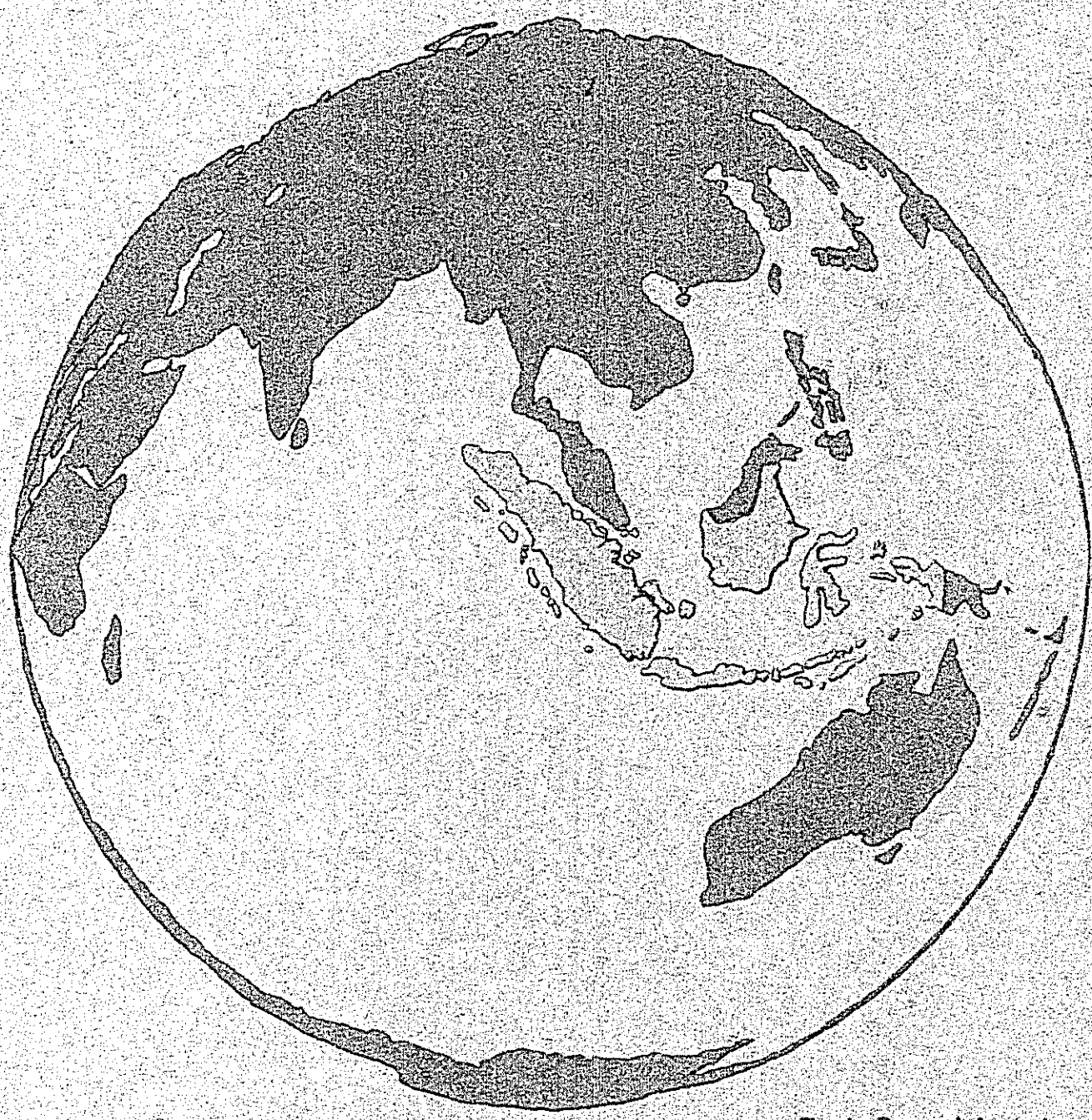
REPUBLIC OF INDONESIA

NORTH AND WEST SUMATRA TOURISM STUDY

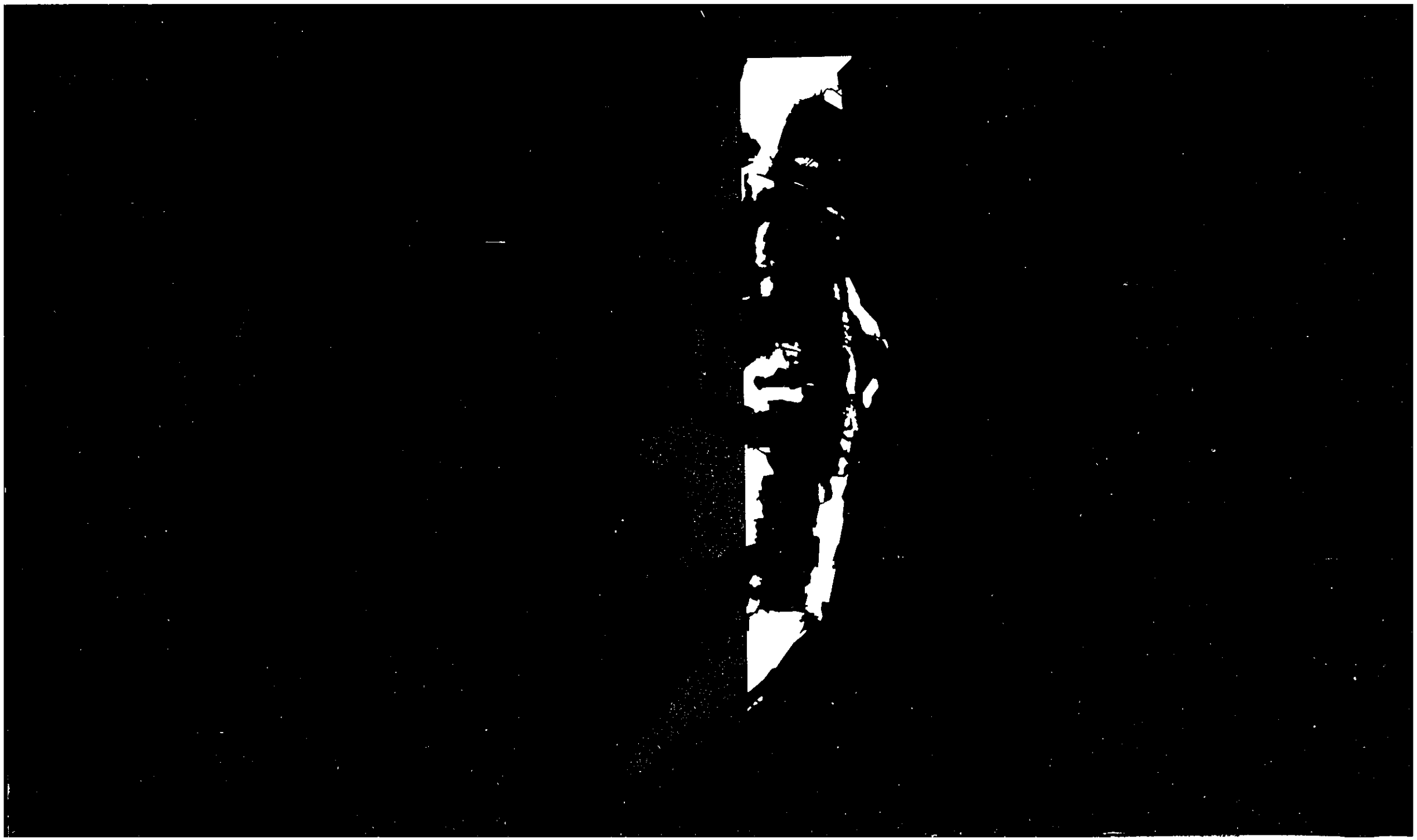
TECHNICAL STUDY PAPERS

FINAL REPORT April 1978



Tourist Demand Analysis
Tourist Distribution Plan
Tourism Resources and Tour Program
Park Conservation Plans
Tourist Towns and Other Development Areas
Tourism Facilities
Network and Infrastructure
Institution Promotion and Implementation
Economic and Financial Analysis

JAPAN INTERNATIONAL COOPERATION AGENCY



1

PAPER 1: TOURIST DEMAND ANALYSIS

1. Trend in International Travel Demand

Trends in International Travel Demand in the World

When considering world-wide international travel demand, the number of tourist arrivals to the member countries of World Travel Organization (WTO) reached 213 million persons in 1975. Past trend of tourist arrivals is shown in Table-1. The growth in international tourism has dropped since 1974, due to the oil crisis which occurred in October 1973, and effected the recession of world economy.

Growth of world travel demand and the growth of world economy is shown in Table-2. The elasticity of international travel demand against the growth of world economy has been declining from 1.9 to 1.5.

The following are the two major reasons for this:

- From the early 1960s American travel demand expanded greatly, and the growth in international travel demand mostly depended on it.
- In the latter half of the 1960s the demand for international travel by Japanese and Europeans of EC countries expanded greatly. Nevertheless, because this was not comparable with the rate of expansion of American travel abroad in the former half of the 1960s, which occupied a large part of the market, the overall rate of expansion for this period was lower than that of the former half of the 1960s.

It is believed that world travel demand of USA, EC countries and Japan is now reaching a stable level of growth. The economic growth rates of these countries will be relatively lower than those of the developing countries. Viewing from these two points, future elasticity of international travel demand against the growth of world economy in the long run, is estimated to be 1.2 or 1.3.

The world economy, which is the basis of international travel demand, has been recovering slowly from its negative growth in 1975. However, the factors are to be recognized when considering the future growth of the world economy.

- Chaotic leadership in managing the world economy
- Restrictions in resources, mainly energy problem
- Stagnation of technological innovations
- Increase in social burden due to restrictions in environmental protection

It will take much time to solve these problems, and it seems that sluggishness in the rate of growth of the world economy will continue even into the twenty-first century. If the annual growth rate of the world economy is supposed to be 4 percent between 1976 and 1985, and 3.5 percent between 1986 and 1995, the international travel demand by 1995 is anticipated to be 2.4 times of the present value, thereby increasing at average annual growth rate of 4.7 percent.

Trend in International Travel Demand in Asia and the Pacific Region

The number of tourist arrivals by region based on WTO statistics is given in Table-3. When the world is divided into 5 regions, more than 93 percent of the international tourists belong to the regions of Europe and America. The remaining about 7 percent belong to Africa, the Middle-East, Asia and the Pacific region among which more than half of the tourists belong to Asia and the Pacific region.

In the past, number of international tourist arrivals to Asia and the Pacific region has expanded greatly, growth rate of which has exceeded the world growth of tourist arrivals. The elasticity of tourist arrivals to Asia and Pacific region against the total tourist arrivals of the world was 2.7 in the latter half of 1960s, this value dropped to 1.7 in the first half of 1970s. But it is still the highest value among all the five regions of the world. But it is assumed that the number of tourist arrivals to Asia and the Pacific region will exceed number of tourists to other parts of the world also in future, as long as there will be no large scale conflicts. If the elasticity of the tourist arrivals to Asia and the Pacific region is conservatively estimated to be 4.3, it can be foreseen that the average annual growth rate of world tourist arrivals will be between 5.5 and 6.0 percent.

As shown in Table-4, the number of international tourist arrivals to Asia and the Pacific region in 1975 was approximately 13.3 million. Average annual growth was 14.4 percent between 1960 and 1965, 21.4 percent between 1965 and 1970, and 12.7 percent between 1970 and 1975. Among these values, increase of international tourist arrivals to Southeast Asian region was comparatively higher.

Growth of tourist arrivals to Asia and the Pacific region is shown in Figures 1, 2 and 3. From these figures, it is clear that, growth rate become sluggish as the number of tourist arrivals to each country increases. Thus it can be anticipated that, the growth rate of tourist arrivals to Southeast Asian countries will be sluggish in future.

Past Trend in International Travel Demand in ASEAN Countries

The total number of tourist arrivals to the five ASEAN membership countries from 1964 to 1976, is shown in Table-5. From 1964 to 1973, within nine years, the number of tourist arrivals increased by 6.8 times, and the average annual growth rate was as high as 23.9 percent. However, since 1974, annual growth rate has declined to 10 percent level due to the recession of the world economy.

Market sources of foreign tourists to the five ASEAN countries is shown in Table-6. Major market sources are North America, EC countries, Oceania, Japan and ASEAN countries and tourist arrivals from all these countries cover 80 percent. Largest markets are Japan, Australia and America.

Since 1974, American market was very sluggish because number of Americans entering to Thailand decreased due to the evacuation of Vietnam War. However, American market since 1976, has been recovering, and 7 percent growth rate is projected.

Between 1973 and 1976, the growth of Japanese and Australian markets was 13 percent level. Especially numbers of Japanese tourist to the Philippines and Australian tourists to Singapore was noteworthy. Japanese and Australian markets will be hopeful for ASEAN even in future, however high growth rate of tourist arrivals will not continue to increase unless new destinations are developed.

Markets of ASEAN countries is also important. Interregional tourists from these inter-regional markets will increase rapidly, especially from Singapore and Indonesia.

Besides these, in the long run, there is prospect of tourist arrivals from Far East Asian region including Hongkong and Taiwan, although these markets are in small scale at present. There is a stable growth of tourist arrivals from European Countries. Among EC countries, number of tourist arrivals from England, France and Germany is nearly 80 percent.

Future Projection of International Tourist Arrivals to ASEAN Countries

Would markets for tourist arrivals to five ASEAN countries can be divided into six regions e.g. North America, Japan, Oceania (Australia and New Zealand), EC countries, ASEAN countries and others.

Projection of future arrivals of international tourists to the ASEAN countries was worked out in considerations of growth rate of the economies of the market countries, travel demand elasticity and shares of tourists travelling to the ASEAN countries to the total tourists to abroad from the market countries. The projected number of tourists arrivals to the ASEAN countries is shown in Table-7.

In the middle-term, Japan and Oceania will be hopeful market for the ASEAN countries. However, the ratio of tourists from Australia and New Zealand to their total populations is already quite high, about 7 percent, and therefore it is anticipated that it will reach its peak in the near future.

In case of Japanese tourists of whom ratio to the population is still low, less than 3 percent, future increase is anticipated, but growth will be gradually slowed down after 1985 when the tourist generation ratio to the population will reach around 10 percent. Furthermore, growth of Japanese tourists may also decrease due to recession in economic growth in the future.

It is anticipated that percentage of growth of tourist arrivals from North America and the EC countries will be about 7 to 8 percent by 1985, and 5 percent by 1995 the growth rate of tourists from ASEAN and other countries may remain high, because population of these countries is remarkable, and growth rate of economy will also continue to increase when compared with other advanced countries.

As a result integrated the individual analysis of each market region it can be said that average annual growth rate of number of tourist arrivals to ASEAN countries will be more than 9 percent until 1985 or more than 6 percent until 1995.

World-wide International Tourist Arrivals (Table-1)

Year	Arrivals (in millions)	Annual growth rate (in percent)
1950	25.3	
.		10.9
.		
.		
1960	71.2	
61	75.3	5.8
62	81.4	8.1
63	93.0	14.2
64	108.0	16.1
65	115.5	6.9
66	130.8	13.2
67	138.5	6.6
68	139.7	0.1
69	154.1	10.3
70	168.4	9.3
71	181.5	7.8
72	198.0	9.1
73	215.0	8.6
74	209.0	-2.8
75	213.0*	1.9
76	221.5*	4.0
.		
.		5.2
.		
1985	349.6	
.		4.2
.		
.		
1995	527.5	

Source: Data prior to and inclusive of 1974 is from the statistics of the World Travel Organization.

Note: Data for 1975 and 1976 are estimates. Data for 1985 and 1995 are calculated under the following conditions: *annual growth rate of the world economy* between 1976 and 1985 is estimated to be 4 percent and for 1985 to 1995 to be 3.5 percent; the elasticity of international travel demand against the world economy is estimated for each period to be 1.3 and 1.2, respectively.

Comparison between Average Growth Rate of GNP and International Travel Demand in the Countries of Free Economy (Table-2)

(Unit: percent per year)

	1950-60	1960-65	1965-70	1070-75
International tourist arrivals (ITA)	10.9	10.2	7.8	4.8
Gross domestic product of market economies (GDP)	–	5.3	4.9	3.2
Simple elasticity of ITA against GDP	–	1.9	1.6	1.5

Sources: Data for ITA is taken from the World Tourism Organizations Economic Review of World Tourism.

Data for GDP is taken from the United Nations Yearbook of National Accounts Statistics, 1973, Vol. III, and its World Economic Survey, 1975.

International Tourist Arrivals by Region (Table-3)

(Unit: Arrivals = million persons, Share = percent)

	Europe		North & South America		Africa		Middle-East		Asia-Pacific		World Total
1965	87.6	75.8%	22.1	19.1	1.1	1.0%	2.6	2.3%	2.1	1.8%	115.5
66	98.8	75.5	25.3	19.3	1.3	1.0	2.9	2.2	2.5	1.9	130.8
67	103.6	74.3	29.4	21.1	1.4	1.0	2.2	1.6	2.9	2.1	139.5
68	105.4	75.4	26.9	19.3	1.7	1.2	2.3	1.6	3.4	2.4	139.7
69	115.1	74.7	29.9	19.4	2.0	1.3	2.8	1.8	4.3	2.8	154.1
70	124.2	73.8	33.3	19.8	2.6	1.5	2.9	1.7	5.4	3.2	168.4
71	134.2	73.9	35.0	19.3	3.1	1.7	3.6	2.0	5.6	3.1	181.5
72	148.5	75.0	36.0	18.2	3.5	1.8	3.7	1.9	6.3	3.2	198.0
73	157.0	73.0	44.6	20.7	2.9	1.3	3.8	1.8	6.7	3.1	215.0
74	149.0	71.3	46.0	22.0	3.0	1.4	4.0	1.9	7.0	3.3	209.0
75	151.5	71.1	47.0	22.1	3.5	1.6	3.0	1.4	8.0	3.8	213.0
1965-70											
Average growth rate	7.2%		8.5%		18.8%		2.2%		20.8%		7.8%
Elasticity against total	0.9		1.1		2.4		0.3		2.7		1.0
1970-75											
Average growth rate	4.1%		7.1%		6.1%		0.7%		8.2%		4.8%
Elasticity against total	0.9		1.5		1.3		0.1		1.7		1.0

Source: World Tourism Organization, Economic Review of World Tourism, 1976 and 1972 edition.

Visitor Arrivals to Asian and Pacific Countries by Subregion (Table-4)

	Number of Arrivals (thousand persons)				Average Annual Rate of Increase (%)			
	1960	1965	1970	1975	60-75	60-65	65-70	70-75
Far-East Asia	408	981	2,427	3,598	15.6	19.1	19.9	8.1
South-East Asia	391	599	1,984	4,556	17.7	8.8	27.0	18.1
Indo-Asia	160	229	482	870	11.9	7.5	15.9	12.5
Australasian	124	268	493	881	13.9	16.6	12.9	12.3
North Pacific	297	606	1,671	3,051	16.8	15.3	22.5	12.8
South Pacific	34	87	260	418	18.1	20.5	24.4	9.9
Total	1,413	2,770	7,318	13,323	16.1	14.4	21.4	12.7

Source: NRI, Japan, Visitor Arrivals to Asian and Pacific Countries.

Visitor Arrivals to ASEAN Countries (Table-5)

	'64	'65	'66	'67	'68	'69	'70	'71	'72	'73	'74	'75	'76	'64-'76 Average annual rate of increase
Philippines	75,243	84,015	101,695	108,805	112,713	123,268	144,071	144,321	166,431	242,811	410,128	502,211	615,159	
	7.8	11.7	21.0	7.0	3.6	9.4	16.9	0.2	15.3	45.9	68.9	22.5	22.5	19.1
Thailand	161,376	187,459	230,827	244,630	296,275	373,950	490,056	467,118	563,145	778,180	817,467	876,951	916,536	
	–	16.2	23.1	6.0	21.1	26.2	31.0	-4.7	20.6	38.2	5.0	7.3	4.5	15.6
Singapore	e144,800	e123,800	e161,000	e275,300	e334,900	408,709	521,654	632,149	783,015	984,732	1,087,443	1,169,270	1,320,625	
	-17.6	7.8	30.0	71.0	21.6	22.0	27.6	21.2	23.9	25.8	10.4	7.5	12.9	22.6
Malaysia	e26,100	e24,400	e48,200	e44,700	e52,800	e55,400	e79,100	e150,600	286,694	382,578	436,390	455,910	463,295	
	-14.4	-6.5	97.5	-7.3	18.1	4.9	42.8	90.4	90.4	33.4	14.1	4.5	1.6	27.1
Indonesia	10,000	10,502	7,477	26,391	52,392	86,067	129,319	178,781	221,195	270,303	313,452	366,293	401,237	
	-15.8	5.1	-28.8	253.0	98.5	64.3	50.3	38.2	23.7	22.2	16.0	16.9	9.5	36.0
ASEAN total	387,519	430,176	549,199	699,826	849,080	1,047,394	1,364,200	1,572,969	2,020,480	2,658,604	3,064,880	3,370,635	3,716,852	
	–	11.0	27.7	27.4	21.3	23.4	30.2	15.3	28.5	31.6	15.3	10.0	10.3	20.7
Percentage share of Indonesia to ASEAN countries total	2.6	2.4	1.4	3.8	6.2	8.2	9.5	11.4	10.9	10.2	10.2	10.9	10.8	

Source: Based on the tourist statistics of each country.

Notes:
1. The figures in the parenthesis are the rate of increase over previous year
2. Number of arrivals is calculated only for arrivals by air and sea.
3. Overland tourist arrivals into Thailand, Singapore and Malaysia are numerous. If these overland tourists are included, the total number of arrivals into Thailand, Singapore, and Malaysia in 1976 becames 1,098 million, 1,492 million, and 1,225 million, respectively. On the other hand, arrivals to either the Philippines or Indonesia is limited to air or sea. Thus, to compare all five countries, the mode of entry must be limited to air and sea.
4. "e" designates that the data are estimates.

Tourist Arrivals to ASEAN Countries by Major Category of Citizenships (Table-6)

(Unit: thousand)

	1972	1973	1974	1975	1976	Average annual rate of increase (%) 1973-76
USA & Canada	441.6 (19.5)	481.0 (16.4)	462.5 (14.1)	439.5 (12.1)	477.4 (12.6)	-0.3
EC countries	488.7 (21.5)	595.0 (20.3)	602.0 (18.3)	675.9 (18.6)	731.5 (19.3)	7.1
Other European countries	92.9 (4.1)	127.5 (4.3)	131.7 (4.0)	134.1 (3.7)	167.6 (4.4)	9.5
Australia & New Zealand	242.5 (10.7)	358.1 (12.2)	463.1 (14.1)	514.5 (14.1)	529.4 (14.0)	13.9
Japan	235.6 (10.4)	386.1 (13.2)	484.2 (14.7)	538.6 (14.8)	559.3 (14.8)	13.1
Other Far-East Asian countries	88.3 (3.9)	115.1 (3.9)	141.0 (4.3)	164.1 (4.5)	155.8 (4.1)	10.6
ASEAN countries	372.6 (16.4)	460.7 (15.7)	597.3 (18.2)	670.0 (18.4)	701.5 (18.5)	15.0
Indo-Asian countries	100.5 (4.4)	113.9 (3.9)	110.7 (3.4)	118.4 (3.3)	112.9 (3.0)	-0.3
Other countries, stateless or not reported	205.3 (9.1)	268.0 (9.1)	295.6 (9.0)	325.6 (8.9)	349.6 (9.2)	9.3
Total	2,267.9	2,932.7	3,288.2	3,640.9	3,785.0	

Source: Calculated from the tourist statistics of each country.

Note: The figures in the parenthesis are the percentage share of arrivals.

Projection of Tourist Arrivals to ASEAN Countries by Major Origion of Country (Table-7)

	1970	1973	1976	1985	1995	Average annual growth rate (%) 1976-85	1985-95
USA and Canada	286.9	436.0	468.8	840.7	1,349.8	6.70	4.85
Japan	95.7	350.0	59.2	1,518.1	2,586.1	11.96	5.47
Australia & New Zealand	122.9	324.6	519.9	1,153.4	1,945.4	9.26	5.37
EC countries	349.2	539.4	718.3	1,420.7	2,376.4	7.87	5.28
ASEAN countries	225.4	417.6	688.9	1,758.6	3,661.9	10.97	7.61
Others	284.1	591.0	771.8	1,542.9	3,034.0	8.00	7.00
Total	1,364.2	2,658.6	3,716.9	8,234.3	14,954.5	9.24	6.15

Notes: (1) The projection value of USA, Canada, Japan, Australia is calculated by assuming the share of tourists to the ASEAN region in the whole tourists generated from each of the above mentioned country (refer subtable-3).

(2) The number of tourist arrivals from EC and ASEAN countries is projected directly by using projection equation. Here, GNP of each region is used as explanatory variables. The projection equation is given below.

EC countries: $y = 2.059 \times GNPr\ (EC) - 986.7$ (for sample of 1970-76)

ASEAN countries: $y = 26.30 \times GDPr\ (ASEAN) - 411.3$ (for sample of 1970-76)

here, y: the number of foreign tourist arrivals to ASEAN countries from each of the above mentioned region (Unit of y; thousand persons), GNPr and GDPr are the real price of GNP and GDP of 1970. (Unit: in US$ billion)

The Ratio of Tourist Arrivals to ASEAN Region Against Following Three Regions (Subtable-1)

	1970	1973	1976	1985	1995
USA & Canada	4.13	4.75	4.79	4.9	5.0
Japan	15.73	15.29	19.25	19.0	18.0
Australia & New Zealand	36.03	64.79	55.66	55.0	55.0

Note: In case of New Zealand and Australia, only tourist arrivals from Australia is taken as parameter, because accurate number of tourist arrivals from New Zealand was not available.

Estimation of Economic Growth Rate of Major Tourist Generating Regions (Subtable-2)

(Average annual growth rate (%))

	1960-65	1976-70	1970-76	1976-85	1985-95
USA and Canada	4.7	3.2	2.9	4.0	3.4
EC countries	5.1	4.8	2.8	4.0	3.4
Australia & New Zealand	5.0	4.6	3.3	4.1	3.5
Japan	10.0	11.6	5.5	5.3	3.9
ASEAN countries	–	6.9	7.0	8.0	6.5

Notes: (1) Actual value of the past is prepared from International Financial Statistics, IMF, and Yearbook of National Accounts Statistics, UN.

(2) The growth rate of each region is calculated by converting GNP real value of 1970 to dollar exchange rate of 1975. In case of EC, some of the ASEAN countries, GDP has been used instead of GNP.

(3) Future economic growth rate is estimated by considering various materials. Growth rate of world economy is estimated to be 4 percent in 1975-85, and 3.5 percent in 1985-95.

Projection of Tourists Generated from Three Region (Subtable-3)

								Average annual growth rate (%)	
	1960	1965	1970	1973	1976	1985	1995	1976-85	1985-95
USA & Canada	2,097	3,485	6,954	9,172	9,787	17,157	26,996	6.4	4.5
Japan	76	155	608	2,289	2,853	7,990	14,367	12.1	6.0
Australia	–	–	267	501	934	2,097	3,537	9.4	5.4

Note: The deduction process of equation for projection of tourists generated from each region is given below.

y: number of tourists (thousand persons)

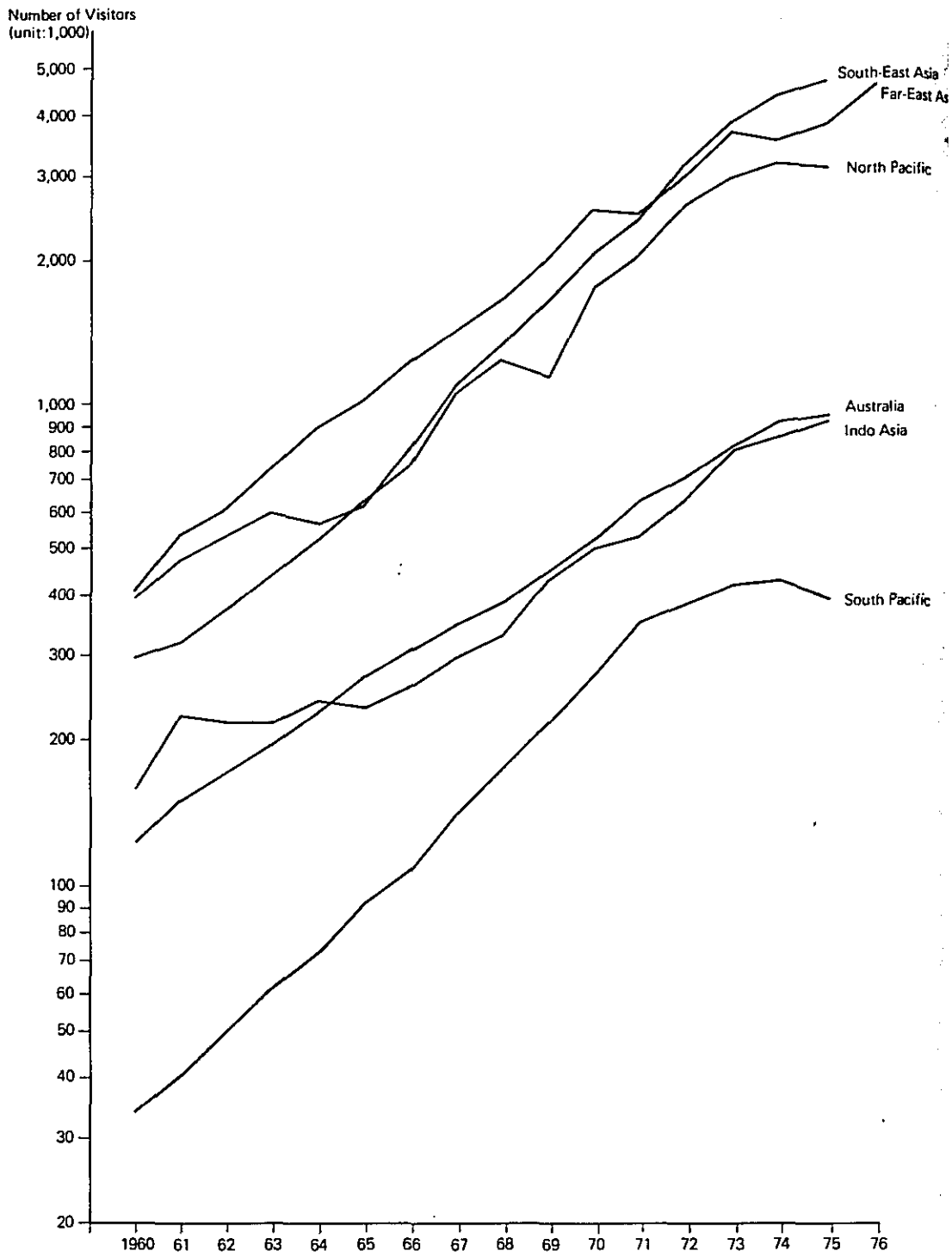
GNPr: GNP real value based on 1970 price (in US$ billion)

USA and Canada: $y = 13.74 \times GNPr - 7,623.3$
$R^2 = 0.98$

Japan: $y = 25.79 \times GNPr - 5,692.7$
$R^2 = 0.983$

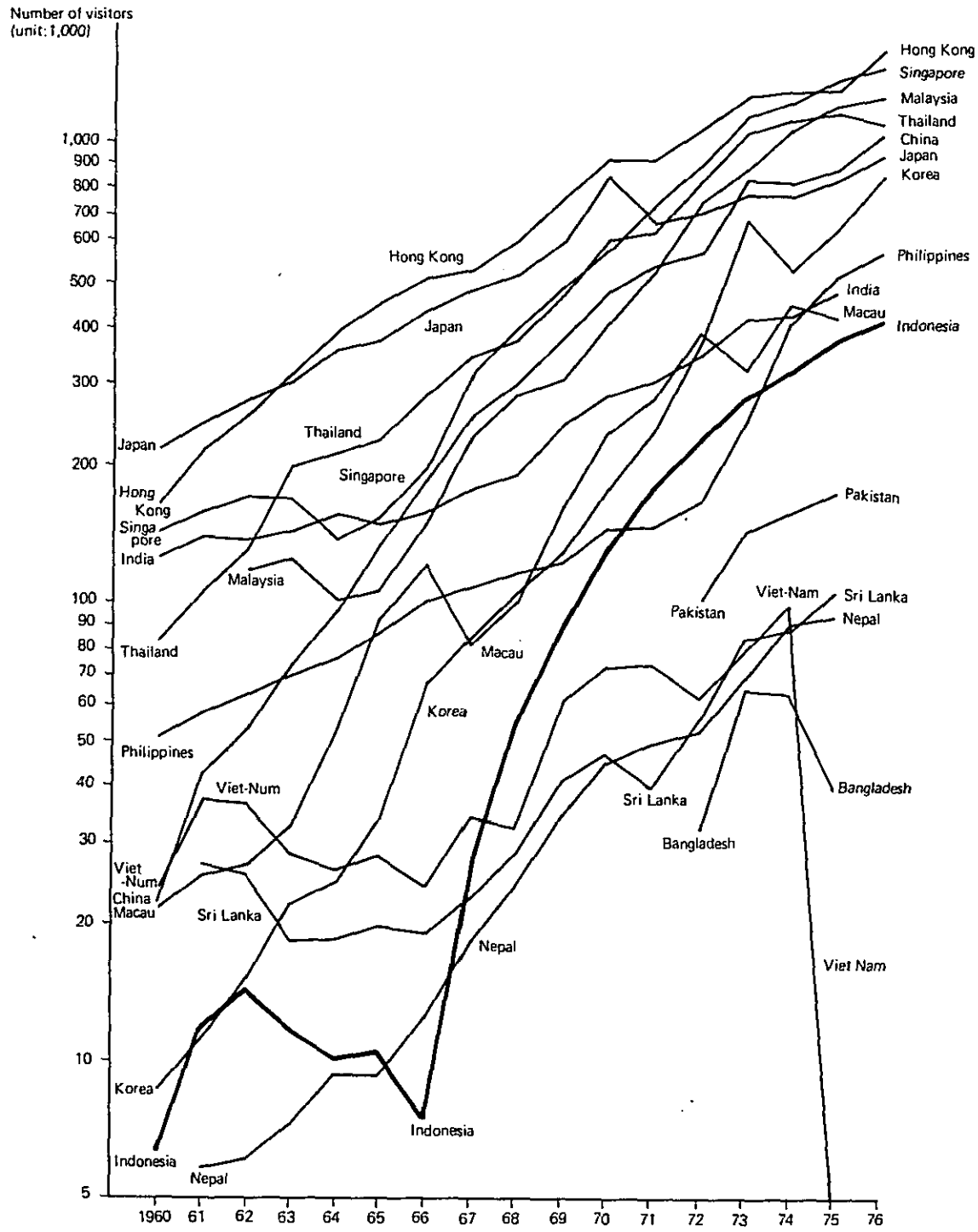
Australia: $y = 0.533 \times y_{-1} + 45.91 \times GNPr - 1353.0$

Visitor Arrivals to Asia and Pacific Countries by Region (Figure-1)

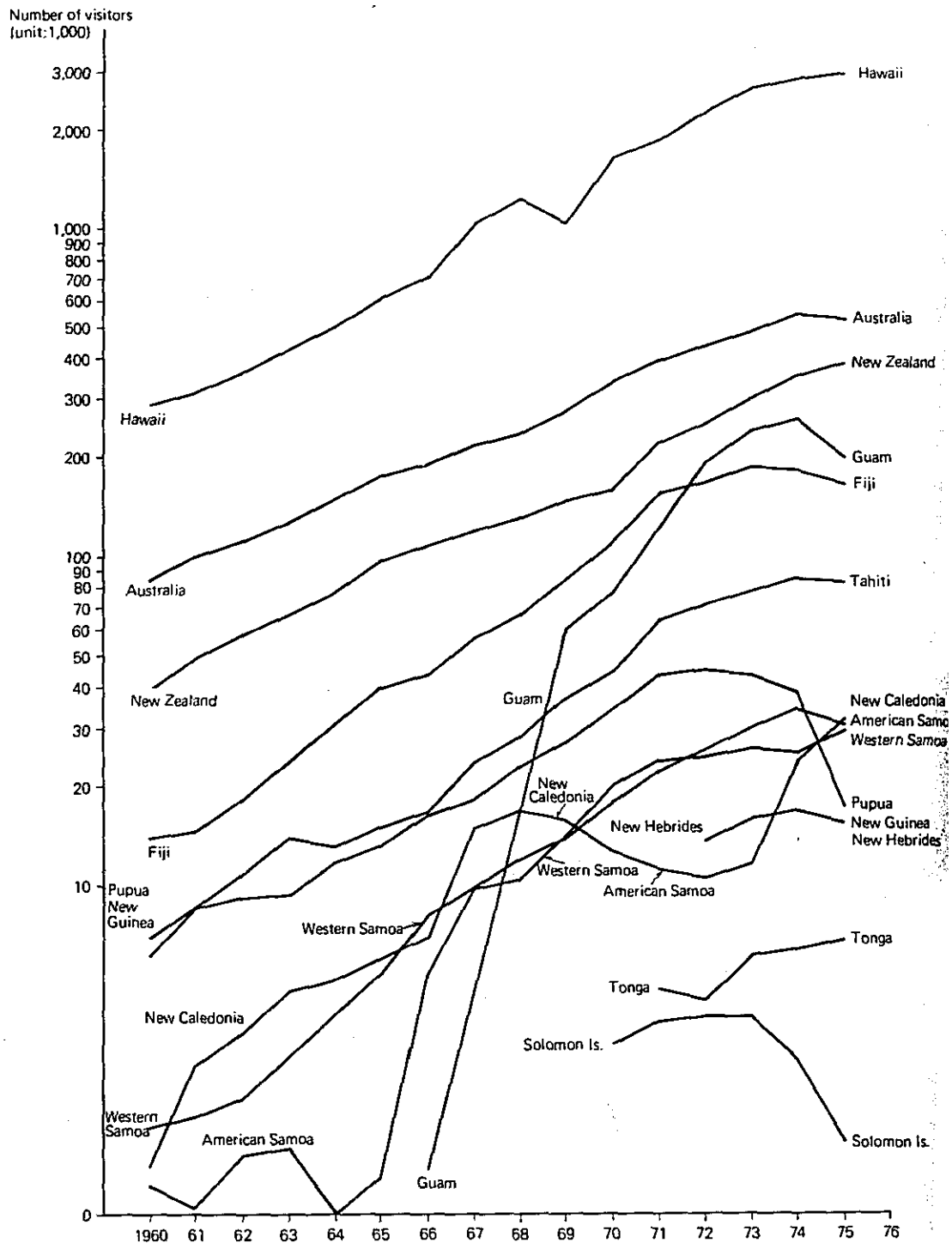


Source: Visitor arrivals to Asia and Pacific countries, NRI

Visitor Arrivals to Asia and Pacific Countries:
Far-East, South-East and Indo-Asian Regions (Figure-2)



Visitor Arrivals to Asia and Pacific Countries: Australia and Pacific Regions (Figure-3)



2. Trend in International Tourism in Indonesia

Growth Pattern of International Tourism Influx

Number of foreign tourist arrivals to Indonesia in the past is shown in Figure 4. The number of foreign tourist arrivals was 6,300 in 1960, and 400,000 in 1976, which increased by 63.7 times in 16 years, the average annual growth rate was about 30 percent. It is to be noticed that the growth rate was not uniform in 16 years period. The growth pattern of international tourist influx to Indonesia may be divided into following three periods:

(1) Dawn Period (1960-66)

Number of tourist arrivals fluctuate below and above 10,000 persons. By no means all foreign tourists are vacationers. Almost all tourists are persons of diplomatic or official purposes, jounalists and business men. In this period large scale infrastructural development works was carried out. Major hotels were built or planned in this period. At the end of this period, number of foreign tourist arrivals decreased due to the internal political situation.

(2) Rapid Growth Period (1967-71)

After the political disorder was ceased with the formation of the present Government, doors for international tourist markets was opened and consequently number of foreign tourist arrivals increased rapidly. Average annual growth of tourist arrivals in this period was 60 percent. In this period the real demands, which were suppressed during the dawn period because of various obstacles was realized, and thus, a rapid growth of tourist arrivals was attained until they reached its potential growth.

(3) Moderate Growth Period (after 1972)

In this period, although there were disparities from year to year, growth rate of foreign tourist arrivals to Indonesia is proportional to that to the other ASEAN countries. Among the total number of tourist arrivals to the ASEAN countries percentage of tourist arrivals to Indonesia shared 10 to 11 percent.

Analysing this period in more detail, it can be divided into two parts, with 1974 as the dividing year, when PATA conference was convened; (1) In the first period, although there was rapid growth of demand of international tourists, the supply side could not manage to supply enough facilities, therefore the number of foreign tourist arrivals to Indonesia did not expand when compared to the expansion of tourist arrivals to her neighboring countries. (2) In the second period, taking the opportunity of PATA conference, Governments' policy for basic tourism industry was formed, and construction of most of the tourism facilities were also completed. In this period, number of international tourist arrivals throughout the world decreased, so the growth of number of tourist arrivals to Indonesia was not so high, however the growth was stable in comparison to the other ASEAN countries. (refer to Figure 5)

The growth of international tourist market of Indonesia in future also will be strongly affected by the changes of the markets of ASEAN countries and that of the Asian and the Pacific region. And tourist destinations within Indonesia itself will be much affected by the development and growth of new tourist destinations in neighboring countries. It appears that this relationship with these countries will be further strengthened in future.

Sources of Foreign Tourists

Estimation of country-wide foreign tourist arrivals to Indonesia is shwon in Figures 6 and 7. The changes of foreign tourist markets are summarized as follows.

- America occupies maximum market share, but now it is gradually decreasing. Its growth rate is generally the same as the USA's growth rate in similar market in Southeast Asia.
- The expansion of Japanese and Australian markets is gradually approaching to the level of American markets and may become major future markets for Indonesia.
- Markets of EC countries especially those of Germany, France, Italy and Belgium are expanding, but those of England and Netherlands remained at the same level. All of these countries have equal share.
- The rate increase of tourists from ASEAN countries was 14 percent a year in 1972 to 1976. Singapore and Malaysia occupied almost the complete portion of ASEAN arrivals to Indonesia. Because Singaporeans travelling abroad increased 17.5 percent a year for the same period, Indonesian attraction toward the Singaporean market was said to be comparatively outstanding. Nevertheless, Singaporean tourists share in Indonesia decreased in 1976, indicating the need for more effort to be made in marketing henceforth. While the increase of Malaysian tourists in Indonesia grew by 7.6 percent, it was comparatively lower than the 10.9 percent rate of increase of Malaysians travelling abroad in the same period. Because the number of Malaysian tourists to Indonesia in 1976 decreased compared to previous years, there needs to be made greater effort in marketing, just as in the case of increasing attraction to Singaporean market.

Purpose of Foreign Tourists

ED cards in which purpose of tour is written, are available only at Jakarta airport. According to the ED cards filled by foreign tourists, as shown in Table-8, 52.4 percent of the tourists in 1975 were for vacation and business/vacation purpose. In Denpasar almost all the tourists were for vacation purpose in 1976, according to Table-9, 63.5 percent of tourists entered with tourist visa not all but most of the tourists entering with tourist visa were pure holiday tourists. From these view points, it is estimated that more than 60 percent of the tourist arrivals to Indonesia are pure holiday tourists.

Until now, Bali is the most attractive destination for tourists, and occupies about 45 percent of direct inbound tourist. 65 percent of the holiday tourist to Jakarta visit Bali. Combining these two, in total about 70 percent of the holiday tourists visit Bali. But only 9 percent (1/8 of Bali) of the tourists to Indonesia visit North and West Sumatra.

Percentage Share of Tourist Arrivals to Jakarta by Purpose of Visit (Table-8)

Purpose of visit	1974	1975
Vacation	41.60%	47.20%
Business and vacation	4.04	5.20
Business	28.08	29.10
Convention	1.65	2.00
Study	1.34	0.80
Official	–	3.40
Others	23.29	12.30

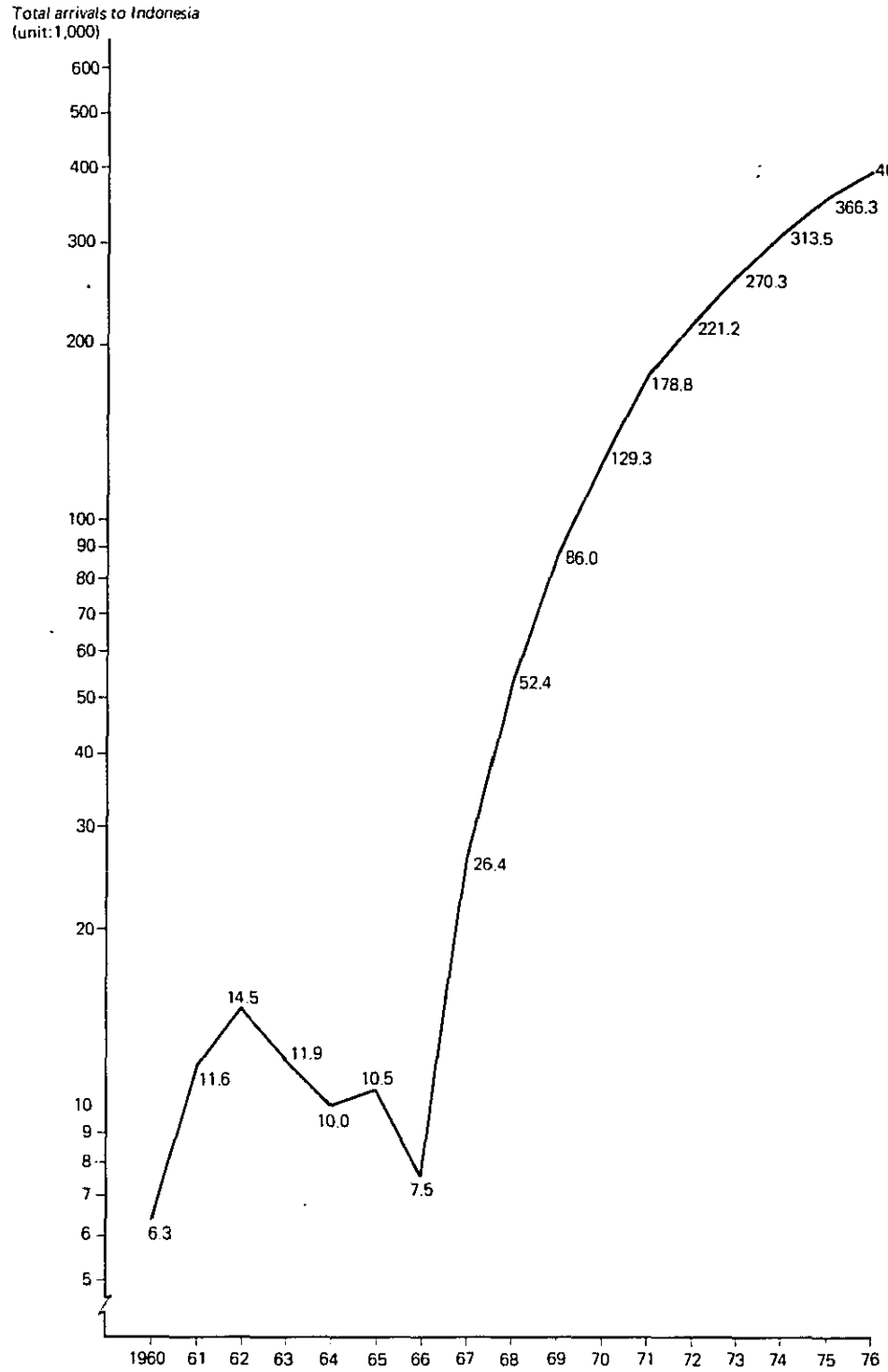
Source: DGT, Indonesia Tourist Statistics.

Percentage Share of Visitor Arrivals by Status of Visa (Table-9)

Type of visa	Percentage
Tourist visa	63.5
Business visa	31.8
Visa for temporary visit	36.5
Transit visa	10.4

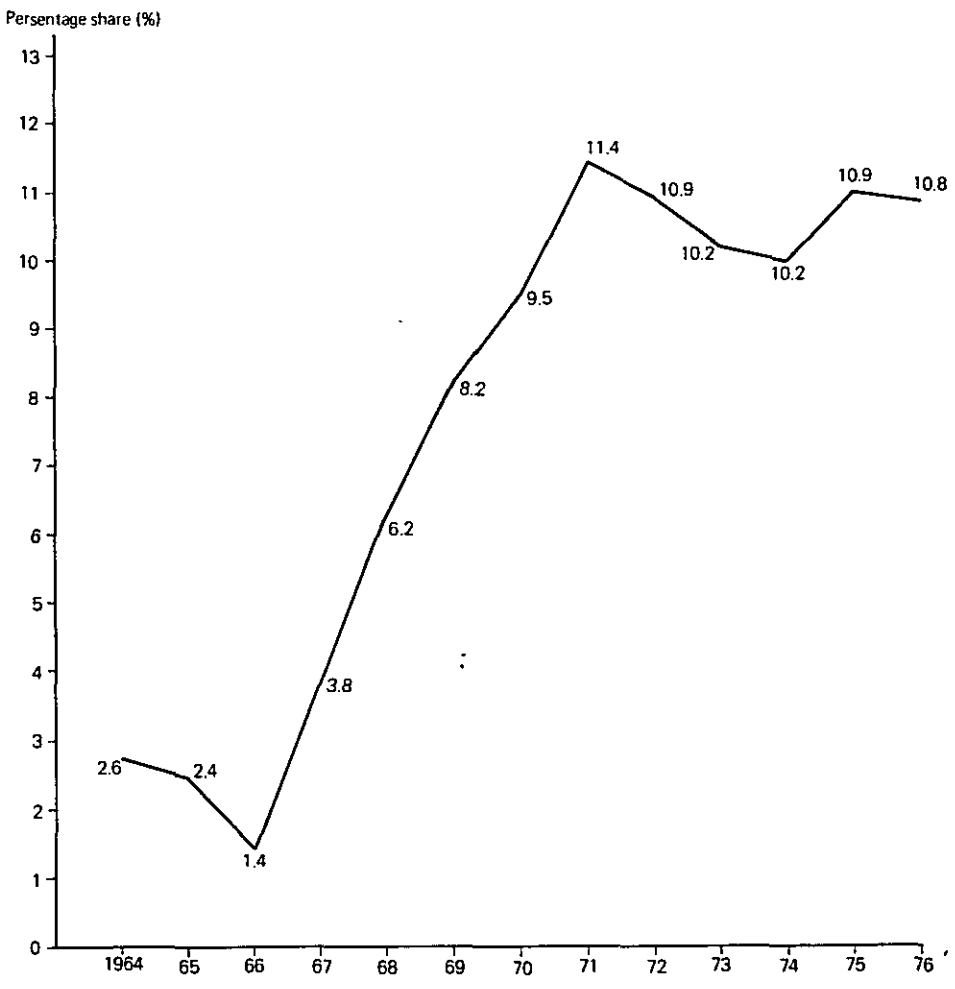
Source: DGT, Indonesia Tourist Statistics, 1976.

Changes in Foreign Tourist Arrivals to Indonesia (Figure-4)

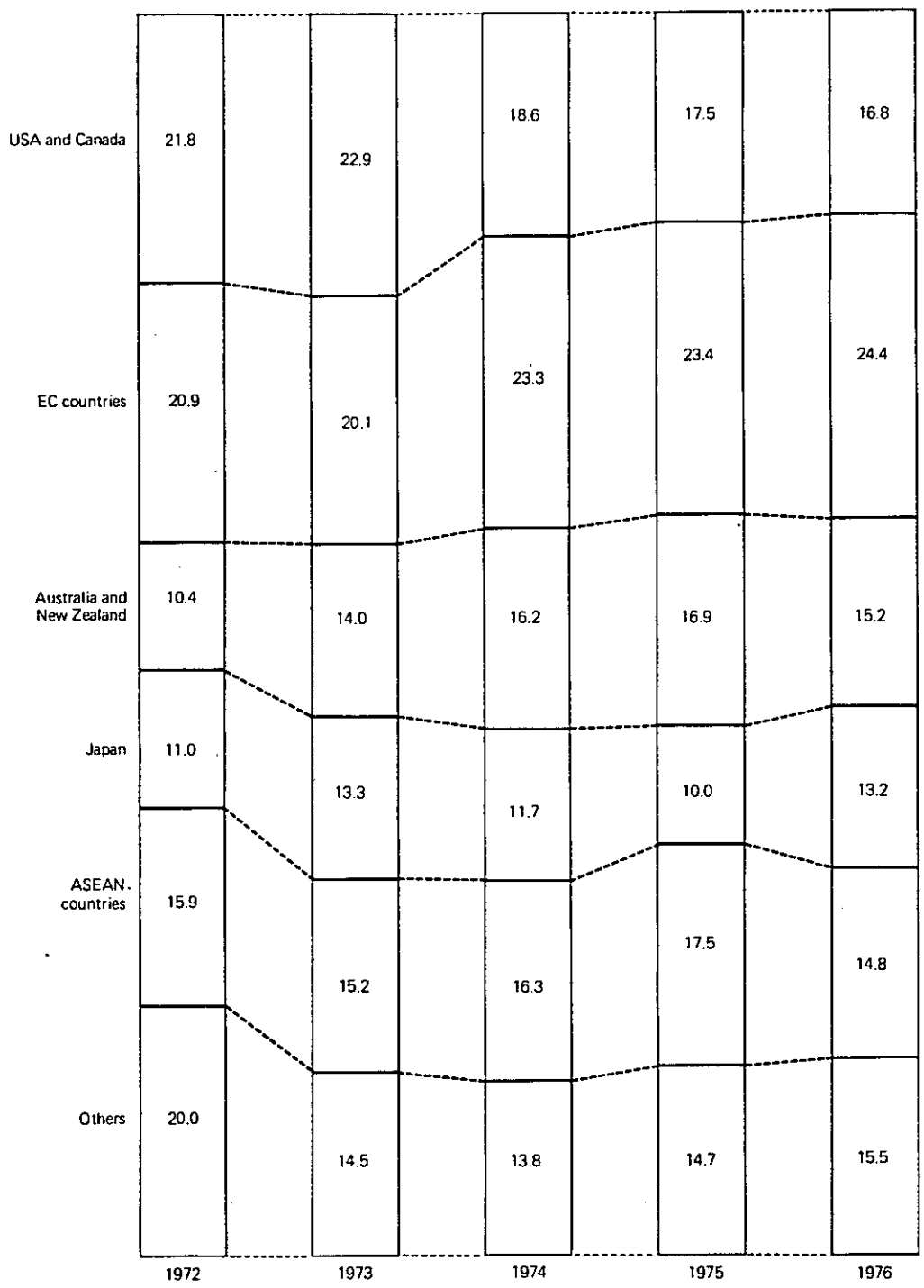


Note: The date of Indonesia's foreign arrivals for 1960 to 1965 comes from DGT material

Indonesia's Share of Foreign Tourist Arrivals as to ASEAN Countries (Figure-5)

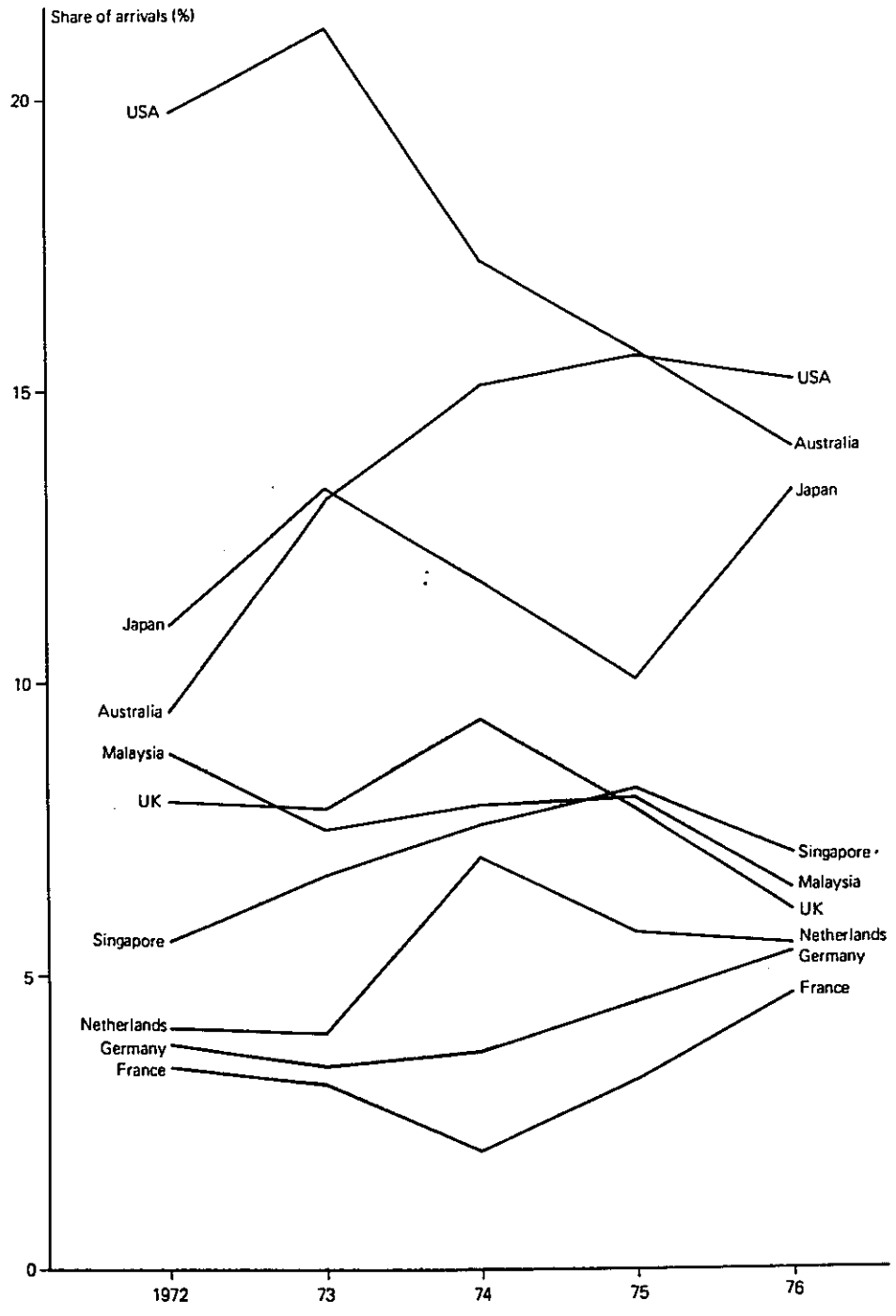


Percentage Distribution of Foreign Tourist Arrivals to Indonesia by Major Category of Citizenships (Figure-6)



Source: Indonesia Tourist Statistics, 1976 by DGT

Change in Share of Foreign Tourist Arrivals to Indonesia by Major Market Countries
(Figure-7)



3. Past Trend of Foreign Tourist Market of North and West Sumatra

Number of Foreign Tourist Arrivals

The number of foreign tourist arrivals to North and West Sumatra provinces from 1970 to 1976 is shown in Figure 8. Average annual growth rate during this period was 22.1 percent which exceed the overall expansion of Indonesia about 20.8 percent. Since 2975, due to the stagnation of world travel demand, the growth rate is declining.

Number of foreign tourist arrivals to North and West Sumatra provinces were estimated to be 54,600 in 1976, out of which 46,400 persons were to North Sumatra and 9,300 persons to West Sumatra, and within this number 1,160 persons enter to both the provinces. It is clear that, the number of foreign tourist arrivals to North Sumatra is about 5 times that of West Sumatra. One of the main purposes of this master plan is to reduce this gap.

Routes of Arrivals of Foreign Tourists

Direct inbound and indirect inbound of the foreign tourist arrivals to both the provinces is shown in Tables 10 and 12 respectively.

In North Sumatra, direct inbound occupy 77 percent of the total arrivals, most of the tourists enter by international air route which is connected to Polonia airport in Medan, and few of them enter by sea route, the ratio of air route to sea route is 95.5 Most of the indirect inbound tourists, about 70 percent, enter by air route from Jakarta. (See Table-11)

Tabing airport in Padang of West Sumatra is not an international airport and international passenger ship does not enter Teluk Bayur harbor. Direct inbound tourists, about 1,200 persons in 1976, to West Sumatra consist of tourists who come from Singapore via Pakanbaru or crews who come from cargo ships. About 76 percent of indirect inbound tourists, enter from Jakarta, (See Table 13). As mentioned above, most of the tourists to the provinces enter by air route.

Market Source of Foreign Tourists

Numbers of foreign tourist arrivals to both North and West Sumatra provinces by major category of nationality are shown in Figure 9.

The first noteworthy characteristics is that, among all foreign tourists arriving to the said provinces, tourists from ASEAN countries are especially numerous, consisting 36 percent of the total. Nearly all tourists from ASEAN countries arriving in the designated two provinces are Malaysians and Singaporeans. The former constitutes 23.3 percent of all arrivals and the latter 11.6 percent of the same. This big share is mostly owed to their geographical condition, especially that international air routes lead into North Sumatra's Medan from these two countries. Moreover, viewing some situation from the historical and cultural background, great reliance is placed on the extremely close connection between these two countries and the designated provinces.

Second characteristic is that, tourists from EC countries also occupy large share. But share of other advanced countries e. g. America, Australia and Japan is very low. Among the EC countries, large number of tourists come from Netherlands. Tourists from England, France and Germany also bear great weight.

The above-mentioned points are the characteristics which are common to both provinces. Analysing the tourist arrival to North and West Sumatra separately, share of tourists from Singapore and Malaysia to West Sumatra is lower and the share is higher from the EC countries, when compared to that of North Sumatra. There are several reasons for this such as: similarity of tourism resources, difference of popularity, difference of tourism facilities and availability of international air route etc. All these factors are considered as the basic conditions of this master plan.

Number of Foreign Tourists Entering North Sumatra (Table-10)

	1970	1971	1972	1973	1974	1975	1976
Direct inbound tourists	11,500	14,500	17,300	24,000	29,800	32,900	35,700
Percentage share	76	76	76	76	77	77	77
Indirect inbound tourists	3,500	4,700	5,700	7,400	8,800	10,000	10,700
Percentage share	23	25	25	24	23	23	23
Total tourists	15,100	19,200	22,900	31,400	38,700	42,900	46,400

International Passenger Arrivals to North Sumatra by Air and Sea (Table-11)

	No. of passengers	Percentage
By air	56,200	95
By sea	3,200	5
Total	59,400	100

Notes: Number of air passengers is calculated for international flights landing at Polomia Airport in Medan.

The number of international visitors entering by sea is calculated by combining the number of overland passengers of cruise vessels dropping into Belawan and ferry passengers travelling between Penang and Belawan.

Number of Foreign Tourists Entering West Sumatra (Table-12)

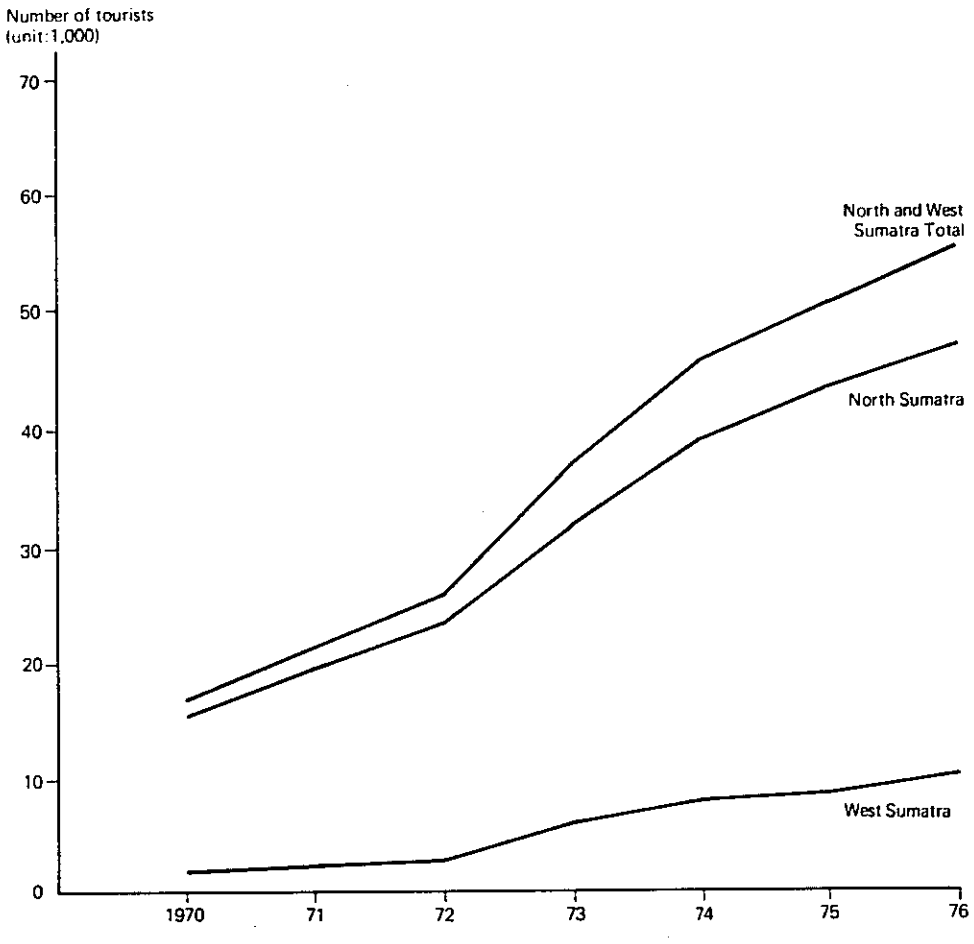
	1970	1971	1972	1973	1974	1975	1976
Direct inbound tourists	200	300	500	600	600	1,100	1,200
Percentage share	13	15	19	11	8	14	13
Indirect inbound tourists	1,400	1,700	2,100	5,100	6,800	6,900	8,100
Percentage share	87	85	81	89	92	86	87
Total tourists	1,600	2,000	2,600	5,700	7,400	8,000	9,300

Origin and Destination of Group Tourists in West Sumatra (Table-13)

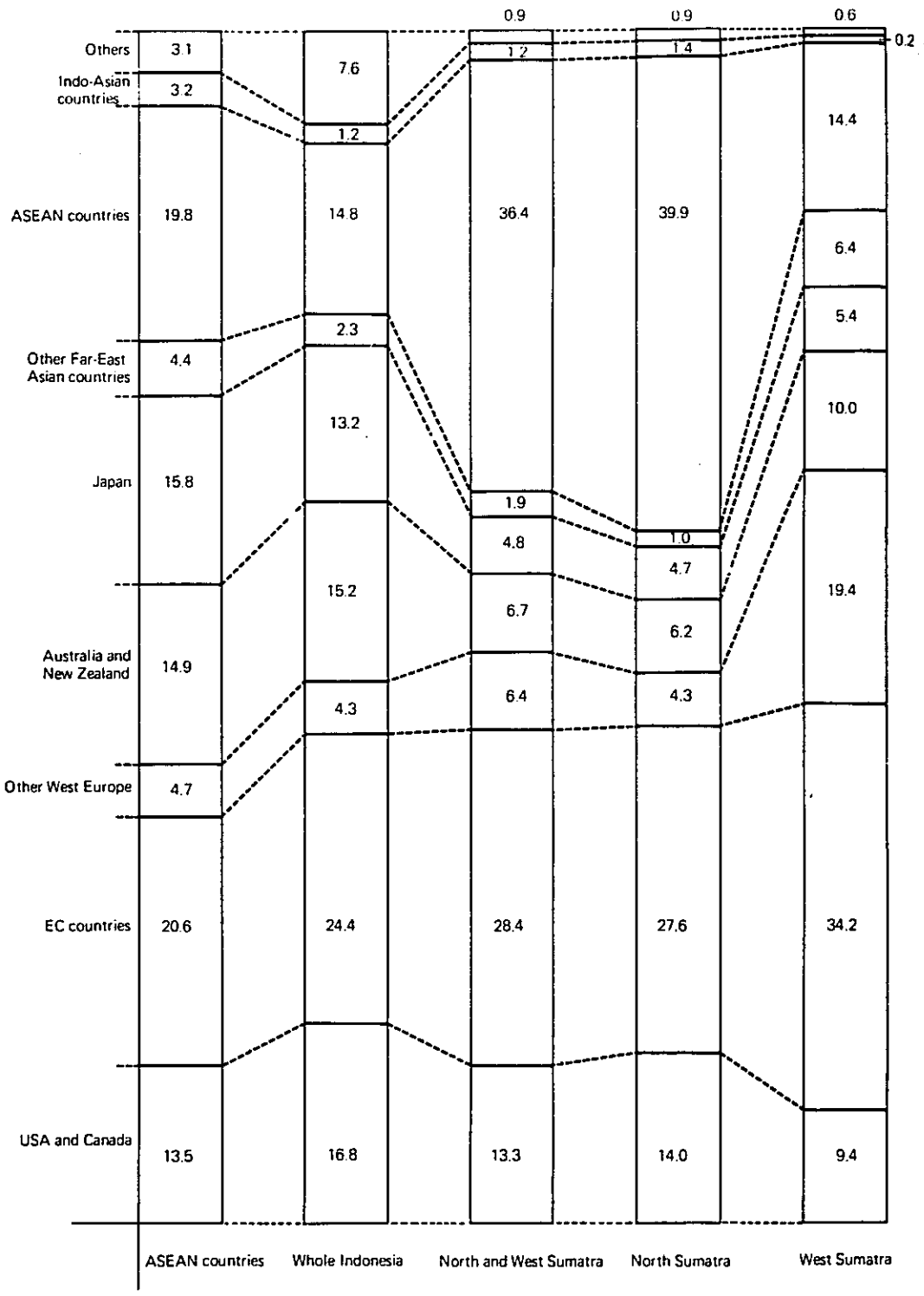
	Origin		Next destination	
	No. of tourists	Percentage	No. of tourists	Percentage
Jakarta	885	68	925	71
Medan and Sibolga	153	12	136	10
Singapore	226	17	174	13
Pakan Baru	16	1	0	0
Palembang	20	2	42	3
Others	0	0	23	2
Total	1,300	100	1,300	100

Source: BAPPARDA, West Sumatra, Pariwisata Dalam Angka 1976/1977.

Foreign Tourist Arrivals to North and West Sumatra (Figure-8)



Comparison in Share of Foreign Tourist Arrivals by Major Category of Citizenships, 1976
(Figure- 9)



Note: "Others" includes stateless persons and "not reported"

4 Future Projection of Foreign Tourist Market of North and West Sumatra

Main Premises and Conditions of Projection

The previous section discussed the past number of foreign tourist arrivals to North and West Sumatra which is the estimate composed by the various materials and information obtained from the local government. To predict the number of foreign tourists, the following four restrictions on the fundamental historical data are remarked:

- Data that can be used effectively on the number of foreign tourist arrivals is limited to the six-year period of 1970 to 1976.
- While the number of direct inbounds is actual based on the immigration data, the number of indirect inbound depend on estimation. The total number of arrivals determined in this way, thus, decreases the refined accuracy of calculation.
- Because almost all foreign visitors to West Sumatra are indirect inbounds, it seems especially necessary to recognize that, due to the use of round-off numbers, the refined accuracy of calculation is much less than that of North Sumatra.
- Characteristics of foreign tourists are defined only in purpose of visit and citizenship.

Under the above restrictions, the time series data of tourist arrivals which covers only six years is too short to apply the regression analysis sufficiently. Moreover, the world travel demand changed significantly and structually in the midst of the recessionary situation of the world economy, beginning from the oil crisis in October 1973. Even at the present time it cannot be said that this demand has shifted to a new state of stability from the very fluid situation. Thus, it is not desirable at the present time to rely future projection upon only extraporation which relies on the time trend of past sequence.

Because of above reasons and restrictions, the following prediction of foreign tourist arrivals will be deduced, not only by using the regression method, but also by comparing as much as possible the information compiled from tourist arrivals data of Sumatra with the information obtained from those of ASEAN countries and whole of Indonesia. The prediction then is made by projecting in the future a relationship discovered here, based on some comparatively bold assumptions. Among the assumptions about the future, there are two important points to be remembered, i. e., the change of potentiality in the designated study area depend on the development and improvement and the tourist demand environment encompassing Sumatra. Analysis covers the 19 years period, from 1976 as the year of origin in which the latest data are available, to 1995 as the target year of the master plan. During such a long-term period, some tremendous changes should be assumed in terms of the tourism potentiality of these areas as well as the environment of international travel demand encompassing Sumatra. Taking as a perspective of the environment of international travel demand encompassing this area, and from the standpoint of planning, as uncertain elements multiply in the future, a basis should be established for observing more conservatively.

Moreover, the possibility is that development based on this master plan will increase the potentiality of the study area is the premise, which states that development will occur such that the future of this study area presently can match and international tourist destinations pretty famous in Southeast Asia.

Deducing from this assumption, it is needed to pay attention especially to the following two points. First, growth of destination has strong influence on the macro-environment of travel demand. Secondly, accompanying growth in the same way, stipulations in competition with other destinations are strong and the fact that the resulting growth of potentiality is contained.

Future Projection of Foreign Tourist Arrivals under the Condition without Comprehensive Tourism Development

As seen in the preceding section the growth pattern of tourists entering a country or area is subject to the growth curves. Likewise, the case of foreign tourist arrivals to North and West Sumatra may be applied to a growth curve. However, the time axis of the growth curve should be investigated. Usually, the time variable of growth curves used is the integer measure with an equivalent increment such as year. Nevertheless, measure like this is effective under condition such as when changes in environment lending to growth proceed unidirectionally and stably.

As seen in the same section, accompanying the recession of the world economy, the increase rate of international travel demand was dulled after 1974. Foreign tourists to the designated area at least likewise are affected by this recession. There is no prospect for expansion of tourist demand as in the past. This shows that the change in the demand environment of tourist market for Sumatra is not so stable.

Foreign tourist arrivals to North Sumatra have been greatly affected by the situation of international tourist arrivals to ASEAN countries. In case of West Sumatra, it is necessary to pay much attention to linkage with North Sumatra in order to increase foreign tourist arrivals. Thus, relationship with the future situation of international tourist arrivals to the ASEAN countries will be more or less decisive factor in projection of future foreign tourist arrivals to Sumatra.

Deducing from the above reasons, the measure expressing change in the environment of tourist market for Sumatra uses the indexation of the number of international tourist arrivals to the ASEAN region. On this basis, first trial of projection was worked out by approximating the Gompertz curve as follows:

$$(\log_{10} Y) - 1.550 = 1.030 \times 10^{-102.6141 - 1.5271 \cdot (\log T)}$$

$$R^2 = 0.996$$

Here, let

Y: the index number of foreign tourist arrivals to North and West Sumatra (1975 = 100.0)

T: the index number of international tourist arrivals to the ASEAN region (1975 = 100.0)

The upper limit K of the Gompertz curve, where $Y = K - \exp\{-\exp(\alpha - \beta t)\}$, is set as the coefficient of determination takes maximum point.

As shown in the preceding section, international tourist arrivals in ASEAN countries are projected to be grown at the annual rate of 9 percent until 1985 and of 6 percent until 1955. When these are given as the exogeneous value of the above equation, the net tourist arrivals to the designated area are estimated to be 120,000 persons in 1985 and 156,000per persons in 1995.

What should be noted here, are the above forecasts were made under an assumption that grade-up of the hardly shift with tourist resources will be only with the speed of change when the tourist resources in the area have altered in the previous six years. In reality, however, if comprehensive tourism development is continuously implemented and the infrastructure and superstructure are advanced by this, it is clear that the potential force attracting foreign tourists to this area is augmented beyond previous increase. In other words, the predicated number of tourists based on the above mentioned simple trends need to be recognized as overlooking the supply side — the addition of tourism potential based on the comprehensive tourism development.

Thus, the result of the above first projection may be considered as a lower case of future demand scale.

Future Projection of Foreign Tourist Arrivals under the Condition with the Comprehensive Tourism Development

(1) Method of Projection

Methodology to ascertain the estimation of future increment of foreign tourist influx relying on an increase of tourism potential by a comprehensive tourism development has not yet developed completely. Generally, the following process are to be taken:

- Process 1: The estimation of foreign tourist arrivals is made by various tourist surveys or from comparative survey of destination.
- Process 2: The increment of tourism potential by tourism development is valued by main factors of the development and its possibility is studied. This is the study to know how much the conditions of supply side can be restrictions against the result of process 1, which is estimated by considering the factors of demand side.
- Process 3: Economic analysis of the result of process 2 is made to know whether it is economically feasible or not.

In most of the cases Process 1 is studied according to the following methods:

- Method 1: Questionnaire surveys for persons with latent travel needs are often used to investigate the various hidden causes influencing them.
- Method 2: From the above questionnaire survey, tourist arrivals is estimated in case when there will be development in future, considering the factors of attractiveness and obstacles of travel.
- Method 3: It is useful to compare the tourist arrivals of the destination with those of other destinations under the same conditions (in this case, destinations in the ASEAN countries)
- Method 4: The growth of average tourist arrivals to travelling areas (in this case, ASEAN region) is taken as the yardsticks of the future growth.

(2) Projection in Higher Case

The current projection of future demand scale analysing from the demand side had to worked mainly by the third and fourth methods, due to the insufficient availability of data. This study primarily compared the designated. In addition, even though it is limited because the data period is short, analysis was undertaken on tourist arrivals to the designated area by purpose of visit and citizenship through means of the second method. Because this work is still at an intermediate stage, the detailed contents can not be described. Nevertheless, the following rough conclusions can be offered among the results of the anaysis of demand side.

When it is tried to divide the foreign tourist arrivals to the designated area into holiday tourists and other turists, the former in the past have a high rate of increase. If the development on a relative scale is undertaken in the designated area, hereafter, it is hoped that the arrivals of holiday tourists can have an annual growth rate of 14 to 15 percent in this intermediary period. Although it is difficult to forecast the rate of increase during the later half of the planning period, it is expected that the growth of holiday tourists will be above the 7 percent level, if the tourism industry in the designated area reaches a certain level before the middle of the planning period and if a self-growing mechanism is assured in it during this period. Projecting the increase of other tourists to be 6 to 7 percent in the first half of the planning period and 4 to 5 percent in the latter half, total foreign tourist arrivals to the designated area in the target year should be on the scale of 230,000 to 250,000 persons.

As analysed in Chapter 2, tourist arrivals both from ASEAN countries and from European countries are numerous comparative to the surrounding destinations. Through the development of tourism hereafter, if there are added factors suiting the tastes of American, Japanese and Australian tourists who are characterized by the massive group travel and who are individually the large markets, a large growth can be expected. The total foreign tourist arrivals for the target year can be projected to be of the scale of 230,000 to 250,000 persons, assuming that the tourists from Europe and ASEAN countries will grow steadily as in their past trends and the tourists from the markets of the above-mentioned three countries will increase to have a considerable share to the total.

The future number of foreign tourist arrivals to Panang, where was many international visitors compared to neighboring areas, can be projected to exceed 300,000 persons in 1995. In the past, direct-inbound tourists to Penang and Medan show a similar pattern of growth. If the tourism resources and infrastructure in the designated areas can be developed, it seems possible that the tourist absorbing force of the designated areas can follow that of Penang, supposing the present difference of tourist arrivals between these two destinations will remain in the future. From this perspective it is estimated that for the target year of 1995 the foreign tourist arrivals to the designated area will be 230,000 to 240,000 persons.

The Sabah and Sarawak states of Malaysia are proximate destinations having characteristics closely resembling those in the designated area. Under present conditions the North Sumatra province is to be in a preferential situation to these two destinations, which number of tourist arrivals exceeds the two destinations. Nevertheless, tourists to West Sumatra are less than half of the number of tourists to each destination of Sabah and Sarawak. Henceforth, it is debatable whether the number of foreign tourists to West Sumatra can be raised to that level of the two Malaysian destinations. If this can be done, it will be possible that the foreign tourist arrivals in the designated area will reach over 200,000 persons in the target year.

Summarizing the result of the above analysis of the conditions of demand side, it may be appropriate to estimate that the maximum potential increase of future demand will be of 50 percent above the lower level when the comprehensive development did not exist.

(3) Projection in Middle Case (Moderate Case)

When considering the conditions of supply side, additional 50 percent up of demand potential is seems to be optimistic, because this will be the maximum value to be attained according to the complete development plan.

The effects of the large scale development to the demand generation will mainly include two factors: reduction of travelling costs and increase of attractiveness. Reduction of travelling costs will be mainly accrued from the reduction of hotel tariff due to the establishment of large hotels with scale merit and the reduction of transportation cost due to the favourable change in air policy and the improvement of transportation capacity.

As the subject areas are located on the side trip route from the nodal points of main circle tour such as Singapore, Penang and Jakarta, the travelling costs in the subject area basically depend on the prices of package tours prepared by travel agents in those cities. Thus, the problem is how much the package tour costs can be reduced by the change of air policy to be taken according to the development plan. Here, cost reduction means reduction of the relative costs of travelling proportional to the package tour costs to other ASEAN countries. Assuming that the relative costs of travelling in the subject area will be deducted about 8 percent and that the demand elasticity to such reduction of relative costs will be around 1.2, the effect of cost reduction to the demand will be estimated less than 10 percent.

Increase of attractiveness which will induce the additional demand can hardly be estimated, but it is assumed that about 20 percent demand increase will be expected owing to the grade-up of tourist attractions.

Considering the analysis of the conditions of supply side as mentioned above, it is reasonable to estimate the additional increase of demand to be 30 percent above the lower case when the comprehensive development did not exist.

(4) Target Demand Scale

In Table-14, the summary of the estimated figures of foreign tourist arrivals to the study area are shown in three different cases; i. e. lower case, middle case and higher case.

Depending on the condition and magnitude of the completeness of the development, the demand scale can be assumed to be lower value as in the lower case, or, on the contrary to be higher value as in the higher case. However, deducting from the planning conditions in the current master plan, it is considered that the demand scale in the middle case is reasonable and moderate value.

The growth rate of tourist arrivals to the designated area will reach its maximum potential during the period of 1985-90 and will be greatly blunted. Thus, the development in the former half of the planning period must be planned to raise the tourism potential in order to make the tourist arrivals grow stably and continuously for the latter half of the planning period. Moreover, the effect of this kind of development which aims to raise up the potential by improvement of the infrastracture, will continue to be relatively moderate and in long-term.

Furthermore, in deciding the target of demand scale in future more fundamental principles and policies become important factors. The following four points ought to be considered as important items in determining the tourist arrivals target.

- The master plan makes the time prior to 1980 the preparation period in which the appropriate demand should be induced to respond to its potential.
- In the subsequent development period, it is necessary to adopt a policy both that positively promotes development connected to the increase of potential and that maintains necessary growth for this development.
- A stable period of growth should be settled following the developmental period.
- Considering this development from the perspective of harmonization with other sectors and the status of resources (land, labor, capital, tourist resources etc.) in the tourist sector, the speed at which development is fostered should be moderate, quiet and steady.

When considering the above stipulations, we set the target number of foreign tourist arrivals to North and West Sumatra to be around 120,000 persons in 1985 and around 200,000 persons in 1995. The estimated number of future foreign tourist arrivals used in this planning is shown in Table-15 and Figure-10.

Estimation of Planned Value of Foreign Tourist Arrivals (Table-14)

	1970	1976	1980	1985	1990	1995	Average per annual 1976-85	Growth rate (%) 1985-95
Lower case	–	–	83,900	120,500	138,500	156,400	9.2	2.6
Middle case	16,500	54,600	83,900	122,900	166,200	203,300	9.4	5.2
		(0)	(2)	(20)	(30)			
Higher case	–	–	83,900	130,000	180,100	234,600	10.1	6.1
		(0)	(8)	(30)	(50)			

Notes: (1) Lower case: Case without the comprehensive tourism development; number of foreign tourist arrivals approach rapidly to the upper limit of the existing potential, along with a possible growth curve.

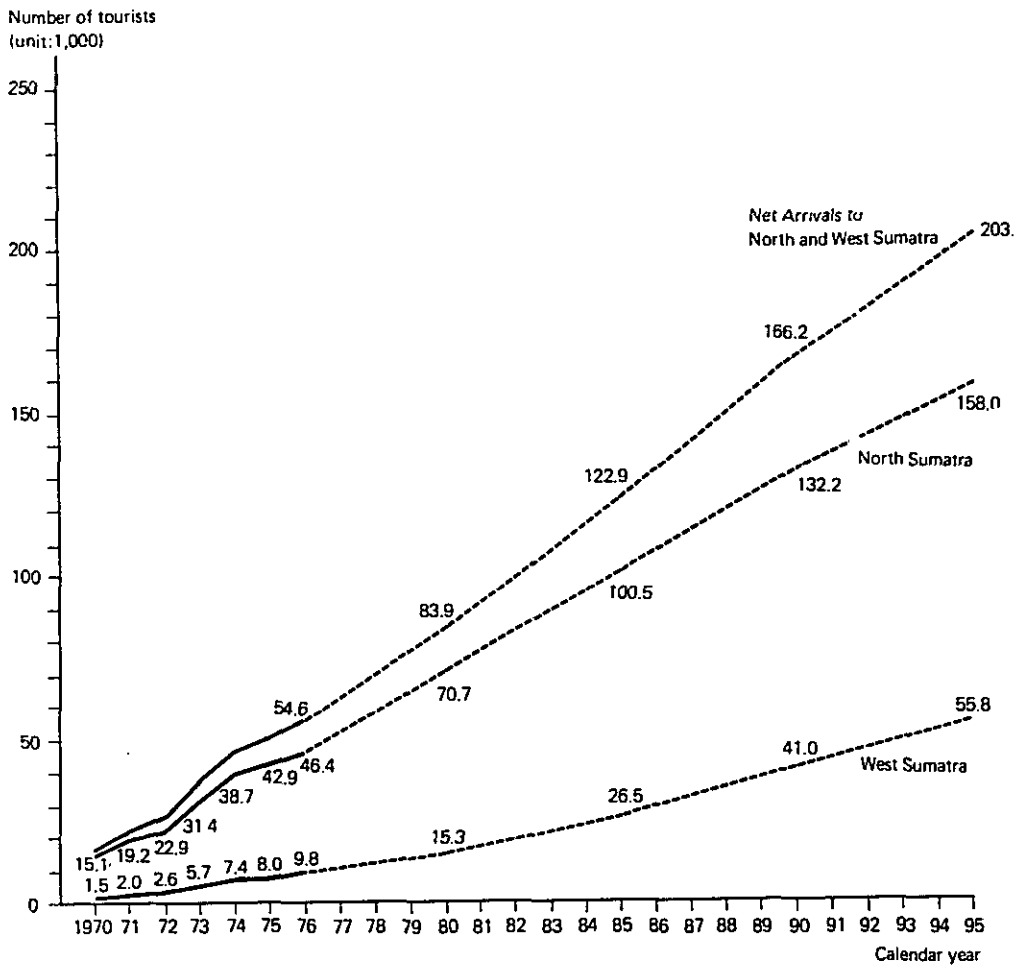
(2) Higher case: Case of maximum possible growth with the comprehensive development; figures in the bracket show the additional potential by development; 50 percent potential increase is estimated by 1995.

(3) Middle case: Case of moderate possible growth with the comprehensive development but with intermediate degree of development between lower case and higher case; 30 percent potential increase is estimated by 1995.

Projection of Foreign Tourist Influx in North and West Sumatra Considering Developed Tourism Potentials (Table-15)

	Total Net Arrivals of Tourists to North and West Sumatra			Arrivals to North Smatra			Arrivals to West Sumatra			Excursion Tourists in Both North and West Sumatra			Percentage of West Sumatra Arrivals which Excursion Tourists Occupy (%)		
	Total	Holiday tourists	Other tourists	Total	Holiday tourists	Other tourists	Total	Holiday tourists	Other tourists	Total	Holiday tourists	Other tourists	Total	Holiday tourists	Other tourists
1970	16,500	2,100	14,400	15,100	2,000	13,000	1,600	100	1,500	100	–	100	7.6	–	8.0
71	21,000	3,300	17,700	19,200	3,200	15,900	2,000	100	1,900	200	–	200	8.3	–	8.0
72	25,300	6,200	19,100	22,900	6,100	16,900	2,600	100	2,500	200	–	200	8.8	–	9.3
73	36,600	9,900	26,700	31,400	9,600	21,800	5,700	300	5,400	500	–	500	9.5	2.0	10.0
74	45,300	13,100	32,200	38,700	12,400	26,300	7,400	800	6,600	700	–	700	10.1	5.0	10.7
75	50,000	20,700	29,300	42,900	19,200	23,700	8,000	1,700	6,300	900	200	700	11.1	10.0	11.4
76	54,600	23,300	31,200	46,400	21,700	24,700	9,300	1,900	7,400	1,100	200	900	12.0	12.0	12.0
80	83,900	39,900	44,000	70,700	35,500	35,200	15,300	5,100	10,200	2,100	700	1,400	13.7	14.0	13.5
85	122,900	68,400	54,500	100,500	57,800	42,700	26,500	12,700	13,800	4,100	2,000	2,100	15.5	16.0	15.0
90	166,200	101,700	64,500	132,200	82,400	49,800	41,000	23,500	17,500	7,000	4,200	2,800	17.1	18.0	16.0
95	203,300	127,600	75,500	158,000	100,500	57,500	55,800	33,900	21,900	10,500	6,800	3,700	18.7	20.0	17.0

Projection of Foreign Tourist Influx in North and West Sumatra (Figure-10)



5. Characteristic of Future Foreign Tourist Arrivals

The Characteristic of future foreign tourist arrivals to North and West Sumatra are examined according to their purpose and nationality. Number of tourist arrivals employed here is that of the middle case as mentioned before.

Projection of Foreign Tourist Arrivals by Region

Number of foreign tourist arrivals to North and West Sumatra by nationality is compared to that of the ASEAN countries, and its elasticity is calculated as shown in column (1) of Table-16. As explained in Chapter 1, the elasticity of European tourists, especially from EC countries, is high. On the contrary, the values of elasticity show that the growth of tourists from Japan and ASEAN countries is lower than the growth of tourists from EC countries.

If it is supposed that this trend will not change in future, that is in the lower case of projection, referring to Table-14, share of tourists by region is calculated and the result is given in Table-16. It shows that the share of tourists from EC and ASEAN countries increases. Although the elasticity of ASEAN countries is low, the share of tourists from these ASEAN countries will increase. This means that the growth of inter-regional tourists, from one ASEAN country to another ASEAN country is projected to be comparatively high. On the basis of the present situation, it is estimated that the growth of Australian, New Zealand, Japanese, American and Canadian tourists will decrease. The reason of decrease of American and Canadian tourists is because their share in the ASEAN countries is projected to decrease.

In the middle case of projection, additional increase above lower case of tourist arrivals depend on the type of the development situation or marketing strategy. And to make appropriate future projection, it is important to take into consideration the market that will grow in future. To introduce foreign tourists after the development of the region, the markets its surrounding countries should be consideration the market that will grow in future. To introduce foreign tourists after the development of the region, the markets in surrounding countries should be considered of those regions where the growth is relatively higher than that of Sumatra. On the basis of this thinking, the share of foreign tourist arrivals by region is shown in column (8') and (9') of Table-16.

Basically, the pattern of region-wide share will not change much than the present trend. The share of Australia, New Zealand and Japan will increase a little but the share of ASEAN tourists, majority being from Singapore and Malaysia, will be much higher than this. This is because, from long term point of view, the growth of tourism market of ASEAN countries which will increase by 9 percent per year, will be higher than that of any other markets.

It can be said that, also in future, this region will have high share of tourists from neighboring countries, hence, it will continue to have characteristics of inter-regional destination.

Projection of Foreign Tourist Influx Categorized by Nationality (Table-16)

	Elasticity of no. of tourist arrivals to the subject area against no. of tourist arrivals to ASEAN countries	Average annual growth rate of tourist arrivals to ASEAN countries		Estimated tourist arrivals to the subject area		Estimated tourist arrivals to the subject area, Lower Case						Estimated tourist arrivals to the subject area, Middle Case					
				1976		1985		1995		Average annual growth rate		1985		1995		Average annual growth rate	
		1975-85	1985-95	No. of tourists	Share (%)	No. of tourists	Share (%)	No. of tourists	Share (%)	1976-85	1985-95	No. of tourists	Share (%)	No. of tourists	Share (%)	1976-85	1985-95
	(1)	(2)		(3)		(4)	(4')	(5)	(5')	(6)	(7)	(8)	(8')	(9)	(9')	(10)	(11)
EC countries	1.480	7.78	5.28	15,506	28.40	35,655	29.59	47,276	30.23	9.69	2.86	35,655	29.01	56,249	27.67	9.69	4.66
USA & Canaca	1.186	6.70	4.85	7,262	13.30	13,241	10.99	15,118	9.67	6.90	1.33	13,241	10.77	19,514	9.60	6.90	3.95
Australia & N.Z.	0.946	9.26	5.37	3,658	6.70	7,398	6.14	8,109	5.19	8.14	0.92	7,664	6.23	11,204	5,51	8.43	3.87
Japan	0.925	11.96	5.47	2,621	4.80	6,480	5.38	7,107	4.54	10.30	0.93	6,667	5.42	9,887	4.86	10.73	4.02
ASEAN countries	0.925	10.97	7.61	19,874	36.40	45,495	37.76	60,492	38.68	9.64	2.89	47,413	38.58	84,676	41.65	9.99	5.97
Others	0.294	8.00	7.00	5,678	10.40	12,231	10.15	18,298	11.70	7.98	5.11	13,360	9.98	21,770	10.71	8.93	5.91
Total	–	9.24	6.15	54,600	100.00	120,500	100.00	156,400	100.00	9.19	2.64	122,900	100.00	203,300	100.00	9.43	5.16

Notes: (1) The figures of elasticity (1) are estimated in relation with the direct inbound to North Sumatra.

(2) (2) is based on table-7.

(3) (4), (4') (5), (5') are obtained by adjusting visitor arrivals by nationality extrapolated on the basis of (1), (2), and (3). These values are calculated disregarding the possible new developments of destinations and conditions of supplies.

(4) Tourist arrivals in the middle case, market in ASEAN regions with relatively higher growth rate than the subject areas was considered to be taken in. The result of middle case show 30% higher than lower case.

If, Ri, ri, Si are assumed as below,

Ri: Growth rate of arrivals to ASEAN by market
ri: Growth rate of lower case by market
Si: Growth rate of middle case by market

the growth rate Si by market of middle case is determined as follows:

$$Si = \begin{cases} ri & : Ri \leq ri \\ \alpha (Ri - ri) + ri & : Ri > ri \end{cases}$$

Examination on the Future Growth of Holiday Tourists and Other Tourists

Here the foreign tourist arrivals to North and West Sumatra are distinguished between pure holiday tourists and other tourists (business tourists make up the largest share). And the future growth of each type of tourists is examined.

Past changes in number of arrivals of other tourists are noted in Table-17. "Other tourist" arrivals before 1974 increased rapidly, but in 1975 the increase was negative. Although in 1976 the expansion of this tourist arrivals was revived, it was by no means as rapid an increase as before, but only 6.5 percent per year. From 1974 to 1975 this pattern of change was generally the same as the pattern of other tourists in Jakarta. Moreover, this pattern closely resembled that found in Singapore, which was, however, one year ahead. In this way these other tourists are considered to move very influently by the trade situations and more so by economic conditions. When considering the elasticity of such tourist flow towards the GDP growth, the elasticity is calculated as 0.79 in Jakarta during the period of 1971 to 1974. Future inflow of other tourists to these two provinces may be assumed to follow this elasticity before 1985 and afterwards appear to change, following a value of elasticity of 0.58.

Other Tourist in Both Provinces (Table-17)

	1970	1971	1972	1973	1974	1975	1976
Both provinces	14,400	17,700	19,100	26,700	32,200	29,300	31,200
rate of increase (%)	–	22.9	7.9	39.8	20.6	-9.0	6.5
Jakarta	–	74,440	85,014	72,830	102,059	94,528	–
rate of increase (%)		–	14.2	-14.3	40.1	-7.4	
Singapore	204,342	251,857	323,524	381,243	434,616	440,784	462,017
rate of increase (%)	22.9	23.3	28.5	17.8	14.0	1.4	4.8

Rate of Growth of Other Tourists and GDP in Both Provinces (Table–18)

(Unit: percent per year)

	1970-74	1974-76	1975-76	1976-85	1985-95
(1) Rate of growth of other tourists	22.3	-1.5	6.5	6.9	4.2
(2) Rate of growth of GDP	13.4	–	6 - 7	8.7	7.2
(1) / (2)	1.66	–	1.00	0.79	0.58

Table-19 shows the increase of arrivals of pure holiday tourists to the two designated provinces. Prior to 1975 the table shows that the annual average increase of these tourist inflow was more than 50 percent, but in 1976 the increase quickly faded. The growth rate of pure holiday tourist inflow to the designated provinces in 1976 almost approaches the growth rate of those to three ASEAN countries. Using information related to sum totals of direct-inbound holiday tourists into North Sumatra for January to March 1977, it can be judged that the tendency the low growth rate still continues. The decrease of travel demand responding to the recession of the world economy is one of the major reasons why the growth rate of holiday tourist inflow to these area becomes down.

Besides other internal reason can be assumed that the number of foreign tourists to the designated area reached a certain level of growth. And, because of this, it can be considered by-and-large that the growth of tourism in the region has been very strongly influenced by wider travel market. Thus, in order to overcome the certain scale of tourist inflow and make it grow by a large amount, some kind of breakthrough is needed that will push upward the present tourism potentiality.

Afterwards, if this potentiality can be suitably raised throughout the preparation period and the former half of the development period defined in this master plan, the growth rate of pure holiday tourist inflow to the designated area over a sufficient period will be capable of expanding and raising the growth rate of pure holiday tourist influx to three ASEAN countries. When estimating the growth rate of pure holiday tourists to ASEAN countries to be 11.5 percent between 1976 and 1985, this designated area's growth rate will slightly exceeds 13 percent for the same period. However, stretched over a long term, indefinite factors become more numerous. Considered from the projected results of tourist influx, total foreign tourist arrivals in 1985 reach the level of 13 to 14 persons. This approximates the present situation of Penang. At the level of 140,000 to 150,000, competition with other destinations necessarily will become stronger and growth will necessarily be curbed, as stated before. Nevertheless, on the one hand, because the past investment to tourism industries must be returned gradually after around this time, a suitable growth is needed for this returning of profit. Although this is a factor to be built in the supply side, it operates to call attention to tourist demand through control of travel costs adjusted by competition when the demand possibly decreases the necessary rate of growth. When the scale of the tourism industry is not so large, this price mechanism do not work so effectively and often make the demand and supply fall one way to a reduced balance. But the scale beyond a certain level there is a clear phenomenon in which tourist demand expands according to this competition mechanism. When we perceive the necessary rate of growth from the standpoint of tourism supply side, the rate of economic growth in the designated area becomes a single objective. In other words, the reinvestment in the tourism industry is limited at least to the case in which the growth rate of this industry rises to the economic rate of growth. Such can be thought of as a necessary guarantee. In order for the tourism industry in the designated area to rise to the seven percent rate of economic growth assumed for 1985 to 1995, the growth rate of holiday tourist arrivals must at least necessarily be equal to this level of growth. The growth rate of pure holiday tourists inflow between 1985 and 1995 appropriately must aim for seven percent according to the above logic.

Comparison of Rates of Increase of Pure Holiday Tourists (Table-19)

	1970	1971	1972	1973	1974	1975	1976
(1) Both provinces	2,100	3,300	6,200	9,900	13,100	20,700	23,300
Rate of increase(%)	–	58.3	85.7	59.5	32.6	57.4	12.8
(2) Singapore, Malaysia and Philippines (1,000)	469.9	559.8	727.4	1,021.7	1,258.2	1,425.6	1,591.9
Rate of increase (%)	–	19.1	29.9	40.5	23.1	13.3	11.7
(1) / (2)	0.45	0.60	0.85	0.97	1.05	1.45	1.46

Source: Arrivals in three ASEAN countries are taken from data of the Nomura Research Institute Japan

The following results are obtained when fixed a set of future projected growth rates, based on various assumptions noted above.

Examination of Future Growth Rate of both Holiday Tourists and Other Tourists (Table-20)

(Unit: percent per year)

	1976-85	1985-95
Pure holiday tourists	14.4	7.0
Other tourists	6.9	4.1
Total	10.6	5.9

Thus, Table-15 uses 1980 and 1990 as supplement times for calculating the foreign tourist arrivals to North and West Sumatra. Hence, the following stipulations are set in making this tabulation:

- Foreign tourist arrivals to West Sumatra grow following a logistic curve having the upper limit of 100,000 persons. This curve considers the development period and so on for West Sumatra and sets the inflection point of the logistic curve in 1990.
- At present the tourists travelling both North and West Sumatra share 12 percent to the tourists in West Sumatra. In the target year, holiday tourists and other tourists who travel both provinces will respectively share 20 and 17 percent to each type of tourists in West Sumatra.

6. Present Situation of Domestic Tourist Market of North and West Sumatra

Estimation of Number of Domestic Tourists in North and West Sumatra

Data concerning domestic tourism within the presently effective statistics of these two provinces is extremely scarce. Thus in order to gain a grasp of its volume, it was necessary to make estimates based upon some bold assumptions gleaned from various types of information derived from field investigation of these two provinces and in terms of such *relating statistics as air passenger and sea passengers statistics, road traffic statistics, and* guest estimation of the existing lodging facilities. Further, it must be understood that since the conditions for preparation of statistics is comparatively far from perfect, the resulting estimates cannot help but be quite rough and general. In future, it is strongly desired that the relating statistics are to be prepared completely and continuously and more accurate studies on domestic tourism in these areas are to be effected. For reference, an ideal process of systematic survey for domestic tourism study is illustrated in Figure 11.

Within the designated two provinces, domestic tourists should be categorized into three types of tourist; i.e., inter-regional tourists, local tourists, and excursionists, according to the following definitions.

- Inter-regional tourists: Tourists coming from outside the province who stay one or more nights in the province.
- Local tourists: Residents of the province who stay away from home for one or more nights while traveling in the same area.
- Excursionists: Day-trippers

Next in the case of domestic tourists, as opposed to foreign trourists, there are a large number who stay with relatives and friends instead of utilizing the general lodging facilities. Thus it is necessary to divide the domestic tourists into accommodation stayers and non-accommodation stayers. From the standpoint of planning, it is necessary to distinguish tourist destinations into province, study area and core area. The above terms have been set in accordance with the following definitions.

- Accommodation stayer: Those who utilize lodging facilities available to the general public such as hotels, bungalows and wismas.
- Non-accommodation stayer: Those who stay in the homes of relatives or friends and those who utilize private lodging facilities.
- Study area: Areas which require large-scale adjustment in terms of tourism development, concretely, the following areas. (1) North Sumatra; Medan City, Kabupaten Deli-Serdang, Kabupaten Karo, Kabupaten Simalungun, Kabupaten Tapanuli-Utara, and (2) West Sumatra: Padang City, Kabupaten Pariaman, Bukittinggi City, Kabupaten Agam, Kabupaten Tanah Datar, Kabupaten Solok.
- Core Area: Areas in which there is a thick concentration of tourism resources, and in which the greater amount of tourist activities are carried out. (1) North Sumatra: Karo Plateau, Lake Toba and its surrounding area, and (2) West Sumatra: Bukittinggi City and its surrounding areas including Lake Singkarak and Lake Maninjau.

Results of estimation on number of domestic tourists at present situation in terms of the above categories are shown in Table-21. Out of domestic travellers, the majority are excursionists. The ratio of interregional tourists to local tourists is 68:32 in North Sumatra and 73:27 in West Sumatra. North Sumatra has a higher ratio of local tourists than West Sumatra. This is mainly due to the fact that average income in North Sumatra is higher than that of West Sumatra and the fact that ratio of urban population to the total is higher in North Sumatra than in West Sumatra, making the ratio of local tourists higher there. An additional reason is subject to the important positions which Padang and Bukittinggi of West Sumatra hold in the road network of whole Sumatra, which makes the number of interregional tourists large in comparison with the economic and populational scales of the province itself and accordingly makes the ratio of local tourists smaller. The difference on content of domestic tourists in these two provinces, it is thought that any considerations should be given to further specialization in terms of the development of their tourism resources.

It is estimated that the tourists enter the core areas in both provinces share 15 to 20 percent of total domestic tourists. The low weight of the core area in both provinces is due to the large number of interregional tourists, made up mainly of businessmen and retournees who stay in Medan and Padang and do not enter the core area. In West Sumatra, due to the fact that the second large city of Bukittinggi is included in the core area, the ratio of tourists in the core area to the province total is comparatively high.

The number of domestic tourists in the study area or in the whole province seems to be extremely large through two provinces. However, since the capital city is not included in the core area, there is a large decrease in volume of tourists there. Also, the number of domestic tourists utilizing general public accommodations in the core area becomes quite small. However, the ratio between foreign tourists and domestic tourists lodging in the core area is 20:80 in North Sumatra and 16:84 in West Sumatra, meaning that the character of destinations in both areas is strong in local color. The harmonization of international tourism and domestic tourism and the raising of the level of destinations are problems that must be solved. The character of domestic tourists is quite diverse and its volume is great. Thus the preparation of destinations that fit the needs of international tourists is also a problem for the future.

Tourism of Provincial Residents

In the previous section, tourists from within the area itself were divided into excursionists and local tourists depending upon whether or not they stay away from home for one or more nights, and it was in this manner that their volume was determined. However, in actual fact, the activities of these tourists are very similar. In other words, motivation and activities of both types are weekend or holiday recreation in character, and they tend to travel in families or groups. Also it is thought that their recreational activities in the core area are very similar. Thus their weekend lodging activities must be considered as an extension of their pleasure activities of single-day trips. From this viewpoint, a study has been made of the recreational activities of residents taking North Sumatra as an example. The estimation shows that the annual number of area residents traveling to the core area in

North Sumatra amount to 1,456,000. This includes those returning to their home in the farming villages and those travel on business. It is estimated that vacationers make up only approximately 1,200,000 of the above total. And since only 50,000 of the vacationers utilize general public accommodations in the core area, their lodging ratio is only 4 percent. However, in actual fact, the number of individual and organizational private lodging facilities is pretty large. As it is very difficult to obtain an accurate figure, an inclusion of these facilities would raise the ratio to no more than 5 or 6 percent. Those who can enjoy vacation for one night or more among the all residents of the province are still very few. Besides, it is observed that their lodging away from home itself is a great recreation rather than a part of travel. These people utilize lodging facilities that cost less than 2,000 Rps per night and their travel expenditure per capita is also quite low. Tables 23 and 24 show the results of the accommodation surveys carried out both in North and West Sumatra. In the core area of North Sumatra, the number of beds costing less than 2,000 Rps per night makes up 62 percent of total beds there. Since vacationers trip concentrated on weekends and holidays, the occupancy rate of this class of lodging facilities is extremely low. This concentration of use on certain days of the week constitutes a rather great loss in terms of economic efficiency of the lodging facilities. It will be necessary in future to diversify the lodging demand of these vacationers by lowering the weekday rates in order to effect a raising of the standards of these lodging facilities.

Next an investigation on the recreational activities of resident vacationers based on information received from the counterparts of North Sumatra local authority produced a result shown in Table 22. The present situation of vacationers recreation activities is that sightseeing only is in the majority. However, it is observed that almost all vacationers of sightseeng only are people who have visited the core area several times. And it is infered that they come there mainly by charter buses, motorcycles, or private automobiles with going for a drive as the main purpose. In other words, the present situation shows that the means of transportation itself has become a main form of recreation. As can be seen in the same table, the ratio of people doing recreations which need any facilities is extremely low. Thus the present situation on the recreational activities of resident vacationers is judged to be on a rather elementary level. Of course, the present income level exerts a strong influence on the existence of this type of recreation. The future raising of income level will more than likely result in a subsequent raising of the level of the recreational activities of the residents, changing from the present heavy tendency for driving to more complicated activities. It is necessary for future planning to include the development of recreational facilities and services that are not beyond the means of residents but suitable to each stages of recreational needs which vary according to the income level.

Estimate of Domestic Tourists in North and West Sumatra: 1976 (Table-21)

	North Sumatra	West Sumatra
Domestic tourists (Interregional)		
Tourists to study area using accommodations	204,000	72,500
Tourists to core areas using accommodations	38,300	14,500
Local tourists to core areas using accommodation		
Toba	52,400	–
Karo	15,400	–
Minang	–	17,800
Day trippers to core areas		
Toba	402,000	–
Karo	738,000	–
Minang	–	286,000

Note: Accommodations indicate common lodging; private bungalows are not included.

Estimation of Indonesian Recreation Activities in Karo & Lake Toba (Table-22)

Recreation activities	Percentage
Sightseeing only	67.0
- by driving own cars & motorcycle	(18.0)
- by bus	(49.0)
Beach playing & swimming	15.0
Canoeing, power-boating & water cycling	4.0
Picnicking	5.0
Hiking	1.6
Cycling	1.6
Camping & mountain climbing	1.6
Hunting & fishing	1.0
Horse riding	2.0
Golfing	0.4
Others	0.8

Note: Percentage distribution is estimated from various informations on recreation facilities in these areas and experiential information of counterparts.

Estimate of Hotel Guests and Accommodations According to Class of Lodging in North Sumatra: 1976 (Table-23)

Area	Class of Accommodation	Number of Accommodations	Number of Rooms	Number of Beds	Visitor Arrivals			Visitor Nights	Bed Occupancy Rate (%)
					Total	Indonesians	Foreigners		
Medan & Belawan	A	1	208	416	52,600	29,400	23,100	84,100	55
	B	3	94	188	24,000	12,000	12,000	36,000	53
	C	3	106	246	31,000	14,800	16,400	43,300	48
	D	1	31	62	6,800	4,800	2,000	10,200	45
	E	6	297	e594	43,400	39,000	4,300	86,700	40
	F	26	260	e520	22,800	21,600	1,100	41,000	22
	G	e45	e905	2,055	135,000	132,300	2,700	198,500	26
	Total	85	1,901	4,081	315,700	253,900	61,700	499,800	34
Karo Plateau	A	1	21	46	8,400	1,700	6,700	9,200	55
	B	–	–	–	–	–	–	–	–
	C	–	–	–	–	–	–	–	–
	D	–	–	–	–	–	–	–	–
	E	14	53	117	6,400	4,500	1,900	7,700	18
	F	e7	e72	e158	8,700	7,800	900	10,400	18
	G	e9	e90	e198	12,300	11,800	500	14,700	20
	Total	31	236	519	35,700	25,700	10,000	42,000	22
Lake Toba	A	1	20	40	2,300	1,400	900	5,800	40
	B	2	107	215	21,000	9,100	12,300	43,900	56
	C	4	116	236	22,600	11,800	10,800	48,200	56
	D	1	35	71	6,500	5,200	1,300	13,600	53
	E	3	73	161	8,800	7,100	1,800	19,400	33
	F	e23	e228	524	28,700	37,300	1,400	51,600	27
	G	e25	e230	522	32,400	31,400	1,000	48,600	25
	Total	59	809	1,769	122,600	93,200	29,500	231,200	36
North Sumatra Study area Total	A	3	249	502	63,300	32,500	30,800	99,200	54
	B	5	201	403	45,300	21,100	24,300	79,900	54
	C	7	222	482	53,800	26,600	27,200	91,500	52
	D	2	66	133	13,300	9,900	3,300	23,800	49
	E	23	423	872	58,600	50,600	8,000	113,800	36
	F	56	560	1,202	60,100	56,700	3,400	103,000	23
	G	79	1,225	2,775	179,700	175,500	4,200	261,800	26
	Total	175	2,946	6,369	474,100	372,800	101,200	773,000	33

Source: Figures of arrivals and nights are estimates based on the Accommodation Survey in North Sumatra.

Note: 'e' in the number of accommodations, rooms and beds indicates the estimates.

Estimate of Number of Hotel Guests and Accommodations According to Class of Lodging in West Sumatra: 1976 (Table-24)

Area	Class of Accommodation	Number of Accommodations	Number of Rooms	Number of Beds	Visitor Arrivals			Visitor Nights	Bed Occupancy Rate (%)
					Total	Indonesians	Foreigners		
	A	–	–	–	–	–	–	–	–
	B	–	–	–	–	–	–	–	–
	C	2	44	71	10,000	6,900	3,100	14,200	55
Padang	D	3	60	118	11,900	8,800	3,100	24,100	56
	E	8	145	342	23,600	19,900	3,600	47,200	38
	F	2	54	127	5,400	4,900	600	9,800	21
	G	17	344	781	50,900	48,700	2,200	76,400	27
	Total	32	647	1,439	101,800	89,200	12,600	171,700	33
	A	–	–	–	–	–	–	–	–
	B	1	47	87	4,000	2,400	1,600	10,100	32
	C	–	–	–	–	–	–	–	–
Bukki-	D	2	20	42	1,600	700	800	3,900	25
ttinggi	E	–	–	–	–	–	–	–	–
	F	7	100	262	14,300	11,100	3,300	25,800	27
	G	6	88	203	12,600	11,800	800	18,900	25
	Total	16	255	594	32,500	26,100	6,500	58,700	27
	A	–	–	–	–	–	–	–	–
	B	–	–	–	–	–	–	–	–
Maninjau	C	–	–	–	–	–	–	–	–
&	D	–	–	–	–	–	–	–	–
Sinkarak lake	E	4	43	89	4,500	3,200	1,200	5,200	16
	F	3	20	40	2,200	2,100	100	2,400	17
	G	1	3	12	700	600	33	700	17
	Total	8	66	141	7,300	5,900	1,400	8,300	16
	A	–	–	–	–	–	–	–	–
	B	1	47	87	4,000	2,400	1,600	10,100	32
West Sumatra	C	2	44	71	10,000	6,900	3,100	14,200	55
Study area	D	5	80	160	13,400	9,500	4,000	28,000	48
Total	E	12	188	431	28,000	23,200	4,900	52,300	33
	F	12	174	429	22,000	18,000	3,900	38,000	24
	G	24	435	996	64,200	61,200	3,000	96,000	26
	Total	56	970	2,206	141,600	121,200	20,400	238,600	30

Source: Figures of arrivals and nights are estimates based on the Accommodation Survey in West Sumatra.
Note: 'e' in the number of accommodations, rooms and beds indicates the estimates.

7. Future Projections of Domestic Tourist Market of North and West Sumatra

As mentioned in the previous section, due to the limited materials available, it is only possible to make a very rough estimate of the present number of domestic tourists. Thus methodologically speaking, it is most difficult to make accurate fixture forecasting due to the following reasons: (1) the difficulty of compiling unified time series data on number of domestic tourists, (2) the lack of data concerning the generation structure of local tourists and excursionists, (3) the lack of unified and newly dated materials that can provide a grasp of interregional tourists flow at national level. Prediction methods used here for the various tourist types are explained below.

(1) Interregional tourists

Past number of tourists arriving to North and West Sumatra is estimated in air, sea, and land categories, and future tourist arrivals are made by extrapolation by means of reference to estimation by the UNDP study. Of course, here the future situation of economic development of both all Indonesia and each designated provinces, which are derived from information by the field investigations are taken into condideration in making the prediction.

(2) Local Tourists and Excursionists

Considering the tourist generating ratio as the proportion of resident tourists to the urban population, the future number of tourists is extrapolated from a relationship between the tourist generating ratio and the per capita GDP.

Results of future projection on number of domestic tourists are shown in Tables 25 and 26.

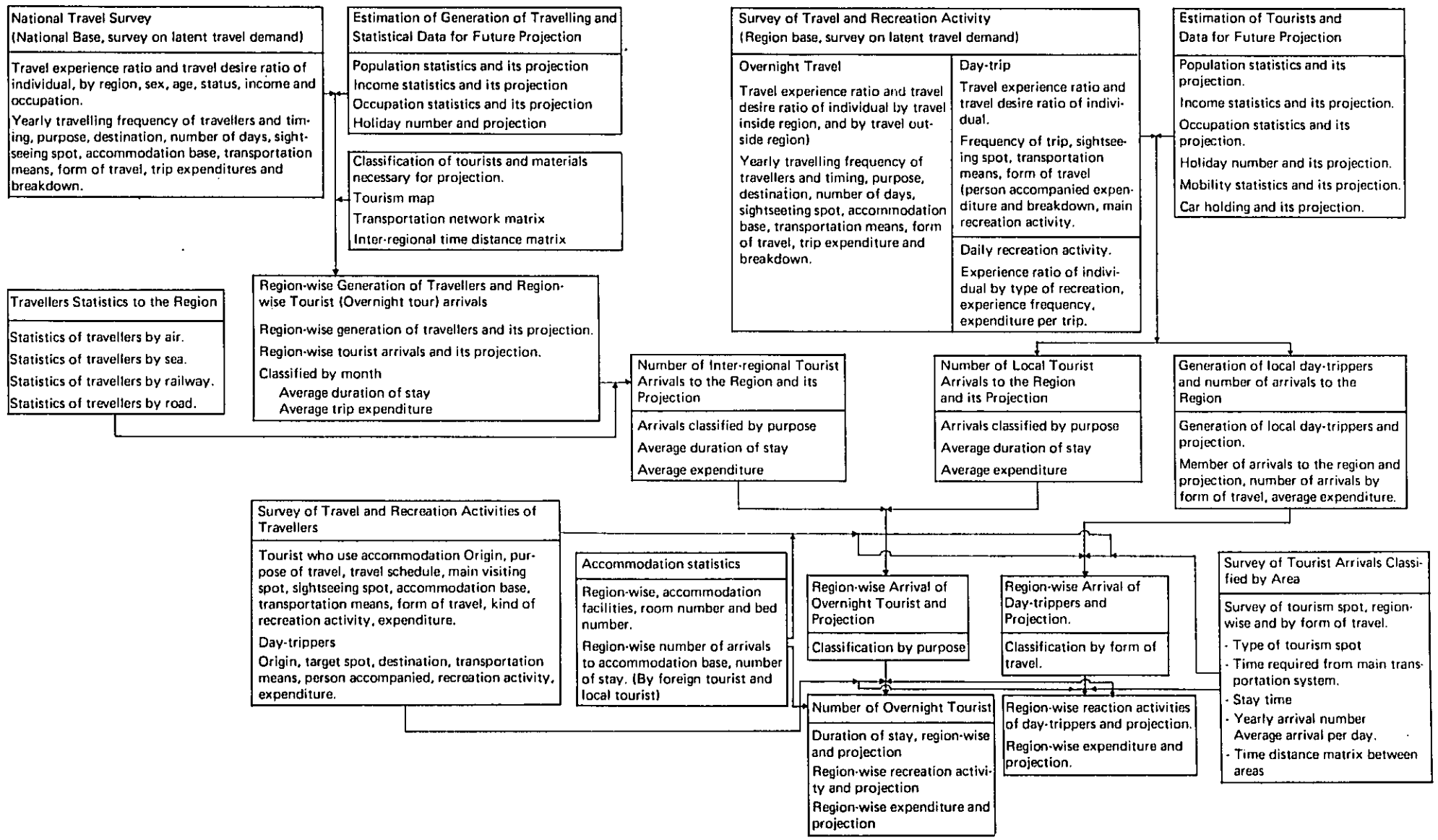
Projection of Domestic Tourists in North Sumatra (Table-25)

	1976	1985	1995
Interregional tourists using accommodations			
Study area	204,000	417,000	871,900
Core areas	38,300	99,800	288,400
Local tourists using accommodations			
Toba	52,400	65,000	113,800
Karo	15,400	67,000	139,000
Day trippers			
Toba	402,000	665,000	1,130,000
Karo	738,000	915,000	1,470,000

Estimates of Domestic Tourists in West Sumatra (Table-26)

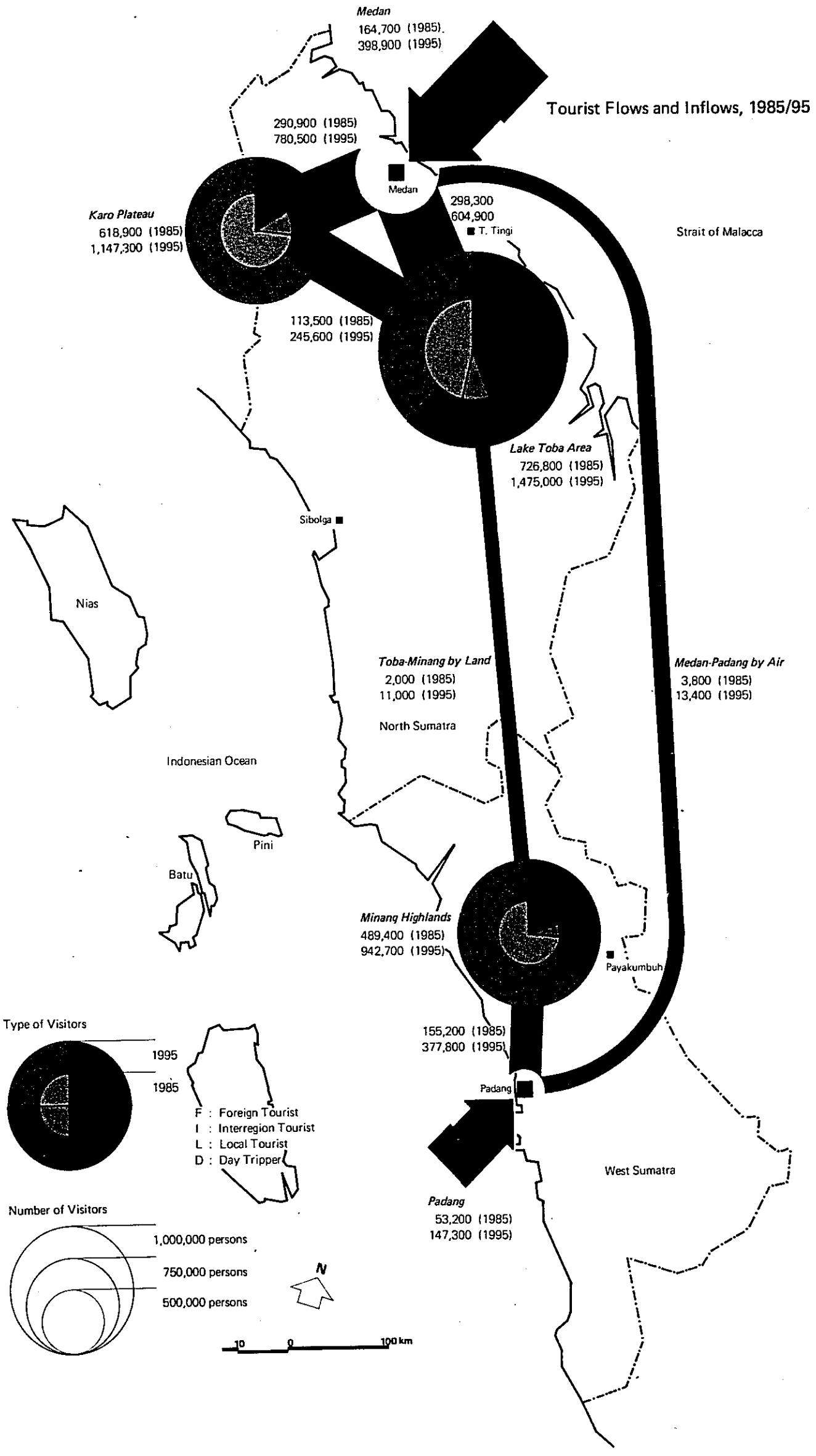
	1976	1985	1995
Interregional tourists using accommodations			
Study area	72,500	152,500	327,200
Core area	14,500	37,600	110,500
Local tourists core area using accommodations	17,800	27,300	53,800
Day trippers to core area	286,000	740,000	1,190,000

Ideal Survey System to Know Demand for Domestic Tourism (Figure-11)

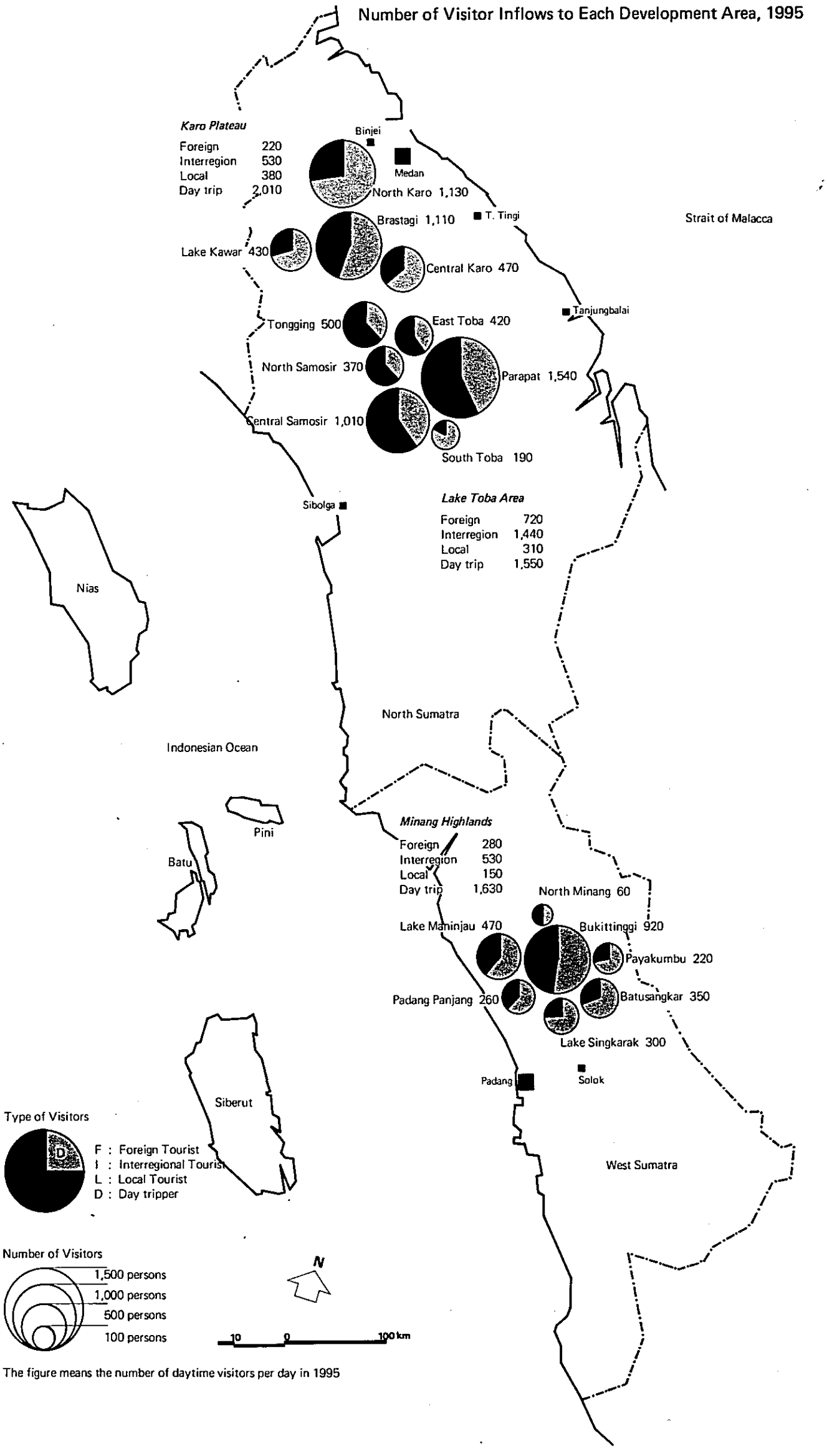


2

PAPER 2: TOURIST DISTRIBUTION PLAN

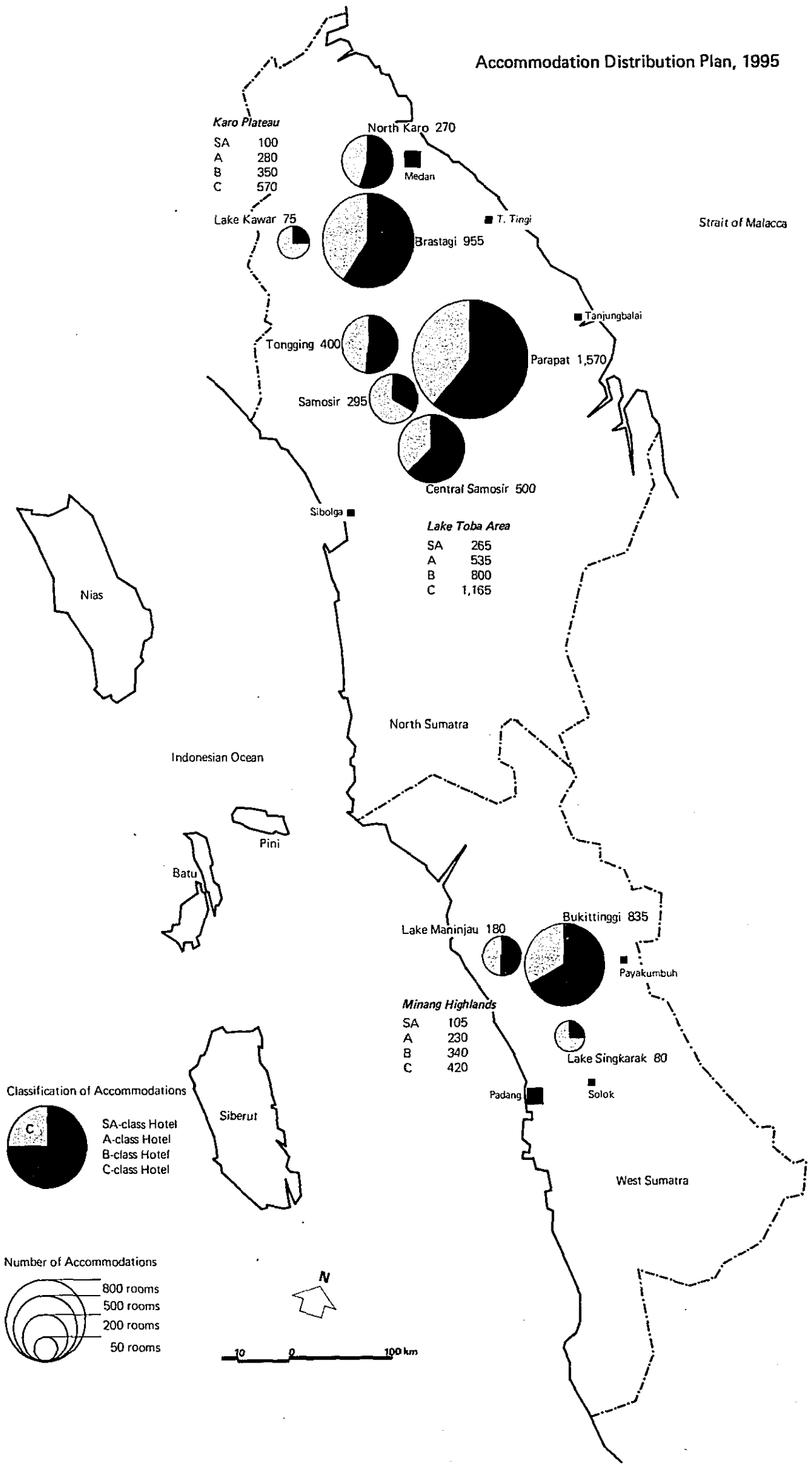

Tourist Flows and Inflows, 1985/95
Medan
164,700 (1985)
398,900 (1995)
290,900 (1985)
780,500 (1995)
Medan
298,300
604,900
T. Tingi
Strait of Malacca
Karo Plateau
618,900 (1985)
1,147,300 (1995)
113,500 (1985)
245,600 (1995)
Lake Toba Area
726,800 (1985)
1,475,000 (1995)
Sibolga
Nias
Toba-Minang by Land
2,000 (1985)
11,000 (1995)
Medan-Padang by Air
3,800 (1985)
13,400 (1995)
North Sumatra
Indonesian Ocean
Pini
Batu
Minang Highlands
489,400 (1985)
942,700 (1995)
Payakumbuh
155,200 (1985)
377,800 (1995)
Padang
West Sumatra
Padang
53,200 (1985)
147,300 (1995)
Type of Visitors
1995
1985
F : Foreign Tourist
I : Interregion Tourist
L : Local Tourist
D : Day Tripper
Number of Visitors
1,000,000 persons
750,000 persons
500,000 persons
N
100 0 100 km

Number of Visitor Inflows to Each Development Area, 1995



The figure means the number of daytime visitors per day in 1995

Accommodation Distribution Plan, 1995



1. Introduction

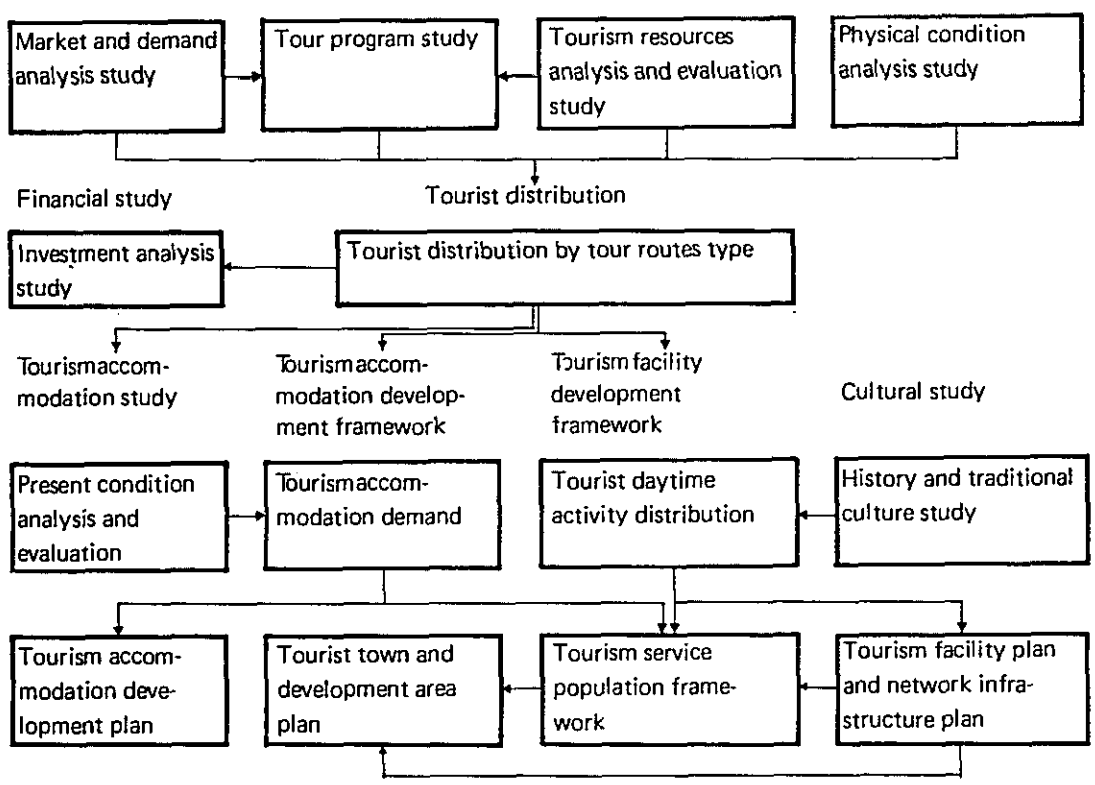
An idea of the volume of future tourism activities in the three tourism development zones has been obtained by distributing the total number of tourists that are expected to arrive in the study area as determined in the demand analysis study by tourist and tour types.

From the total amount of tourist accommodation in the three tourism development zones has been derived tourist accommodation demand, on the basis of which the tourist accommodation has been distributed in the individual tourism development areas and the tourist accommodation development schedule has been formulated.

The total amount of daytime visitor activity in each of the three tourism development zones from each accommodation base, in the case of tourists, and each generation area in the case of day trippers has been distributed among the tourism development areas in order to determine the amount of nonaccommodation tourism facilities and infrastructural development that will be needed.

The number of employees that will be required in accommodation facilities and other tourism-related services has been determined on the basis of the accommodation development schedule, the distribution of daytime visitors, and other factors, and it, in turn, has served as a basis for determination of the scale service zones of the tourist towns.

Development Framework for Physical Planning Flow Chart (Figure-1)



Classification of Tourists

The following classification of tourists is necessary in order to distribute the total number of visitors in the study area within the tourism development zones on the basis of the market study.

Classification of Tourists and Day Trippers (Figure-2)

Category	Generation	Purpose	Visit to development zone
Tourists	Foreign countries	Holiday	●
		Business with holiday	●
		Business	
	Outside of study area (Interregional)	Holiday	●
		Business with holiday	●
		Family visit	●
		Business	
	Study area (Local)	Holiday	●
Day trippers	Day trip zone of development zone	Holiday	●

Tourist Inflows to North Sumatra (Table-1)

	1976	1980	1985	1990	1995
Foreign tourist	26,000	43,200	65,200	89,000	110,500
Holiday	21,700	37,000	56,500	77,300	96,000
Business with holiday	4,300	6,200	8,700	11,700	14,500
Interregional tourist	38,400	58,600	99,500	169,400	288,400
Holiday	20,900	30,400	57,000	102,500	174,000
Family visit	5,600	9,500	13,800	20,100	31,700
Business with holiday	11,900	18,700	28,700	46,800	82,700
Local tourist	67,800	91,400	132,800	183,200	252,800
Day tripper	1,141,100	1,310,000	1,580,000	2,020,000	2,600,000

Tourist Inflows to West Sumatra (Table-2)

	1976	1980	1985	1990	1995
Foreign tourist	6,100	10,900	20,500	32,800	46,400
Holiday	4,300	8,200	16,000	25,600	36,000
Business with holiday	1,800	2,700	4,500	7,200	10,400
Interregional tourist	11,800	18,600	32,700	57,500	100,900
Holiday	5,300	8,500	16,900	32,100	61,700
Falimy visit	1,600	2,400	3,600	6,200	9,300
Business with holiday	4,900	7,700	12,200	19,200	29,900
Local tourist	16,200	20,000	27,300	36,500	53,800
Day tripper	286,000	436,000	740,000	930,000	1,190,000

2. Distribution of Visitors Among the Tourism Development Zones

By distributing visitors among the ten tour types set in the tour program, it has been possible to determine the visitor inflow to each of the tourism development zones, which in turn has served as a basis for determination of the accommodation and other tourism facility development framework.

In distributing visitors among the tour types, attention has been paid to such factors as average length of stay, preferences of different tourist types, the amount of tourism resources available, and the general tourism potential of each area in question.

Percentage Breakdown of Tourist Allocation Ratio by Tour Type (Table-3)

	Foreign tourists				Interregional tourists			
Tour types	1980	1985	1990	1995	1980	1985	1990	1995
Karo tour	4.7	4.7	5.0	4.9	10.4	13.2	14.2	15.8
Toba tour-1	7.0	5.8	5.1	4.9	21.3	19.7	16.2	14.8
Toba tour-2	32.5	21.7	14.0	10.5	18.5	13.2	9.0	6.1
Karo-Toba tour-1	21.6	21.6	21.1	15.8	12.3	13.2	13.5	9.2
Karo-Toba tour-2	13.6	21.5	26.6	32.5	10.9	15.5	20.9	27.0
Minang tour-1	5.1	5.4	6.2	7.0	14.5	12.2	11.5	10.5
Minang tour-2	13.2	11.7	6.6	6.1	10.3	8.8	7.1	4.1
Minang tour-3	–	4.2	10.7	12.2	–	1.9	4.4	8.3
Karo-Toba-Minang tour-1	1.9	2.7	3.7	4.9	1.1	1.2	1.5	1.7
Karo-Toba-Minang tour-2	0.4	0.7	1.0	1.2	0.7	1.1	1.5	2.5

	Local tourists				Day trippers			
Tour types	1980	1985	1990	1995	1980	1985	1990	1995
Karo tour	24.6	42.3	41.7	45.3	48.6	39.4	39.6	38.8
Toba tour	57.5	40.6	41.7	37.1	26.4	28.7	28.8	29.8
Minang tour	17.9	17.1	16.6	17.6	25.0	31.9	31.5	31.4

Tourists Distribution by Tour Type: 1985 (Table-4)

	Foreign tourists			Interregional tourists				Local	Day
Tour types	Holiday	B/H	Total	Holiday	B/H	Family visit	Total	tourists	trippers
Karo tour	–	4,800	4,800	–	17,200	8,300	25,500	65,000	665,000
Toba tour-1	–	3,900	3,900	–	11,500	5,500	17,000	67,800	915,000
Toba tour-2	18,000	–	18,000	17,000	–	–	17,000	–	–
Karo-Toba tour-1	18,700	–	18,700	17,000	–	–	17,000	–	–
Kato-Toba tour-2	17,000	–	17,000	20,000	–	–	20,000	–	–
Minang tour-1	–	4,500	4,500	–	12,200	3,600	15,800	27,300	740,000
Minang tour-2	9,700	–	9,700	11,400	–	–	11,400	–	–
Minang tour-3	3,500	–	3,500	2,500	–	–	2,500	–	–
Karo-Toba-Minang tour-1	2,200	–	2,200	1,600	–	–	1,600	–	–
Karo-Toba-Minang tour-2	600	–	600	1,400	–	–	1,400	–	–

Tourists Distribution by Tour Type: 1995 (Table-5)

Tour types	Foreign tourists			Interregional tourists				Local tourists	Day trippers
	Holiday	B/H	Total	Holiday	B/H	Family visit	Total		
Karo tour	–	7,250	7,250	–	41,400	14,000	55,400	113,800	1,130,000
Toba tour-1	–	7,250	7,250	–	41,300	17,700	59,000	139,000	1,470,000
Toba tour-2	15,600	–	15,600	23,000	–	–	23,000	–	–
Karo-Toba tour-1	23,400	–	23,400	34,600	–	–	34,600	–	–
Karo-Toba tour-2	48,000	–	48,000	101,000	–	–	101,000	–	–
Minang tour-1	–	10,400	10,400	–	29,900	9,300	39,200	53,800	1,190,000
Minang tour-2	9,000	–	9,000	15,400	–	–	15,400	–	–
Minang tour-3	18,000	–	18,000	30,900	–	–	30,900	–	–
Karo-Toba-Minang tour-1	7,200	–	7,200	6,200	–	–	6,200	–	–
Karo-Toba-Minang tour-2	1,800	–	1,800	9,200	–	–	9,200	–	–

Projection of Average Duration of Stay

An effect will be made to increase the average duration of stay of foreign and interregional holiday tourists by particularly promoting tour types 5, 8, 9, and 10.

Projection of Average Duration of Stay in Tourism Development Zone (Table-6)

	1976	1980	1985	1990	1995
North Sumatra					
Foreign	2.92	3.17	3.25	3.33	3.41
Interregional	2.49	3.21	3.31	3.39	3.49
West Sumatra					
Foreign	1.83	2.00	2.15	2.30	2.50
Interregional	1.83	2.00	2.15	2.30	2.50
North and West Sumatra					
Foreign	–	3.04	3.15	3.31	3.40
Interregional	–	3.06	3.18	3.32	3.50

Tourist Inflows to the Development Zones (Table-7)

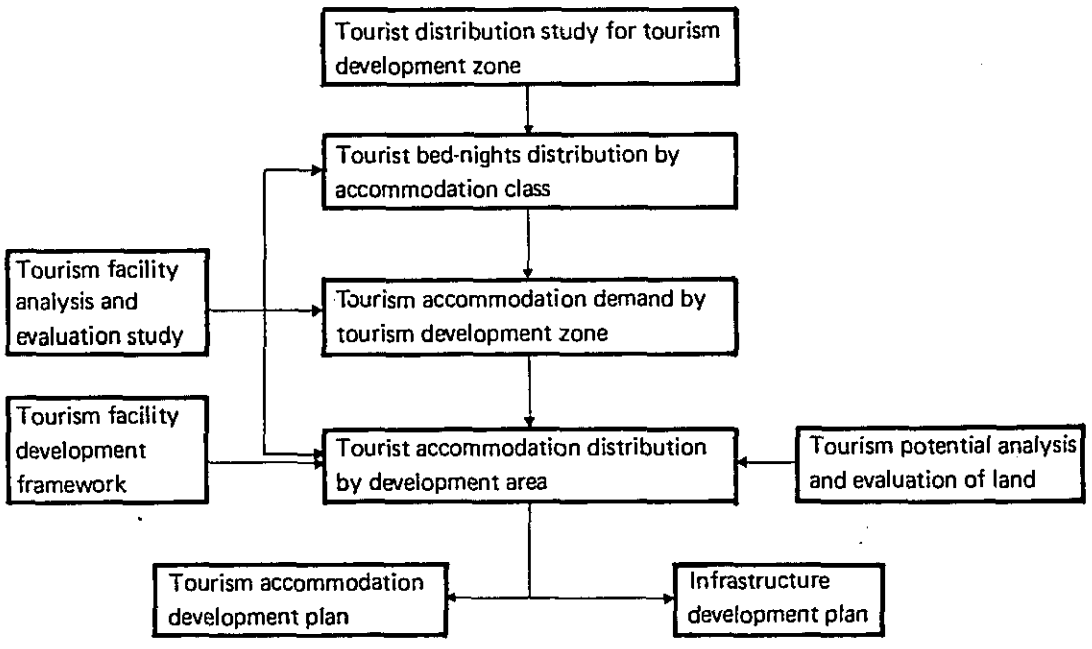
		Foreign tourists	Inter-regional tourists	Local tourists	Day trippers
1980	Karo Plateau	21,100	23,500	27,400	849,000
	Lake Toba	40,700	45,300	64,000	461,000
	Minang Highlands	10,900	18,600	20,000	436,000
1985	Karo Plateau	39,600	54,000	67,800	915,000
	Lake Toba	61,100	82,500	65,000	665,000
	Minang Highlands	20,500	32,700	27,300	740,000
1990	Karo Plateau	61,400	107,000	91,600	1,169,000
	Lake Toba	83,200	138,200	91,600	851,000
	Minang Highlands	32,800	57,500	36,500	930,000
1995	Karo Plateau	78,700	194,600	139,000	1,470,000
	Lake Toba	103,300	229,400	113,800	1,130,000
	Minang Highlands	46,400	100,900	53,800	1,190,000

3. Tourism Accommodation Development Framework

The amount and schedule of tourism accommodation development in each of the tourism development zones have been set on the basis of the tourist distibution study.

The number of tourist bed-nights in each development zone as determined in the tourist distribution study has been allocated among the classes of tourism accommodation by tour type and tourist type. Room demand in each accommodation class has been determined on the basis of the assumed double occupancy index, room occupancy rate, and other factors, and the accommodation facility development has been allocated among the development areas on the basis of these room demand figures.

Tourism Accommodation Development Framework Flow Chart (Figure-3)



Tourist Bed-nights Projection (Table-8)

	Foreign tourists		Interregional tourists		Local tourists	Total
	1 or 2 bed-nights	3 bed-nights	1 or 2 bed-nights	3 bed-nights		
1980						
Karo Plateau	21,100	–	23,500	–	27,400	72,000
Lake Toba	28,900	73,200	34,300	61,500	64,000	261,900
Minang Highlands	19,100	–	27,100	–	20,000	66,200
Total	69,100	73,200	84,900	61,500	111,400	400,100
1985						
Karo Plateau	39,600	–	54,000	–	67,800	161,400
Lake Toba	47,800	105,000	65,500	111,000	65,000	394,300
Minang Highlands	29,500	10,500	44,600	7,500	27,300	119,400
Total	116,900	115,500	164,100	118,500	160,100	675,100
1990						
Karo Plateau	61,400	–	107,000	–	91,600	260,000
Lake Toba	65,900	141,900	108,900	197,700	91,600	606,000
Minang Highlands	33,400	37,500	70,200	29,100	36,500	206,700
Total	160,500	178,400	286,100	226,800	219,700	1,072,700
1995						
Karo Plateau	78,650	–	194,600	–	139,000	412,250
Lake Toba	72,050	190,800	155,400	372,000	113,800	904,050
Minang Highlands	46,400	54,000	100,800	92,700	53,800	347,700
Total	197,100	244,800	450,800	464,700	306,600	1,664,000

Tourist Bed-Nights Allocation by Hotel Accommodation Class

It has been assumed that foreign and domestic tourists who will have only short stays in the tourism development zones will have a high percentage of high-class accommodation and that those staying longer will have a higher percentage of economy-class accommodation.

	Accommodation class			
	SA	A	B	C
Foreign tourists				
Long stay	40	50	10	–
Short stay	30	40	30	–
Interregional tourist				
Long stay	–	30	40	30
Short stay	–	10	40	50
Local tourists	–	10	20	70

Note: A "long stay" in a particular tourism development zone is defined as at least three nights.

Tourism Accommodation Demand by Accommodation Class

The number of hotel rooms of each class that will be required in each tourism development zone has been determined on the basis of the double occupancy index and the room operation rate.

	Accommodation class			
	SA	A	B	C
Double occupancy index	1.5	1.8	1.8	2.5
Room operation rate	0.6	0.6	0.5	0.3
Bed-nights room requirement (per year)	328.5	394.2	328.5	273.8

Note: No. of bed-nights per year constituting demand for one hotel room in each class.

Accommodation Demand (Table-9)

		Accommodation class				
		SA	A	B	C	Total
1980	Karo Plateau	–	70	50	215	335
	Lake Toba	–	270	230	537	1,037
	Minang Highlands	–	70	50	254	378
1985	Karo Plateau	50	120	150	287	607
	Lake Toba	150	350	360	725	1,585
	Minang Highlands	45	110	100	298	553
1990	Karo Plateau	80	200	200	430	910
	Lake Toba	210	460	580	950	2,200
	Minang Highlands	75	170	190	360	795
1995	Karo Plateau	100	280	350	570	1,300
	Lake Toba	265	535	800	1,165	2,765
	Minang Highlands	105	230	340	420	1,095

Accommodation Facility Allocation

Besides the accommodation base function of the three tourist towns Brastagi, Parapat, and Bukittinggi, there will be two minor accommodation bases in the Karo Plateau area, three in the Lake Toba area, and one in the Minang Highland area, and the required accommodation capacity of each tourism development zone will be allocated among these major and minor accommodation bases.

The minor accommodation bases will be developed only after tourism activity in the tourist towns comes to exceed their accommodation capacitities.

For the most part, only those international and interregional tourists that have a long stay in a particular tourism development zone will stay at a minor accommodation base, those in the zone for a shorter duration almost all staying in the tourist towns.

Percentage Breakdown of Accommodation Capacity Required in Each Accommodation by Development Area (Table-10)

		Accommodation class				
		SA	A	B	C	Total
Karo Plateau	Brastagi	100	80	70	70	75 %
	North Karo	–	20	25	20	20
	Lake Kawar	–	–	5	10	5
Lake Toba	Parapat	80	65	50	53	53
	Central Samosir	20	20	20	15	18
	North Samosir	–	5	17	17	10
	Tongging	–	10	12	15	15
Minang Highlands	Bukittinggi	100	85	75	65	75
	Lake Maninjau	–	15	20	20	15
	Lake Shingkarak	–	–	5	15	10

Karo Plateau Accommodation Demand (Table-11)

(Unit: room)

	Accommodation class				
	SA	A	B	C	Total
1976-80					
North Karo	–	–	–	47 (–)	47 (–)
Brastagi	–	70 (50)	50 (50)	168 (–)	288(100)
Lake Kawar	–	–	–	–	–
Total	–	70 (50)	50 (50)	215 (–)	335(100)
1981-85					
North Karo	–	–	50 (50)	47 (–)	97 (50)
Brastagi	50 (50)	120 (50)	100 (50)	220 (52)	490(202)
Lake Kawar	–	–	–	20 (20)	20 (20)
Total	50 (50)	120 (50)	150 (100)	287 (78)	607(272)
1986-90					
North Karo	–	30 (30)	50 (–)	90 (43)	170 (73)
Brastagi	80 (30)	170 (50)	150 (50)	300 (80)	700(210)
Lake Kawar	–	–	–	40 (20)	40 (20)
Total	80 (30)	200 (80)	200 (50)	430(143)	910(303)
1991-95					
North Karo	–	55 (25)	90 (40)	125 (35)	270(100)
Brastagi	100 (20)	225 (55)	240 (90)	390 (90)	955(255)
Lake Kawar	–	–	20 (20)	55 (15)	75 (35)
Total	100 (20)	280 (80)	350 (150)	570(140)	1,300(390)

Note: The figures in parentheses indicate the number of additional rooms that have to be provided in each phase to bring the number of rooms in that class up to the current requirement.

Lake Toba Accommodation Demand (Table-12).

(Unit: room)

	Accommodation class				
	SA	A	B	C	Total
1976-80					
Tongging	–	–	–	49 (–)	49 (–)
Parapat	–	220 (93)	200 (49)	305 (100)	725 (242)
North Samosir	–	–	–	63 (–)	63 (–)
Central Samosir	–	50 (50)	30 (30)	120 (20)	200 (100)
Total	–	270 (143)	230 (79)	537 (120)	1,037 (342)
1981-85					
Tongging	–	20 (20)	30 (30)	90 (41)	140 (91)
Parapat	150 (150)	270 (50)	250 (50)	405 (100)	1,075 (350)
North Samosir	–	10 (10)	20 (20)	90 (27)	120 (57)
Central Samosir	–	50 (–)	60 (30)	140 (20)	250 (50)
Total	150 (150)	350 (80)	360 (130)	725 (188)	1,585 (548)
1986-90					
Tongging	–	50 (30)	80 (50)	140 (50)	270 (130)
Parapat	190 (40)	310 (40)	350 (100)	520 (115)	1,370 (295)
North Samosir	–	20 (10)	40 (20)	130 (40)	190 (70)
Central Samosir	20 (20)	80 (30)	110 (50)	160 (20)	370 (120)
Total	210 (60)	460 (110)	580 (220)	950 (225)	2,200 (615)
1991-95					
Tongging	–	65 (15)	140 (60)	195 (55)	400 (130)
Parapat	210 (20)	340 (30)	400 (50)	620 (100)	1,570 (200)
North Samosir	–	30 (10)	100 (60)	165 (35)	295 (105)
Central Samosir	55 (35)	100 (20)	160 (50)	185 (25)	500 (130)
Total	265 (55)	535 (75)	800 (220)	1,165 (215)	2,765 (565)

Minang Highlands Accommodation Demand (Table-13)

(Unit: room)

	Accommodation class				
	SA	A	B	C	Total
1976-80					
Bukittinggi	–	70 (23)	50 (30)	188 (–)	308 (53)
Lake Maningau	–	–	–	13 (–)	13 (–)
Lake Singkarak	–	–	–	53 (–)	53 (–)
Total	–	70 (23)	50 (30)	254 (–)	374 (53)
1981-85					
Bukittinggi	45 (45)	100 (30)	80 (30)	210 (22)	435 (127)
Lake Maningau	–	10 (10)	20 (20)	35 (22)	65 (52)
Lake Singkarak	–	–	–	53 (–)	53 (–)
Total	45 (45)	110 (40)	100 (50)	298 (44)	553 (179)
1986-90					
Bukittinggi	75 (30)	160 (60)	140 (60)	240 (30)	615 (180)
Lake Maninjau	–	10 (–)	40 (20)	60 (25)	110 (45)
Lake Singkarak	–	–	10 (10)	60 (7)	70 (17)
Total	75 (30)	170 (60)	190 (90)	360 (62)	795 (242)
1991-95					
Bukittinggi	105 (30)	200 (40)	260 (120)	270 (30)	835 (220)
Lake Maninjau	–	30 (20)	60 (20)	90 (30)	180 (70)
Lake Singkarak	–	–	20 (10)	60 (–)	80 (10)
Total	105 (30)	230 (60)	340 (150)	420 (60)	1,095 (300)

4. Tourism Facility Development Framework

The total amount of daytime visitor activity in each tourism development zone as determined in the tourist distribution study has been distributed among the tourism development areas in order to provide a frame for development of tourism facilities and tourism-related infrastructure.

The daytime activity of visitors staying at the tourism accommodation bases has been allocated in the vicinity of such bases.

Tourist and Day Tripper Day Time Activity Projection (Table-14)

(Visitor Day/Year)

		Foreign tourists	Inter-regional tourists	Local tourists	Day trippers	Total
1980	Karo Plateau	21,100	23,500	27,400	424,500	496,500
	Lake Toba	102,100	96,200	64,000	230,500	492,800
	Minang Highlands	19,100	27,100	20,000	218,000	284,200
1985	Karo Plateau	39,600	54,000	67,800	457,500	618,900
	Lake Toba	152,800	176,500	65,000	332,500	726,800
	Minang Highlands	40,000	52,100	27,300	370,000	489,400
1990	Karo Plateau	61,400	107,000	91,600	584,500	844,500
	Lake Toba	207,800	306,600	91,600	425,500	1,031,500
	Minang Highlands	70,900	99,300	36,500	465,000	671,700
1995	Karo Plateau	78,700	194,600	139,000	735,000	1,147,300
	Lake Toba	276,800	527,400	113,800	565,000	1,475,000
	Minang Highlands	100,400	193,500	53,800	595,000	942,700

Tourist and Day Tripper Day Time Activity Distribution: Karo Plateau (Table-15)

(Visitor Days/Average Day)

		Foreign tourists	Inter-regional tourists	Local tourists	Day trippers	Total
1985	North Karo	30	60	70	590	750
	Brastagi	70	70	80	420	640
	Lake Kawar	–	10	20	120	150
	Central Karo	10	10	20	120	160
	Total	110	150	190	1,250	1,700
1995	North Karo	50	170	110	800	1,130
	Brastagi	120	230	150	610	1,110
	Lake Kawar	20	40	70	300	430
	Central Karo	30	90	50	300	470
	Total	220	530	380	2,010	3,140

Tourist and Day Tripper Daytime Activity Distribution: Lake Toba Area (Table-16)

		Foreign tourists	Inter-regional tourists	Local tourists	Day trippers	Total
1985	Tongging	30	30	20	90	170
	East Toba	30	30	20	80	160
	Parapat	200	240	70	400	910
	North Samosir	40	40	10	40	130
	Central Samosir	120	140	50	200	570
	South Toba	–	–	10	40	50
	Total	420	480	180	910	1,990
1995	Tongging	90	190	50	170	500
	East Toba	60	140	50	170	420
	Parapat	300	610	90	540	1,540
	North Samosir	70	140	30	130	370
	Central Samosir	200	360	60	390	1,010
	South Toba	–	–	30	150	180
	Total	720	1,440	310	1,550	4,020

Tourist and Day Tripper Day Time Activity Distribution: Minang Highlands (Table-17)

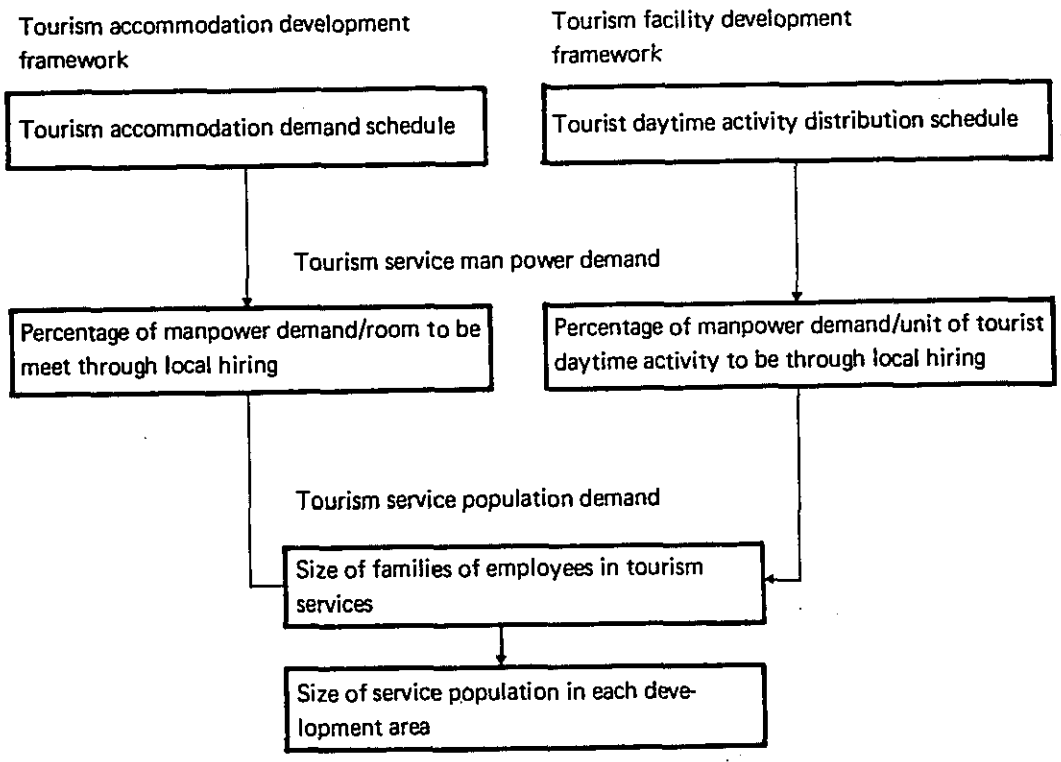
		Foreign tourists	Inter-regional tourists	Local tourists	Day trippers	Total
1985	Bukittinggi	70	100	40	460	670
	Lake Maninjau	20	20	10	190	240
	North Minang	–	–	–	–	–
	Payakumbuh	–	–	10	60	70
	Batu Sangkar	10	10	–	130	150
	Padang Panjang	10	–	10	70	90
	Lake Singkarak	–	10	10	100	120
	Total	110	140	80	1,010	1,340
1995	Bukittinggi	130	250	50	490	920
	Lake Maninjau	50	100	30	290	470
	North Minang	10	20	–	30	60
	Payakumbuh	20	30	10	160	220
	Batu Sangkar	30	60	20	250	360
	Padang Panjang	20	30	20	180	250
	Lake Singkarak	20	40	20	240	320
	Total	280	530	150	1,640	2,600

5. Tourism Service Population Framework

The tourism service population has been set for each of the three tourist towns. Since in the case of Bukittinggi, however, it will only amount to about 3% of the total population, it has not been considered in determining the overall size of the town.

As the need for personnel in tourism services increases, it will be possible to increase the proportion of such personnel that are hired from among the local population.

Tourism Service Population Framework Flow Chart (Figure-4)



Estimated Tourism Service Manpower Demand (Table-18)

		Accommodation service manpower	Other tourism service manpower	Total
1980	*Karo Plateau*	478	1,811	2,289
	Lake Toba	1,037	721	1,758
	Minang Highlands	374	368	742
1985	*Karo Plateau*	607	890	1,497
	Lake Toba	1,585	1,033	2,618
	Minang Highlands	553	596	1,149
1990	*Karo Plateau*	910	1,096	2,006
	Lake Toba	2,200	1,418	3,618
	Minang Highlands	795	369	1,164
1995	Karo Plateau	1,300	1,553	2,853
	Lake Toba	2,665	1,983	4,648
	Minang Highlands	1,095	976	2,071

Note: Accommodation service manpower: 1 person/room
Other tourism service manpower: 0.58 persons/one day of visitor daytime activity

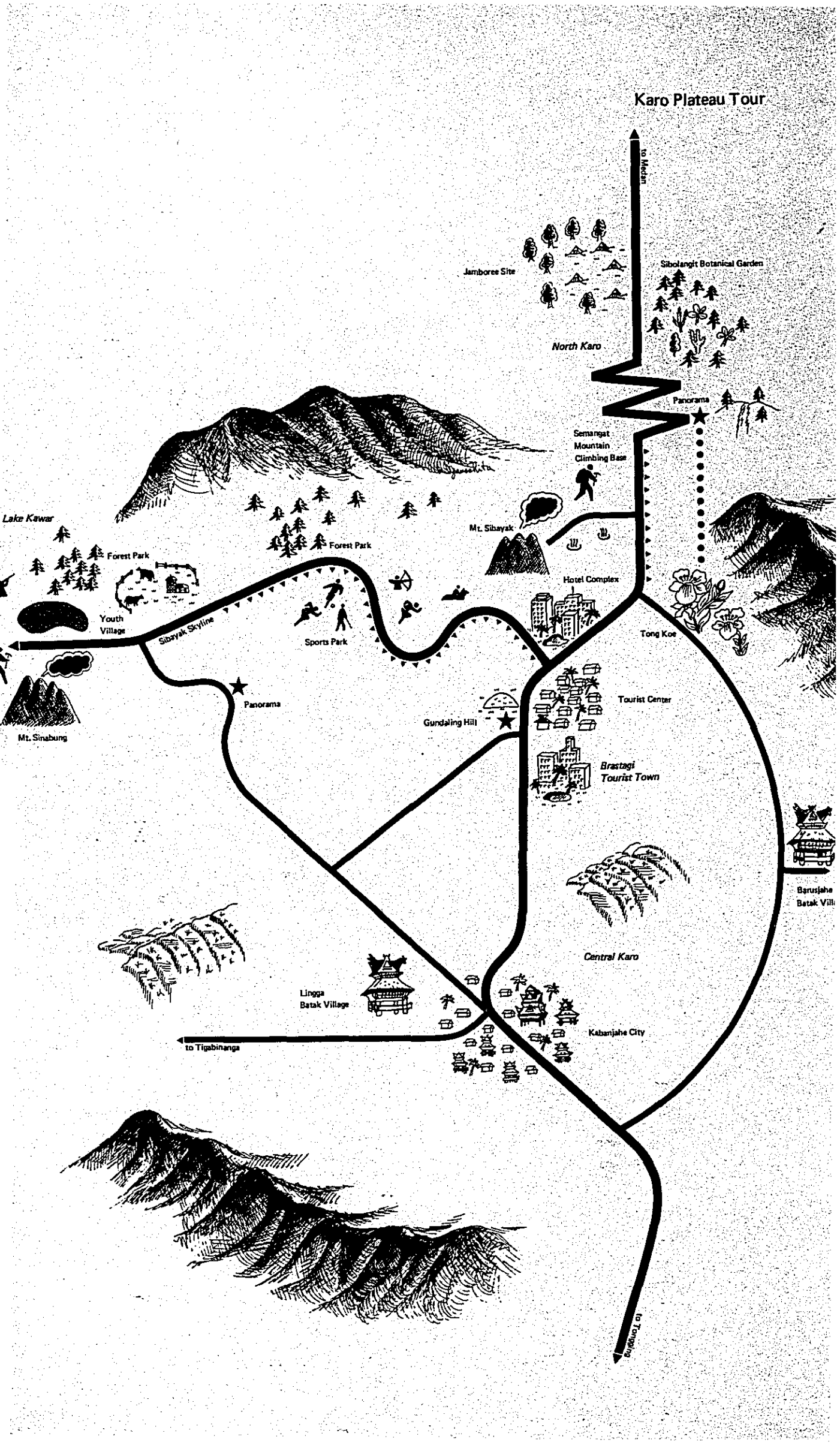
Estimated Tourism Service Population (Table-19)

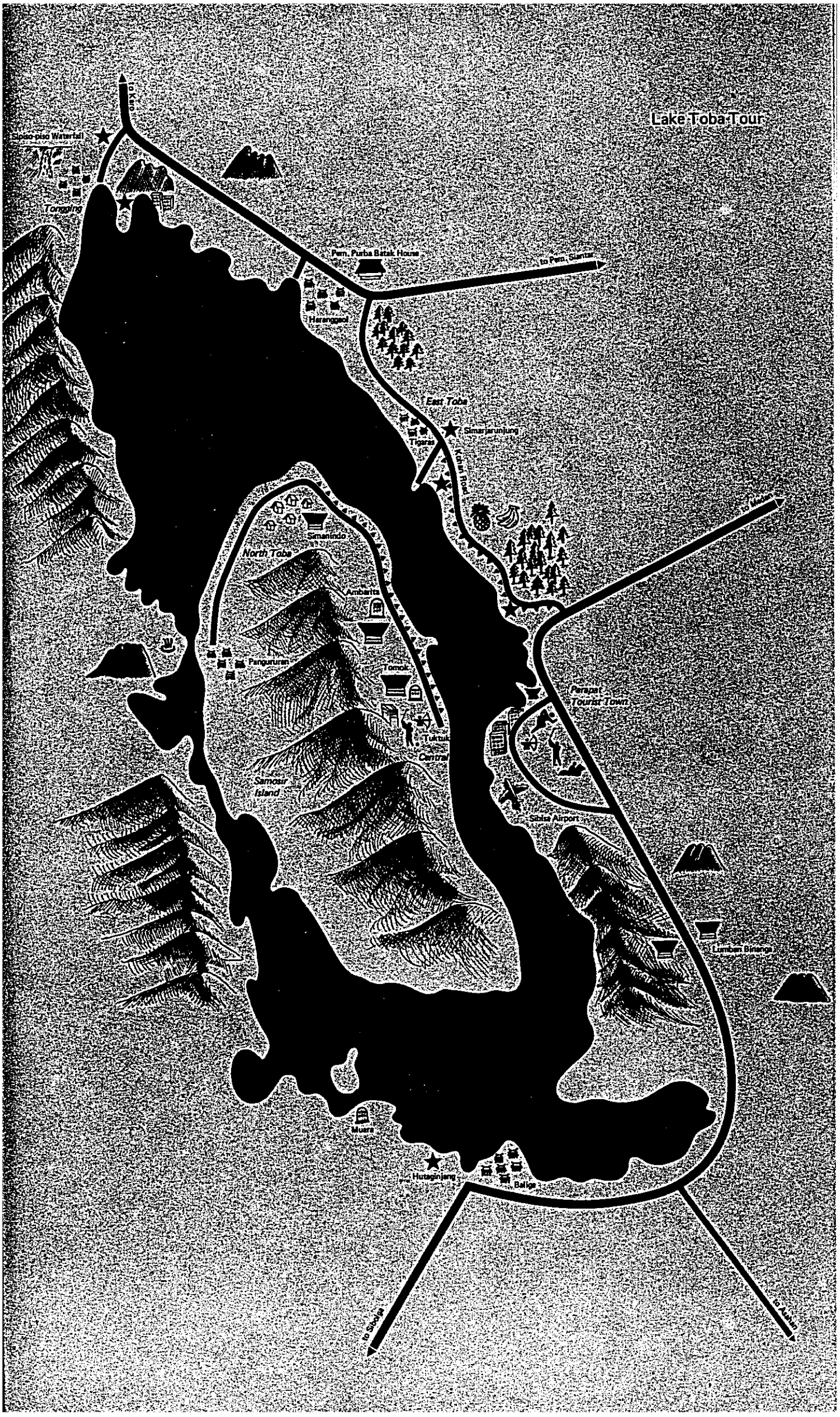
		Locally hired	Hire outside the areas	Total
1985	Brastagi	830	1,590	2,420
	Rest of Karo Plateau	690	1,110	1,800
	Parapat	1,360	3,160	4,520
	Rest of Lake Toba	850	1,990	2,840
	Bukittinggi	910	1,400	2,310
	Rest of Minang Highlands	390	530	920
1995	Brastagi	1,530	2,970	4,500
	Rest of Karo Plateau	1,310	2,210	3,520
	Parapat	2,080	4,860	6,940
	Rest of Lake Toba	1,910	4,500	6,420
	Bukittinggi	1,450	2,400	3,850
	Rest of Minang Highlands	840	1,130	1,970

Note: It has been assumed that one-third of the tourism service employees are single, that the wife will also be employed in a tourist service in the case of one-half of those that are married and that the average size of the family of a married employee is five persons.

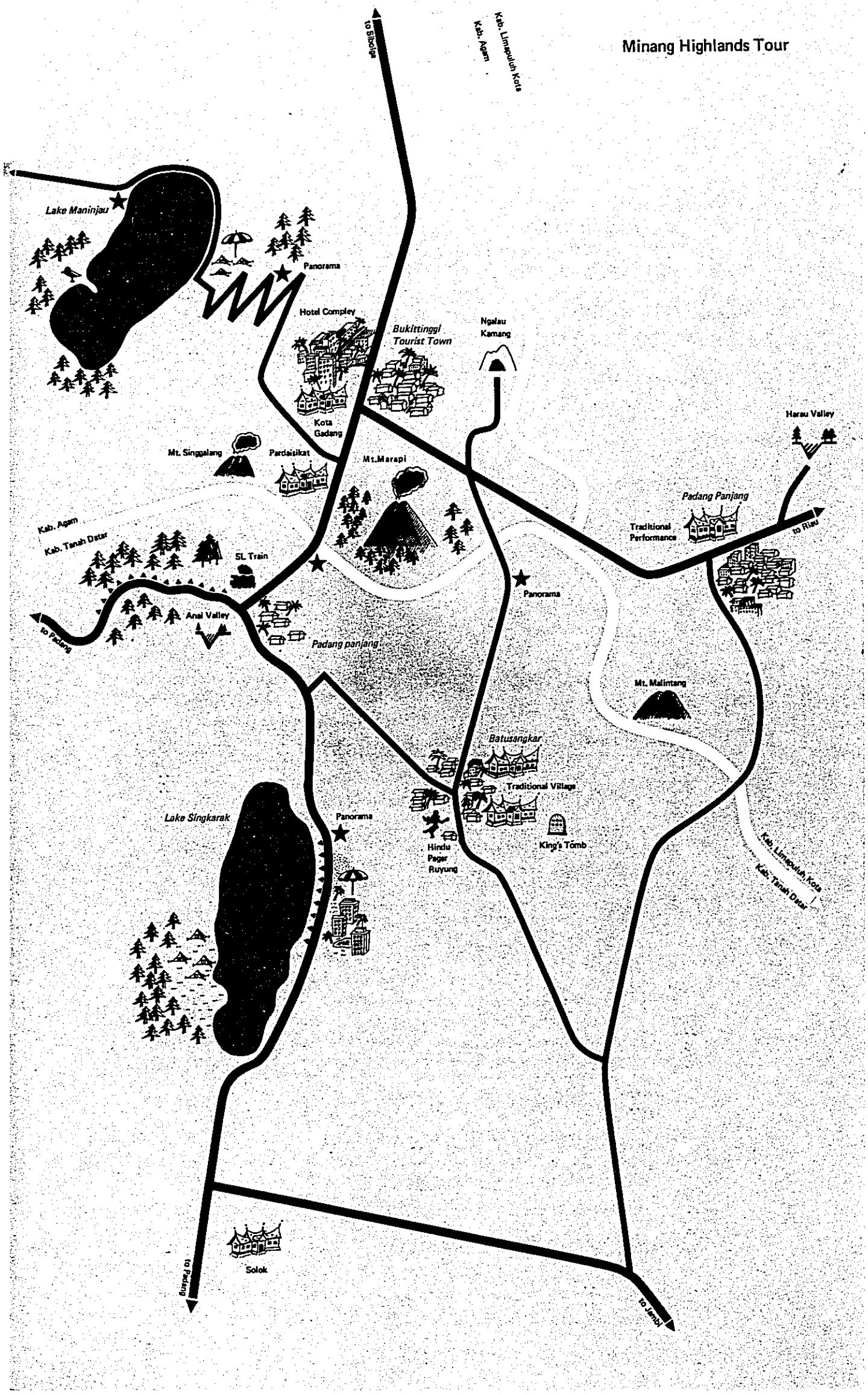
3

PAPER 3: TOURISM RESOURCES AND TOUR PROGRAM


Karo Plateau Tour
to Medan
Jamboree Site
Sibolangit Botanical Garden
North Karo
Panorama
Semangat
Mountain
Climbing Base
Lake Kawar
Forest Park
Forest Park
Mt. Sibayak
Hotel Complex
Youth
Village
Sibayak Skyline
Sports Park
Tong Koe
Panorama
Tourist Center
Gundaling Hill
Mt. Sinabung
Brastagi
Tourist Town
Barusjahe
Batak Vill
Central Karo
Lingga
Batak Village
Kabanjahe City
to Tigabinanga
to Tomohon


Lake Toba Tour
to Karo
Sipiso-piso Waterfall
Tongging
Pem. Purba Batak House
to Pem. Siantar
Harangaol
East Toba
Simarjarunjung
Tigaras
Kaban Road
to Medan
Simantindo
North Toba
Ambarita
Pangaruran
Tomok
Tuktuk
Central
Samosir
Island
Parapat
Tourist Town
Silalsa Airport
Lumban Binanga
Muara
Hutaginjang
Baliga
to Sibolga
to Asahan

Minang Highlands Tour



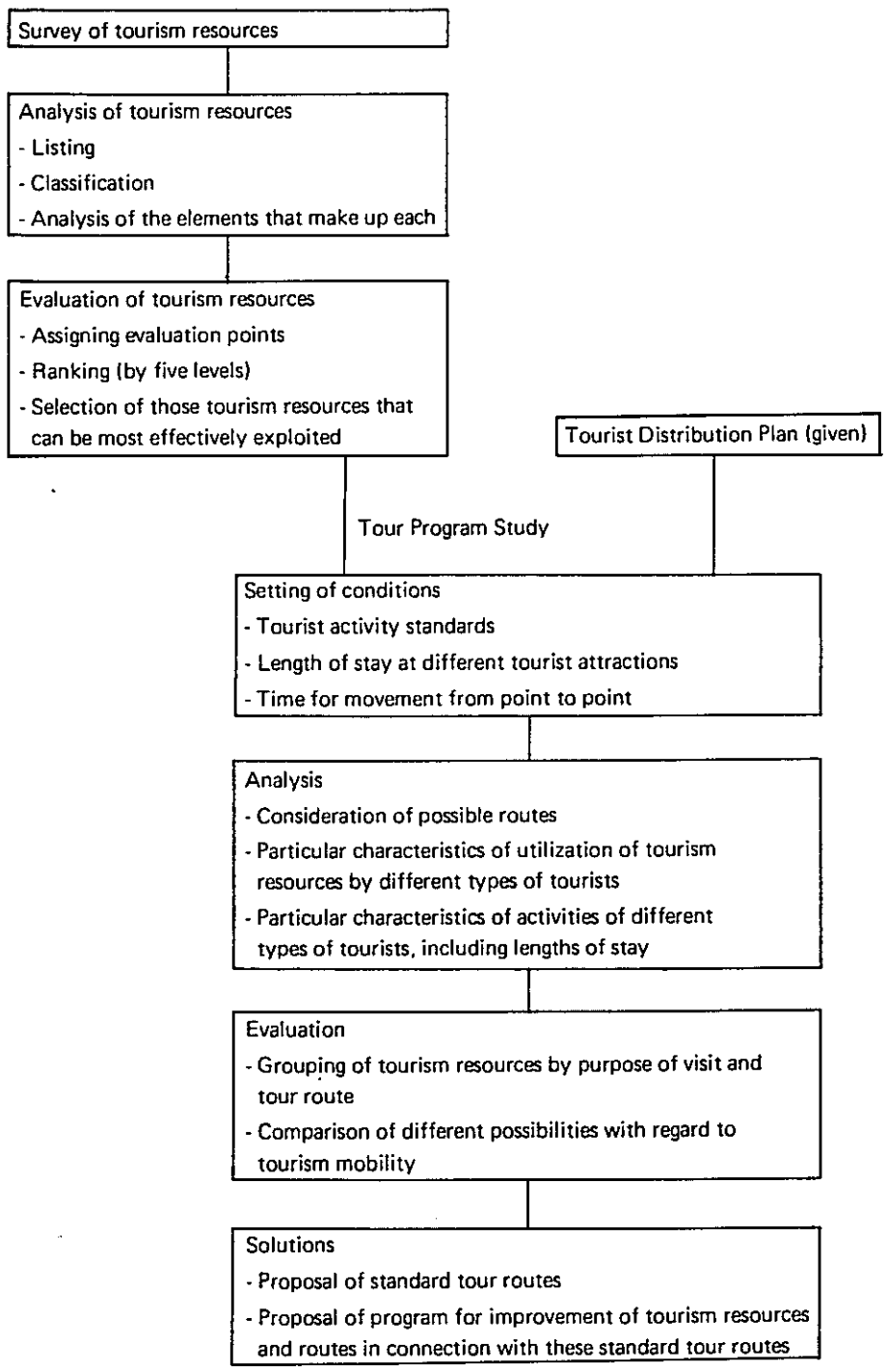
1. General

The aim of this chapter is twofold: (1) To inventory, analyze, and evaluate the existing tourism resources in North and West Sumatra and to select those that can be effectively incorporated in future development. (2) To set tourism routes and formulate tourist activity programs on the basis of such selection and using the tourist distribution plan as a framework.

The results of these tourism resource and tour program studies will serve as development guidelines for other areas of physical planning such as transportation planning, tourist facility planning, and tourism resource improvement planning.

The following are flow charts for these two studies.

Tourism Resource Study



2. Tourism Resources Study

Kinds and Distribution of Tourism Resources

North and West Sumatra can be given a good rating in terms of tourism resources in comparison with other provinces in Indonesia. What we mean here by "tourism resources" is natural, human and cultural, and recreational resources that are directly connected with tourism. As in the past, such tourism resources can be expected to continue to attract tourists to the area in the future.

Most of these attractions in the area are to be found in the Medan, Karo Plateau, and Lake Toba areas in North Sumatra and the Padang and Minang Highlands areas in West Sumatra. We have even number them: 62 in North Sumatra and 50 in West Sumatra.

The field survey of such tourist attractions covered 76 or approximately 70% of them, the others having been considered less important. On the basis of the results of the survey, each of the attractions was classified into one of the three major categories: natural tourist attraction, cultural or human tourist attraction, and recreational tourist attraction. Furtheremore, the first categories was subdivided into 18 types, the second into 12 types, and the third into three types. Tables 3 and 4 give such classification in matrix form, and the Table below in simple numerical breakdown form.

		Natural tourism resources	Cultural or human tourism resources	Recreational tourism resources
Classification of 76 most important attractions	North Sumatra	16 (38%)	18 (43%)	8 (19%)
	West Sumatra	15 (44%)	14 (41%)	5 (15%)
Classification of all 112 tourism resources	North Sumatra	40 (49%)	29 (35%)	13 (16%)
	West Sumatra	40 (56%)	18 (21%)	14 (19%)

Note: Some of the tourism resources are counted more than once as falling under more than one category or type.

Constituent Elements of Tourism Resources

If the different elements that make up each of the tourism resources are considered, one finds that in the case of both North and West Sumatra the "scenic element" and the "natural element" together account for 60-70% of the total number of such elements.

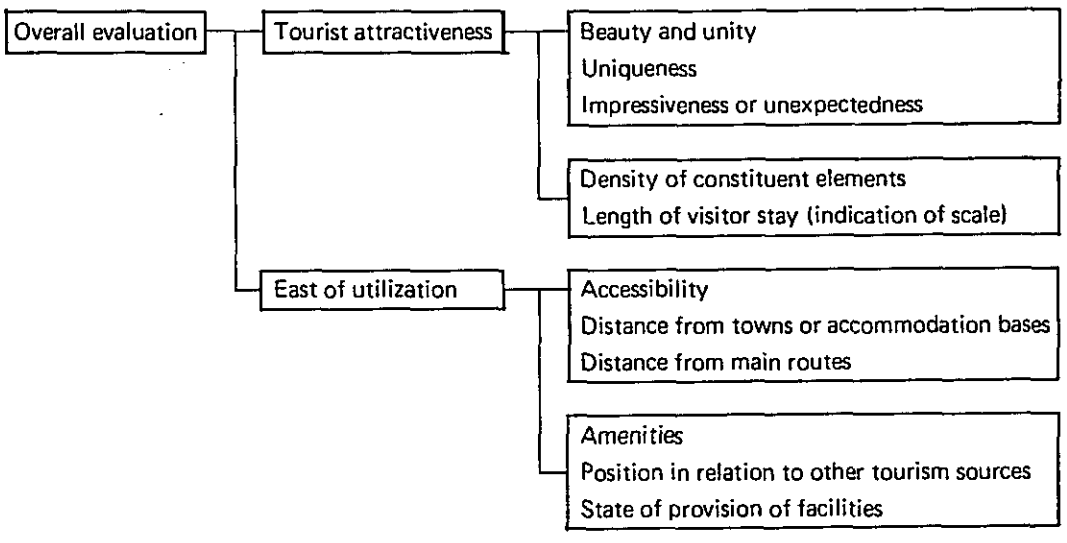
Breakdown of Tourism Resources by Constituent Elements

	North Sumatra	West Sumatra
Scenic element	47 (36%)	42 (47%)
Natural element	36 (27%)	21 (24%)
Cultural element	34 (26%)	18 (20%)
Facility element	14 (11%)	8 (9%)
Total	131	89

Table 5 and 6 give in matrix form the kinds of possible tourism activity as based on analysis of the elements that make up the tourism resources. The most salient point is the wide scope of such tourism activities. Considering the state of endowment of tourism resources of the two provinces, tourism activities in them will consist primarily of scenic tours and secondarily of cultural (archeology, folklore, festivals, etc.) and recreational activities.

Evaluation of Tourism Resources

On the basis of the field survey and other available data each of the tourism resources has been evaluated in terms of its attractiveness, accessibility and amenities, 5-1 points being assigned for each factor to make the evaluation quantitative. The diagram below indicates the different factors considered.



The points for the different factors of attractiveness represent the averages of the points assigned individually by the members of the survey team on the basis of individual impressions.

The criteria for evaluation of length of visitor stays and distance from accommodation bases were as follows:

Length of stay	Points	Distance from accommodation in travel time	Points
Under 15 min.	1	Under 30 min.	5
15 - 30 min.	2	30 min. - 1 hr.	4
30 min. - 1 hr.	3	1 - 2 hr.	3
1 - 2 hr.	4	2 - 3 hr.	2
Over 2 hr.	5	Over 3 hr.	1

The factors having to do with attractiveness were evaluated together as the sum of their separate points, as were those having to do with ease of utilization, and then assigned an overall ranking of A, B, C, D, or E (5, 4, 3, 2, or 1 points). Next, attractiveness and ease of utilization were given a composite evaluation by adding their points after weighing them according to three different cases as indicated below:

	Attractiveness	Ease of utilization
Case 1	50%	50%
Case 2	60%	40%
Case 3	70%	30%

The reason why three cases have been considered is that in the course of development accessibility and amenities will generally improve, and they will therefore become less relevant in evaluation of the tourism resources.

In the composite evaluation the tourism resource has been rated "A" if it has high scores both for attractiveness and ease of utilization, "B" if it has a high score for either one, or "C," "D," or "E," depending on how low each of the scores is.

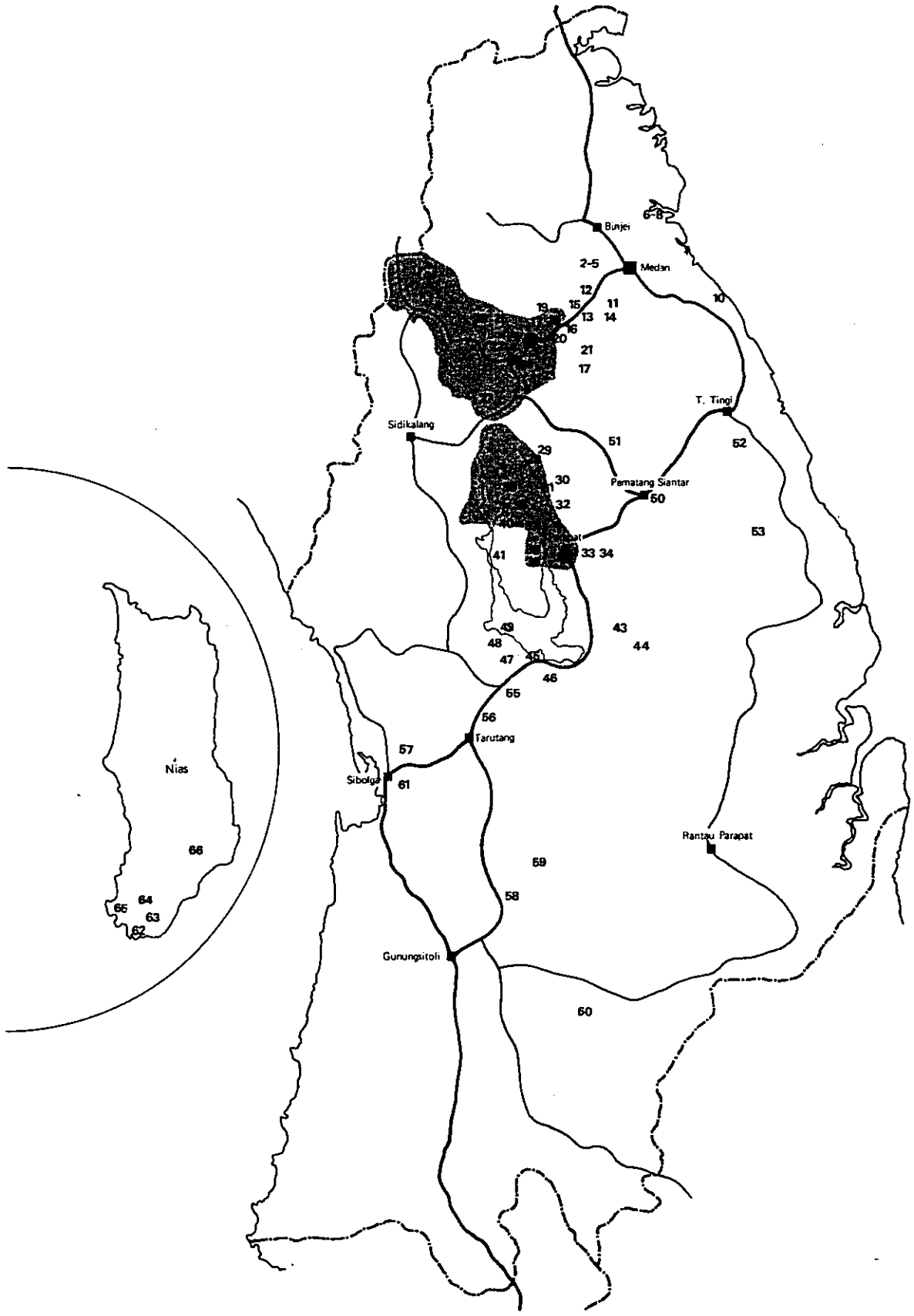
Since one can expect considerablechange in the evaluation of the tourism resources as they are developed in the future, we have also evaluated them in terms of ease of development.

Table 7 and 8 show how this evaluation was carried out and the results of it, and Tables 9 and 10 give the results of the evaluation by type of tourism resource.

List of Tourist Objects in North Sumatra (Table-1)

Location		Name	Kind
Bohorok	01	The Orang Utan Rehabilitation Center	Animals
Medan	02	Istana Maimoon	Palace
	03	*Mesjid Raya*	Mosque
	04	Medan Fair	Park
	05	*Tapian Daya Culture Center*	Cultural center
Medan-Belawan	06	Pekan Hamparan Perak	Traditional village
	07	Tobacco Plantation	Plantation
	08	Chinese Temple	Temple
Medan coast	09	Percut	Beach and fishing resort
	10	Pantai Cermin	Beach
North Karo	11	Cua Degan Aksara Batak	Cave and ancient writing
	12	Sembahe	Recreation area
	13	Sibolangit	Botanical reservation
	14	Sibolangit	International jamboree area
	15	Bandar Baru	Hill resort and camping ground
	16	Sikulikap	Waterfall
	17	Lau Sidebuk-debuk	Hot sping and swimming pool
	18	Semangat Gunung	Hot spring
	19	Mt. Sibayak	Active volcano
	20	Tongkoh	Mountain flowers
Brastagi and vicinity	21	Gundaling Hill	Park and panoramic view
	22	Lingga	Karo Batak traditional village
	23	Barusjahe	Karo Batak traditional village
	24	Karo Museum	Museum
	25	Lake Kawar	Lake
	26	Mt. Sinabung	Active volcano
	27	Sipiso-piso	Waterfall and panoramic view
North Toba	28	*Haranggaol*	*Scenery and beach*
	29	Pematang Purba	Traditional royal village
	30	*Simarjarungjung*	*Panoramic view*
	31	Tigaras	Scenery and beach
	32	Tobakohan road	Scenery
Parapat	33	Parapat	Lake resort
	34	Ajibata	Lake resort
Central Samosir	35	Coffin of King Sidabutar at Tomok	Toba Batak remnants
	36	Tuk-tuk Siadong	Lake resort
	37	King's Court at Ambarita	Toba Batak remnants
North Samosir	38	Tao Isle	Lake resort
	39	*King's house remnants at Simanindo*	*Toba Batak remnants*
	40	Pangururan	Canal and hot spring
	41	*Simbolon*	*Hot spring*
Asahan	42	Simangkuk	Panorama
	43	Sigragura	Waterfall
	44	Tangga	Waterfall
South Toba	45	Balige	Lake beach resort
	46	Gurgur	Panorama
	47	Hutaginjang	Panorama
	48	Fort of King Sisingamangaraja XII	Tomb
	49	Sibandang Island	Lake resort
Other areas	50	*Pem. Siantar Museum*	Museum
	51	Plantation	Big plantation
	52	*Kramat Qubah at Perdagangan*	*Monkey resort*
	53	Lake Jandor	Small Lake
	54	*Tingi Raja*	*Hot spring*
	55	Siborongborong	Horse Racing
	56	*Sipoholon*	*Hot spring*
	57	Bonandolok	Scenery
	58	*Sipirock*	*Hot spring*
	59	Siamngambat	Hunting resort
	60	*Portibi*	*Hindu temple*
	61	Sibolga	Fishing resort
Nias Island	62	Telk Dalam	Beach
	63	Bawomatabuo	Traditional village
	64	Hilisameitano	Traditional village
	65	Lagudri	Beach resort
	66	Gomo	Historic site

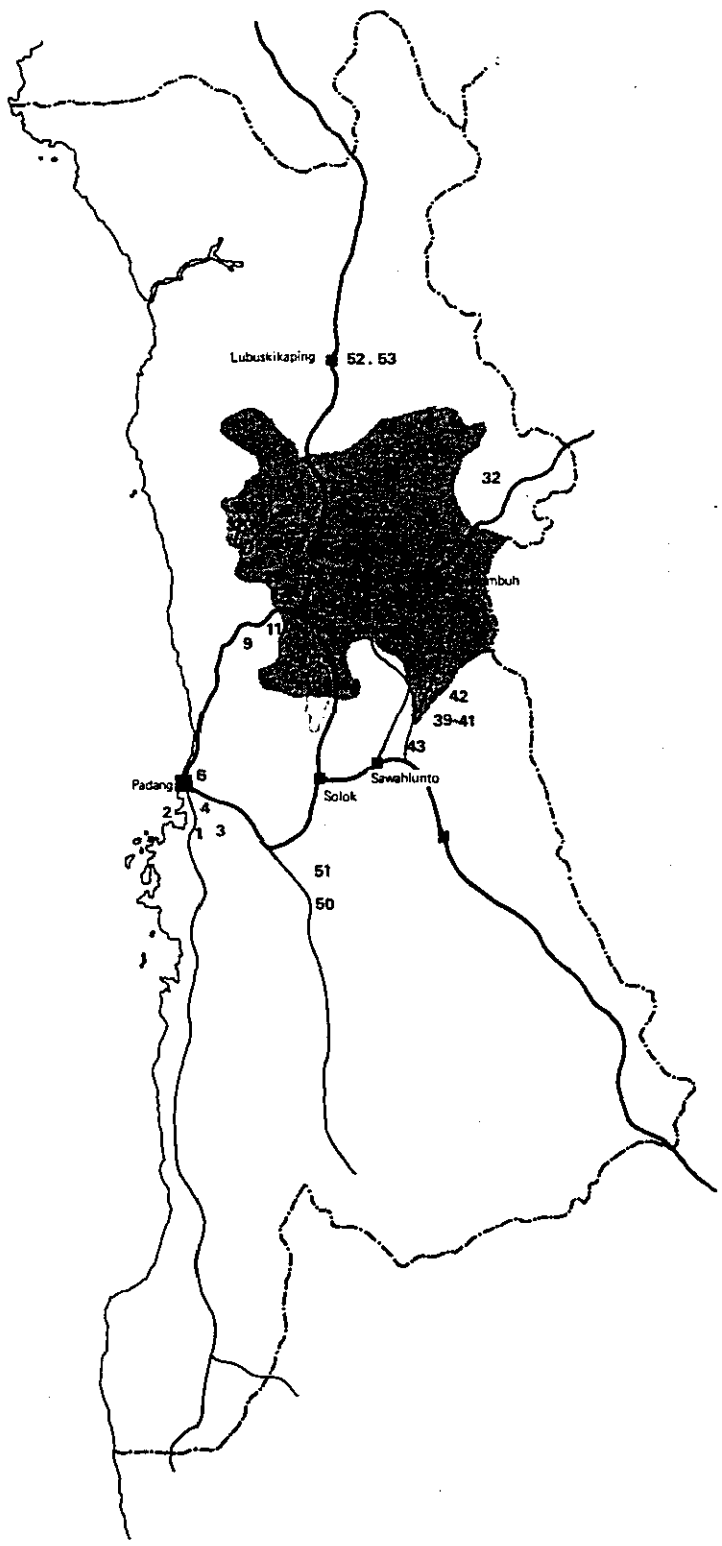
Distribution of Tourism Resources: North Sumatra (Figure-1)



List of Tourist Objects in West Sumatra (Table-2)

Location		Name	Kind
Padang	01	Bungus beach	Beach
	02	Puncap Lampu	Scenery port and lighthouse
	03	Taman Nirwanta	Beach
	04	Air Manis	Beach
	05	Taman Siti Nurbaya	Garden and grave
	06	Padang Museum	Museum
Padang Panjang	07	Lubuk Minturun	River for swimming
	08	Lubuk Simantung	River for swimming
	09	Kiambang	Landscape and monkey demonstration
	10	Lubuk Bonta	Natural swimming pool and landscape
	11	Anai Valley	Nature reservation
	12	Air Angek	Hot spring
Bukittinggi	13	Benteng Fort De Kock	Park and scenery
	14	Ngari Sianok	Landscape and park
	15	Panorama Baru	Panoramic view
	16	Taman Bundo Kandung	Zoological garden
	17	Rumah Gadang	Museum
	18	Pasar	Market
	19	Jam Gadung	Big clock
Bukittinggi surrounding area (within 30 km)	20	Mt. Marapi	Active volcano
	21	Mt. Singgalang	Extinct volcano
	22	Ngalau Kamang	Stalactite cave
	23	Batang Palupuh	Raflesia Arnoldi
	24	Pandai Sikat	Handicraft
	25	Koto Gadang	Handicraft
	26	Silungkang	Handicraft
	27	Sungai Puar	Handicraft
	28	Sungai Tanang	Spring
	29	Sungai Janieh	Spring
	30	Permandian Bantola	Natural swimming pool
	31	Panaha Bundo	Dam
Bukittinggi surrounding area (more than 30 km)	32	Harau Valley	Kanyon and Panorama
	33	Padang Menggatas	Mountain
	34	Tabek Patah	Scenery
	35	Puncak Lawang	Panoramic view, mini golf and horse racing
	36	Embun Pagi	Panoramic view
	37	44 hairpin descendings	Scenery
	38	Lake Maninjau	Lake resort
	39	Minangkabau Palace	Museum
	40	Written stone	Cultural heritage
	41	Kings palace	Historic site
	42	Tanjun Sungyang	Minan traditional village
	43	Pagar Ruyung	Hindu historik site
	44	Wisma Kesuma	Lake resort
	45	Villa Maljohau	Lake resort
	46	Panorama Tanjung Alai	Panoramic view
	47	Air Panas Batang Kili	Hot spring
	48	Danau Singkarak	Lake resort
	49	Solok	Traditional village
	50	Danau Diatas	Small lake
	51	Danau Dibawah	Small lake
	52	Bonjol	The Equator and museum
	53	Fort of Iman Bonjol	Historic Site

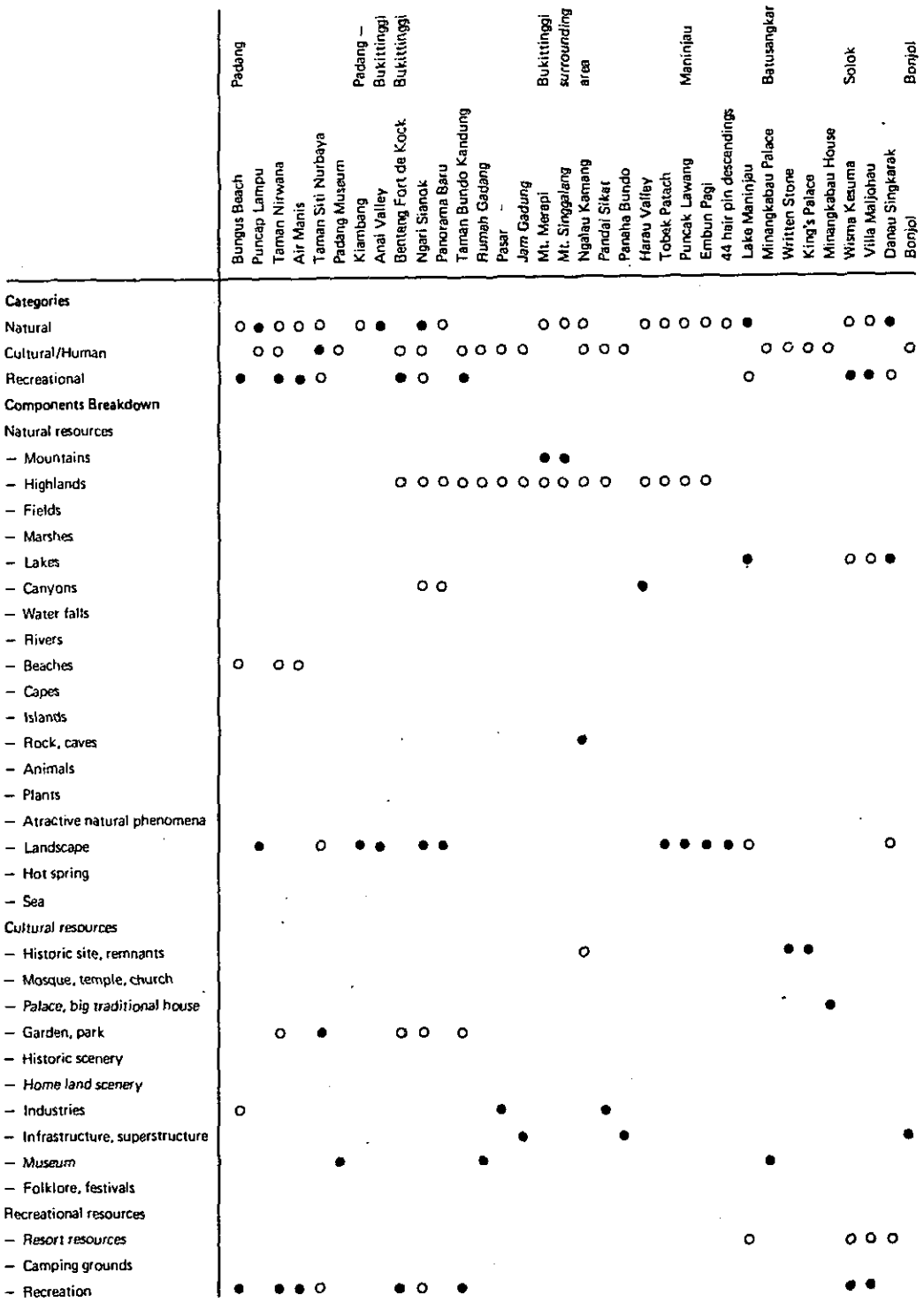
Distribution of Tourism Resources: West Sumatra (Figure-2)



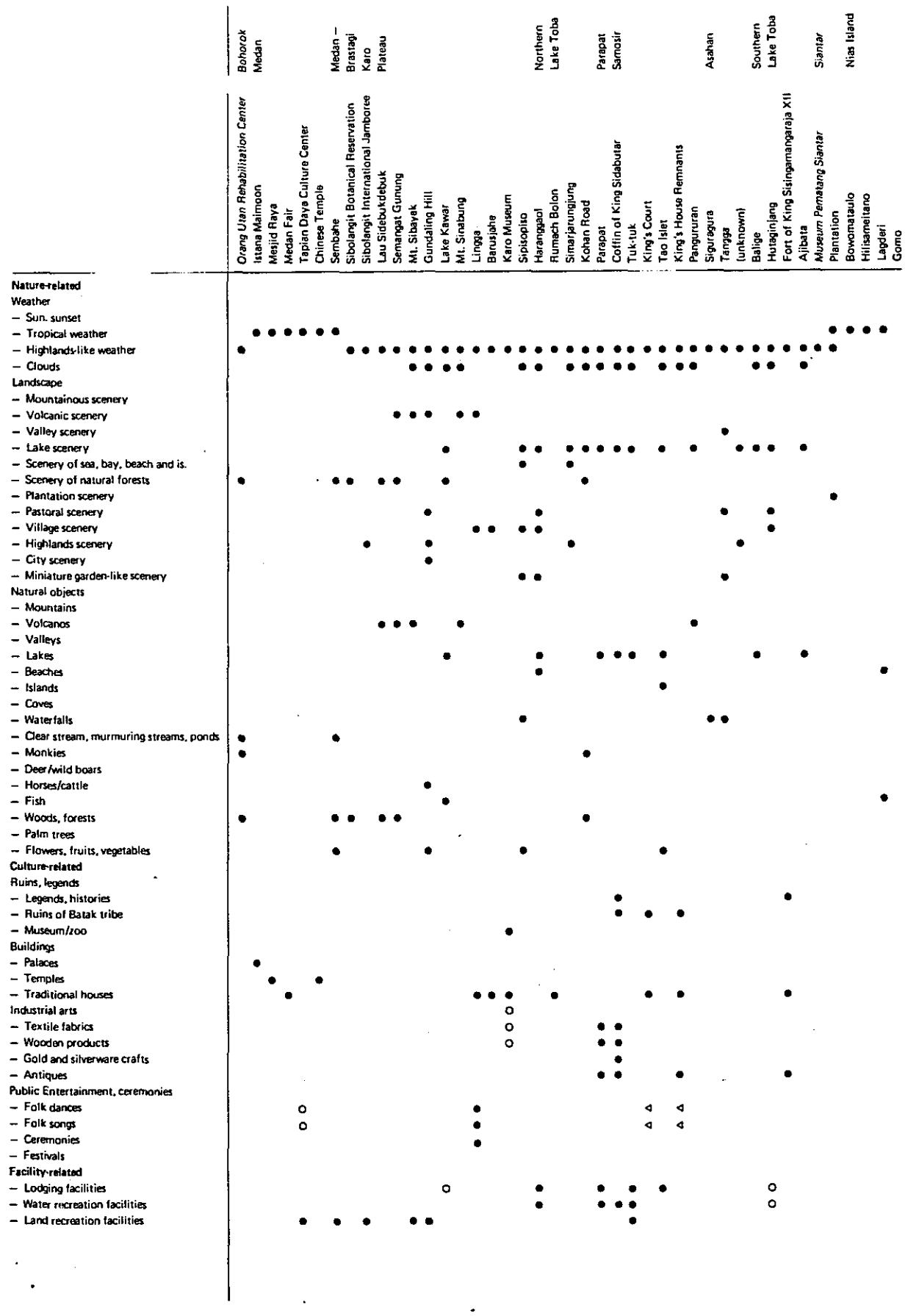
Classification of Major Tourist Objects: North Sumatra (Table-3)

	Bohorok	Medan					Medan – Brastagi		Karo Plateau										Northern Lake Toba					Parapat Samosir							Asahan			Southern Lake Toba				Siantar		Nias Island			
	Orang Utan Rehabilitation Center	Istana Maimoon	Mesjid Raya	*Medan Fair*	Tapian Daya Culture Center	Chinese Temple	Sembahe	Sibolangit Botanical Reservation	Sibolangit International Jamboree	*Lau Sidebukdebuk*	Semangat Gunung	Mt. Sibayak	Gundaling Hill	Lake Kawar	Mt. Sinabung	*Lingga*	Barusjahe	Karo Museum	Sipisopiso	Haranggaol	Rumach Bolon	*Simarjarungjung*	Kohan Road	Parapat	Coffin of King Sidabutar	Tuk-tuk	King's Court	*Tao Islet*	King's House Remnants	Pangururan	Siguragura	Tangga	(unknown)	*Balige*	Hutaginjang	Fort of King Sisingamangaraja XII	Ajibata	Museum Pematang Siantar	Plantation	*Bowomataulo*	Hilisameitano	Lagderi	Gomo
Categories																																											
Natural	●						○	○		○	○	○		●	○				○	●		○	○	○		○		○		○	○	○	○	○	○		○						
Cultural/Human		○	○	○	○	○							●			○	○	○		○	○			○	○	○	○	○	○							○		○	○	○	○		○
Recreational	○						●		○	●			○	○						○				●		●		●						●			●					○	
Components Breakdown																																											
Natural resources																																											
– *Mountains*												●			●																												
– Highlands									○				○	○	○	○	○	○	○													●											
– Fields																																											
– Marshes																																											
– Lakes														●						○				○		○		○							○		○						
– Canyons																																											
– Water falls																			○												●	●											
– Rivers							○																																				
– Beaches																			○																								
– Capes																																											
– Islands																												○															
– Rock, caves																																											
– Animals	●																																										
– Plants								●																																			
– Atractive natural phenomena											○	○																															
– Landscape											○		○	○					●	●		●	●									○	●		●								
– Hot spring										○	●																			●													
– Sea																																										●	
Cultural resources																																											
– *Historic site, remnants*																									●											●							
– Mosque, temple, church			●			●																																					
– Palace, big traditional house		●														●	●				●								●														
– Garden, park				●	●								●																														
– Historic scenery																											●													●	●		
– Home land scenery																○	○			○																							
– Industries																																							●				
– Infrastructure, superstructure																								○	○	○		○															
– Museum																		●																				●					
– Folklore, festivals					○											○								○			○		○														
Recreational resources																																											
– Resort resources														○						○				●		●		●															
– Camping grounds									●																																		
– Recreation	○						●			●		○																															

Classification of Major Tourist Objects: West Sumatra (Table-4)



Component Elements of Tourism Resources: North Sumatra (Table-5)



Component Elements of Tourism Resources: West Sumatra (Table-6)

	Padang						Padang – Bukittinggi		Bukittinggi							Bukittinggi surrounding area							Maninjau				Batusangkar				Solok			Bonjol
	Bungus Beach	Puncap Lampu	Taman Nirwana	Air Manis	Taman Siti Nurbaya	*Padang Museum*	Kiambang	Anai Valley	Benteng Fort de Kock	Ngari Sianok	Panorama Baru	Taman Bundo Kandung	Rumah Gadang	Pasar	Jam Gadung	Mt. Merapi	Mt. Singgalang	Ngalau Kamang	Pandai Sikat	Panaha Bundo	Harau Valley	Tobek Patach	Puncak Lawang	Embun Pagi	44 hair pin descendings	Lake Maninjau	Minangkabau Palace	'Written Stone	King's Palace	Minangkabau House	Wisma Kesuma	Villa Maljohau	Danau Singkarak	Bonjol
Nature-related																																		
Weather																																		
– Sun. sunset	●	●	●	●																														
– Tropical weather	●	●	●	●	●	●	●																											
– Highlands-like weather								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
– *Clouds*								●															●	●	●	●								
Landscape																																		
– Mountainous scenery								●	●	●	●						●					●	●	●	●	●								
– Volcanic scenery																●																		
– *Valley scenery*								●		●	●										●													
– Lake scenery																							●	●	●	●					●	●	●	●
– Scenery of sea, bay, beach and is.	●	●	●	●	●																			●										
– Scenery of natural forests								●			●										●													●
– Plantation scenery																							●											
– Pastoral scenery							●			●												●	●	●	●									
– Village scenery																																		
– Highlands scenery									●																									
– City scenery									●																									
– Miniature garden-like scenery								●																										
Natural objects																																		
– Mountains																	●																	
– Volcanos																●																		
– Valleys																					●													
– Lakes																										●					●	●	●	
– *Beaches*	●		●	●																														
– Islands																																		
– Coves																																		
– Waterfalls								●													●													
– *Clear stream, murmuring streams, ponds*																				●														
– Monkies							●	●																										
– Deer/wild boars																																		
– Horses/cattle																																		
– Fish																																		
– Woods, forests																																		
– Palm trees	●		●	●																														
– Flowers, fruits, vegetables																																		
Culture-related																																		
Ruins, legends																																		
– Legends, histories			●	●				●									●												●					
– Ruins of Batak tribe																																		
– Museum/zoo						●						●	●															●						
Buildings																																		●
– Palaces																												●						
– Temples																																		
– Traditional houses																														●				
Industrial arts																																		
– Textile fabrics						●							●																					
– *Wooden products*						●							●						●															
– Gold and silverware crafts																																		
– Antiques						●							●																					
Public Entertainment, ceremonies																																		
– Folk dances																																		
– Folk songs																																		
– Ceremonies																																		
– Festivals																																		
Facility-related																																		
– Lodging facilities																										●					●	●		
– Water recreation facilities																										●								
– Land recreation facilities									●	●		●									●													

Evaluation of Tourism Resources: North Sumatra (Table-7)

		Utilization Applicability as tourism resources – For international tourism	– For local tourism	– For both international and local tourism	Evaluation of tourism resources / Evaluation of the tourism resources standard – Beauty and unity	– Uniqueness	– Forcefulness, unexpectedness	– Density of component elements	– Scale, period of stay	– Average	– Evaluation	Easiness of utilization – Distance from cities or loading bases	– Distance from the main route	– Closeness to other tourism sites	– Arrangement of facilities	– Average	– Evaluation	Composite evaluation – Case 1 - 50/50	– Case 2 - 60/40	– Case 3 - 70/30	– Composite evaluation	Reference – Ease of development
Bohorok	Orang Utan Rehabilitation Center			O	3	5	4	4	5	21	A	1	1	1	2	5	E	3.0	3.4	3.8	C	B
Medan	Istana Maimoon	O			4	4	2	3	2	15	C	5	5	5	5	20	A	4.0	3.8	3.6	B	C
	Mesjid Raya		O		4	4	2	3	1	14	C	5	5	5	4	19	A	4.0	3.8	3.6	B	C
	Medan Fair		O		4	4	2	3	3	15	C	5	5	5	5	20	A	4.0	3.8	3.6	B	D
	Tapian Daya Culture Center			O	4	3	2	4	4	18	C	4	5	5	5	19	A	4.0	3.8	3.6	B	C
	Chinese Temple		O		1	1	1	1	1	5	E	4	5	3	1	13	C	2.0	1.8	1.6	E	D
Medan –	Sembahe		O		3	2	2	4	2	13	D	4	5	3	3	15	B	3.0	2.8	2.6	E	C
Brastagi	Sibolangit Botanical Reservation			O	4	5	5	2	3	21	D	3	5	3	1	12	C	4.0	4.2	4.4	A	A
Karo	Sibolangit International Jamboree		O		3	3	2	1	1	10	D	3	5	3	2	13	C	2.5	2.4	2.3	E	D
Plateau	Lau Sidebukdebuk		O		1	3	2	1	2	9	E	4	4	5	3	16	A	3.0	2.6	2.2	C	D
	Semangat Gunung			O	3	4	4	4	4	19	B	4	3	4	1	12	C	3.5	3.6	3.7	C	A
	Mt. Sibayak			O	3	4	4	4	4	19	B	2	2	3	1	8	D	3.0	3.2	3.4	C	B-C
	Gundaling Hill			O	3	2	2	4	3	14	C	5	4	5	5	19	A	4.0	3.8	3.6	A	C-B
	Lake Kawar			O	4	3	3	3	4	17	B	2	1	2	1	6	E	2.5	2.8	3.1	D	A-B
	Mt. Sinabung			O	4	4	4	3	4	19	B	1	1	2	1	5	E	2.5	2.8	3.1	D	C
	Lingga	O			2	5	5	3	3	18	B	4	4	5	3	16	A	4.5	4.4	4.3	A	B
	Barusjahe	O			1	5	4	2	2	14	C	4	4	5	1	14	B	3.5	3.4	3.3	C	B
	Karo Museum			O	2	3	3	3	3	14	C	5	5	5	5	20	A	4.0	3.8	3.6	B	C
	Sipisopiso	O			5	5	5	3	3	21	A	2	4	3	3	12	C	4.0	4.2	4.4	A	C-B
Northern	Haranggaol	O			4	3	4	4	3	18	B	2	3	3	2	10	C	3.5	3.6	3.7	C	C-B
Lake Toba	Rumach Bolon	O			5	5	4	3	3	20	A	2	5	2	4	13	C	4.0	4.2	4.4	A	D
	Simarjarungjung	O			5	5	5	3	3	21	A	2	3	3	2	10	C	4.0	4.2	4.4	A	B-A
	Kohan Road	O			3	3	3	3	3	15	C	3	2	3	1	9	D	2.5	2.6	2.7	E	B-A
Parapat	Parapat	O			4	3	2	4	5	18	B	5	5	5	5	20	A	4.5	4.4	4.3	A	B
Samosir	Coffin of King *Sidabutar*	O			2	4	3	3	3	15	C	4	4	5	3	16	A	4.0	3.8	3.6	B	C
	Tuk-tuk	O			2	3	2	2	1	10	D	4	4	5	3	16	A	3.5	3.2	2.9	D	C
	King's Court	O			3	4	3	2	3	15	C	3	3	5	3	14	B	3.5	3.4	3.3	B	D
	Tao Islet	O			2	1	1	1	3	8	D	3	3	5	4	15	B	3.0	2.8	2.6	D	D
	King's House Remnants	O			3	3	3	2	3	14	C	2	2	4	3	11	C	3.0	3.0	3.0	D	D
	Pangururan		O		2	4	3	2	2	13	D	1	1	3	1	6	E	1.5	1.6	1.7	E	B
Asahan	*Siguragura*		O		2	3	3	2	2	12	D	1	1	1	2	5	E	1.5	1.6	1.7	E	D
	Tangga		O		4	3	3	3	2	15	C	1	1	1	2	5	E	2.0	2.2	2.4	E	D
	(unknown)		O		1	3	2	1	1	8	D	2	2	1	2	7	D	2.0	2.0	2.0	E	D
Southern	Balige		O		2	3	2	3	1	11	D	2	5	3	1	11	C	2.5	2.4	2.3	E	B
Lake Toba	Hutaginjang	O			5	5	5	3	3	21	A	1	3	3	2	9	D	3.5	3.8	4.1	B	B-A
	Fort of King *Sisingamangaraja XII*		O		3	3	2	1	1	10	D	2	4	3	3	12	C	2.5	2.4	2.3	E	D
	Ajibata	O			3	3	2	3	2	13	D	5	5	5	1	16	A	3.5	3.2	2.9	D	B-A
Siantar	Museum Pematang Siantar			O	3	4	2	3	2	14	C	4	5	2	4	15	B	3.5	3.4	3.3	C	C
	Plantation	O			3	4	4	1	2	14	C	4	5	2	3	14	B	3.5	3.4	3.3	C	C-B
Nias Island	Bowomataulo	O			3	5	4	3	3	18	B	1	2	2	2	7	D	3.0	3.2	3.4	C	D-C
	Hilisameitano	O			3	5	4	3	3	18	B	1	2	2	2	7	D	3.0	3.2	3.4	C	D-C
	Lagderi	O			3	3	3	2	4	15	C	1	1	1	1	4	E	2.0	2.2	2.4	E	C
	Gomo	O																				

Evaluation of Tourism Resources : West Sumatra (Table-8)

		Utilization Applicability as tourism resources – For international tourism	– For local tourism	– For both international and local tourism	Evaluation of tourism resources / Evaluation of the tourism resources standard – Beauty and unity	– Uniqueness	– Forcefulness, unexpectedness	– Density of component elements	– Scale, period of stay	– Average	– Evaluation	Easiness of utilization – Distance from cities or loading bases	– Distance from the main route	– Closeness to other tourism sites	– Arrangement of facilities	– Average	– Evaluation	Composite evaluation – Case 1 - 50/50	– Case 2 - 60/40	– Case 3 - 70/30	– Composite evaluation	Reference – Ease of development
Padang	Bungus Beach		O		3	2	3	3	3	14	C	4	3	2	3	12	C	3.0	3.0	3.0	D	C
	Puncap Lampu		O		3	2	2	2	1	10	D	4	3	2	2	11	C	2.5	2.4	2.3	E	D
	Taman Nirwana		O		3	3	2	3	3	14	C	5	4	2	2	13	C	3.0	3.0	3.0	D	B
	Air Manis		O		3	2	3	4	4	16	C	5	3	2	2	12	C	3.0	3.0	3.0	D	C
	Taman Siti Nurbaya		O		3	2	3	3	3	14	C	5	3	2	2	12	C	3.0	3.0	3.0	D	C
	Padang Museum			O	4	4	3	4	3	19	B	5	5	2	5	17	A	4.5	4.4	4.3	A	C
Padang –	Kiambang	O			2	4	4	3	3	16	C	4	5	3	2	14	B	3.5	3.4	3.3	C	C
Bukittinggi	Anai Valley	O			4	3	4	5	3	19	B	3	5	3	4	15	B	4.0	4.0	4.0	B	B
Bukittinggi	Benteng Fort de Kock			O	3	3	3	3	4	16	C	5	5	5	4	19	A	4.0	3.8	3.6	B	D
	Ngari Sianok			O	4	4	4	4	4	19	B	5	5	5	4	19	A	4.5	4.4	4.3	A	D
	Panorama Baru			O	4	4	4	3	3	18	B	4	3	2	2	11	C	3.5	3.6	3.7	C	A
	Taman Bundo Kandung		O		3	3	3	4	4	17	C	5	5	5	4	19	A	4.0	3.8	3.6	B	C
	Rumah Gadang		O	O	4	4	3	3	3	17	C	5	5	5	4	19	A	4.0	3.8	3.6	B	C
	Pasar			O	2	4	4	2	3	15	C	5	5	5	2	17	A	4.0	3.8	3.6	B	C
	Jam Gadung										C										B	
Bukittinggi	Mt. Merapi				4	4	4	3		18	B	3	3	4		13	C	3.5	3.6	3.7	C	D
surrounding	Mt. Singgalang				4	4	4	3		18	B	3	2	2		10	C	3.5	3.6	3.7	C	D
area	Ngalau Kamang		O		3	4	3	3	3	16	C	4	4	3	2	13	C	3.0	3.0	3.0	D	C
	Pandai Sikat	O			2	3	2	2	1	10	D	4	3	3	3	13	C	2.5	2.4	2.3	E	B
	Panaha Bundo				3	3	1	2	1	10	D	3	3	2	3	11	C	2.5	2.4	2.3	E	D
	Harau Valley			O	4	5	5	3	3	20	A	2	3	2	4	11	C	4.0	4.2	4.4	A	B
	Tobek Patach		O		3	3	3	3	3	15	C	2	2	2	3	9	D	2.5	2.6	2.7	E	D
Maninjau	Puncak Lawang	O			4	4	4	3	3	18	B	2	2	4	4	12	C	3.5	3.6	3.7	B	D
	Embun Pagi	O			4	4	4	3	3	18	B	2	2	4	4	12	C	3.5	3.6	3.7	C	B
	44 hair pin descendings	O			4	5	5	3	3	21	A	2	2	4	4	12	C	4.0	4.2	4.4	A	B
	Lake Maninjau	O			4	4	4	4	5	23	A	2	2	4	4	12	C	4.0	4.2	4.4	A	A
Batusangkar	Minangkabau Palace			O	4	3	3	4	4	18	B	2	2	4	(5)	13	C	3.5	3.6	3.7	C	A
	Written Stone		O		2	4	4	2	2	14	C	2	2	4	4	12	C	3.0	3.0	3.0	D	D
	King's Palace		O		2	3	3	2	1	11	D	2	2	4	1	9	D	2.0	2.0	2.0	E	C
	Minangkabau House	O			4	4	2	2	2	14	C	2	2	4	3	11	C	3.0	3.0	3.0	D	C
Solok	Wisma Kesuma		O		3	3	3	3	3	15	C	2	5	4	2	13	C	3.0	3.0	3.0	D	B
	Villa Maljohau		O		3	3	3	3	3	15	C	2	5	4	2	13	C	3.0	3.0	3.0	D	B
	Danau Singkarak		O		3	3	3	3	4	16	C	2	5	4	2	13	C	3.0	3.0	3.0	D	B
Bonjol	Bonjol	O			3	5	4	3	3	18	B	2	5	1	3	11	C	3.5	3.6	3.7	C	A

Possible Tourism Activities by Each Object: North Sumatra (Table-9)

		Sightseeing	Scenic tour	Art and Craft	*Folklore, Festival*	Archaeological tour	Wild life tour	Native way of life	**Relaxation & Recreation**	Rest and Relaxation	Swimming, Sunbathing	Fishing	Water sports	Hiking	*Horse riding*	Cycling	Mountain Climbing	Camping	Hunting
Bohorok	*Orang Utan Rehabilitation Center*						●							●					
Medan	Istana Maimoon			●															
	Mesjid Raya		●																
	Medan Fair		●																
	Tapian Daya Culture Center				●														
	Chinese Temple																		
	Tapian Daya Culture Center				●														
	Chinese Temple																		
Medan –	*Sembahe*								●	●			●						
Brastagi	Sibolangit Botanical Reservation		●																
Karo	Sibolangit International Jamboree																	●	
Plateau	Lau Sidebukdebuk									●									
	Semangat Gunung		●										●				●		
	Mt. Sibayak		●														●		
	Gundaling Hill		●							●				●			●		
	Lake Kawar									●	●								
	Mt. Sinabung		●														●	●	
	Lingga			●	●	●		●											
	Barusjahe			●	●	●		●											
	Karo Museum			●															
	Sipisopiso		●																
Northern	Haranggaol		●					●		●	●								
Lake Toba	Rumach Bolon			●		●													
	Simarjarungjung		●																
	Kohan Road		●																
Parapat	Parapat				●					●	●		●						
Samosir	Coffin of King Sidabutar					●													
	Tuk-tuk									●							●		
	King's Court					●													
	Tao Islet									●	●								
	King's House Remnants				●	●													
	Pangururan																		
Asahan	Siguragura		●																
	Tangga		●																
	(unknown)																		
Southern	Balige										●		●						
Lake Toba	Hutaginjang		●																
	Fort of King Sisingamangaraja XII					●													
	Ajibata																		
Siantar	Museum Pematang Siantar			●															
	Plantation		●																
Nias Island	Bowomataulo																		
	Hilisameitano																		
	Lagderi																		
	Gomo																		

Possible Tourism Activities by Each Object: West Sumatra (Table-10)

		Sightseeing	Scenic tour	Art and Craft	Folklore, Festival	Archaeological tour	Wild life tour	Native way of life	**Relaxation & Recreation**	Rest and Relaxation	Swimming, Sunbathing	Fishing	Water sports	Hiking	Horse riding	Cycling	Mountain Climbing	Camping	Hunting
Padang	Bungus Beach		●							●	●								
	Puncap Lampu		●																
	Taman Nirwana									●	●								
	Air Manis													●					
	Taman Siti Nurbaya													●					
	Padang Museum			●															
Padang –	Kiambang		●					●											
Bukittinggi	Anai Valley																		
Bukittinggi	Benteng Fort de Kock		●											●					
	Ngari Sianok		●											●					
	Panorama Baru		●																
	Taman Bundo Kandung													●					
	Rumah Gadang			●		●													
	Pasar							●											
	Jam Gadung		●																
Bukittinggi	Mt. Merapi		●															●	
surrounding	Mt. Singgalang		●															●	
area	Ngalau Kamang		●			●													
	Pandai Sikat			●															
	Panaha Bundo													●					
	Harau Valley		●																
	Tobek Patach		●																
Maninjau	Puncak Lawang		●																
	Embun Pagi		●																
	44 hair pin descendings		●																
	Lake Maninjau		●							●	●	●	●						
Batusangkar	*Minangkabau Palace*			●		●													
	Written Stone					●													
	King's Palace					●													
	Minangkabau House			●															
Solok	Wisma Kesuma		●							●	●	●							
	Villa Maljohau		●							●	●	●							
	Danau Singkarak		●							●	●	●							
Bonjol	Bonjol						●												

3. Tour Program

Interzonal Tours

In order to promote even development of the three tourism development zones by ensuring that there is no overconcentration of tourist demand in any one of them at the expense of the others and in order to encourage longer stays and more tourist activity on the part of the average citizen, five interzonal tour types have been planned:

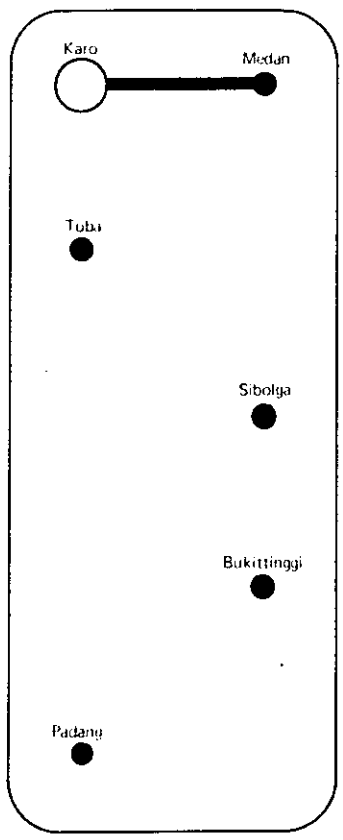
- Karo Plateau tour type
- Lake Toba tour type
- Karo and Lake Toba tour type
- Minang Highlands tour type
- Comprehensive tour type (covering all three tourism development zones)

Moreover, for adaptability to different durations of stay, 2–3 different tours have been planned for some of these tour types, for a total of 10 different tours.

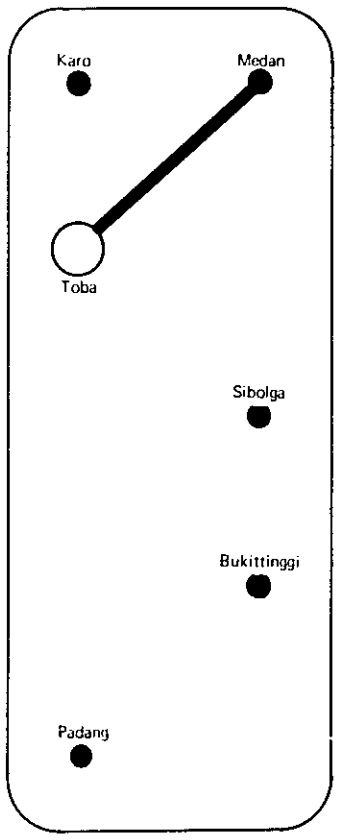
		Places to be visited				Average duration of Stay			
						Foreign and inter-regional tourists		Local tourists	Day trippers
		Karo	Toba	Sibolga	Minang	Holiday	B/H, family visits		
Karo tour	Type-1	●					1	1	0.5
Toba tour	Type-2		●				1	1	0.5
	Type-3	○	●			3			
Karo + Toba	Type-4	●	●			3			
tour	Type-5	●	●			4			
Minang tour	Type-6				●		1	1	0.5
	Type-7				●	2			
	Type-8				●	3			
Karo + Toba	Type-9	○	●		●	4			
+ Minang tour	Type-10	○	●	●	●	5			

Note: The symbol ○ indicates a stop in transit without staying overnight. Up until 1985 the Lake Toba area will be arrived at directly without passing through the Karo area.

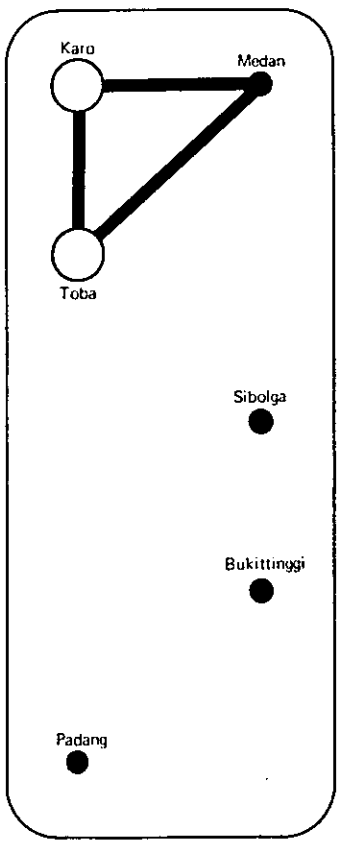
Standard Tour Type (Figure-3)



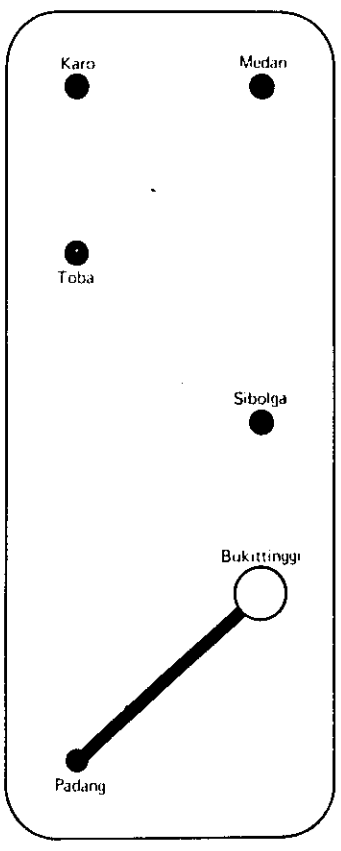
Karo Tour
(Type-1)



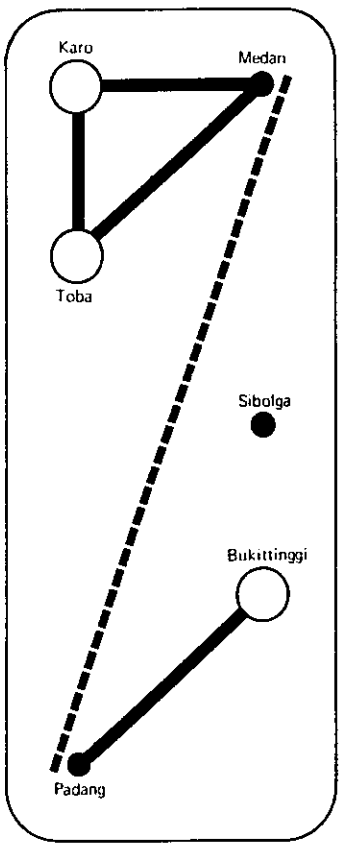
Toba Tour
(Type-2, 3)



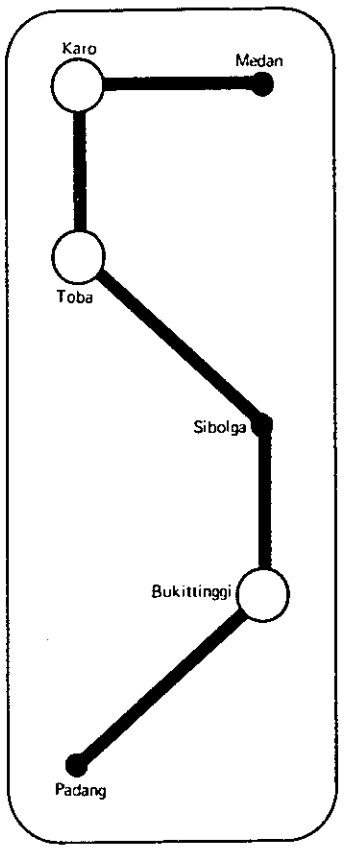
Karo + Toba Tour
(Type-4, 5)



Minang Tour
(Type-6, 7, 8)



Karo + Toba + Minang Tour
by Air (Type-9)



Karo + Toba + Minang Tour
by Land (Type-10)

Activity Courses

Several standard courses that visitors to the each of three tourism development zones can take in order to enjoy what each has to offer in the way of tourism resources have been set as described in this chapter. The tourism resource inventory of each zone is as follows:

	Karo Plateau	Lake Toba	Minang Highlands
Natural resources	14 (5)	8 (3)	13 (4)
Cultural resources	6	8	8 (2)
Recreational resources	6 (4)	8 (3)	3 (2)

Note: The figure in parenthesis is the number of resources to be developed.

The courses will be varied to satisfy different interests, each either concentrating on one of the three tourism resource types or representing a combination of two or more of them.

In order to be able to fit into different tourist schedules, each course will be either full-day or half-day, depending on such factors as the distance of the tourism resources from the accommodation facilities, the condition of roads, and the relative attractive of the individual tourism resources.

Since development and improvement of the tourism resources will be phased, not all of the courses will be immediately applicable.

Karo Plateau Courses

The visitor activity courses in this area are marked by the advantage of having the international gateway city of Medan so near and the fact that the climate of this elevated area is just right for an outdoor recreation resort. There will be five of them – all standard half-day tours either from Brastagi or arriving at it – and they will be suitable for all types of tourists.

Course 1: Course From Medan to Brastagi

This is the course that all visitors from Medan will take to Brastagi and will privide a good introduction to the Karo Plateau area. The first stop on the way will be at Sibolangit it with its natural botanical gardens. Next will come a visit to a jamboree site offering a wide range of recreation activities. Further south the course will lead through a scenic corridor distinguished by natural forest scenery at the pass to the Karo Plateau. Near the pass will be an observation point offering a splendid view of the whole Medan plain. Then, on the final stretch to Brastagi, a colorful flower nursery is to be enjoyed at Tongkoh.

Course 2: Nature Course in the Vicinity of Brastagi

This course will take visitors by bus, buggy, or bicycle from Brastagi to nearby greenhouses, the flower nurseries at Tongkoh, the starting point for an ascent of Mt. Shibayak, or the hot springs near the Siklikap waterfall, where they can enjoy leisurely walks during which they can appreciate the fine natural scenery. An optional part of the course is ascent of Mt. Shibayak. This is a course particularly suited to those staying over one night on Brastagi.

Course 3: Visit to Karo Batak Traditional World

This course is particularly suitable for foreign and domestic tourists as providing an opportunity to get a good taste of the traditional culture of the Karo Batak. After a visit to Lingga village, famous for its traditional houses the roofs of which are imitative of ox horns, for contact with tradition culture in everyday life, visitors will go to Kabanjahe for appreciation of art and industrial art products in the Raya Museum and viewing of traditional performing arts in the National Building. An optional visit can be made to Barusjahe village, which has just as much to offer as Lingga.

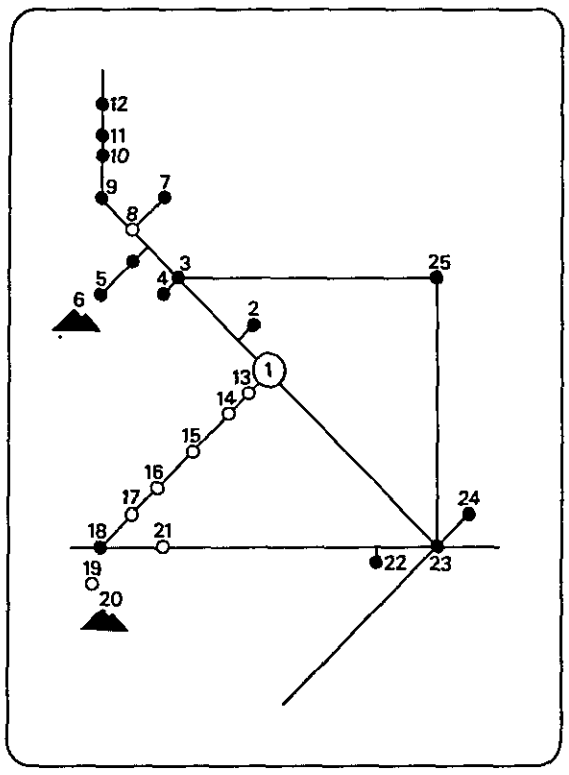
Course 4: Highland Recreation Course

This course, which will pass through the Sibayak skyline scenic corridor, will offer visitors the following assortment of recreational activities from which they can choose according to their individual interests: a country club with golf, tennis, horseback riding, swimming, and other high-class sports; comprehensive sports grounds with track and field and soccer and other ball game facilities; a recreational forest for pleasant walks, relaxation, picnicking, and the like; and a tourist farm/ranch. The country club will be most suited to international and domestic tourists, and the other choices to local tourists.

Course 5: Lake Kawar Course

This course will take visitors to Lake Kawar via the Sibayak skyline, scenic corridor which will offer beautiful rural scenery on both sides of the road and a fine view of Mt. Sinabung ahead. At the lake there will be boating and fishing and seminar and camping facilities for youths. A climb of Mt. Sinabung is optional. This course is most suited to local visitors.

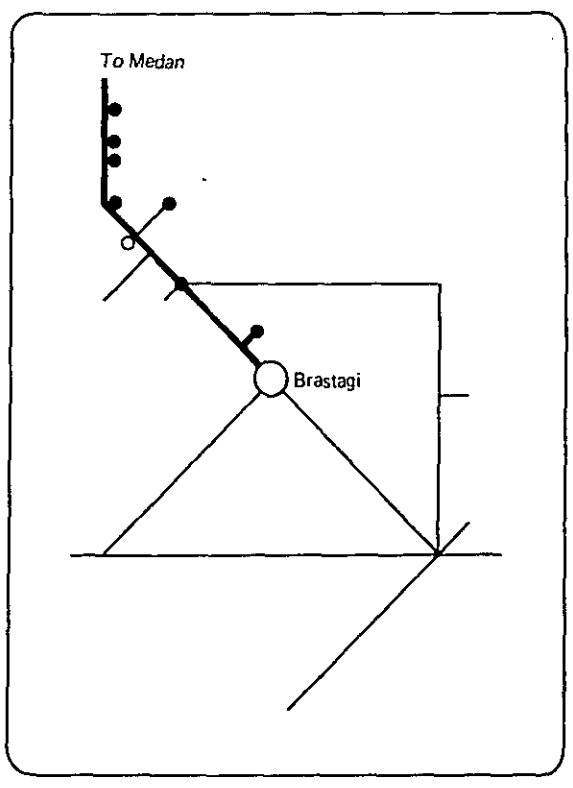
Karo Plateau Activity Courses (Figure-4)



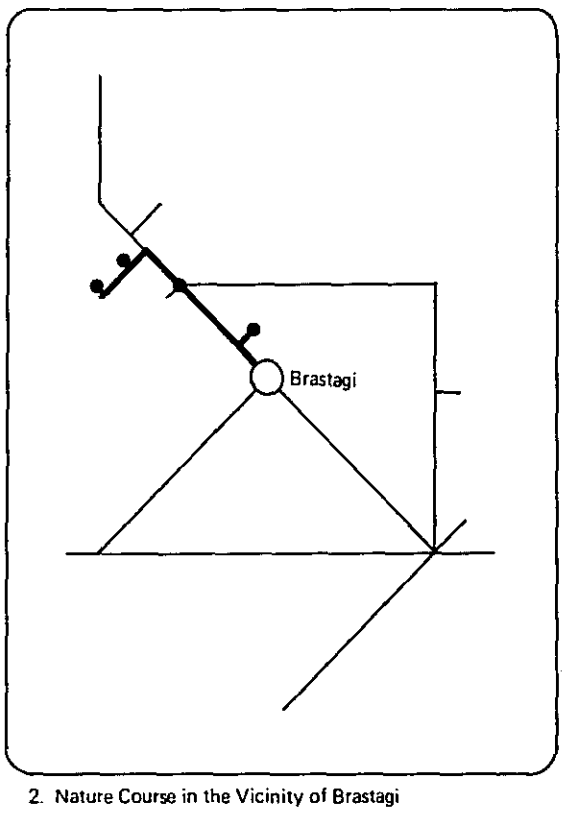
Key Map

Tourist Destinations

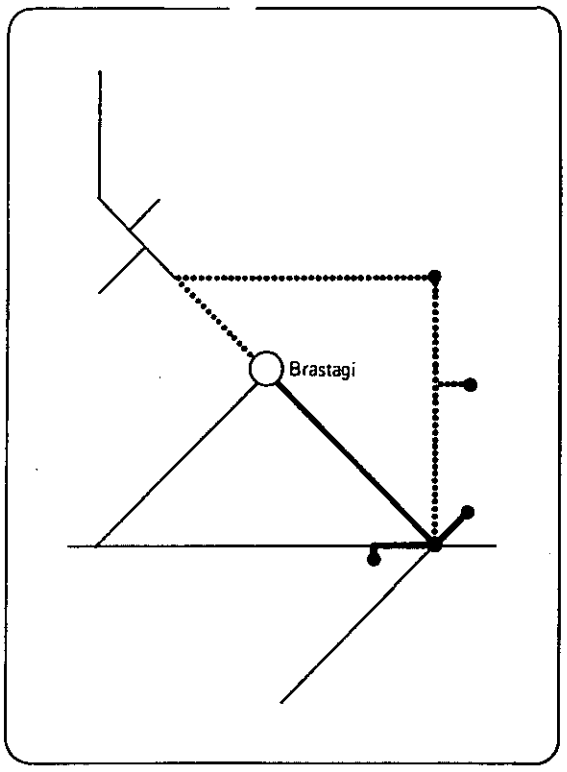
1. Brastagi
2. Greenhouse
3. Tongkoh
4. Sidebuk Debuk
5. Semangat Gunung
6. Mt. Sibayak
7. Sikulikap
8. Panorama
9. Bd. Baru
10. Sibolangit-Botanical Garden
11. Sibolangit-Jambolee Site
12. Sembahe
13. Country Club
14. Recreational Forest
15. Tourism Farm/Ranch
16. Panorama
17. Karo Sports Ground
18. Lake Kawar
19. *Panorama*
20. Mt. Sinabung
21. Panorama
22. Lingga
23. Kabanjahe
24. Raya Museum
25. Barusjahe



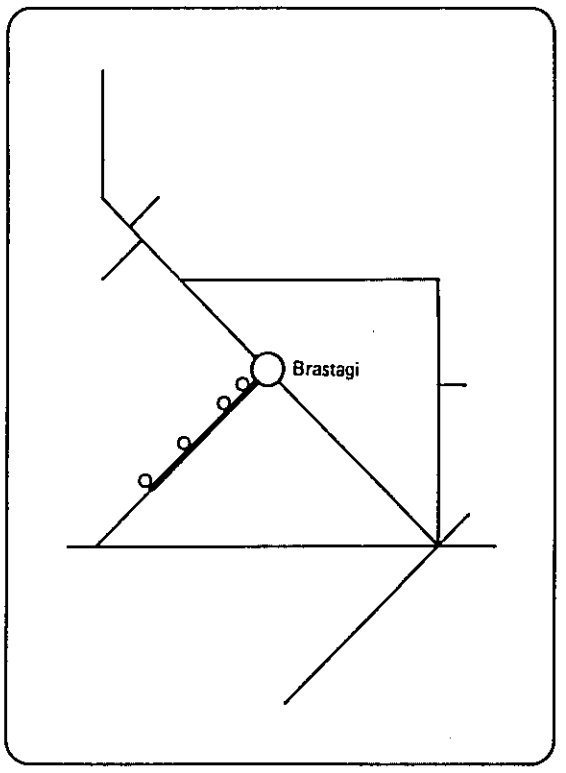
1. *Course from* Medan to Brastagi



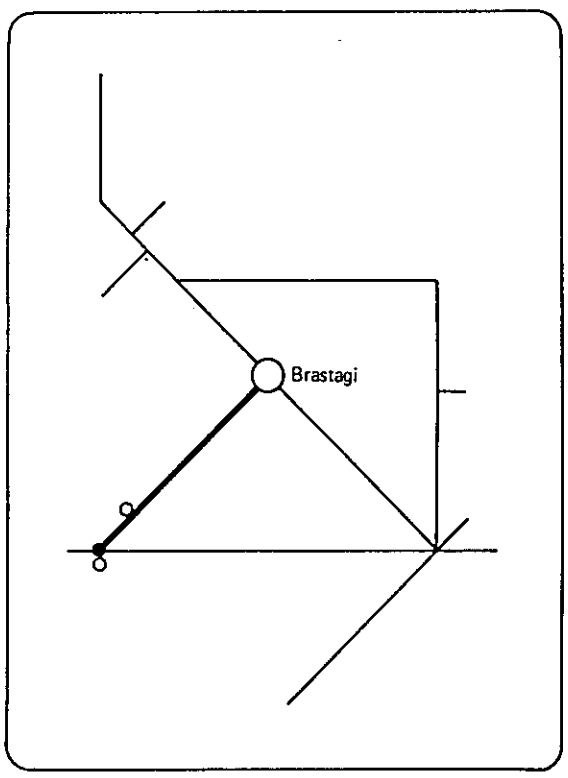
2. Nature Course in the Vicinity of Brastagi



3. Visit to Karo Batak Traditional World



4. Highland Recreation Course



5. Lake Kawar Course

Lake Toba Courses

The common denominator of all of the activity courses for tourists in this area is beautiful Lake Toba, and another major attraction is the traditional cultural legacy of the Batak people. In other words, all of the courses should be developed in such a way as to avail themselves of the main theme of a lakeshore resort against the background of majestic lake scenery and at the same time offer maximum opportunity for contact with Batak Culture. There will be five standard half-day courses, all of them departing from Parapat.

Course 1: Visit to the Batak Traditional World on Samosir Island

This course will take visitors to the port of Tomok on Samosir Island across from Parapat by ferryboat. After seeing the king's court there, they will proceed to Ambarita to experience a traditional village and visit a new Batak Village museum that is planned as one of the highlights and then to on to Simanindo to see Batak performances. Since this is the original homeland of the Batak peoples, it is just the place for foreigner and domestic tourists to appreciate their traditional culture.

Course 2: Nature Walk Along the Shore of Lake Toba

Participants will first make their way up to the outstanding scenery spot of Simarjarunjung by motor vehicle along the "Kohan Road" lakeside scenic corridor, enjoying the lake scenery along the way. At Simarjarunjung they will be able to appreciate a wonderful panoramic view of the lake and Samosir Island, while stretching their legs in the vicinity and perhaps sampling some of the pineapple for which the place is noted.
This course is suitable for all types of tourists as one that offers the greatest opportunity of enjoying a variety of views of the lake.

Course 3: Course Between the Lake Toba and Karo Plateau Areas

There are two ways of getting from Parapat to Brastagi and back. One is by speedboat from the Parapat marina to Tongging at the northern entrance to the lake with a stop at Simanindo on Samosir Island on the way, and then overland to Sipisopiso with its marvelous waterfall and on to Brastagi. This route is particularly suited to foreign and domestic tourists. The other is by bus or car along the scenic lakeside to Sipisopiso and its waterfall and then on to Brastagi by the route as the water course. This second route is suited best for local tourists. An optional stop on the way is at the Pem. Purba Batak traditional village.

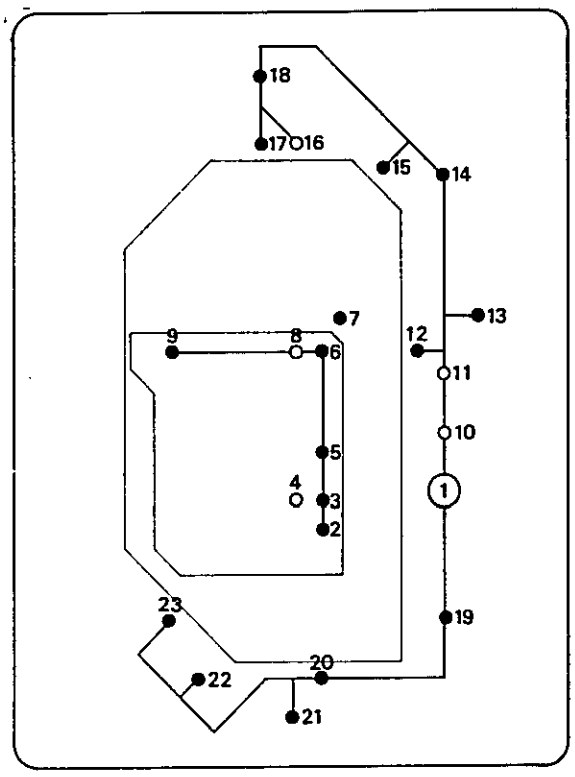
Course 4: Samosir Island Land Recreation Course

This course, which will take participants to a new sport recreation park outside of Tomok village on Samosir Island by ferry from Parapat, offers enjoyment of golf, tennis, horseback riding, archery, and several other amusements and its suitable for all types of tourists.

Course 5: Samosir Island Water Recreation Course

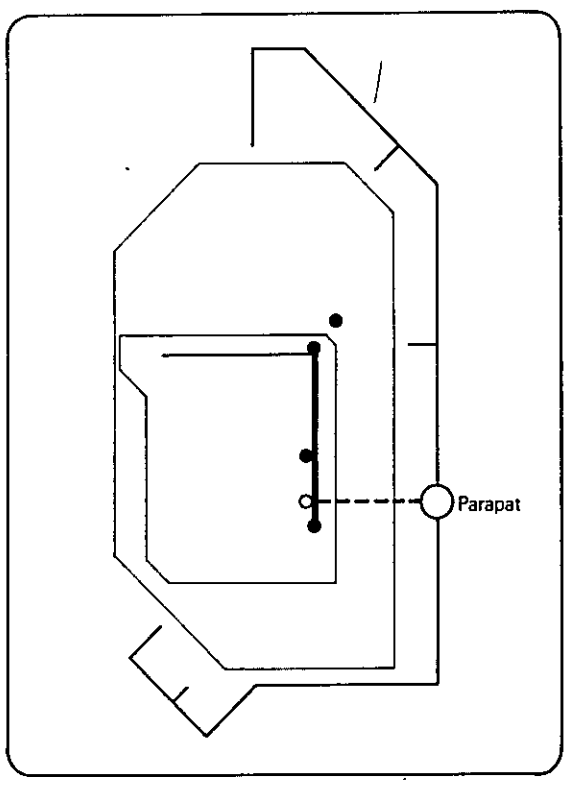
This course takes participants from Parapat across the lake by ferry or speedboat to scenic Simanindo for swimming, sunbathing, boating and other aquatic activities on its popular beaches and enjoyment of traditional performances and a variety of other events on nearby Tao and Toba Islets as well as an optional visit to the Pangururan hot springs or to parts of the island which are the original home of the Batak peoples. It is suitable for all types of tourists. Besides these standard courses, visits can be made to Porsea, with its beautiful rural farmland scenery, and traditional industrial art villages or to Hutaginjung, with its fine lake scenery.

Lake Toba Activity Courses (Figure-5)

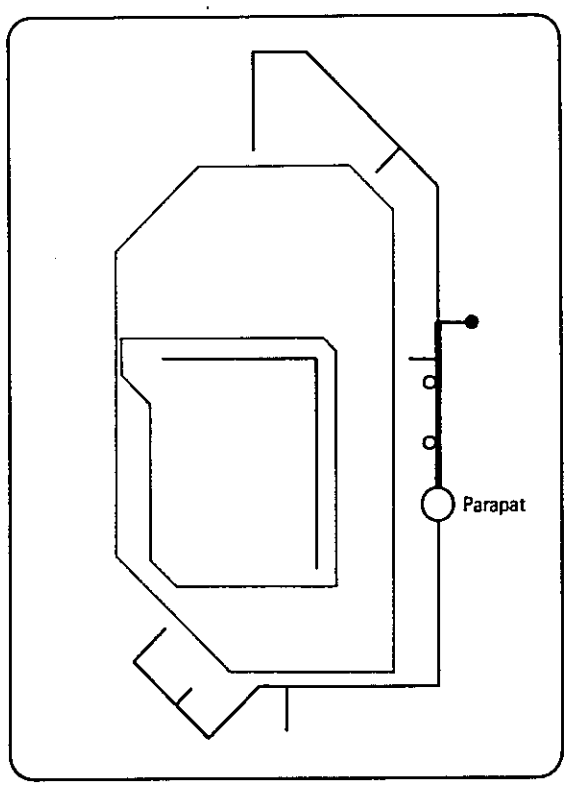


Kay Map

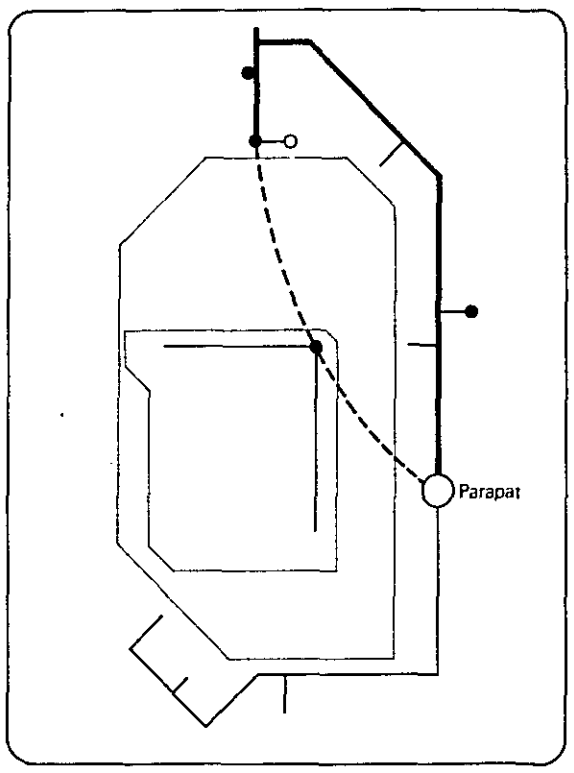
Tourist Destinations
1. Parapat
2. Tuktuk
3. Tomok
4. Sports Recreation Park
5. Ambarita
6. Simanindo
7. Tao/Toba Isle
8. Simanindo Beach
9. Pangururan
10. Panorama
11. Panorama
12. Tigaras
13. Simarjarunjun
14. Pem. Purba
15. Haranggaol
16. Panorama
17. Tongging
18. Sipiso-Piso
19. Lumban Binanga
20. Balige
21. Gurgur
22. Hutaginjan
23. Muara
24. Recreational Forest



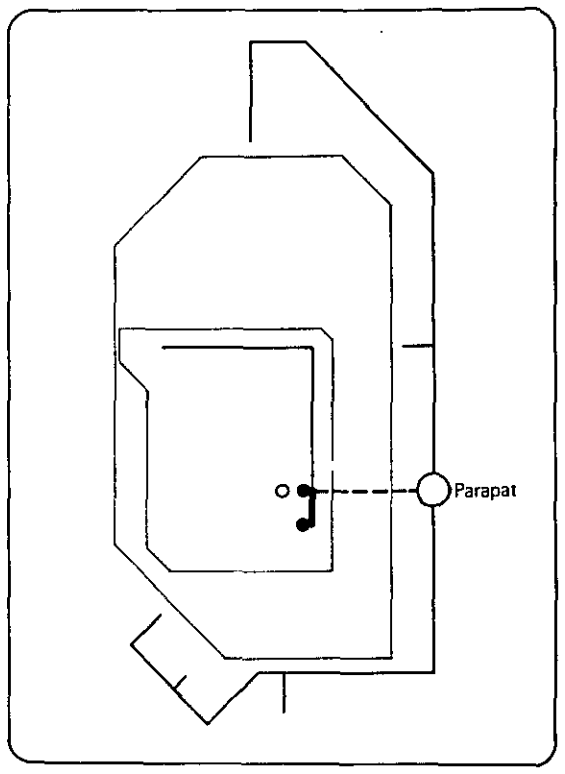
1. Visit to Batak Traditional World on Samosir Island



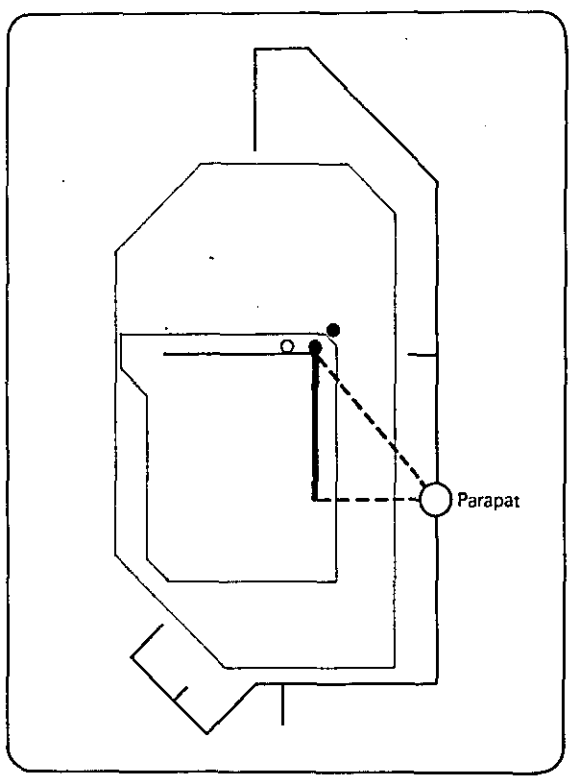
2. Nature Course Along the Shore of Lake Toba



3. Course Between the Lake Toba and Karo Plateau Areas



4. Samosir Island Land Recreation Course



5. Samosir Island Water REcreation Course

Minang Highlands Courses

The main attraction of tourist activity courses in this area is such aspects of the traditional culture of the Minangkabau people as traditional architecture, traditional performing arts, and art and industrial arts. Also of major attraction, however, is the outstanding natural scenery, including the volcanic Mt. Singgarang and lakes Maninjau and Singkarak. In other words, the tourist activity courses in this area to be developed in such a way as to play up the main theme of contact with traditional Minangkabau culture and at the same time take full advantage of the natural scenery. There will be one standard half-day course and four standard whole day course in the area.

Course 1: Course From Padang to Bukittingi

This is a course by bus or car that includes a stop on the way at Anai Valley, noted for its outstanding scenery, where participants can go for a walk in natural forest land, and wonderful views along the scenic corridor that runs between Mt. Marapi and Mt. Singgarang. This satisfying introductory course to the Minang Highlands area is taken by most tourists coming to it from Padang.

Course 2: Lake Maninjau Recreational Course

This is a whole day course from Bukittinggi to Lake Maninjau passing through a fine scenic corridor on the way and stopping at an observation point from which participants can enjoy marvelous panoramic views of Lake Maninjau and the Indonesian Ocean way off in the distance. From this observation point to the lake the descending road has 44 hairpin curves. After arriving at the lake, participants can engage in boating or sightseeing. This course is suited to tourists staying at Bukittinggi and local tourists.

Course 3: Historical Course

This course will take visitors to Batu Sangkar, the place of origin of the Minangkabau and where many historical monuments, traditional architectural structures, and village settlements representing the traditional culture of that people are still to be found. From there other traditional villages located here and there in the same kabupaten can be visited. It is a whole-day course that will be particularly attractive to foreign and domestic tourists.

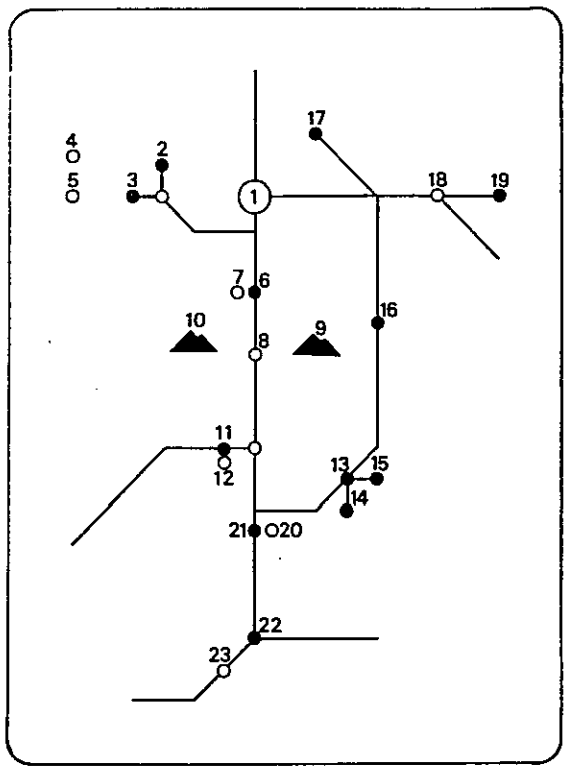
Course 4: Folk Dance and Rural Scenery Course

This course takes participants to Payakumbuh, a center of Minangkabau folk dancing, where performances of local dances can be enjoyed in the auditorium or outdoors in surrounding villages. Going a little farther afoot, one can also get a fantastic view of the Harau Valley. Another optional visit is that to stalactite grottos. This course takes a whole day and is suited to all types of tourists.

Course 5: Lake Singkarak Lakeside Recreational Course

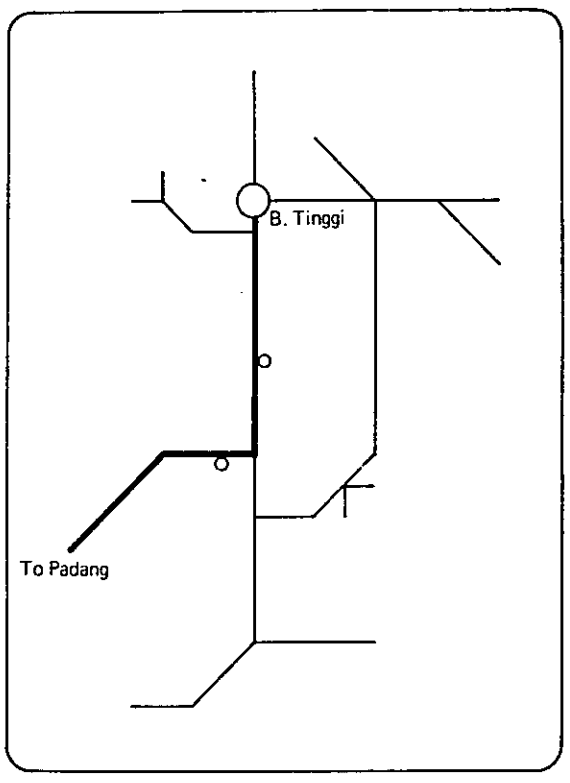
This is a whole day course suited particularly to local tourists that offers swimming, boating, fishing, and other water recreation on the second largest lake in the area. An optional way of making the trip from Bukittinggi is to go partway by Steem Locomotion.

Minang Highlands Activity Courses (Figure-6)

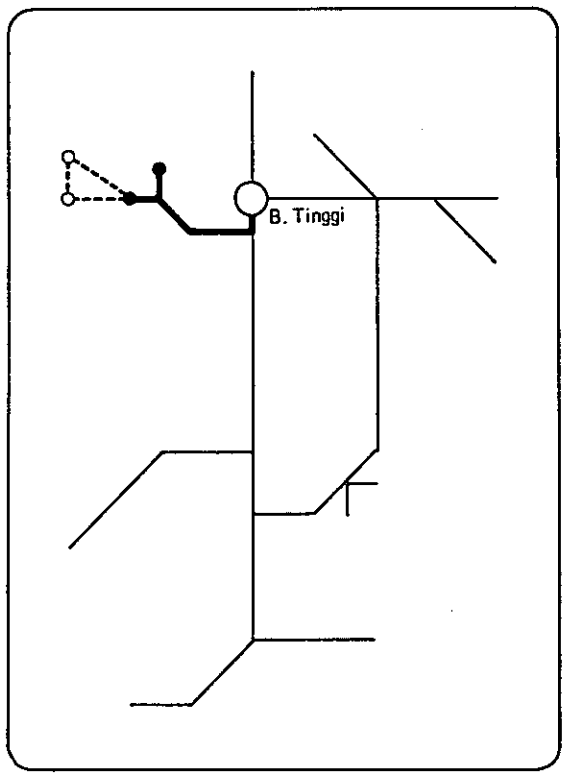


Key Map

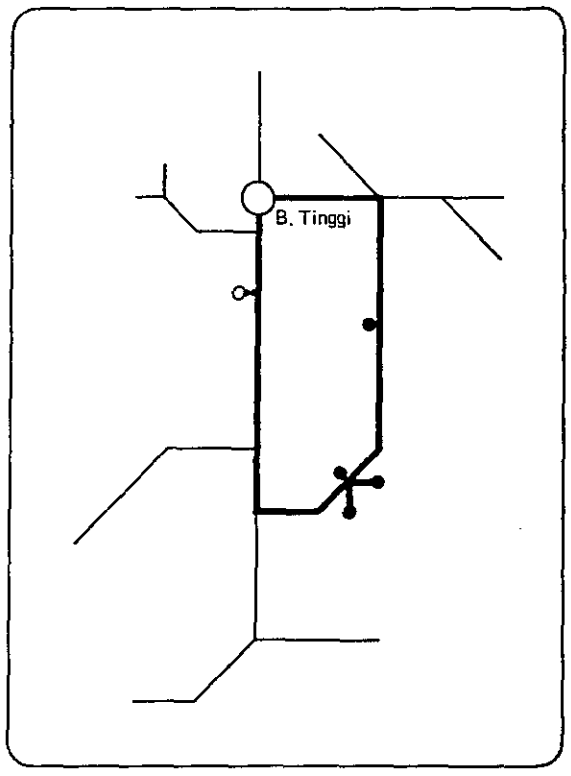
Tourism Destinations
1. Bukittinggi
2. Puncak Lawan
3. Lake Maninjau
4. Panorama
5. Bird Sunctuary
6. Pandai Sikat
7. Craft Village
8. Panorama
9. Mt. Marapi
10. Mt. Singgalang
11. Anai Valley
12. Recreational Forest
13. Bt. Sangkar
14. Pagar Ruyung
15. Tanjung Sungayang
16. Tabek Patah
17. Ngalau Kamang
18. Payakumbuh
19. Harau Valley
20. Panorama
21. Lake Singkarak
22. Solok
23. Panorama



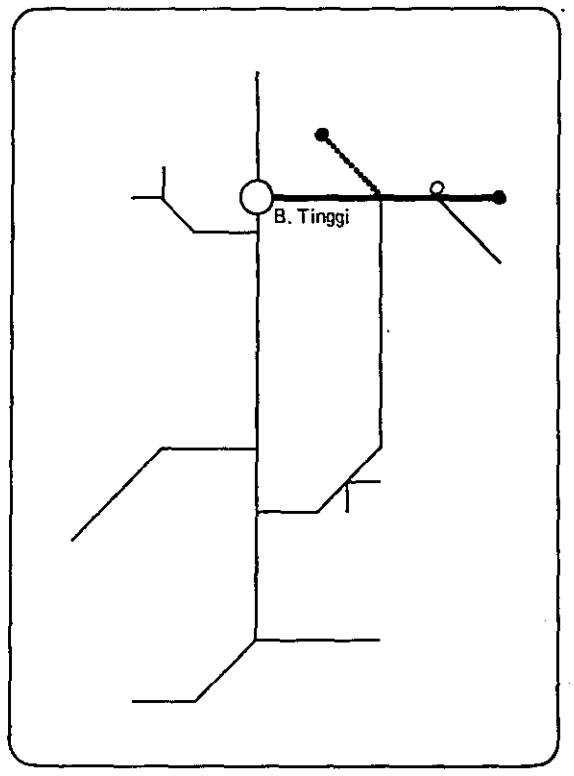
1. Course from Padang to Bukittinggi



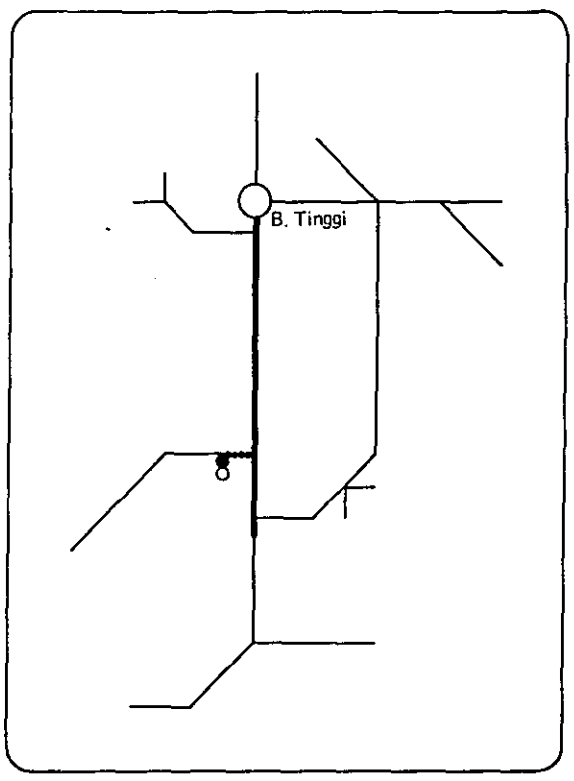
2. Lake Maninjau Recreational Course



3. Historical Course



4. Folk Dance and Rural Scenery Course

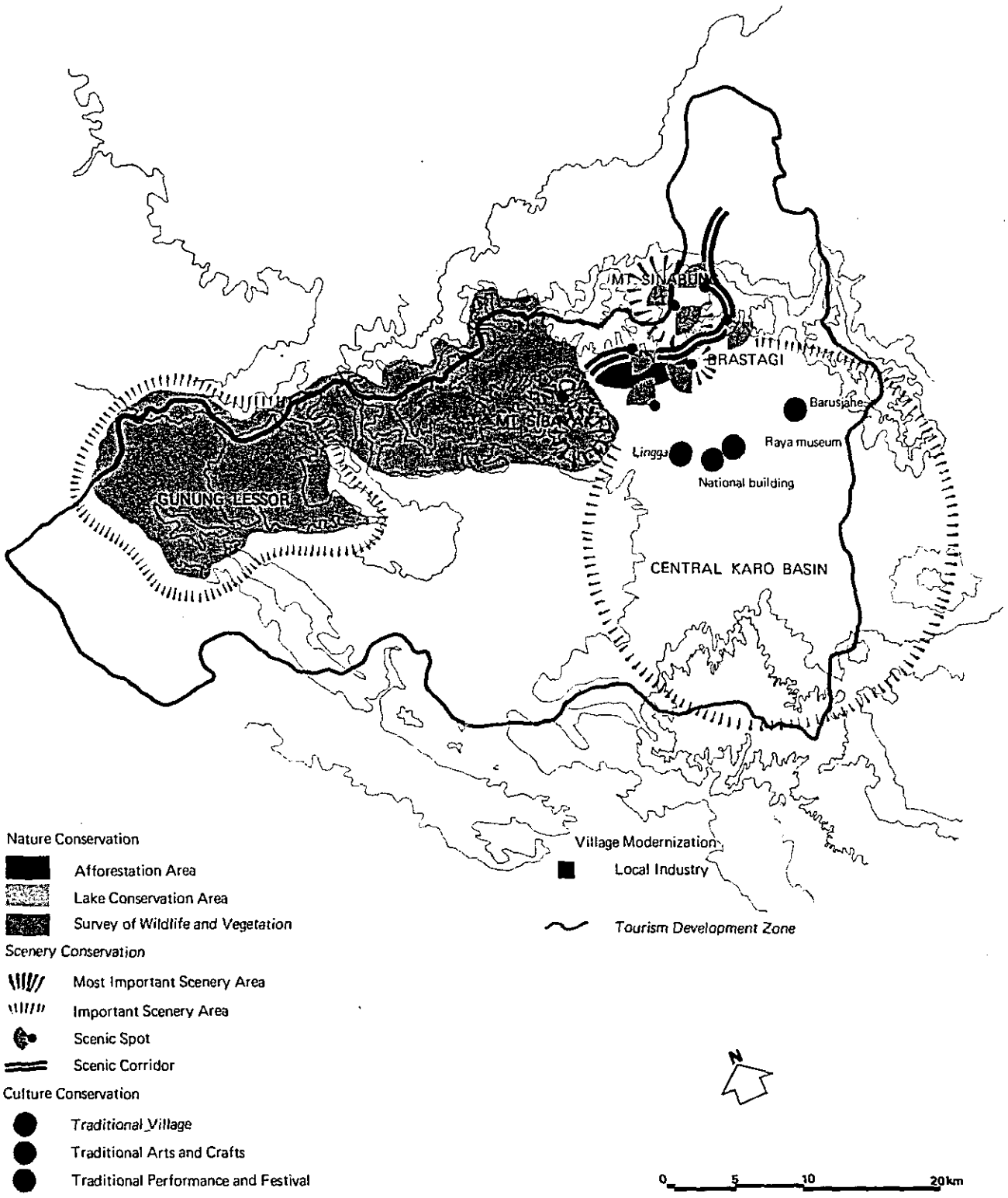


5. Lake Singkarak Lakeside Recreational Course

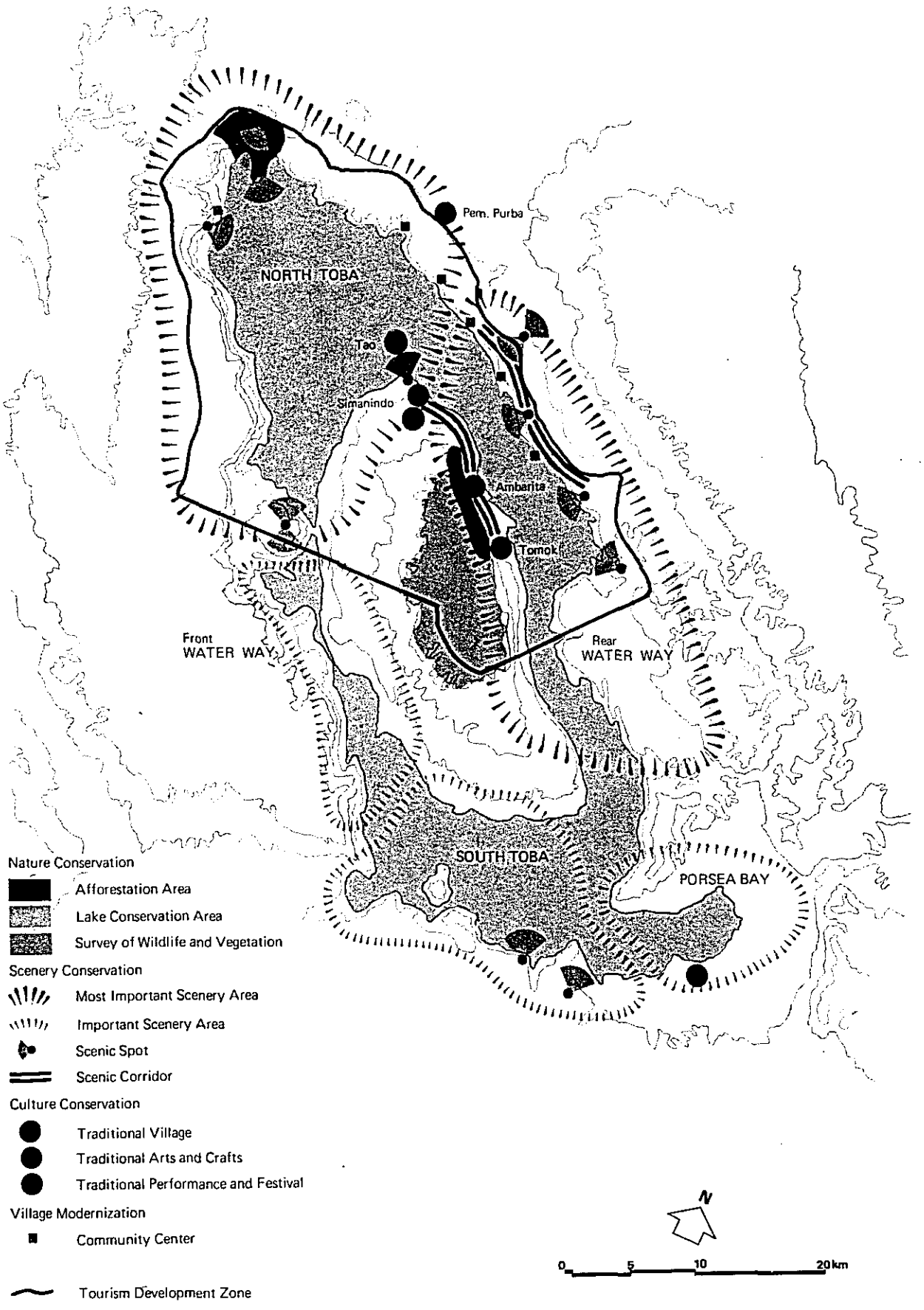
4

PAPER 4: PARK CONSERVATION PLANS

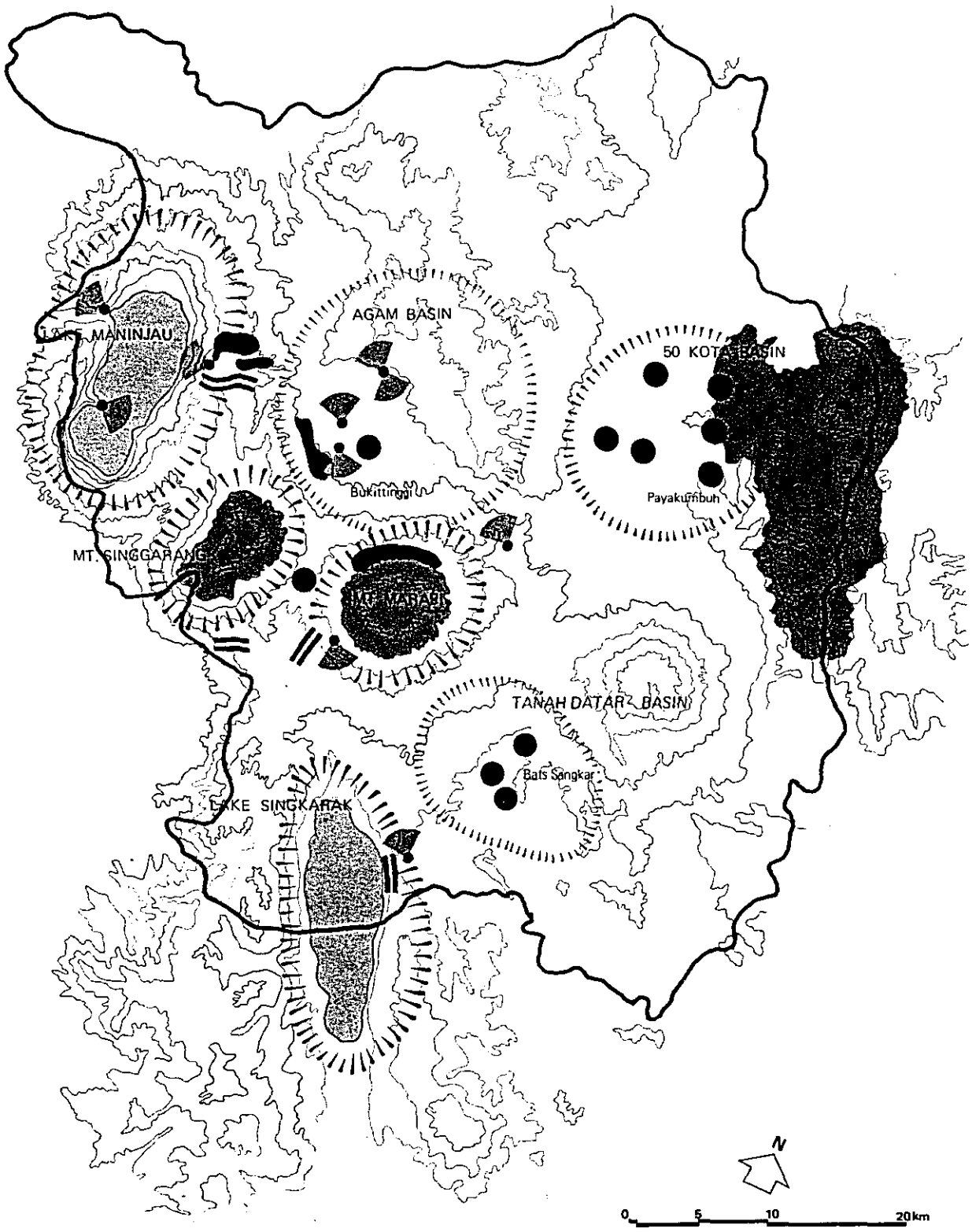
Conservation Plan: Karo Plateau



Conservation Plan: Lake Toba



Conservation Plan: Minang Highlands



Nature Conservation

- Afforestation Area
- Lake Conservation Area
- Survey of Wildlife and Vegetation

Scenery Conservation

- Most Important Scenery Area
- Important Scenery Area
- Scenic Spot
- Scenic Corridor

Culture Conservation

- Traditional Village
- *Traditional Arts and Crafts*
- Traditional Performance and Festival

- Tourism Development Zone

1. Introduction

General Description

(1) *Designation of the Objects and Areas to Be Subject to Conservation*

Such designation will cover important cultural assets, scenic spots, plants and animals, etc., which run the risk of being adversely affected by tourism development itself or the higher level of tourism activity that will result from it as well as the areas in which they are extensively to be found.

(2) Basic Measures

Among the basic measures that are to be formulated are those pertaining to conservation, tourism utilization, and management and control of the areas in question and the objects and wildlife in them subject to protection.

(3) Project Finding

Conservation projects in line with such basic policy will be identified according to different degrees of importance and urgency, and the tourism development program will be adjusted according to their needs.

Individual Descriptions

(1) Natural Conservation Plan

This plan, which will be formulated on the basis of overall land-use analysis from an ecological point of view, will include measures for the protection of valuable animal and plant life and the natural environment, for control of the ecological system, and for utilization of the natural environment for tourism purposes.

(2) Scenic Conservation Plan

This plan, which will be based on visual and spacial analyses and which will reflect aesthetical judgments, will provide for protection of important natural scenic elements and natural scenic areas, designation of scenic points and corridors, and provision of facilities for utilization of the natural scenery for tourism purposes.

(3) Cultural Conservation Plan

This plan, which will be based on comprehensive social analysis and will reflect cultural and historical value judgments, will provide for the management and control and utilization for tourism purposes of various kinds of traditional cultural assets handed down from the past, including examples of architecture, traditional villages, fine and industrial folk art, and historical ruins, as well as for the subsidizing and encouragement of intangible cultural assets and groups and organizations thereof and promotion of their continuity and utilization as tourist attractions, such intangible cultural assets including carpenters, artists, industrial artists, and dance performers.

(4) Village Modernization Plan

This plan, which will be based on surveys of the villages in and around the development areas and will incorporate community planning method, will provide for the provision of minimal levels of social infrastructural facilities by the target year 1995 and for promotion of local agriculture, forestry and fisheries as tourism-related industries.

The following table gives an outline of these conservation plans.

	Protection	Utilization
Nature planning	Natural resources such as forests, lakes rivers etc. and natural environment	Recreational parks and areas
Scenery planning	Important scenic elements such as waterfalls, fine traditional architectures and scenic areas such as natural, cultural and local scenic areas etc.	Scenic points and corridors
Culture planning	Cultural resources such as traditional villages arts and crafts etc. and cultural environment	Educational and visits facilities
Village planning	Village community life	Shopping and visits facilities

2. Nature Conservation

Purpose of the Plan

Areas in which such measures are to be carried out are of the following types and have been determined on the basis of ecological and land-use analyses.

(1) Lake Conservation Areas

These are areas with lakes requiring conservation measures from the standpoint of scientific, scenic, or tourism utilization value.

The main purpose of such measures is to prevent the transparency of the lake waters from declining because of pollution form urbanization prompted by tourism development and from waste waters discharged from agricultural fields and rural communities in general.

The first step will be that of carrying out basic surveys of water quality and organizing efforts to discover the various factors contributing to water pollution.

Discharge standards and land-use regulation will be planned on the basis of such surveys and analysis of their results.

(2) Water Resources Conservation and Erosion Prevention Areas

These are areas in the tourism potential areas selected on the basis of analysis of existing land use as requiring g measures to protect rivers banks and production land from erosion, prevent landslides, and generally preserve and increase underground water reserves.

Of these areas, those in tourism development areas, important scenic areas, and other areas in the tourism development zones to be utilized for recreational purposes should be given priority with respect to such measures.

Such measures will not only prevent erosion and conserve water resources but also help to improve the natural scenery and provide forests for recreational use in and nearby the development areas

Among the measures that are to be carried out are construction of dams to prevent flash floods, improvement of riparian works, improvement of agricultural drainage and irrigation channels, and afforestation.

(3) Survey of Wildlife and Vegetation

Besides the measures for the above two types of areas, there is an urgent need for surveys of wildlife and vegetation in and around the tourism potential areas with a view to their protection and utilization as tourism resources. Already fairly well known are the Sumatra rhinocero and Sumatra crocodile (false Charial) and such flora as subtropical climax forests, the rafflesia, and orchids.

Criteria

(1) Afforestation Standards

Basically, the aim will be to maintain the forests under the jurisdiction of the Department of Forestry in their present state while at the same time undertaking afforestation of bare areas and grasslands within the confines of such forests.

Also on slopes upwards of 15 deg. land use other than forests or permanent crop cultivation will be controled, and active efforts will be made for afforestation from the standpoint of environmental conservation.

Afforestation belts for prevention of erosion and promotion of accumulation of underground water resources will extend at least 100 m on either side of ridge lines, 30 m on either side of rivers, and 50 m from lake shorelines.

Furthermore, subtropical forest lands and surrounding areas at elevations of over 1,500 m above sea level will also be afforested.

(2) Lake Water Quality Standards

Although the waters of Lake Toba, Lake Maninjau, and Lake Singkarak all have relatively low levels of nutritional content, that of the waters of Lake Toba is by far the lowest. If Lake Toba is assigned an index of 1 for the concentration of plankton in its waters, the indices for the other two stand approximately at 10 and 100, respectively.

In order to maintain such low levels, which are desirable for the purposes of scientific research and tourism utilization of attractive scenery, serious efforts will have to be made to prevent the inflow of various substances, particularly those containing nitrogen and phosphorus. Since such substance are often contained in effluents from tourism facilities and urban facilities and in sewage from rural communities, strict standards will have to be set and enforced in this respect. Moreover, land-use controls will have to be instituted in the watersheds of each of the lakes and some afforestation undertaken to ensure soil stability and prevent runoff from farmland.

Project Inventory

(1) Lake Conservation Project

Two monitoring centers, one for Lake Toba and one for Lake Maninjau and Lake Singkarak, will be established for this project. Each will be manned with 5-6 personnel, and equipped with boats and other gear for sampling and equipment for chemical analyses.

(2) Afforestation Project

A total of 8,750 ha will be afforested in the three tourism development zones in the context of this project over a period of 15 years: 2,250 ha in the Karo Plateau area in the vicinity of the Gunung Lesser forest reserve, on the mountain skirts behind Brastagi, south of Lake Kawar, at the foot of Mt. Sinabung, and elsewhere; 5,000 ha in the Lake Toba area, particularly around Parapat, on the east shore of Samosir Island, and around Tongging; and 1,500 ha in the Minang Highlands area in the Sianok Valley, at the foot of Mt. Merapi, around Puncak Lawan, and elsewhere.

(3) Wildlife and Plant Life Surveys

There surveys will cover 500 km^2 in the Karo Plateau area in the Gunung Lesser forest reserve and above the 1,500 m line on Mt. Sinabung and Mt. Sibayak; 300 km^2 in the Lake Toba area at altitudes above 1,500 m on Samosir Island and in the northwest Toba area; and 400 km^2 in the Minang Highlands area above the 1,500 m line on Mt. Merapi and Mt. Singgarang and on the eastern lower slopes of the Limah Puluh Kota Kabupaten.

	Karo	Toba	Minang
Area to be afforested (ha)	2,250	5,000	1,500
Lake conservation area (km^2)	-	1,770	230
Wildlife and plant life survey area (km^2)	500	300	400

Notes: (1) Afforestation to be carried out in three equal stages by 1995.
(2) Area to be subject to monitoring system in the initial phase.
(3) Initial phase.

3. Scenic Conservation

Landscape Character

The character of landscape in each of the tourism development zones will depend on the relative importance of the different scenic elements such as mountains, lakes, forests, and fields and on their composite quality or attractiveness, which in turn will be a function of blending and transition as perceived from fixed points.

(1) Karo Plateau

The main space forming elements of this area are the chain of mountains to the north, including such active volcanoes as Mt. Sinagung (2,451 m) and Mt. Sibayak (2,212 m), and the broken chain of mountains to the south which includes Mt. Sibuatan (2,457 m), Mt. Sipisopiso (1,940 m), and Mt. Singgalang (1,894 m). In fact, the plateau is a basin hemmed in by mountains, and this fact is best appreciated by the senses on the skirts of the chain of mountains along the northern rim, where the climate, too, is the most pleasant.

Another important element of the scenery is the orchards and vegetable fields that distinguish this area from others around it. Then again there are the extensive meadows forthe harvesting of grass. In contrast to the permanence of the surrounding mountains, the area has enough seasonal variation to make it especially attractive to visitors. The best scenery in the area is along the roads, the views from Gundaling Hill and, for a panorama of the whole basin, from the top of Mt. Sibayak, and the enchanting, almost unreal natural scenery around Lake Kawar.

(2) Lake Toba

The main space forming elements of this area are the extensive waters of lake itself, which covers a full 1,770 km^2, and the cliffs that rise about 500 m along its shores except in the broad rice paddy belt around Porsea at the southern end. It is therefore particularly the North Toba area that presents the aspect of a typical crater lake. Another outstanding feature of the lake is the 100 km^2 chunk of land lying within its circumference—Samosir Island, which makes for interesting waterways on the east and west sides of the lake. Then there is the beautiful clear sky above the lake, and the intriguing cloud formations. The pattern of distribution of vegetation, too, makes of very unique scenery, which can be viewed from several observation points and while driving along Kohan Road. Since the lake is so large, there is considerable variety in the views of it and its surrounding at different places around it. Particular scenic grandeur is to be enjoyed at Simarujajunjune and Hutagingang which includes not only the beautiful scene of the lake itself but also extensive forests and paddies. Considering the fact that the land rises so sharply along most of the periphery of the lake, it should be possible to develop a few more optimum observation points there. It might be noted in passing, however, that the slash-and-burn method of agriculture that is an important element of the present land-use pattern of the area ought to be discouraged because of its destructiveness of the natural scenery.

(3) Minang Highlands

The main space forming elements of this area are the three active volcanos Mt. Singgalang (2,877 m), Mt. Merapi (2,891 m), and Mt. Malintang (2,262 m) and Maninjau (99.5 km^2) and Singkarak (130.1 km^2) lakes. These elements, along with mountain ranges rich in topographical variation, form three basins centering on Bukittinggi, Payakumbuh, and Batu Sangkar, respectively. Further afield are also to be seen the majestic forms of Mt. Tlamau (2,912 m) and Mt. Jantan (2,597 m).

Although the three basins are about the same in size, each is characterized by a land-use pattern making the most of its particular conditions. The Bukittinggi area is about 60% rice paddies and 40% forests, the Payakumbuh area almost entirely rice paddies, and the Batu Sangkar area about half rice paddies and fallow slash-and-burn fields. Moreover, the differing surroundings around each of the basins give the agricultural landscape it own particular accent in each case.

Lake Maninjau and Lake Singkarak have about the same dimensions, but the scenery around each is quite distinctive. The mountains circling Lake Maninjau add to its scenic beauty, and one can even catch a glimpse of the Indonesian Ocean way off in the distance. Lake Singkarak, on the other hand, only has mountains along its western shoreline, the terrain elsewhere being flat. From it, however, one can enjoy the best of views of Mt. Merapi.

Purpose of the Plan

The purpose of the scenic conservation planning in this study is to identify particularly outstanding scenery in the three tourism development zones and to propose ways of protecting, conserving, and improving it so as to enhance the overall scenic value of each zone for tourism purposes. Needless to say, such scenery does not necessarily have to be in parts of the zones that are or are planned to be used for such purposes.

In this connection scenic spots offering exceptional views, scenic corridors with outstanding sequences of scenery, and scenery improvement areas around them will be designated, and specific scenery improvement measures, development controls, and amounts of facilities to be developed in them will be indicated.

(1) Scenic Spots

These spots will be selected from among a large number of candidates characterized by distinctive, outstanding scenery in terms of both natural and cultural elements, among the criteria of selection being exceptional scenic beauty, present state of use for tourism purposes, and relation to the new tour routes that are to be developed. Improvements are to include provision of access roads, landscaping, and facilities such as observation points (open and covered), restaurants, kiosks, parking space, toilets, etc., the amount of facilities to be provided depending on the state of the natural environment around the scenic spots, the number of visitors, and other factors (see the following table).

Besides the scenic spots themselves, the areas around them to a distance of about 3 km will be designated as scenery control areas. The scenery controls itemized in paragraph 3) below will apply to the whole 3 km radius but should be enforced in a particularly strict manner within the facility areas.

(2) Scenic Corridors

The scenic corridors will be selected from among many stretches of road offering good sequential perception of the natural and cultural landscape along them, the criteria of selection including the strikingness of the scenic sequences and relation to new tour routes that are to be developed. Such corridors with orderly but dynamic scenic beauty and linking the main tourism attractions and facilities will greatly enhance the overall tourism resource value of each zone.

The trees and other plants used in the supplemental landscaping of these corridors should as far as possible be indigenous to the particular development zone in question. Furthermore, if the corridors are longer than 3 km, large trees or special gardening configurations should be employed for accent at suitable intervals to relieve monotony. As for the sequential design, in determining it, it is important to take into account such factors as the state of the vegetation in the vicinity, the course and gradient of the road, and the speed at which each point is passed.

(3) Scenic Control Area Classification

The following are the two scenic control area classifications into which the whole area of each tourism development zone will be divided for the purpose of protecting existing scenic values:

- Natural Scenery Conservation Areas: Areas where outstanding natural environment and natural scenery should be conserved through adequate controls.
- Local Scenery Conservation Areas: Areas where historical and other man-made elements of the scenery are particularly outstanding and merit preservation efforts.

Application must be made in advance to the proper authorities for permission to engage in the following activities in any of the above areas as well as in the areas subject to scenery controls in the vicinity of scenic spots and corridors:

- Construction or extension of buildings or changing of the color of roofs, walls, fences, or the like
- Felling, replanting, or transplanting of trees of other vegetation meant as part of the scenery
- Development of housing lots or new farmland or otherwise altering the shape of the land
- Reclamation or drainage of water surfaces
- Collection of plants which have been designate for protection by the national or regional government
- Setting up of billboards, advertisement posters, or the like, separately or on buildings or walls.
- Piling or other storage of materials
- Opening or roads or paths

If any of these activities threatens to have an adverse effect on the environment of the area, measures that will be taken to prevent this from happening must be indicated in the applications.

In addition to this kind of control, it will also be necessary to prohibit littering and behavior representing a nuisance to others (such as exceeding the motor boat speed limit on lakes) or which might result in damage to elements of the scenery.

Project Inventory

(1) Scenic Spots

Gundaling Hill is about the only spot of this kind in the Karo Plateau area that is a fairly well deveooped facility. Besides improving it, 6 other spots will be developed in order to take fuller advantage of the scenery that the area has to offer.

The Lake Toba area already has 7 scenic spots, but another 4 ought to be added considering the outstanding scenery that is to be seen in the area.

An additional 6 scenic spots and improvement of the 4 existing ones will be needed in the Minang Highlands area if tourists are to be able to fully appreciate all it has to offer in terms of complexity of terrain and attractiveness of scenery.

	Phase-1	Phase-2	Phase-3	Total
Karo Plateau	3	2	2	7
Lake Toba	4	4	3	11
Minang Highlands	3	4	3	10
Total	10	10	8	28

(2) Scenic Corridors

Although no stretches of road in any of the three tourism development zones have yet been designated as scenic corridors, there are a number distinctive stretches that are good possibilities in this regard. If they are taken advantage of, it should be possible to enhance the visual attractive of their respective zones to a considerable degree.

Specifically, there are two stretches in the Karo Plateau area with a total length of 36 km, three stretches in the Lake Toba area with a total length of 52 km, and four stretches in the Minang Highlands area with a total length of 27 km.

(unit: Km)

	Phase-1	Phase-2	Phase-3	Total
Karo Plateau	12	11	13	36
Lake Toba	35	17	0	52
Minang Highlands	10	10	7	27
Total	57	38	20	115

(3) Landscaping in the Vicinity of the Scenic Spots and Corridors

Besides the improvements and landscaping in the immediate areas of the scenic spots and immediately adjacent to the road in the scenic corridors, it will also be necessary to do some partial landscaping work in the scenery control areas around the scenic spots and within 60 meters of the road in the scenic corridors. The total areas of such landscaping will be 2,800 ha in the former case and 1,200 ha in the latter, the average amount for each of the 28 scenic spots in the former case being 100 ha.

(unit: ha)

	Phase-1	Phase-2	Phase-3	Total
Karo Plateau	396	308	356	1,060
Lake Toba	770	594	300	1,664
Minang Highlands	400	492	384	1,276
Total	1,566	1,394	1,240	4,000

List of Scenic Spots and Corridors: Karo Plateau

No.	Name and Location	Object	Facility adequacy inactivity area	Length of access road(m)
1.	Hill of Siklikap (Near the Siklikap)	Medan Plain	A	800
2.	Gundaling Hill	Brastagi, range of mountains at north Karo, three mountains at the north of Lake Toba	A	1,000
3.	Hill of Naman (Near the Naman)	Mt. Sinabung, range of mountains at north Karo	B	500
4.	Youth Garden Hill (Lake Kawar)	Lake surrounding range of mountains	A	500
5.	Flower Hill Garden (Tongkoh)	Alpine plants	B	1,000
6.	Mt. Sinabung (Top of the Mt. Sinabung).	Karo Plateau	C	3,000
7.	Fertile place (Alone the proposed new road (Brastagi-L.Kawar))	Mt. Sinabung, three mountains at the north of Lake Toba	B	500

No.	Name and Route	Scene Character	Length of access road(km)
1.	Orchid line (Bander Baru - Brastagi)	This stretch of road, which is the main route leading into the Karo Plateau area, is also the only rugged mountain road in that area that passes through natural forest land.	18
2.	Shibayak Skiline (Brastagi - L. Kawar)	This stretch of road passes through the forest area extending from Mt. Sibayak and a highland agri-cultural landscape distinctive of the Karo area.	18

List of Scenic Spots and Corridors: Lake Toba

No.	Name and Location	Object	Facility adequacy inactivity area	Length of access road(m)
1.	Hill of Parapat (Eastern Hill in Parapat town)	Parapat peninsula, Samosir island	A	600
2.	Samarujajunjune	North side of Lake Toba, agricultural fields	A	800
3.	Simanindo	North side of Lake Toba	A	500
4.	Sipisopiso	Waterfall as background of pastoral scene	A	600
5.	Cape Tongging	North side of Lake Toba Samosir Island	A	3,000
6.	Hutagingang	All of Lake Toba agricultural fields	A	4,000
7.	Fruitfull Place (Along the Kohan Road)	Mt. Puskbkit, north side of Lake Toba, Samosir Island	B	800
8.	Pine Pocket (Along the KohanRoad)	North side of Lake Toba, Samosir Island	B	500
9.	Law Podon (Western Spot of the north Lake Toba)	North side of Lake Toba, Samosir Island	B	1,200
10.	Mt. Puskbkit	All of Lake Toba	A	1,600
11.	Gurgur	Biggest inlet on Lake Toba Samosir Island	B	800

No.	Name and Route	Scene Character	Length of access road(km)
1.	Kohan Road (Pine Pocket - Simarujajunjun)	This is the longest stretch of scenic corridor planned. It will offer a succession of scenery of a variety of kinds, including a magnificent panorama of Lake Toba and beautiful stretches of pine forest.	25
2.	Hariara line (Tuku-tuku - Simanindo)	This stretch of scenic corridor offers an extremely attractive dynamic succession of scenery, including views of the lake through beautiful groves of trees and sharp mountain slopes on the other side rising to heights of about 1,600 m.	22
3.	Tongging line (W.F. Sipisopiso - The tip of peninsula)	Driving along this stretch of scenic corridor in the direction of the cape, one gets an even better idea of the grandeur of the lake than if one views it from one of the observations points.	5

List of Scenic Spots and Corridor: Minang Highlands

No.	Name and Location	Object	Facility adequacy inactivity area	Length of access road(m)
1.	Puncak Hill (Puncak)	L. Maninjau, Indonesian Ocean	A	1,500
2.	Sianok Valley	Sianok Valley	A	300
3.	Hill of Fort (Bukittinggi)	Whole of the Bukittinggi City	B	300
4.	Tobekpatah	Two Basins, Mt. Djantan, Hallaw Valley	B	100
5.	Kota-tua Ridge	The basin around Padang Panjung, L. Sinkarak	A	200
6.	Dreame Garden (Peninsula in the L. Maninjau)	L. Maninjau, Surrounding range of mountains	B	200
7.	Mukamuko	New dam, indonesian Ocean	A	800
8.	Wismakesma	L. Sirkarak, Mt. Merapi, Mt. Singgalang, Mt. Djantang	B	300
9.	Mt. Bukit Batubalah	Basin around Bukittinggi	A	1,200
10.	Ibuk Ridge (Along the trans-Sumatra Highway [Padang-Solok])	Basin around Solok	C	1,000

No.	Name and Route	Scene Character	Length of access road(km)
1.	Punkak line (Matur - Lakeside)	In a distance of 8 km this stretch packs in a great deal of scenic variety, including typical tural farmland scenes, a 44-bend ascent, and panoramic views of L. Maninjau.	8
2.	Tanjung line (Lakeside road [via Wismakesma at Lake Singkarak)	Besides the beautiful lake on the one side and rising hillsides on the other, this lakeside stretch of scenic corridor offers a fine view ahead from both approaches of mountains rising to 3,000 m.	7
3.	Anai Route (Anai Valley)	Here you experience tension as you look out the window down into the rugged valley below and at the churning, rushing, and voluminous waters of its river.	5
4.	Minang Route (Kota-tua - Peak point)	Along this stretch of road between Mt. Merapi and Mt. Singgalang one can appreciate beautiful forestry and rural landscape scenes.	7

4. Cultural Conservation

Purpose of the Plan

The measures for preservation of the tangible and intangible cultural heritages of the toursim potential areas have been determined on the basis of an evaluation of scientific and tourism value. They fall under the following three categories:

(1) Architectural Structures and Other Tangible Cultural Assets

These are those buildings and villages in the tourism potential areas that should be preserved from the standpoint of historical and cultural geographic value, scenery value, and utilization as tourism resources.

The preservation measures are designed to prevent damage to them in the course of tourism development and village improvements.

Not only will preventative measures be taken against damage by fire, floods, insects, or humidity, but the immediate vicinities of the buildings will also be landscaped.

(2) Traditional Industrial Arts and Ethnic Materials

Surveys will be made of traditional industrial arts and ethnic materials of the Batak and Minang ethnic groups, and a museum or cultural center will be established in each of the three tourism development zones to keep and show to the general public the materials that are collected.

(3) Traditional Performing Arts and Ceremonies

Besides subsidizing the activities of existing performing groups and performers, a performance center will be established in each tourism development zone as a place for research on traditional Batak and Minang music, dances, and ceremonies and actual performances for tourists.

(4) Historical Remains, Natural Monuments, and Unexcavated Cultural Assets

In and around the three tourism potential areas the tourism resources that are already being used included approx. 10 historical monuments, few natural monuments, and approx. 10 areas of outstanding scenery or other tourist attraction. Moreover, it is very probable that such resources are waiting to be discovered. Surveys for this purpose from the standpoint of both scientific value and tourism utilization value are therefore urgently required.

Criteria

The surveying of cultural assets has unfortunately been one of the chief areas of inadequacy of the present study, such inadequacy having been occasioned by insufficient historical and cultural data and the little amount of time available for such surveying. Another impediment has been the fact that it has not been possible to plan adequately for tourism utilization of cultural assets in the absence of planning with respect to them from a sociopolitical standpoint. These limitations should be kept in mind with respect to the cultural and historical survey projects and assumed standards described below.

Of the traditional houses and villages that were visited in the course of the survey, those considered to be of particular historical and cultural value have been selected for special consideration.

Each of the three tourism development zones should have at least one entity in charge of management, research, technical continuity, and sale of fine art work and handicraft work, particularly in connection with utilization for tourism purposes. In the Karo Plateau area the existing Raya Museum can serve this purpose, in the Lake Toba area the new village museum for the 7 Batak cultures can do the same, and in the Minang Highlands area there should be two such entities: an arts and crafts center in Bukittinggi amassing the great number of arts and crafts to be found in the town and a similar center in Kabupaten Agam grouping the arts and crafts houses to be found here and there throughout it.

In the case of traditional performing arts as well there should be centralized entities in the three tourism development zones for their management, presearch on them, encouragement of technical continuity, and utilization of them for tourism purposes, these being the existing National Building in the Karo Plateau area, the new performance stage that is to be built on Tao Island and the above-mentioned village museum in the Lake Toba area, and the new auditorium that is to be built in Payakumbuh, which our survey revealed as being the main center of such performances, and the kecamatan centers in Kabupaten Limapuluh, 7 in all and each with a performance stage, in the Minang Highlands area.

Project Inventory

(1) A Project for the Preservation of Architectural Structures and Villages

This project, basically to be implemented in Phase I, will entail the restoration and control of buildings in the villages listed below, provision of roads for access to them and parking and information facilities in them, and landscaping in and around them:

- Karo Plateau area: Lingga and Barusjahe villages
- Lake Toba area: Pem. Purba, Ambarita, Simanindo, and one other village in the south Toba area the name of which has not been ascertained
- Minang Highlands area: Pagar Ruyung and Tanjung Sungajang villages

(2) Project for Preservation of Traditional Industrial Arts

This project will include extension of the Raya Museum in the Karo Plateau area, establishment of a new village museum in the vicinity of Ambarita village on Samosir Island in the Lake Toba area, and construction of an arts and craft center in Bukittinggi and a craft village near Pandai Sikat in Agam Kabupaten in the Minang Highlands area.

(3) Project for Promotion of Traditional Performance Arts

This project will include extension of the National Building in Kabanjahe in the Karo Plateau area, construction of a stage for performances on Tao Island in Lake Toba, and provision of an auditorium in Payakumbuh and outdoor performance facilities at 7 kecamatan centers in Kabupaten Lima Puluh Kota in the Minang Highlands area.

(4) Other Projects

- Survey for excavation of new cultural resources in the three tourism potential areas
- Subsidies for promotion of arts and crafts
- Subsidies for promotion of intangible cultural assets
- Establishment of organizations and groups for promotion of culture

	Karo	Toba	Minang
No. of traditional villages	2	4	2
Arts and crafts	Raya museum	Batak museum	Arts and craft center and craft village
Traditional performances	National building	Performance stage	Auditorium and outdoor performance facilities
Survey	Kabupaten Karo	Vicinity of Lake Toba	Kabupaten 50 Kota, Agam, and Pdipanjang

Note: As for subsidies for promotion of arts and crafts and intangible cultural assets and establishment of organization and groups for promotion of culture, these measures will apply for all three areas.

5. Village Modernization

Findings

The tourism-related investment in the three tourism development zones will not only benefit the tourism sector but also have a development effect on local communities. In fact, it should be a part of tourism development strategy to improve social infrastructure. This being the case, the following steps are to be taken for the active channeling of the secondary effects of tourism development in the direction of village modernization in the Lake Toba tourism development zone.

In connection with the establishment of a national recreational park in the Lake Toba area, the scattered villages on the northwest side of the lake are to be regrouped for a more orderly pattern of land use and to give residents a chance to participate in tourism development.

General Description of the Area Involved

The table below divides the Lake Toba development zone into three parts and gives the settlement characteristics of each. As it shows, the northwest lakeshore area is very sparcely populated. This is because the greater part of it consists of land with slopes in excess of 20 deg., the only populated areas being the small stretches of flat land around inlets on which villages are to be found. Of these villages, about the only ones that have any substantial social infrastructure are Tongging, Haranggaol, and Tigaras, and the roads between them are either poorly developed or nonexistent.

	Area (km^2)	Present population	Population density (persons/km^2)
Northwest lakeshore area	320	15,500	48
Parapat and vicinity	80	9,500	119
Samosir Island	250	56,000	224
Total and average	650	81,000	125

This northwest lakeshore area includes parts of seven kecamatan in the Karo and Simalungun kabupatens. The table below gives the estimated population of each as of 1976.

Kabupaten	Kecamatan	Population	No. of households	Main villages
Karo	Dairi	1,600	275	Silalami
	Tigapanah	2,250	380	Tongging
Simalungun	Dolog Panribuan	1,140	190	Bagehsatu
	Rurba	6,700	1,065	Haranggaol
	Dolog Pardamean	3,050	535	Tigaras
	Sidamanik	280	55	-
	Raya Kahean	420	75	-
Total		15,440	2,575	

Community Centers

The most efficient way of upgrading and modernizing the social infrastructure of the good number of villages to be found in this area is to provide joint community centers for groups of them in relative proximity to one another and therefore constituting, in a sense, single communities, even if separated by kecamatan boundaries in some cases. The optimum size of each such community in terms of population and area being about 2,500 persons and 50 km^2, the whole area can be adequately covered by six community centers. Their location has been determined on the basis of location of existing infrastructure, accessibility, the terrain, and connection with tourism development, locations with considerable existing social infrastructure having been given preference. The table below indicates the communities, the locations of the community centers, and when each center should be developed. Since Tongging, Harangaol, and Tigarus are included in the tourism development program, their community centers should be provided before the other three-Tongging's by 1985 and those of the other two by 1990.

Community	Present population	Community center	Development Stage 1980	1985	1990	1995
Sumbul	1,600	Silalami			OOOOO	
Tigapanah	2,250	Tongging	OOOOO			
Dolog Panribuan	1,140	Bagehsatu			OOOOO	
Rurba 1	3,350	Tangambatu			OOOOO	
Rurba 2	3,350	Taranggaol		OOOOO		
Dolog Panribuan	3,750	Tigarus		OOOOO		

Apendix-1 Preliminary Land-use Analysis for Designation of Conservation Area

Definition of Conservation Areas

The following are the criteria of designation of conservation areas:

(1) Outstanding scenic value in comparison to other areas worthy of protection for preservation for all time.

(2) Low potential for future industrial use or resource exploitation, making it easier to maintain the present land-use pattern.

(3) Ease of enforcement of land-use regulation and development controls in administrative and social terms.

(4) Unity in terms of representing a single ecological sphere.

(5) Unity in terms of representing a single social, cultural and anthoropological spere.

(6) Unity in terms of representing a single sphere of tourism utilization.

Criteria for Determining Conservation Area Boundaries

- Watersheds
- Administrative boundaries
- Population density distribution
- Land-use divisions, particularly with respect to agriculture
- Wildlife and vegetational distribution
- Distribution of cultural assets
- Distribution of tourism resources
- Roads, rivers, lakes, canyons, etc.

Analytical Process for Area Designation

(1) Analysis of Important Scenic Areas

Evaluation of the scenery, including both natural and cultural elements.

(2) Land-use Analysis

Evaluation of the land on the basis of analysis of existing land-use patterns, with particular emphasis on analysis of agricultural productivity and population density distribution to determine suitability for conservation.

(3) Analysis of Natural Environment

Analysis of the mechanisms of the natural environment from an ecological standpoint, with special features such as watersheds, rivers, lakes, forests, and so on and the connections between them being given particular consideration.

(4) Analysis of Social Environment

Analysis of the mechanisms of the social environment from a human anthropological and sociological standpoint, with special features such as tangible and intangible cultural assets, folk materials, village communities, and so on and the connections between them being given particular attention.

(5) Analysis of Tourism Resource Utilization

Analysis of the relationship between protection and utilization of tourism resources, with adjustment being made in relation to resource development and tour programs.

(6) Besides the above analysis, it is also necessary at the same time to undertake "software" analyses with respect to such aspects as organization, administration, finances, etc., so we have only been able here to designate conservation areas on a preliminary and tentative basis relying almost entirely on analysis of the physical environment.

Analytical Results

(1) Karo Plateau Area

The whole highland basin, surrounded by forests and characterized by a cool, pleasant climate, has been designated as a conservation area. The boundaries are partly those of Kabupaten Karo and the kecamatan boundaries of Kabupaten Deri Serdang.

Area:	2,670 km^2	
Population:	223,000	
Population density:	84 persons/km^2	
Number of kecamatans:	11	
Number of villages:	305	
Main land use:	Forest	50%
	Agricultural fields	20%
Main elements subject to conservation:	Peripheral forest lands	
	Typical highland scenery	
	Last remnants of traditional hamlets and performing arts	
	Local industry (particularly gardening and livestock raising)	

(2) Lake Toba Area

The North Toba area, which has a good distribution of wonderful natural scenery and cultural assets as well as favorable conditions for land conservation, has been designated as a conservation area here. The boundaries coincide with watersheds and kecamatan boundaries.

Area:	1,770 km^2	
Population:	77,400	
Population density:	44 persons/km^2	
Number of kecamatans:	13	
Number of villages:	-	
Main land use:	Grasslands	50%
	Forests	27%
Main elements subject to conservation:	*Abandoned slash-and-burn fields*	
	Natural lakeland scenery	
	Traditional Batak villages and performing arts	
	Underpopulated villages	

(3) *Minang Highlands Area*

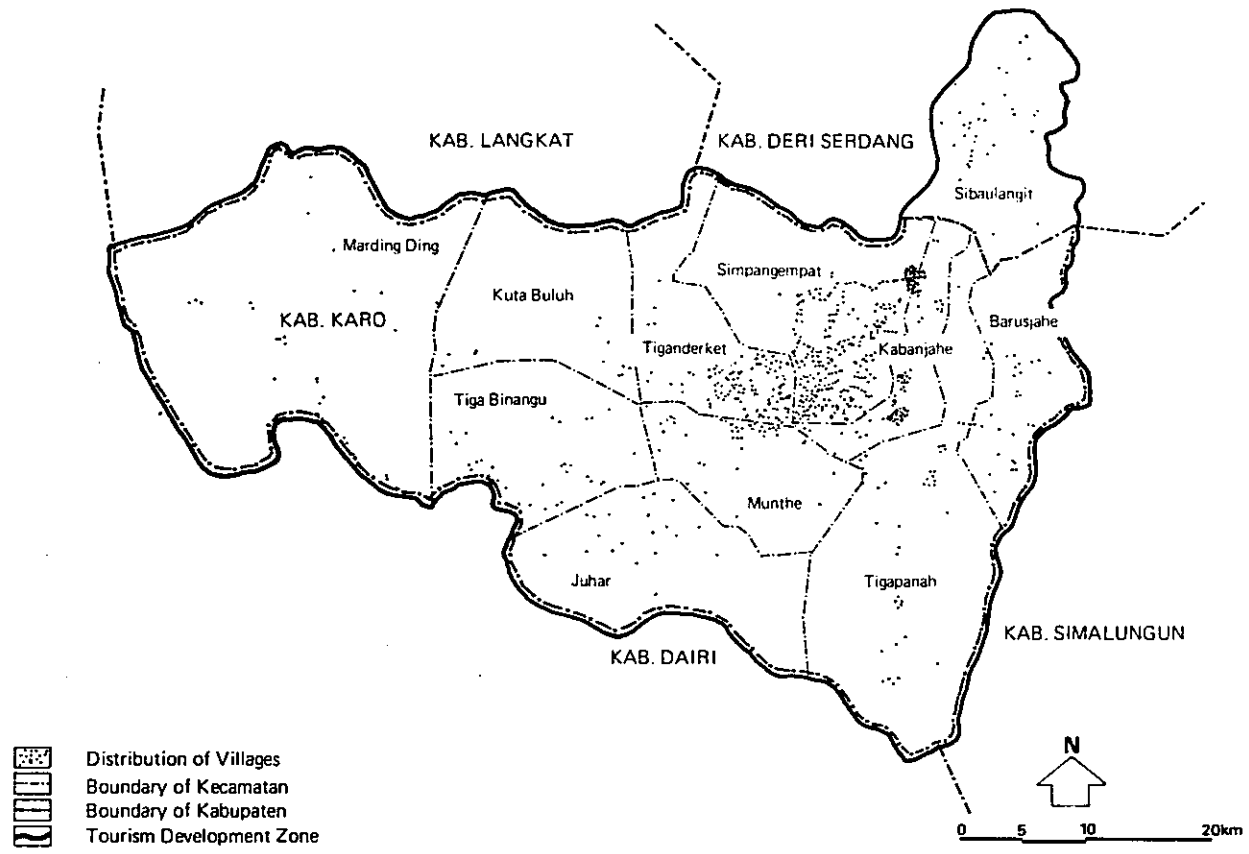
Here we have selected a conservation area which includes the three kabupatens of Agam, Limapuluh Kota, and Tanah Datar, each of which embraces a basin with its own characteristic and deep-rooted cultural environment, and the area around Lake Singkarak.

Area:	4,800 km^2	
Population:	911,000	
Population density:	190 persons/km^2	
Number of kecamatans:	25	
Number of villages:	204	
Main land use:	Forests	67%
	Paddies	15%
Main elements subject to conservation:	Mt. Marapi	
	Mt. Singgarang	
	Lake Maninjau	
	Lake Singkarak	
	Traditional villages, performing arts and fine art and handicrafts of the Minangkabau people	

Analytical Results of Three Conservation Areas

	Karo Plateau area	Lake Toba area	Minang Highlands area
Important scenic areas	(1) Mt. Sibayak Mt. Sinabung Brastagi Town (2) Karo Basin Gunung Lessor	(1) North Toba Front Lake Canyon (2) South Toba Porsea Bay Pear Lake Canyon	(1) Mt. Merapi Mt. Singgarang Lake Maninjau Lake Singkarak Bukittinggi Town (2) Agam Basin 50 Kota Basin Tanah Datar Basin
Land use	Since there are a great many dry fields, grasslands, and vegetable fields, there could be somewhat of a problem with respect to designation of this area as a conservation area.	There should not be any problem with repect to designation of this area as a conservation area since a full 75% of the land consists of forests (50%) and grasslands.	In spite of the fact that 67% of the land consists of forests, there could be some problem regarding designation as a conservation area considering the the fact that there is a considerable concentration of rice cultivation (15% of the land consisting of rice paddies).
Natural environment	A stable highland basin surrounded by forests.	Environmental spheres can be divided by watersheds. A relatively large proportion of pristine nature still is to found in the North Toba area.	The fact that the environmental units are very ununiform and small presents a problem with respect to designation as a conservation area.
Social environment	In this homeland of the Karo Batak only two vilages still follow the traditional life style.	In this original homeland of the seven Batak peoples the local society is predominately agricultural, particularly around the South Toba area.	Both historically and culturally the central functions of this area are concentrated in the three basins of Agam, Limapuluh Koba, and Tanah Datar.
Tourism assets	Tourism assets are concentrated mainly within a radius of 15 km of Brastagi.	Tourism assets are concentrated mainly in the North Toba area, i.e., along the northeast shore of the lake, and along the eastern shore of Samosir Island.	Although there is a scattering of tourism resources within a radius of 100 km, most of them are to be found within a radius of 20 km of Bukittinggi.

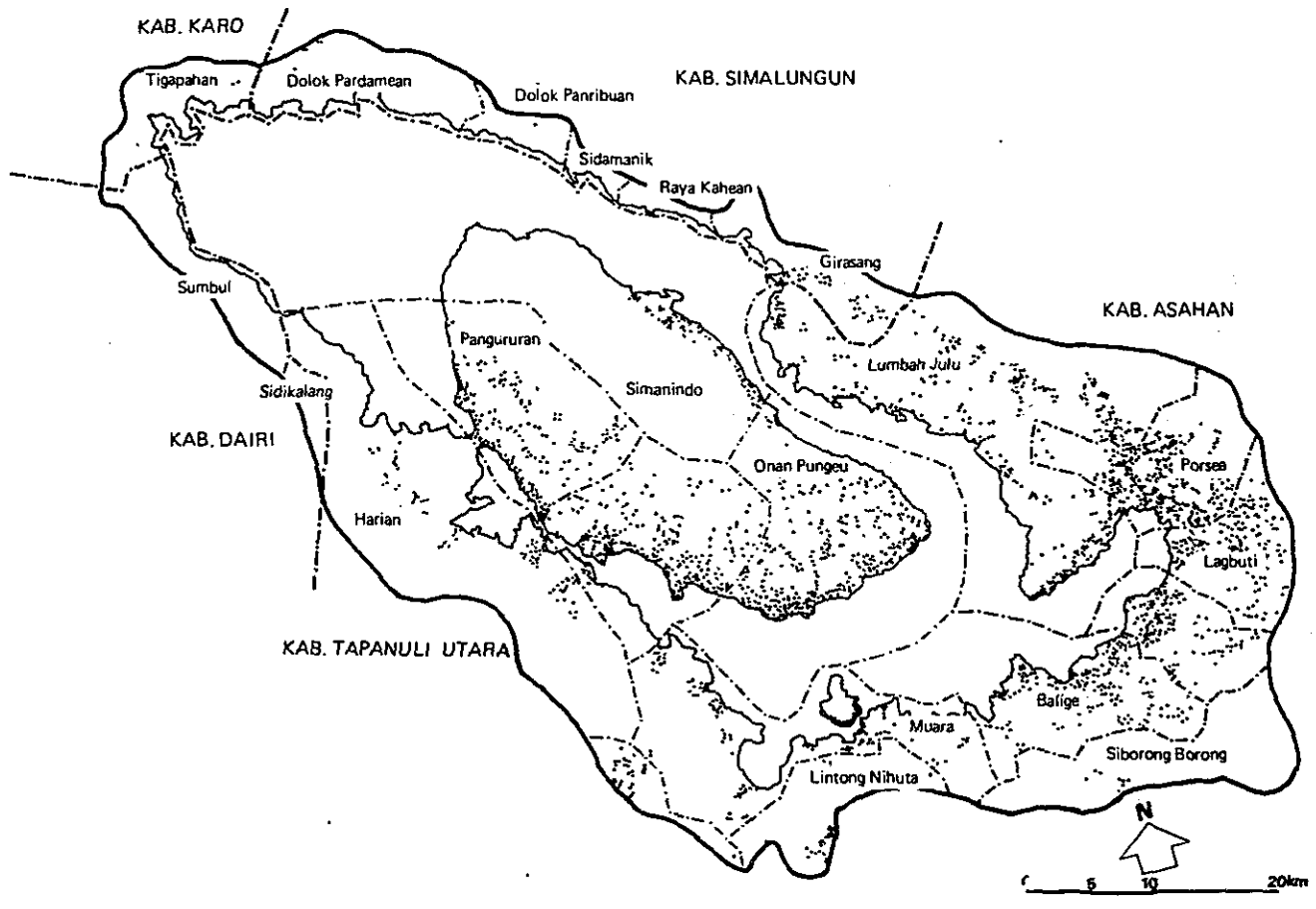
Administration and Village Distribution Map: Karo Plateau



Kecamatan	No. of villages	Population	Area (km^2)	Pop. density (persons/km^2)
1. Simpang Empat	40	22,689	392.2	57.9
2. Bar Usjahe	24	13,396	149.0	89.9
3. Tigapanah	48	27,847	615.5	45.2
4. Tigabingangan	22	13,902	170.3	81.6
5. Juhar	24	14,474	176.5	82.0
6. Munte	22	14,745	181.0	81.5
7. Marding Ding	28	22,272	340.5	65.4
8. Payung	25	19,839	120.3	164.9
9. Kabanjahe	25	46,985	168.3	279.1
10. Kutabuluh	16	8,448	205.3	41.1
11. Sibolangit	31	18,555	150.5	123.3
Total	305	223,152	2,669.4	83.6

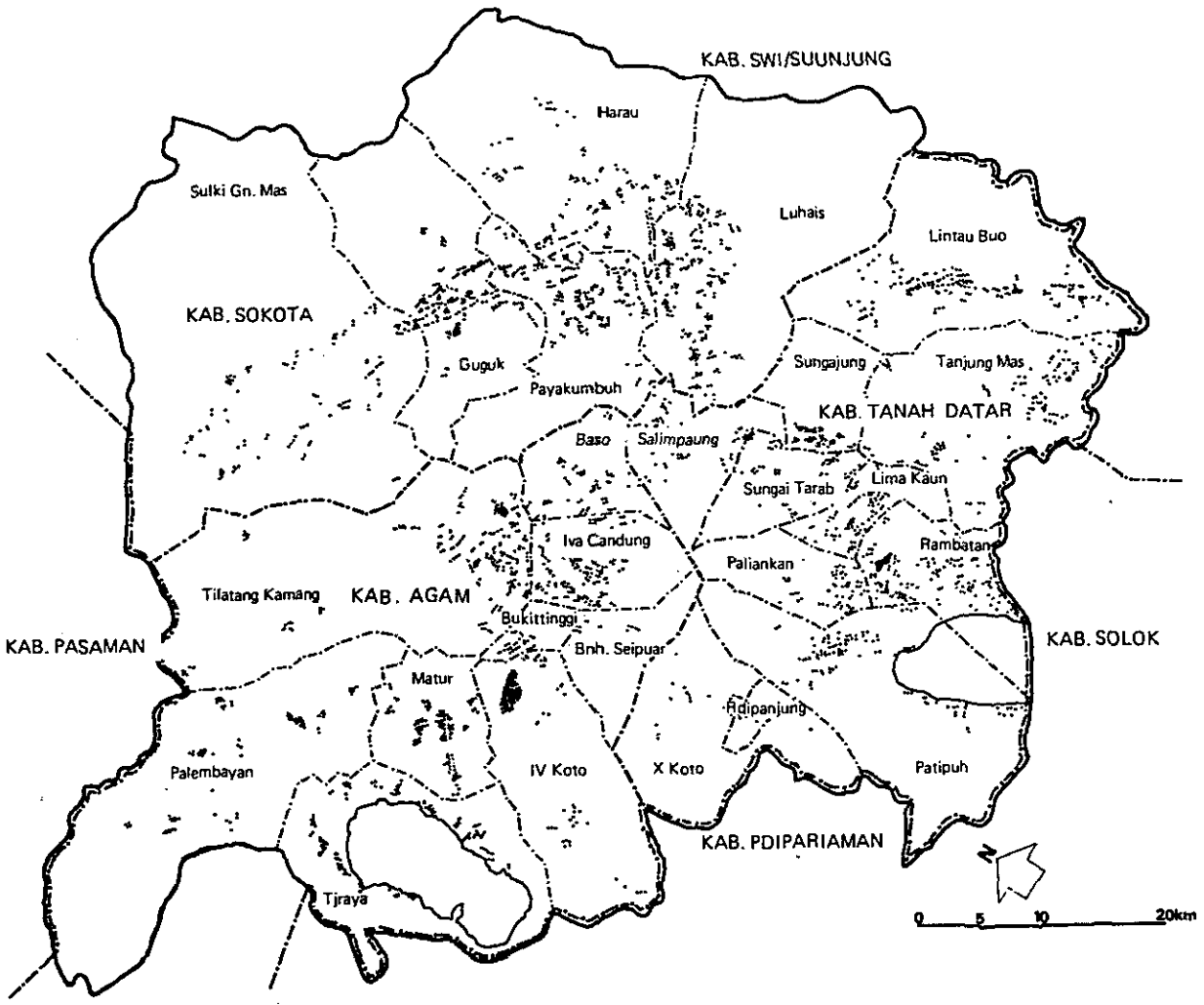
Source: Sumatra Utara Dalam Angka 1975

Administration and Village Distribution Map: Lake Toba Area



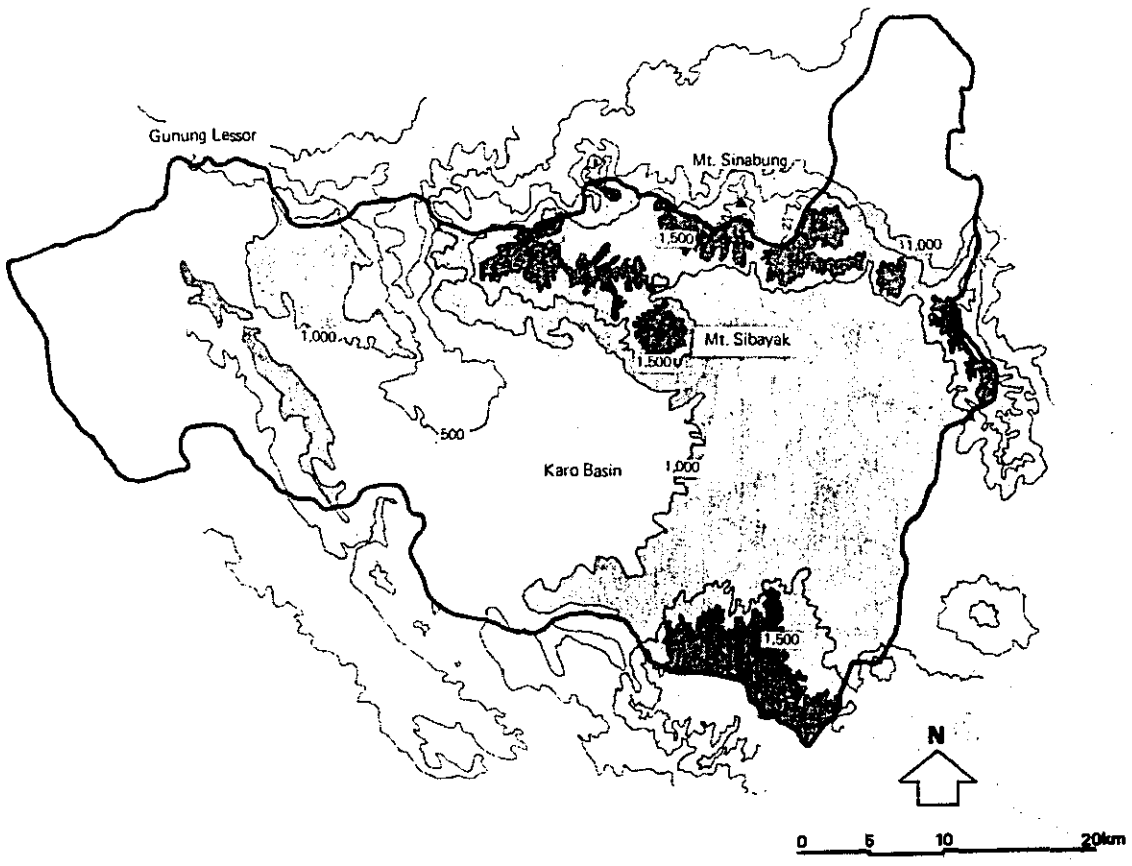
Kecamatan	No. of villages	Population	Area (km^2)	Pop. density (persons/km^2)
1. Tigapanan	-	2,785	34.8	80.0
2. Dolok Panribuan	-	2,089	27.1	77.1
3. Purba	-	1,769	82.4	21.5
4. Dolok Pardamean	-	1,000	22.0	101.0
5. Sidamanik	-	1,000	9.9	121.2
6. Raya Kamean	-	1,000	11.4	87.7
7. Girasang	-	2,200	43.3	50.8
8. Lumbah Julu	-	6,480	25.0	259.2
9. Simanindo	-	21,655	204.8	105.7
10. Pangururan	-	15,924	70.4	226.2
11. Harian	-	2,174	73.5	29.6
12. Sidikalang	-	1,848	19.1	201.5
13. Sumbul	-	3,041	76.0	40.0
Total	-	62,965	1,300.0 (Lake area 600.0)	90.0 (excluded lake area)

Administration and Village Distribution Map: Minang Highlands

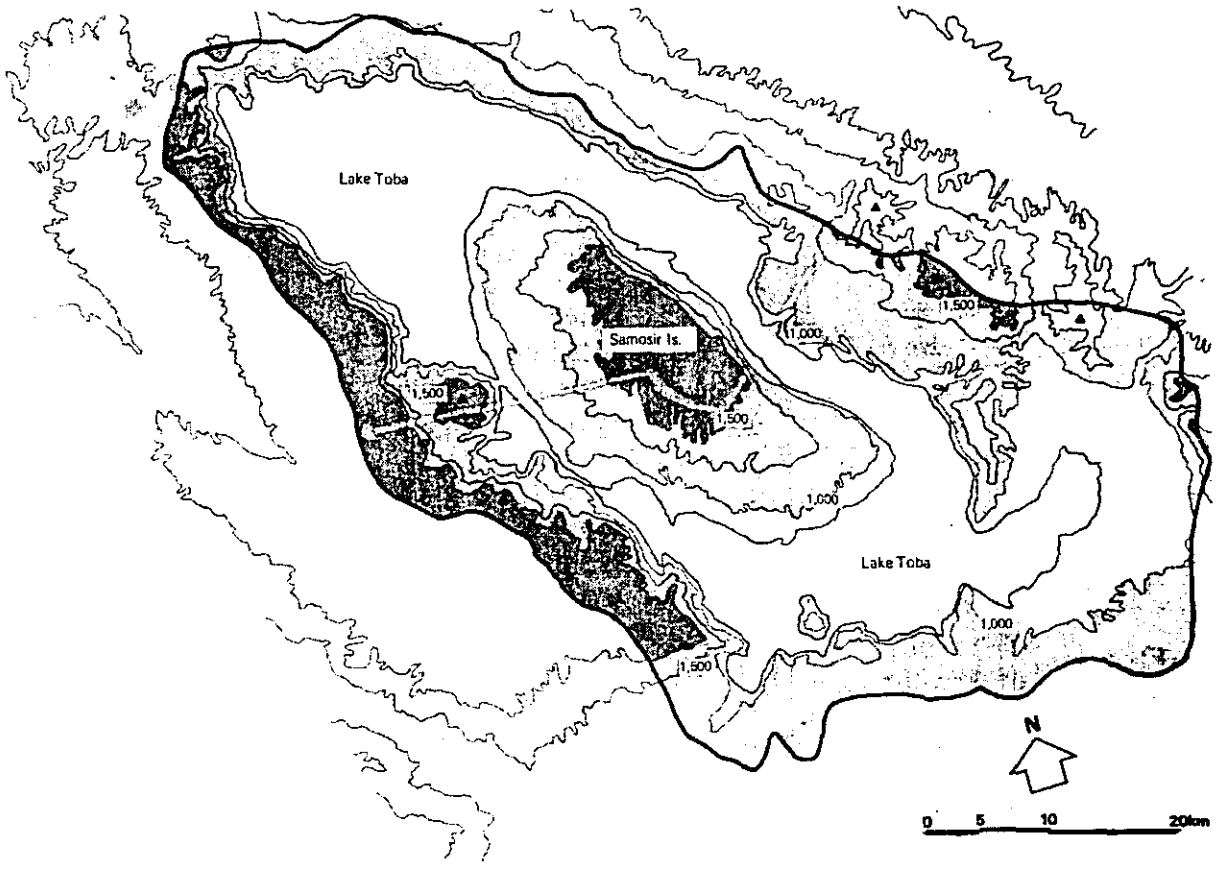


Kecamatan	No. of villages	Population	Area (km^2)	Pop. density (persons/km^2)
1. Palembayan	6	24,139	335.7	71.9
2. Tilatang Kamang	10	57,986	467.2	124.1
3. Tj. Raya	7	35,021	234.2	149.5
4. Matur	6	19,941	89.9	221.8
5. IV Koto	8	34,072	166.2	205.0
6. Bukittinggi	5	62,590	24.9	2,513.7
7. Bnh, Sei Puar	11	43,165	69.8	618.4
8. IV A. Candung	10	47,247	79.6	593.6
9. Baso	5	27,739	67.5	410.9
10. Sulki Gn. Mas	12	45,710	604.2	75.7
11. Guguk	8	49,156	230,5	213.3
12. Harau	8	25,817	566.6	45.6
13. Payakumbuh	12	41,231	184.3	223.7
14. Luhak	17	59,831	358.0	167.1
15. Salimpaung	8	33,069	83.5	396.0
16. Sungai Tarab	10	28,980	71.2	405.8
17. Paliangan	6	22,367	67.2	332.8
18. X Koto	9	30,369	144.6	210.0
19. Pd/Panjung	4	31,632	26.6	1,189.2
20. Batipuh	12	41,157	261.3	157.5
21. Lima Kaun	5	26,689	48.7	548.0
22. Rambatan	5	31,921	81.8	390.2
23. Tj. Emas	6	30,368	195.6	155.3
24. Lintau Buo	9	43,797	316.9	138.2
25. Sungajung	5	17,268	65.5	263.6
Total	204	911,262	4,841.5	188.2

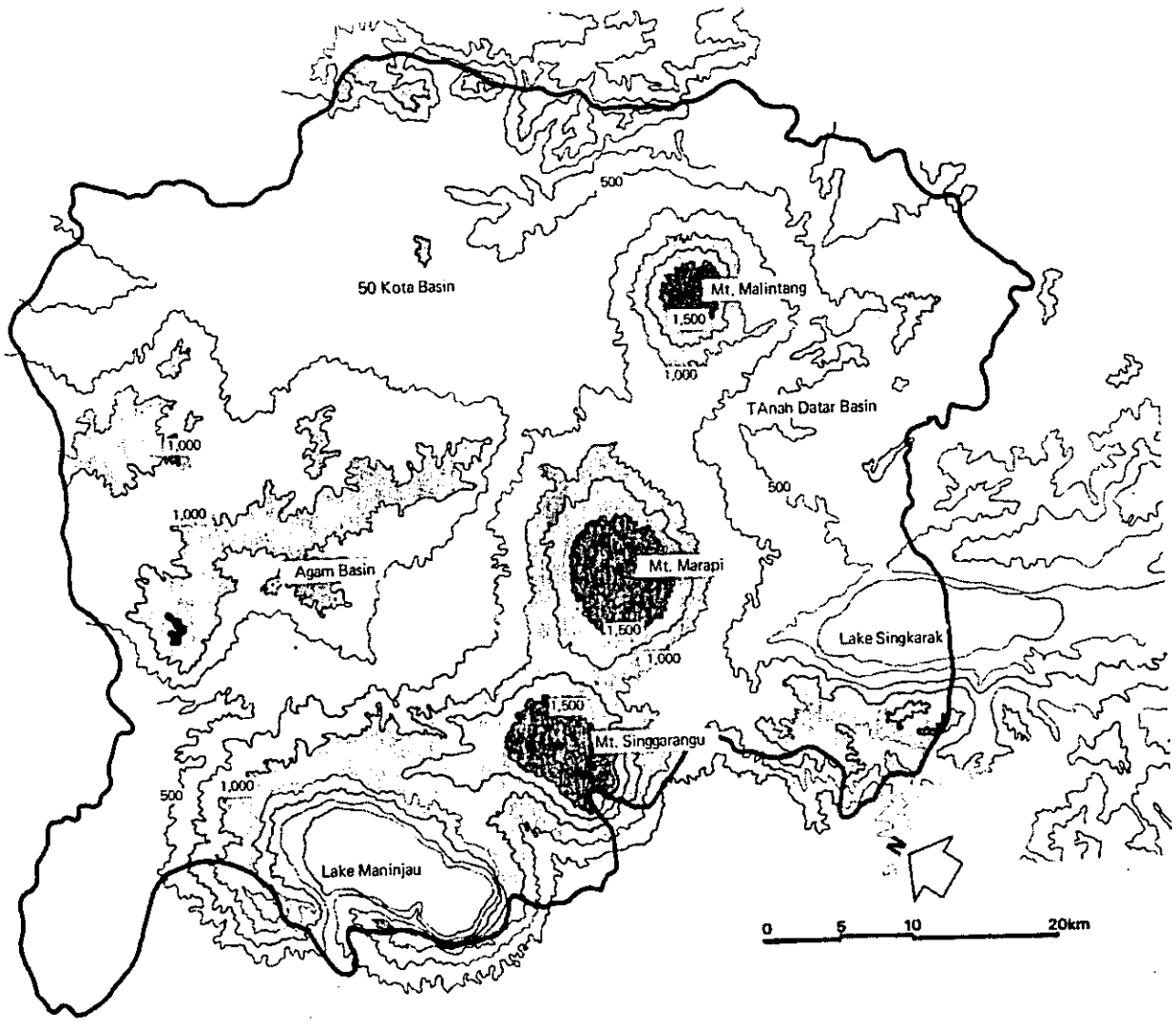
Topography Map: Karo Plateau



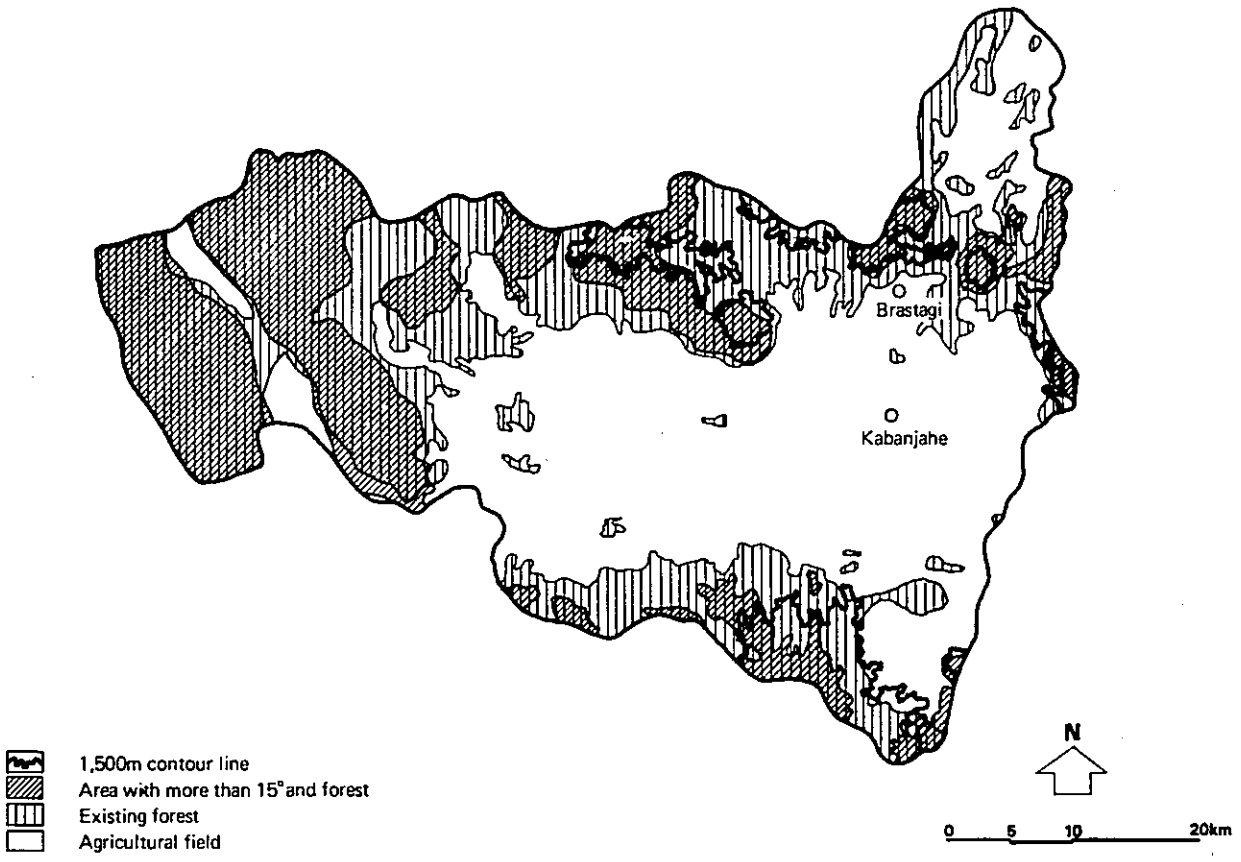
Topography Map: Lake Toba Area



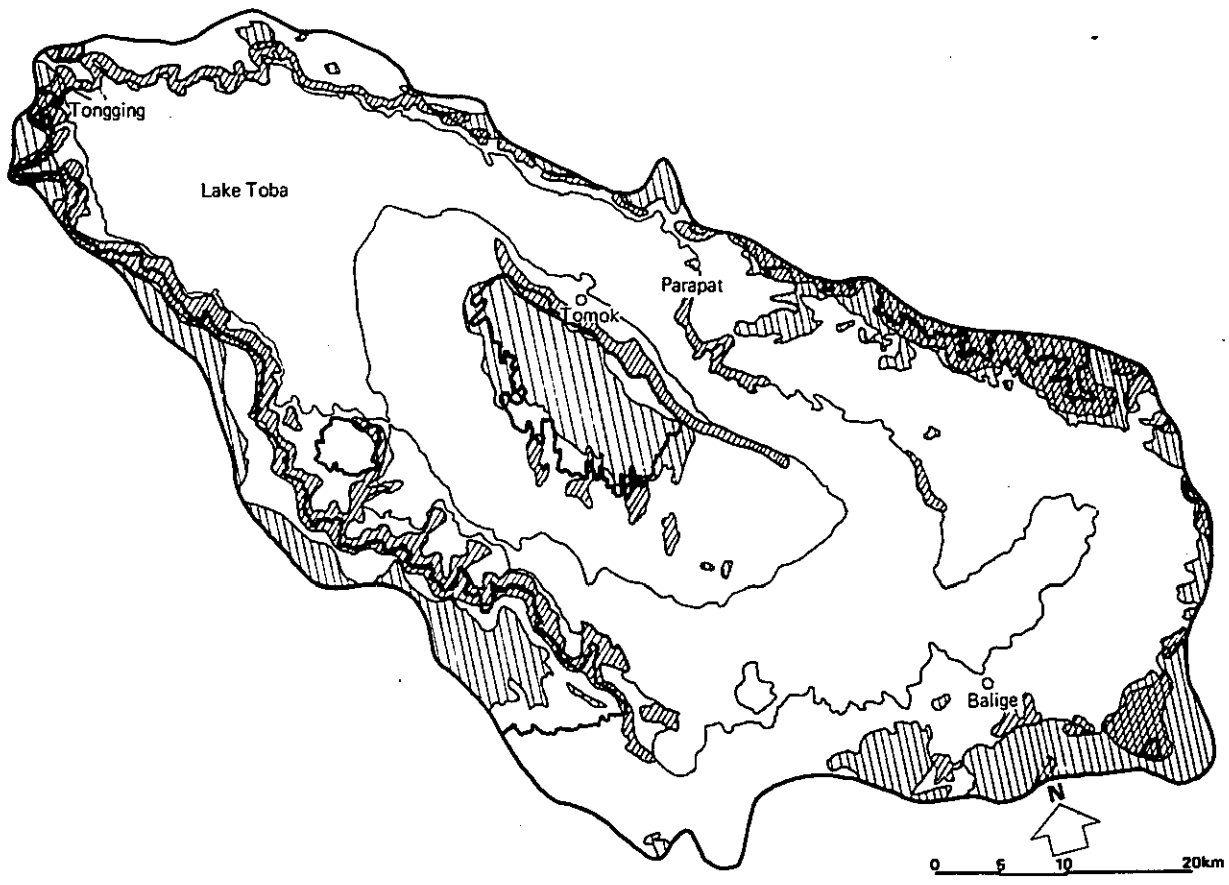
Topography Map: Minang Highlands



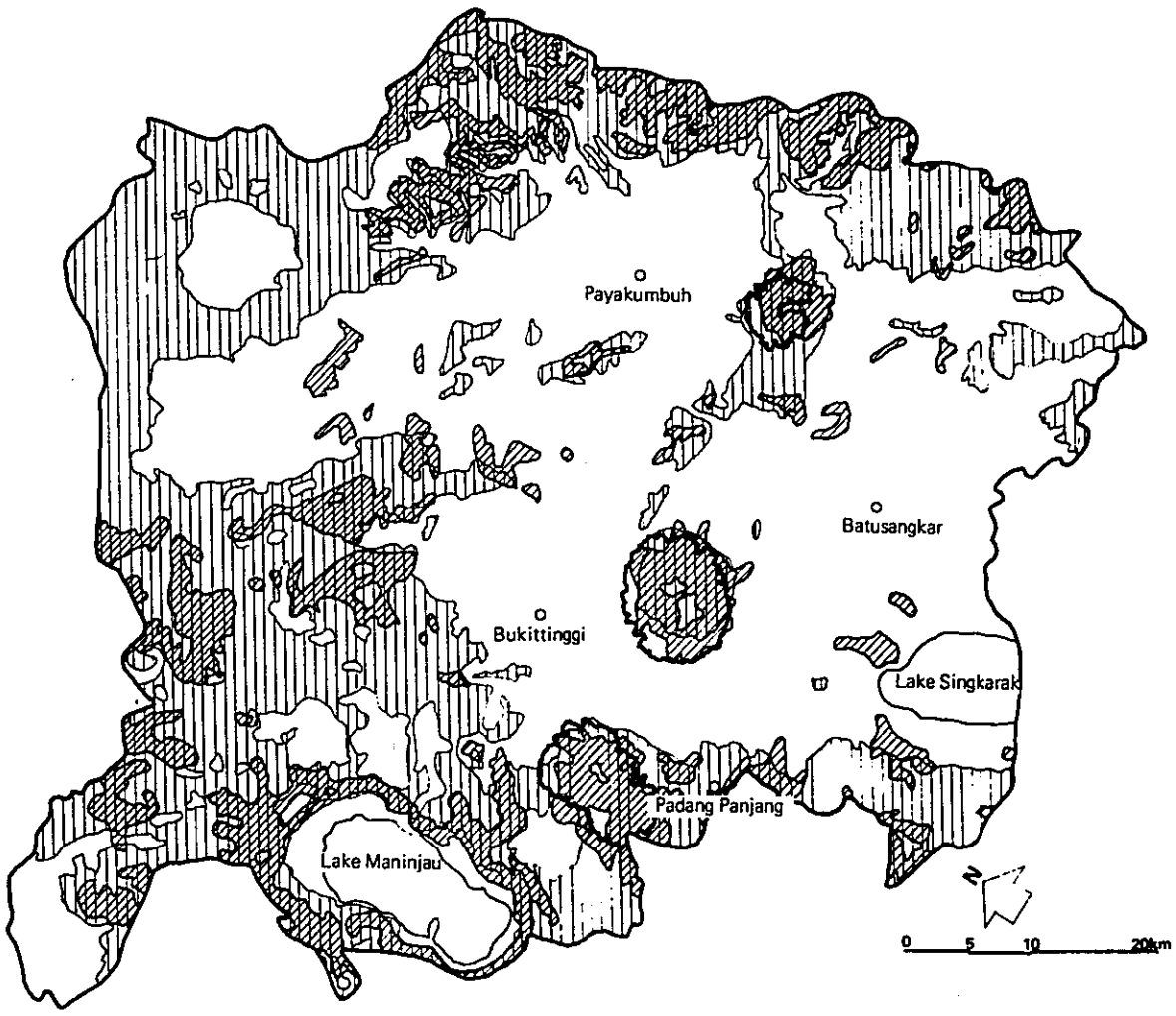
Slope and Forest Map: Karo Plateau



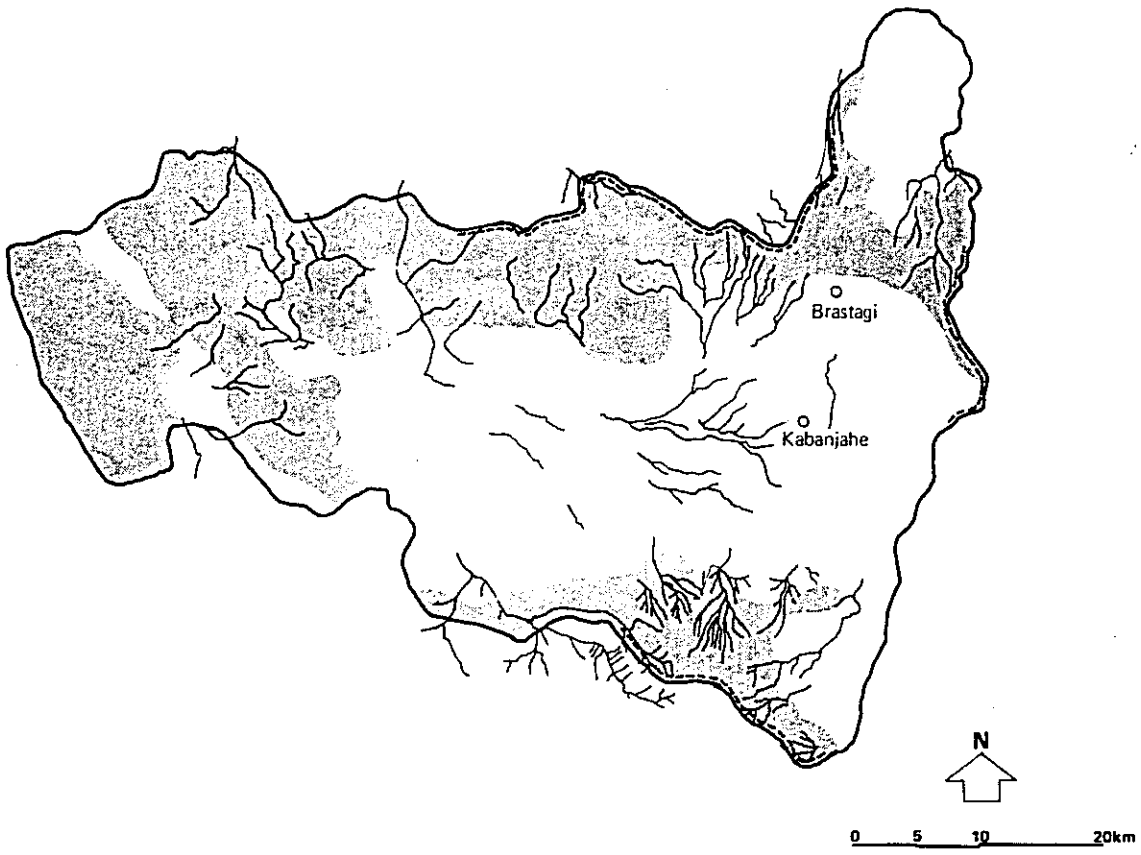
Slope and Forest Map: Lake Toba Area



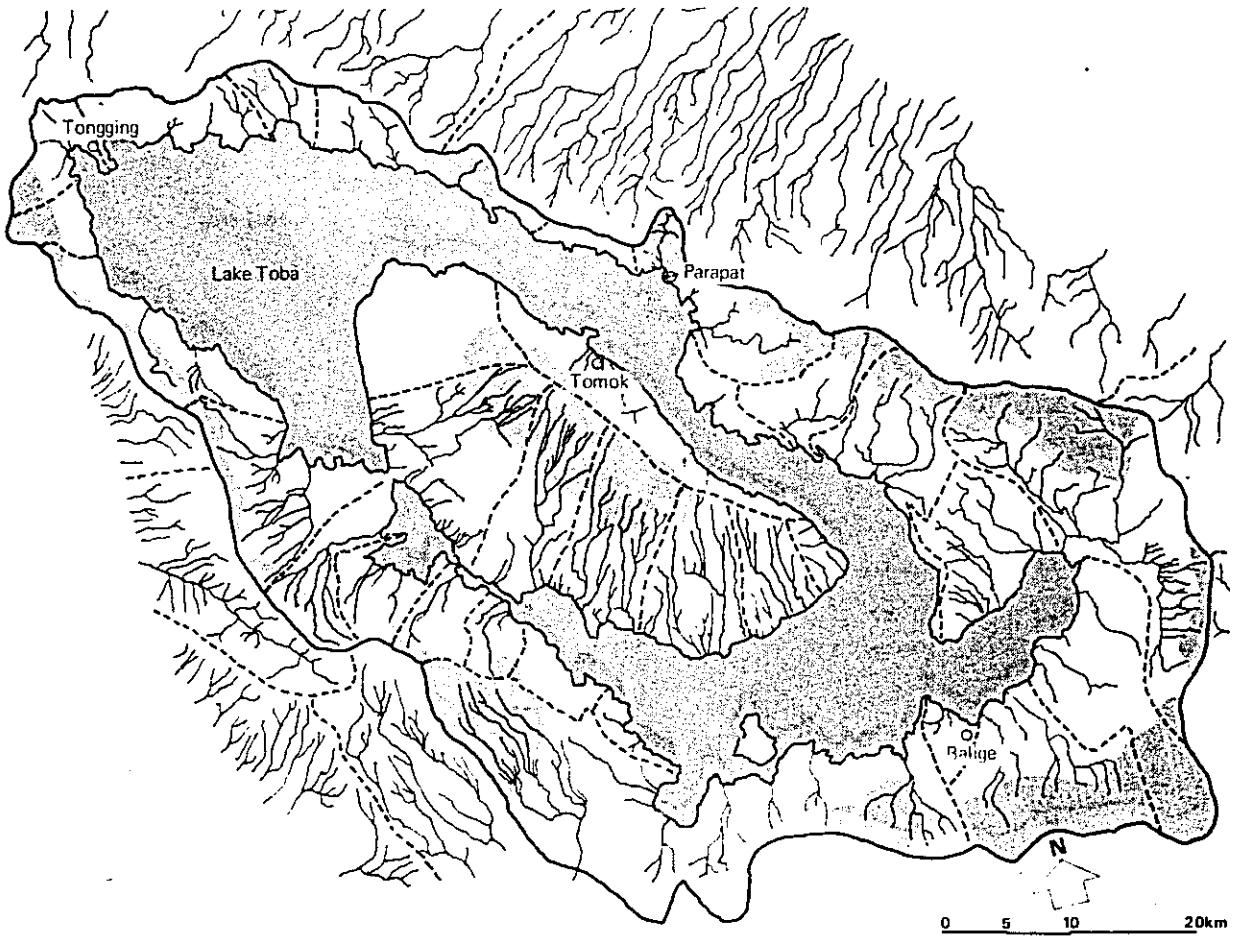
Slope and Forest Map: Minang Highlands



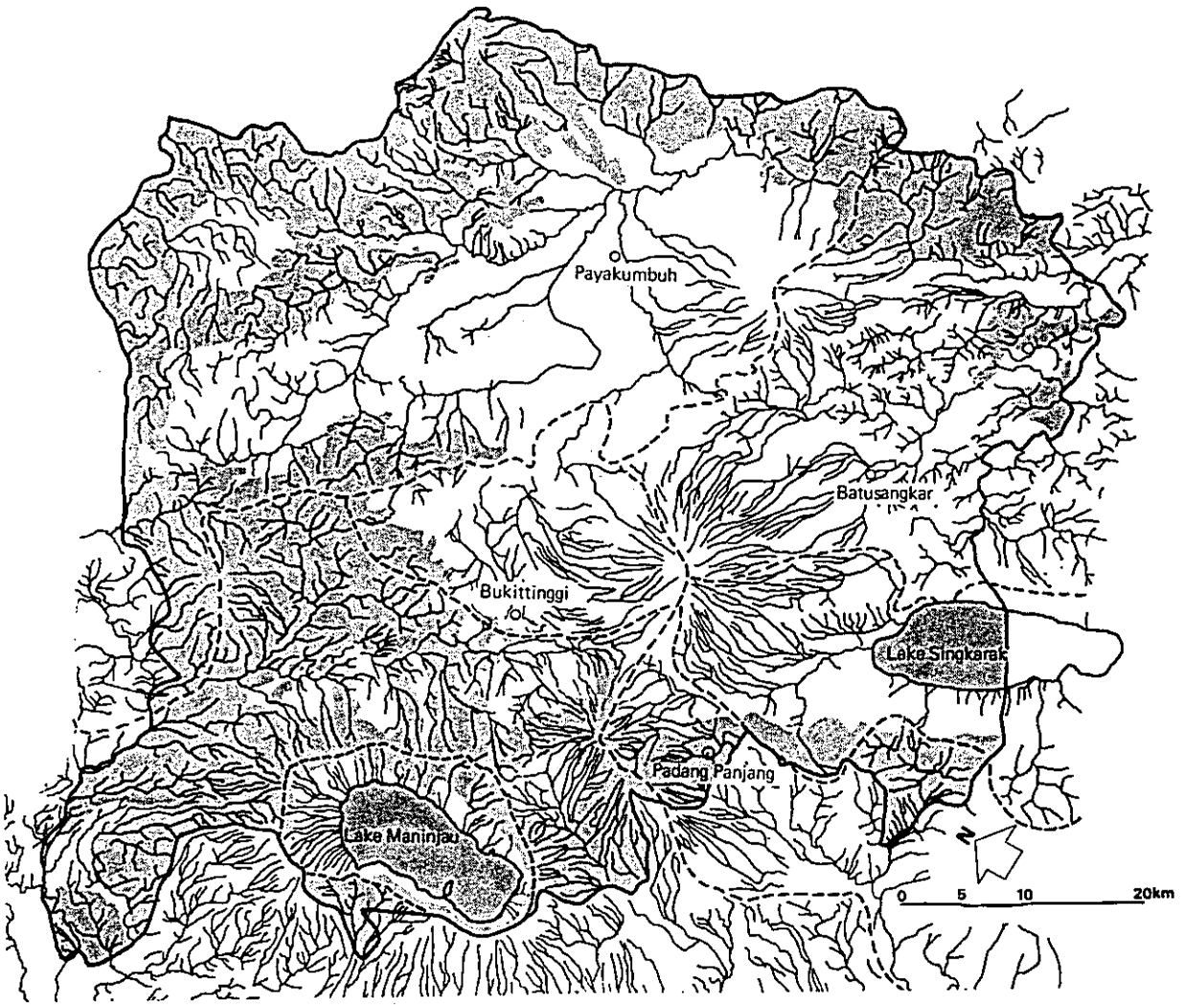
Existing River Map: Karo Plateau



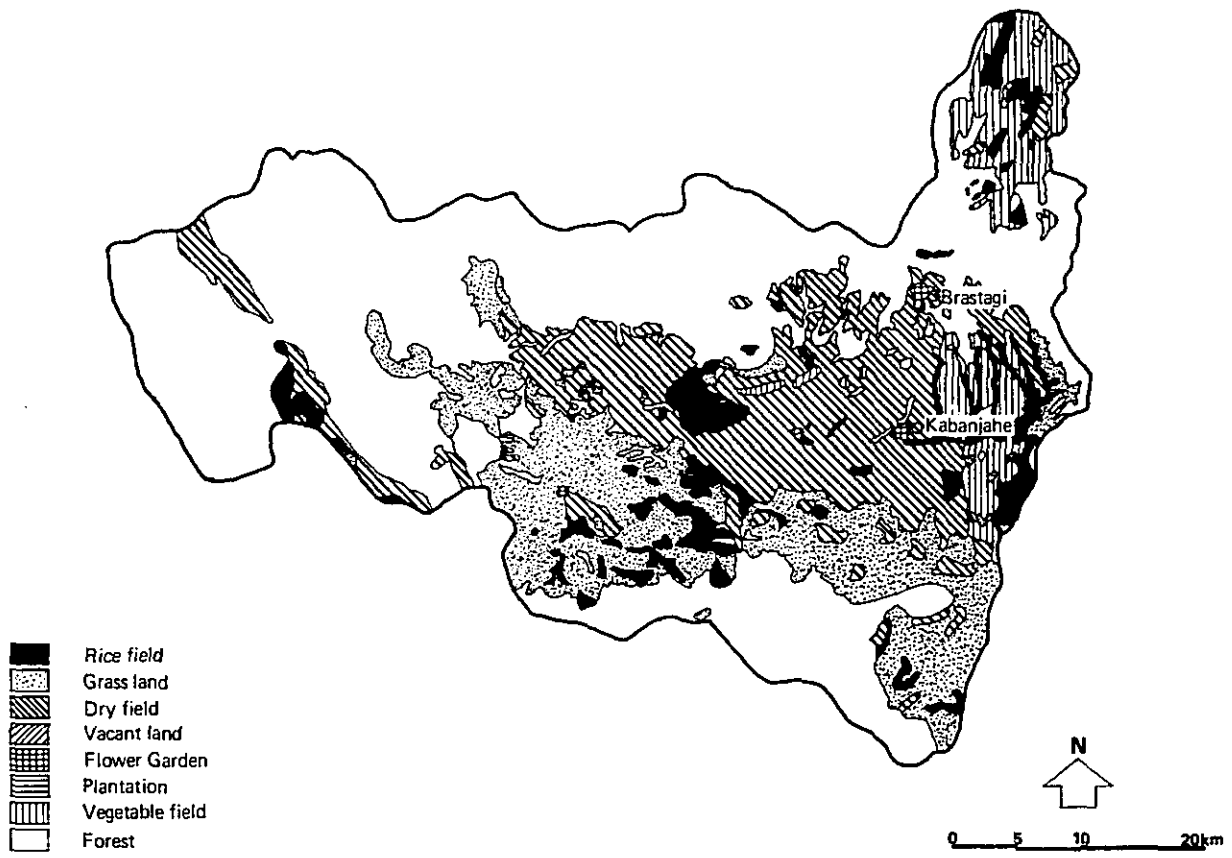
Existing River Map: Lake Toba Area



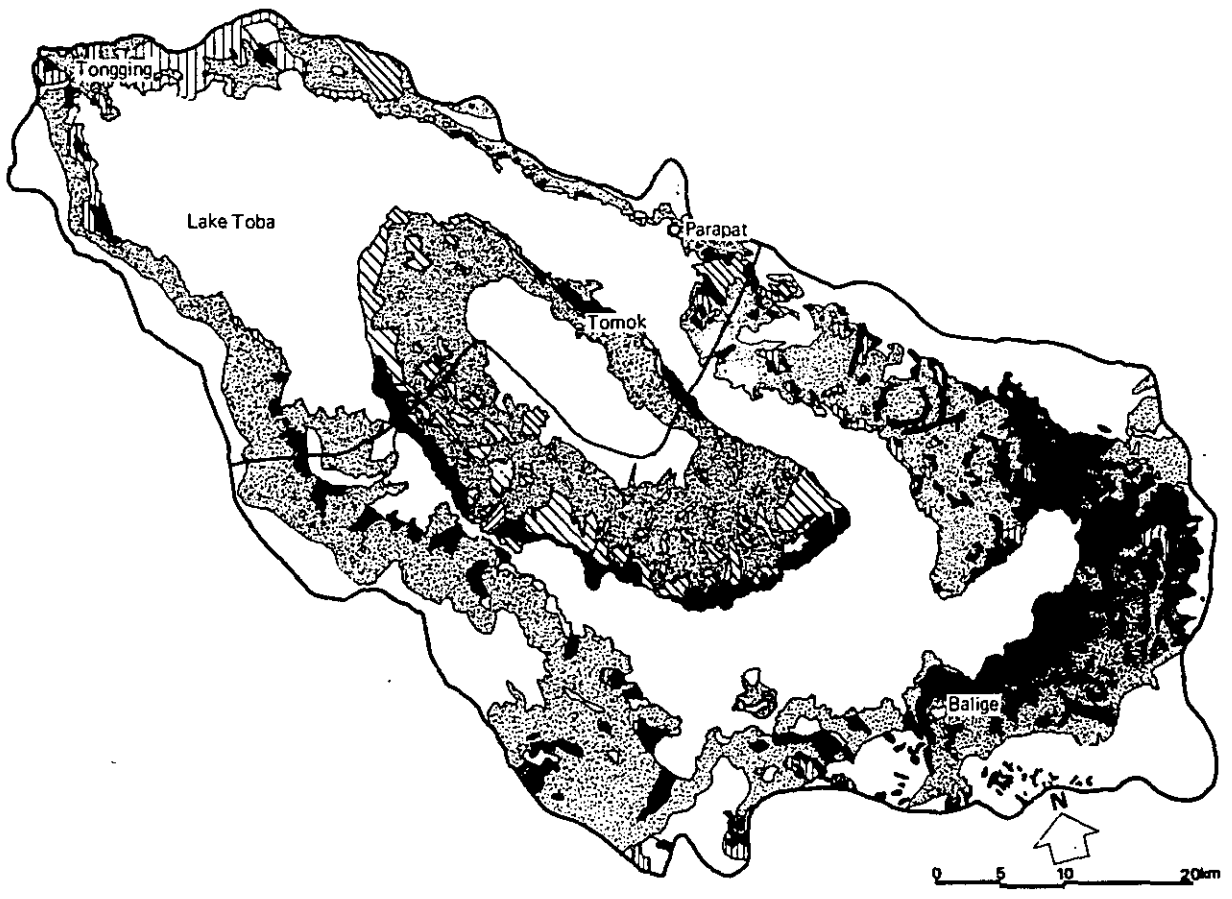
Existing River Map: Minang Highlands



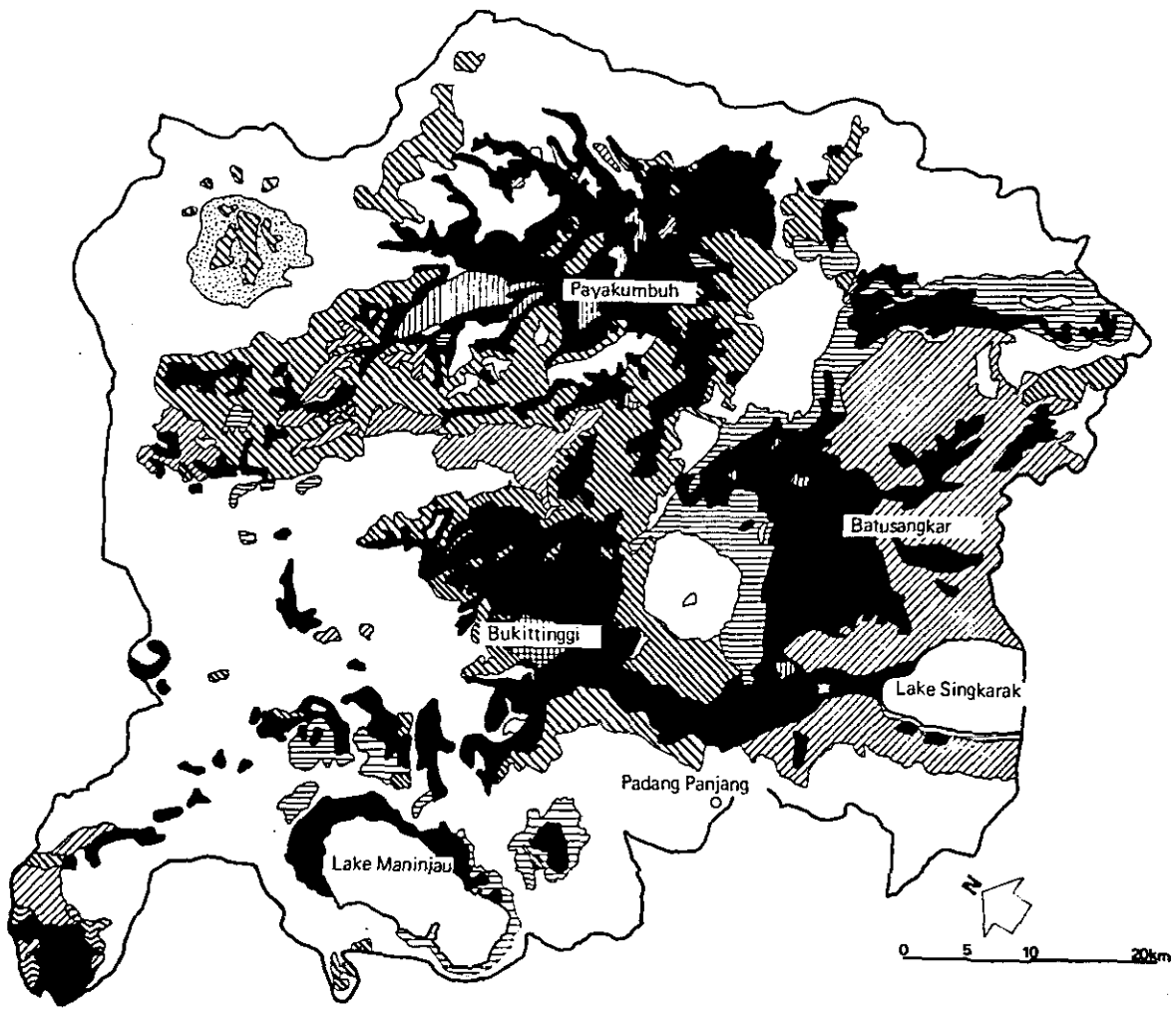
Existing Land-use Map: Karo Plateau



Existing Land-use Map: Lake Toba Area



Existing Land-use Map: Minang Highlands

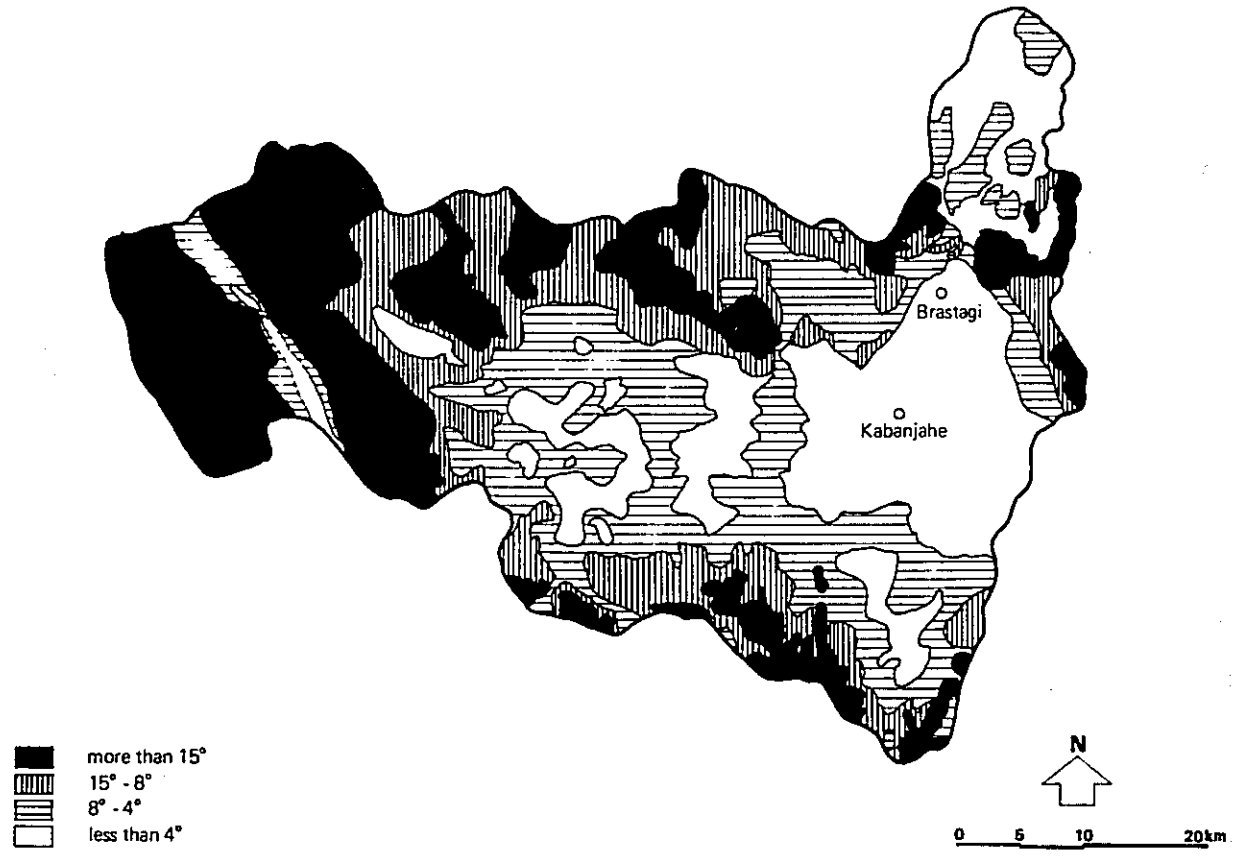


Existing Land Use Area List

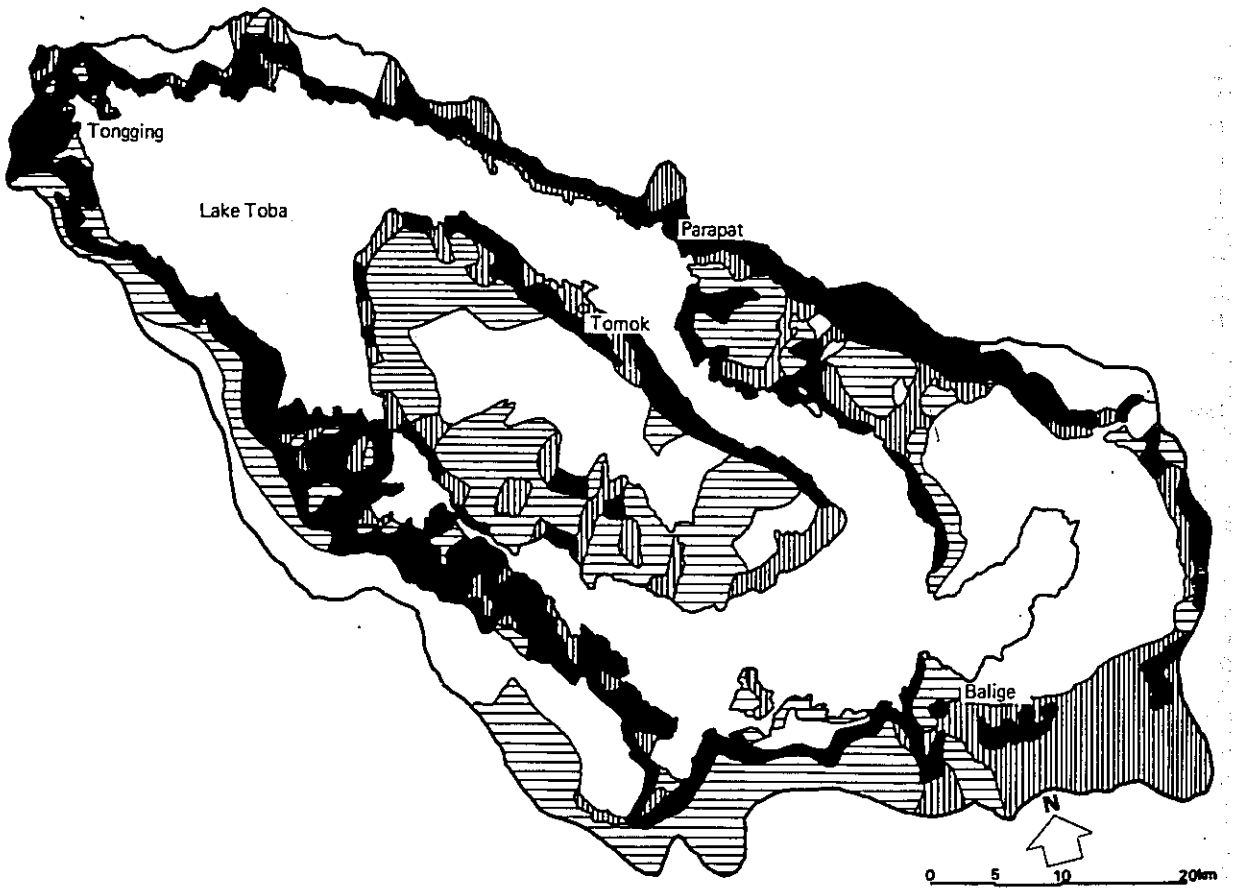
	Rice paddies	Plantations	Vegetable fields	Dry fields	Vacant land	Grasslands	Forest	Totals
Karo Plateau Area	187 (7.0)	-	144 (5.4)	579 (21.7)	-	454 (17.0)	1,367 (48.9)	2,670
Lake Toba Area	230 (13.0)	-	30 (1.7)	154 (8.7)	4 (0.2)	883 (49.9)	469 (26.5)	1,770
Minang Highlands Area	741 (15.3)	68 (1.4)	10 (0.2)	290 (6.0)	445 (9.2)	44 (0.9)	3,242 (67.0)	4,840

Note: The figures in parentheses represent percentages, and almost all of the residential area is included in the figures for the area of the rice paddies.

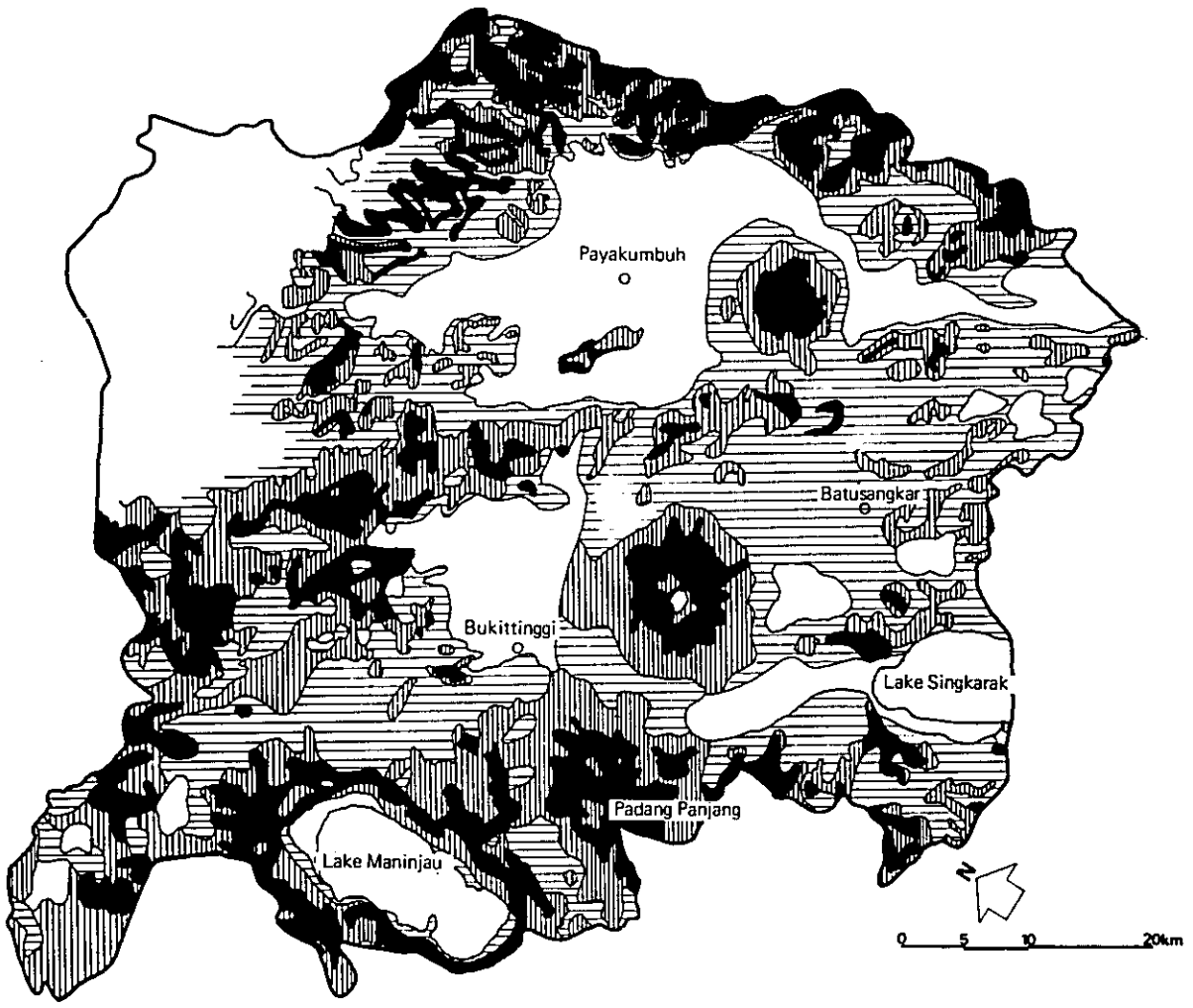
Slope Map: Karo Plateau



Slope Map: Lake Toba Area



Slope Map: Minang Highlands



Apendix–2 Background of Culture in the Region

As far as tangible cultural assets go, Indonesia, which boasts such important cultural assets as the Borobudur and Prambanan temples, so valuable in terms of world culture, has been able to form a national consensus regarding the need for their preservation as well as formulate and carry out measures for that purpose. This is to be expected since it is relatively easy to form such a consensus in the face of imminent ruination of such cultural assets readily apparent even to the eye of the uninitiated. The same can not be said for intangible cultural assets, for they tand merely to disappear from the scene unnoticed along with change in living styles, with which they are so intimately connected. Experience throughout the world has shown that only if an organized effort is made to sound the alarm with respect to the danger of irretrievable loss of the intangible cultural legacy can a comparable national consensus be achieved.

During our visits to North and West Sumatra we were able to sense the unique cultural elements of the different peoples inhabiting the two provinces as integral, living parts of their daily lives. Nevertheless, advancing modernization is gradually changing the face of the village communities in which such cultural elements are embodied, and even the cultural elements that have been consciously passed on generation by generation for their tranditional recognized value and which therefore would not seem to be in any imminent danger of wilting away will no doubt eventually be threatened with extinction if matters are left to follow their natural course.

In the meantime, while a national consensus regarding the necessity to preserve traditional cultural is in the making, tourism development can help it to be passed on from older to newer generations.

One of the best ways of ensuring that traditional folk performing arts are preserved is to make it possible to stage regular performances of them. Furthermore, it is advisable to provide performing arts centers that will make it possible for performers to devote their entire energies to maintaining and improving their artistic capacities, which of course have a direct and decisive bearing on the quality of the art itself, as well as to introduce young people into the world of such performing arts and train them to a level where they are suitably qualified to carry on the tradition when the present masters pass away. Then again there is the by-product value of performances at such centers as promising tourist attractions.

One should not lose sight of the fact, however, that preservation of traditional culture is essentially a matter of education of younger generations in their national culture rather than a concern of tourism. In other words, performances for the benefit of tourists should be regarded simply as a means of contributing to the preservation of traditional culture. This being the case, it is advisable that steps be taken to ensure that there is not complete reliance on profits from tourists to cover the cost of construction, operation, and organization of performing arts centers and activities, including the provision of subsidies.

As for tangible folk cultural assets, ethnic museums should be built for their collection and display as well as scientific research, and they should also keep records regarding intangible folk cultural assets. Such museums should be either nationally operated or heavily subsidized. Moreover, they, just as the performing arts centers, will be major tourist attractions and will therefore earn considerable profits that can be used to finance the museum's work, including research work.

Although cultural assets that have not yet been excavated have not been included in the scope of the present study, there are reports of many such ruins elsewhere in the Padang area than Poltibi as well as of a good many sculptured stones and ancient tombs in the Pasema highlands on the skirts of Mt. Dempo that have not yet been surveyed.

Since the route whereby a great deal of Indonesia's culture came into the archipelago was by way of Sumatra, efforts to throw more light on Sumatra's cultural history should contribute immensely to a greater understanding of Indonesian cultural in general. Accordingly, no time should be lost in launching surveys in the two areas mentioned above as well as in other areas which are suspected to have unexcavated historical ruins.

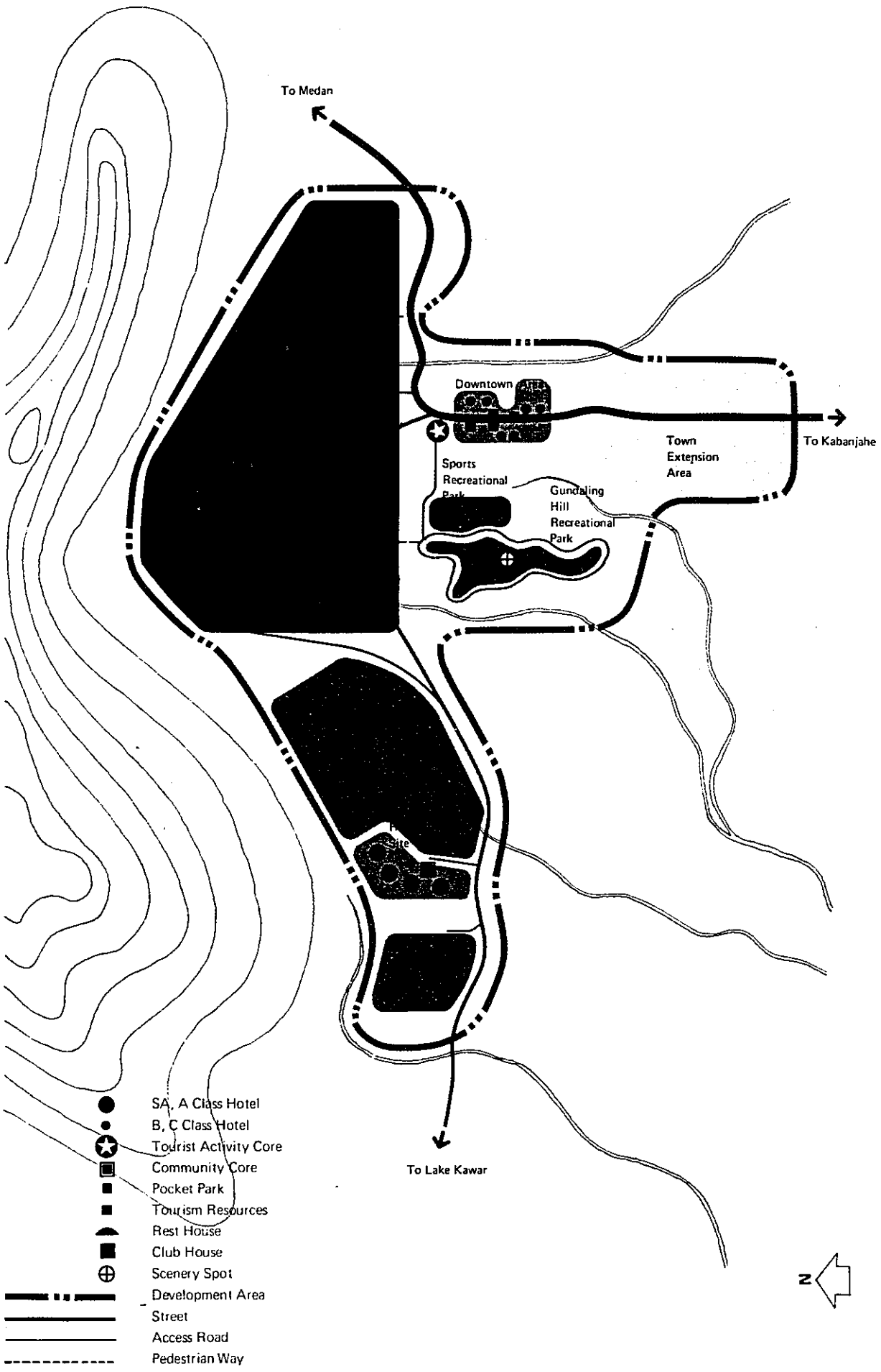
At the same time it will be necessary to establish a system whereby certain areas that are known to have a considerable distribution of unexcavated cultural assets are designed to that effect so that when road, housing, agricultural, or other kinds of development projects in them turn up such cultural assets, the work can be ordered halted or permanently prohibited as the particular circumstances require in the opinion of the regulating body to which such discoveries must be reported. The Gomo area of Nias Island, for instance, where megalithic ruins are to be found, is an area which should receive such designation. Even if development works in areas without such designation come across hitherto unexcavated ruins, there should be provision for their suspension or permanent interruption for the sake of protection of cultural assets.

In the southern part of Nias Island are to be found the villages of Bawomatawo and Hilisimaetano, where not only does each of the houses represent an example of unique architectural style but the whole village has a character all of its own. The houses, which are on "stilts," are lined up in two parallel rows separated by a wide, stone-paved road, with the residence of the village head at one end and the entrance to the village at the other. This arrangement reflects local mythology, or you might even say that it is an embodiment of it. In such a case, not only the individual architectural structures but also the whole configuration should be preserved as elements of the local cultural heritage. Needless to say, this will require the cooperation of the villagers themselves, and every effort will have to be made to avoid conflict between their realistic needs in their daily lives and the need for such preservation. For the time being, preservation efforts should concentrate on making detailed plans of the existing structures individually, preserving traditional home building techniques, and persuading the people living in them to follow traditional architectural styles as far as possible in the event that they do any remodelling of their homes.

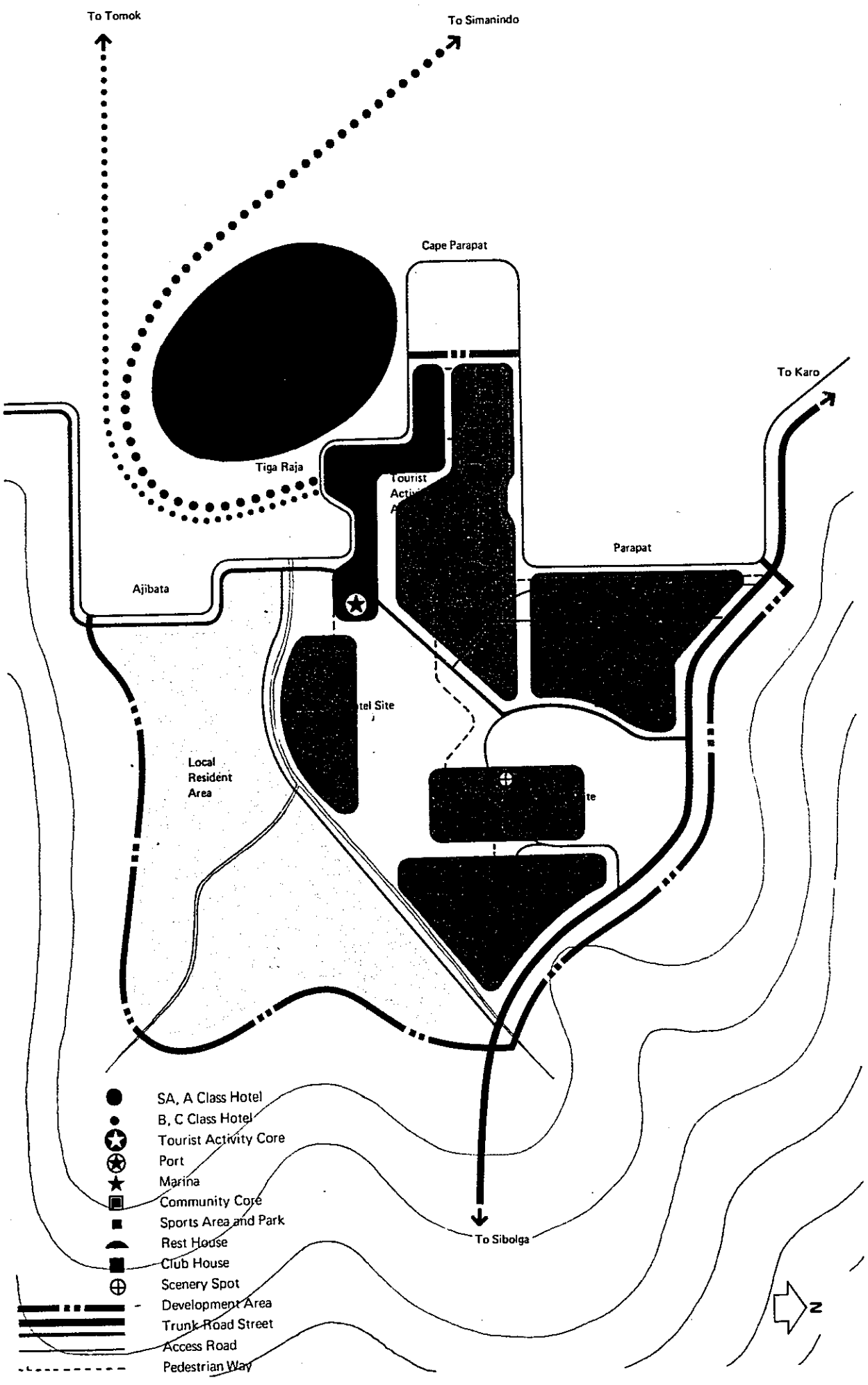
5

PAPER 5: TOURIST TOWNS AND OTHER DEVELOPMENT AREAS

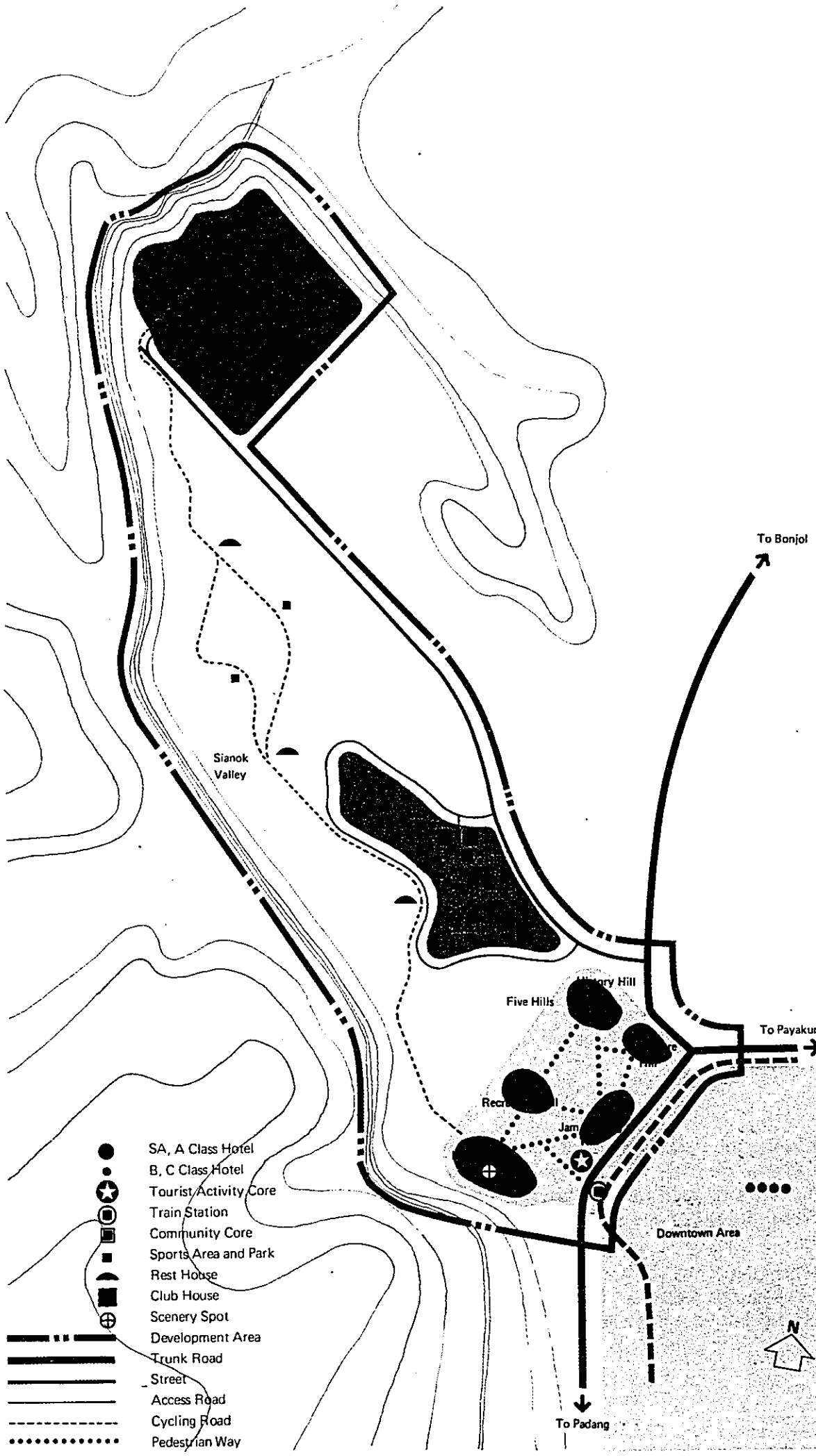
Brastagi Tourist Town



Parapat Tourist Town



Bukittingi Tourist Town



1. Introduction

This chapter summarizes the development strategy for the fifteen tourism development areas in the three tourism development zones (four in the Karo Plateau area, five in the Lake Toba area, and six in the Minang Highlands area), including the three "tourist towns." such tourism development areas are of three types in terms of development scale, content, and function: (1) tourist towns, which will serve as the central bases of the development zones, (2) tourist satellite areas, including accommodation facilities, which will support the central bases and make possible tourist activities over a wide area, and (3) tourist destination areas, without accommodation facilities, which will group the tourism resources distributed in each of the zones in an efficient manner and provide facilities for the convenience of daytime visitors.

The following table classifies the individual tourism development areas according to this scheme.

Classifications	Karo Plateau	Lake Toba Area	Minang Highlands
Tourist town	Brastagi	Parapat	Bukittinggi
Tourist satellite area	North Karo Lake Kawar	Tongging North Samosir Central Samosir	Lake Maninjau Lake Singkarak
Tourist destination area	Central Karo	East Toba	Payakumbuh Batusangkar Padang Panjung

In the following the present condition of each of these areas, the development guidelines for them, and the projects to be undertaken in them will be explained in greater detail.

(1) Karo Plateau Tourism Development Zone

This zone contains all of Kabupaten Karo and Kecamatan Siborangit in Kabupaten Deli Serdang and covers a total area of 2,370 km^2. Brastagi is its central tourism base, with the surrounding areas of North Karo, Central Karo, and Lake Kawar also being included in it.

The development orientation of this zone will be that of a weekend recreation area taking advantage of the proximity of the metropolitan Medan area (future population of 2 million) and traditional Karo Batak cultural assets and with local industry being geared to tourism. It will also be one of the appexes of a triangular model international tourism course, the other two appexes of which will be the gateway city Medan and the Lake Toba area.

(2) Lake Toba Tourism Development Zone

This zone covers 1,770 km^2 around Lake Toba and the northern part of Samosir Island, the breakdown being 740 km^2 (40%) of lake surface, 380 km^2 (21%) on Samosir Island, and 650 km^2 (37%) along the shore of the lake across from the island. Besides Parapat as its central tourism base, it also includes Tongging, East Toba, North Samosir, and Central Samosir.

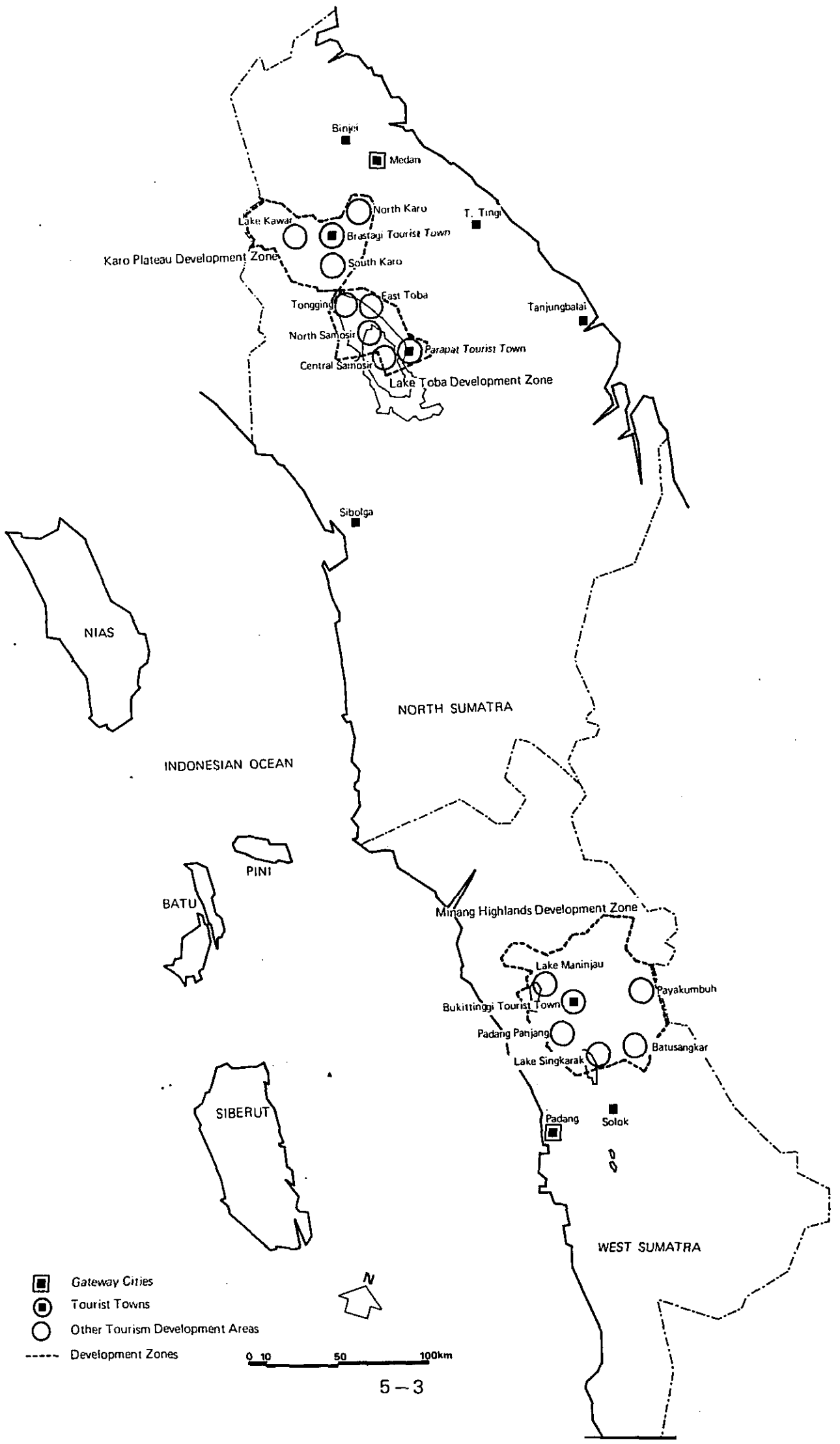
The development orientation of this zone will have to be toward formation of a stay type tourist area integrating tourism making maximum use of the superb natural tourism resources of this largest lake in Southeast Asia with tourism in which local and historical and cultural assets of the Toba Batak are utilized to the full.

(3) Minang Highlands Tourism Development Zone

This zone consists of the three kabupatens Agam, Limapuluh Kota, and Tanang Datar, the granary of West Sumatra, and covers an area of 4,840 km^2. Besides Bukittinggi, the chief town of Kabupaten Agam, as its central tourism base, it includes the five surrounding areas of Lake Maninjau, Lake Singkarak, Payakumbuh, Batusangkar, and Padang Panjung.

The theme of development of this zone is to discover, foster, and specialize the historical, traditional, cultural, natural, and local industry resources of each of the three highland basins centering on Bukittinggi, Payakumbuh, and Batusangkar, respectively, to integrate them, and to put the tourism spotlight on the overall natural and cultural heritage of "Minangkabau Land."

Location of Tourism Development Areas



2. Brastagi Tourist Town

Existing Conditions

Brastagi, located in Kabupaten Karo, has an elevation of 1,500 m, a population of 5,500, and an area of 480 ha. Topographically, it is situated on the skirts of Mt. Sibayak, the peak of which (2,212 m) lies 7 km to the north, and configuratively, it stretches in a linear fashion along the provincial road leading to Kabanjahe, with two rivers, one on either side, flowing past it. Climatically, it is much cooler and much more pleasant than Medan and other coastal areas on account of the lower temperatures and lower humidity characteristic of highland areas. Agriculturally, it is noted islandwide for its rice production and also for its cultivation of vegetables, fruit, flowers, and other produce characteristic of highland areas as well as being a center, as is Kabanjahe, for collection and distribution of farm produce from the whole surrounding area.

The present land-use breakdown of the township area is 82% farmland, 12% urbanized area, and 6% tourist recreation.

Because of its accessibility from Medan (46 km, 1.5 hr by road), the town serves as a weekend resort recreation spot for city dwellers, its present accommodation capacity being approx. 190 rooms of hotel, bungalow, and other types. As it stands now, Brastagi's town development planning calls for characterization of the hilly area to the north of the existing downtown area as a tourist facility area and for extension of the present urbanized town area along the provincial road to the south of the downtown area.

Outline of Development Plan

(1) Development Policy

- Development of greenery and parks as a major feature of the town.
- Development of recreational functions for day trippers from nearby Medan.
- Development of Brastagi primarily in terms of tourism functions since, in accordance with higher echelon planning, there is to be considerable urban linkage between it and Kabanjahe, which will be provided with other urban functions that Brastagi will be able to share.
- With regard to land-use policy for future expansion of the town, tourism development is to proceed to the west, the downtown area is to extend southwest in the direction of Kabanjahe, and accommodation facilities are to be developed northward.
- Since the town is to be a "tourism base" for the whole Karo Plateau area, it is to be provided with nodal transportation and information facilities.
- It is also to be provided with enough accommodation capacity to meet the greater part of demand for overnight accommodation in the area.
- Its various other tourism facilities are to be improved.
- People employed in its tourism services are to be provided with adequate housing.
- The town's urban infrastructure and living environment are to be upgraded.

(2) Location of Various Functions

Visitors to the Karo Plateau area will arrive at the Brastagi bus terminal to be built at the north end of the downtown area on the provincial road and to be surrounded with greenery and provided with parking space, a visitor center, and various tourism service facilities. The downtown area will run about 1.5 m to the south. The central dividing zone and the brick-paved sidewalks will be lined with shade trees, and small "vest pocket" parks will be situated here and there all the way. The impression that visitors will get is that the whole downtown area is at one and the same time a network of pleasant parks and a chain of amenity facilities. To the west will be provided a 25 ha recreation park centering on Gundaling Hill, from the top of which a marvelous panoramic view ofthe town and its surroundings can be enjoyed and on the skirts of which fine green landscaping, tennis courts, footpaths, and other recreational facilities will be provided. In the north part of the town are to be found houses and other buildings from colonial days as well as other tourism resources that visitors will be able to appreciate as they stroll along a system of footpathes linking them and get an idea of the town's past history. These three areas will be interconnected with footpaths so that visitors can see all of them in the course of a single walk. "A Class" hotel accommodation will be provided farther to the north at a spot with a good view. To the west of Gundaling Hill and along the road leading to Lake Kawar will be provided a network of accommodation and recreational facilities, including SA and A Class hotels, a country club complete with golf course and horseback riding facilities, and comprehensive sports grounds forrecreational use by tourists and day trippers from Medan. Along the provincial road leading southward to Kabanjahe will be provided housing and a public facility core as an extension of the present linear pattern of the town structure.

Development Requirements

	1976	1980	1985	1990	1995
Town population	5,500	6,890	9,140	12,110	16,000
No. of households	1,100	1,420	530	2,500	3,300
No. of service population	-	1,770	2,420	3,250	4,500
No. of visitors inflow per day					
Foreign tourist	-	40	70	100	120
Interregional tourist	-	40	80	140	230
Local Tourist	-	40	80	100	150
Day tripper	-	410	410	440	610
Total	-	530	640	780	1,110
No. of stopover visitors per day	-	120	230	340	500
Demand of accommodation					
SA-class	-	-	50	80	100
A-class	20	70	120	170	230
B-class	-	50	100	150	240
C-class	168	168	220	300	390
Total	188	288	490	700	960

Outline of Land Use

This development area involves a total of approximately 700 ha extending 1.2 km north, 0.7 km east, 1.2 km south, and 2.4 km west of the existing developed area of the town and including an area about 0.65 km wide and 1.5 km long along the north side of the road leading westward to Lake Kawar.

This area has been classified into four main subareas according to terrain and other conditio[illegible] In the following we shall outline the existing land use and the land use patterns that will be aimed at in future development in each subarea.

(1) Zone A

This is the area along the Kabanjahe – Brastagi road between the two rivers and which includes the towns existing developed area. In its northern half there is already a concentration of housing and facilities having a direct bearing on everyday life.

Considering the present state of this area and the future nature of Brastagi as a tourist town, this area should be designated primarily as a bousing area with some related facilities. Only in the part consisting of the existing town developed area should there be some small-scale tourist accommodation facilities, shops, restaurants, and the like.

(2) Zone B

This area, the largest of the four, is that on the north side of the Medan-Lake Kawar road. At present it consists primarily of flower and other agricultural fields. With houses from the Dutch period and other cultural and historical assets to be found here and there in it, it has a particular rural charm of its own.

Although the existing pattern of land use should be maintained for the most part, including the active promotion of tourism-oriented agriculture, and particularly flower cultivation, development of a few small-scale tourism facilities such as hotels, shops, restaurants, and so on should be allowed, provided that it is not concentrated.

(3) Zone C

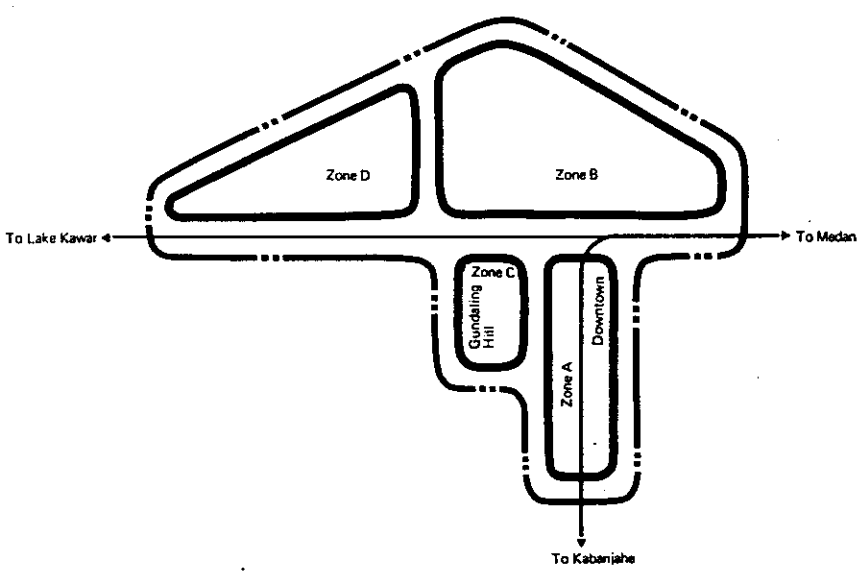
This area is to the west of the existing developed area of the town. It includes Gundaling Hill, which has already been developed as a tourist base, and flat land the state of which is much the same as Zone B to the east.

This area, which is to be designated as a recreational greenery area, is to be provided with recreational facilities for a variety of tourist types and is to have its own greenification program.

(4) Zone D

This area, a long, narrow forest area between the Medan-Lake Kawan road and the skirts of the Barisan Mountains, will have very good accessibility after that road is improved.

This area is to be designated as an area in which a concentration of tourism facilities is to be provided, including hotels, supplementary service facilities, and large-scale recreational facilities and is to have its own greenification and landscaping program.



Project Inventory

Here various specific projects considered to be appropriate in connection with the above-mentioned development components and land-use patterns will be proposed.

(1) Town Improvement and Extension Projects

There are two projects involved here: a town improvement project for improvement of the living environment of the residential area centering on the existing developed area of the town and it's extension project for a new housing area to accommodate the increase in service population that will result in the course of tourism development of the town and the natural increase in population as well.

Town Improvement Project

- Hotel site preparation (B and C Class): Appropriate vacant areas are to be found in the existing developed part of town for development of such sites.
- Improvement of main road running through the existing developed area: Such improvement is to include provision of a central dividing zone and brick-paved sidewalks.
- Provision of vest pocket parks: Small parks each with an area of about 0.25 ha are to be developed along both sides of the main road at 200 m intervals as facilities which will attract private development of shops, restaurants, etc. in their immediate vicinity.
- Construction of tourist activity core: This core is to consist of a visitor center, a bus terminal, a plaza including a parking facility, shops, and other service facilities for visitors.
- Infrastructural improvements: Such improvements will cover existing infrastructural facilities.

Town Extension Project

In this project an area 700 m wide and 800 m long along the road to Kabanjahe to the south of the existing residential area the following will be involved:

- Construction of new housing for service personnel from outside the area
- Preparation of new housing lots and provision of necessary infrastructure
- Provision of the public facilities that the new population will require.

(2) Tourism Facilities Development and Cultural Tourism Assets Preservation Projects

These projects are those to be carried out in Area B, the tourism facilities development project covering small hotels and tourist service facilities.

Tourism Facilities Development Project

- Hotel site preparation (A Class): Selection and development of several sites that are suitable for small hotels in the present land-use pattern for a pattern of scattered development.
- Development of supplemental tourist facilities: This includes not only attraction of private investment in souvenir shops, restaurants, etc., but also provision of public toilets, drinking fountains, outdoor rest facilities, footpaths, and so on.

Cultural Tourism Assets Preservation Project

- Preservation of tourism assets on the fort hill and elsewhere in the town.
- Encouragement and subsidization of flower cultivation as a tourism-related agricultural activity.

(3) Recreational Green Park Development Projects

Included here are the Gundaling Hill green park project and the project for a recreational park on the low ground to the east of it.

Gundaling Hill Green Park Project

- Development of tourism facilities: Improvement of the existing observaion area on Gundaling Hill and provision of supplemental facilities.
- Landscaping and greenification of Gundaling Hill both for its own sake and as an element of the view from other points.

Recreational Park Project

This recreational park is to have tennis courts, a swimming pool, a flower garden, a bird sanctuary, and other supplementary facilities.

(4) Large-scale Sports Recreational Park Project

Besides the development of a country club and other large-scale sports facilities, this project will involve the development of a concentration of visitor accommodation facilities.

Attraction of a concentration of SA and A Class hotels by developing suitable sites in the Vicinity of the sports recreational park.

Sports recreational park

- Country club with an 18-hole golf course.
- Provision of a 1,000 m horseback riding course complete with club house and stables.

3. Parapat Tourist Town

Existing Conditions

This development area comprises approximately 400 ha in the Simalungun and Tapanuli Kabupatens in and between Parapat and Ajibata. It is situated about midway along the eastern shoreline of Lake Toba at an elevation of 904 m above sea level and has an estimated population of 5,500. It is also the only large town in the North Toba area through which a national road runs. Topographically, it consists of a peninsula jutting about 1 km out into the lake between the Parapat and Ajibata inlets and the terraced hilly area at the base of the peninsula, and its land-use breakdown is 20% farmland, 20% urbanized area, and the rest not yet in use.

Presently, Parapat is the foremost tourist spot in the Lake Toba area, with an accommodation capacity of 480 rooms, a golf course, pleasureboat service, and so on.

In terms of town planning on the kabupaten level, there is talk of relocating the urbanized area along the shoreline of the Parapat inlet to Ajibata.

Outline of Development Plan

(1) Development Policy

- Development as a lakeside resort town considering the fact that it is located on one of the major lakes of Southeast Asia.
- Development as a lake and land transportation node for tourism throughout the Lake Toba area.
- The direction of the town's future urban expansion will be to the south in the direction of Ajibata, and the triangular area the vertices of which are the existing hotel area to the north, Ajibata to the south, and the landward golf course will be given a tourism development orientation.
- Development of sufficient accommodation capacity to function as an "accommodation base."
- Improvement of tourism service facilities.
- Provision of adequate housing for tourism service employees.
- Improvement of urban structure and the living environment.

(2) Location of Various Functions

Visitors to the Lake Toba area will arrive at the Parapat terminal area overlooking the lake, which will represent a bustling conglomeration of facilities, including a bus terminal, parking space, port facilities, marine facilities as a lake recreation base, and various tourism service facilities. To the landward side will be seen a series of medium-size hills, and there will be a clear view of Samosir Island across the lake.

At the base of the peninsula a well-landscaped 10 ha recreational park complete with tennis and other sports facilities for land recreation is to be developed on hilly terrain, and farther inland there will be a golf course. All of these facilities will be accessible from the lake shore by a network of footpaths along which visitors can stroll and enjoy the view of the lake, which is particularly magnificent at sunset.

SA class accommodation will be provided in the vicinity of the golf course, A class accommodation in the hilly area to the east of the present downtown area, and BC class accommodation in the vicinity of the service zone, all three classes of accommodation sharing common service facilities. The service zone, built around housing for employees in tourism services and tourism-related industries, is to expand in the direction of Ajibata.

Development Requirements

	1976	1980	1985	1990	1995
Town population	5,500	6,530	8,170	10,520	12,500
No. of households	1,500	1,800	2,260	2,910	3,450
No. of service population	-	3,140	4,520	5,770	6,940
No. of visitors inflow per day					
Foreign tourist	-	140	200	250	300
Interregional tourist	-	140	240	370	610
Local Tourist	-	70	70	90	90
Day tripper	-	320	400	450	540
Total	-	650	910	1,160	1,540
No. of stopover visitors per day	-	350	510	710	1,000
Demand of accommodation					
SA-class	-	-	150	190	210
A-class	127	220	270	310	340
B-class	151	200	250	350	400
C-class	205	305	405	520	620
Total	483	725	1,075	1,370	1,570

Outline of Land Use

This development area covers about 400 ha on the Parapat peninsula and at its base extending 700 m north, 1,300 m south, and 2,300 m east. It has been divided into the following five zones from the standpoint of topography, land use, and other criteria.

(1) Zone A

This zone, which extends about 1,200 m eastward from the existing downtown area, consists of a hill with an elevation of about 1,000 m above sea level and a marvelous view down onto the lake. Already about 50 ha of it are being used as a recreation area with an 18-hole golf course and a clubhouse. The rest of it is mainly fields, forest, and grasslands, with some housing on the skirts of the hill.

In view of the outstanding view not only of the peninsula and lakeshore below but also of Samosir Island farther in the distance and the recreation facilities that it has already been provided with, this zone is ideal for development of large-scale high-class tourist accommodation facilities, shops, and restaurants along with further development of inland recreational facilities.

(2) Zone B

This is the existing downtown area extending about 500 m along the lakeside on the north side of the small hill at the base of the peninsula. Here consideration will have to be given to improvement of the existing environment and to future urban renewal.

(3) Zone C

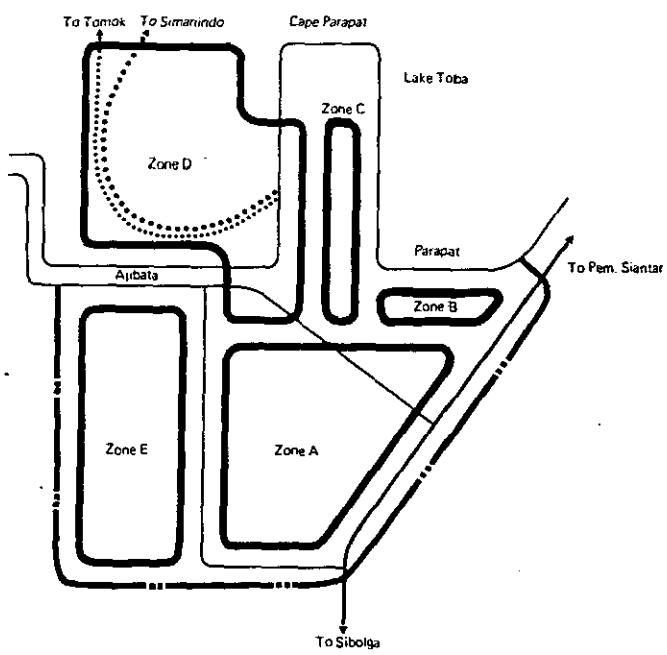
This is the stretch of land extending about 800 m towards the tip of the peninsula from its base. Of medium elevation and relatively well clothed in greenery, it offers a very good view out onto the lake. It is to be designated as a park area in which the present topography and vegetation are to be maintained and supplemental landscaping and greenification are to be undertaken.

(4) Zone D

This is the area on the south side of Zone C that extends approximately 700 m in the direction of the tip of the peninsula from its base. Here are located the port facilities for overlake transportation to Tomok on Lake Samosir and pleasureboat excursions for tourists. Its future direction of development will be provision of additional overwater transportation and recreation facilities for both local residents and tourists as well as construction of a road transportation terminal to make the town an all-around transportation node.

(5) Zone E

This is what is known as the "Ajibata area." It extends about 1,100 m southward on the south side of Zone A and about 1,100 m eastward inland from the lakeside. The land use consists mainly of rice paddies, fields, and rough land. Its future development orientation will be provision of housing for tourism industry employees and service facilities for them as well as some B and C Class hotel accommodation and tourist amenity facilities.



Project Inventory

(1) Tourist Recreation Park Project

This project, to be carried out in Zone A, will involve concentrated accommodation facility development and accompanying provision of outdoor recreational and sports activities.

- Site preparation for SA and A Class hotels: To the west of the existing golf course and or the hills on the east side of Zone B appropriate vacant areas will be selected for the development of sites for such hotels.
- In Zone A hotel development will be accompanied by improvement and extension of existing sports facilities and attraction of restaurants, shops, and other tourist service facilities.

(2) Improvement of Existing Urbanized Areas

Zone B has a concentration of accommodation and other service facilities. In it the existing C Class hotels and other tourism-related facilities will have to be upgraded, and the landscape will have to undergo beautification.

(3) Recreational Green Park Development Project

This project is to be carried out in Zone C, which presently contains housing, facility, and greenery areas. In the future it should be developed as a park by providing it with benches, rest spots, toilets, and other facilities and equipment at the same time as preserving the existing greenery and supplementing it with appropriate landscaping.

(4) Lake and Road Transportation Facility Development Project

These projects are to be carried out in Zone D, which will serve as a comprehensive transportation node.

- Port facilities project: This project is for development of port facilities for lake transportation for tourists.
- Recreation marina project: This project is for development of a boatyard and other lake recreation facilities in a safe area so as not to hamper lake transportation.
- Aquatic recreation development project: This project will be for development of swimming, water skiing and other aquatic recreational facilities based at the above-mentioned marina.
- Tourist activity core project: This project will be for provision of a bus terminal, a visitor center, parking space, and incidental facilities such as shops and a rent-a-cycle facility to serve as a road transportation center.

(5) Town Extension Project

This project will pertain to Zone E, which will be an extension area for tourism industry employee housing in the course of tourism development, housing to accommodate natural town population growth, and future extension of the existing urbanized area in connection with urban renewal as well as being provided with B and C Class tourist accommodation facilities.

- Site preparation for B And C Class accommodation facilities
  Such sites should be selected appropriately in Zone E for both such accommodation facilities and related amenity facilities.
- Service zone development
  Such development will include not only site preparation for tourism service population housing and development of necessary infrastructure but also the housing construction itself and provision of public facilities.

(6) Landscaping Development Project

All of the roads in this development area are to be designated as tourism roads and landscaped to a distance of 30 m on both sides.

4. Bukittinggi Tourist Town

Existing Conditions

Bukittinggi, the chief town of Kabupaten Agam, has an elevation of 930 m, an area of 24.9 km^2, and a population of approximately 63,000. It is the third largest town in West Sumatra behind Padang and Payakumbuh and the administrative, industrial, commercial, and cultural center of the Agam area. Its present land-use breakdown is 40% farmland, 35% natural greenery and grasslands, 22% residential area, and 3% public and commercial area.

As its name implies, Bukittinggi consists of a number of hills in a generally hilly area, 5 of which in the downtown area have a concentration of everyday service and recreational facilities, including public facilities, parks, a zoo, and a market.

As the foremost tourist spot in all of West Sumatra, Bukittinggi has 16 tourist accommodation facilities in town with a total capacity of 260 rooms.

The town plan that is to be realized by 1990 calls for development of the hilly area along Sianok Valley in the northwest part of town for tourism purposes, including parks and other greenery, and the present master plan as well designates about 400 ha of it for tourism development.

Outline of Development Plan

(1) Development Policy

- Modernization as a cultural town with an interesting history.
- Development of the town as a "tourism base" linking the three tourism development areas in the Minang Highlands tourism development zone.
- The major development theme will be "hills" since the town itself is located on a hill and there are a number of hillocks in the town.
- The future direction of town expansion, as determined by higher echelon planning, will be tourism development toward the northwest and urban development toward the southeast.
- The town will be provided a new transportation terminal and information facility in order for it to serve as the transportation center of the Minang Highlands area.
- It will also be provided with an accommodation capacity befitting the "tourism base" of the area.
- Its tourist service facilities are to be increased and improved.
- Tourism service employees are to be provided with adequate housing.
- The urban infrastructure and living environment are also to be improved.

(2) Location of Various Functions

Visitors to the Minang Highlands area will arrive at the new bus terminal to the south of the existing urban area of the town. They will immediately be aware of the five well landscaped hills ("Jam Gadang Hill", "History Hill", "Culture Hill", "Nature Hill", and "Recreation Hill") and the bustling activity of the town. In the vicinity of the bus terminal will also be a visitor center, various tourism service facilities, and a train station. "Culture Hill" will have industrial art shops, an ethnic cultural center, and other facilities that will give visitors a good idea of the culture of the town. Besides recreation facilities, "Recreation Hill" will have an SA calss hotel. A network of pedestrian ways will make it possible for visitors to stroll through the downtown area with all of its amenities and then proceed on to the five hills to enjoy the view, which will include Sianok Valley from "Nature Hill" and Mt. Singgalang and Mt. Merapi from all five of the hills.

A "Citizens' Hill" to the northwest of the urban area of the town will have such facilities as a zoo, a botanical garden, and public cultural and recreational facilities. In the same direction will be a "Tourist Hill" with SA and A accommodation facilities and tourist recreation and service facilities. These two hills will be accessible by an access road for bicycle, buggies, and similar vehicles along the Sianok Canyon.

These seven hills and the network of pedestrian ways will be the main tourism development themes of the town.

BC class hotel accommodation and housing for the service population will be provided in the downtown area, and the housing and service core of the town will expand in a southeast direction.

Development Requirements

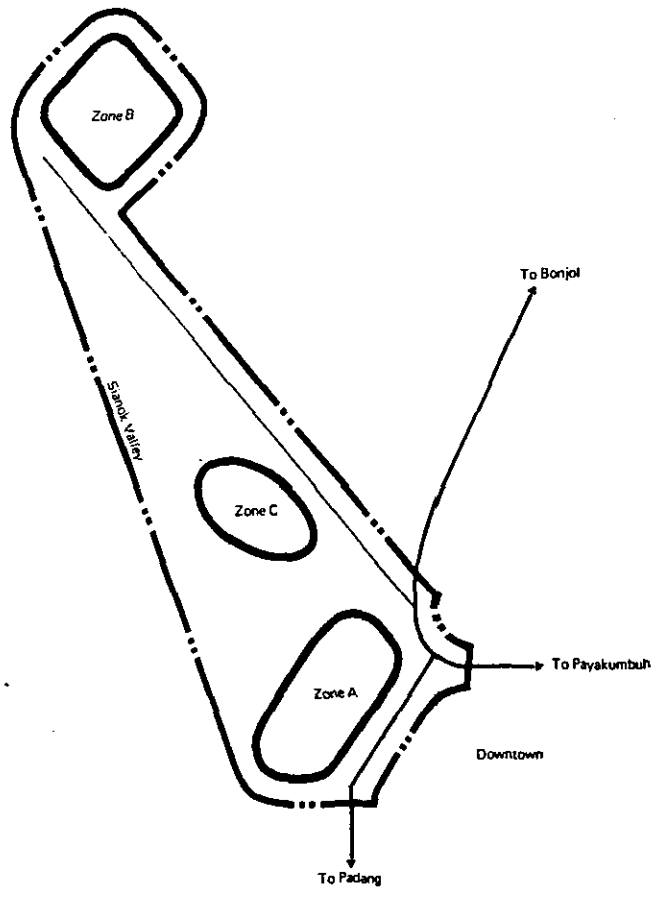
	1976	1980	1985	1990	1995
Town population	63,000	69,810	79,370	90,240	103,000
No. of households	15,400	17,030	19,360	22,000	25,120
No. of service population	-	1,570	2,310	2,980	3,850
No. of visitors inflow per day					
Foreign tourist	-	40	70	110	130
Interregional tourist	-	60	100	160	250
Local Tourist	-	30	40	50	60
Day tripper	-	300	460	450	490
Total	-	430	670	770	930
No. of stopover visitors per day	-	130	210	320	440
Demand of accommodation					
SA-class	-	-	45	75	105
A-class	47	70	100	160	200
B-class	20	50	80	140	260
C-class	188	188	210	240	270
Total	255	308	435	615	835

Outline of Land Use

The tourism development in Bukittinggi will be twofold: (1) improvement of the existing downtown area and (2) new development of the hilly area along the Sianok Valley.

The downtown area (Zone A) has a townscape characterized by five hills on which are located a variety of facilities, including public and commerical facilities, city parks, and hotels.

To the northwest of the downtown area are two hills. The one to the north (Zone B) is where a SA and A Class hotel complex is to be built to meet future tourist demand, and the one to the south (Zone C) is to be a recreation area including a zoo, sports grounds, a city parks, and educational facilities to meet the future requirements of the residents of this growing town.



Project Inventory

(1) Town Improvement Projects

These projects are to apply to Zone A and are to include improvement of the environment of the existing urbanized area and development of tourist recreational facilities so that the town can serve as a tourism base.

Development of Five Hills: These hills, located in Zone A, are the following: "Culture Hill," "Clock Hill," "Recreation Hill," "Nature Hill," and "History Hill."

- "Culture Hill": Here will be provided an ethnic center as a conglemeration of facilities for handicraft work and sales and preservation and presentation to tourists of traditional ethnical performing arts.
- "Clock Hill": Besides the clock tower itself, the symbol of the town, this hill has a large market, which is to be given an international air befitting a cultural town such as Bukittinggi.
- "Recreation Hill": Besides recreational facilities for tourists, this hill is to be provided with SA and A Class hotels and appropriate landscaping.
- "Nature Hill": This hill, which is already a park with Sianok Valley in the background. It is to be redeveloped through additional greenification and landscaping.
- "History Hill": This hill has a fortress dating from the Dutch period and is now being used as a park. Besides greenification and landscaping of the park, its walkways will be improved.

Pedestrian Network Project: This project will interlink the five hills with a network of pedestrian paths making use of existing roads and slopes and stepways, and both sides of the paths will be appropriately landscaped.

Tourist Activity Core Project: This will involve provision of a visitor center, a bus terminal, parking space, a rent-a-cycle service, shops, and other related facilities.

Railway Station Improvement Project: Such improvement will be for the purpose of extending the present steam locomotive cargo service to tourist passenter service.

(2) Cultural Tourism Development Projects

These projects pertain to the hills on the northwest side of the town and include provision of accommodation and other tourism facilities, recreational facilities for the town citizenry, and cultural research facilities.

- "Tourist Hill" project (zone B): This hill has a particularly outstanding natural environment. SA and A Class hotel sites are to be prepared at locations offering good views of the Sianok Valley to the west, and recreational and sports facilities are to be developed for tourists.
- "Citizens' Hill" project (zone C): The zoo now located downtown is to be moved to this area, which is also to be provided with park and recreational facilities, facilities for the encouragement of traditional culture, and educational and research facilities.
- Cycling course project: In this project is to be developed a cycling course linking "Tourist Hill" with "Citizens' Hill" and "Nature Hill" along Sianok Valley.

5. Other Development Areas

North Karo Area

North Karo is located 34 km from Medan, 29 km from Kabanjahe, and 19 km from Brastagi on the provincial road linking Medan and Kabanjahe, which is the head town of Kabupaten Karo. It is a highland area with an elevation of 550–850 m above sea level situated on the slopes of the mountain range south of Medan, among the highest peaks of which are Mt. Simatamata (1,811 m), Mt. Sibayak (2,212 m), and Mt. Burun (1,965 m), and is surrounded by a forest reserve area.

The area boasts a number of tourism facilities and resources, including the Sibolangit Botanical Reservation, an international jamboree site, Mt. Sibayak, flower gardens, and waterfalls, and is presently primarily a recreation spot for citizens of Medan. These existing facilities and assets should be taken maximum advantage of in the future tourism development of the area,

Development Requirements

	1980	1985	1990	1995
Number of daytime visitors per day				
Foreign	19	34	45	55
Interregion	26	56	103	169
Local	30	65	75	105
Day trip	581	589	633	805
Total	656	744	856	1,134
Number of hotel rooms needed				
SA-class	–	–	–	–
A-class	–	–	30	55
B-class	–	50	50	90
C-class	47	47	90	125
Total	47	97	170	270

Considering the proximity of this area to the Medan metropolitan area, its good climate and rich greenery on gently sloping land, and the fact that it is a transit point between Medan and the Karo Plateau, this area should be developed as an inland recreation area for urban visitors and a weekend tourist spot specializing in sports. In the development of the area special emphasis should be placed on the following:

(1) The Sibolangit, jamboree site should be provided with hotel accommodation according to the following schedule: 50 B Class rooms by 1985, 55 A Class rooms by 1990, and another 40 B Class rooms by 1995, for a total of 145 rooms.

(2) Provision of a camping area of about 3 ha at the same site for young people by 1985.

(3) The Sibolangit botanical reservation, the most important one in all of Sumatra in terms of size and variety of plant types, is of considerable scientific and educational value. At the present time, however, only a part of it is being used. In order to make greater use of it in terms of outdoor educational activities, an information center, a rest house, and a network of footpaths should be provided by 1985 and the area in use should be gradually expanded.

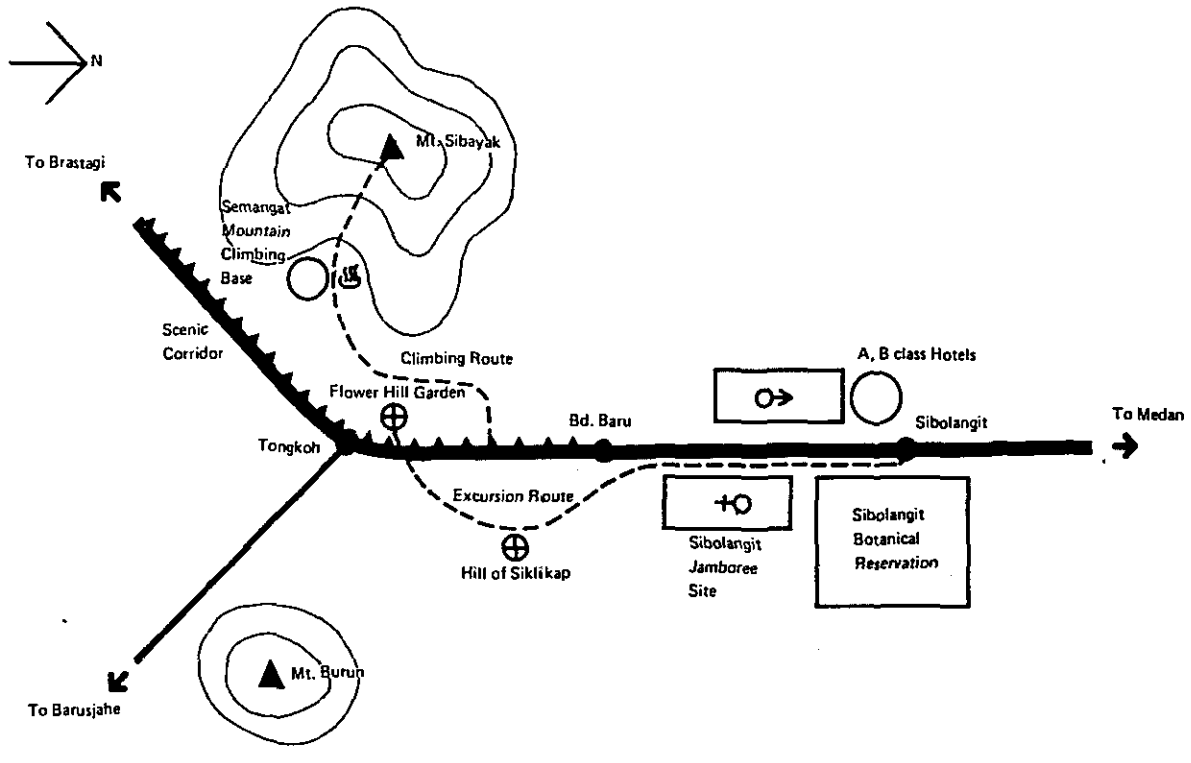
(4) Mt. Sibayak is already being used by youth people for mountain climbing and hiking. By building a new mountain climbing base, improving the ascent routes, and providing camping lodges and rest houses taking advantage of the hot springs at the foot of the mountain, it will be possible to cater to a greater diversity of visitors.

(5) An observation area should be built by 1985 on Siklikap Hill, from which a good view is to be had of the Medan Plain, and on Tongkoh Hill by 1990, the latter being characterized by rich growth of plateau vegetation.

(6) A hiking course should be developed parallel to the provincial road between Sibolangit and Tongkoh as a scenic route linking Siklikap Hill and Tongkoh Hill.

(7) Since the provincial road that runs through the area has the important function of inducing visitors to go on to the Karo Plateau, it should be provided with 18 km of scenic corridor by 1990 and otherwise improved to maximize the "sense of arrival" in the Karo area.

Development Scheme



Lake Kawar Area

Lake Kawar is located 14 km west of Brastagi and 19 km northwest of Kabanjahe. As yet there is no road fit for motor traffic between it and Brastagi. As a small but charming lake surrounded by primeval forests and situated at an elevation of approx. 1,400 m on the northern skirts of the active volcano Mt. Sinabung (2,451 m), it has an ideal climate for sports. Despite its climate and wonderful scenery, however, it is as yet visited by very few tourists because of its undeveloped state and location off the beaten track and without an access road.

Development Requirements

	1980	1985	1990	1995
Number of daytime visitors per day				
Foreign	–	–	8	17
Interregion	1	6	18	39
Local	5	20	43	73
Day trip	81	126	179	302
Total	87	152	248	431
Number of hotel rooms needed				
SA-class	–	–	–	–
A-class	–	–	–	–
B-class	–	–	–	20
C-class	–	20	40	55
Total	–	20	40	75

Since the Lake Kawar area has a good climate and terrain and superb mountain and lake scenery, it should be utilized principally as a recreation area for young people for relaxation and development of body and mind. For maximum preservation of the natural surroundings in their present state, the tourism development of the area should be confined for the most part to the northern shoreline of the lake. In the development of the area special emphasis should be placed on the following;

(1) By 1990 a tourist park covering about 10 ha and including an observation point for viewing of the lake and the surrounding mountains as well as 40 rooms of bungalow (C class) accommodation to the east of the park should be provided along the northern shoreline.

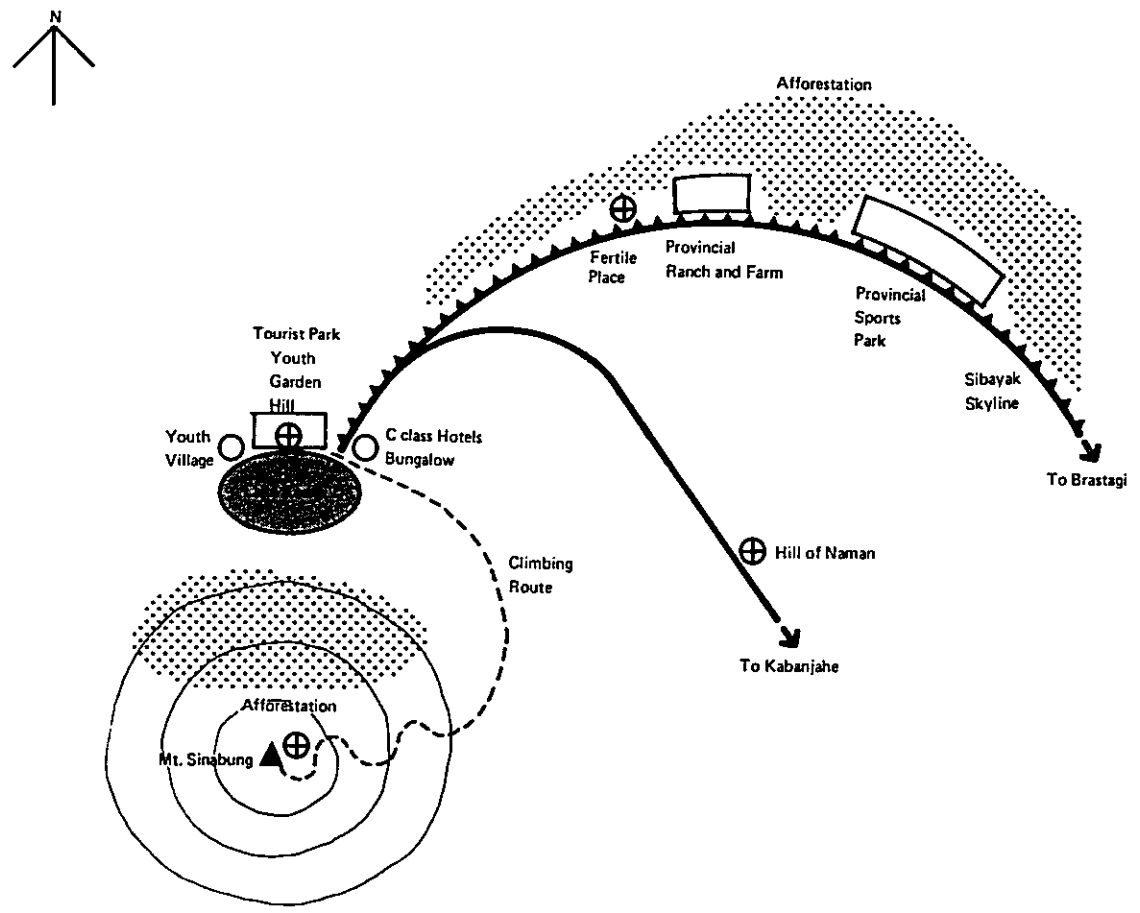
(2) By 1995 a youth vacation village with the following facilities and attractively landscaped with trees should be provided to the west of the tourist park: an access road 6 m in width and 2 km in length and a 35 room (20 rooms B Class and 15 rooms C Class) youth hostel complete with seminar house.

(3) Considering the importance of volcanic Mt.Sinabung, clothed in pristine greenery, in the scenery of the area, a total of 22.5 km^2 of land on its northern skirts should be landscaped and afforested in three stages: up to 1985, 1990, and 1995, respectively. Moreover, by 1995 an observation spot should be provided at the summit for a magnificent view down on the Karo Plateau, and a mountain climbing route from the tourist park to the summit should be developed.

(4) A "Sibayak Skyline" along the skirts of Mt.Sibayak linking Brastagi and Lake Kawar should be provided in two stages: partially by 1990 and completion by 1995. By 1990 a provincial sports park should be provided along it for encouragement of sports in North Sumatra, and by 1995 a ranch and farm to be run by the provincial authorities for agricultural research and improvement in the province should be provided in conjunction with a forest park.

(5) By 1985 an observation point should be provided at Naman along the road from Kabanjahe to Lake Kawar for viewing Mt. Sinabung and the North Karo range, and by 1995 another one should be provided along the Sibayak Skyline for viewing Mt. Sinabung and the mountain range north of Lake Toba.

Development Scheme



Central Karo Area

The Central Karo area centers on Kabanjahe, which lies 63 km south of Medan, 10 km south of Brastagi, and 26 km north of Tongging and which is the head town of Kabupaten Karo, and is linked with Medan, Brastagi, and Lake Toba by provincial road. It is a flat highland area at an elevation of 1,209 m and situated in the middle of the Karo Plateau. There is a range of mountains to the north of it, and Mt.Sibuolan soars to 2,457 m to the south.

This is where the Karo Batak culture has thrived, Lingga (4 km west of Kabanjahe) and Barusjahe (13 km east of Kabanjahe) being traditional villages of that culture that are still to be seen. Furthermore, there is a national building and a Karo museum in Kabanjahe. Despite its historical and cultural significance, however, the area has not yet been developed for tourism.

Number of Daytime Visitors per Day

	1980	1985	1990	1995
Foreign	1	7	17	24
Interregion	3	10	35	91
Local	6	21	30	51
Day trip	93	125	182	302
Total	103	163	264	468

As an area where most of the historical and cultural assets of the Karo area are to be found, Central Karo should be developed in such a way as to contribute to the goals of introducing foreign and interregional tourists to local history and culture and of heightening the awareness of day trippers and other local visitors of their own local cultural heritage. In the development of the area special emphasis should be placed on the following:

(1) In Lingga and Brasjahe villages the Karo Batak are still living according to their old cultural traditions, and traditional Karo Batak architecture is still to be seen. By 1985 preservation of these villages, improvement of their living environments, and provision of access roads should be undertaken.

(2) The Raya Museum displays the traditional fine and industrial arts of the area. By 1985 the building should be revamped, and the displays should be expanded and improved.

(3) The National Building is where presentations of the traditional performing arts of the area are made. By 1990 organizations for research and encouragement of such traditional performing arts should be expanded and otherwise improved.

Tongging Area

Situated at the northern end of Lake Toba, Tongging lies 89 km south of Medan, 20 km south of Kabanjahe, and 70 km northwest of Parapat. Furthermore, it is 29 km distant from Simanindo across the lake as the crow flies. With the provincial road between the Karo and Lake Toba areas passsing through it. Tongging is a small town facing on the lake at an elevation of about 900 m on the skirts of Mt. Tanoukbenua (1,940 m), which is about 3 km to the north, and Mt. Sibuolan (2,457 m) to the west. Both peaks are visible from it.

Although the town and its surroundings do not yet have much in the way of tourist facilities, they do have good potential as a tourist area. The large Sipiso-piso waterfall and Mt. Tanoukbenua are among the most promising tourist attractions, but the biggest attraction of all is the marvelous view of the lake and distant Samosir Island from Tongging Cape.

Development Requirements

	1980	1985	1990	1995
Number of daytime visitors per day				
Foreign	12	30	63	91
Interregion	10	32	95	191
Local	14	18	33	47
Day trip	62	91	127	170
Total	98	171	318	499
Number of hotel rooms needed				
SA-class	–	–	–	–
A-class	–	20	50	65
B-class	–	30	80	140
C-class	49	90	140	195
Total	49	140	270	400

Since this area is midway between the Karo and Lake Toba areas and where overland and lake routes into the latter from the former part ways and since it can be reached from Medan on trips with one stay overnight and is an area with fine scenery on the shore of Lake Toba, it should be developed both as a transportation node and as a tourist spot. In the development of the area special emphasis should be placed on the following:

(1) In the way of accommodation facilities, B and C Class accommodation should be provided in the vicinity of the existing village, and A Class accommodation (cottage type) on Cape Tongging according to the following schedule: 40 B Class and 30 C Class rooms by 1985, 50 A Class, an additional 40 B Class, and an additional 44 C Class rooms by 1990, and an additional 15 A Class, 60 B Class and 49 C Class rooms by 1995.

(2) By 1985 the port facilities should be improved, and speedboat service between Tongging and Simanindo should be started.

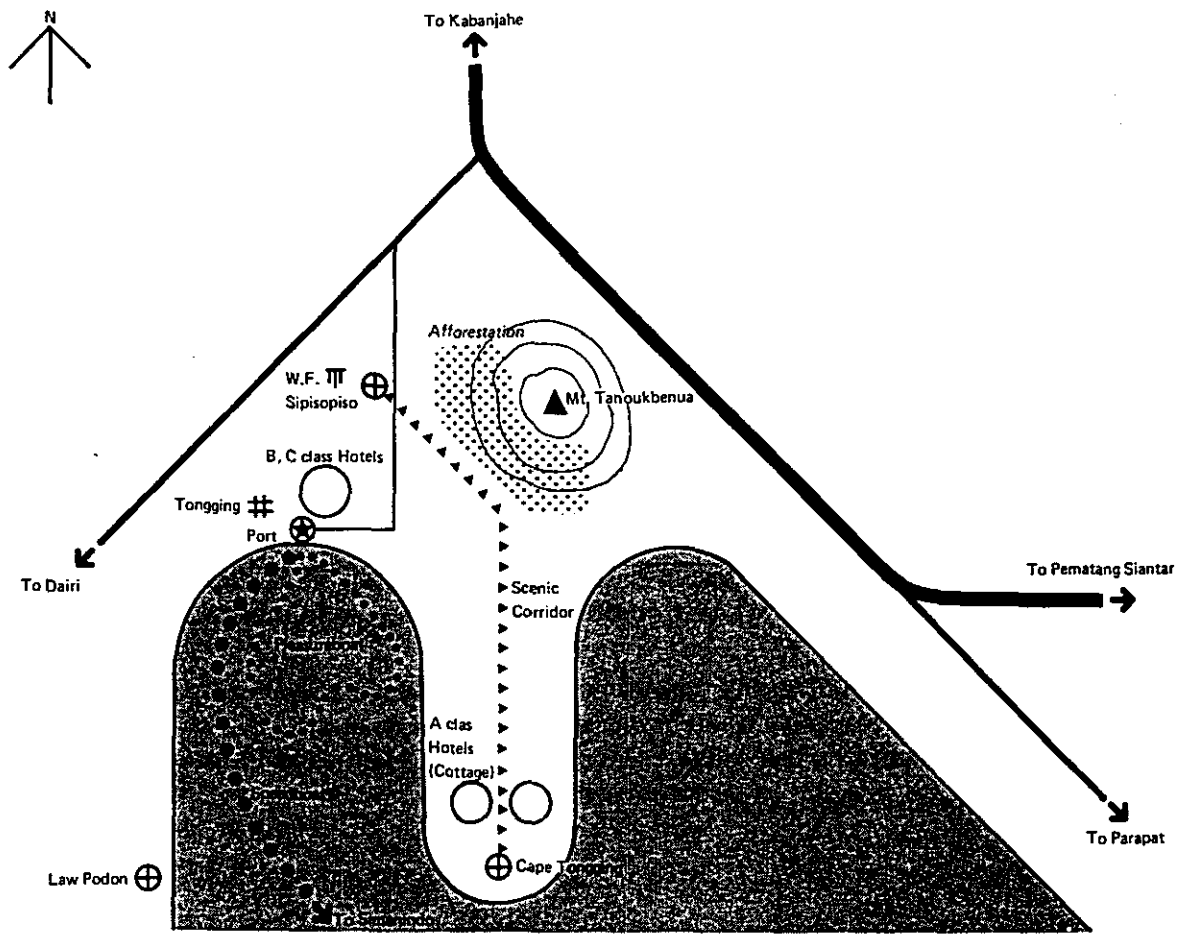
(3) In the way of lake recreation, pleasure boats should be put into operation by 1990.

(4) A total of 10 km² of land should be afforested on the southern slopes of nearby Mt. Tanoukbenua for scenic purposes and in two stages: up to 1990 and up to 1995.

(5) The existing observation point for viewing Sipisopiso Waterfall should be improved by 1985, a new one should be constructed by 1990 on Cape Tongging for viewing the lake and the northern part of Samosir Island, and the observation point at Law Podon should be improved by 1995.

(6) The road between Sipisopiso and Cape Tongging, which will be traversed by a large number of visitors, should be made a scenic corridor (5 km) by 1990 by means of appropriate landscaping.

Development Scheme



East Toba Area

East Toba lies along the kabupaten road connecting Pem. Purba on the east shore of the lake with Simarujarunjung. It, too, is on the lakeside, between Harangaol and Tigaras and at a distance of 33 km from Tongging in a southeasterly direction and 44 km from Parapat in a northwesterly direction. The area consists of forests and slash-and-burn fields, and its elevation above sea level is about 1,000 m along the shore and 1,250 m along the kabupaten road.

This is the area where the Simalungun Batak have traditionally lived, Pem. Purba, which is well taken care of, being one of their villages. There are also houses here and there along the road and pineapple and banana groves. Harangaol and Tigaras both have two market days a week.

Number of Daytime Visitors per Day

	1980	1985	1990	1995
Foreign	14	24	44	61
Interregion	16	33	73	142
Local	12	16	33	47
Day trip	44	83	116	171
Total	86	156	266	421

Since one-day excursions can be made to this area from Tongging and Parapat and the area has long been the home of the Simalungun Batak, an effort should be made to restore the natural and cultural landscape so that visitors can get a better idea of the lives of that people. In the tourism development of the area the emphasis will be on the following:

(1) By 1985 the traditional Simalungun Batak village at Pem.Purba should be improved, and 20 km^2 of land between there and Parapat should be afforested.

(2) The jetties at Harangaol and Tigaras should be readied for commencement of ferry-boat service between those two points by 1990.

(3) Also by 1990 these two points should have their markets improved and be provided with village centers and access roads from kabupaten roads.

(4) By 1985 an observation point should be provided at Simarujarunjung, from which a good view is to be had of the northern part of Lake Toba and of plantations, and by 1990 the same kind of facility should be provided at Pine Pocket along the Kohan Road, which also offers a good view of the northern part of the lake and of Samosir Island, and at Fruitful Place, which offers a view of Mt. Puskbkit as well.

(5) The stretch of the Kohan Road between Pine Pocket and Simarujarunjung should be landscaped as a scenic corridor by 1985.

North Samosir Area

North Samosir, the area centering on Simanindo, is 29 km and 22 km, respectively, from Tongging and Parapat across the lake and 17 km north of Tomok on the island. Its elevation is approximately 900 m above sea level. With its sandy beaches west of Simanindo and its shore lined with coconut palms, it is potentially one of the best bathing spots in the whole lake area. Little palm-covered Tao/Toba Isle, not far offshore, adds to the south sea island mood. Furthermore, among the traditional folk performing arts to be seen are Batak dance presentations. Unfortunately, however, this area has not yet seen much development, and, besides, it is off the track from the main tourism routes of North Sumatra.

Development Requirements

	1980	1985	1990	1995
Number of daytime visitors per day				
Foreign	21	37	55	70
Interregion	20	42	82	141
Local	9	11	20	31
Day trip	13	37	70	124
Total	63	127	227	366
Number of hotel rooms needed				
SA-class	–	–	–	–
A-class	–	10	20	30
B-class	–	20	40	100
C-class	63	90	130	165
Total	63	120	190	295

Since the shoreline of this area offers good access to the lake and in the future there will be speedboat service between it and Tongging and Parapat, this area should be developed as a water recreation base and resort area, primarily for foreign and domestic tourists coming directly from those two points, and the shoreline should be landscaped in the course of development. In the tourism development of the area the emphasis will be on the following:

(1) Accommodation facilities should be provided in the vicinity of Simanindo, A Class accommodation of the bungalow type being located where the shoreline view is the best, and B and C Class accommodation facilities being concentrated near the existing village area. The total capacity should be 295 rooms, the construction schedule running as follows: 10 A Class, 20 B Class, and 90 C Class rooms by 1985; another 10 A Class, 20 B Class, and 40 C Class rooms between 1985 and 1990; and still another 10 A Class, 60 B Class, and 35 C Class rooms between 1990 and 1995.

(2) Besides the speedboat service between Simanindo and Tongging and Parapat that is to be inaugurated by 1985 along with improvement of port facilities, ferryboat service should be commenced between Simanindo and Tigaras by 1990, and pleasure boats should be put into operation by 1995.

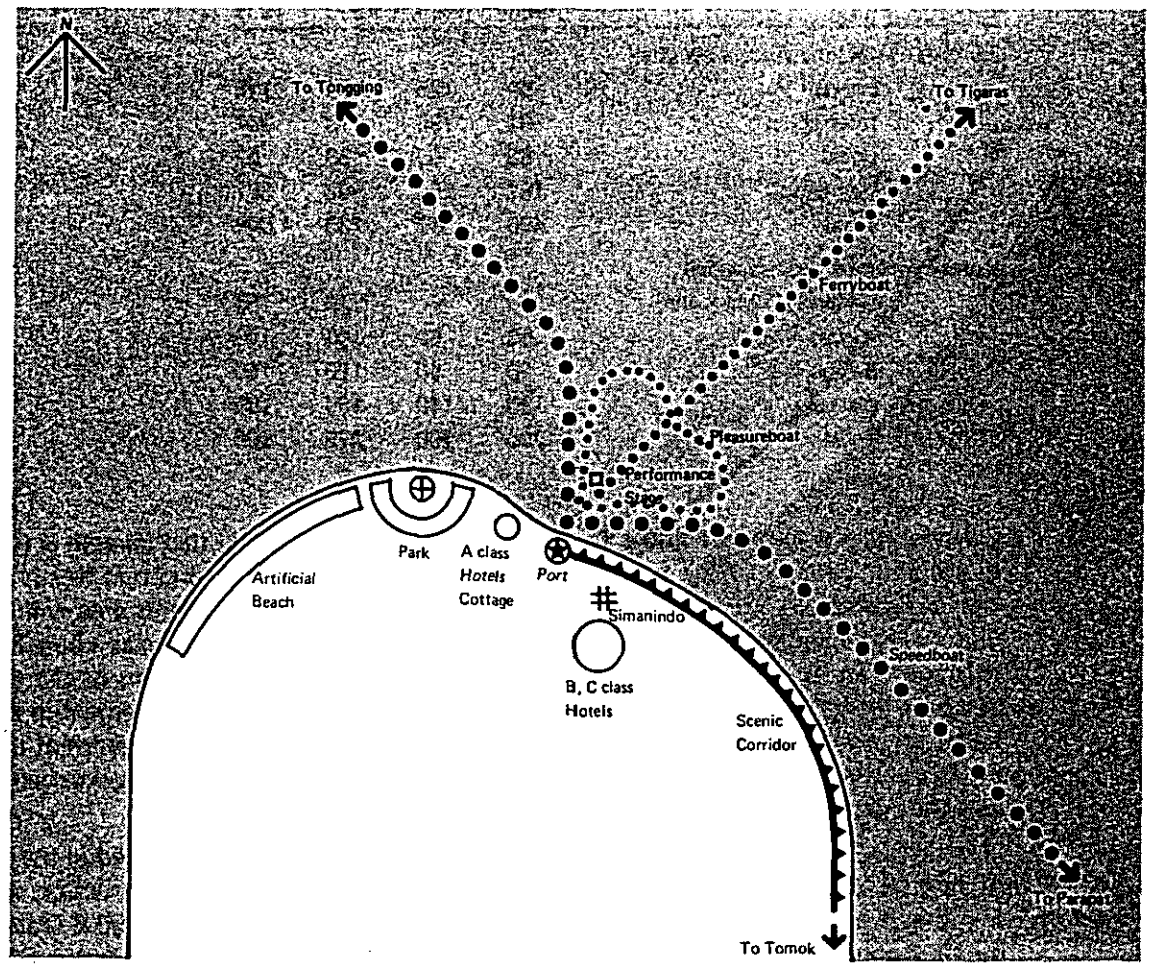
(3) Twelve hectares of artificial beach should be developed along the western shoreline of the area by 1995.

(4) By 1995 a performance stage should be provided on Tao/Toba Isle, which already has a resthouse, for encouragement of local traditional performing arts.

(5) The traditional village at Simonindo should undergo improvements by 1985.

(6) An observation point surrounded by a small park (about 0.1 ha) should be provided on the cape at Simanindo by 1985 for viewing of the northern part of the lake and Cape Tongging.

Development Scheme



Central Samosir Area

This area lies on the eastern shore of Samosir Island around Ambarita, Tomok, and Tuktuk, Tomok being only 8 km distant from Parapat, which is clearly visible across the lake. Simanindo is 17 km to the north of it by road. The elevation of the area is about 950 m above sea level. Along the shore the land is flat, but hills rise steeply just behind, making access to the water difficult. This is where, according to mythology, the ancestors of the Toba Batak came down to earth from heaven. This ethnic group still inhabits the area, and there are a number of historical ruins to be found here which represent their past. At Ambarita there are a Batak village, an old town meeting hall, and execution grounds as tourist attractions, Tomok boasts royal graves and a bazaar, and Tuktuk has a hotel, tourist bungalows, and other facilities.

Development Requirements

	1980	1985	1990	1995
Number of daytime visitors per day				
Foreign	90	125	154	198
Interregion	81	138	218	361
Local	53	50	58	62
Day trip	182	256	303	387
Total	406	569	733	1,008
Number of hotel rooms needed				
SA-class	–	–	20	55
A-class	50	50	80	100
B-class	30	60	110	160
C-class	120	140	160	185
Total	200	250	370	500

Considering the fact that this is the heartland of the Toba Batak, that Parapat is too small to accommodate all of the tourists arriving in the Lake Toba area, and that North Samosir will be specialized primarily as a water recreation base, the role of this area will be two-fold: (1) accommodation and land recreation and sports and (2) serving as a base for visits to traditional Toba Batak villages and historical ruins. The development of the area will be linear along the shoreline, and since this area will be an important element in the view from the other side of the lake, its natural scenery should be made the most of at the same time as carrying out considerable artificial landscaping. In the tourism development of the area the emphasis will be on the following:

(1) SA and A Class accommodation of the bungalow type is to be provided in the vicinity of Tuktuk, and B and C Class accommodation around Tomok, the construction schedule for a total of 350 rooms being as follows: 55 SA Class, 30 A Class, and 50 B Class rooms by 1990 and another 50 B Class rooms between 1990 and 1995.

(2) In the way of transportation, port facilities should be improved at Tomok for commencement of ferryboat service between it and Parapat by 1985, and a bus subcenter and parking space should also be provided at Tomok by that time for land transportation on the island.

(3) By 1990 Tomok should be provided with some water sports facilities, and pleasure boats should be put into operation.

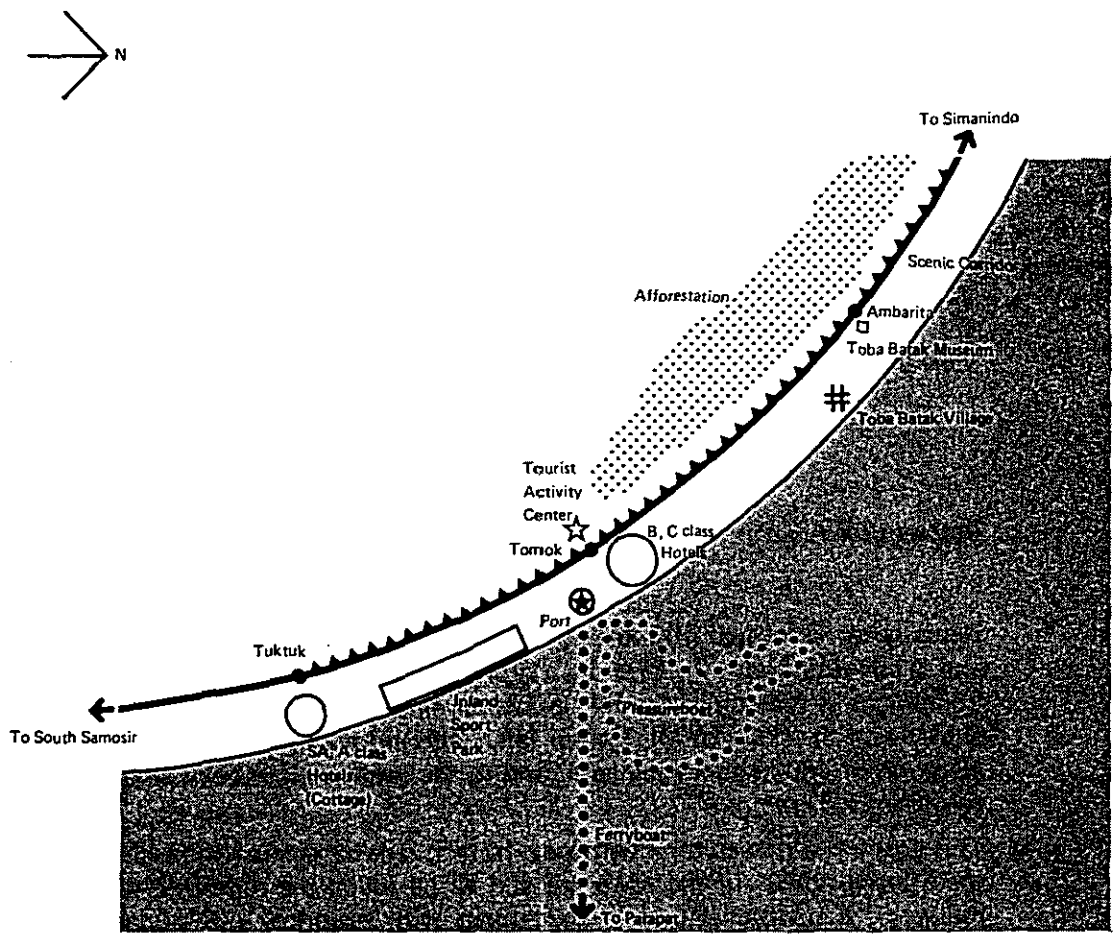
(4) By 1990 a land sports park should be developed between Tomok and Tuktuk, including a golf course and tennis courts, and the shoreline between those two points should be landscaped.

(5) By 1985 the traditional Toba Batak village at Ambarita should be improved along with the "king's tomb" at Tomok. Then by 1990 a Batak village museum should be constructed in the context of efforts to preserve and encourage local fine and industrial arts.

(6) A total of 10 km^2 of land along the eastern shoreline of the island should be afforested in two stages for the sake of natural conservation and preservation of the quality of the lake water, the initial portion by 1990 and the rest by 1995.

(7) The 22 km main road between Tuktuk and Simanindo, which is eventually expected to have quite heavy tourist traffic, should be landscaped as a scenic corridor.

Development Scheme



Payakumbuh Area

Payakumbuh is located 124 km north of Padang and 33 km east of Bukittinggi and is connected with the latter by a national road. With a population of 71,000 and an area of 80 km², it is the second largest town in West Sumatra. Moreover, it is both the head town of Kabupaten Limapuluh Kota (pop. 250,000) and a special administrative city. Situated on the skirts of Mt. Malintang at an altitude of 512 m above sea level, the town has a fine view of Mt. Marapi (alt. 2,891 m) to the southwest. It is the center of agriculture in the Minang Highlands.

Limapuluh Kota, as its name implies, is made up of a large number of traditional villages, each with its own heritage of dance, music, and other popular performing arts. In the way of natural tourism resources, there is Harau Valley 13 km north of Payakumbuh.

Number of Daytime Visitors per Day

	1980	1985	1990	1995
Foreign	1	3	9	17
Interregion	1	3	10	29
Local	2	4	6	12
Day trip	24	61	113	162
Total	28	71	138	220

This area will be visited mainly by day excursionists staying at Bukittinggi, the accommodation base of the Minang Highlands area. Since it has a concentration of agriculture and population and is noted for its traditional performing arts, it will be able to provide foreign and domestic tourists with a good idea of the local culture as well as enhance the awareness of local visitors in their own local culture. In the tourism development of the area the emphasis will be on the following:

(1) A total of seven performance plazas should be provided by 1985 where the traditional performing arts are most active in this area while at the same time making efforts to preserve and encourage such arts locally.

(2) The traditional performing arts can also be promoted, unified, and developed by staging regular shows at a new theater to be built in Payakumbuh itself by 1995.

(3) By 1990 an observation point should be provided at Tobak Batah for a marvelous view of Mt. Djantan, Harau Valley, etc.

Batusangkar Area

Batusangkar is located 102 km northeast of Padang and 41 km southeast of Bukittinggi and is connected with the latter by a provincial road. As the ibukota of Tanah Datar (pop. 30,500), it is the administrative, industrial, and cultural center of its area. The town is situated on the skirts of Mt. Marapi (alt. 2,891 m) and Mt. Malintang (alt. 2,262 m) at an elevation of 460 m above sea level, and to the south of it is Lake Singkarak with a water surface of 1.3 km^2.

This area has a rich cultural heritage. In fact, it is considered to be the original home of the Minangkabau. In the town are still to be found the ruins of a royal palace (now a museum), a traditional palace, and stones with historical inscriptions, and in the outskirts there are also many historical cultural assets, including Pagar Ruyung, a former center of the Hindu religion, and traditional adat villages.

Number of Daytime visitors per Day

	1980	1985	1990	1995
Foreign	2	7	18	32
Interegion	2	7	19	57
Local	3	5	8	15
Day trip	73	132	179	244
Total	80	151	224	348

Whereas Payakumbuh will give visitors an idea of the local culture, Batusangkar will introduce them to Minangkabau history since there are many traditional villages in this area as well as other historical scenic elements. All of the people of the Minangkabau area should be encouraged to visit here at least once, and school trips should be organized toward this end. In the tourism development of the area emphasis will be placed on the following:

(1) Tanjung Sungayang and Pagar Ruyung villages should be improved by 1985 since they have the highest concentration of traditional hamlets.

(2) Besides completing the historical museum now under construction at Batusangkar by 1985, an historical research institute should be attached to it for encouragement of local historical research.

Lake Singkarak Area

Lake Singkarak is located 92 km north of padang and 45 km south of Bukittinggi and is included in both Kabupaten Tanah Datar and Kabupaten Solok. Along its east shoreline runs a national road linking Bukittinggi and Solok. With a water surface of 130 km^2, it is the largest lake in West Sumatra. Along its east side the elevation of the land is in the range of 350–450 m. From the lake a fine view is to be had of Mt. Marapi (alt. 2,891 m) to the north and Mt. Singgalang (alt. 2,877 m) to the northwest. Unlike the mystical aura of Lake Maninjau, the atmosphere here is one of sparkling brightness. Particularly attractive are the reflections of Mt. Marapi and Mt. Singgalang in the water along the southern shores of the lake. A certain amount of tourism facilities are already to be found at Wisma Kesuma on the eastern shoreline.

Development Requirements

	1980	1985	1990	1995
Number of daytime visitors per day				
Foreign	1	3	11	17
Interregion	1	4	10	30
Local	5	7	10	18
Day trip	53	101	153	236
Total	60	115	184	301
Number of hotel rooms needed				
SA-class	–	–	–	–
A-class	–	–	–	–
B-class	–	–	10	20
C-class	53	53	60	60
Total	53	53	70	80

Well endowed with natural, scenic and other tourism resources, this area is to be developed as a lake resort and a base for water recreation and sports. Although the main emphasis will be on weekend day trippers, the area should also be provided with resort facilities. In the course of development adequate care should be taken to maintain the quality of the lake water, and the most should be made of the scenic value of the reflections of Mt. Marapi and Mt. Singgalang on the surface of the lake as viewed from its south shore. In the tourism development of the area emphasis should be placed on the following:

(1) Twenty B Class rooms of the cottage type should be provided at Wismakesma by 1995 in the way of accommodation facilities.

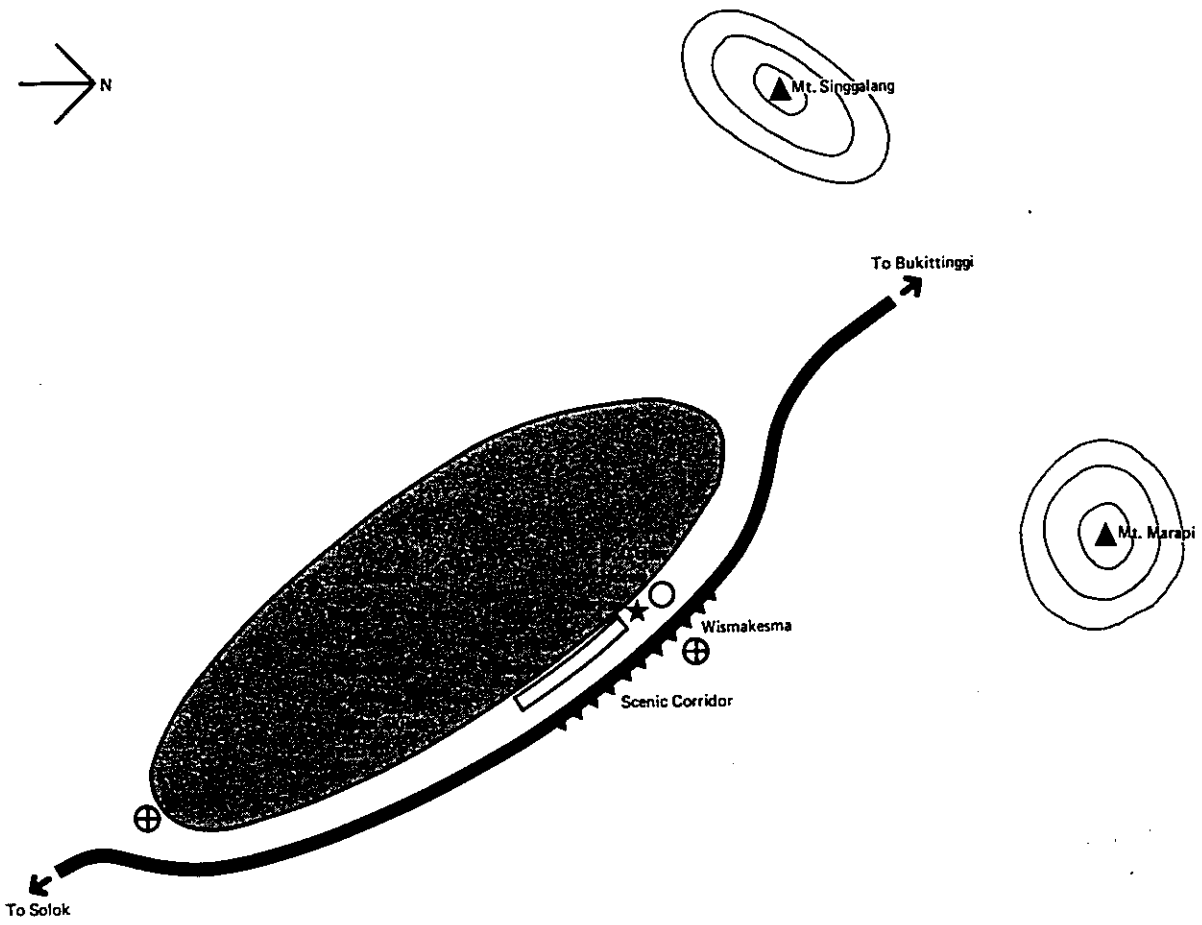
(2) By 1995 an artificial beach and a marina facility on an area of about 1.0 ha should be provided on the lakeside at Wismakesma for fishing, bathing, yachting, water skiing, etc., along with a lakeside park of similar dimensions with attractive landscaping.

(3) Whatever measures should be taken that are necessary to ensure that the quality of the lake water is not impaired by development or the greater number of visitors in the future.

(4) To make the most of the scenery, by 1995 observation points should be provided at Wismakesma, from which a good view is to be had of Lake Singkarak, Mt. Marapi, Mt. Singgalang, and Mt. Jantang, and at Ibuk Ridge along the Trans-Sumatra Highway, which offers a good view of Solok and its surrounding basin, and a 7 km stretch of national road along the eastern shore of the lake should be landscaped as a scenic corridor, with the additional possibility of providing an observation point at the southern end of the lake as well for viewing the reflections of Mt. Marapi and Mt. Singgalang.

(5) Solok should be provided with picnic grounds by 1995.

Development Scheme



Padang Panjang Area

Padang Panjang is located 72 km north of Padang and 19 km south of Bukittinggi, with which it is linked by a national road. With a population of 32,000 and an area of 26.6 km², it is not only the head town of Kabupaten Tanah Datar (pop. 306,000) but also a special administrative city. Situated at an elevation of 780 m above sea level, it is surrounded by Mt. Marapi (2,891 m) to the northeast, Mt. Singgalang (2,877 m) to the northwest, and Lake Singkarak to the southeast. Five kilometers east of the town lies Anai Valley, which is enclosed by primeval forests and through which the steam locomotive freight railway line connecting Bukittinggi and Padang runs. Also to be found in the vicinity of the town are waterfalls, rest houses, observation points, etc.

Number of Daytime Visitors per Day

	1980	1985	1990	1995
Foreign	1	5	14	24
Interregion	3	8	18	45
Local	3	6	9	16
Day trip	30	71	140	179
Total	37	90	181	264

Anai Valley, clothed in a mantel of pristine forest, should be developed as a tourist spot with the accent on natural grandeur, and this will entail an active natural conservation effort. Besides catering mainly to day trippers from the Minang Highlands area, it will also serve as a gate corridor to the same from Padang. In its tourism development the emphasis will be on the following:

(1) Steam locomotive tourist service should be inaugurated between Bukittinggi and Anai by 1990.

(2) A 1.0 ha recreational park with pathways for viewing nature should be provided in the waterfall area that already has a rest house, an observation point, and other facilities.

(3) A 5 km stretch of the road along the Anai Valley should be landscaped as a scenic corridor by 1985.

(4) A route for climbing Mt. Marapi from Kota Tua, which is located 5 km north of Padang Panjang, should be opened up by 1990.

(5) By 1990 an observation point should be provided on the Kota Tua ridge overlooking the basin around Padang Panjang and Lake Singkarak.

(6) The 7 km stretch of road between Kota Tua and Bukittinggi lying in the valley between Mt. Marapi and Mt. Singgalang should be landscaped by 1990 as a scenic corridor offering a view of beautiful forests and rural scenery.

(7) An area of about 5 km^2 on the northern slopes of Mt. Marapi should be afforested to prevent erosion and to protect underground water resources.

(8) The existing industrial arts village at Pandaisikat should be improved by 1990.

Lake Maninjau Area

Lake Maninjau is located 100 km northwest of Padang and 25 km west of Bukittinggi and, like the latter, is situated in Kabupaten Agam. A provincial road runs along its northern shoreline. The lake shoreline is at an elevation of 470 m above sea level, and the water surface covers 99.5 km^2. The lake is of the caldera type, and the surrounding terrain is conical and covered with a thick primeval forest growth. The overall impression one gets is that of a miniature garden. A very fine view down on the lake is to be had at the observation point at Puncak Lawan (elevation 1,250 m), the clouds floating by below adding a mystical touch. From Embun Pagi, a flat area with a very pleasant climate some 3 km to the east, the lake can be reached by a "44 hairpin bend" descending road. Among the other tourism resources in the vicinity is Mt. Singgalang.

Development Requirements

	1980	1985	1990	1995
Number of daytime visitors per day				
Foreign	8	17	31	50
Interregion	11	23	48	101
Local	8	12	18	30
Day trip	120	192	229	285
Total	147	244	326	466
Number of hotel rooms needed				
SA-class	–	–	–	–
A-class	–	10	10	30
B-class	–	20	40	60
C-class	13	35	60	90
Total	13	65	110	180

Although a good number of visitors already come to this area to enjoy its outstanding scenery, there are as yet insufficient accommodation facilities for them. If more are provided, the number of visitors will doubtlessly increase still further since the scenery, including the neatly arranged terrain and charming lake, is very attractive indeed and even has somewhat of a mystical air to it. In addition, Embun Pagi on the way to the lake from Bukittinggi with its level ground and pleasant climate ought to be developed as a sports area. In the tourism development of this area emphasis should be placed on the following:

(1) In the way of accommodation facilities, 10 A Class and 40 B Class rooms of the bungalow should be provided on the lakeside by 1985, and at Embun Pagi with its marvelous view 42 C Class rooms should be provided by 1990, with another 10 A Class, 20 B Class, and 28 C Class rooms to be ready by 1995.

(2) A 0.1 ha lakeside park, a floating pool, and marina facilities should be provided by 1990, by which time pleasure boats should also be in operation.

(3) A 9-hole mini golf course and various kinds of sports grounds should be provided at Embun Pagi by 1995 so that it can serve as a sports area for the citizens of Bukittinggi and people throughout the Minang Highlands area.

(4) A lakeside natural bird sanctuary should be made ready by 1990.

(5) All necessary steps should be taken to ensure that the guality of the lake water is not impaired by development or by the greater number of visitors in the future.

(6) An area of about 5 km^2 should be afforested at Puncak Lawan for the sake of natural conservation, including prevention of erosion and fostering of accumulation of underground water resources.

(7) Observation points should be provided on the hill at Puncak Lawan looking down on Lake Maninjau and out on to the Indonesian Ocean, on the peninsula jutting into the lake, from which a good view is to be had of the lake itself and the surrounding mountains, and at Mukamako, from which the new dam and the Indonesian Ocean will be visible, the first by 1985 and the other two by 1990.

(8) The 5 km stretch of access road from Bukittinggi to Lake Maninjau before the "44 hairpin turn descent" begins should be landscaped by 1985 as a scenic corridor offering a fine view of typical rural farmland, and by 1990 the same should be done with respect to the 3 km descent with its breathtaking panoramic views of the lake.

(9) This area also has good natural conditions for future development of spice and fruit markets and an electrical power generating plant.

Development Scheme