affect			0	0	5	14	21	32	36	45	53	66	88	90	114	135	127	173	235	236	331	336	345
by investment			19	36	222	153	77	47	66	276	277	181	122	88	287	133	313	687	860	1,182	181	50	144
sub-total			19	36	227	167	96	74	96	312	323	294	208	166	377	247	448	814	1,033	1,437	476	381	490
Ground total			35	55	544	614	679	829	1,322	1,542	1,519	2,086	1,983	2,498	2,714	3,484	4,137	5,360	7,640	6,586	7,030	7,318	7,736
EIPR																						4.3%	

Note: Unit= million pesos in 1994 price
 Source: JICA study team Supplemental data of economic analysis

A.3.10. Supplemental data of economic analysis

Table A. 85 Project cost and benefit in Cancun tourism region

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cost															
Investment cost															
by State and Municipality	0	0	21	21	21	7	7	7	7	7	0	0	0	0	0
Infrastructure	0	0	236	236	236	192	192	192	192	192	171	171	171	171	171
Indirect	0	0	13	13	13	10	10	10	10	10	9	9	9	9	9
Sub-total	0	0	269	269	269	209	209	209	209	209	179	179	179	179	179
by private companies	539	539	539	539	539	799	799	799	799	799	1,209	1,209	1,209	1,209	1,209
Hotel	0	0	68	68	68	59	59	59	59	59	32	32	32	32	32
Facilities	0	0	68	68	68	59	59	59	59	59	32	32	32	32	32
Sub-total	539	539	606	606	606	858	858	858	858	858	1,241	1,241	1,241	1,241	1,241
Promotion	41	41	41	41	41	47	47	47	47	47	43	43	43	43	43
Investment total	579	579	916	923	922	1,114	1,111	1,114	1,111	1,117	1,463	1,467	1,463	1,467	1,466
ADM cost	0	0	81	162	242	305	397	430	489	555	609	663	716	770	824
private	71	214	428	713	1,069	1,770	2,363	2,956	3,550	4,143	4,736	5,329	5,922	6,515	7,108
ADM total	71	214	509	874	1,312	2,075	2,760	3,386	4,042	4,698	5,355	6,018	6,675	7,332	7,989
Ground total	650	793	1,425	1,797	2,233	3,189	3,941	4,501	5,153	5,815	7,550	8,566	9,574	10,590	11,601
Benefit															
of Consumption															
(Consumer's expenditure)	19	56	112	186	279	461	614	768	922	1,076	1,423	1,673	1,923	2,173	2,423
Domestic	19	47	94	150	236	394	523	658	792	927	1,225	1,433	1,650	1,864	2,078
Foreigner	178	533	1,066	1,776	2,665	4,409	5,888	7,366	8,844	10,322	13,649	16,037	18,425	20,813	23,200
Total	28	83	165	275	413	683	913	1,142	1,371	1,600	2,116	2,496	2,856	3,226	3,596
Regional economic effect															
(State revenue)	14	41	83	138	207	410	548	685	822	960	1,481	1,740	1,999	2,258	2,517
lodging	3	8	16	27	40	79	106	133	159	186	267	337	397	457	487
shopping	46	136	273	455	682	1,129	1,507	1,886	2,264	2,643	3,494	4,105	4,717	5,328	5,939
other	59	289	537	894	1,342	2,302	3,073	3,845	4,617	5,388	7,377	8,688	9,988	11,249	12,540
sub-total	71	214	428	713	1,069	1,770	2,363	2,956	3,550	4,143	5,355	6,018	6,675	7,332	7,989
construction work	71	214	428	713	1,069	1,770	2,363	2,956	3,550	4,143	5,355	6,018	6,675	7,332	7,989
indirect employment	5	15	30	50	75	129	172	215	259	302	413	485	558	630	702
sub-total	106	140	219	254	370	447	488	550	602	666	810	888	966	1,044	1,122
Multiplier effect															
by consumption	5	15	30	50	75	129	172	215	259	302	413	485	558	630	702
by investment	66	86	139	199	294	471	636	801	966	1,131	1,481	1,740	1,999	2,258	2,517
sub-total	81	101	169	214	299	447	558	636	717	770	926	1,011	1,108	1,188	1,266
Ground total	266	509	925	1,338	1,926	3,047	3,914	4,790	5,647	6,546	8,826	10,267	11,708	13,149	14,452
EIRR=															
															24.7

Source: JICA study team

Table A. 86 Financial cost and revenue in Cancun tourism region

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Private sector															
Revenue	160	480	959	1,599	2,398	3,968	5,299	6,829	7,960	9,290	12,284	14,433	16,582	18,731	20,880
Cost	915	770	867	867	867	1,442	1,228	1,228	1,228	1,228	2,077	1,775	1,775	1,775	1,775
cf. Investment	107	320	639	1,066	1,599	2,646	3,533	4,419	5,306	6,193	8,189	9,622	11,055	12,488	13,920
O&M	51	103	161	218	276	358	440	522	604	686	804	922	1,041	1,159	1,277
Depreciation	19	19	17	19	17	14	9	7	3	3	0	0	0	0	0
Promotion	343	343	343	294	245	704	655	606	485	363	1,025	952	879	702	524
Interest	520	784	1,161	1,597	2,137	3,722	4,637	5,555	6,398	7,245	10,018	11,496	12,975	14,348	15,722
Total	-360	-304	-201	2	261	247	682	1,074	1,562	2,045	2,266	2,937	3,607	4,383	5,158
Balance	0	0	0	0	0	0	104	365	531	695	770	998	1,226	1,490	1,754
tax	-360	-304	-201	2	261	247	588	709	1,031	1,350	1,496	1,938	2,381	2,893	3,405
after reducing tax															
FIRR	27.5%														
FIRR2*	23.3%														
Public sector															
Revenue	18	53	107	178	266	441	589	737	884	1,032	1,365	1,604	1,842	2,081	2,320
Cost	0	0	0	0	0	0	104	365	531	665	770	998	1,226	1,490	1,754
Income tax	18	53	107	178	266	441	693	1,102	1,415	1,728	2,135	2,602	3,069	3,571	4,074
Total	94	0	328	328	328	312	211	211	211	211	299	203	203	203	203
cf. Investment	28	28	127	225	324	417	481	544	607	671	760	821	882	943	1,004
O&M	0	0	11	22	33	40	47	54	61	68	75	82	88	95	102
Depreciation	28	28	138	247	357	457	527	598	668	739	835	903	970	1,038	1,105
Total	-10	25	-31	-69	-90	-16	165	504	747	989	1,300	1,699	2,099	2,534	2,968
Balance															
R/E	1.84 (Discount rate = 8.5 %)														

Note: FIRR2 means the FIRR when the business income tax is counted to expenditure.
Source: JICA study team

A.3.11. Description of project outline

The followings are the description of tourism development projects proposed by JICA study team for implementation by 2010.

A.3.11.1. Cancun tourism center

(1) Land development of phase-3 area of the Cancun hotel zone (CTR CUN-1)

In order to increase tourism attraction and amenity, it is necessary to provide more tourism facilities in the Cancun tourism center. In fact, in the Cancun hotel zone, FONATUR has started land development in the phase-3 area, where FONATUR has a plan to concentrate development of tourism facilities rather than to hotel development. This development should be materialized as early as possible.

(2) Facility development in the Cancun hotel zone phase-3 area (CTR CUN-2)

FONATUR has a plan to develop various tourism facilities in the Phase-3 area in order to diversify the tourism in Cancun. They are:

- wet'n wild: water park development,
- aquarium, and
- tropical botanical garden.

It is additionally proposed to develop the following:

- Mayan village: theme park of Mayan culture and history.

(3) Improvement of Cancun convention center, Phase-II (CTR CUN-3)

The development master plan of the existing convention center has three phases. It is scheduled to start the Phase-II development including development of an observation tower and commercial complex.

(4) Malecon Cancun land development (CTR CUN-4)

FONATUR has prepared a development plan and started the land development in the area that is close to the Cancun downtown and facing to the Nichupute lagoon. The development is for offices, commercial facilities and residential flats.

(5) Puerto Cancun land development (CTR CUN-5)

FONATUR has also prepared a development plan in the area that is close to the Cancun downtown facing to the Caribbean sea. The development is for marina with condominium and hotels as well as commercial facilities. The project would cope with the shortage of marina capacity in the Cancun tourism center, and also serve to conserve the Nichupute lagoon by shifting the boats in the lagoon to this marina.

(6) Laguna Nichupute comprehensive environmental improvement (CTR CUN-6)

Increase of hotel rooms as well as increase of urban population resulted in water pollution in Nichupute Lagoon. CNA has started study and been under preparation of the action plan to prevent further pollution of the lagoon. The federal government has decided to implement the plan by the government budget. It is strongly recommended to implement the study, improvement of the infrastructure that protect the environment, restoration of the lagoon, and to establish regulations to prevent pollution.

(7) Cancun downtown improvement (CTR CUN-7)

The Cancun downtown has many of the urban problems such as shortage of residential areas, insufficient urban utility services, shortage of parking space, and so on due to the drastic increase of population caused by the tourism development.

This is a project to cope with the problems through the improvement of urban infrastructure and utilities

(8) Nature conservation and tourism amenity improvement of Yum Balam Biosphere Reserve (CTR CUN-8)

The Yum Balam biosphere reserve is located in the northern part of Quintana Roo where colonies of flamingos, pelicans and other sea birds, as well as mangrove forests are found.

This is a project that aims at wise use of the reserve by introducing tourism. The project includes development of a tourist center, improvement of the existing pier at Chiquila, planning of conservation activities, and training of local people for ecotourism guides.

(9) Hotel accommodation development (CTR CUN-9)

Additional 5,495 rooms are planned in the Cancun tourism center. Most of hotel rooms should be accommodated in the Malecon Cancun and Puerto Cancun areas.

(10) Tourism improvement of Isla Mujeres (CTR CUN-10)

Isla Mujeres was prospered as a beach resort before the development of Cancun started. The island is popular as a sea excursion spot from Cancun. This is a project to improve tourism in the island to receive more excursion visitors with development of hotels (additional 344 rooms) and improvement of the state road of the El Meco-Boca Iglecia section.

(11) Improvement of Cancun international airport (CTR CUN-11)

ASA has a project to improve the Cancun international airport in the national airport improvement master plan. The project includes construction of an additional runway, new terminal building, new satellite terminals and a cargo terminal.

A.3.11.2. Cozumel Island

(1) Hotel accommodation development (CTR CZM-1)

Additional 2,496 rooms are planned in the Cozumel island according to the development framework.

(2) Access road to San Gervasio archeological site (CTR CZM-2)

San Gervasio ruin is the only excavated site among the numerous archeological sites in Cozumel but its tourism use is limited due to a poor access road. This is a project to improve the access road to the ruin to diversify and enhance tourism in the island.

(3) Cruise pier construction at Punta Langosta (CTR CZM-3)

The Cozumel island has received the largest number of cruise ship arrivals in Mexico. Due to the increased number of the arrivals, existing piers have become insufficient to accommodate cruise ships. API of Cozumel has a project to construct three more piers at Punta Langosta to solve the problems and one of them has already started construction. This project aims to maintain Cozumel's status as a famous cruise ship destination.

A.3.11.3. Cancun-Tulum corridor

(1) Hotel accommodation development (CTR CTC-1)

Additional 11,985 rooms are planned in Cancun-Tulum corridor. The corridor still has large capacity of land for the tourism development. It is strongly noted that the development should be carried out under the strict application of the ecological ordinance.

(2) Improvement of tourism supporting towns in the corridor (CTR CTC-2)

There are three tourism supporting towns of Playa del Carmen, Puerto Morelos and Tulum in the corridor. This is a project to prepare urban development master plans for respective towns to avoid urban and environmental problems as found in the Cancun downtown.

(3) Improvement of the Federal Highway No.307 between Cancun and Chetumal (CTR CTC-3)

The Federal Highway No.307 is the trunk road that runs through the Quintana Roo state connecting Cancun, Playa del Carmen, Tulum, Felipe Carrillo Puerto and Chetumal. SCT has an action plan to carry out the upgrading of the highway from Type-A2 to Autopista by the year 2000.

(4) Road improvement of the section of Tulum-Coba-Autopista No.180 (CTR CTC-4)

This is a road improvement project of the Tulum- Coba- Nuevo X-can section to formulate a one-day trip route of Cancun - Tulum - Coba - Chichen Itza - Cancun.

(5) Improvement of access road to archeological sites (CTR CTC-5)

This is a project to improve two state roads; pavement for Coba-Ixhil-X-Uilub (40km) and pavement and widening to 7 m for Coba-Chemex (31km). The former will serve to facilitate access to the Mayan ruins of Ixhil and X-Uilub, and the later will serve to secure connection to Chichen Itza and the historical city of Valladolid.

A.3.11.4. Sian Ka'an biosphere reserve area

(1) Tourism facilities development in Sian Ka'an Biosphere Reserve (CTR SAK-1)

UNESCO designated the Sian Ka'an biosphere reserve as one of the world heritage sites. It is a project to introduce a type of ecotourism to improve the economic conditions of the residents in the reserve. A strict land use control system and development guidelines should be applied to the private land in the reserve.

(2) Felipe Carrillo Puerto urban tourism development (CTR SAK-2)

Felipe Carrillo Puerto is a stopover town for travelers of Mundo Maya Circuit. The town is characterized by the presence of Mayan culture. The town is receiving small number of visitors at present, they could be increased by promoting the region and with the development of the Cancun-Chetumal corridor.

This is a project to improve the cultural center, to provide interpretation boards at historical site, and souvenir shops of local handicrafts such as wood carving, textile, pottery, as well as agricultural products. Parking lots for cars and buses for the visitors should be developed.

(3) Improvement of roads of the section of Felipe C. Puerto-Umam (CTR SAK-3)

This is a project to develop a short-cut route of Mundo Maya circuit from the Federal Highway No.307 to Merida. There are Mayan ruins such as Uxmal, Kabah, along the short-cut route. The route is composed of the Federal Highways No.184 and 261. The highways are recommended to be improved from Type-C to Type-A2. The improvement should contribute to the regional development as well.

A.3.11.5. Costa Maya

(1) Nature conservation and tourism amenity improvement of Banco Chinchorro (CTR CSM-1)

Banco Chinchorro is considered as the second largest atoll in the world located about 30.4 km off the coast of Costa Maya and covering an area 46.4 km long and 14.4 km wide, consisting with three main islands: Cayo Centro, Cayo Norte and Cayo Lobos. It is a potential diving sites that could rival Cozumel.

In order to conserve the the atoll, a type of development as a marine ecotourism should be introduced for diving and glass-boat excursion for up-market clientele. For the purposes, an information center is recommended to develop at Majahual and a pier at Cayo Centro. For the conservation of the atoll as well as the marine environment, it is also recommended to carried out a survey of marine ecology,

fauna and flora of the islands and to develop a Marine patrol center and a Marine science center at Majahual.

(2) Hotel accommodation development (CTR CSM-2)

Additional 1,500 rooms are planned in Costa Maya. The development should be under the guidelines of an ecological ordinance. It is recommended to develop small size hotels of 20 rooms at X-calak and Tampalan in the initial stage.

(3) Development of Costa Maya (CTR CSM-3)

To promote the tourism in Costa Maya the state government has a plan to develop infrastructure for Costa Maya; roads, water supply system and electrical supply system as well as tourist piers at X-calak, Punta Herrero and Punta Xocoxh and landing strip at Majahual.

(4) Aguada ferry port terminal improvement (CTR CSM-4)

The state government has a plan to improve the Aguada ferry port which locates in Chetumal Bay in order to maintain an easy sea access from Chetumal to X-calak.

A.3.11.6. Chetumal and its vicinity

(1) Improvement of Chetumal downtown (CTR CTM-1)

The state government has a plan to develop Costa Maya as a tourism center. It is considered that the Chetumal will be a stop-over point and characterized as the business center. It is recommended to develop additional 1,752 rooms in Chetumal for mainly business hotels, and Bacalar and Calderitas for tourism hotels.

Beautification of the downtown is also recommended including landscaping for Heros avenue, rehabilitation of the water fountains, improvement of the existing theater, Improvement of the bus terminal.

(2) Tourism complex in Bacalar (CTR CTM-2)

The state government has a project to develop a tourism complex in Bacalar including a hotel(s), a marina and a golf course. It could contribute the tourism in the Chetumal area but primarily for domestic market.

(3) Tourism development in Bahia de Chetumal and Calderitas (CTR CTM-3)

The state government has a project in Chetumal Bay area including Calderitas to carry out improvement of commercial area at Calderitas, nature oriented tourism development at Punta Lagartos and L. Echeverria, development of a tourist pier, pedestrian networks and an eco-lodge type hotel, and hot spring resorts at Calderitas and Punta Catalan.

(4) Infrastructure development in Chetumal, Bacalar and Calderitas (CTR CTM-4)

The state government has projects to improve infrastructure in the area including Chetumal, Bacalar and Calderitas.

A.3.11.7. Chetumal-Campeche Corridor in the Quintana Roo state

(1) Ecotourism development in Kohunlich archeological site (CTR CCQ-1)

The state government has ecotourism projects utilizing Mayan ruins and rain forests in Kohunlich, Chichan-Ha, Tres Garantias, Yaab Dzonot, Balneario Raudales and El palmar in response to the Mundo Maya program.

The projects includes improvement of access roads and parking areas, formulation of trekking route, provision of road signs and explanation boards, development of information centers, ecolodges, toilets, and so on.

(2) Restoration of archeological ruins and development facilities (CTR CCQ-1)

This is a project of INAH to restore the Mayan ruins of Chacchoben, Chactemal, Dzibanche and La Laguna. Visitor reception facilities; an information center, signs and explanation boards, toilets and so on for each should be developed with assistance from SECTUR.

(3) Improvement of access road to ruins from Federal Highway No.186 (CTR CCQ-1)

This is a project to promote the Mundo Maya program to improve an access road to ruins of Pasion de Cristo, Rio Bec, Xpjlil, Becan and Chicana. The project includes improvement of pavement of existing road (15 km).

A.3.11.8. Other areas in the Quintana Roo state

(1) Hotel accommodation development in other area of the state (CTR OTR-1)

Additional 515 rooms are planned in the rest of the Quintana Roo state.

A.3.11.9. Chetumal-Campeche corridor in the Campeche state

(1) Community-based ecotourism development in Xpjlil archeological site (CTR CCC-1)

The Campeche state has a plans to develop the villages of Veinte de Noviembre and Echeverria Catellot No.2 as the bases for trekking to the Mayan ruins in the rain forests. This is a project to improve Conhuas-Calakmul road and access roads to Mayan ruins of Hormiguero, Vaacbal, Oxpemul, and La mneca as well as to develop trekking routes with sign boards for El Ramonal, Calakmul, and Maruchin ruins.

A.3.11.10. Campeche tourism center

(1) Beautification of Campeche downtown (CTR CPE-1)

This project aims to improve the tourism in its downtown area with improvement of an information center and development and improvement of sign boards at each historical buildings and sites.

(2) Hotel accommodation development (CTR CPE-2)

Additional some 800 rooms are planned in the area.

A.3.11.11. Merida-Campeche corridor

(1) Uxmal-Campeche archeological circuit development (CTR CMC-1)

There many of Mayan ruins between Campeche and Merida especially along Federal Highway No.261 such as Edzna, Sayil, Kabah, Uxmal, and so on. This is a project to provide information signs along the highway and explanation boards for the ruins to promote the Mundo Maya program.

(2) Celestun biosphere reserve area tourism improvement (CTR CMC-2)

Celestun is located in the west of Merida. It is an ecological resources with colonies of flamingos, pelicans and other sea birds as well as mangrove forests. The area is designated as a special biosphere reserve by INE. This project aims at wise use the reserve including tourism for diversification of tourism products in the Cancun tourism region.

A.3.11.12. Merida tourism center

(1) Beautification of Merida downtown (CTR MID-1)

This is a project to improve tourism amenity in Merida with improvement of an information center and development and improvement of sign boards at each historical building and site.

(2) Tourism accommodation development in Merida town (CTR MID-2)

Additional 897 rooms are planned in Merida.

A.3.11.13. Merida-Cancun corridor

(1) Valladolid historical town improvement (CTR MCC-1)

A historical town of Valladolid could be a stopover point for travelers in Cancun - Merida Corridor. This is a project to beautify historical buildings and provide signs and tourism information and gardening surrounding the buildings.

(2) Ecotourism development of Rio Lagartos special biosphere reserve (CTR MCC-2)

A special biosphere reserve of Rio Lagartos locates at the north end of the Federal highway No.295 from Valladolid. The reserve has a lagoon and mangrove forests and colonies of sea birds.

This project aims to develop a tourist pier, bird observation decks, an information center with guidance room, toilets, refresh stands, etc. It is required to improve the Rio Lagartos village for beautification with development of solid waste system and development of sewerage system to stop further pollution of sea water of the lagoon.

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