

CHAPTER 2

SOCIO-ECONOMIC ACTIVITIES, TRANSPORTATION FACILITIES AND

TRIP CHARACTERISTICS IN THE STUDY AREA

2.1 Description of the Study Area

Amphoe Ban Tak is selected as a study site. Being one of seven Amphoes in Changwad Tak, it is situated approximately 500 kilometers north of Bangkok as shown in Fig.2.1 and is administratively divided into seven Tambons which are further subdivided into fifty-nine Mubans. The size of each Tambon in square kilometer is shown in Table 2.1. The whole area of Amphoe Ban Tak is about 1,060 square kilometers and be easily accessed from the north and the south by Ping river and Asian Highway No. 1 as depicted in Fig.2.2. The general geography of the area is hilly with exception that a flat terrain is formed along Ping river and Asian Highway No. 1.

Table 2.1 Size of Each Tambon in the Study Area

Tambon	Area (sq.km.)
Tak Ok	189.28
Mae Salit	301.08
Samo Khon	155.15
Ko Taphao	77.58
Tak Tok	82.24
Thung Kracho	113.29
Thong Fa	141.16
Amphoe Ban Tak	1,059.78

Source: National Statistical Office

Fig. 2.1 Location of the Study Area.

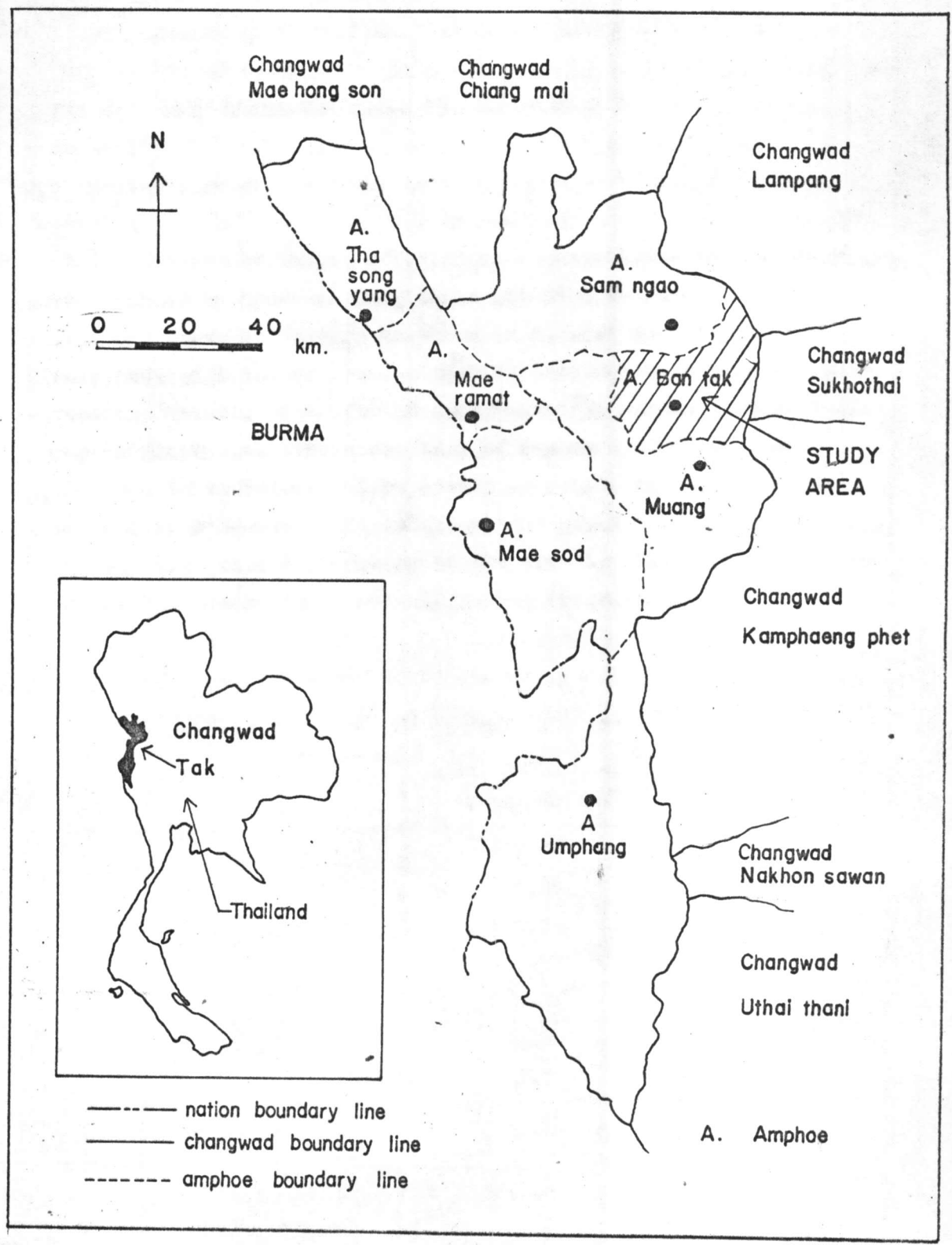
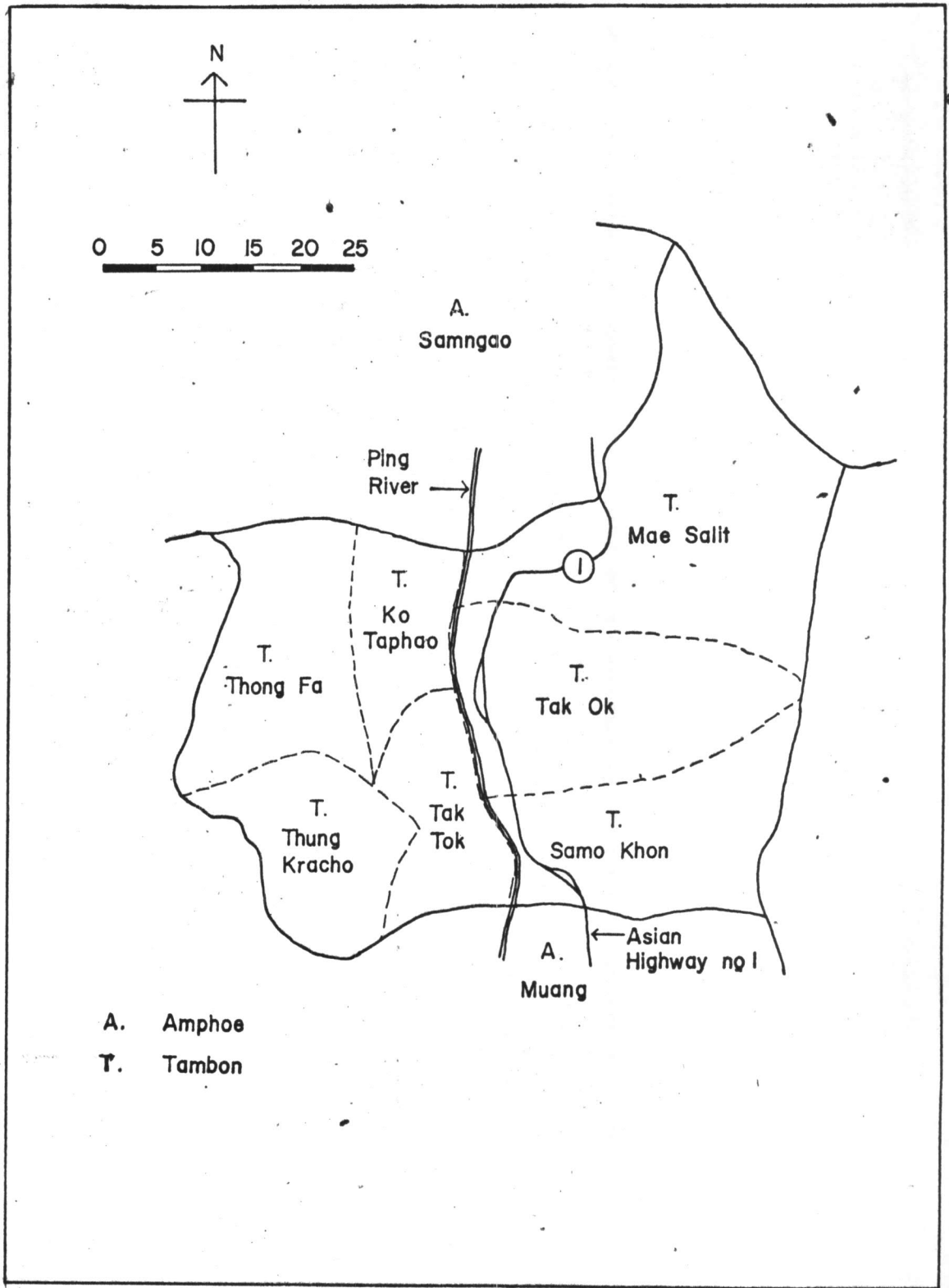


Fig. 2.2 Description of the Study Area (Amphoe Ban Tak)



2.2 Collection of Data

Socio-economic data and details of transportation facilities in the area were obtained from various sources and by a household interview. The main body of data as obtained by a household interview comprised of the details on socio-economic, trip characteristic and vehicle ownership, etc; whereas the details on transport facilities such as bus fleet, frequencies of operation were obtained by a direct interview with managers of the transport companies operating their services in the study area. In addition, the various governmental offices such as Registration Division, Department of Local Administration, Ministry of Interior, The National Statistical Office, Department of Police and Department of Highways provide essential informations on population, number of household, income per capita, vehicle registration, traffic volume and road density.

A household interview survey took place from October 27 to November 2 1976 and each interview takes 30-45 minutes approximately. The survey was conducted in various Mubans randomly selected from each of seven Tambons. The number of household interview in each Tambon compared to the total number of household in each Tambon is shown in Table 2.2. The sample size of the household interview survey is 7.1 percent.

2.3 Socio-economic Activities in the Study Area

2.3.1 Population

According to the Registration Division, Department of Local Administration, it is recorded in the year 1976 that population of Amphoe Ban Tak is 37,104 inhabitants of which 18,358 is male and 18,746 is female. It is interesting to note that trend of the population during the past three years is decreasing as

Table 2.2 Sample Size of the Survey in Each Tambon

Tambon	Total number of Mubans	Number of Mubans selected	Total number of households in each Tambon	Number of households interviewed	Percentage of households
Tak Ok	10	6	1,262	53	4.2
Mae Salit	10	5	911	50	5.5
Samo Khon	7	7	440	58	13.2
Ko Taphao	8	6	886	63	7.1
Tak Tok	10	7	851	65	7.6
Thung Kracho	7	5	797	60	7.5
Thong Fa	7	4	474	51	10.8
Amphoe Ban Tak	59	40	5,620	400	7.1

illustrated in Table 2.3 in contrary to the trend of population in the Changwad which increases at an average rate of 4 percent per annum during 1966-1976 as indicated in Table 2.4. The breakdowns of population in each Tambon in 1976 are illustrated in Fig. 2.3. It appears that the first three highest populated Tambons are served by the transport corridor formed by the Ping river and Asian Highway No.1. In addition, it can be seen from Fig. 2.4 that the area long the transport corridor is a populous area in which a large number of Mubans are located either on the bank of the Ping river or along Asian Highway No.1. Distribution of population density of the study area is depicted in Fig. 2.5, the population density of the highest as well as the lowest populated Tambons were estimated by Registration Division, Department of Local Administration to be 73 persons per squared kilometer in Tambon Ko Taphao and 18 persons per squared kilometer in Tambon Samo Khon, respectively.

2.3.2 Household characteristics

There are 5,620 households in the study area as reported in 1976 by Registration Division, Department of Local Administration. The distribution of household size as obtained from the household interview is tabulated in Table 2.5. It can be seen that 66 percent of the household is of the family size ranging between 3 to 6 persons and 50 percent of the household is of the family size less than 6 persons. Accordingly, the average household size is 5.38 persons per household which considered to be a medium size.

From Table 2.6 based on the data obtained from the household interview, it can be seen that population whose age is less than 20 years is about 50 percent of which 28 percent is between 10 to 19 years of age.

Table 2.3 Population in Amphoe Ban Tak

Year	Total	Male	Female
1966	27,163	12,162	15,001
1967	28,041	12,601	15,440
1968	28,758	12,931	15,827
1969	29,468	13,293	16,193
1970	30,742	14,013	16,729
1971	31,609	14,368	17,241
1972	36,012	16,568	19,444
1973	38,707	18,828	19,879
1974	38,080	18,527	19,553
1975	38,333	17,107	21,226
1976	37,104	18,358	18,746

Source: Registration Division, Department of Local Administration
(Unpublished)

Table 2.4 Population in Changwad Tak

Year	Total	Male	Female
1966	181,856	90,338	91,518
1967	187,197	94,033	95,164
1968	194,716	96,914	97,802
1969	199,647	99,465	100,182
1970	206,334	102,938	103,396
1971	214,768	106,775	107,993
1972	228,547	114,859	113,688
1973	236,424	119,293	117,131
1974	243,610	123,699	119,911
1975	248,387	124,658	123,729
1976	254,305	128,875	125,429

Source: Registration Division, Department of Local Administration
(Unpublished)

Fig. 2.3 Population Distribution in Seven Tambons

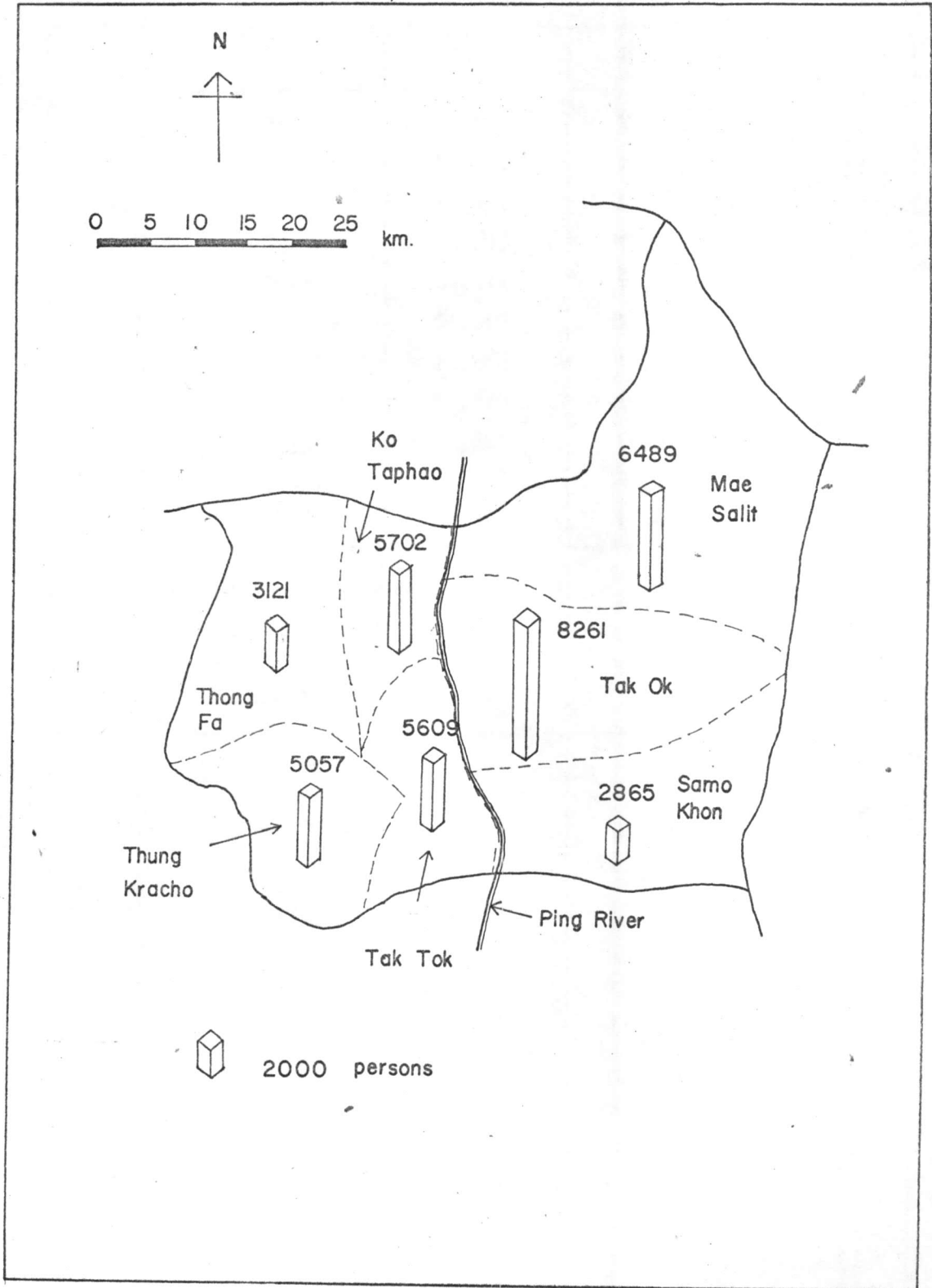


Fig. 2.4 Location of Mubans

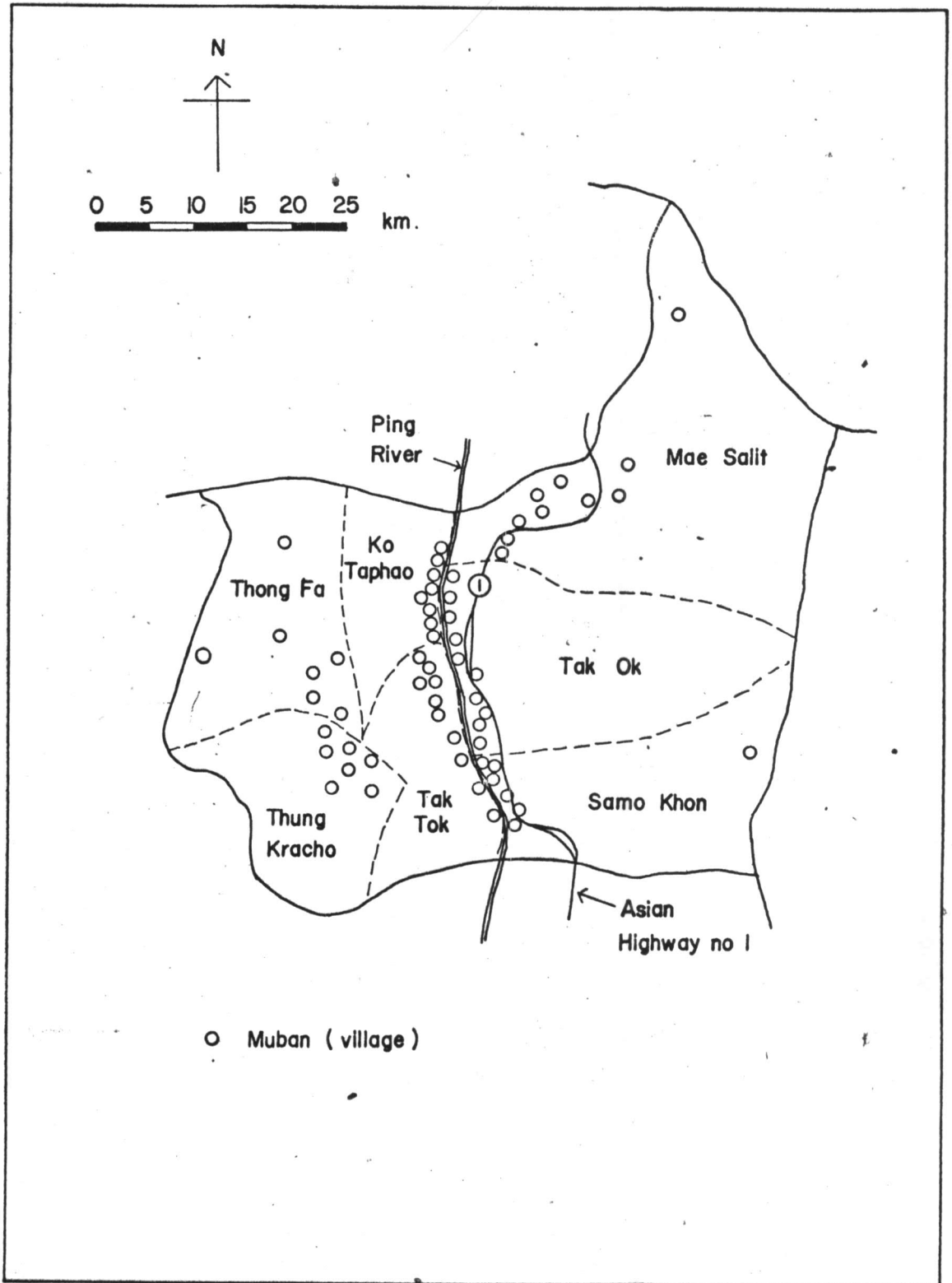


Fig. 2.5 Population Density

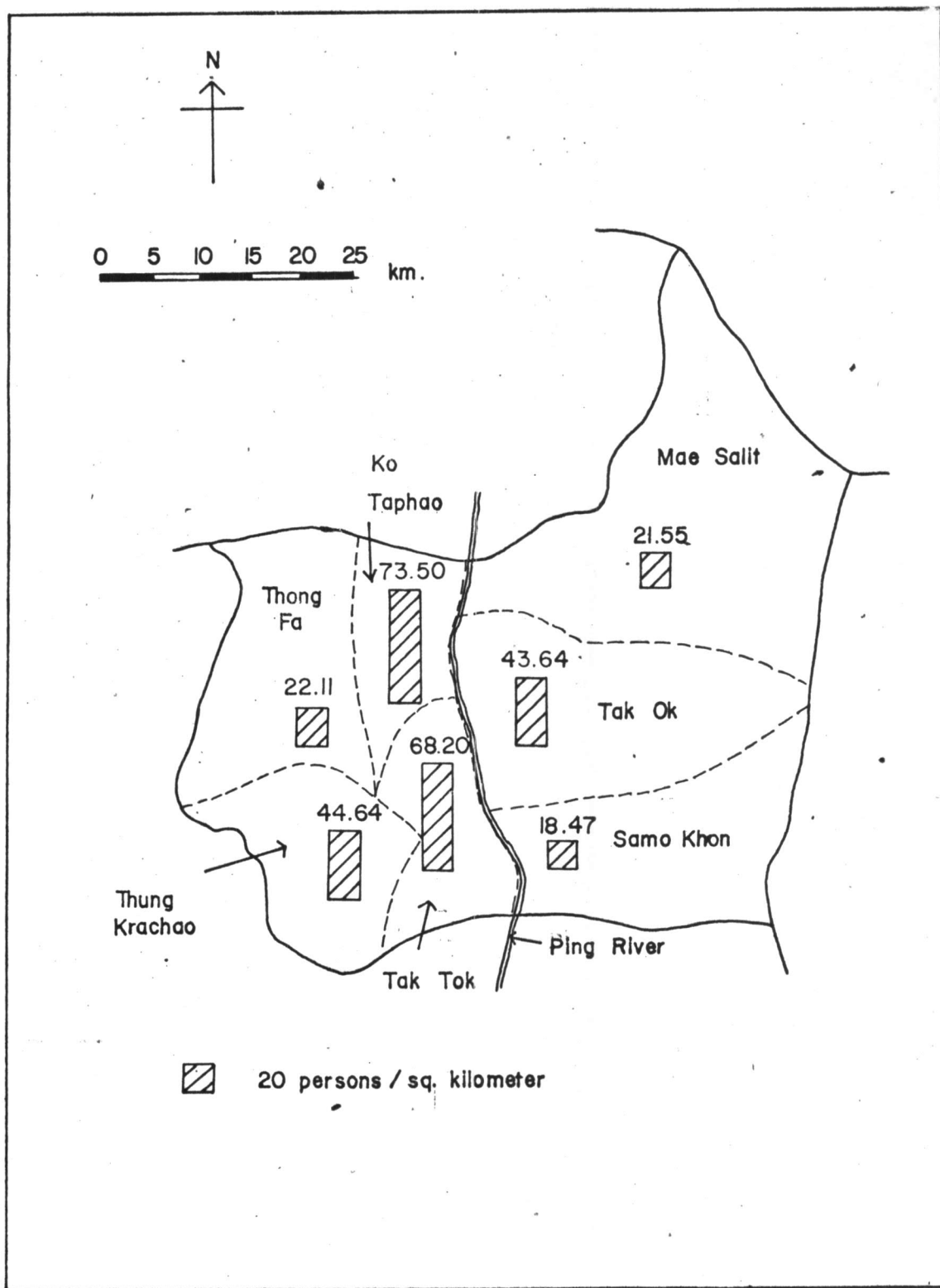


Table 2.5 Distribution of Number of Persons Per Household

Number of persons per household	Number of households	Number of household in percent
1	5	1.25
2	18	4.50
3	54	13.50
4	84	21.00
5	64	16.00
6	63	15.75
7	44	11.00
8	30	7.50
9 & over	38	9.50
Total	400	100.00



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Table 2.6 Age Distribution

Age interval	Number of persons	Number of persons in percent
under 5	198	9.20
5 - 9	252	11.70
10 - 19	600	27.87
20 - 29	324	15.05
30 - 39	222	10.31
40 - 49	230	10.68
50 - 59	161	7.48
60 & over	166	7.71
Total	2,153	100.00

Table 2.7 Occupation of Head of Household

Occupation	Number of head of household	Percent
agriculturist	260	65.00
merchant	37	9.25
civil servant	21	5.25
employee	53	13.25
retired civil servant	11	2.75
private business	3	0.75
no occupation	15	3.75
Total	400	100.00

Table 2.8 Occupation of Family Workers

Occupation	Number of family workers	Percent
agriculturist	913	76.09
merchant	90	7.50
civil servant	57	4.75
employee	137	11.42
private business	3	0.25
Total	1,200	100.00

The occupation of the head of household in the study area is tabulated in Table 2.7. From this Table, it is clear that a great number of head of household are farmers. Table 2.8 illustrates the distribution of the family workers in the study area. It is clear that majority of workers in Amphoe Ban Tak is agriculturist.

2.3.3 Level of education

For the purpose of this study, the level of education of people is divided into 6 levels namely, uneducation, Pratom 1-4, Pratom 5-7, Matayomsuksa 1-3, Matayomsuksa 4-5 and university level or equivalence. Based on Table 2.9, it can be seen that 90 percent of population is educated at the level under or equivalent to Pratom 4 of which 22 percent is illegible.

Table 2.9 Level of Education

Level of education	Number of people	Percent
uneducation	491*	22.8
P 1 - P 4	1,307	60.7
P 5 - P 7	197	9.2
MS 1 - MS 3	111	5.2
MS 4 - MS 5	18	0.8
university or equivalence	29	1.3
Total	2,153	100.00

* including children under 7 years of age

2.3.4 Family income

People in this area earn their living from their agricultural product, business, and governmental service being government official. Analysis of data obtained from the household interview survey, the average annual income of a household unit is 13,516 baht. There is considerable variation of household incomes in the study area as shown in Table 2.10. From the Table, Tambon Tak Tok whose area suitable for cultivation yields the highest average annual family income of 20,614 baht whereas Tambon Mae Salit whose terrain is hilly yields the lowest average annual family income of 6,077 baht. With the average household size of 5.38 persons, the average income per capita of Amphoe Ban Tak is calculated to be 2,512 baht annually as compared to the National Income per capita in the same year 1976 which is estimated to be 6,131 baht, it is clear that the economic level of the study area is very low.

Table 2.11 illustrated the variation of the average family income as the number of household size increase. Table 2.12 shows the distribution of household head's occupation with regards to the various level of income.

2.4 Transportation Facilities

2.4.1 Road network

The road network in the study area is consisted of five major roads as follows:-

(i). Asian Highway No.1. Being a part of the Asian Highway, it is a two lanes highway constructed to a primary standard. The carriageway width is 6.50 meters of asphaltic concrete with 2.25 meters of paved shoulders. It passes through the study area and is on the east side of Ping river as shown in Fig. 2.6.

Table 2.10 Average Family Income Per Household

Tambon	Family income (baht/year)		
	Number of households	Average (baht/year)	Standard deviation (baht/year)
Tak Ok	53	18,181	14,165
Mae Salit	50	6,077	5,565
Samo Khon	58	13,136	12,022
Ko Taphao	63	12,429	10,533
Tak Tok	65	20,614	18,164
Thung Kracho	60	13,002	12,213
Thong Fa	51	9,295	7,157
Amphoe Ban Tak	400	13,516	13,031

Table 2.11 Average Family Income Per Household Classified by Household Size

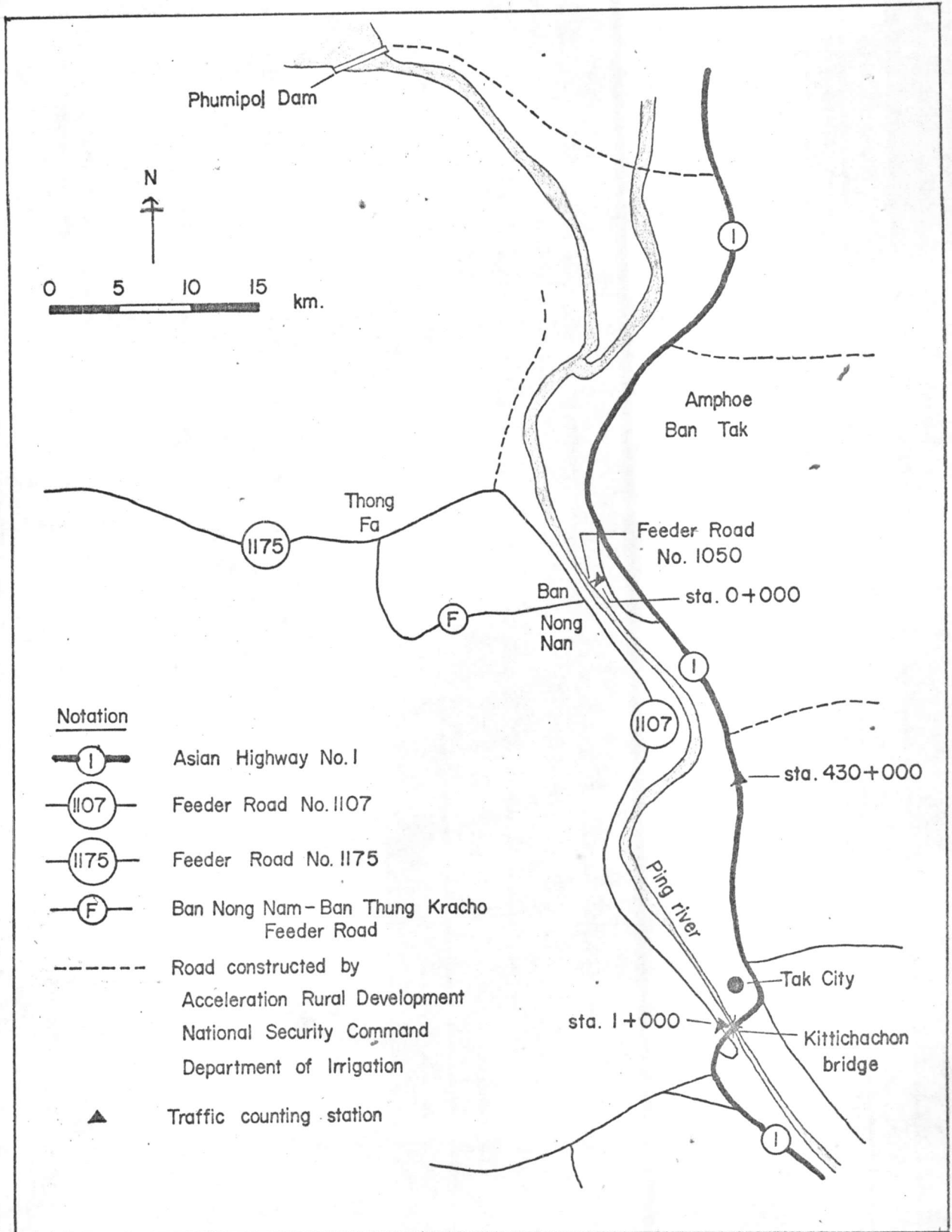
Number of persons per household	Average family income per household (baht/year)
1	6,380
2	10,393
3	13,053
4	12,214
5	19,442
6	14,578
7	14,173
8	13,353
9 & over	15,717
Total average	13,516

Table 2.12 Distribution of Household Head's Occupation Classified by the Level of Family Income

Family income level (baht/year)	Number of households	Percent occupation of household head's			
		Agriculturist	Merchant	Civil servant	Other*
≤ 5,000	100	79.00	2.00	-	19.00
5,001 - 15,000	186	73.12	6.99	3.22	1.67
15,001 - 25,000	65	52.31	15.38	9.23	23.08
25,001 - 35,000	16	31.25	43.75	-	25.00
35,001 - 45,000	18	22.22	22.22	16.67	3.89
≥ 45,001	15	13.33	6.67	33.33	46.67
Total	400				

* included - employee, retired civil servant, private business and no occupation

Fig. 2.6 Road Network and Location of Traffic Counting Stations



(ii). Feeder Road No.1050. This road, which is 645 meters long, link with business center of Tambon Tak Ok on the east bank of Ping river to the Asian Highway No.1. It was constructed by the Department of Highways. The carriageway width is 4.50 meters of asphaltic concrete and 1.00 meter of shoulders. It passes through central business district of Tambon Tak Ok and ends at the Ping river bank. Across Ping river is the Feeder Road No.1107. These two roads are joined by a wooden bridge which can accommodates only passenger car, pick-up and motorcycle.

(iii). Feeder Road No.1107. It starts from the west end of Kittichachon bridge and passes through Tambon Tak Tok and ends at Tambon Ko Taphao on the west side of Ping river. This road was also constructed by the Department of Highways. It is 31.715 kilometers long and its carriageway width is 6.00 meters and shoulder width is 1.00 meter. The road surface of the first 16 kilometers section is surface treatment and the remaining section is soil aggregate which can serve traffic for all year round.

(iv). Ban Nong Nam-Ban Thung Kracho Feeder Road. This road was jointly constructed by the Department of Highways and the National Security Command. At Ban Nong Nam, it diversifies from Feeder Road No.1107 and passes through Tambon Thung Kracho and meet Feeder Road No.1175 at Tambon Thong Fa. The carriageway, which is soil aggregate and can serve traffic for all year round, is 5.00 meters wide with 1.00 meter of shoulders.

(v). Feeder Road No.1175. This road was constructed by the Department of Highways. It was an extension of Feeder Road No.1107 and will serve Amphoe Mae Ramas. However, presently 30 kilometers stretch of the road has just been completed. The road, which can serve traffic for all year round, is paved with soil aggregate 5.00 meters wide and 1.00 meter of shoulders.

The road network, which is 85 kilometers long, is supplement by village roads which were constructed by the Acceleration Rural Development and the National Security Command. The length of the village roads is estimated to be 60 kilometers approximately. Thus, total length of all types of road in the study area is 145 kilometers and the road density is calculated to be 0.14 kilometers per squared kilometer.

2.4.2 Vehicle registration

Vehicles were grouped into passenger cars including taxi, buses, trucks and motorcycles. Vehicle registration in Changwad Tak are tabulated in Table 2.13 and Table 2.14. Fig. 2.7 is graphs showing the growth indices of registered vehicles from 1967 through 1975.

It can be seen from Table 2.14 that vehicle registration in Changwad Tak for the eight-year period from 1967 increased by a growth factor of 3.37. The growth is characterized by an increase of annual registration. Passenger car registration increased at the same rate as that of motorcycle during the eight-year period, 3.31 for passenger cars, 3.35 for motorcycles. In the same period, bus and truck growth rates were 1.09 and 3.80, respectively. From the graphs in Fig. 2.7, it may be seen that truck and motorcycle registrations increase significantly in 1973. These increase may be attributed to the completion of construction of two feeder roads namely Ban Nong Nam-Ban Thung Kracho and road No.1107 in 1972 which serve the developed areas along the west bank of Ping river.

Table 2.13 Vehicle Registration in Changwad Tak

Year	Number of vehicles								
	Passenger cars ¹			Buses ²	Trucks			Other motor ³ vehicles	Motor- cycles
	Total	Personal car	Taxi		Total	Private	For hire		
1967	119	107	12	67	431	421	10	80	961
1968	125	114	11	92	323	298	25	43	1,348
1969	173	157	16	106	401	335	66	45	1,528
1970	228	217	11	94	500	398	102	77	1,817
1971	272	247	25	112	466	329	137	66	2,076
1972	272	247	25	154	466	329	137	66	2,076
1973	357	314	43	147	1,126	711	415	113	3,512
1974	400	385	15	90	1,298	776	522	75	2,928
1975	394	386	8	73	1,638	1,036	602	93	3,215

1) included cars for hire commuting between changwads and cars with seating less than 8 persons for services

2) included special type of buses for hire and cars with seating more than 7 persons for services

3) included tractors, rollers, trailers

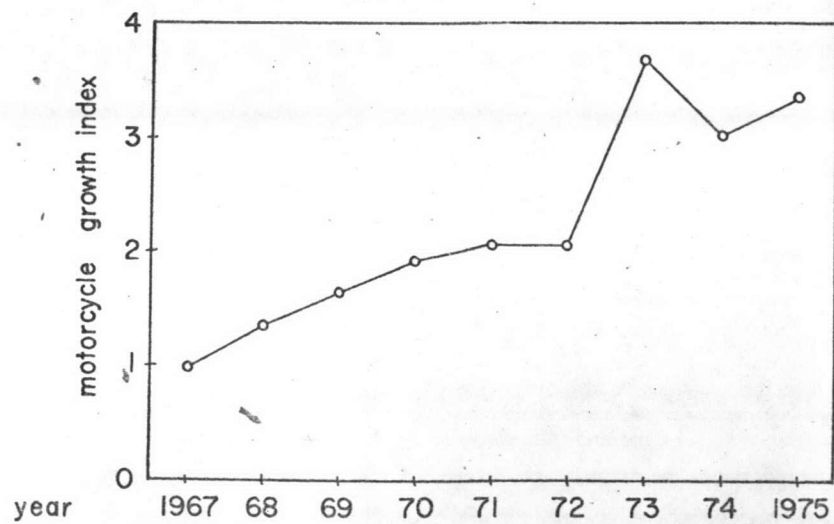
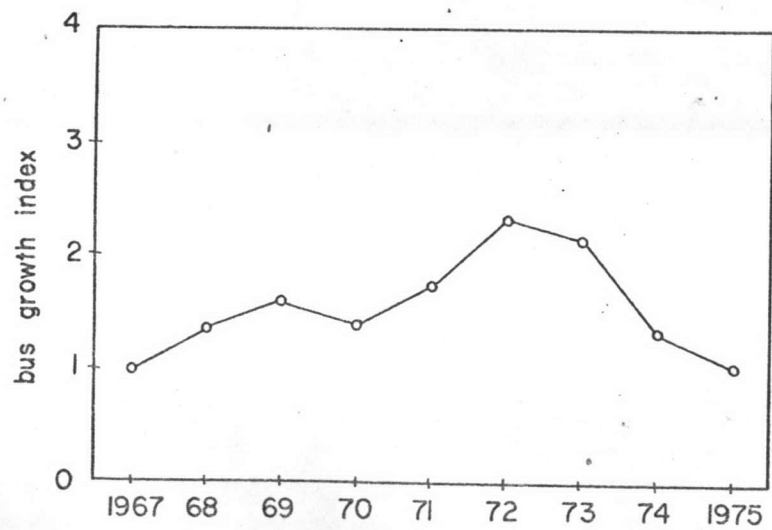
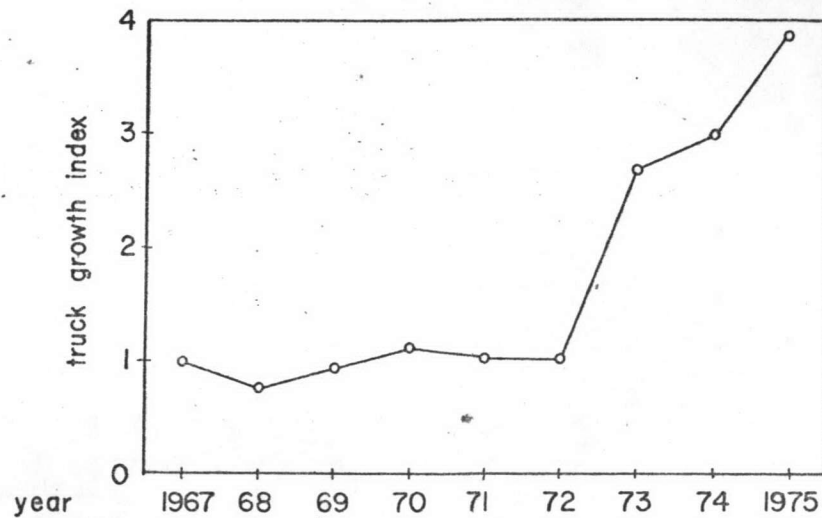
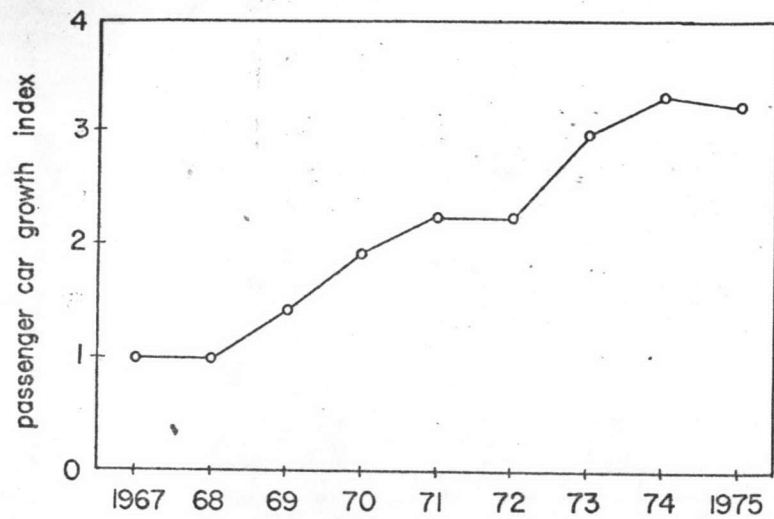
Source: National Statistical Office

Table 2.14 The Growth Index of Passenger Car, Bus, Truck and Motorcycle in Changwad Tak

Year	Passenger car	Index	Bus	Index	Truck	Index	Motorcycle	Index	Total vehicle	Index
1967	119	1.00	67	1.00	431	1.00	961	1.00	1,578	1.00
1968	125	1.05	92	1.37	323	0.75	1,348	1.40	1,888	1.20
1969	173	1.45	106	1.58	401	0.93	1,528	1.59	2,208	1.40
1970	228	1.92	94	1.40	500	1.16	1,817	1.89	2,639	1.67
1971	272	2.29	112	1.67	466	1.08	2,076	2.16	2,926	1.85
1972	272	2.29	154	2.30	466	1.08	2,076	2.16	2,968	1.88
1973	357	3.00	147	2.19	1,126	2.61	3,512	3.65	5,142	3.26
1974	400	3.36	90	1.34	1,298	3.01	2,928	3.05	4,716	2.99
1975	394	3.31	73	1.09	1,638	3.80	3,215	3.35	5,320	3.37

Source: National Statistical Office

Fig. 2.7 Growth Index of Passenger Car, Bus, Truck and Motorcycle in Changwad Tak, 1967 - 1975



2.4.3 Traffic volume

The Highways Department has conducted traffic count in the study area at 3 stations on Asian Highway No.1, Feeder Road No.1050 and Feeder Road No.1107. The location of these counting stations were shown in Fig. 2.6. The Department's traffic count scheme is that two sets of count be taken in March and August each year. Each set is obtained by an 8 hours count, starting from 08:00 to 16:00 hours of 5 days which are scheduled on Monday and Thursday of the first week, on Wednesday and Friday of the second week, and on Tuesday of the third week of the month. The vehicles counted are classified into 6 groups as follows: cars and taxis, light buses, light trucks, heavy buses, heavy trucks and trucks with more than two axles. These data were expanded to be annual daily traffic (ADT) by applying an expansion factor derived by the Highways Department.

The ADT in the period from 1972 to 1976 at these counting stations as reported by the Department of Highways are shown in Table 2.15, a graph of the traffic volume are shown in Fig. 2.8 and Fig. 2.9.

As indicated in Table 2.15, traffic on these roads is dominated by buses and trucks, averaging 57 percent of the total traffic on the Asian Highway No.1, 79 percent on the Feeder Road No.1050 and 60 percent on the Feeder Road No.1107. It is noted that, in Fig. 2.8 and 2.9, the ADT decrease significantly in 1975 due to the fact that there is considerable drop of farm production as indicated in Table 2.15 and the oil crisis which stroke the World economy in 1975.

The volume of bicycle & tricycle and motorcycle on the Feeder Road No.1050 and Feeder Road No.1107 during 1974 to 1976 are also reported in Table 2.16.

Table 2.15 - Average Daily Traffic on Asian Highway No.1, Feeder Road No.1050 and No.1107

Road No.	Year	Average daily traffic						ADT	% Bus & Truck
		Car & Taxi	Light bus	Heavy bus	Light truck	Heavy truck	Truck over 2 axles		
1	1972	622	135	180	131	156	180	1,404	56
	1973	701	128	264	116	169	220	1,598	57
	1974	639	191	276	154	197	220	1,677	62
	1975	651	157	249	100	165	192	1,514	57
	1976	1,019	231	354	116	218	226	2,164	53
1050	1972	--	--	--	--	--	--	--	--
	1973	--	--	--	--	--	--	--	--
	1974	83	93	133	55	51	16	431	81
	1975	84	83	122	42	35	3	369	77
	1976	99	95	153	62	32	3	444	78
1107	1972	--	--	--	--	--	--	--	--
	1973	135	63	15	45	26	7	291	54
	1974	178	105	12	78	50	5	428	58
	1975	177	105	15	41	41	5	384	54
	1976	170	168	20	100	134	11	603	72

Source: Department of Highways

Fig. 2.8 Annual Daily Traffic on Asian Highway No. 1

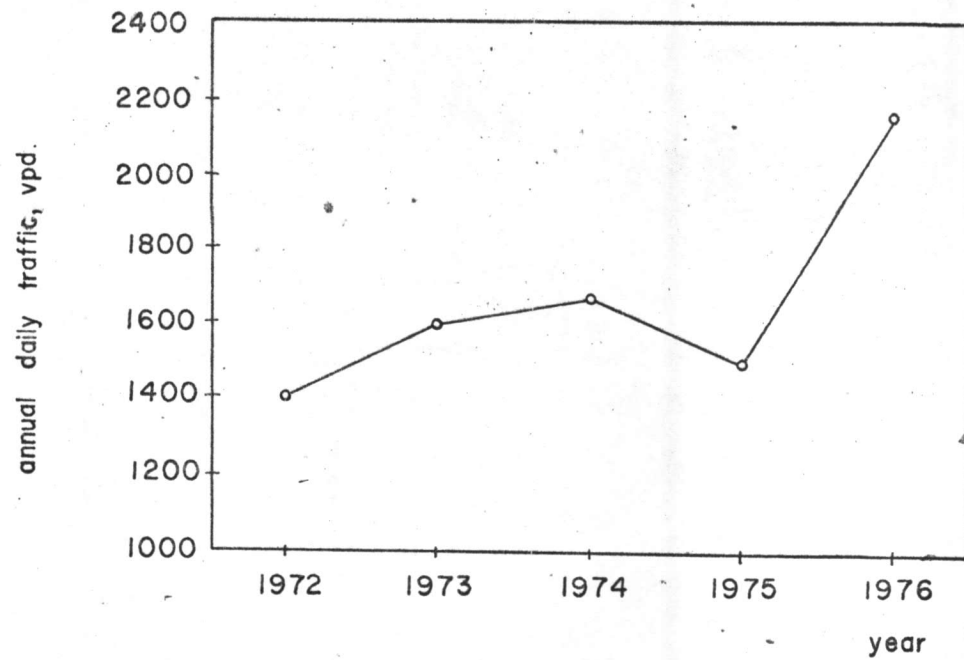


Fig. 2.9 Annual Daily Traffic on Feeder Road No. 1050 and Feeder Road No. 1107

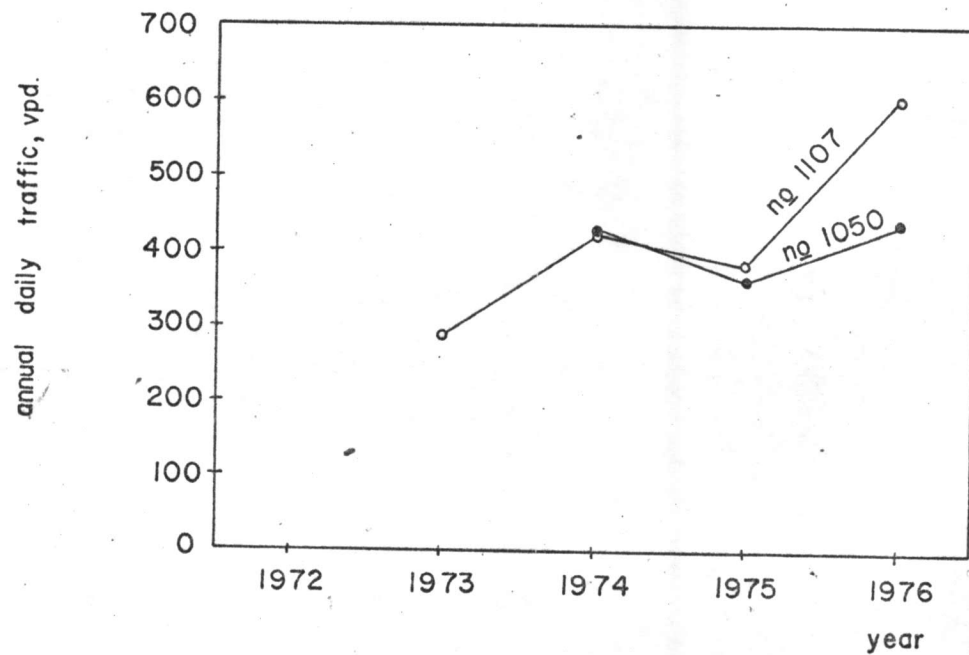


Table 2.16 Number of Bicycle & Tricycle and Motorcycle Per Day on Feeder Road No.1050 and Feeder Road No.1107

road no.	year	number of vehicles per day	
		bicycle & tricycle	motorcycle
1050	1974	704	505
	1975	593	422
	1976	600	570
1107	1974	327	645
	1975	250	661
	1976	276	787

Source: Department of Highways.

2.4.4 Bus service

There are seven local bus lines in the study area. The service of each bus line originates from each Tambon and ends its service at Tak City. The bus fleet, in general, consists of 3 types of bus namely medium size bus, minibus and microbus, with seating capacities of 40, 30 and 15 seats, respectively.

Each Tambon is served by a local bus line operated between the center of Tambon and Tak City. The bus operator usually starts its services at each Tambon in the morning from 07:30 to 08:00 hours and at Tak City in the afternoon from 12:30 to 13:00 hours. There are 10 daily bus services approximately between each Tambon and Tak City. Table 2.17 shows the local bus operation in details.

In addition, the study area is served by a long haul bus company, being registered at the Department of Land Transportation as bus line No.1152, operates its service between Tak City and Phumipol dam with 62 kilometers apart. The bus line traverses along the Asian Highway No.1. The bus fleet consists of 6 medium size buses and 14 minibuses. The daily schedule starts at 07:00 hours from Tak City and 06:00 hours from Phumipol dam. A service in each direction commencing at 30 minutes interval is loaded, on average, with 25 passengers. Fig.2.10 shows the details of bus services travel routes.

2.5 Trip Characteristics in the Study Area

2.5.1 Trip purpose

From the household interview survey, trips generated from homes may be classified into two main groups with regards to purpose namely work trip and non-work trip. Non-work trips include shopping trip, school trip, business trip, recreation trip, social trip, medical trip and religion trip.

The amount of monthly home-based trips being generated from a home in accordance with purpose are summarized in Table 2.18 and shown in percent in Fig. 2.11. The average monthly home-based trips per household in the study area is 60.12 trips of which 40.75 percent is work trip and 59.25 percent is non-work trip. From the Table, it is clear that Tambon Tak Ok generates the greatest amount of home-based trip in contrary to Tambon Samo Khon generates the least amount of such trip. This is due to the fact that Tambon Tak Ok is the central business district of the area and is served by the main highway and the Ping river.



Table 2.17 Local Bus Services in the Study Area

Local bus line										
No.	Line name	Terminal		Number of bus			Number of trips / bus / day	Average passengers per bus-trip	Travel route	
		Origin	Destination	Medium size bus	Mini bus	Micro bus				
1	Tak Ok-Tak	Tak Ok	Tak City	-	-	5	2	5	Asian Highway (22 km.)	
2	Mae Salit-Tak	Mae Salit	↑ ↓	-	7	4	2	16	Asian Highway (45 km.)	
3	Samo Khon-Tak	Samo Khon		-	-	4	2	5	Asian Highway (19 km.)	
4	Ko Taphao-Tak	Ko Taphao		1	3	2	2	17	Feeder Road No.1107 (31 km.)	
5	Tak Tok-Tak	Tak Tok		1	2	2	2	7	Feeder Road No.1107 (25 km.)	
6	Thung Kracho-Tak	Thung Kracho		-	3	2	2	19	Ban Nong Nam-Ban Thung Kracho Feeder Road and Feeder Road No.1107 (33 km.)	
7	Thong Fa-Tak	Thong Fa		Tak City	-	3	2	2	9	Feeder Road No. 1175 and No.1107 (45 km.)

Fig. 2.10 Bus Routes in the Study Area

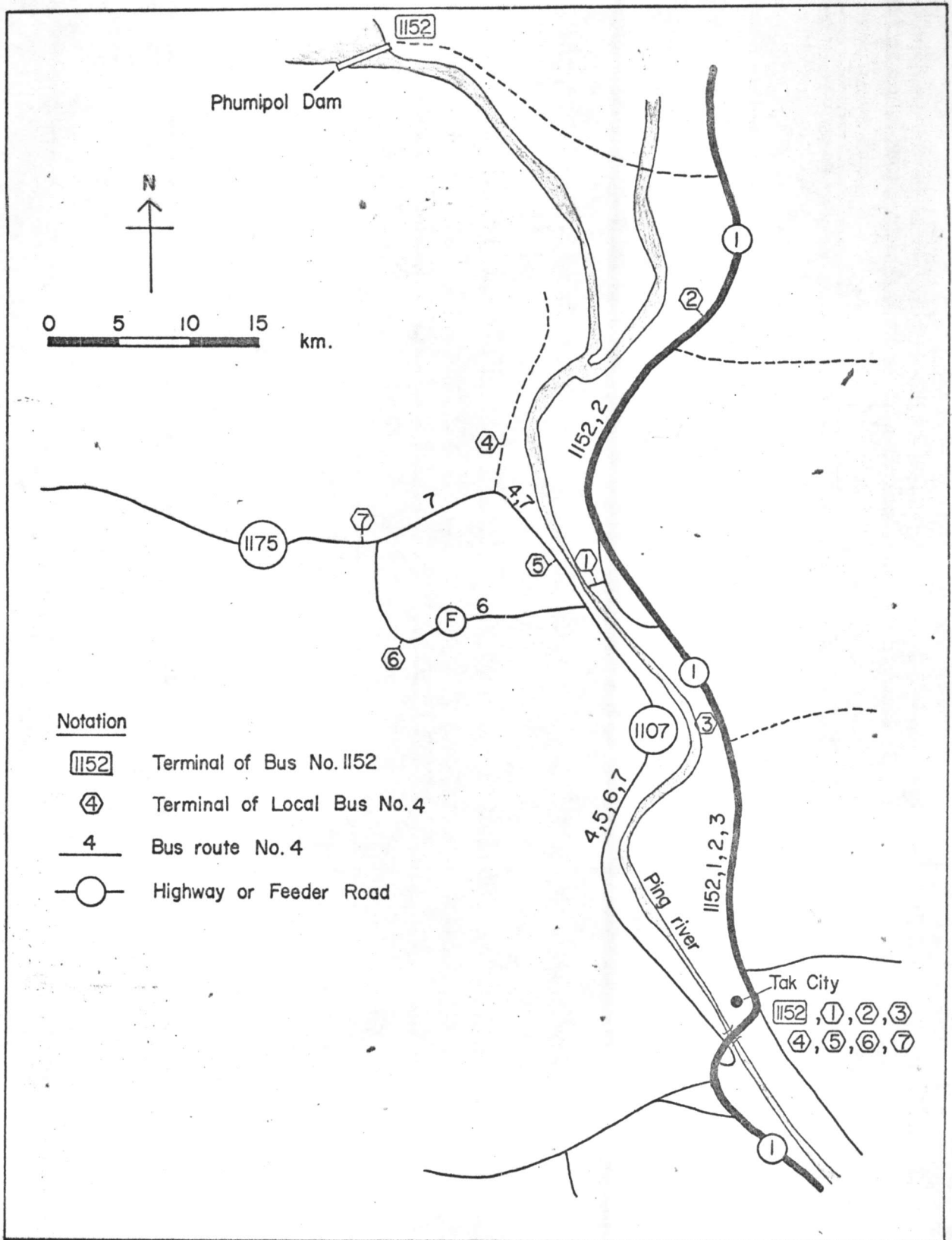
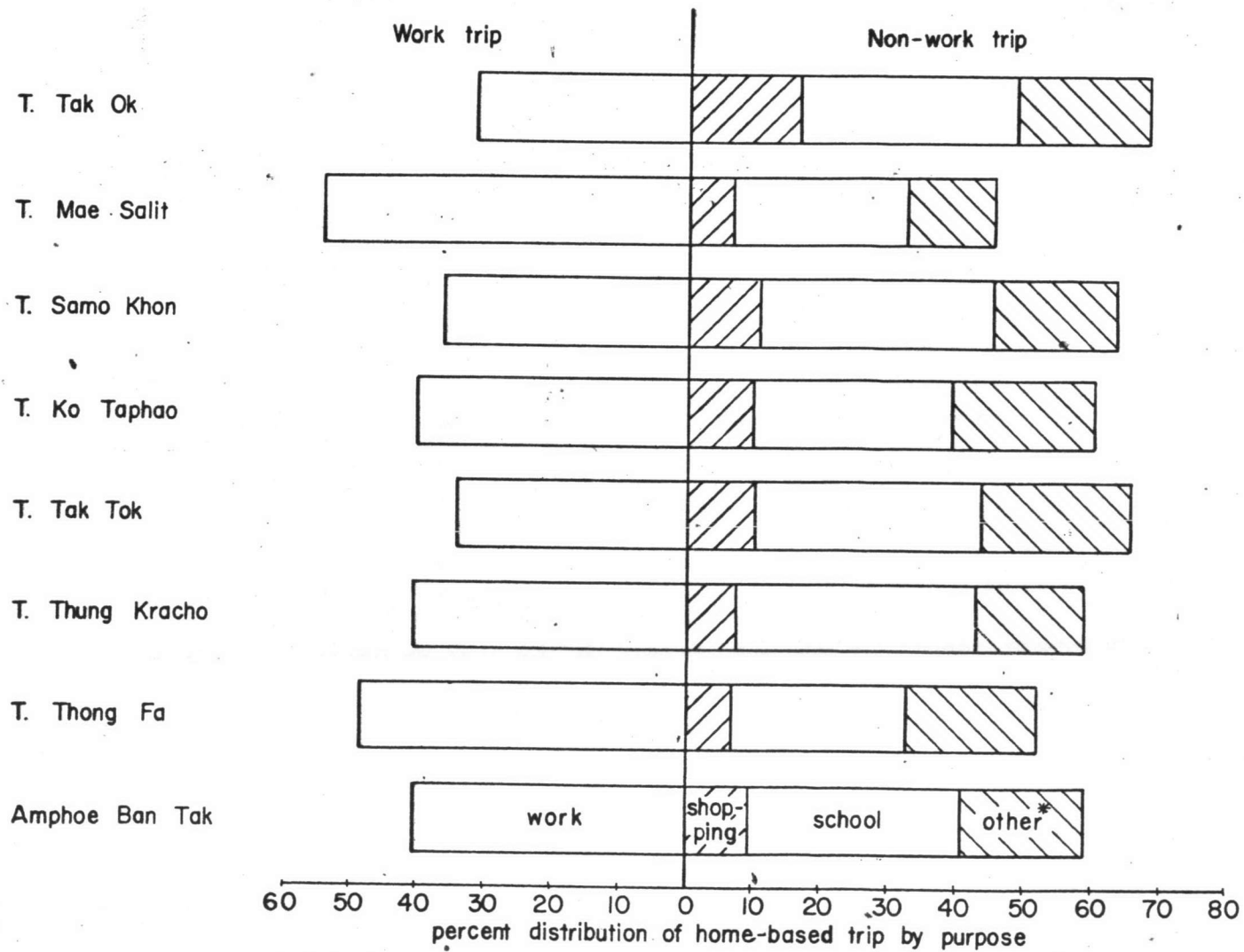


Table 2.18 Distribution of Monthly Home-Based Trip per Household by Purpose

Tambon	Average monthly trip									
	Home-based work trip	Home-based non-work trip								Total home-based trip
		Shopp- ing	School	Busi- ness	Recrea- tion	Social	Medical	Religion	Total	
Tak Ok	22.33	11.21	22.42	3.69	2.24	1.21	0.18	6.68	47.63	69.96
Mae Salit	34.45	4.02	16.14	0.69	0.65	0.28	0.14	6.66	28.58	63.03
Samo Khon	19.73	5.83	18.46	0.57	1.11	0.69	0.13	7.31	34.10	53.83
Ko Taphao	24.74	6.02	17.70	1.53	1.94	0.78	0.37	7.54	35.88	60.62
Tak Tok	19.54	5.58	18.96	3.17	0.56	0.72	0.43	7.38	36.80	56.34
Thung Kracho	24.99	4.35	21.52	0.87	0.67	0.86	0.51	7.17	35.95	60.94
Thong Fa	27.88	3.78	14.96	0.30	1.21	0.79	0.50	7.98	29.52	57.40
Amphoe Ban Tak	24.50	5.82	18.67	1.58	1.19	0.77	0.33	7.26	35.62	60.12

Fig. 2.11 Distribution of Monthly Home-Based Trips per Household by Purpose in Percent



* include business, recreation, social, medical and religion.

2.5.2 Travel desire line

In order to appreciate the pattern of people's movement in the study area, the home-based trips were grouped into 3 categories. Firstly, Intra-Tambon trips are those trips whose origins and destinations are within Tambon. Secondly, Inter-Tambon trips are those trips whose origins are in Tambon and destinations are in the other. Thirdly, External trips are those trips whose origins are in Tambon and destinations are outside the study area which is in Tak City or other places classified as northbound trips or southbound trips.

From the household interview survey, the number of trips of each category, generated from each of sampled households in a Tambon were averaged and expressed in term of average number of trips per household per month.

Having known total number of households in each Tambon, monthly total trips generated from each Tambon were estimated and were tabulated in a matrix form as appears in Table 2.19. It is clear that majority of trips being made is Intra-Tambon trip. Furthermore, it is estimated that 350,000 home-based trips were generated during a month of which 25 percent was generated from Tambon Tak Ok. Fig. 2.12 is a traffic desire line map which shows the pattern and amount of people's movements between Tambons in the study area.

Table 2.19 Total Trip Generation and Trip Attraction in the Study Area

Destination Origin	Total home-based monthly trip										Total trip generation
	Tak Ok	Mae Salit	Samo Khon	Ko Taphao	Tak Tok	Thung Kracho	Thong Fa	Tak City	North- bound	South- bound	
Tak Ok	72,111	2,234	139	454	1,249	316	101	10,979	303	404	88,290
Mae Salit	2,114	48,975	-	-	-	-	-	4,737	1,567	27	57,420
Samo Khon	2,473	-	18,427	-	9	9	-	2,565	35	167	23,685
Ko Taphao	4,191	71	-	41,048	2,100	346	186	5,281	213	275	53,711
Tak Tok	9,199	298	17	417	27,811	2,153	357	7,268	128	298	47,946
Thung Kracho	2,734	-	-	-	88	40,424	215	4,830	128	151	48,570
Thong Fa	981	-	-	47	-	678	23,709	1,778	9	5	27,207
Trip attraction	93,803	51,578	18,583	41,966	31,257	43,926	24,568	37,438	2,383	1,327	346,829

FIG. 2.12 Travel Desire Lines

