

## 11. TOURISM DEVELOPMENT FRAMEWORK

A number of different methods are used to forecast the future tourism demand to and within Guatemala. The different results will be compared and evaluated carefully, and provide a basis to set up the national development target.

### 11.1. International Tourism Demand Forecast

#### 11.1.1. Estimation Based on the Past Trend

##### (1) Review of past growth patterns

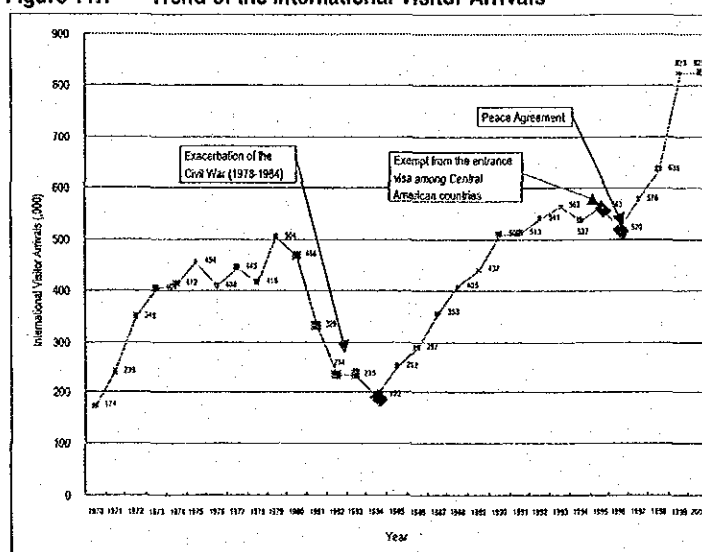
A time series method using the past numbers of visitor arrivals in Guatemala was employed to forecast the future international tourism demand. If the past 30 years (1971 – 2000) are divided into the 6 5-year periods, 3 growth periods, 1 decline period, and 2 stagnation periods can be observed as shown in Table 11.1 and Figure 11.1.

**Table 11.1 Annual Increase Rates of 5-Year Periods**

Quinquennial Periods	'71-'75	'76-'80	'81-'85	'86-'90	'91-'95	'96-'00
Growth period	21.22%			15.08%		7.96%
Stagnant period		0.51%			2.07%	
Decline period			-11.57%			
Growth in the recent decade						4.97%

Source: JICA Study Team, INGUAT

**Figure 11.1 Trend of the International Visitor Arrivals**



Source: JICA Study Team, INGUAT

Characteristics of each period is summarized as follows:

- First growth period (1971-1975): Rapid growth
- First stagnation period (1976-1980): Slow down of growth due to political instability
- Decline period (1981-1985): Negative growth caused by the armed conflict

- Second growth period (1986-1990): Rapid recovery reflecting improved security conditions
- Second stagnation period (1991-1995): Slow growth amidst the Peace Talks process
- Tertiary growth period (1996-2000): Rapid growth after the Peace Agreements

## (2) Tourism development cycle

Past examples show that a period of double-digit growth does not last for a decade. The following cycle is generally observed in the development of tourism areas, which may be applicable to Guatemala.

- Initial period: Studies and plans for tourism development are carried out, and tourism development and promotion are initiated, although they don't influence visitor arrivals immediately.
- Growth period: With the continued development and tourism promotion, visitor arrivals start to increase and, eventually, accelerate.
- Maturity period: After the growth period, the growth rate slows down and stagnates, in many cases, since the plans and development made in the initial period become outdated.
- Decline or rejuvenation period: There could be two patterns of the final period: the declination period in case no measures are taken, or the rejuvenation period when efforts are made to adapt to the latest situation and rejuvenate the tourism development area. Since some areas could reach the limit of physical capacity, new development area may be sought.

## (3) Assumptions of the calculation

Taking into account the past pattern of tourism growth in Guatemala and tourism development cycle in general, JICA Study Team assumed the following growth patterns for the future.

- Scenario-1: Early start of the growth period
- Scenario-2: Moderate start of the growth period
- Scenario-3: Slow start of the growth period

The following growth rates are assumed and applied to respective 5-year periods as shown in Table 11.2 to calculate the future numbers of visitor arrivals.

- 5.0%: Growth rate of the latest decade
- 2.5%: Similar to the growth rate of early 90's
- 8%: Growth rate of the latest 5-year period

**(4) Results**

The followings are the calculated results of the 3 scenarios. The highest figure is 2.2 million international arrivals in 2020 (Scenario 1), and the lowest was 1.7 million (Scenario 3) in the same year.

**Table 11.2 Calculate Results of the Three Growth Scenarios**

	2000	2005	2010	2015	2020
<b>Scenario-1 (early start of growth)</b>					
Int'l visitor arrivals (1000)	826	1,054	1,549	1,977	2,237
Growth rate		5.0%	8.0%	5.0%	2.5%
<b>Scenario-2 (moderate start of growth)</b>					
Int'l visitor arrivals (1000)	826	935	1,193	1,753	1,983
Annual Growth Rate		2.5%	5.0%	8.0%	2.5%
<b>Scenario-3 (slow start of growth)</b>					
Int'l visitor arrivals (1000)	826	935	1,057	1,349	1,722
Annual Growth Rate		2.5%	2.5%	5.0%	5.0%

Source: JICA Study Team

**11.1.2. Estimation Based on the Economy of the Visitor Generating Countries****(1) Methodology and background**

A multi-regression method was employed to forecast the future international tourism demand using the following indicators in the 1985 – 2000 period. It was designed to reflect economic situations in Central American and OECD countries.

- The number of international visitor arrivals in the previous years
- Real GDPs of Central American countries
- Real GDPs of OECD countries
- Exchange rates of Quetzal-US\$
- Dummy valuable: the dummy valuable was used to take into account the sensitive situation before the signing of the Peace Agreements

**(2) Assumptions of the calculation**

Future growth rates of the real GDPs of Central America and OECD countries are assumed as shown in Table 11.3. Other valuables: exchange rate and dummy valuable were fixed at Q.8.0 per US\$ (the same as the current exchange rate) and 0 (no serious negative incident).

**Table 11.3 Assumptions of the Valuables**

Valuables/Year	2000 <sup>1)</sup>	2005	2010	2020
<b>Case-1</b>				
<b>Scenario-1: Higher Economic Growth</b>				
Growth Rate of Real GDP of C.A.	4.5% <sup>2)</sup>	4.0%	3.0%	2.5%
Growth Rate of Real GDP of OECD	4.0%	3.0%	3.0%	2.5%
<b>Scenario-2: Lower Economic Growth</b>				
Growth Rate of Real GDP of C.A.	4.5% <sup>2)</sup>	4.0%	3.0%	2.5%
Growth Rate of Real GDP of OECD	4.0%	3.0%	2.5%	2.0%
<b>Case-2</b>				
Growth Rate of Real GDP of C.A.	4.5% <sup>2)</sup>	4.0%	3.0%	2.5%
Growth Rate of Real GDP of OECD	4.0%	3.0%	3.0%	2.5%
Exchange Rate	7.76	8.0	8.0	8.0
Dummy	0	0	0	0

Note: <sup>1)</sup>The figures in 2000 are taken from the existing data.

<sup>2)</sup> The growth rate in 1998 is preliminarily used for the figure in 2000.

Source: JICA Study Team, World Bank, OECD, and Banco de Guatemala

### (3) Results

JICA Study Team obtained the following results as shown in Table 11.4. The highest figure is 1.7 million arrivals in 2020, while the lowest is 1.5 million in the same year.

**Table 11.4 Estimation of the International Visitor Arrivals**

Scenario/Year	2000	2005	2010	2020	Growth 2000-2020
<b>Case-1</b>					
<b>Scenario-1: Higher Growth</b>	826	994	1,193	1,661	
Annual Growth Rate		3.8%	3.7%	3.1%	3.4%
<b>Scenario-2: Lower Growth</b>	826	994	1,154	1,448	
Annual Growth Rate		3.8%	3.0%	2.3%	2.8%
<b>Case-2</b>					
<b>Annual Growth Rate</b>	826	1,046	1,271	1,726	3.8%

Source: JICA Study Team

**Table 11.5 Coefficients of the Regression**

Variable	Regression Coefficient		
	Case-1	Case-2(C.A.)	Case-2(OECD)
Case			
Previous Year Arrivals	0.46504565	0.600478108	0.81486089
Real GDP of Central America	-0.00292908	0.003597344	-
Dummy	-78.5417422	-54.21771346	0.004619335
Exchange Rates (Q.-US\$)	18.8610778	4.907462824	-34.24686939
Real GDP of OECD Countries	0.02827282	-	0.410214075
Invariable	-298.597502	-67.52752168	-35.35906662
R-squared for Decision	0.9444	0.7609	0.9640

Source: JICA Study Team

### 11.1.3. Estimation Based on WTO Forecasts

#### (1) Methodology and background

World Tourism Organization publishes a forecast of international visitor arrivals up to the year 2020. WTO forecasts that the number of international visitor arrivals in Central America would be 8 million in 2020 growing at 4.3 % from 1995 to 2020.

#### (2) Assumptions of the calculation

The following 3 Cases are set based on the past trend of Guatemala's share in the tourism market of Central America.

- Case-1: the share of Guatemala increases with a logistic curve
- Case-2: the share of Guatemala increases moderately with a logarithm curve
- Case-3: the share of Guatemala keeps the current share.

**Table 11.6 Guatemala's Share of International Visitor Arrivals in Central America**

Country/Year	International Visitor Arrivals (1000)				Share (%)			
	1996	1997	1998	1999	1996	1997	1998	1999
Central America	2,637	3,002	3,433	3,988	100.0	100.0	100.0	100.0
Guatemala	520	576	636	823	19.7	19.2	18.5	20.6
Belize	133	146	157	<sup>2</sup> 171	5.0	4.9	4.6	4.3
Costa Rica	781	811	943	1,027	29.6	27.0	27.5	25.8
El Salvador	283	387	542	658	10.7	12.9	15.8	16.5
Honduras	255	303	318	371	9.7	10.1	9.3	9.3
Nicaragua	303	358	406	468	11.5	11.9	11.8	11.7
Panama	362	421	431	<sup>2</sup> 470	13.7	14.0	12.6	11.8

Note: 1) WTO forecasted the International tourists (overnight visitors)

2) The figures of Belize and Panama are estimated by average increase rates of '96-'98

Source: JICA Study Team, INGUAT, and WTO

#### (3) Results

The results are shown in Table 11.7. The highest figure is 1.8 million and the lowest was 1.5 million in 2020. Case 4 is the average of Case 1 and Case 2, and is presented as a reference.

**Table 11.7 International Visitor Arrivals in Guatemala**

Case/Year	International Tourist Arrivals (,000)				Annual growth 2000-2020
	2000	2005	2010	2020	
Central America*	4,122	4,865	5,743	8,000	3.4%
Guatemala: Case-1	834	1,030	1,249	1,788	3.9%
Guatemala: Case-2	812	966	1,145	1,605	3.5%
Guatemala: Case-3	805	950	1,121	1,561	3.4%
Guatemala: Case-4	823	998	1,197	1,697	3.7%
Share: Case-1	20.2%	21.2%	21.8%	22.4%	
Share: Case-2	19.7%	19.9%	19.9%	20.1%	
Share: Case-3	19.5%	19.5%	19.5%	19.5%	

Note: \* The figures of Central America are calculated from the growth rates of 1999-2020.

The 2020 figure 2020 is from a WTO study

Source: JICA Study Team, INGUAT, and WTO

### 11.1.4. Estimation Based on the National Tourism Strategy (ENT)

#### (1) Methodology

National Tourism Strategy (ENT) specifies the growth rates of international visitor arrivals in the section "Goals of Growth." The number of international visitor arrivals in 2020 was calculated on this assumption.

#### (2) Assumptions of the calculation

ENT sets the growth rates of the first 5 years as follows.

- First year: 5% – 6%
- Second year: 7% – 8%
- Third year: 9% – 10%
- Forth year: 12%
- Fifth year: 14%

2001 is assumed to be the first year. Since ENT does not mention the growth rates after the fifth year, JICA Study Team assumed that the growth rate during the 2005 – 2020 period is 5%, which is the same growth rate of the first year, the lowest figure of the first five years.

#### (3) Result

Table 11.8 shows the results of the calculation. International visitor arrivals in 2020 are 2.7 million.

**Table 11.8 International Visitor Arrivals of Guatemala based on the ENT**

Case/Year	Actual	ENT					Assumption	
		2000	2001	2002	2003	2004	2005	2010
Item/Year								
International visitor arrivals (1000)	826	868	928	1,012	1,133	1,292	1,649	2,686
Annual Growth Rate		5%	7%	9%	12%	14%	5%	5%

Source: JICA Study Team, ENT

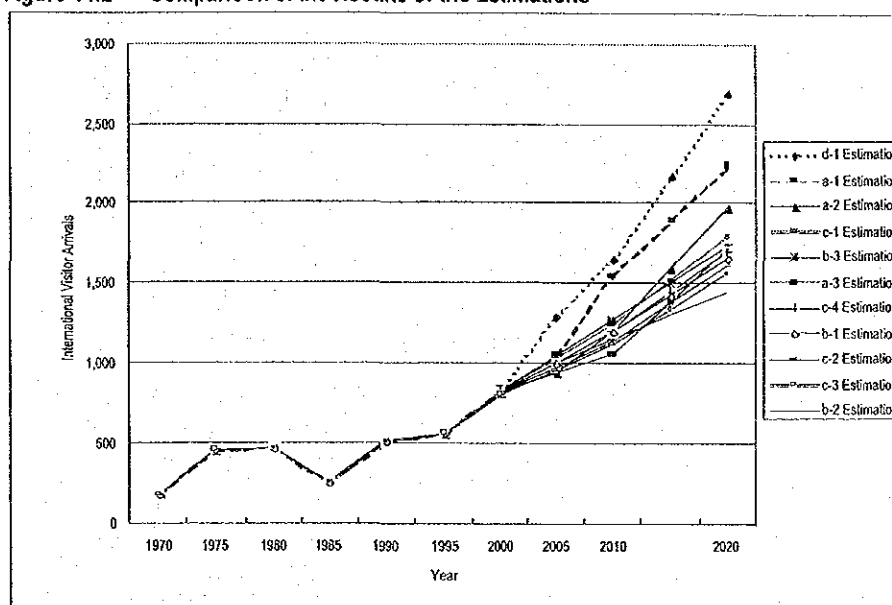
### 11.1.5. International Tourism Demand

The results of estimation are summarized in Table 11.9 and Figure 11.2 The figure shows that most of the results are close to 1.8 million, and the average of the results excluding the maximum and minimum cases was calculated at 1,776 thousand. Thus, JICA Study Team took 1.8 million as the number of international visitor arrivals in 2020. With the same manner as of 2020, 1.2 million visitor arrivals are expected in 2010.

**Table 11.9 Comparison of the Results of the Estimations**

Forecast/Year	International Tourist Arrivals (,000)				Growth 2000-20
	2000	2005	2010	2020	
<b>a. Estimation based on the past trend</b>					
Scenario-1: Early start of growth	826	1,054	1,549	2,237	5.1%
Scenario-2: Moderate start of growth	826	935	1,193	1,983	4.5%
Scenario-3: Slow start of growth	826	935	1,057	1,722	3.7%
<b>b. Estimation based on the economy of the visitor generating countries</b>					
Case-1: Higher economic growth	826	994	1,193	1,661	3.4%
Case-2: Lower economic growth	826	994	1,154	1,448	2.8%
<b>c. Estimation based on the WTO forecast</b>					
Case-1: Increase of share	834	1,030	1,249	1,788	3.9%
Case-2: Some increase of share	812	966	1,145	1,605	3.5%
Case-3: Maintain share	805	950	1,121	1,561	3.4%
Case-4: Average of Case-1 and 2	823	998	1,197	1,697	3.7%
<b>d. Estimation based on ENT</b>					
ENT	826	1,292	1,649	2,686	6.1%

Source: JICA Study Team, INGUAT

**Figure 11.2 Comparison of the Results of the Estimations**

Source: JICA Study Team and INGUAT

### 11.1.6. Assessment of the Impacts on International Visitor Arrivals by the Incident in N.Y. on 11 Sep. 2001

The incident in N.Y. on 11 Sep. 2001 gave a serious damage to the global tourism market. Outbound tourists decreased all over the world, which would also affect the visitor arrival of Guatemala.

Considering the trend of visitor arrival in Guatemala, there were two times of decreasing or stagnant periods caused by the civil war, disorder of political situation after the civil war and before the Peace Agreements. The negative situations, however, recovered quickly and the inbound visitors grew sharply. The Study Team has already taken into account this trend already for the estimation of international tourism demand in this section.

Assuming the situation of future visitor arrival, it would be expected to recover the number after decreasing in 2001. If the volume of visitor recovers at the present level in 2002 or 2003, the number of visitor can attain to the frame of 2010 by annual 5.0 - 5.5% growth.

A similar situation of visitor arrival occurred in the early 90's: decline and stagnant situation of the international visitor arrival. Until the Peace Agreements, the number of international arrival fluctuated in the early 90's. The situation, however, was shifted to an immediate sharp increase (annual 8% growth) after the Peace Agreement.

5% growth is not an unrealistic assumption considering the past trend, the priority given by the Government to develop the tourism sector, and the impacts of implementing proposed projects of the Study.

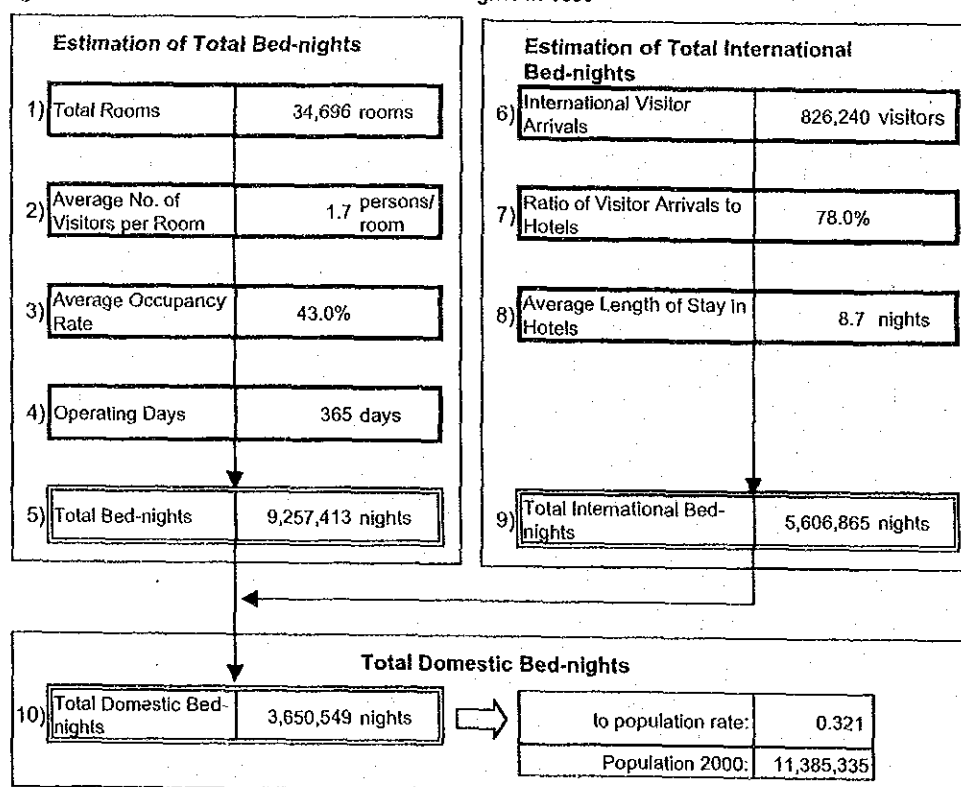
## 11.2. Domestic Tourism Demand Forecast

### 11.2.1. Estimation of the Present Domestic Visitor Volume in Guatemala

No statistical information on the domestic visitor volume is available in Guatemala. Hence, JICA Study Team estimated the present domestic visitor volume at 3.4 million bed-nights, by supplementing existing INGUAT data with the results of the visitor survey conducted in March and July 2001.

Figure 11.3 shows the overall procedure to estimate current domestic visitor volume. The following section elaborates on the procedure.

Figure 11.3 Estimation of the Domestic Bed-nights in 1999



Source: JICA Study Team, INGUAT and INE



- The statistics section of INGUAT has started to collect the occupancy rates of "recommended" hotels since 1999. Table 11.10 is the summary of the information.

**Table 11.10 Room Occupancy Rate and Number of Guests per Room**

Indicator/Year	1999	2000
Average occupancy rates	56.90%	51.53%
Average number of visitors per room*	1.4 persons/room	1.3 persons/room

Note: \*JICA Study Team calculation

Source: "Movement of the Visitors to Hotels" Statistics Section INGUAT, JICA Study Team

- The total number of hotel rooms in Guatemala was obtained from the hotel list provided by INGUAT. The figure included both "recommended" and "not recommended" hotels.
- Number of guests per room was set at 1.7 considering the results of interviews with tour operators and hoteliers as well as examples in other countries.
- Average occupancy rate was calculated at 43% based on the assumption that the occupancy rate of the 16,230 "recommended hotel rooms" is 51.5% and that of 18,446 "not recommended hotel rooms" is around 35%: the lowest level to sustain business.
- All the hotels are assumed to operate 365 days in a year.
- Total visitor volume was calculated at 9.3 million bed-nights.
- The number of international visitor arrivals in 2000 was 826,240. It is taken from the statistics elaborated by INGUAT's statistics section based on the data from the General Migration Management Office (Dirección General de Migración).
- Percentage of international visitors who used hotels was obtained from the results of the visitor survey (March and July), which is 78%.
- Average length of stay for international visitors who used hotel is also obtained from the visitor survey, which was 8.7 nights.
- Total volume of international visitors who used hotels was calculated at 5.6 million bed-nights.
- The volume of domestic visitors is calculated at 3.7 million bed-nights: 9.3 million nights minus 5.6 million bed-nights.

### 11.2.2. Domestic Tourism Demand Forecast

#### (1) Method

Socioeconomic indicators of population, GDP, and GDP per capita are used for the domestic tourism demand forecast.

## (2) Assumptions of the calculation

Instituto Nacional de Estadística (INE) has a forecast of Guatemala's population until 2005. 2010 and 2020 population was calculated by annual growth rates of 2005-2015 and 2015-2025. United Nations Population Division has a forecast of the population of 2015 and 2025. Table 11.11 shows the summary of the information.

**Table 11.11 Population Growth**

Item/Year	2000	2005	2010	2020	Annual Growth 00-20
Population (,000)	11,385	12,952	14,543	17,901	
Annual Growth Rate		2.61%	2.34%	2.10%	2.3%

Source: JICA Study Team, United Nations Population Division, and INE

Future growth rates of GDP and per capita GDP was estimated based on the data 1990-1999. A logarithm regression formulas and a line regression formula were used to estimate the future growth rates. Table 11.12 shows the summary of the information about GDP and per-capita GDP

**Table 11.12 GDP and Per Capita GDP Growth**

Item/Year	1999*	2000	2005	2010	2020	Annual growth 00-20	Note
GDP (million quetzales)	5,460	5,693	7,056	8,779	13,740		Logarithm curve
Annual Growth Rate	3.8%	4.28%	4.39%	4.47%	4.58%	4.5%	
Per Capita GDP-1 (quetzales/person)	1,583	1,605	1,742	1,906	2,334		Logarithm curve
Annual Growth Rate	1.3%	1.43%	1.65%	1.81%	2.04%	1.9%	
Per Capita GDP-2 (quetzales/person)	1,583	1,610	1,810	2,035	2,993		Line regression
Annual growth rate	1.3%	1.70%	2.43%	3.16%	4.62%	3.9%	

Note: \*The figure of the year 1999 is from existing data.

Source: JICA Study Team, Banco de Guatemala, and INE

4 scenarios with different socioeconomic indicators were prepared to forecast future tourism demand.

- Scenario-1: Based on GDP growth rates
- Scenario-2: Based on per capita GDP growth rates (line regression)
- Scenario-3: Based on population growth rates
- Scenario-4: Based per capita GDP growth rates (logarithm curve)

## (3) Results

JICA Study Team estimated the domestic tourism demand as shown in Table 11.13. Table 11.14 is prepared to evaluate the results by examining the bed-nights per population ratio. It shows that Scenario 3 and 4 are too conservative since they result in the decrease of bed-nights per population. The scenario 1 based on the GDP growth is too high because it exceeds the growth rate of international visitor arrivals, which is unlikely.

The scenario 2, the growth of per capita GDP, is the most relevant result for the future domestic bed-nights.

**.Table 11.13 Comparison of the result**

Forecast/Year	Domestic Bed-nights (,000)					Annual growth 00-20
	1999*	2000*	2005	2010	2020	
Scenario-1: High growth by GDP growth rate	3,535	3,651	4,525	5,629	6,810	
Annual growth rate		3.3%	4.4%	4.5%	4.6%	4.5%
Scenario-2: Middle growth by per capita GDP growth rate (line regression)	3,535	3,651	4,115	4,807	7,548	
Annual growth rate		3.3%	2.4%	3.2%	4.6%	3.7%
Scenario-3: Middle growth by population growth rate	3,535	3,651	4,153	4,691	5,811	
Annual growth rate		3.3%	2.6%	2.5%	2.2%	2.4%
Scenario-4: Low growth by per capita GDP growth rate (logarithm curve)	3,535	3,651	3,962	4,334	5,306	
Annual Growth rate		3.3%	1.6%	1.8%	2.0%	1.9%

Note: \*JICA Study Team also estimated the figures of the year 1999 and 2000

Source: JICA Study Team, Banco de Guatemala, and INE

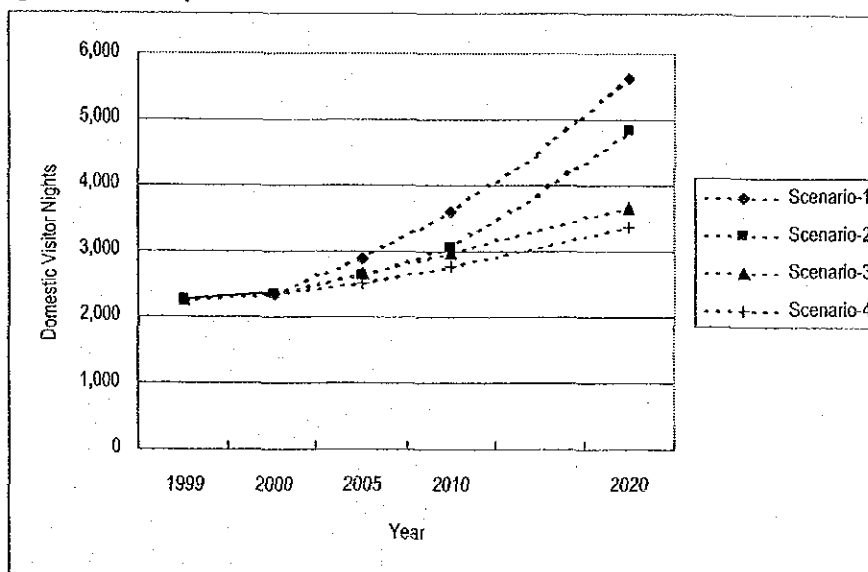
**Table 11.14 Comparison of Bed-nights per Population Ratio**

Item/Year	1999*	2000*	2005	2010	2020
Population (,000)	11,087	11,385	12,952	14,631	18,123
Scenario-1	0.319	0.321	0.349	0.385	0.486
Scenario-2	0.319	0.321	0.318	0.329	0.416
Scenario-3	0.319	0.321	0.321	0.321	0.321
Scenario-4	0.319	0.321	0.306	0.296	0.293

Note: \*JICA Study Team also estimated the figures of the year 1999 and 2000

Source: JICA Study Team, INE and United Nations Population Division

**Figure 11.4 Comparison of the Results of the Forecasts**



Source: JICA Study Team

## 11.3. National Development Framework

### 11.3.1. Estimation of the Current Regional Bed-nights

#### (1) International bed-nights

JICA Study Team estimated the regional distribution of the international visitor volume (bed-nights) using the results of the visitor survey in March 2001. Table 11.15 is the summary of the calculation.

Table 11.15 Estimation of Regional International Bed-nights

Tourism Region		1)	2)
		Distribution of Int'l Bed-nights (Visitor Survey)	Estimate International Bed-nights
I.	Modern and Colonial Guatemala	50,2%	2,816,427
II.	Living Indigenous Highlands	20,5%	1,149,551
	(Southwestern Highlands PTDA)	(5,3%)	(298,194)
III.	Mayan Adventure (Petén PTDA)	10,0%	558,908
IV.	A Different Caribbean	6,1%	341,418
V.	Nature Paradise (Las Verapaces PTDA)	2,2%	123,655
VI.	Guatemala for Discovery	4,8%	266,459
VII.	Pacific Coast	6,3%	350,446
	Total	100,0%	5,606,865

Source: JICA Study Team, Visitor Survey

#### (2) Assumptions of occupancy rates and other indicators

Average occupancy rates are calculated using the occupancy rates of the "recommendable" and "not recommendable" hotels. The data of the occupancy rates for the recommendable hotels are from the statistics section of INGUAT, while the occupancy rates of "not recommendable" hotels assumed that the national average is 30%. The total numbers of rooms by Tourism Region are also obtained from the statistics section of INGUAT. The average number of guests per room is assumed to be 1.7. Table 11.16 is the summary of assumptions.

Table 11.16 Assumptions of the Occupancy Rates and the Other Indicators

Tourism Region		4)	5)	6)	7)	8)
		Average occupancy rate	Occupancy of recommended hotels	Occupancy of not-recommended hotel	Total rooms	Average pax./room
I.	Modern & Colonial Guatemala	50.0%	56.8%	42.0%	11,970	1.48
II.	Living Indigenous Highlands	41.3%	48.8%	35.0%	7,116	1.91
	(SW Highlands PTDA)	(41.6%)	(50.6%)	(35.0%)	(2,710)	(1.92)
III.	Mayan Adventure (El Petén PTDA)	43.7%	49.0%	35.0%	1,921	2.32
IV.	A Different Caribbean	42.9%	50.9%	35.0%	2,080	1.70
V.	Nature Paradise (Las Verapaces PTDA)	37.0%	45.0%	30.0%	1,314	2.22
VI.	Guatemala for Discovery	36.8%	48.1%	30.0%	4,734	2.07
VII.	Pacific Coast	39.0%	56.6%	30.0%	5,561	1.55
	Total/National Average	43.0%	53.0%	35.1%	34,696	1.70

Source: JICA Study Team, INGUAT

**(3) Total bed-nights**

Total visitor bed-nights are obtained from the indicators of 4), 7), 8) as shown in 9), which was then adjusted to the estimated total bed-nights of 9.3 million as shown in 11) by using the calculated shares of 10).

**Table 11.17 Estimation of Total Bed-nights by Tourism Region**

Tourism Region		9)	10)	11)
		Total	Share	Adjusted total
I.	Modern and Colonial Guatemala	3,226,876	34.2%	3,161,434
II.	Living Indigenous Highlands (SW Highlands PTDA)	2,055,741 (789,552)	21.8% (8.4%)	2,014,050 (773,540)
III.	Mayan Adventure (El Petén PTDA)	708,914	7.5%	694,537
IV.	A Different Caribbean	554,080	5.9%	542,843
V.	Nature Paradise (Las Verapaces PTDA)	393,951	4.2%	385,962
VI.	Guatemala for Discovery	1,156,506	12.2%	1,133,051
VII.	Pacific Coast	1,352,974	14.3%	1,325,535
	Total	9,449,041	100.0%	9,257,413

Source: JICA Study Team

**(4) Domestic visitor volume by Tourism Region**

The regional domestic bed-nights are calculated by excluding the international bed-nights from the total bed-nights. Table 11.18 shows the breakdown of domestic and international bed-nights by Tourism Region.

**Table 11.18 Estimation of Bed-nights by Tourism Regions 2000**

Tourism Region		Domestic	International	Total
I.	Modern and Colonial Guatemala	345,007	2,816,427	3,161,434
II.	Living Indigenous Highlands (SW Highlands PTDA)	864,499 (475,346)	1,149,551 (298,194)	2,014,050 (773,540)
III.	Mayan Adventure (El Petén PTDA)	135,629	558,908	694,537
IV.	A Different Caribbean	201,425	341,418	542,843
V.	Nature Paradise (Las Verapaces PTDA)	262,307	123,655	385,962
VI.	Guatemala for Discovery	866,592	266,459	1,133,051
VII.	Pacific Coast	975,089	350,446	1,325,535
	Total	3,650,549	5,606,865	9,257,413

Source: JICA Study Team

### 11.3.2. National Framework

JICA Study Team set the national framework according to the international and domestic tourism demand forecasts. The international bed-nights are the sum of bed-nights by original market that will be calculated in the next section.

**Table 11.19 National framework**

Item/Year	Unit	2000	2010	2020
International visitor arrivals	Thousand	826	1,200	1,800
International bed-nights	Thousand	5,607	*8,511	*12,625
Domestic bed-nights	Thousand	3,651	4,807	7,548
Total bed-nights	Thousand	9,257	13,318	20,173

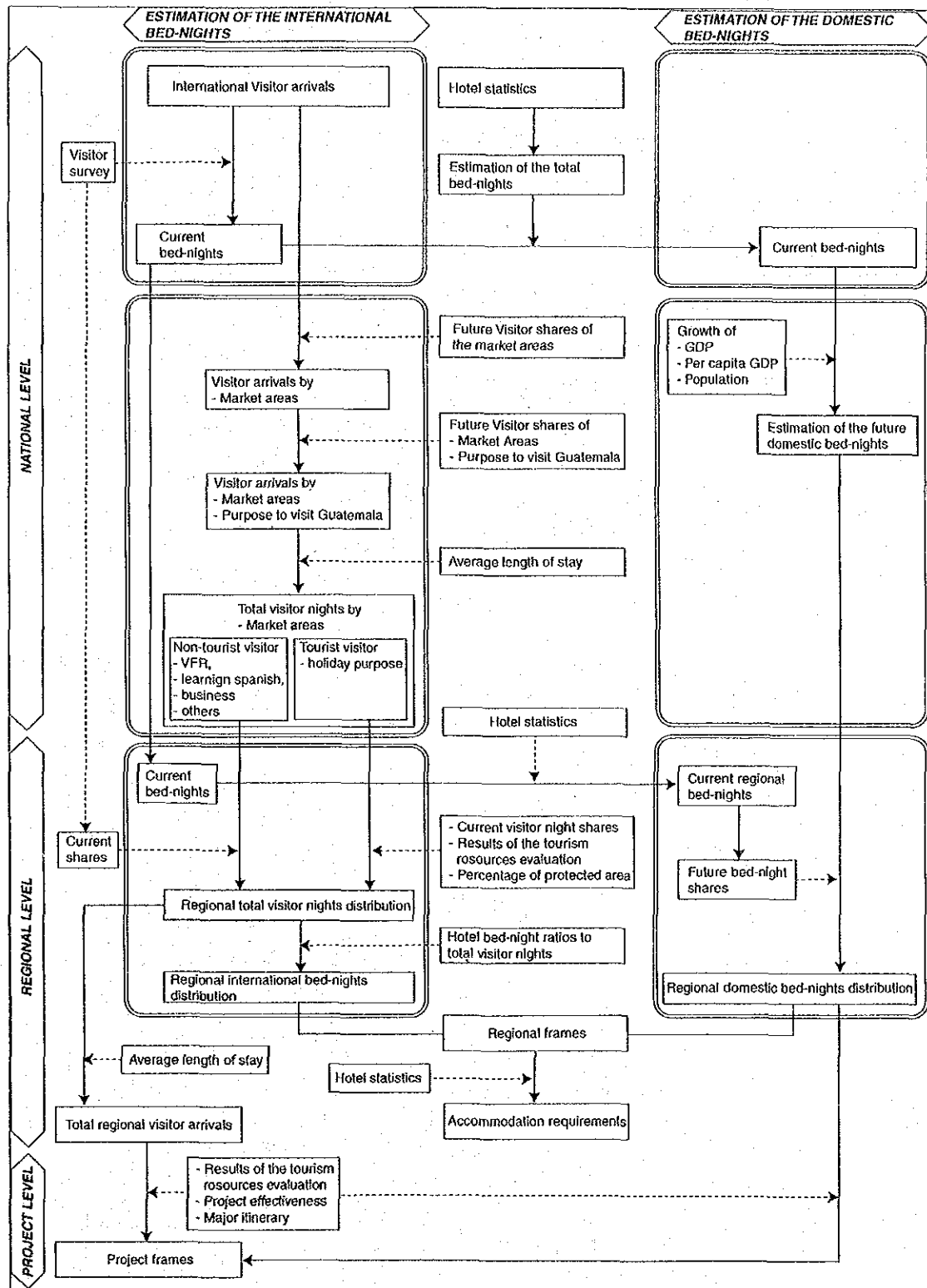
Note: Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team

### 11.4. Regional Development Framework

JICA Study Team set a regional development framework of hotel bed-nights based on the current situations. The procedure is summarized in Figure 11.5.

Figure 11.5 Procedure to establish the regional framework



Source: JICA Study Team

### 11.4.1. Regional Distribution of Hotel Visitor Volume

JICA Study Team assumed that the bed-nights by origin market, purpose of visit, and principal attraction in Tourism Regions are correlated with the regional distribution of bed-nights. Therefore, the following procedure was employed to estimate the regional framework.

#### (1) Estimation at the national level

- Estimation of the international visitor arrivals share by origin market,
- Estimation of the visitor arrivals by origin market,
- Assumption of visitor arrivals shares by origin market, purpose of visit, and principal attraction, and
- Estimation of bed-nights and average length of stay by origin market, purpose of visit, and principal attraction.

#### (2) Estimation at the regional level

- Estimation of regional bed-nights shares by origin market and principal attraction taking into account the current shares, results of tourism resources evaluation, and environmental factors,
- Distribution of regional bed-nights,
- Calculation of regional bed-nights from bed-night ratios of bed-nights,
- Assumption of regional domestic bed-night shares, and
- Estimation of regional domestic bed-nights.

#### (3) International bed-nights

##### a. Estimating the future visitor shares of the origin markets

In Guatemala, there is a clear relationship among origin markets (visitors' origin countries), visitors' principal attraction, resources and tourism regions. For example, Europeans mainly visit Guatemala for "archaeological sites" and "indigenous culture". Consequently, their typical itineraries tend to be Antigua – Solola – Peten – Izabal (Izabal is an optional destination in many cases). Therefore, JICA Study Team regarded the future visitor shares of respective origin markets as the *primary indicator*.

##### b. Separation of the non-tourist bed-nights

The non-tourist bed-nights were separated from the total bed-nights: VFR, learning Spanish, MICE, business/trade, sports/arts and others. The bed-night shares of the non-tourist visitors by origin market and Tourism Region were kept at the present levels.



**c. Shares of visitor arrivals by principal attraction**

The shares of international visitors with the following purposes are assumed to increase in the future considering Guatemala's untapped potential to develop these types of tourism products.

- Nature attraction of holiday purpose
- Beach and other resort attractions of holiday purpose

**d. Averages length of stay by origin market, purpose and principal attraction**

Averages length of stay by origin market, purpose and principal attraction are kept at the present levels as obtained from the visitor surveys.

**e. Calculation of regional scores for distribution**

The following indicators are used to distribute tourism demand to respective Tourism Regions.

- Current regional bed-nights shares,
- Results of the tourism resources evaluation, and
- Percentage of protected area as an indicator for restriction.

**(4) Domestic bed-nights**

The volume of the domestic bed-night tends to concentrate in the southern part of Guatemala such as Tourism Region VI- Guatemala for Discovery, VII- Pacific Coast, and II- Living Indigenous Highlands due to the proximity to Guatemala City: the largest urban center in Central America. It is difficult to separate tourist bed-nights and non-tourist bed-nights.

JICA Study Team assumed that the regional shares of the domestic bed-nights would increase in the following Tourism Regions due to the improvement of road conditions along the Antigua – Flores Tourism Corridor.

- Tourism Region III-Mayan Adventure (El Peten PTDA), and
- Tourism Region V-Nature Paradise (Las Verapaces PTDA).

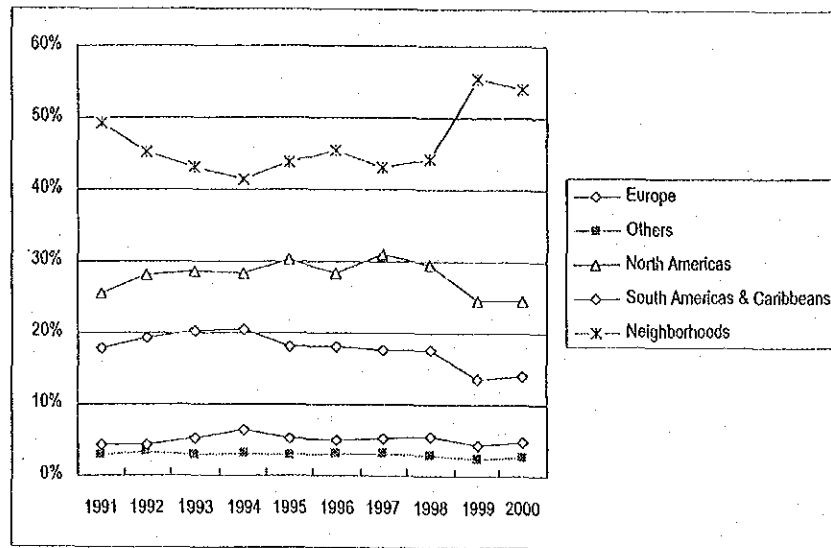
**11.4.2. International Bed-nights****(1) Estimation of the future shares of origin markets**

JICA Study Team estimated the future market shares according to the trend of visitor arrivals by origin market. The trends are summarized as follows:

- Long-haul market: Europe and other countries, is decreasing its share
- Middle-haul market: North America, South America & Caribbean countries, is also decreasing its share.

- Short-haul market: neighboring countries, is increasing its the share.

Figure 11.6 Trend of the market shares



Source: JICA Study Team

Table 11.20 Changes of visitor arrival shares by origin markets

Origin market/Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Long Haul Market	21%	23%	23%	24%	21%	21%	21%	21%	16%	17%
Europe	18%	19%	20%	21%	18%	18%	18%	18%	13%	14%
Others	3%	3%	3%	3%	3%	3%	3%	3%	2%	3%
Middle Haul Market	30%	32%	34%	35%	35%	33%	36%	35%	29%	29%
North America	25%	28%	28%	28%	30%	28%	31%	30%	25%	25%
South America/Caribbean	4%	4%	5%	7%	5%	5%	5%	5%	4%	5%
Short Haul Market	49%	45%	43%	41%	44%	45%	43%	44%	55%	54%
Neighbouring countries	49%	45%	43%	41%	44%	45%	43%	44%	55%	54%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: JICA Study Team, INGUAT

JICA Study Team estimated the future market shares of two cases. Both cases use the past trend, but in different ways.

- Case-1: the shares were calculated with a logarithm curve according to the recent five years trend.
- Case-2: the shares were calculated with a logarithm curve according to the recent ten years trend.

The results show that the case-1 places emphasis on the growth of the short haul market, while the case-2 places emphasis on the growth of the long haul market. Thus, the case-1 is considered suitable for the Study.

Table 11.21 Estimation of the future market shares

Case	Case-1			Case-2		
	2005	2010	2020	2005	2010	2020
Origin market/Year						
Long Haul Market	18.9%	18.3%	17.6%	21.3%	21.0%	20.7%
Europe	16.1%	15.6%	14.9%	18.3%	18.1%	17.8%
Others	2.8%	2.7%	2.7%	3.0%	3.0%	2.9%
Middle Haul Market	32.4%	31.9%	31.2%	32.7%	32.8%	32.9%
North Americas	27.5%	27.0%	26.4%	27.8%	27.8%	27.9%
South Americas & Caribbean	4.9%	4.9%	4.8%	5.0%	5.0%	5.0%
Short Haul Market	48.7%	49.8%	51.2%	46.0%	46.2%	46.4%
Neighborhoods	48.7%	49.8%	51.2%	46.0%	46.2%	46.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: JICA Study Team

**(2) Shares of visitor arrivals by market segments**

The present visitor arrival shares of origin markets are summarized in the Table 11.22. Around 40% international visitor arrivals are generated by tourists, 20% by VFR, 5% by learning Spanish and 30% by business/works.

With regard to the principal attractions of "holiday" visitors or tourists, "archaeological sites" is the principal attraction for all the origin markets. "living indigenous cultures" is especially important for North America and Europe, while "nature and beaches" is relatively important for those from neighboring countries.

Table 11.22 Present arrival shares

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal Attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological Sites	20.1%	31.5%	54.2%	44.3%	30.4%	28.8%
	Colonial Cities and Architectures	24.1%	17.5%	15.3%	9.6%	21.7%	19.7%
	Living Indigenous Cultures	8.0%	25.9%	11.9%	28.3%	13.0%	15.7%
	Nature	21.2%	10.4%	6.8%	12.3%	26.1%	16.9%
	Beach and other resort attractions	9.3%	1.2%	0.0%	0.0%	0.0%	5.2%
	Other Miscellaneous Attractions	17.2%	13.5%	11.9%	5.5%	8.7%	13.8%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Holiday		42.3%	33.2%	43.4%	58.1%	40.4%	42.0%
VFR		22.0%	19.3%	15.4%	10.9%	16.7%	19.3%
Learning Spanish		0.1%	12.7%	1.5%	6.6%	4.4%	4.5%
TCBSA*		26.7%	17.0%	32.4%	13.8%	28.1%	22.8%
E&V (Employment/Volunteer)		7.7%	12.8%	5.9%	9.3%	8.8%	9.2%
Others		1.2%	4.9%	1.5%	1.3%	1.8%	2.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts

The shares are calculated by excluding N.A. (no answer)

Source: JICA Study Team, Visitor Survey in March and July 2001

JICA Study Team assumed the future arrival shares by origin market, purpose of visit, and principal attraction as shown in the Table 11.23 and Table 11.24. The shares in 2010 and 2020 were assumed considering the present shares and the results of visitor surveys regarding the types of tourism projects, which respondents consider to be important to

increase tourism attractiveness. The shares of “nature” and “beaches” were assumed to increase due to the results of the survey.

**Table 11.23 Arrival shares 2010**

Purpose of visit	Origin market Principal Attraction	Short Haul	Middle Haul		Long Haul	
		Neighboring countries	North America	South America	Europe	Others
Holiday	Archaeological Sites	19.6%	30.4%	51.9%	43.0%	29.6%
	Colonial Cities and Architectures	23.0%	17.4%	15.5%	9.6%	21.3%
	Living Indigenous Cultures	9.6%	25.7%	12.8%	28.5%	14.7%
	Nature	21.9%	11.7%	8.7%	13.7%	26.3%
	Beach and other resort attractions	10.2%	2.2%	0.0%	0.0%	0.0%
	Other Miscellaneous Attractions	15.8%	12.5%	11.1%	5.1%	8.1%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Holiday		42.3%	33.2%	43.4%	58.1%	40.4%
VFR		22.0%	19.3%	15.4%	10.9%	16.7%
Learning Spanish		0.1%	0.1%	12.7%	1.5%	6.6%
TCBSA*		26.7%	17.0%	32.4%	13.8%	28.1%
E&V (Employment/Volunteer)		7.7%	7.7%	12.8%	5.9%	9.3%
Others		1.2%	4.9%	1.5%	1.3%	1.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Note: \*Meeting, incentive travel, conference, event, business/trade and sports/arts

The shares are calculated by excluding N.A. (no answer)

Source: JICA Study Team, Visitor Survey in March and July 2001

**Table 11.24 Arrival shares 2020**

Purpose of visit	Origin market Principal Attraction	Short Haul	Middle Haul		Long Haul	
		Neighboring countries	North America	South America	Europe	Others
Holiday	Archaeological Sites	19.1%	29.5%	49.8%	41.9%	28.9%
	Colonial Cities and Architectures	22.1%	17.3%	15.8%	9.7%	20.8%
	Living Indigenous Cultures	10.9%	25.6%	13.6%	28.6%	16.2%
	Nature	22.5%	12.8%	10.4%	15.0%	26.5%
	Beach and other resort attractions	10.9%	3.1%	0.0%	0.0%	0.0%
	Other Miscellaneous Attractions	14.6%	11.6%	10.4%	4.8%	7.6%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Holiday		42.3%	33.2%	43.4%	58.1%	40.4%
VFR		22.0%	19.3%	15.4%	10.9%	16.7%
Learning Spanish		0.1%	0.1%	12.7%	1.5%	6.6%
TCBSA*		26.7%	17.0%	32.4%	13.8%	28.1%
E&V (Employment/Volunteer)		7.7%	7.7%	12.8%	5.9%	9.3%
Others		1.2%	4.9%	1.5%	1.3%	1.8%
Total		100.0%	100.0%	100.0%	100.0%	100.0%

Note: \*Meeting, incentive travel, conference, event, business/trade and sports/arts

The shares are calculated by excluding N.A. (no answer)

Source: JICA Study Team, Visitor Survey in March and July 2001

### (3) Visitor arrivals

According to the international visitor arrival shares, JICA Study Team calculated the international visitor arrivals as follows.

**Table 11.25 International visitor arrivals 2000**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal Attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological Sites	38,010	21,210	9,235	29,808	2,734	100,997
	Colonial Cities and	45,611	11,813	2,597	6,453	1,953	68,428
	Living Indigenous Cultures	15,204	17,451	2,020	19,053	1,172	54,899
	Nature	40,056	6,980	1,154	8,297	2,344	58,832
	Beach and other resort	17,543	805	0	0	0	18,348
	Other Miscellaneous Attractions	32,454	9,128	2,020	3,688	781	48,072
	<b>Total</b>		<b>188,878</b>	<b>67,387</b>	<b>17,027</b>	<b>67,299</b>	<b>8,985</b>
VFR		97,948	39,197	6,060	12,599	3,711	159,516
Learning Spanish		585	25,774	577	7,683	977	35,595
TCBSA*		119,292	34,365	12,698	15,980	6,250	188,584
E&V (Employment/Volunteer)		34,209	26,042	2,309	10,756	1,953	75,268
Others		5,263	9,934	577	1,537	391	17,701
<b>Total</b>		<b>446,174</b>	<b>202,699</b>	<b>39,248</b>	<b>115,853</b>	<b>22,266</b>	<b>826,240</b>

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts  
Unit: persons

Source: JICA Study Team, Visitor Survey in March and July 2001

**Table 11.26 International visitor arrivals 2010**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal Attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological Sites	49,492	32,767	13,153	46,746	3,932	146,090
	Colonial Cities and	58,251	18,724	3,942	10,480	2,823	94,220
	Living Indigenous Cultures	24,208	27,717	3,242	30,928	1,955	88,050
	Nature	55,386	12,588	2,210	14,910	3,497	88,591
	Beach and other resort	25,709	2,413	0	0	0	28,121
	Other Miscellaneous Attractions	39,992	13,480	2,803	5,560	1,074	62,911
	<b>Total</b>		<b>253,038</b>	<b>107,689</b>	<b>25,350</b>	<b>108,625</b>	<b>13,281</b>
VFR		131,219	62,640	9,023	20,336	5,486	228,704
Learning Spanish		783	41,188	859	12,400	1,444	56,674
TCBSA*		159,813	54,917	18,905	25,792	268,667	268,667
E&V (Employment/Volunteer)		45,829	41,617	3,437	17,360	2,887	111,130
Others		7,051	15,874	859	2,480	577	26,842
<b>Total</b>		<b>597,734</b>	<b>323,925</b>	<b>58,435</b>	<b>186,993</b>	<b>32,913</b>	<b>1,200,000</b>

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts  
Unit: persons

Source: JICA Study Team, Visitor Survey in March and July 2001

**Table 11.27 International visitor arrivals 2020**

Purpose of visit	Origin market Principal Attraction	Short Haul	Middle Haul		Long Haul		Total
		Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological Sites	74,474	46,606	18,636	65,534	5,579	210,828
	Colonial Cities and Architectures	86,116	27,248	5,912	15,160	4,025	138,460
	Living Indigenous Cultures	42,391	40,407	5,085	44,721	3,124	135,728
	Nature	87,709	20,253	3,892	23,367	5,128	140,349
	Beach and other resort	42,560	4,953	0	0	0	47,512
	Other Miscellaneous Attractions	57,117	18,363	3,873	7,506	1,461	88,320
	<b>Total</b>	<b>390,367</b>	<b>157,829</b>	<b>37,397</b>	<b>156,289</b>	<b>19,316</b>	<b>761,198</b>
VFR		202,435	91,805	13,311	29,260	7,978	344,789
Learning Spanish		1,209	60,365	1,268	17,841	2,100	82,782
TCBSA*		246,547	80,487	27,889	37,110	405,470	405,470
E&V (Employment/Volunteer)		70,701	60,994	5,071	24,978	4,199	165,942
Others		10,877	23,266	1,268	3,568	840	39,819
<b>Total</b>		<b>922,136</b>	<b>474,745</b>	<b>86,203</b>	<b>269,046</b>	<b>47,870</b>	<b>1,800,000</b>

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts  
Unit: persons

Source: JICA Study Team, Visitor Survey in March and July 2001

**(4) Averages length of stay (ALS) by market segments**

JICA Study Team calculated the average length of stay for respective origin markets based on the visitor survey results in March and July 2001.

**Table 11.28 Average length of stay by origin markets**

Purpose of visit	Origin market Principal Attraction	Short Haul	Middle Haul		Long Haul	
		Neighboring countries	North America	South America	Europe	Others
Holiday	Archaeological Sites	6.77	10.81	11.53	14.78	12.86
	Colonial Cities and	5.40	12.36	10.89	10.62	14.90
	Living Indigenous Cultures	7.33	23.71	15.29	23.84	8.50
	Nature	7.25	9.88	6.00	21.96	11.25
	Beach and other resort	7.43	8.33	0.00	0.00	0.00
	Other Miscellaneous	7.34	15.18	16.14	21.92	6.25
	<b>Total</b>	<b>6.75</b>	<b>14.89</b>	<b>12.05</b>	<b>18.22</b>	<b>11.74</b>
VFR		6.90	13.14	16.71	33.34	13.53
Learning Spanish		44.50	35.56	37.50	52.92	27.80
TCBSA*		4.74	9.66	7.23	12.52	23.94
E&V (Employment/Volunteer)		11.06	27.15	27.00	78.40	59.50
Others		5.17	13.46	23.50	12.40	3.50
<b>Total</b>		<b>6.61</b>	<b>17.80</b>	<b>12.63</b>	<b>26.89</b>	<b>20.21</b>

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts  
Unit: nights

Source: JICA Study Team, Visitor Survey in March and July 2001

**(5) Total bed-nights by market segments**

According to the international visitor arrival shares, JICA Study Team calculated the international visitor arrivals as follows.

**Table 11.29 International bed-nights 2000**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
			Neighboring countries	North America	South America	Europe	
Holiday	Principal Attraction						
	Archaeological Sites	257	229	106	441	35	1,069
	Colonial Cities and Architectures	246	146	28	69	29	518
	Living Indigenous Cultures	111	414	31	454	10	1,020
	Nature	290	69	7	182	26	575
	Beach and other resort	130	7	0	0	0	137
	Other Miscellaneous Attractions	238	139	33	81	5	495
Total		1,274	1,003	205	1,226	105	3,814
VFR		676	515	101	420	50	1,762
Learning Spanish		26	917	22	407	27	1,398
TCBSA*		565	332	92	200	150	1,339
E&V (Employment/Volunteer)		378	707	62	843	116	2,107
Others		27	134	14	19	1	195
Total		2,947	3,608	496	3,115	450	10,616

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts  
Unit: thousand nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team, Visitor Survey in March and July 2001

**Table 11.30 International bed-nights 2010**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
			Neighboring countries	North America	South America	Europe	
Holiday	Principal Attraction						
	Archaeological Sites	335	354	152	691	51	1,582
	Colonial Cities and Architectures	315	231	43	111	42	742
	Living Indigenous Cultures	177	657	50	737	17	1,638
	Nature	402	124	13	327	39	906
	Beach and other resort	191	20	0	0	0	211
	Other Miscellaneous Attractions	294	205	45	122	7	672
Total		1,713	1,592	303	1,989	155	5,752
VFR		905	823	151	678	74	2,632
Learning Spanish		35	1,465	32	656	40	2,228
TCBSA*		758	530	137	323	221	1,969
E&V (Employment/Volunteer)		507	1,130	93	1,361	172	3,262
Others		36	214	20	31	2	303
Total		3,954	5,754	735	5,038	665	16,146

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts  
Unit: thousand nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team, Visitor Survey in March and July 2001

**Table 11.31 International bed-nights 2020**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal Attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological Sites	504	504	215	969	72	2,263
	Colonial Cities and Architectures	465	337	64	161	60	1,087
	Living Indigenous Cultures	311	958	78	1,066	27	2,439
	Nature	636	200	23	513	58	1,430
	Beach and other resort	316	41	0	0	0	357
	Other Miscellaneous Attractions	419	279	63	165	9	934
	<b>Total</b>	<b>2,651</b>	<b>2,319</b>	<b>443</b>	<b>2,873</b>	<b>225</b>	<b>8,511</b>
VFR		1,397	1,206	222	976	108	3,909
Learning Spanish		54	2,147	48	944	58	3,250
TCBSA*		1,169	778	202	465	322	2,934
E&V (Employment/Volunteer)		782	1,656	137	1,958	250	4,783
Others		56	313	30	44	3	446
<b>Total</b>		<b>6,109</b>	<b>8,418</b>	<b>1,081</b>	<b>7,260</b>	<b>966</b>	<b>23,834</b>

Note: \*Meeting, Incentive travel, conference, event, business/trade and sports/arts

Unit: thousand nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team, Visitor Survey in March and July 2001

**(6) Evaluation of tourism resources and the environmental factor**

JICA Study Team calculated the regional bed-nights shares by principal attraction taking into account: the current shares, tourism resources, and reserve areas. These indicators were totaled as “point” for Tourism Regions after a process of quantification. Comparative weights were applied for the respective indicators as follows.

- The current shares: 1.0.
- The tourism resources: 0.5 and 1.0 for 2010 and 2020.
- The reserve areas: 0.25 (1/4 of the other indicators). Comparatively, the indicator is not so suitable than the other ones.

**a. Tourism resources point**

Tourism resources points were calculated based on the shares of the total scores of the tourism resources in respective Tourism Regions to the national total. The scores include an evaluation of the attractiveness and accessibility of respective tourism resources.



**Table 11.32 Points of the tourism resources by Tourism Region**

Tourism Region /Tourism Resource	Arch. Sites	Colonial Cities & Archi.	Living Indig. Culture	Nature	Beach	Others	Total
I. Modern & Colonial Guatemala	9.4	55.9	25.3	6.3	0.0	53.1	24.0
II. Living Indigenous Highlands (SW Highlands PTDA)	2.6	18.4	64.5	12.7	0.0	14.2	25.1
III. Mayan Adventure (El Petén PTDA)	0.0	12.5	17.3	8.2	0.0	10.2	9.8
IV. Different Caribbean	69.3	7.2	0.0	18.1	0.0	4.9	17.7
V. Nature Paradise (Las Verapaces PTDA)	5.8	2.2	0.0	13.0	2.9	10.0	6.6
VI. Guatemala for Discovery	0.0	8.6	8.9	25.2	0.0	10.6	12.2
VII. Pacific Coast	0.0	3.3	0.3	7.3	0.0	1.3	2.7
Total	12.8	4.4	1.0	17.3	97.1	5.9	11.7
	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: \* The points (shares) were calculated by the scores of the tourism resources evaluation. The scores include an evaluation of accessibility.

Source: JICA Study Team

### b. Environmental point

Percentage of the total protected areas to the total department area was converted to an environmental point as explained in Table 11.33. A Tourism Region with a larger environmental point, which means the Tourism Region has a smaller percentage of protected areas, would get larger distribution of visitors.

**Table 11.33 Regional points of reserve areas**

Tourism Region/ Env. point	*Score	Reversed Score	Point
I. Modern & Colonial Guatemala	3.6	1.00	38.42
II. Living Indigenous Highlands (SW Highlands PTDA)	76 (19.9)	0.25 (0.18)	9.47 (6.99)
III. Mayan Adventure (Petén PTDA)	47.5	0.08	2.93
IV. A Different Caribbean	9.7	0.37	14.36
V. Nature Paradise (Las Verapaces PTDA)	21.5	0.17	6.45
VI. Guatemala for Discovery	29.5	0.12	4.70
VII. Pacific Coast	5.9	0.62	23.67
Total	194	2.60	100.00

Note: \* Scores are the ratios of the total protected areas to the total department area.

Source: JICA Study Team

### (7) Regional distribution of bed-nights

JICA Study Team calculated the regional bed-nights from the regional shares (points) mentioned above. Based on these results, hotel bed-nights were calculated by multiplying the hotel bed-night ratios to the total bed-nights. The ratios were obtained from the results of visitor survey.

The results of bed-night distribution are summarized in Table 11.34 and Table 11.35.

**Table 11.34 Bed-nights distribution in 2010**

Geographical region		Short Haul	Middle Haul		Long Haul		Total
Tourism Region		Neighboring countries	North America	South America	Europe	Others	
I.	Modern & Colonial Guatemala	1,097.0	1,164.1	287.2	1,252.0	214.2	4,014.4
II.	Living Indigenous Highlands (SW Highlands PTDA)	416.3	541.0	66.1	525.8	33.1	1,582.3
III.	Mayan Adventur (El Petén PTDA)	152.0	151.6	7.0	115.6	10.5	436.7
IV.	Different Caribbean	198.5	322.6	70.6	354.9	39.7	986.4
V.	Nature Paradise (Las Verapaces PTDA)	154.1	104.0	48.9	249.3	20.8	576.8
VI.	Guatemala for Discovery	98.1	67.9	5.9	90.6	7.7	270.1
VII.	Pacific Coast	227.6	48.2	1.5	44.0	4.5	325.9
	Total	269.2	225.4	22.7	227.0	10.5	754.8
		2,460.8	2,473.2	502.8	2,743.6	330.3	8,510.8

Note: Unit: thousand nights  
 Total does not always meet the sum of figures in the table due to the rounding.  
 Source: JICA Study Team

**Table 11.35 Bed-nights distribution in 2020**

Geographical region		Short Haul	Middle Haul		Long Haul		Total
Tourism Region		Neighboring countries	North America	South America	Europe	Others	
I.	Modern & Colonial Guatemala	1,636.5	1,658.7	409.5	1,736.3	302.8	5,743.7
II.	Living Indigenous Highlands (SW Highlands PTDA)	631.0	794.7	98.1	788.2	46.9	2,358.9
III.	Mayan Adventur (El Petén PTDA)	240.2	222.6	12.6	177.8	15.7	668.9
IV.	Different Caribbean	355.6	487.1	118.9	579.3	61.8	1,602.8
V.	Nature Paradise (Las Verapaces PTDA)	231.4	147.9	69.9	347.9	30.8	827.9
VI.	Guatemala for Discovery	174.1	113.6	8.7	138.9	13.1	448.3
VII.	Pacific Coast	329.4	65.7	1.6	63.8	7.0	467.4
	Total	456.8	334.4	33.1	335.3	16.4	1,176.1
		3,814.6	3,602.1	740.0	3,989.7	478.7	12,625.1

Note: Unit: thousand nights  
 Total does not always meet the sum of figures in the table due to the rounding.  
 Source: JICA Study Team

### 11.4.3. Domestic Bed-nights

JICA Study Team estimated the present domestic bed-nights by Tourism Region as discussed previously. In the future, the shares of Tourism Regions will change as follows.

- Mayan Adventure Tourism Region (El Peten PTDA): the share of region will be higher because of the improvement of the North-South Corridor, increasing popularity of nature tourism and implementation of resort developments.
- Nature Paradise Tourism Region (Las Verapacez PTDA): the share of region will be higher because of the improvement of the North-South Corridor and increasing popularity of nature tourism.

**Table 11.36 Domestic bed-nights distributions for the Tourism Regions**

Tourism Region/Year		2000	2010	2020
I.	Modern & Colonial Guatemala	345	499	835
II.	Living Indigenous Highlands (SW Highlands PTDA)	864 475	1,141 618	1,802 963
III.	Mayan Adventure (El Petén PTDA)	136	198	340
IV.	A Different Caribbean	201	271	430
V.	Nature Paradise (Las Verapaces PTDA)	262	358	582
VI.	Guatemala for Discovery	867	1,088	1,642
VII.	Pacific Coast	975	1,251	1,917
	Total	3,651	4,807	7,548

Note: Unit: thousand.

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team

**Table 11.37 Domestic bed-nights shares for the Tourism Regions**

Tourism Region/Year		2000	2010	2020
I.	Modern & Colonial Guatemala	9.5%	10.4%	11.1%
II.	Living Indigenous Highlands (SW Highlands PTDA)	23.7%	23.7%	23.9%
III.	Mayan Adventure (El Petén PTDA)	3.7%	4.1%	4.5%
IV.	A Different Caribbean	5.5%	5.6%	5.7%
V.	Nature Paradise (Las Verapaces PTDA)	7.2%	7.5%	7.7%
VI.	Guatemala for Discovery	23.7%	22.6%	21.7%
VII.	Pacific Coast	26.7%	26.0%	25.4%
	Total	100.0%	100.0%	100.0%

Source: JICA Study Team

#### 11.4.4. Regional Framework

Finally, regional distributions of the total bed-nights are summarized in Table 11.38.

**Table 11.38 Total bed-nights distributions**

Tourism Region/Year	2000			2010			2020		
	Dome.	Inter.	Total	Dome.	Inter.	Total	Dome.	Inter.	Total
I. Modern & Colonial Guatemala	345	2,816	3,161	499	4,014	4,514	835	5,744	6,579
II. Living Indigenous Highlands (SW Highlands PTDA)	864	1,149	2,015	1,141	1,583	2,723	1,802	2,359	4,160
III. Mayan Adventure (El Petén PTDA)	475	298	774	618	437	1,055	963	669	1,631
IV. A Different Caribbean	136	559	695	198	986	1,185	340	1,603	1,943
V. Nature Paradise (Las Verapaces PTDA)	201	341	543	271	577	848	430	828	1,258
VI. Guatemala for Discovery	262	124	386	358	270	629	582	448	1,030
VII. Pacific Coast	867	266	1,133	1,088	326	1,414	1,642	467	2,109
VIII. Total	975	350	1,326	1,251	755	2,005	1,917	1,176	3,094
	3,651	5,607	9,259	4,807	8,511	13,318	7,548	12,625	20,173

Note: Unit: thousand.

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team

#### 11.5. Accommodation Requirements

According to the regional distributions of bed-nights, JICA Study Team estimated accommodation room requirements as follows based on the information on hotel classes provided by INGUAT. Due to the availability of consistent data, the number of hotel rooms is used as the indicator to calculate other tourism-related facilities and infrastructure requirements.

### 11.5.1. Accommodation Requirements

The followings are assumptions to calculate the future room requirements.

- Number of guest per room: 1.7 persons/room.
- Occupancy rates: 75% for high class, 65% for middle class and 55% for low class hotels.
- Bed-nights shares by hotel classes and domestic/international visitors were assumed that; the middle class would increase the shares for both domestic/international visitors; and the high class would increase the share for international visitors.

Table 11.39 shows the number of existing hotel rooms by Tourism Region. Table 11.40 shows the room requirements in 2010 and 2020.

**Table 11.39 Existing stock of the accommodation rooms**

Tourism Region/Year		2000			
		High	Middle	Low	Total
I.	Modern & Colonial Guatemala	3,140	3,367	5,463	11,970
II.	Living Indigenous Highlands (SW Highlands PTDA)	284 (75)	2,803 (924)	4,029 (1,711)	7,116 (2,710)
III.	Mayan Adventure (El Petén PTDA)	72	821	1,028	1,921
IV.	A Different Caribbean	225	813	1,042	2,080
V.	Nature Paradise (Las Verapaces PTDA)	0	576	738	1,314
VI.	Guatemala for Discovery	76	1,494	2,587	4,157
VII.	Pacific Coast	0	2,082	4,056	6,138
Total		3,797	11,956	18,943	34,696

Note: High class: 4-5 star hotels, Middle class: 1-3 star and the other recommendable hotels, Low class: "not-recommendable" hotels. A basic standard of the classification is from INGUAT.

Source: JICA Study Team, INGUAT

**Table 11.40 Accommodation room requirements**

Tourism Region/Year		2010				2020			
		High	Middle	Low	Total	High	Middle	Low	Total
I.	Modern & Colonial Guatemala	3,140	3,979	5,463	12,582	5,027	6,628	5,463	17,118
II.	Living Indigenous Highlands (SW Highlands PTDA)	416 119	3,158 1,155	4,029 1,711	7,603 2,979	700 247	5,472 2,022	4,770 2,053	10,942 4,323
III.	Mayan Adventure (El Petén PTDA)	233	1,518	1,360	3,111	553	2,776	1,658	4,988
IV.	A Different Caribbean	277	1,018	1,042	2,337	537	1,662	1,042	3,242
V.	Nature Paradise (Las Verapaces PTDA)	68	779	829	1,675	159	1,476	1,056	2,691
VI.	Guatemala for Discovery	152	1,494	2,587	4,233	277	2,673	2,644	5,593
VII.	Pacific Coast	215	2,176	4,056	6,448	459	4,127	4,056	8,641
Total		4,501	14,122	19,365	37,988	7,712	24,814	20,689	53,215

Note: High class: 4-5 star hotels, Middle class: 1-3 star and the other recommendable hotels, Low class: "not-recommendable" hotels. A basic standard of the classification is from INGUAT.

Source: JICA Study Team

## 11.6. Pilot Project Framework

JICA Study Team estimated the pilot project demands in the year 2010 for the three PTDA. For the domestic figures, the hotel bed-nights were used to estimate the pilot project demands.

### 11.6.1. El Petén PTDA

#### (1) Visitor arrivals

##### a. Total bed-nights

JICA Study Team calculated the international bed-nights spent at hotels. These international bed-nights were used for the primary data for setting the pilot project framework.

At the regional levels, it should be noted that purpose of visit and principal attraction do not mean those for visiting El Petén PTDA but for visiting Guatemala. For the “archaeological sites”, it can be said that almost all tourists stayed in El Petén PTDA answered that their principal attraction was to visit “archaeological sites”.

**Table 11.41 Total bed-nights of El Petén PTDA 2010**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological sites	105,672	130,258	44,532	199,357	20,499	500,319
	Colonial cities & architectures	12,510	12,815	3,320	7,637	2,175	38,457
	Living indigenous cultures	5,558	31,462	4,708	37,453	2,489	81,670
	Nature	36,283	22,197	1,690	44,033	4,050	108,253
	Beach and other resort	2,756	1,232	0	0	0	3,989
	Miscellaneous attractions	8,198	11,757	2,191	6,442	582	29,170
	<b>Total</b>	<b>170,977</b>	<b>209,722</b>	<b>56,440</b>	<b>294,922</b>	<b>29,795</b>	<b>761,856</b>
VFR		41,533	61,164	15,544	34,232	4,909	157,382
Learning Spanish		0	121,194	0	41,854	1,155	164,203
TCBSA <sup>1)</sup>		25,958	115,401	3,905	33,730	8,329	187,324
Employment/ volunteer		1,569	41,978	1,719	38,717	289	84,271
Others		392	28,810	0	2,480	0	31,681
<b>Total</b>		<b>240,430</b>	<b>578,268</b>	<b>77,608</b>	<b>445,935</b>	<b>44,477</b>	<b>1,386,717</b>
Domestic <sup>2)</sup>							198,434

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Hotel bed-nights for domestic visitors

Unit: nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team

##### b. Average length of stay

Average length of stay (nights) of El Petén PTDA was calculated from the results of visitor survey 2001. The figures were calculated by origin market, purpose, and principal attraction. The outcomes are summarized in Table 11.42.

**Table 11.42 Average length of stay in El Petén PTDA**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological sites	3.22	4.41	2.68	2.99	6.40	3.55
	Colonial cities & architectures	3.14	2.42	3.00	1.70	1.75	2.33
	Living indigenous cultures	3.00	4.14	4.25	3.33	2.60	3.59
	Nature	2.68	4.50	1.50	3.94	3.67	3.46
	Beach/ other resort attractions	8.00	2.00	0.00	0.00	0.00	5.00
	Miscellaneous attractions	2.80	2.00	2.00	0.00	3.00	2.33
	Total	3.14	3.72	2.92	3.07	4.00	3.33
VFR		3.62	5.60	3.75	6.70	2.43	4.54
Learning Spanish		0.00	7.23	0.00	7.00	2.00	6.98
TCBSA <sup>1)</sup>		3.14	20.62	4.50	11.33	3.38	8.63
Employment/ volunteer		4.00	10.67	4.00	7.80	1.00	8.32
Others		1.00	8.57	0.00	2.50	0.00	6.60
Total		3.23	5.89	3.14	4.01	3.47	4.38
Domestic <sup>2)</sup>							1.50

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Average length of stay to hotels for domestic visitors (assumption)

Unit: nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team, Visitor Survey in March and July 2001

### c. Visitor arrivals

Dividing the total bed-nights by the averages length of stay, total visitor arrivals to El Petén PTDA were calculated as shown in Table 11.43.

**Table 11.43 Visitor arrivals to El Petén PTDA 2010**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological sites	32,818	29,537	16,616	66,675	3,203	148,848
	Colonial cities & architectures	3,984	5,296	1,107	4,492	1,243	16,121
	Living indigenous cultures	1,853	7,600	1,108	11,247	957	22,764
	Nature	13,539	4,933	1,126	11,176	1,104	31,877
	Beach/ other resort attractions	345	616	0	0	0	961
	Miscellaneous attractions	2,928	5,879	1,096	0	194	10,096
	Total	55,465	53,860	21,053	93,590	6,701	230,668
VFR		11,473	10,922	4,145	5,109	2,020	33,670
Learning Spanish		0	16,763	0	5,979	577	23,319
TCBSA*		8,267	5,597	868	2,977	2,464	20,173
E&V (Employment/Volunteer)		392	3,934	430	4,964	289	10,009
Others		392	3,362	0	992	0	4,746
Total		75,989	94,437	26,495	113,611	12,051	322,584
Domestic <sup>2)</sup>							132,292

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Hotel arrivals for domestic visitors

Unit: thousand nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team

## (2) Project framework

According to the total visitor arrivals calculated in the previous section, JICA Study Team estimated the development framework for respective pilot projects as follows.

### a. Tourism resource evaluation

The scores of tourism resources evaluated by JICA Study Team are a basic factor to distribute visitor arrivals within PTDA. Tourism attractions that are to be created by pilot projects were also evaluated as tourism resources. The scores were grouped by tourism site.

Moreover, the impacts of pilot projects have to be taken into account. JICA Study Team added two factors to evaluate tourism resource attractiveness for the pilot project: promotion and facility. The scores of tourism resource attractiveness were multiplied by the following two factors.

- Promotion: 1.5
- Facility improvement or development: 1.5

The scores of respective sites (groups of tourism resources) are summarized in Table 11.44.

**Table 11.44 Scores of the tourism sites**

	Tourism site	Score of the sites	Adjust in the market	Score adjusted
<b>International</b>				
1	Lake Petén Itzá	13.4	2.5	33.5
2	Tikal	48.0	1.0	48.0
3	Uaxactún	13.5	1.0	13.5
4	Yaxhá	4.5	1.0	4.5
4.1	Nakúm	2.7	1.0	2.7
5	Celbal	7.9	1.0	7.9
6	Aguateca	6.5	1.0	6.5
7	Other Sayaxché	1.1	1.0	1.1
8	San José/San Andrés	3.2	1.0	3.2
9	Others	0.9	1.0	0.9
<b>Domestic</b>				
1	Lake Petén Itzá	13.4	1.0	13.4
2	Tikal	48.0	1.5	72.0
3	Uaxactún	13.5	1.0	13.5
4	Yaxhá	4.5	3.0	13.5
4.1	Nakúm	2.7	1.5	4.1
5	Celbal	7.9	1.0	7.9
6	Aguateca	6.5	0.5	3.2
7	Other Sayaxché	1.1	1.0	1.1
8	San José/San Andrés	3.2	1.0	3.2
9	Others	0.9	1.0	0.9

Source: JICA Study Team

### b. Possible participant volume of the region

Visitors with the holiday purpose stay more than three nights in El Petén PTDA. This means that their opportunities to visit tourism sites can be calculated on the accumulated number of visitors. Therefore, JICA Study Team assumed the number of days visitors can use to visit the tourism sites in average. The accumulated number was assumed to be

possible participant volume for respective pilot projects. The followings are the assumption on how many days visitors can use to visit tourism sites.

**Table 11.45 Possible participant volume**

Purpose of visit		Visitor arrivals [person]	Days to visit the sites [day]	Possible participants [person]
International	Holiday	230,668	2.5	576,670
	VFR	33,670	0.5	16,835
	Learning Spanish	23,319	1.0	23,319
	TCBSA <sup>1)</sup>	20,173	0.5	10,086
	E&V <sup>2)</sup>	10,009	0.5	5,004
	Others	4,746	0.5	2,373
Total		322,584		634,287
Domestic		132,292	1.0	132,292

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Employment/volunteer

Source: JICA Study Team

### c. Major itinerary

Finally, typical tour itineraries of one-day trip were assumed to calculate the visitor arrivals to respective sites. Points (shares) of the sites were calculated from the adjusted scores in Table 11.44 and the frequency in the assumed itineraries. The accumulated visitor arrivals were distributed according to the points of respective tourism sites.

**Table 11.46 Major itinerary for El Petén PTDA and distributions of visitor arrivals**

Tourism site	Major itinerary*													Total Score	Point	Total arrival		
	1	2	3	4	5	6	7	8	9	10	11	12	13					
<b>International</b>																		
1	Petén Itzá	X	X	X	X	X	X		X	X	X	X				335.0	53.3%	337,942
2	Tikal	X	X		X	X										192.0	30.5%	193,686
3	Uaxactún		X		X											27.0	4.3%	27,237
4	Yaxjá				X	X	X	X								18.0	2.9%	18,158
	Nakúm				X	X	X	X								10.8	1.7%	10,895
5	Ceibal								X	X				X		23.6	3.8%	23,832
6	Aguateca									X				X		13.0	2.1%	13,074
7	Sayaxché misc								X	X						2.2	0.3%	2,179
8	San José/ San Andrés										X		X			6.3	1.0%	6,355
9	Others												X			0.9	0.1%	929
	Total															628.8	100.0%	634,287
<b>Domestic</b>																		
1	Petén Itzá	X	X				X		X		X					67.0	11.9%	15,724
2	Tikal	X	X	X	X	X										360.0	63.9%	84,489
3	Uaxactún		X		X											27.0	4.8%	6,337
4	Yaxjá				X	X	X	X								54.0	9.6%	12,673
	Nakúm				X	X	X	X								16.2	2.9%	3,802
5	Ceibal								X	X				X		23.6	4.2%	5,545
6	Aguateca									X				X		6.5	1.1%	1,521
7	Sayaxché misc								X	X						2.2	0.4%	507
8	San José/ San Andrés										X		X			6.3	1.1%	1,479
9	Others												X			0.9	0.2%	216
	Total															563.7	100.0%	132,292

Note: \* The itinerary 1 shows a combination of the Petén Itzá and Tikal, for example.

Source: JICA Study Team



#### d. Project framework

The results of estimation were summarized in Table 11.47. The estimations, however, do not include domestic excursionists.

**Table 11.47 Pilot project framework for El Petén PTDA**

Pilot Project		Location	International	Domestic	Total
Archaeological Sites	1 Uaxactún	Uaxactún	27,237	6,337	33,574
	2 Yaxhá	Yaxhá	18,158	12,673	30,831
	3 Nakún	Nakún	10,895	3,802	14,697
	4 Ceibal	Ceibal	23,832	5,545	29,377
	5 Aguateca	Aguateca	13,074	1,521	14,595
Museums	6 Regional Center of Mayan Study <sup>1)</sup>	La Maquina	14,526	8,238	22,764
	7 Archaeological Museum & Regional Cultural Center <sup>2)</sup>	Sayaxché	18,453	3,533	21,986

Note: Unit: persons

1) 50% of the arrivals of Yaxhá and Nakún archaeological sites.

2) 50% of the arrivals of Ceibal and Aguateca archaeological sites.

30% is the current participant ratio of "visited museum" from the visitor survey. The ratio was enhanced to 50%.

Source: JICA Study Team

### 11.6.2. Las Verapaces PTDA

#### (1) Visitor arrivals

##### a. Total bed-nights

JICA Study Team calculated the international bed-nights spent at hotels in a previous section. They were used for the primary data for setting the pilot project framework for Las Verapaces.

It is noted that purpose of visit and principal attraction do not mean those for visiting las Verapaces PTDA but for visiting Guatemala. It can be said, however, that almost all the tourists stayed in Las Verapaces PTDA visited Guatemala for "nature".

**Table 11.48 Total bed-nights of Las Verapaces PTDA 2010**

Purpose of visit	Origin market	Short Haul		Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others		
Holiday	Archaeological sites	6,354	6,586	2,337	10,524	1,589	27,391	
	Colonial cities & architectures	14,849	8,518	1,445	4,032	1,899	30,743	
	Living indigenous cultures	7,489	33,178	2,513	41,600	576	85,356	
	Nature	46,182	12,080	1,077	40,793	3,868	104,000	
	Beach/ other resort attractions	4,697	185	0	0	0	4,882	
	Miscellaneous attractions	21,102	8,785	1,790	7,204	266	39,146	
	<b>Total</b>	<b>100,673</b>	<b>69,332</b>	<b>9,161</b>	<b>104,153</b>	<b>8,199</b>	<b>291,518</b>	
VFR	9,098	11,796	1,036	26,058	2,599	50,586		
Learning Spanish	0	8,595	0	997	0	9,592		
TCBSA <sup>1)</sup>	10,226	1,722	3,905	3,472	308	19,634		
E&V (Employment/Volunteer)	1,177	71,275	0	32,264	0	104,715		
Others	0	5,282	0	0	0	5,282		
<b>Total</b>	<b>121,174</b>	<b>168,002</b>	<b>14,103</b>	<b>166,943</b>	<b>11,106</b>	<b>481,327</b>		
Domestic <sup>2)</sup>						<b>358,368</b>		

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Hotel bed-nights for domestic visitors

Unit: nights

Total does not always meet the sum of figures in the table due to roundings.

Source: JICA Study Team

#### b. Average length of stay

Averages length of stay (nights) in Las Verapaces PTDA was calculated based on the results of the visitor surveys in 2001. The averages were calculated by origin market, purposes of visiting Guatemala, and principal attraction. The outcomes are summarized in Table 11.49.

**Table 11.49 Average length of stay in Las Verapaces PTDA**

Purpose of visit	Origin market	Short Haul		Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others		
Holiday	Archaeological sites	1.07	3.50	4.00	2.14	2.33	1.90	
	Colonial cities & architectures	2.50	3.00	0.00	1.00	3.00	2.45	
	Living indigenous cultures	1.67	7.00	3.00	6.22	0.00	5.58	
	Nature	2.07	2.33	0.00	7.40	1.33	2.72	
	Beach/ other resort attractions	1.71	0.00	0.00	0.00	0.00	1.71	
	Miscellaneous attractions	4.30	1.00	0.00	0.00	0.00	4.00	
	<b>Total</b>	<b>2.05</b>	<b>4.31</b>	<b>5.67</b>	<b>4.76</b>	<b>1.88</b>	<b>2.87</b>	
VFR	2.56	3.00	2.00	12.75	9.00	0.00		
Learning Spanish	0.00	3.33	0.00	2.00	0.00	0.00		
TCBSA <sup>1)</sup>	2.60	1.33	9.00	2.33	1.00	0.00		
E&V (Employment/Volunteer)	1.50	27.17	0.00	9.29	0.00	0.00		
Others	0.00	3.67	0.00	0.00	0.00	0.00		
<b>Total</b>	<b>2.13</b>	<b>6.84</b>	<b>5.60</b>	<b>6.10</b>	<b>2.50</b>	<b>0.00</b>		
Domestic <sup>2)</sup>						<b>1.50</b>		

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Average length of stay to hotels for domestic visitors (assumption)

Unit: nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team, Visitor Survey in March and July 2001

### c. Visitor arrivals

Dividing the total bed-nights by the average length of stay, total visitor arrivals to Las Verapaces PTDA were calculated as shown in Table 11.50.

**Table 11.50 Visitor arrivals to Las Verapaces PTDA 2010**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological sites	5,931	1,882	584	4,911	681	13,989
	Colonial cities & architectures	5,940	2,839	0	4,032	633	13,444
	Living Indigenous cultures	4,493	4,740	838	6,686	0	16,756
	Nature	22,295	5,177	0	5,513	2,901	35,886
	Beach/ other resort attractions	2,740	0	0	0	0	2,740
	Miscellaneous attractions	4,907	8,785	0	0	0	13,692
	Total	46,306	23,423	1,422	21,141	4,216	96,507
VFR		3,560	3,932	518	2,044	289	10,343
Learning Spanish		0	2,579	0	498	0	3,077
TCBSA*		3,933	1,292	434	1,488	308	7,455
E&V (Employment/Volunteer)		785	2,624	0	3,475	0	6,883
Others		0	1,440	0	0	0	1,440
Total		54,583	35,289	2,374	28,646	4,813	125,705
Domestic <sup>2)</sup>							238,912

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Hotel arrivals for domestic visitors

Unit: thousand nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team

## (2) Project framework

According to the total visitor arrivals calculated previously, JICA Study Team estimated the project framework as follows.

### a. Tourism resource evaluations

The scores of tourism resources evaluated by JICA Study Team are a basic factor to distribute visitor arrivals within PTDA. Tourism attractions that are to be created by pilot projects were also evaluated as tourism resources. The scores were grouped by tourism site.

Moreover, the impacts of pilot projects have to be taken into account. JICA Study Team added two factors to evaluate tourism resource attractiveness for the pilot project: promotion and facility. The scores of tourism resource attractiveness were multiplied by the following two factors.

- Promotion: 1.5
- Facility improvement or development: 1.5

Domestic visitor arrivals were also distributed to tourism sites. Since the evaluations of tourism resources were focused on international visitors rather than domestic ones, the

factors among the sites were assumed to adjust the scores in the market. The factors could adjust the attractiveness of resources particularly in the domestic market. Besides, the factor was considered for the current distributions of visitors, in particular, for the archaeological sites.

The scores of respective sites (groups of tourism resources) are summarized in Table 11.51.

**Table 11.51 Scores of the tourism sites of Las Verapaces PTDA**

Tourism site	Score of the sites	Adjust in the market	Score adjusted
<b>International</b>			
1 Cobán	10.4	1.0	10.4
2 San Cristóbal Verapaz	4.6	1.0	4.6
2.1 Sierra Pampacche	0.3	1.0	0.3
3 Tactic	2.1	1.0	2.1
4 Biotopo del Quetzal	2.0	1.0	2.0
5 San Jerónimo	1.4	1.0	1.4
6 Salamá	0.6	1.0	0.6
7 San Miguel Chicaj	0.1	1.0	0.1
8 Rabinal	0.7	1.0	0.7
9 San Pedro Carchá	0.8	1.0	0.8
10 San Juan Chamelco	0.4	1.0	0.4
11 Semuc Champey	2.3	1.0	2.3
12 Lanquín Cave	0.6	1.0	0.6
13 Candelaria Caves	0.7	1.0	0.7
14 Sierra de Yalijux	0.8	1.0	0.8
15 Others	0.2	1.0	0.2
16 Eco-corridor Environmental Interpretation Center	1.1	1.0	1.1
17 Agro-tourism Promotion Center	0.9	1.0	0.9
<b>Domestic</b>			
1 Cobán	10.4	1.0	10.4
2 San Cristóbal Verapaz	4.6	0.5	2.3
2.1 Sierra Pampacche	0.3	1.5	0.5
3 Tactic	2.1	2.5	5.3
4 Biotopo del Quetzal	2.0	2.5	5.0
5 San Jerónimo	1.4	1.5	2.2
6 Salamá	0.6	1.5	0.9
7 San Miguel Chicaj	0.1	1.5	0.2
8 Rabinal	0.7	1.5	1.0
9 San Pedro Carchá	0.8	2.0	1.6
10 San Juan Chamelco	0.4	2.5	1.0
11 Semuc Champey	2.3	1.5	3.4
12 Lanquín Cave	0.6	1.5	0.9
13 Candelaria Caves	0.7	0.5	0.3
14 Sierra de Yalijux	0.8	0.1	0.1
15 Others	0.2	1.0	0.2
16 Eco-corridor Environmental Interpretation Center	1.1	1.0	1.1
17 Agro-tourism Promotion Center	0.9	1.0	0.9

Source: JICA Study Team

**b. Possible participant volume of the region**

The visitors of holiday purpose stay over three nights in Las Verapaces PTDA. This means that their opportunities to visit the sites can be calculated on the accumulated number of visitors. Therefore, JICA Study Team assumed the number of days visitors can use to visit the tourism sites in average. The accumulated number was assumed to be the possible participant volume for the pilot projects. The followings are assumption on how many days visitors can use to visit tourism sites.

**Table 11.52 Possible participant volume of Las Verapaces PTDA**

	Purpose of visit	Visitor arrivals [person]	Days to visit the sites [day]	Possible participants [person]
International	Holiday	96,507	2.0	193,014
	VFR	10,343	0.5	5,171
	Learning Spanish	3,077	1.0	3,077
	TCBSA <sup>1)</sup>	7,455	0.5	3,728
	E&V <sup>2)</sup>	6,883	0.5	3,441
	Others	1,440	0.5	720
	<b>Total</b>	<b>125,705</b>		<b>209,152</b>
Domestic		238,912	1.0	238,912

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Employment/Volunteer

Source: JICA Study Team

### c. Major itinerary

Finally, typical tour itineraries of one-day trip were assumed to calculate the visitor arrivals to respective sites. Points (shares) of the sites were calculated from the adjusted scores in Table 11.51 and the frequency in the assumed itineraries. The accumulated visitor arrivals were distributed according to the points of respective tourism sites.

**Table 11.53 Major Itinerary for Las Verapaces PTDA and distributions of visitor arrivals**

Tourism site	Major Itinerary*											Total Score	Point	Total visitor	
	1	2	3	4	5	6	7	8	9	10	11				
<b>International</b>															
1	Cobán	X	X	X						X			41.7	56.6%	118,376
2	San Cristóbal Verapaz	X									X		9.3	12.5%	26,246
	Sierra Pampaccho	X									X		0.7	0.9%	1,915
3	Tactic		X										2.1	2.8%	5,959
4	Biotopo del Quetzal	X		X									4.0	5.4%	11,350
5	San Jerónimo				X								1.4	2.0%	4,086
6	Salamá				X								0.6	0.8%	1,702
7	San Miguel Chicaj				X								0.1	0.2%	340
8	Rabinal				X								0.7	0.9%	1,873
9	San Pedro Carchá					X							0.8	1.1%	2,270
10	San Juan Chamelco					X							0.4	0.5%	1,135
11	Semuc Champey						X						2.3	3.1%	6,384
12	Lanquín Cave						X						0.6	0.8%	1,596
13	Candelaria Caves							X					0.7	0.9%	1,915
14	Sierra de Yalijux												0.8	1.1%	2,341
15	Others								X				0.2	0.3%	596
16	Eco-corridor Environmental Interpretation Center	X	X	X	X	X							5.6	7.6%	15,960
17	Agro-tourism Promotion Center										X	X	1.8	2.4%	5,107
	<b>Total</b>												<b>73.7</b>	<b>100.0%</b>	<b>209,152</b>
<b>Domestic</b>															
1	Cobán	X	X						X				41.7	54.0%	129,082
2	San Cristóbal Verapaz									X			4.6	6.0%	14,310
	Sierra Pampaccho									X	X		1.5	2.0%	4,699
3	Tactic	X											5.3	6.8%	16,244
4	Biotopo del Quetzal		X										5.0	6.5%	15,470
5	San Jerónimo			X									2.2	2.8%	6,683
6	Salamá			X									0.9	1.2%	2,785
7	San Miguel Chicaj			X									0.2	0.2%	557
8	Rabinal			X									1.0	1.3%	3,063
9	San Pedro Carchá				X								1.6	2.1%	4,950
10	San Juan Chamelco				X								1.0	1.3%	3,094
11	Semuc Champey					X							3.4	4.4%	10,442
12	Lanquín Cave					X							0.8	1.1%	2,611
13	Candelaria Caves						X						0.3	0.4%	1,044
14	Sierra de Yalijux											X	0.1	0.1%	255
15	Others							X					0.2	0.3%	650
16	Eco-corridor Environmental Interpretation Center	X	X	X	X								5.6	7.3%	17,404
17	Agro-tourism Center									X	X		1.8	2.3%	5,569
	<b>Total</b>												<b>77.2</b>	<b>100.0%</b>	<b>238,912</b>

Note: \* For example, the itinerary 3 shows a combination of Cobán and Biotopo del Quetzal. (It is marked by "X")

Source: JICA Study Team

#### d. Project framework

The results of estimation were summarized in Table 11.54. The estimations do not include domestic excursionists.

**Table 11.54 Pilot project framework for Las Verapaces PTDA**

Pilot Project	Location	International	Domestic	Total
1 Eco Quetzal Reserve	Chaquipec	2,341	255	2,596
2 Eco-corridor Environmental Interpretation Center	Purulha	15,960	17,404	33,364
3 Sierra Pampacche Cloud Forest Park	Sta. Elena	1,915	4,699	6,614

Note: Unit: persons  
Source: JICA Study Team

### 11.6.3. Southwestern Highlands PTDA

#### (1) Visitor arrivals

##### a. Total bed-nights

JICA Study Team calculated the international bed-nights spent at hotels in a previous section. They were used for the primary data for setting the pilot project framework for Las Verapaces.

It is noted that purpose of visit and principal attraction do not mean those for visiting the Southwestern Highlands PTDA but for visiting Guatemala. It can be said, however, that almost all tourists stayed in the Southwestern Highlands PTDA visited Guatemala for "living indigenous cultures".

**Table 11.55 Total bed-nights of the Southwestern Highlands PTDA 2010**

Purpose of visit	Origin market	Short Haul	Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others	
Holiday	Archaeological sites	15,109	5,674	9,970	19,932	826	51,511
	Colonial cities & architectures	22,479	11,551	1,962	14,541	1,922	52,455
	Living indigenous cultures	25,790	90,028	3,209	58,115	1,545	178,688
	Nature	31,933	7,839	445	14,054	1,656	55,928
	Beach/ other resort attractions	11,208	201	0	0	0	11,409
	Miscellaneous attractions	17,657	29,861	2,225	8,999	416	59,158
	<b>Total</b>	<b>124,176</b>	<b>145,155</b>	<b>17,811</b>	<b>115,642</b>	<b>6,365</b>	<b>409,148</b>
VFR		22,546	46,310	0	54,670	289	123,815
Learning Spanish		0	311,580	430	92,179	10,105	414,293
TCBSA <sup>1)</sup>		12,979	9,904	12,150	6,448	7,403	48,885
E&V (Employment/Volunteer)		8,631	248,805	0	36,731	12,415	306,582
Others		0	34,091	0	0	0	34,091
<b>Total</b>		<b>168,332</b>	<b>795,844</b>	<b>30,390</b>	<b>305,670</b>	<b>36,577</b>	<b>1,336,813</b>
Domestic <sup>2)</sup>							618,321

Note: <sup>1)</sup> Meeting, incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Hotel bed-nights for domestic visitors

Unit: nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team

##### b. Average length of stay

Average length of stay (nights) in the Southwestern Highlands PTDA were calculated according to the results of visitor survey 2001 by origin market, purpose of visiting Guatemala, and principal attraction. The outcomes are summarized in Table 11.56.

**Table 11.56 Average length of stay of the Southwestern Highlands PTDA**

Purpose of visit	Origin market	Short Haul			Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others			
Holiday	Archaeological sites	2.84	1.80	12.00	2.76	2.84	3.29		
	Colonial cities & architectures	2.71	2.00	0.00	8.25	2.71	3.75		
	Living indigenous cultures	8.14	12.12	1.00	4.55	8.14	8.57		
	Nature	2.82	6.50	0.00	2.00	2.82	2.91		
	Beach/ other resort attractions	3.80	0.00	0.00	0.00	3.80	3.30		
	Miscellaneous attractions	2.73	4.00	2.00	4.00	2.73	2.86		
	Total	4.13	11.13	7.17	3.62	2.60	5.16		
VFR		3.17	7.57	0.00	17.83	1.00	6.95		
Learning Spanish		0.00	27.88	1.00	37.00	17.50	27.82		
TCBSA <sup>1)</sup>		1.94	3.83	14.00	6.50	8.00	4.03		
E&V (Employment/Volunteer)		4.40	47.42	0.00	12.33	21.50	28.32		
Others		0.00	35.50	0.00	0.00	0.00	35.50		
Total		3.76	20.31	8.00	8.32	8.92	6.95		
Domestic <sup>2)</sup>							1.50		

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Average length of stay to hotels for domestic visitors (assumption)

Unit: nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team, Visitor Survey in March and July 2001

### c. Visitor arrivals

Dividing the total bed-nights by the average length of stay, total visitor arrivals to the Southwestern Highlands PTDA were calculated as shown in Table 11.57.

**Table 11.57 Visitor arrivals to the Southwestern Highlands PTDA 2010**

Purpose of visit	Origin market	Short Haul			Middle Haul		Long Haul		Total
	Principal attraction	Neighboring countries	North America	South America	Europe	Others			
Holiday	Archaeological sites	5,320	3,152	831	7,222	413	16,938		
	Colonial cities & architectures	8,295	5,776	0	1,763	0	15,833		
	Living indigenous cultures	3,168	7,428	3,209	12,773	515	27,093		
	Nature	11,324	1,206	0	7,027	828	20,385		
	Beach/ other resort attractions	2,949	0	0	0	0	2,949		
	Miscellaneous attractions	6,468	7,465	1,113	2,250	0	17,295		
	Total	37,524	25,027	5,153	31,034	1,756	100,494		
VFR		7,112	6,118	0	3,066	289	16,585		
Learning		0	11,176	430	2,491	577	14,674		
TCBSA <sup>1)</sup>		6,690	2,586	868	992	925	12,062		
E&V		1,962	5,247	0	2,979	577	10,765		
Others		0	960	0	0	0	960		
Total		53,289	51,113	6,450	40,562	4,125	155,540		
Domestic <sup>2)</sup>							412,214		

Note: <sup>1)</sup> Meeting, Incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Hotel arrivals for domestic visitors

Unit: thousand nights

Total does not always meet the sum of figures in the table due to rounding.

Source: JICA Study Team



---

**(2) Project framework**

According to the total visitor arrivals calculated previously, JICA Study Team estimated the project framework as follows.

**a. Tourism resource evaluations**

The scores of tourism resources evaluated by JICA Study Team are a basic factor to distribute visitor arrivals to respective tourism sites. Tourism attractions that are to be created by pilot projects were also evaluated as tourism resources. The scores were grouped by tourism site.

Moreover, the impacts of pilot projects have to be taken into account. JICA Study Team added two factors to evaluate tourism resource attractiveness for the pilot project: promotion and facility. The scores of tourism resource attractiveness were multiplied by the following two factors.

- Promotion: 1.5
- Facility improvement or development: 1.5

Domestic visitor arrivals were also distributed to tourism sites. Since the evaluations of tourism resources were focused on international visitors rather than domestic ones, the factors among the sites were assumed to adjust the scores in the market. The factors could adjust the attractiveness of resources particularly in the domestic market.

The scores of respective tourism sites (groups of tourism resources) are summarized in Table 11.58.

**Table 11.58 Scores of the tourism sites of the Southwestern Highlands PTDA**

Tourism site	Score of the sites	Adjust in the market	Score adjusted
<b>International</b>			
1 Quetzaltenango	9.9	1.0	9.9
2 Olinpeque	0.8	1.0	0.8
3 San Andrés Xecul	2.8	1.0	2.8
4 Salcajá	5.9	1.0	5.9
5 San Cristóbal Totonicapán	1.6	1.0	1.6
6 San Francisco El Alto	12.5	1.0	12.5
7 Totonicapán	2.3	1.0	2.3
8 Momostenango	12.5	1.0	12.5
9 Zunil	10.5	1.0	10.5
10 Fuentes Georginas	2.5	1.0	2.5
11 Aguas Amargas	0.5	1.0	0.5
12 Cantel	0.5	1.0	0.5
13 Almolonga	1.6	1.0	1.6
14 San Martín Sacatepéquez	2.2	1.0	2.2
15 Nature Areas	3.2	1.0	3.2
16 Others	0.4	1.0	0.4
<b>Domestic</b>			
1 Quetzaltenango	9.9	2.0	19.7
2 Olinpeque	0.8	0.5	0.4
3 San Andrés Xecul	2.8	0.5	1.4
4 Salcajá	5.9	0.5	3.0
5 San Cristóbal Totonicapán	1.6	1.0	1.6
6 San Francisco El Alto	12.5	1.0	12.5
7 Totonicapán	2.3	1.0	2.3
8 Momostenango	12.5	0.5	6.3
9 Zunil	10.5	1.0	10.5
10 Fuentes Georginas	2.5	1.0	2.5
11 Aguas Amargas	0.5	1.0	0.5
12 Cantel	0.5	1.0	0.5
13 Almolonga	1.6	1.0	1.6
14 San Martín Sacatepéquez	2.2	1.0	2.2
15 Nature Areas	3.2	0.5	1.6
16 Others	0.4	0.5	0.2

Source: JICA Study Team

**b. Possible participant volume of the region**

The visitors with the holiday purpose stay more than three nights in the Southwestern Highlands PTDA. This means that their opportunities to visit tourism sites can be calculated on the accumulated number of visitors. Therefore, JICA Study Team assumed the number of days visitors can use to visit the tourism sites in average. The accumulated number was assumed to be possible participant volume for respective pilot projects. The followings are the assumption on how many days visitors can use to visit tourism sites.

**Table 11.59 Possible participant volume of the Southwestern Highlands PTDA**

	Purpose of visit	Visitor arrivals [person]	Days to visit the sites [day]	Possible participants [person]
International	Holiday	100,494	3.5	351,729
	VFR	16,585	0.5	8,292
	Learning Spanish	14,674	1.0	14,674
	TCBSA <sup>1)</sup>	12,062	0.5	6,031
	E&V <sup>2)</sup>	10,765	0.5	5,382
	Others	960	0.5	480
	<b>Total</b>	<b>155,540</b>		<b>386,589</b>
Domestic		412,214	0.8 <sup>3)</sup>	329,771

Note: <sup>1)</sup> Meeting, incentive travel, conference, event, business/trade and sports/arts

<sup>2)</sup> Employment/volunteer

<sup>3)</sup> Business visitors were assumed to be 20% of the total visitors.

Source: JICA Study Team

### c. Major itinerary

Finally, typical tour itineraries of one-day trip were assumed to calculate the visitor arrivals to respective sites. Points (shares) of the sites were calculated from the adjusted scores in Table 11.58 and the frequency in the assumed itineraries. The accumulated visitor arrivals were distributed according to the points of respective tourism sites.

**Table 11.60 Major Itinerary for the Southwestern Highlands PTDA & distributions of visitor arrivals**

Tourism site	Major itinerary*									Total Score	Point	Total visitor
	1	2	3	4	5	6	7	8	9			
<b>International</b>												
1 Quetzaltenango	X	X	X	X	X	X	X	X	X	88.7	45.9%	177,524
2 Olinpeque		X								0.8	0.4%	1,602
3 San Andrés Xecul		X								2.8	1.5%	5,607
4 Salcajá		X		X						11.9	6.1%	23,730
5 San Cristóbal Totoncapán			X							1.6	0.8%	3,154
6 San Francisco El Alto			X					X		25.0	13.0%	50,063
7 Totoncapán			X							2.3	1.2%	4,646
8 Momostenango			X							25.1	13.0%	50,203
9 Zunil				X					X	21.0	10.9%	42,053
10 Fuentes Georginas				X					X	5.0	2.6%	10,013
11 Aguas Amargas				X						0.5	0.3%	1,001
12 Cantel				X					X	1.0	0.5%	2,003
13 Almolonga				X						1.6	0.8%	3,204
14 San Martín Sacatepéquez					X					2.2	1.2%	4,456
15 Nature Areas						X				3.2	1.7%	6,448
16 Others							X			0.4	0.2%	881
<b>Total</b>										<b>193.1</b>	<b>100.0%</b>	<b>386,589</b>
<b>Domestic</b>												
1 Quetzaltenango	X	X	X	X	X	X	X	X	X	177.3	68.3%	225,216
2 Olinpeque		X								0.4	0.2%	508
3 San Andrés Xecul		X								1.4	0.5%	1,778
4 Salcajá		X		X						5.9	2.3%	7,526
5 San Cristóbal Totoncapán			X							1.6	0.6%	2,001
6 San Francisco El Alto			X					X		25.0	9.6%	31,756
7 Totoncapán			X							2.3	0.9%	2,947
8 Momostenango			X							12.5	4.8%	15,923
9 Zunil				X					X	21.0	8.1%	26,675
10 Fuentes Georginas				X					X	5.0	1.9%	6,351
11 Aguas Amargas				X					X	0.5	0.2%	635
12 Cantel				X					X	1.0	0.4%	1,270
13 Almolonga				X						1.6	0.6%	2,032
14 Sn. Martín Sacatepéquez					X					2.2	0.9%	2,826
15 Nature Areas						X				1.6	0.6%	2,045
16 Others							X			0.2	0.1%	280
<b>Total</b>										<b>259.6</b>	<b>100.0%</b>	<b>329,771</b>

Note: \* For example, the itinerary 8 shows a combination of Quetzaltenango and San Francisco El Alto. (It is marked by "X")

Source: JICA Study Team

#### d. Project framework

The results of estimation were summarized in Table 11.61. They do not include domestic excursionists.

**Table 11.61 Pilot project framework for the Southwestern Highlands PTDA**

Pilot Project	Location	International	Domestic	Total
1 Community tourism	Momostenango	15,061	4,777	19,838

Note: Unit: persons

Source: JICA Study Team

JICA

