Report of Baseline Survey (2000)

โครงการกาญจนบุรี

สถาบันวิจัยประชากรและสังคม มหาวิทยาลัยมหิดล

Kanchanaburi Project

Institute for Population and Social Research, Mahidol University

Supported by The Wellcome Trust

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Foreword

Kanchanaburi Project is a research project of the Institute for Population and Social Research, Mahidol University with support from The Wellcome Trust of the United Kingdom. The project started in January 2000 with the duration of five years. Its objectives are to study the population change in the studied areas owing to the changes in economic, social, and environment including the effects of government and non-government projects on communities. Furthermore, a database on population, economic, and social aspect of Kanchanaburi province will be established. Operations research technique will also be implemented to determine their life's quality improvement.

This report of baseline survey round 1 (year 2000) is one of the studies carried out under the Kanchanaburi Project. The survey gathered data on demographic, economic, social, and health status of population under study. This annual survey will be undertaken for the next four years.

The Institute for Population and Social Research wishes that results from this baseline survey would be utilised for future operation research that will lead to the formulation of policy and community development plans in Kanchanaburi province. The purpose of these community development plans and policy are for sustainable development and improvement of quality of life of Kanchanaburi residents. It is also hoped that this report would serve as a catalyst for other kinds of study topics in community and social development undertaken by government, non-government and private agencies.

Bencha Yoddumnern-Attig

Associate Professor Bencha Yoddumnern-Attig

Director

Acknowledgment

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Lastly, we owe much from The Wellcome Trust of the United Kingdom whose grant made us reached this achievement.

Research Group

December, 2001

Abstract

Report of Baseline Survey (2000)

Institute for Population and Social Research, Mahidol University

The Kanchanaburi Project comprises a study area of 100 villages/census blocks selected from five strata; urban/semi-urban, rice, plantation, uplands, and mixed economy. There are 20 villages/census blocks in each stratum. Three sets of data collection instruments, community, household, and individual, were used in the first annual enumeration of the field site communities. This enumeration was conducted between 1st July and 15th August 2000.

The enumeration listed 11,612 households in the study area with a population of 42,614 (20,426 males and 22,188 females). The majority of households own land, which they primarily use for agricultural purpose, mostly growing rice or cash crops. Migrant remittances were more likely to be received by households in rural areas than urban areas. A larger proportion of rural than urban households reported debt, although the amount of average debt was higher for urban households.

Men tend to get married at later ages than did women, and urban residents married at later ages than did rural residents. Fertility in urban areas was also lower than in rural areas. However, fertility patterns were similar for both areas. Most people knew of at least one contraceptive method. Females were more knowledgeable about contraception than males. The average contraceptive prevalence rate was 70 percent.

Colds were the most common sickness reported in the month prior to the interview. Consumption of addictive substances such as cigarettes, beer, liquor, and tonic drinks was not common, with the exception of the uplands population, many of whom were reported as regular smokers.

Mortality levels and patterns in the field site population were similar to that found in the general Thai population, i.e., males had higher mortality than females and the mortality pattern had a J-shape. Main causes of deaths were sickness, accidents, and old age. Nine percent of deaths were not registered.

Among women aged 15 – 59 years, only 15 percent joined community development groups. The majority of the members were middle aged, had primary education, and were currently married. Budget, lack of participation of members, and lack of management skills were the most cited problems of community development groups.

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1. Introduction

With support from the Wellcome Trust of the United Kingdom, the Kanchanaburi Project commenced in January 2000. The primary objective of the project is to monitor population change within a field site in Kanchanaburi province. Changes in population are to be linked to changes in social, economic and environmental conditions in the province. The effects of government as well as non-government projects on the villagers living in the field site will also be analysed. Databases at both the macro and micro level are being developed to meet the objectives of the project.

Kanchanaburi is a large province located in the western part of Thailand. The province shares a long border with Myanmar and contains a variety of ethnic groups and migrants, both documented and undocumented, from Myanmar. The province is also close to Bangkok and is the location of many industries. In addition, the province is an important producer of plantation crops and is one of the major tourist destinations in Thailand. The selection of the 100 field site communities was structured to reflect this diversity in social, economic and ecological conditions found in the province (see Figure 1.1).

A central component of the project is an annual enumeration of all households in the field site communities. The first enumeration, undertaken in 2000, is referred to as the baseline survey and the basic results of this enumeration are presented in this report. The annual enumeration of households is conducted during the middle of each year. The enumeration consists of two main components. In the first component, data on fertility, mortality, and migration is collected. This data

is collected annually. The second component includes questions related to social, economic, health and environmental issues. The issues included in the enumeration in this component may change each year in order to maintain the survey instrument at an acceptable size and to respond to the changing social and policy context.

This report describes the study areas, data collection process, methodology, and primary results. The research methodology is discussed in chapter two which includes definitions, selection of study areas, data collection instruments, fieldwork, and data quality. Chapter three summarizes the village data collected from key informants in each community. This chapter describes general characteristics of the villages, agriculture, occupation, infrastructure and transportation, education, environmental problems, communication, health and public health services.

Characteristics of households and individuals are described in chapters four through 13. Chapter four describes general characteristics of population. Chapter five explores economic activities, while chapter six deals with migration. Chapter seven is on land use and agricultural production and chapter eight is on household support and debts. Marriage is examined in chapter nine, followed by fertility and family planning in chapter 10. Chapter 11 is on health status and chapter 12 on mortality. Chapter 13 is about women's roles in community development.

In-depth analysis of selected topics will be published in subsequent reports. These reports will deal with migration, marriage patterns, fertility and family planning, health, gender and community development, land use patterns, and employment, income, debt and household support.

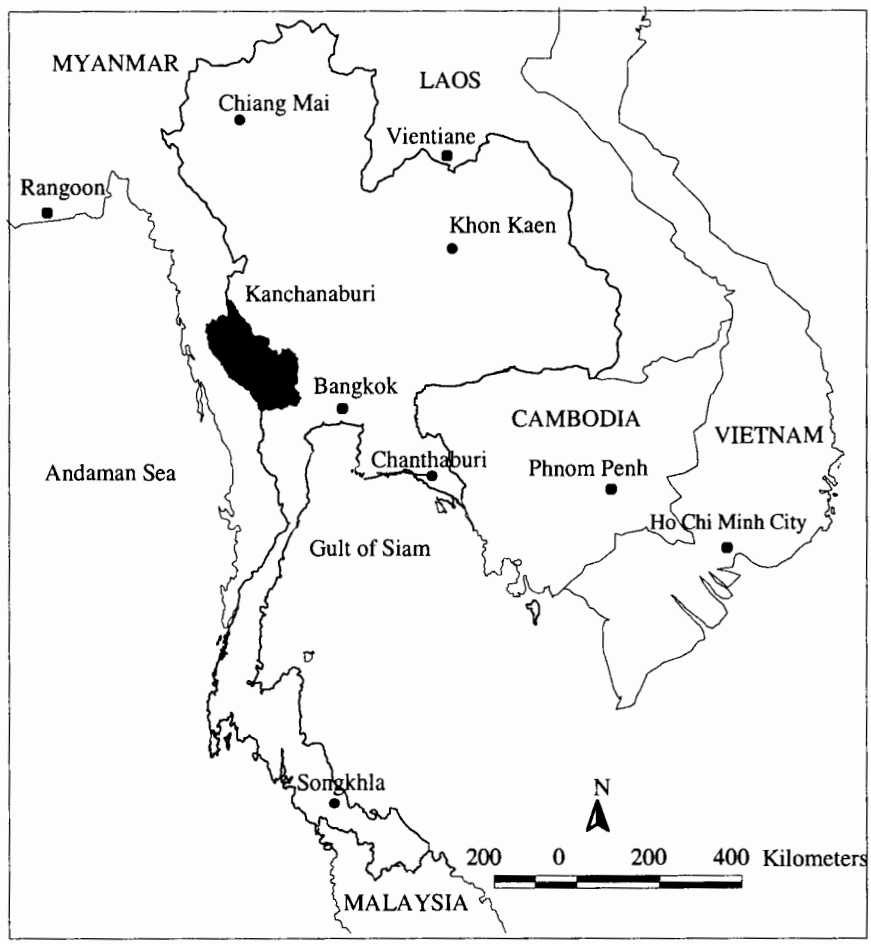

Figure 1.1 Map of Thailand Showing Kanchanaburi

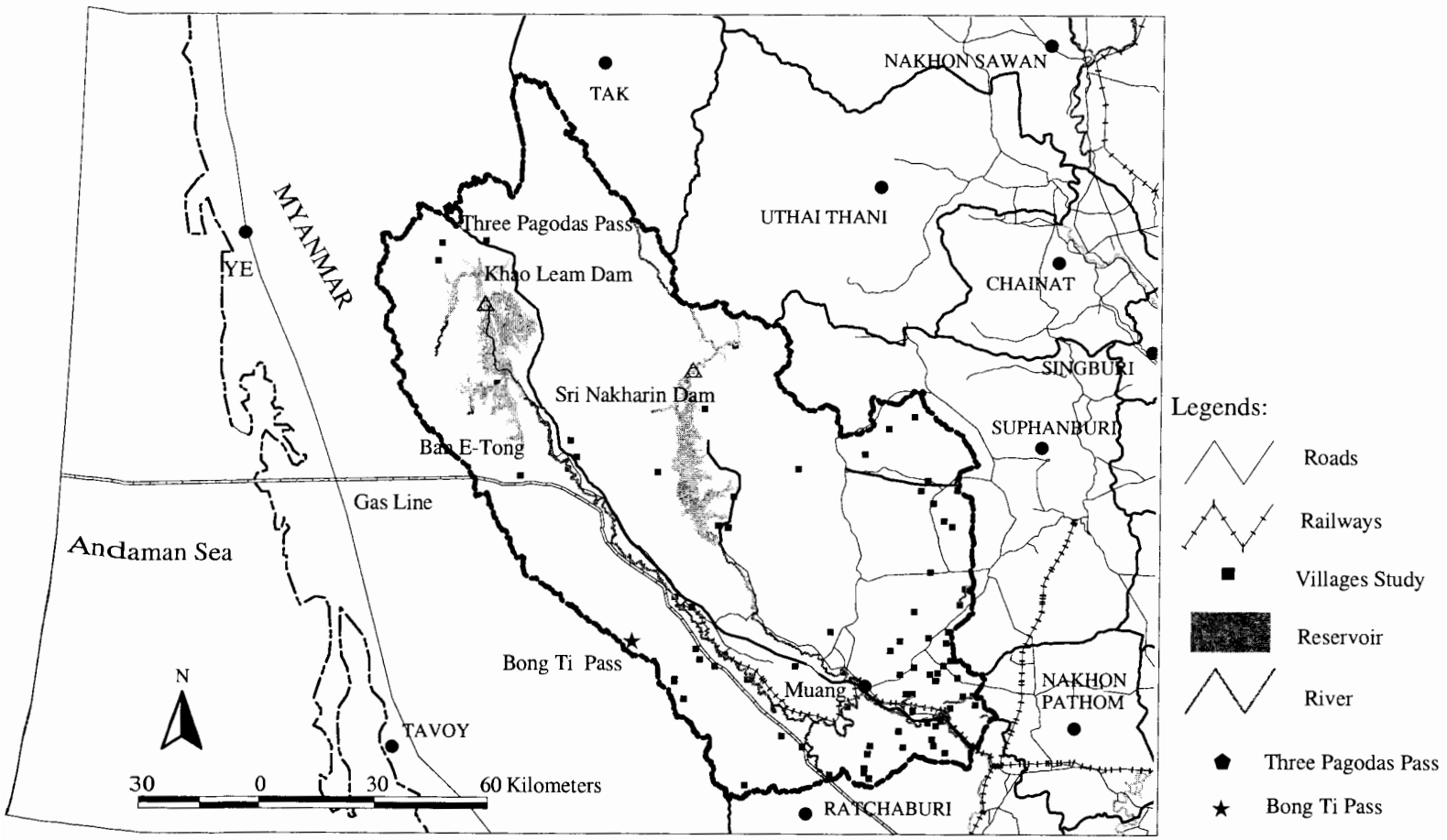

Figure 1.2 Map of Kanchanaburi Showing Areas Study

2. Design and Methodology

Concepts and Definitions

This project has as its main aim the establishment of a field research and training centre dedicated to the monitoring of population change and the evaluation of the effects of intervention-based research. The study units are 100 villages/ census blocks distributed throughout Kanchanaburi province.

The Institute for Population and Social Research (IPSR) will collect, on an annual basis, data using a population census for every household and interviewing each individual aged 15 years and over in each village/block that has been selected in the study area. The data which have been and will continue to be collected includes population, economic, social and health related information. For data collection and comparative purposes, each household from which data are collected will carry a code; households without occupants are classified as "blank".

Definition of Household

A *one-person household* refers to a person who provides for his/her own food and other essentials of living.

Multi-person households are those in which a group of two or more persons make mutual arrangements for the common provisioning of food and other essentials of

living. These persons may either be related or unrelated by blood, marriage or adoption.

A *group household* refers to a household comprised of a group of unrelated persons who live together and share lodging and regulations. This group of persons could share food or living arrangements in the form of an institutional group household (e.g., temple, prison, welfare home welfare) or other group household (e.g., dormitory, hotel, group of employees living together).

Household Membership

Household membership refers to anyone who resides in a particular household (sharing food, living arrangements, etc. in the same household) beginning from the day that data collection begins, which in the case of the baseline data collection was 1st July 2000.

Study Area Sample Selection

The sample of villages for the Kanchanaburi project was selected using a stratified systematic sample design. The primary sampling units for rural areas were villages and for urban areas were census blocks.

The data for sample selection were collected from the Kanchanaburi provincial offices of various ministries concerning the amount of agricultural land in each village, the amount of wet rice crops grown, the amount of plantation crops grown (cassava and sugar cane), and the number of adult workers employed in industry and the population.

The study area of 86 villages and 14 census blocks was divided into five strata, which were categorised according to the main occupation of the population and land use patterns. These strata are: 1) urban/semi-urban (industrialised), 2) rice producing, 3) plantations, 4) upland areas, and 5) mixed economy. The characteristics of each of these strata include the following.

The Urban/semi-urban (industrialized) strata covers the population living in municipal areas. The latter have been categorized into census blocks by the National Statistical Office (NSO). This strata also covers villages that have a significant proportion of their labour force employed in industries.

Rice strata villages are those located in lowland areas where the main occupation is rice cultivation.

The Plantation strata comprises villages that are also located in lowland areas, and where the major occupation of the local people is cultivating cassava or sugar cane.

The Upland strata contains villages located in the three highland districts.

The Mixed Economy strata contains villages that could not be classified into the other categories as mentioned above.

Rural villages whose labour force was not primarily agricultural were classified as industrial villages. The combined population of the 26 villages that fell into this category was 28,000. There was an additional 43,000 persons living in the two urban centres in Kanchanaburi (Thamaka District and Kanchanaburi Municipal District). Based on the population ratios, 14 census districts were systematically

selected from all census districts in the two urban centres and 6 industrial villages were randomly selected from the list of 26 industrial villages. Two replacement villages were also selected from the industrial villages.

Villages chosen within the rice strata were those where the predominant crop was wet rice. Of the 193 villages in this strata, 20 were systematically sampled, with five replacement villages also systematically sampled. Villages chosen for the plantation crop villages were chosen where the predominant crop was cassava or sugar cane. Of the 93 villages in this strata, 20 were systematically sampled, with five replacement villages also systematically sampled.

All villages in the three upland districts of Sisawat, Thongphaphum and Sanghlaburi were placed in the upland strata and 20 villages were systematically sampled from the total of 94 villages.

The remaining 491 villages that did not fit into any strata were placed in the "Mixed Economy" strata and 20 villages were systematically sampled from the list (see Table 2.1).

Table 2.1 Number of Villages/Census blocks and sample classified by sample area

Strata	Numbers of Villages/Blocks	Sample
Urban/semi-urban	107 census blocks 26 villages	14 census blocks 6 villages
Rice	193 villages	20 villages
Plantation	93 villages	20 villages
Upland	94 villages	20 villages
Mixed	491 villages	20 villages

Because data to classify villages into strata were not obtained directly at the village level, it was felt that there was a chance that some villages would be misclassified. Therefore researchers from the Kanchanaburi project visited all 86 selected rural villages after initial sample selection. In the few instances were it was found that a village had been incorrectly classified, the village was discarded and a village on the replacement list for that strata was selected.

Method of Data Collection

The method used for data collection was structured interview and entailed the use of three sets of questionnaires: village, household and individual.

The Village Questionnaire consisted of eight parts: general village data, agriculture, occupation, infrastructure and transportation, education, environmental problems, communication, health and sanitation, and public health services.

The Household Data Questionnaire consisted of five sections: basic data on the household's occupants, household characteristics, land use and agricultural products, assistance from household residents, and mortality.

The Individual Questionnaire was used for respondents aged 15 and over. It consisted of eight sections: personal data, occupation and income, migration, health and sanitation, childbearing, contraception, marriage, and women's roles in community development.

Questionnaire Pretesting

All three questionnaires were pretested in Kanchanaburi villages that were located outside of the study area. Three rounds of pretesting were undertaken as follows: Round 1: 17th – 18th February 2000 in one village, Round 2: 25th – 27th April 2000 in one village, and Round 3: 28th June 2000 in three villages. Before and after each pretest round, a meeting was held among the research working group in order to obtain suggestions and recommendations for questionnaire revision. At the same time, a manual for collecting data for all of the questionnaires was prepared. Thereafter, data collection started on 1st July 2000 and ended on 15th August 2000 (46 days in total).

Data Collection Team

Ten teams were responsible for collecting the data. Each team consisted of one field supervisor and 6-10 interviewers, depending upon the number of villages and area to be covered. Each team arrived in the first village on 30th June 2000 and began data collection on 1st July 2000.

The process of training field supervisors was divided into two steps. The first step entailed recruiting and training field supervisors by mapping sample villages and listing households over a 10-day period. In the second step, and after recruiting interviewers with the participation of field supervisors, the interviewers were trained on how to introduce themselves as well as how to use the questionnaires.

Data Collection

Village Mapping

Village mapping was conducted under the responsibility of field supervisors. Each village was mapped with the assistance of the village headman or other community leaders. The village boundaries were identified and a map was sketched covering details of roads in and out of the village, railways and waterways (rivers, canals, reservoirs). Also noted were the positions of key village centers (e.g., temple, school, health centre, shops, headman's house). Each household was allocated a number and the name of the household head was noted. Notations were also made concerning what households might be difficult to interview.

Listing

Households and their members were then listed with the assistance of the village headman. Thereafter, this list was updated through interviews with the household heads, with special attention being given to confirming for each household how many people aged 15 and over resided in a household.

Data Collection Process

Village Questionnaire. Field supervisors obtained village data through group interviews with village headmen, village committee members, members of Tambol (subdistrict) Administrative Organisations, monks, teachers or women's group members. They began by introducing the background of the Kanchanaburi project and asking for their consent.

Household Data Questionnaire and Individual Questionnaire. Interviewers obtained household data by interviewing household heads, and individual data by interviewing individuals aged 15 and over. They began by providing respondents with background information about the Kanchanaburi project, why their information was important, and asking them for their consent. Field supervisors assisted interviewers in explaining the objectives of the Kanchanaburi project. Each household was visited at least three times in the process of collecting the data. After visiting three times, and if consent could not be obtained for the interviews, the household was recorded as a non-response.

Response Rate and Timing of Interview

A community census approach was employed in collecting data from both the households and individuals (persons aged 15 years and over). The first step was for the supervisor to obtain the number of eligible households from the headman. This was used as the target number of households to be interviewed. Once a household was interviewed, the number of eligible respondents was identified. These respondents were then interviewed.

Interviewers were instructed to make at least three attempts at interviewing before abandoning the household and individual. The number of eligible respondents not interviewed included those who could not be located after three attempts and those who declined to be interviewed. Interviewers were instructed to report to their supervisor all instances where a request for an interview was declined. The supervisor would then visit the household to explain the aims of the project in order to persuade the household to agree to be interviewed. Sometimes such a visit would include the headman. This approach lowered the non-response rate.

Interviewers recorded the reason for non-response and this information was used to analyse the response interview rate. There were 11,758 eligible households in the sampled communities, and of these 11,612 were interviewed. This results in a response rate of 99 percent. From the households interviewed, there were 29,828 eligible individuals, of whom 27,902 cases were interviewed. Therefore the response rate for individuals is 94 percent (see Table A2.1 in the Appendix).

Reasons most frequently cited for non-response among households were refusal to be interviewed (33 percent), not available (32 percent), and busy working (24 percent). Likewise, refuse to be interviewed (18 percent), not available (24 percent), busy working (28 percent), and sick/old/handicapped (27 percent) were the most frequently cited reasons among individuals who could not be interviewed (see Table A2.2 in the Appendix).

The time spent for household interviews ranged from three minutes to one and one-half hours with the amount of time depending upon the difficulty of the interview. The amount of time required varied by the number of residents in the household. The time required for interviewing was also longer when the respondent was not the head of the household. The average time spent on a household interview was 15 minutes.

Variation in the time required for individual interviews was a result of differences among respondents in their characteristics. Interviewees who changed jobs often or changed place of residence many times in the last 12 months required a longer interview time than those who worked in only one place or who did not move. Time of interview was also longer for married women of reproductive age who had many children. Men and women in non-reproductive ages, or married women of reproductive age with no children, were generally interviewed in a short period

of time. The interview time for individuals ranged from two minutes to one hour and 51 minutes, with an average of 12 minutes.

Data Quality

In order to evaluate the quality of data, the opinions of interviewers were recorded at the end of each household and individual interview. These opinions included interview setting, presence of a third person or persons, interview involvement of the third person, co-operation and reaction of interviewee, and interviewer's view of the overall quality of data (see details in Appendix).

Overall, opinions were similar for both questionnaires (same set of questions). Three out of four interviewers thought that the quality of data was good in general, with 17 percent reporting very good quality. Only six percent of interviewers thought the data were of average quality and less than one percent stated that they obtained poor quality data

About one-half thought that the setting for the interview was private and quiet (50 percent for household interviews and 49 percent of individual interviews). A noisy, but private setting, was reported for a further 44 percent of household interviews and 46 percent of individual interviews. Only in five percent of interviews with households and individuals did the interviewers report that the setting was not private and that this affected the interview. However, less than one percent reported that they had to stop the interview due to the setting.

Having a third party present during the interview was common. Only 42 percent of interviews were completed in the absence of a third party (see Table A2.3 in Appendix). However, that person(s) were mainly other household members (74 percent for household and 81 percent for individual interviews). Others present

included neighbours and friends. The presence of neighbours was more likely to occur for the household interview than for the individual interview (31 percent versus 25 percent). In approximately 8 percent of household and individual interviews friends were present.

In the majority of cases the third party only listened to the interview (44 percent in household and 52 percent in individual interviews). Moreover, those who spoke during the interview usually did so on only a few occasions (see Table A2.3 in Appendix).

Almost all of respondents provided good to excellent co-operation. In less than one percent of interviews was it reported that co-operation was poor, while in five percent of interviews the interviewer reported moderate co-operation. Three-fourths stated that there was good co-operation and 22 percent stated excellent co-operation. These opinions were similar for both household and individual interviews (see Table A2.3 in Appendix).

Although it was reported that 70 percent of respondents were neutral about the interview, almost 30 percent were reported to have enjoyed the interview. Only one percent were reported to be unhappy about the interview. The most sensitive topics in the individual questionnaire related to contraceptive use (111 respondents were reported to be not happy about being asked questions in this area). Twenty respondents were stated to be unhappy about questions in the household questionnaire related to debt.

Several additional steps were undertaken to maintain quality control of the data obtained from the interviews and questionnaires. Every evening questionnaires were checked for consistency and completeness. If information was missing or

incorrect, it would be collected the next day. Further, researchers of the Kanchanaburi project visited each team and randomly checked the data and questionnaires, provided any supervision needed, and answered any unclear questions about the questionnaires. This was also done to make sure that all 10 teams were working at the same speed and in the same direction. In addition, after the questionnaires were checked in the field, they were sent to the project office and checked again before coding and processing. After 15th August 2000, 22 persons were recruited from the field supervisors and interviewers to assist in coding and data processing. The process of coding and data processing took about five months to complete. The processed data were then rechecked once again before being sent to respective researchers in charge of analysing specific research topics. These researchers also checked the data in order to uncover any mistakes prior to writing their reports.

In conclusion, it could be said that the quality of data was good to very good. This is due, in part, to three pre-tests of the questionnaire. The lengthy recruitment process, as well as detailed training sessions for supervisors and interviewers, were other reasons contributing to good data quality.

3. Village Data

The purpose of collecting community data in the baseline survey is to provide a baseline to evaluate future change at the community level. The field site population consists of 100 communities, 14 of which are located in urban areas and 86 in rural areas. Every household in the urban communities and rural villages were enumerated in the baseline survey. This chapter presents data from the 86 rural villages collected by group interviews with key informants of the study villages e.g. village headmen, assistant headmen, and senior villagers.

The results of village data are presented in 8 sections.

Section 1:	General Information
Section 2:	Agriculture
Section 3:	Occupation
Section 4:	Public Facilities and Transportation
Section 5:	Education
Section 6:	Environmental Problems
Section 7:	Communication
Section 8:	Health Status and Health Service

General Information

Among the 86 study villages, approximately one-half were established by migrants from elsewhere in Kanchanaburi. In the upland strata of 20 villages, 16 villages were set up by migrants from Kanchanaburi. One-half of villages in the

plantation area were settled by persons from Kanchanaburi, while in the remainder, settlers came from neighboring provinces such as Racthaburi, Supanburi and Nakhonpathom. Some key informants especially those from semi-urban and mixed economy areas, had no information about the history of settlement of their villages.

Table 3.1 Number of villages by place of origin of settlers and by strata

Place of Origin	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Within Kanchanaburi	1	11	8	16	6
Other provinces	1	5	7	1	5
Foreign country	1	0	0	0	0
Do not know	3	4	5	3	9
No. of villages	6	20	20	20	20

In upland villages the average number of households per village (136) was higher than in other areas. This was followed by an average of 119 household in semi-urban villages, 114 households in mixed economy area villages, and 101 households in rice-growing villages.

Data on average population per village show that in the semi-urban strata there are 756 people per village, while there are 556 people per village in upland villages, 576 in mixed economy, 496 in rice growing villages and 476 in plantation villages.

Table 3.2 Average number of households and population per village by strata

	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Average household	119.8	101.6	111.9	136.0	114.8
Average population	756.2	494.8	476.5	556.8	576.0

Agriculture

Most of the study villages are in rural areas. Data in Table 3.3 show that the average size of land for agriculture per village varies from 2,200 – 4,500 rai. The villages in the plantation strata have more land for cultivation: 4,521 rai per village on average. While in mixed economy study area there are 2,282 rai of agricultural land available (1 rai = 0.4 acre).

Table 3.3 Land used for agriculture by strata

Amount of Land	Semi-urban	Rice	Plantation	Upland	Mixed Economy
less than 1000 rai	3	2	1	0	3
1000-2999 rai	2	11	10	13	10
3000-5999 rai	0	5	5	2	7
6000+ rai	1	1	4	3	0
No. of villages	6	19	20	18	20
Average/(rai*)	3395.3	2889.7	4521.6	333.1	2282.1

* 1 Rai = 0.4 Acre

Consistent with the criteria for selection of study villages, it is found that in the rice growing strata, rice growing is the main occupation of most villagers and in the plantation strata most people grow cash crops. In the mixed economy and upland stratas those people involved in agriculture mainly grow cash crops Among the six villages in the semi-urban area, those working in agriculture in three villages mainly grow rice, in two villages cash crops, and in the other, vegetables.

Table 3.4 Number of villages by most commonly cultivated crop and strata

Crops	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Rice	3	15	2	6	3
Cash crop	2	5	18	12	15
Vegetable	1	0	0	0	1
Fruit	0	0	0	2	0
No. of villages	6	20	20	20	19

Among the rice growing villages, households can cultivate two crops per year in about one-half of the villages and one crop in the other half. In other areas, most villages can only cultivate one crop per year. The exception is one village in the mixed economy area that can cultivate three crops per year. The average productivity in villages in the rice growing strata is 412 kilograms per rai, a level that is lower than in mixed economy and semi-urban villages. It may be that productivity in the second cropping is much less than for the first cropping.

About 72 per cent of all villages spent money for fertilizer in the last year. Villages in the plantation area spent the least. Households in semi-urban area paid 633 Baht per rai for fertilizer and in rice villages households paid, on

average, 558 Baht per rai for rice fertilizer. Farmers also have to pay for insecticide and herbicide. On average, villagers in upland paid 650 Baht per rai while villagers in the plantation strata paid only 21.50 Baht per rai.

Among cash crops, the most common crops are sugar cane, corn, cassava, chili, and bean. In plantation villages, sugar cane is the most common crop, followed by cassava and corn. In upland villages, corn is more common than beans, chili and cassava.

The cost of fertilizer for crops varies by area. In plantation villages, on average households paid 308 Baht per rai, while households in upland villages paid 322 Baht per rai and in rice growing villages people paid 485 Baht. In the mixed economy strata villagers paid the most (559 Baht per rai). The average cost per villager for chemical herbicide and insecticide used for growing cash crops are: 200 Baht per rai in semi-urban areas, 275 Baht in plantation areas, 313 Baht in rice growing areas, 315 Baht in upland villages and 341 Baht per rai in the mixed economy strata.

During the previous dry season, some villages were able to cultivate crops. Most grew watermelon, cucumber, corn and lettuce. It was found that two villages in the mixed economy area had high income from selling dry season crops (27,500 Baht per rai). Eleven villages in rice growing areas could earn an average of 10,413 Baht per rai. Three villages in the plantation area earned 6,933 Baht while one village in the semi-urban area received 4,000 Baht. The villages in upland areas received the least for selling dry season crops (1,250 Baht).

Occupation

In addition to agriculture, some villagers earn their living by working outside of their villages. Village leaders, reported that there were groups of villagers who moved out last year. In one-half of rice growing and plantation villages people moved out to work in farms outside their villages. This type of movement was less common in villages in other areas, especially in semi-urban and mixed economy villages. Most movers found work in Kanchanaburi. One-fourth worked within their district. Duration of work outside of their village was not specified.

The type of agricultural labour most of the migrants engaged in were rice growing, crop planting, grass weeding, push cart driving, poultry farming etc.

Table 3.5 Number of villages where people move out to work (move : not move)

Crops	Semi-urban	Rice	Plantation	Upland	Mixed Economy
for agriculture	1 : 5	9 : 11	10 : 10	6 : 14	4 : 16
for non-agriculture	4 : 2	12 : 8	14 : 6	13 : 7	13 : 7
No. of villages	6	20	20	20	20

Migrants also engaged in non-agricultural employment. In about 65 per cent of all study villages residents went out to work in non-agricultural employment. In the plantation strata, 14 villages had people work outside the village, followed by 13 villages in the mixed economy area, and 13 villages in the uplands. The main destinations were within Kanchanaburi province and Bangkok. People in the

upland and mixed economy areas went to find work mainly in Bangkok. Most migrants worked in construction, as factory workers or jewelry workers. Only a few worked in the service sector.

In some villages people moved into the village for agricultural work. The villages in plantation and mixed economy areas had more outside labour than villages in other areas. About 22 percent of outside labour were from other areas of Kanchanaburi, the rest came from other provinces such as Chaiyaphum, Khonkaen and the neighboring country of Myanmar. The villages in plantation areas received most outside labour, followed by mixed economy villages. Only 13 per cent of all study villages had outside workers who did non-agricultural jobs, including four out of the 20 villages in the upland strata and three of the 20 villages in the mixed economy area. Most employees were residents of Kanchanaburi. They worked mainly as craftsmen and weavers.

Public Facilities and Transportation

Of 86 villages, only four villages, all in the upland area, did not yet have electricity, and three villages were connected to electricity within the last five years. Most villages had been connected to electricity for between 10 and 19 years (see Table 3.6).

In general, villages obtain electricity earlier than a water supply system. From the survey, it is found that there are still 10 villages without piped water, i.e. six villages in the plantation area, three villages in the rice area and one village in the mixed economy strata.

As mentioned earlier, water supply typically is available in a village later than electricity. More than 10 years before the survey there was a water supply system in 11 villages of the uplands area, while only nine villages in the rice-growing area had a water supply 10 years before the survey. The villages that received water supply most recently are primarily in the mixed economy area.

Table 3.6 Number of villages with electricity and water supply by strata and duration

Duration	Semi-urban		Rice		Plantation		Upland		Mixed economy	
	electricity	water supply	electricity	water supply	electricity	water supply	electricity	water supply	electricity	water supply
Less than 5 years	0	4	0	3	1	2	1	3	1	12
5-9 years	0	2	1	5	3	11	3	6	1	7
10-19 years	2	0	8	7	15	1	7	7	8	0
20 years and over	4	0	11	2	1	0	4	4	8	0
No. of villages	6	6	20	17	20	14	15	20	20*	19
Longest duration of use	31	7	30	26	24	10	28	24	37	9
Shortest duration of use	15	1	6	1	2	1	4	1	2	1

* N.A. for 2 villages

Except for running water, the villagers have to use other sources of water. For drinking water villagers in every area mentioned rainwater as their main source. The exception was people in semi-urban areas where more indicated that they buy bottled water for drinking.

Piped water for drinking was used by most people in semi-urban areas and about half of the people in mixed economy area. The other sources of drinking water are from digging ponds and shallow ponds.

Table 3.7 Number of villages and source of drinking water (more than one source) by strata

Water Source	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Rain	3	9	20	20	16
Water supply	4	6	3	4	9
Natural source	0	2	0	4	1
Shallow pond	0	4	3	1	0
Digging pond	4	1	3	3	4
Bottled water	5	5	4	1	6

About one-half of surveyed villages have public telephones. The level is especially high in the mixed economy areas, followed by upland villages, rice growing, semi-urban and plantation villages, respectively (see Table 3.8).

It was observed that some public telephone booths are out of order, including more than half in upland villages. In mixed economy areas, about one fourth of public telephone booths are broken. In total, about 30 per cent of all public telephones cannot be used.

In addition to public telephones, some villages have residents with home telephones, i.e. 36 out of 86 villages. There are more home telephones in semi-urban areas (five in six villages), followed by mixed economy villages, upland villages, rice growing and plantation villages, respectively (Table 3.8).

Mobile or cellular phones are very popular, about three-fourths of all villages have people who have cellular phones. They are most likely to be used in the mixed economy strata (18 villages), 17 villages in the rice strata, five villages in the semi-urban strata, 14 villages in the plantation strata and 10 villages in the upland strata.

About two-thirds of surveyed villages have public address systems (or a village broadcasting post). This system is found most often in upland strata (14 villages), followed by rice-growing strata (13 villages), mixed economy villages and plantation villages (12 villages each) and four villages (out of six) in semi-urban strata.

Table 3.8 Number of villages where public facilities are available by strata

Available Public Facilities	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Public telephone booth	2	8	6	14	15
Working public telephone	1	7	6	6	11
Cellular phone	5	17	14	10	18
Public address system	4	13	12	14	12
2-way radio	4	14	16	16	17
Internet connection	1	2	0	1	2
Temple in village	0	11	13	18	8
No. of villages	6	20	20	20	20

According to key informants, 78 per cent of all villages have 2-way radios for communication. This system is available in 17 mixed economy strata villages, 16 villages each in the plantation and upland strata, 14 in the rice growing strata and four out of six in the semi-urban strata. The internet as a means of communication

is found in only six villages, two in the mixed economy strata, two in rice growing and one each in semi-urban and upland strata.

Of the 86 villages, 50 villages have temples of their own. In upland area, there are 18 villages with temples, 15 villages in plantation strata, 11 villages in rice growing strata, eight in mixed economy strata and none in semi-urban strata. In seven upland villages there is more than one temple.

People in study villages use roads as their main routes for transportation. Nevertheless, half of roads connecting villages are laterite or soil or a mix of laterite and asphalt. The better roads are asphalted, or a mix of asphalt and paved with concrete. This later type of road was found in six villages of the semi-urban strata, eight villages of the uplands, seven villages in the rice strata, and four villages in the plantation strata. Concrete roads are found in three villages in the rice growing strata and two villages of the mixed economy strata.

The roads from villages to the district center are better than roads between villages. About 80 per cent are asphalted, or asphalted and concreted. These types of road are found in 17 villages of the rice growing strata, 17 villages in the mixed economy strata, 15 . 15 vi in the plantation strata and 11 villages in the upland strata.

Table 3.9 Number of villages where buses pass by and type of roads within villages and to district by strata

Type of roads	Semi-urban		Rice		Plantation		Upland		Mixed economy	
	within villages	between district	within villages	between district	within villages	between district	within villages	between district	within villages	between district
Soil/laterite and asphalt	1	0	10	2	16	4	12	6	9	3
Asphalt/asphalt and concret	4	6	7	17	4	15	8	11	9	17
Concrete	0	0	3	1	0	1	0	0	2	0
Bus route	2		6		12		14		6	
No. of villages	6	6	20	20	20	20	20	20	20	20

Travel out of the village to the district town is difficult in some months because of flooding. This occurred in 28 per cent of all villages in the last year, being most common for villages in the plantation strata (nine villages), six villages in the mixed economy strata, five villages in the uplands, four villages in the rice growing strata, and no village in the semi-urban strata. Two years before the survey, 29 per cent of all villages experienced flooding. Duration of flooding is typically between two and three months and is most common from October to December.

The distance from study villages to the district town varied from 1 km. to 120 km. The furthest villages (more than 30 km.) are 10 villages in the upland strata, five villages in the plantation strata, and four villages in the mixed economy strata.

The nearer villages (not further than 10 km.) are 12 rice growing villages, 8 mixed economy villages, and 5 semi-urban villages.

About a half of villages have access to public buses. This includes 14 upland villages and 12 plantation villages. About one-third of villages, mostly in upland and plantation strata, have buses that come once a day. In some villages the frequency of bus travel is two to five times a day. These villages include upland villages, plantation villages, and semi-urban villages. The most frequent schedule (more than 6-10 times a day) is found in upland strata (in 14 villages).

For villages not on a bus route, in about one-half of villages travel distance from the village to the road where buses pass in within 2 km. The six most remote villages (more than 10 km from bus route) are spread over all strata, and in the three villages more than 20 kilometers from a bus route, two are in the mixed economy strata and one village is in the upland strata.

Education

Of the 86 villages, about 56 per cent contain schools (six upland villages, 13 plantation villages, nine mixed economy villages, eight villages in rice-growing strata and two villages in the semi-urban strata). Of the 56 schools, 18 had been established for more than 30 years. The oldest school was founded in 1933. Four of the schools had been established in the last 10 years, three in upland strata and one in the rice-growing strata. Most upland villages have schools.

A kindergarten or nursery was found in only six villages (five in upland strata). There are 41 primary schools, located in all strata. Eight secondary schools are

distributed among four upland villages, two villages of the plantation strata and two in the rice strata.

In addition to attending village schools, children in all except six upland villages, attend school in other places. These schools are located in the same tambon (sub-district) (about 41 percent), in a different tambon (18 percent) and in a sub-district town (20 per cent). Children from a few villages go to school outside Kanchanaburi., mostly in Suphanburi, Ratchaburi and Nakhonpathom.

On average, the number of kindergarten students is 27 per village. Average number of primary school students is 105 per village and 12 secondary students per village.

Environmental Problems

Environmental problems caused by the use of chemical fertilizers, which can damage the ground and reduce soil quality, were reported by village leaders in 21 per cent of all study villages, six of which were in the mixed economy strata, five in rice growing strata and four plantation strata villages. About 15 per cent of survey villages have problems resulting from the use of insecticides. These problems included chemicals polluting the water source so that fish, rice and vegetables are killed. Contaminated water also affects people's health and destroys soil quality. These problems affected six upland villages, three rice growing villages, three mixed economy villages and one plantation village. Semi-urban villages did not report this problem, possibly because most villagers work outside the village.

Herbicide problems were reported for six per cent of villages. The problems included damaged vegetables, polluted water and destruction to soil. The

problems were reported in eight upland villages, seven mixed economy villages, four rice-growing villages and three plantation villages.

Seven villages reported problems related to polluted water from factories. These problems include bad smell, fish being killed and water used for cultivation being polluted. Four villages, two in upland strata, also reported problems of polluted water.

Other environmental problems were reported in about 37 per cent of all villages. These problems included wastewater, dust, forest destruction, and animal problems. These problems were reported in 13 upland villages, six plantation villages, five rice growing villages, five mixed economy villages and three semi-urban villages.

Table 3.10 Number of villages with environmental problems by strata (more than one answer possible)

Causes	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Chemical fertilizer					
Infertile soil	0	2	0	1	1
Hard soil	1	5	3	1	3
Acid soil	1	2	2	0	4
Compacted soil	0	2	1	0	2
Deteriorated soil	1	3	3	1	4

Table 3.10 Continued.

Causes	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Insecticide					
kills plants/fish	0	3	0	3	0
allergic	1	1	0	1	1
health effect	0	2	0	3	1
Soil decay	0	1	2	0	4
Herbicide or pesticide					
destroys vegetables	0	2	0	2	5
hard soil	0	1	2	3	3
soil erosion	0	0	2	1	4
Pollutes water	0	1	1	2	1
Water pollution from industrial factory	1	0	0	2	4

Communications

Kanchanaburi shares a long border with Myanmar and many migrants come from that country. However, the most common language spoken is Central Thai. Other spoken languages are Northeastern Thai, Mon, Lao Sung/Lao Puan, Karen, Chinese, Vietnamese, Kamu, Shan etc. The most common language used in daily life is Thai (91 per cent of villages). Karen is the main language used in five upland villages.

Health Status and Health Services

Only one village, located in the uplands, was the location of a community hospital. Two-thirds of all villages have community health centers. These villages were mostly located in the upland, plantation and mixed economy stratas. More than half of study villages have a primary health care center. These centers are found mostly in villages in the rice growing, plantation and mixed economy strata.

Three villages, two in the upland strata and one in the mixed economy strata, contain malaria units. However, malaria volunteers are available in one-fourth of villages, while village health volunteers are found in every village. The average number of village health volunteers is greatest in upland villages, followed by mixed economy, plantation, and rice growing villages respectively.

Drug cooperatives or drug funds are available in one-third of all villages. They are least common in semi-urban upland villages. For self care, people can buy medicine from grocery stores in every village, although these are most likely to be found in upland and mixed economy strata.

Although modern medicine is accessible in every community, some villages still use traditional doctors and injection doctors although their use is rare (only nine upland villages, four rice growing villages, and two other villages). Trained midwives are found in eight villages (fou. lages (four . two rice growing, one plantation and one mixed economy village). Untrained midwives were also reported in seven upland villages.

As mentioned by village leaders, the disease most common in villages is the cold Malaria is found in nearly every upland village. Hemorrhagic fever is also found in three upland villages. Four rice-growing villages report body pain as a common disease. Only one village (in the upland area) mentioned elephantiasis as their main disease.

Table 3.11 Number of villages with health services by strata

Available Health Services	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Health center	3	7	4	7	6
Primary health care center	4	13	13	7	11
Malaria center	0	0	0	2	1
Drug fund	2	7	8	4	7
Untrained midwifery	0	2	3	11	1
Trained midwifery	0	2	1	4	1
Traditional doctor	2	4	2	9	2
Grocery store	6	16	15	19	19

Table 3.12 Number of villages with common diseases/illnesses (more than 1 answer by strata)

Diseases / Illnesses	Semi-urban	Rice	Plantation	Upland	Mixed Economy
Colds	0	11	12	6	7
Malaria	0	0	2	17	5
Hemorrhagic fever	1	0	1	3	0
Blood pressure	1	2	0	0	1
Diabetes	1	2	0	0	1
Pain	0	4	0	0	0
Pink eyes	0	0	0	2	0
Elephantiasis	0	0	0	1	0

Postscript

Data presented in this chapter are only a part of what is available. In addition, some community leaders could not provide exact figures or some specific information. It is recommended that other sources of information other than community leaders be used in the future.

4. General Characteristics of the Population

Population

The population living in the field site communities consisted of 11,612 households, with 42,614 household members of whom 20,426 were males and 22,188 were females (see Table 4.1). Twenty-five percent of the population lives in the upland strata and 20 per cent each in the urban/semi-urban and mixed economy strata. Approximately 17 and 16 percent of population live in the rice, and plantation strata respectively (see Figure 4.1).

Table 4.1 Population by sex by strata

Strata	Male	Female	Total	Household
Urban/semi-urban	4,257	4,941	9,198	2,580
Rice	3,371	3,825	7,196	1,888
Plantation	3,256	3,450	6,706	1,845
Upland	5,454	5,414	10,868	2,939
Mixed economy	4,088	4,558	8,646	2,360

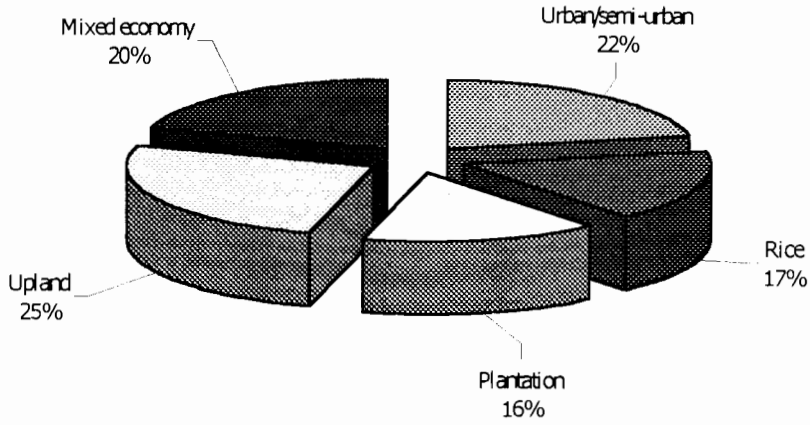

Figure 4.1 Population distribution by strata

Sex Ratios

The sex ratio is defined as the number of males per 100 females. Overall, there are more females than males in every study area, except for the uplands, where there is almost equal number of males and females.

In the urban/semi-urban strata, there are more males than female in the youngest age group (0-14), and age group 85-89. In the rice strata, there are more females than male in every age group, except for age groups 15-19, 70-74 and 95-99 years. In the plantation strata, there are more boys than girls (age 0-9), and more males than females in the age group, 45-49, and in the older age groups, 60-69 and 100+. There are more females than males in the labour force ages, 20-39, 50-54, and in the old age, 65-69 and 75-94 in the upland strata. This suggests that in the upland area, females trend to live longer than males. In the mixed economy strata, there are more males than females in age groups 35-39, 55-59, and 85-89. There are similar numbers of males and females in the old age groups, 80-84 and 95-99 (see Table 4.2).

Table 4.2 Sex ratio by age and strata

Age	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
0-4	115.1	92.3	113.6	103.2	99.2
5-9	100.5	94.3	114.0	112.6	99.0
10-14	116.6	96.3	97.4	101.8	99.0
15-19	85.5	122.2	98.4	103.1	82.9
20-24	75.4	88.9	77.4	82.9	81.3
25-29	85.5	83.6	94.3	88.7	92.4
30-34	78.7	84.4	89.3	85.8	73.2
35-39	86.5	75.3	92.8	99.5	102.1
40-44	74.7	79.6	90.4	100.3	80.3
45-49	81.6	83.3	101.7	113.2	76.9
50-54	73.9	82.9	79.6	92.5	99.6
55-59	81.8	69.0	77.6	106.2	108.0
60-64	72.6	86.7	104.5	110.9	76.9
65-69	68.3	90.1	109.6	96.2	90.5
70-74	96.6	115.9	65.0	119.7	83.3
75-79	39.1	76.4	60.5	96.6	73.2
80-84	81.8	57.5	55.0	70.6	100.0
90-94	37.5	44.4	33.3	66.7	50.0
95-99	0.0	200.0	0.0	-	100.0
100+	-	-	100.0	-	-
Total	**86.2**	**88.1**	**94.4**	**100.7**	**89.8**

Age Structure

Population pyramids of the five strata of this study (see Figures 4.2 to 4.6) suggest that in general the upland area has a "young" population, while urban/semi-urban, rice, and mixed economy strata trend to have an "older" population. The upland's pyramid shows the widest base of population in ages 0-4, and 5-9. This indicates high fertility of the upland population, and possibly low fertility combined with migration at labour force ages of urban/semi-urban, rice and mixed economy strata populations. The result is that the median age of the urban/semi-urban population is the highest at 30 years, while the median age of the upland population is the lowest at 25 years. The median age of population in the rice and mixed economy strata is 29 years, and the median age is 28 for the plantation area.

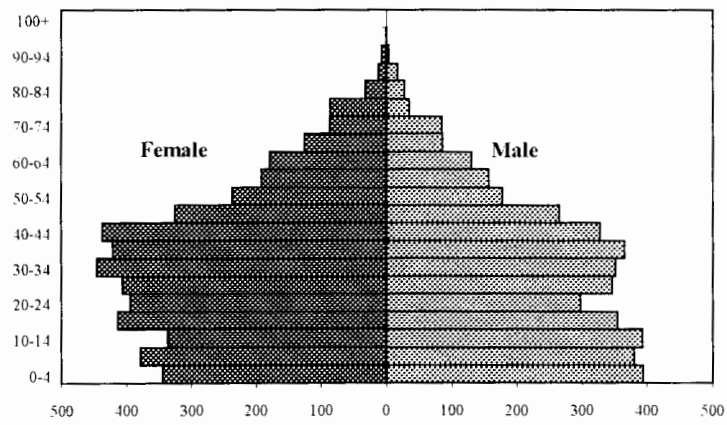

Figure 4.2 Population pyramid: urban/semi-urban

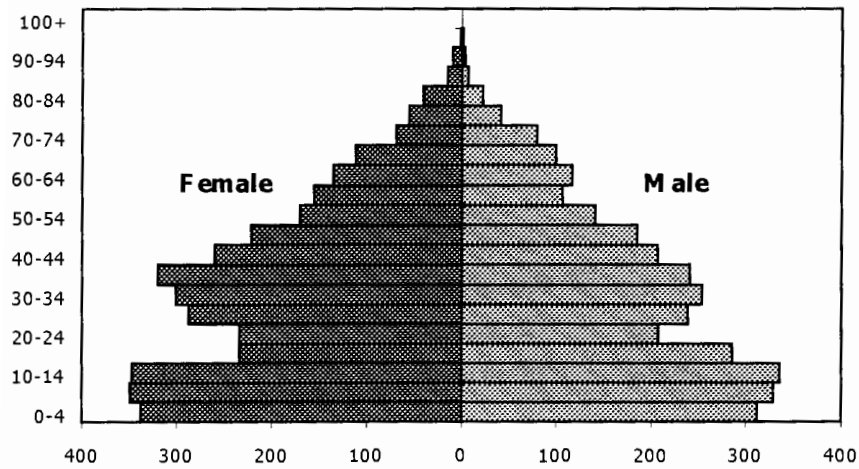

Figure 4.3 Population pyramid: rice

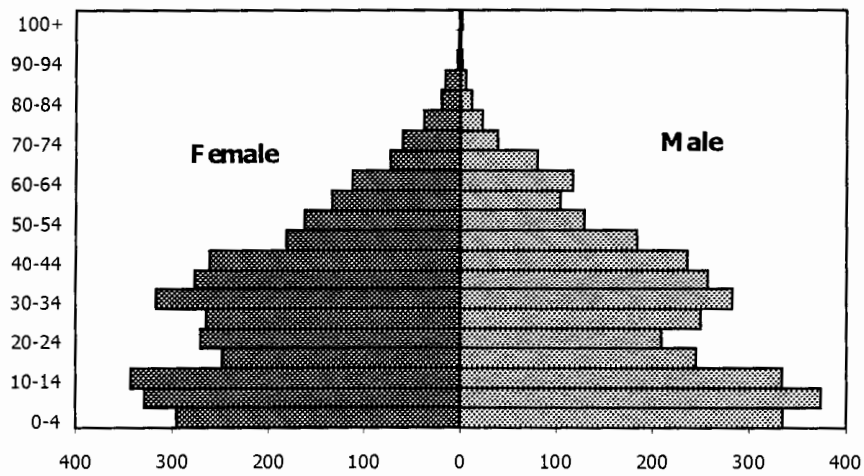

Figure 4.4 Population pyramid: plantation

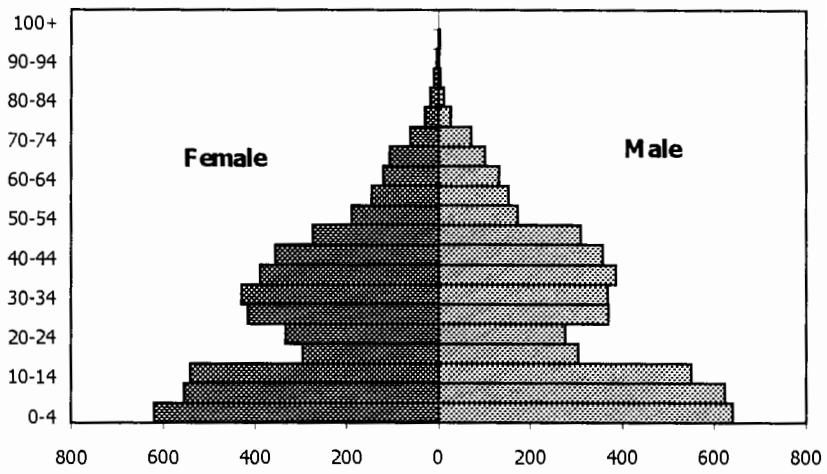

Figure 4.5 Population pyramid: upland

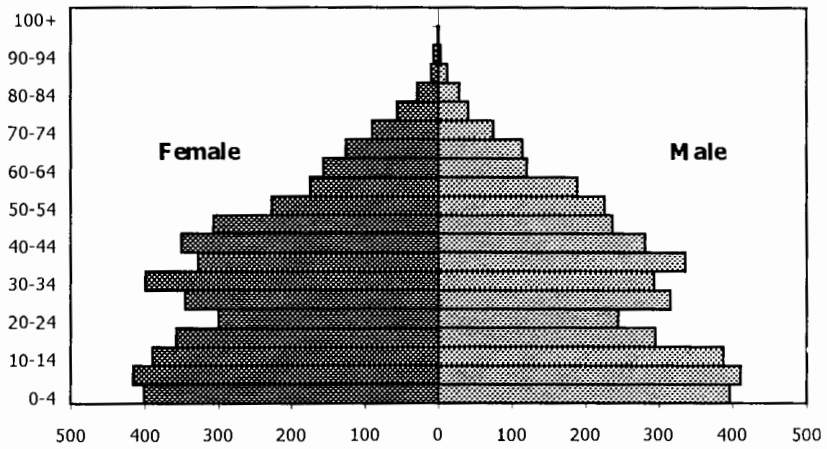

Figure 4.6 Population pyramid: mixed economy

It is obvious that migration plays an important role in the age structure of the population in the urban/semi-urban and upland strata. The age structures suggest high in-migration in the urban/semi-urban area, and high out-migration of the population in labour force ages in the upland strata. This is indicated by the irregular shape of the pyramids, especially in the age group 15-44 in the urban/semi-urban, and in the age group 15-29 in the upland strata. Migration also effects the age structure of the population in the rice, plantation and mixed economy strata, with significant out-migration of young adults aged 15 to 24 from these areas.

Dependency Ratios

The age structure of the strata are compared in terms of three broad age groups, which identify the population below labour force ages (below age 15), persons in the working ages (15-59), and persons above the working ages (60 and above). Table 4.3 shows that the urban/semi-urban strata has the lowest percentage of children (25 percent), while the uplands has the highest percent (36 percent). In contrast, the urban/semi-urban strata has the highest percentage of its population in the labour force ages (65 percent), while the uplands has the lowest (57 percent). The rice strata has the highest percentage of population age 60 and above, 12 percent, while the uplands has the lowest (7 percent).

Table 4.3 Percentage distribution of population by age group and strata

Strata	0-14	15-59	60+
Urban/semi-urban	24.6	65.3	10.1
Rice	29.3	59.0	11.8
Plantation	30.3	60.6	9.1
Upland	36.2	56.6	7.2
Mixed economy	28.3	61.4	10.3

It is clear that the uplands has to bear a greater dependency burden of children, with its young dependency ratio at 64, and a total dependency ratio of 77. The rice strata has the highest old dependency ratio, with 100 persons in the labour force ages to every 20 persons aged 60 and above. The total dependency ratio in urban/semi-urban is the lowest at 53. This is due to the large proportion of the population in the labour force ages, and the smallest proportion of children aged under 15 (see Table 4.4 and Figure 4.7).

Table 4.4 Total dependency ratio, young dependency ratio and old dependency ratio by strata

Strata	Total Dependency Ratio	Young Dependency Ratio	Old Dependency Ratio
Urban/semi-urban	53.1	37.6	15.5
Rice	69.6	49.6	20.0
Plantation	65.1	50.1	15.0
Upland	76.6	64.0	12.6
Mixed economy	62.8	46.1	16.7

Conclusion

It is interesting that in all except the upland strata, there are more females than males, especially in the labour force ages. Overall, there are more female than male elderly in the field site population. The uplands has the highest levels of dependency while the urban/semi-urban strata has the lowest levels. These may be results of differences in migration, fertility or mortality. This needs to be taken into account in social and economic planning within the province.

5. Occupation

There was substantial variation in the occupational composition of the five strata included in the field site (see Table 5.1). Agriculture was the main economic activity of both males and females aged 15 and above. For both sexes the percent engaged in agriculture was highest in the plantation strata and lowest in the urban/semi-urban strata. In the latter strata, only 13.1 percent of males and 12.5 percent of females reported agriculture as their main economic activity.

Table 5.1 Percentage distribution of main economic activity by strata and sex: population aged 15 and above

Occupation Sex	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Male					
Not in Labour Force	13.4	11.9	7.8	7.4	10.7
Professional	8.0	1.1	1.1	2.6	3.5
Administrative and clerical	5.1	1.0	1.6	4.7	4.8
Sales	15.5	3.1	2.8	2.9	5.2
Services	7.3	1.1	1.8	2.3	2.9
Agriculture	13.1	63.4	71.0	69.4	48.8
Transport and communication	6.3	2.2	2.3	1.9	4.4
Craft and labour	21.6	8.9	7.4	5.4	12.8
Other occupation	0.1	0.1	0.0	0.1	0.1
Student	9.5	7.1	4.1	3.3	6.7
Unknown	0.1	0.1	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0
N	3087	2366	2192	2414	2865

Table 5.1 Continued

Occupation Sex	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Female					
Not in Labour Force	26.5	20.6	20.5	29.0	22.9
Professional	9.9	1.5	1.1	2.7	2.1
Administrative and clerical	4.6	0.8	1.1	2.3	3.0
Sales	20.0	5.1	4.2	7.3	7.9
Services	6.0	0.9	1.9	1.5	2.7
Agriculture	12.5	55.2	61.1	51.8	44.1
Transport and communication	0.4	0.1	0.1	0.0	0.1
Craft and labour	10.3	8.8	5.4	2.1	9.6
Other occupation	0.1	0.0	0.0	0.0	0.0
Student	9.7	6.9	4.6	3.2	7.4
Unknown	0.1	0.0	0.0	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0
N	3871	2770	2474	3515	3317

Substantial proportions of the residents of the urban/semi-urban strata were engaged in professional, sales, and craft and labour occupations, with females more likely than males to report involvement in professional and sales occupations and males more likely to report that they worked in craft and labour occupations. A relatively high level of variation in economic activities can also be found in the mixed economy strata of villages, with relatively high proportions of men involved in craft and labour occupations and almost 18 percent of women reporting that they either worked in sales or in craft and labour occupations.

Economic activities for both males and females in the rice, plantation and upland strata were concentrated in agriculture.

For men the proportion not participating in the labour force was highest in the urban/semi-urban strata and for women was highest in the upland strata. The former finding can be related to higher proportions of older men in the urban/semi-urban strata, compared to other strata, not working. It is not clear why such high proportions of women in the upland strata were not working, but this may relate to difficulties of obtaining employment for women in this strata. As expected, the highest percent of the population aged 15 and over who were students was found for the urban/semi-urban strata, with 9.7 percent of females and 9.5 percent of males in this status.

6. Migration

Migration rates for the field site population can only be obtained from the household questionnaire. As the field site census in the first year enumerates those persons who are currently usual residents of the household it is only possible to obtain information on in-migration. The substantial amount of out-migration, both short and long-term, that probably exists in this population is not recorded. However, in year II and subsequent years, information on out-migration will be available through updating of the household rosters.

The proportion of the population of the field site that had moved into their current households of residence in the 12 months before the village census was highest for the urban/semi-urban strata, where 7.4 percent of residents were recent in-migrants (see Figure 6.1). In contrast, only 2.4 percent of residents of the rice strata were recent in-migrants. The high levels of mobility into the areas that comprise the urban/semi-urban strata indicate the economic vitality of these areas and their ability to attract migrants.

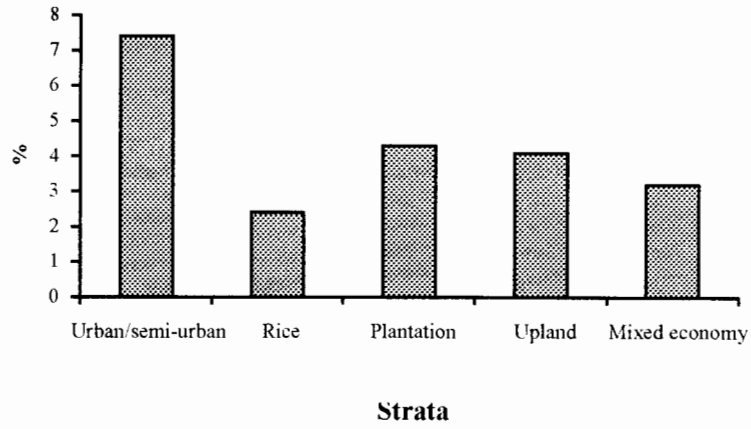

Figure 6.1 Percent of population who migrated into their current household of residence in previous 12 months

Persons migrating into households in all strata of the field site were most likely to be young adults (see Table 6.1). The urban/semi-urban strata attracted more in-migrants, and the migrants who moved into these areas were younger and more likely to be male than were migrants who moved into other strata. For the age groups 15-19, 20-24 and 25-29, the percent of males who were in-migrants were 13.7, 14.2 and 15.9 respectively. For females, the respective percentages were 17.2, 21.8 and 11.2. Urban and semi-urban areas of Kanchanaburi provide study and employment opportunities for large numbers of young people, especially young females.

At the other extreme, rice strata villages attracted relatively few migrants, and movement into households in these areas is probably more likely to be related to marriage rather than employment. There were moderate levels of movement into the plantation and uplands strata. It is likely that a significant proportion of this movement is associated with employment in plantation agriculture. It is also

likely, however, that much of the in-migration to these areas has not been measured in the household census because the movement is temporary, for example, cane cutting from December to March. This type of migration will be recorded in subsequent years.

Most of the in-migration that occurred in the field site over the 12 months before the census occurred over short distances. Over one-half of the in-migrants from four of the five strata came from other areas within Kanchanaburi (see Table 6.2). Almost two-thirds of in-migrants into the urban/semi-urban strata came from other places in Kanchanaburi, suggesting that these communities are valuable sources of employment for residents of the province. The one strata where less than one-half of migrants did not come from other areas of Kanchanaburi was the plantation strata. Communities in this strata drew relatively large proportions of migrants from nearby provinces in the central region and from the more distant Northeastern region. Many of these migrants are probably seasonal migrants.

Apart from Kanchanaburi, the other main source areas for immigrants were Bangkok and other provinces in the Central region. The proportion of in-migrants who had previously lived in Bangkok was highest for the upland strata (13.4) and lowest for the urban-semi urban strata. Very small proportions of migrants came from the most distant regions – the North and South. It is also noteworthy that very few migrants were reported to have previously lived abroad, with only 3.9 of the upland migrants and 2.5 percent of the mixed economy strata migrants reporting a foreign country as their previous residence. All migrants who came from another country reported Myanmar as their country of last residence. It is also possible that a significant proportion of respondents who did not specify their place of origin came across the border from Myanmar.

Table 6.1 Percent in-migrants in 12 months before census by strata, sex and age

Age / Sex	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Male					
0-9	4.5	2.5	5.0	2.6	2.3
10-14	3.5	1.6	1.8	2.8	5.2
15-19	13.9	1.4	3.8	6.5	4.7
20-24	14.8	5.0	6.3	10.4	8.3
25-29	15.8	4.1	8.7	7.5	4.9
30-34	10.2	4.5	4.8	6.9	3.6
35-39	8.0	1.2	4.0	4.4	4.8
40-44	2.8	0.9	2.4	2.7	1.7
45-49	3.0	0.5	2.2	3.8	2.6
50-54	2.1	0.7	6.2	3.3	1.3
55-59	1.9	0.9	4.7	1.2	1.0
60 and above	1.8	0.2	1.8	2.0	1.0
Age unknown	4.5	5.6	0.0	14.3	0.0
Total	6.9	2.1	4.2	4.2	3.4
N	4249	3326	3251	5445	4071
Female					
0-9	5.4	3.4	4.0	2.5	2.8
10-14	6.8	2.6	3.0	3.0	1.8
15-19	17.6	3.3	6.4	9.7	5.5
20-24	21.3	9.0	11.1	8.8	5.2
25-29	11.5	6.4	9.2	5.4	4.8
30-34	8.3	2.2	3.8	4.2	3.8
35-39	4.5	1.0	2.2	2.5	3.8
40-44	4.5	0.7	4.2	5.3	2.8
45-49	2.6	0.8	1.6	2.2	1.9
50-54	3.7	0.5	0.6	1.4	0.8
55-59	2.6	1.8	0.7	2.4	1.1
60 and above	3.1	0.4	1.2	1.0	1.4
Age unknown	8.0	0.0	0.0	0.0	0.0
Total	7.7	2.6	4.2	3.8	3.0
N	4949	3834	3455	5423	4575

Table 6.2 Percentage distribution of previous place of residence of in-migrants by strata

Previous place of residence	Urban/ semi urban	Rice	Plantation	Upland	Mixed Economy
Kanchanaburi	63.9	59.4	38.1	52.1	52.0
Bangkok	7.9	12.9	10.7	13.4	8.4
Other central region	15.3	18.2	24.6	14 7	24.0
Northeast	3.1	2.4	14.2	3.7	2.9
North	1.6	0.6	9.3	8.3	2.5
South	2.2	0.0	1.4	0.5	1.8
Other countries	0.0	0.0	0.0	3.9	2.5
Not specified	5.9	6.5	1.8	3.5	5.8
Total	100.0	100.0	100.0	100.0	100.0
N	674	170	281	434	275

7. Land Use and Agricultural Production

Land is the primary household resource in all of the study communities, providing both a place to live and a means by which to earn a livelihood through agricultural production. This section presents data obtained from the household questionnaire pertaining to characteristics of landownership, agricultural land use patterns and activities, and levels of household income gained from agricultural production.

Landownership

In all study areas, the number of landowning households, including those in which the land is used only for housing, was greater than the number of households that did not own land. The percent of households owning land was highest among those households in the rice growing strata (86 percent), while in urban/semi-urban strata landownership was at its lowest (58 percent). The percentage of households owning land in plantation and mixed economic strata was 70 percent for each strata, followed by upland strata at 62 percent (Table 7.1).

Among landowning households, those living in plantation strata possessed the most land (26 rai on average), although not far behind were upland and rice producing strata at 23 rai, and the mixed economy strata at 19 rai. Not surprisingly, the lowest level of landownership was among urban/semi-urban dwellers (8 rai). If, however, the total number of households in each strata is taken into consideration and not simply those that own land, the average land size for households in rice producing strata was 19 rai, followed by plantations

(18 rai), upland (15 rai) and mixed economy strata (13 rai). Once again, under this classification, the lowest level of landownership was among urban/semi-urban dwellers (5 rai).

Table 7.1 Percent of landholding households and size of average landholdings by strata

	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Landownership (% of households owning land)	57.9	85.8	70.0	62.1	69.7
Average land size (rai) per number of landholding households	8.0	22.5	26.4	23.4	19.2
Average land size (rai) per number of total households	4.7	19.3	18.4	14.6	13.4

Cultivated Land

Data on land cultivation were obtained for the previous year and included land that was rented for agricultural production. Household ownership of land used for agricultural purposes was highest in the rice strata (76 percent), followed by plantation, upland and mix economy strata. Urban/semi-urban areas had the lowest percentage of households owning agricultural land (Table 7.2).

Table 7.2 Percent of households possessing agricultural land and size of average agricultural landholdings by strata

	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Agricultural landownership (% of households)	22.7	75.5	64.6	59.1	54.3
Average land size (rai) per number of agricultural landholding households	15.0	29.6	29.9	19.0	21.1
Average land size (rai) per number of total households	3.4	22.3	19.3	11.2	11.5

Households in plantation and rice cultivation strata possessed the highest average amount of land for agricultural production (30 rai), with urban/semi-urban owning the lowest (15 rai). In terms of total households, rather than only those owning agricultural land, once again households in rice cultivation areas owned the highest average amount of land (22 rai), followed by plantations (19 rai), with the lowest being for the urban/semi-urban strata (3 rai). Results also show that among landowning households, except for urban/semi-urban strata over half used their land for cultivation and agricultural production (Tables 7.1 and 7.2).

Agricultural Activities and Income from Agricultural Production

The major agricultural activities in the study areas were rice cultivation, plantations, gardening, vegetable cultivation, and mixed cropping. Other activities include animal/livestock raising and fisheries, though these are not as common (Table 7.3).

Most agricultural households in all areas cultivated both rice and plantation crops as their main activities. Plantation crops were cultivated to a greater extent in all areas, except for the rice cultivation strata where rice growing took precedence. Gardening and vegetable cultivation were most common among households in the urban/semi-urban strata.

In terms of household agricultural income, plantation strata earned the highest income (83,467 baht; not deducting expenses), which is close to that of the mixed economy strata (82,434 baht). Upland strata earned the least from agricultural production (35,124 baht), which represents less than half of the amount of income earned in the other economic areas (Table 7.3).

Table 7.3 Percentage distribution of main agricultural activity of households and average household income from agricultural production, by strata

	Urban/semi-urban	Rice	Plantation	Upland	Mixed Economy
Agricultural Activity					
Rice farming	19.8	72.7	10.1	28.9	13.5
Plantation	42.6	23.0	74.5	53.5	61.2
Gardening	18.1	1.5	8.2	9.9	13.6
Vegetable cultivation	10.6	0.6	5.4	4.4	8.6
Mixed cropping	6.0	0.6	0.9	2.3	1.9
Other	2.9	1.6	0.9	1.0	1.2
Average income from agricultural production (baht per year)	62,656	73,897	83,467	35,124	82,434

In conclusion, most households owned land used for cultivation, though not surprisingly this was the least evident for the urban/semi-urban strata. The greatest agricultural returns in terms of income were obtained by households in plantation, mixed economy and rice producing strata, with the lowest return being obtained by upland households.

8. Household Support and Debt

Household support refers to additional sources of income of household members who live in origin and destination communities, particularly those who live in rural origin communities. Household support in this analysis is defined as follows:

1) Internal Household Support

Internal household support refers to support from household members at the field site communities sent to a household member living away from home and remittances from an absent household member sent to a household in a field site household.

2) External Household Support

External household support is the support derived from the many government projects that were started after the economic crisis in 1997. This includes support from the social investment fund.

Internal Household Support

The data from the household survey showed that nearly one-third (31 percent) of households in the urban/semi-urban strata sent money and goods to support their household members living elsewhere. This was followed by households in mixed economy (23 percent), plantation (21 percent), upland (17 percent), and rice strata (17 percent). Household members at the origin also received support in terms of

remittances from their household members living away. About one-half of the households in rice and plantation strata, which tend to be poorer, received remittances from household members, this was followed by those who lived in mixed economy strata (40 percent) and the upland strata (33 percent) (See Table 8.1)

This meant that households in urban/semi-urban strata tended to send more money and goods to support their household members living away than they received from absent household member, while households in rural areas were more likely to receive rather than send money and goods (See Figure 8.1)

Table 8.1 Percent of household members who sent and received money and goods, classified by strata

	Urban/ semi-urban	Rice	Plantation	Upland	Mixed-Economy
Household members who sent money and goods					
Sent	30.9	17.1	20.5	17.3	22.5
Not sent	69.1	82.9	79.5	82.7	77.5
Total	100.0	100.0	100.0	100.0	100.0
(Number)	(2,578)	(1,888)	(1,845)	(2,936)	(2,359)
Household members who received money and goods					
Received	26.0	51.2	50.4	32.7	39.8
Not-received	74.0	48.8	49.6	67.3	60.2
Total	100.0	100.0	100.0	100.0	100.0
(Number)	(2,578)	(1,888)	(1,845)	(2,936)	(2,359)

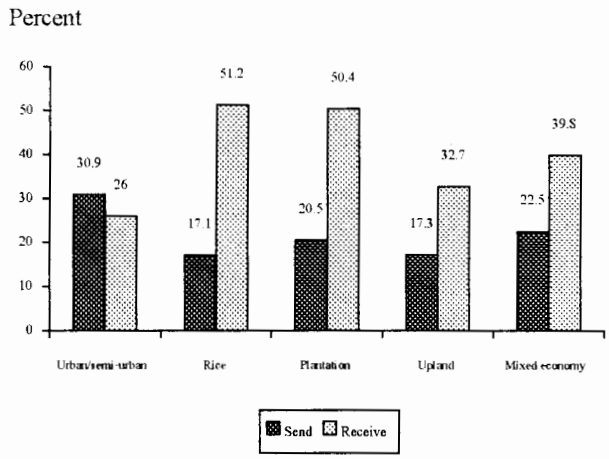

Figure 8.1 Percent of household members who sent and received money and goods, classified by strata

Amount of Household Support Sent to Their Members Living Apart

Household members in urban/semi-urban and upland strata sent the largest amount of money and goods to their children, followed by their spouses. Household members who lived in the plantation and mixed economy strata sent the largest amount of money and goods to their spouses, followed by their children and grandchildren, respectively. However, household members living in rice strata followed a different pattern, with the largest amount of money and goods sent to their grandchildren, followed by their children and spouses (See Table 8.2).

This meant that household members who lived in urban/semi-urban strata sent the largest amount of money and goods to their children, followed by spouse and grandchildren, while those who lived in rural areas were more likely to send to their spouse, children and grandchildren, respectively (see Figure 8.2).

Table 8.2 Average annual amount of money and goods sent to household members, classified by status of receiver and strata

Receiver's Status	Urban/ semi-urban	Rice	Plantation	Upland	Mixed-economy
Spouse	78,875	22,900	84,626	25,500	50,900
Father	11,459	5,218	7,569	8,242	8,406
Mother	12,971	6,835	6,921	9,615	6,879
Children	109,748	31,806	28,063	26,860	43,807
Grandchildren	17,483	50,807	12,500	12,853	22,341
Brother /Sister/ Cousin	16,406	8,616	8,936	10,127	12,078

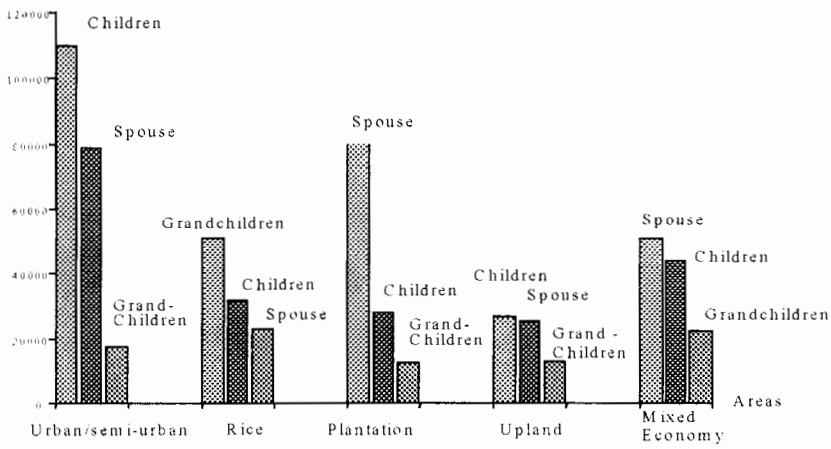

Figure 8.2 Average amount of money and goods sent to the household member (three largest), classified by the status of receiver and strata

Amount of Support Remitted to Households

A typical practice of a Thai household member who works away from home is to remit money and goods to support their family at the place of origin. The survey data indicates that this practice is common in all areas of Kanchanaburi. The largest value of money and goods was remitted to spouses, particularly in the rice strata, followed by remitting to brother/sister, children and father, with nearly the same amount found for each strata (See Table 8.3 and Figure 8.3).

Table 8.3 Average annual amount of money and goods (in Baht) remitted to family members, classified by status of receiver and strata

Receiver Status	Urban/ semi-urban	Rice	Plantation	Upland	Mixed-Economy
Spouse	52,335	113,194	29,611	26,102	59,302
Father	16,155	16,760	8,366	7,505	26,386
Mother	13,720	9,192	5,585	6,539	15,961
Children	14,209	12,432	13,086	10,862	19,127
Grandchildren	7,741	6,286	11,192	4,611	12,688
Brother/Sister/ Cousin	17,924	17,535	14,787	10,835	27,668

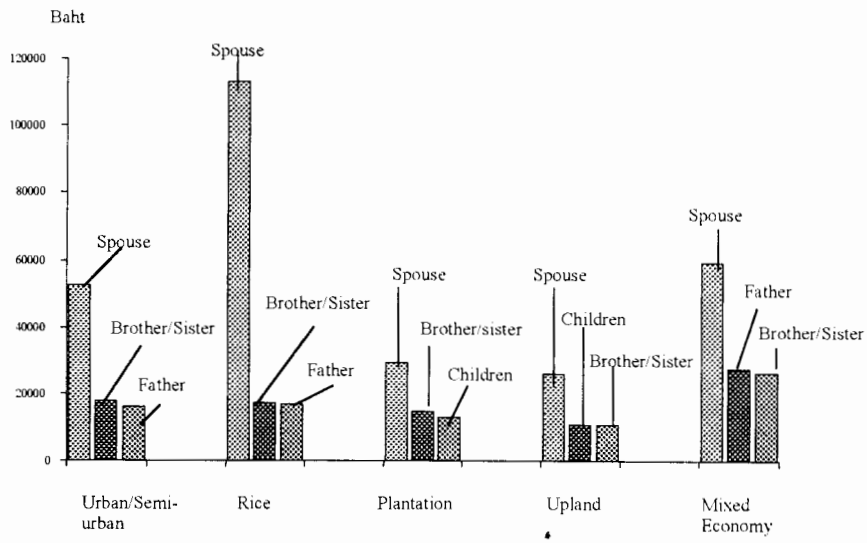

Figure 8.3 Average amount of money and goods (in Baht) remitted to family member, classified by receiver and strata

External Household Support

After the economic crisis in 1997, many government ministries implemented projects and strengthened their activities in order to support household income generation for poverty alleviation, particularly in rural areas. These projects focused on loans for employment creation and supporting children's education, including social support in term of cash transfer programs for the aged, children, disabled and the poor.

Survey data in Kanchanaburi show the broad support provided by these programs in rural areas, particularly in the rice and plantation areas. Of the households that received support, more than 80 percent of government support for households in the rice and plantation areas were in the form of employment creation loans, followed by cash transfers to the aged and the poor, although the percent of total

support from these source was small. Nearly 60 percent of external support for households in the uplands receiving this type of support was in the form of employment creation loans, while the loan for childrens education and cash-transfers for the aged accounted for 15 percent of total support. Households receiving external support in the urban/semi-urban strata were most likely to receive money for supporting children's education (39 percent), followed by cash transfers to the poor (25 percent), employment creation loans (17 percent) and cash transfers to the aged (12 percent) (See Table 8.4).

Table 8.4 Percentage distribution of forms of support for households receiving support from government agencies, classified by strata

Types of Support	Urban/ semi-urban	Rice	Plantation	Upland	Mixed-Economy
Loan for job creation	16.5	86.3	81.4	58.0	77.3
Loan for children education	2.4	1.1	2.5	15.4	5.2
Cash transfer to aged	11.8	6.7	7.4	15.4	8.1
Social security refund	2.4	0.5	-	0.7	0.6
Cash transfer for children	38.9	1.6	3.1	6.3	2.9
Cash ransfer for the poor	24.7	2.2	4.7	1.4	4.7
Cash transfer to diabled	3.5	1.6	1.2	2.8	1.2
Total	100.0	100.0	100.0	100.0	100.0
(Number)	(85)	(371)	(258)	(143)	(172)

Household Debt

The debt of households in Kanchanaburi was derived from both the formal and informal sectors. Data from the survey shown in Table 8.5 indicates that rural households, particularly in rice and plantation strata, had the highest percent with household debt (64-65 percent), followed by households in mixed economy strata

(53 percent) and upland strata (46 percent), respectively. While less than half (48 percent) of households in urban/semi-urban strata had debt, the average amount of debt of 300,000 baht per household (median = 70,000 baht) was the highest of all areas. Households in rural areas had lower amounts of debt, with averages ranging between 100,000-110,000 baht per household (median of 16,000-40,000 baht).

Table 8.5 Percent of household with or without debt and the mean and median amounts of debt, classified by strata

Types of Support	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
With Debt	48.2	65.0	63.5	46.3	52.5
Without Debt	51.8	35.0	36.5	53.7	47.5
Total	100.0	100.0	100.0	100.0	100.0
(Number)	(2,558)	(1,887)	(1,835)	(2,926)	(2,532)
Mean (Baht)	311,464	102,683	101,142	101,618	112,406
Median (Baht)	70,000	40,000	30,000	16,000	30,000

Conclusion

Many households in rural areas depend on remittances, both in cash and in kind, from household members living elsewhere, particularly their spouse, children and parents. In addition, many households in rural areas received government support, particularly loans for employment creation and to support children's education, but also cash transfers for the elderly and the poor. Loans were not only from the formal sector but also from the informal sector. More than one-half of households in rural areas had debt, particularly households in the rice plantation and mixed-economy strata, but the mean amount of debt in those areas is three times lower than that found for households in the urban/semi-urban strata.

9. Nuptiality

Marriage patterns impact on many aspects of the life of a population and therefore are an important topic for research. In this section, nuptiality data from the individual questionnaire are presented disaggregated by sex and strata. The marital status variable includes four categories: never married, currently married, widowed and divorced/separated. Results are presented for the population aged 15 and above.

Marriage Pattern

The highest proportion of the study population was currently married, followed by never married, widowed and divorced/separated respectively. The percent of never married males was higher than never married females in all study areas with the differential being the greatest for the uplands (see Table 9.1). The same pattern was found for the currently married, except for the upland strata were the proportion of females currently married was slightly higher that that for males. In contrast, the percentages widowed and divorced/separated were higher in all study areas for females compared to males.

Table 9.1 Percentage distribution of marital status by sex and strata: population aged 15 and above

Marital Status	Urban/semi urban		Rice		Plantation		Upland		Mixed economy	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Never Married	27.9	26.4	23.6	19.6	22.2	15.7	18.8	9.1	22.0	18.8
CurrentlyMarried	66.1	57.5	71.8	65.3	73.1	69.6	76.6	79.0	72.5	67.5
Widowed	2.0	9.8	2.6	10.0	1.4	9.6	2.1	9.0	2.9	9.4
Divorced/Separated	4.0	6.3	2.0	5.1	3.3	5.1	2.5	2.9	2.6	4.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	2,734	3,619	2,150	2,665	2,021	2,360	3,148	3,403	2,613	3,189

The data provided in Figure 9.1 show that the mean age at first marriage of males was higher than for females for all study areas. The age gap was approximately three years for most study areas, with the gap being around four years in the uplands. The mean age at marriage for both males and females was highest in the urban/semi-urban strata (25 years for males and 22 years for females). The mean age at marriage for males was lowest in the plantation strata for males (23.6 years) and in the uplands for females (19.6).

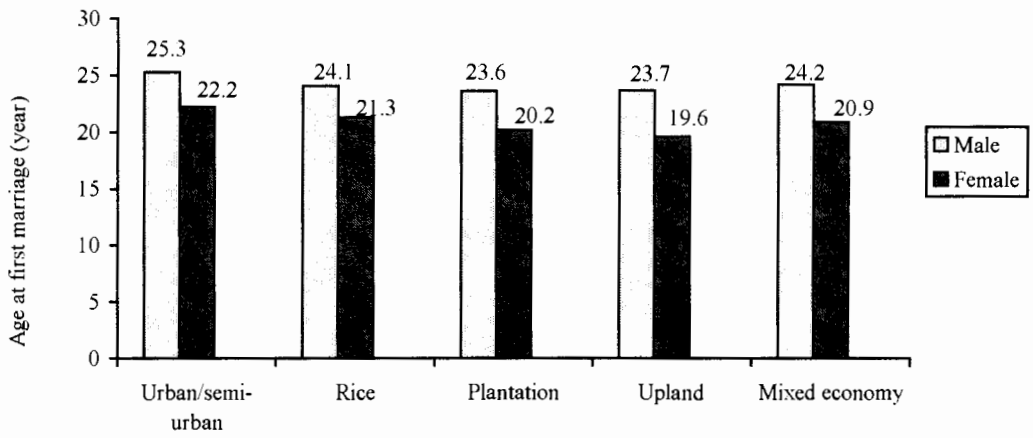

Figure 9.1 Mean age at first marriage by sex and strata

Registration

The majority of married respondents had not registered their marriage. Overall, 61 percent had not registered, with the highest proportion found in the urban/semi-urban strata, followed by rice, mixed economy, plantation and upland strata respectively (see Figure 9.2).

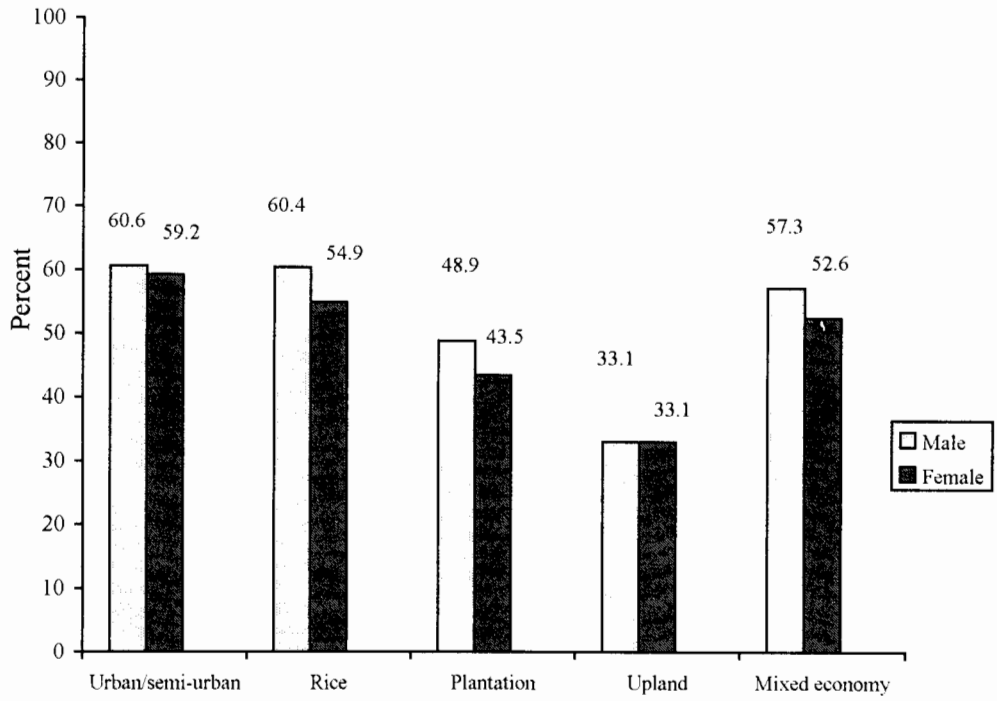

Figure 9.2 Marriage registration by sex and strata

Of those who were divorced, and who had ever had their marriages registered, the majority registered their divorce (75 percent and over). The percentage of males who registered their divorce was higher than that of females in all areas except for the uplands (see Figure 9.3). For females, the highest percentage of those who registered their divorce was in the plantation strata and the lowest was in the mixed economy strata.

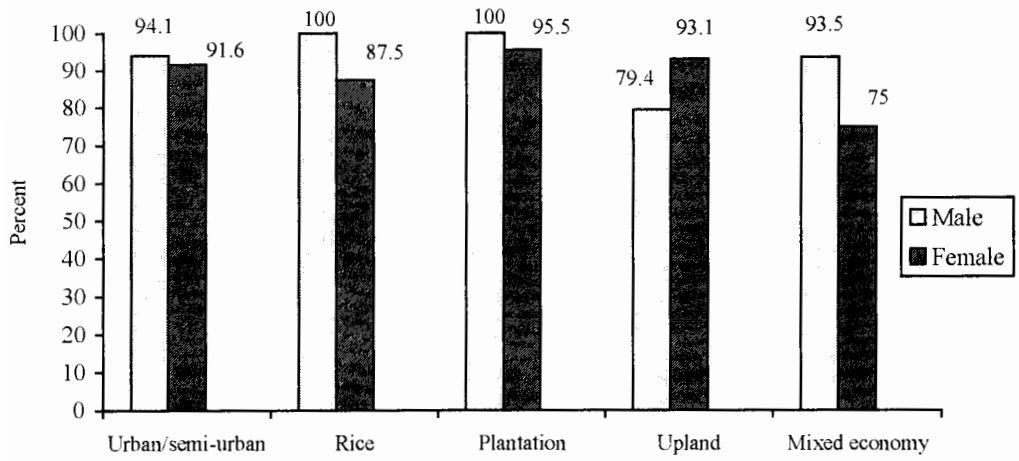

Figure 9.3 Percent registering their divorce by sex and strata

10. Fertility and Family Planning

Current Fertility

Fertility differentials among the five strata are observed (see Table 10.1). Women residing in the urban/semi-urban strata experience the lowest fertility with a Total Fertility Rate (TFR) of 1.4. This is much lower than the national TFR of 1.8. Women living in upland communities have the highest fertility (TFR = 3.2). The fertility levels of women in the other three areas are between those of these two groups.

Table 10.1 Age specific fertility rates and total fertility rates by strata

Age	Age specific fertility rates				
	Urban/ semi urban	Rice	Plantation	Upland	Mixed Economy
15-19	0.04304	0.07234	0.06731	0.16879	0.04651
20-24	0.07843	0.13492	0.13027	0.17708	0.11972
25-29	0.07467	0.09225	0.09622	0.12987	0.08511
30-34	0.05908	0.06485	0.05449	0.07565	0.05102
35-39	0.02005	0.03745	0.02951	0.06697	0.04070
40-44	0.00985	0.01581	0.00391	0.01902	0.00580
45-49	0.00000	0.00000	0.00000	0.00866	0.00000
TFR	1.43	2.09	1.91	3.23	1.74

Age-specific fertility patterns of all five groups are similar. At early ages (15 - 19 years old) fertility is low, rising rapidly to a peak at the age 20 - 24 and declining thereafter. No births occurred in the ages 45 to 49 for women in any of the areas with the exception of the upland communities. Women living in the uplands display the highest levels of fertility at all ages (see Table 10.1 and Figure 10.1).

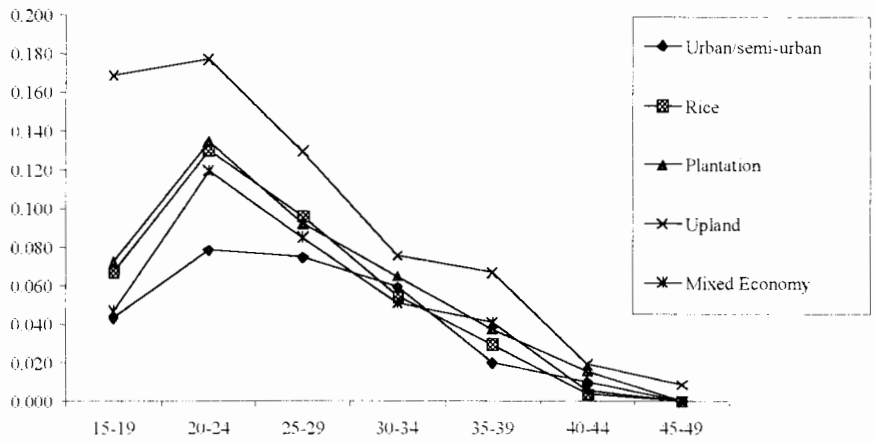

Figure 10.1 Age specific fertility rates by strata

Family Planning

Family Planning in this study refers to knowledge and practice of contraceptive methods. All male respondents aged 15 and above and female respondents aged 15-49 were asked about their knowledge of contraceptive methods. Practice of contraception was only asked of currently married women in reproductive ages (15-49).

Contraceptive Knowledge

Contraceptive knowledge is almost universal in the study areas. Less than five percent of men and women do not know of at least one type of contraceptive method. Women have higher levels of knowledge than do men, with a higher percentage of women than men spontaneously reporting knowledge of methods. Men are more likely to recognize a method after probing.

Contraceptive knowledge varies little among areas, with the exception of the uplands where the level of knowledge of contraception is lowest. The depth of knowledge in the uplands also appears to be low, with a large proportion of respondents in this area not recognizing methods until after probing. In the uplands, the level of male knowledge is much lower than that of females (see Table 10.2).

Table 10.2 Percent of male and female who said they know at least one contraceptive method before and after probing classified by strata

	Male			Female		
Strata	Know	After probe	All	Know	After probe	All
Urban/semi-urban	83.3	13.8	97.1	94.1	5.2	99.3
Rice	73.2	21.2	94.4	92.7	5.7	98.4
Plantation	76.1	20.1	96.2	93.3	5.2	98.5
Upland	57.1	27.7	84.8	75.5	16.1	91.6
Mixed economy	79.5	16.4	95.9	94.5	4.4	98.9

Contraceptive Use

In addition to a high level of knowledge of contraceptive methods, there are also high levels of contraceptive use. In all areas except the uplands, three fourths of currently married women of reproductive age (MWRA) are using contraceptive methods. The contraceptive prevalence rate in the upland communities is 64 percent (see Table 10.3). It should be noted that fertility is highest in the upland strata.

Table 10.3 Percent of MWRA using contraception by method and area and contraceptive prevalence rates by strata

Methods	Percent of MWRA using contraception				
	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Female sterilisation	34.6	24.8	23.9	17.4	33.6
Male sterilisation	1.6	0.7	1.4	0.9	1.6
Norplant	0.6	0.9	2.6	2.9	2.9
Injectable	9.0	24.1	23.7	15.2	17.7
IUD	1.2	0.8	1.0	2.9	0.6
Pill	21.3	21.6	24.3	23.2	22.0
Condom	2.9	0.5	0.5	0.7	0.8
Withdrawal	1.1	0.2	0.2	0.3	0.3
Safe period	2.2	0.2	0.5	0.2	0.3
Contraceptive prevalence rate	74.9	74.3	78.6	64.2	80.2

Female sterilisation is the most popular method in all areas except the uplands, where the pill is the method used by the highest proportion of women. Apart from female sterilisation, the pill and injectable are the most commonly used methods

in all areas. These three methods are used by eight out of every ten female contraceptive users.

However, the method mix varies among areas. The majority of women in urban/semi-urban and mixed economy areas use female sterilisation, followed by the pill and injectable. On the other hand, women contraceptive users in rice and plantation strata are distributed equally among these three methods. Upland women prefer the pill, followed by female sterilisation and injectable (see Table 10.3 and Figure 10.2).

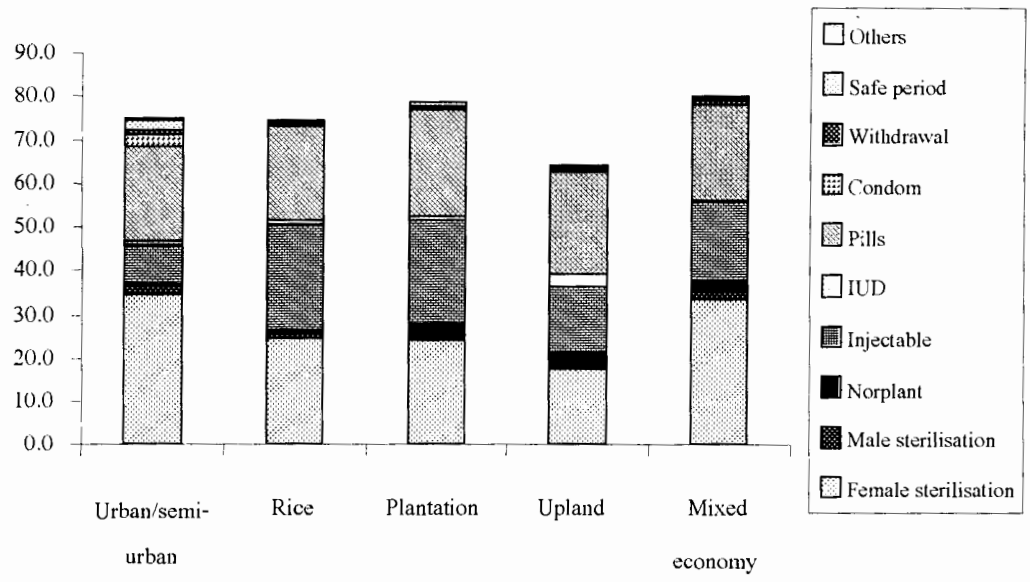

Figure 10.2 Contraceptive method use by strata

In sum, fertility patterns were similar in all areas, while fertility levels were quite different. Fertility was lowest in urban/semi-urban strata and highest in upland strata, while fertility in other areas was between these two extremes.

Almost all respondents knew of at least one contraceptive method. However, men tended to know less than women, especially without probing. Respondents in upland strata had the least contraceptive knowledge, especially without probing. Moreover, the knowledge differentials between men and women were wider than in other areas.

In every strata except the uplands, three-fourths of currently married women in reproductive ages were using contraception. Even in the upland strata, the contraceptive prevalence rate was 64 percent. It should be noted that the upland strata, which have the lowest knowledge and practice of contraception, experienced the highest fertility.

Female sterilisation was the most popular method in almost all strata. Contraceptive pill and injectable were the second and third most popular methods, respectively. More than eight-tenths of women who were using contraception, used these three methods.

11. Health Status

Health status was analysed based on morbidity data and focused on the most common chronic and recent illnesses, as well as data associated with health risk behaviour. All data were obtained from the study population aged 15-70 years.

Morbidity

Chronic Illnesses

Chronic illnesses here refer to those health problems associated with specific diseases (e.g., diabetes, malaria), health disorders (e.g., allergies, blood pressure) or symptoms associated with abnormal bodily functions (e.g., headache, pains).

Although in every study area the majority of the population were not afflicted by chronic illnesses, of those who were affected, the overall prevalence of chronic illnesses was rather high at around 40 percent. This prevalence was highest among people living in areas associated with rice cultivation (45 percent), whereas those persons living in the upland strata exhibited the lowest prevalence (36 percent) (Table 11.1).

Table 11.1 Percentage distribution of the population classified by chronic illnesses and recent illness within the past one month, by strata

	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Chronic illnesses					
Exhibited	37.0	44.8	40.0	36.0	38.9
Did not exhibit	63.0	55.2	60.0	64.0	61.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Recent illness within the past month					
Exhibited	44.8	48.0	40.2	41.6	42.9
Did not exhibit	55.2	52.0	59.8	58.4	57.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

The seven leading chronic illnesses found within the study population are: (1) high/low blood pressure, (2) gastroenteropathy, (3) allergies, (4) headache, migraine, dizziness, (5) diabetes, (6) muscle/bone pain, and (7) back/waist pain.

Out of these seven, and focusing only on the five most common chronic illnesses, the following patterns are evident (Figure 11.1):

- no two areas had the same set of five most common chronic illnesses;
- high/low blood pressure and gastroenteropathy were the most common to all study areas, except in the case of the rice producing strata where muscle/bone pain ranked the highest (due most likely to the high amount

of physical labor required for this activity), followed by gastroenteropathy and high/low blood pressure;

- allergy was among the top five chronic illnesses afflicting persons living in urban/semi-urban, plantation and mixed economic strata; it was not as prevalent for those persons living in rice cultivation or upland strata;

- diabetes was among the top five chronic illnesses for persons living in urban/semi-urban strata.

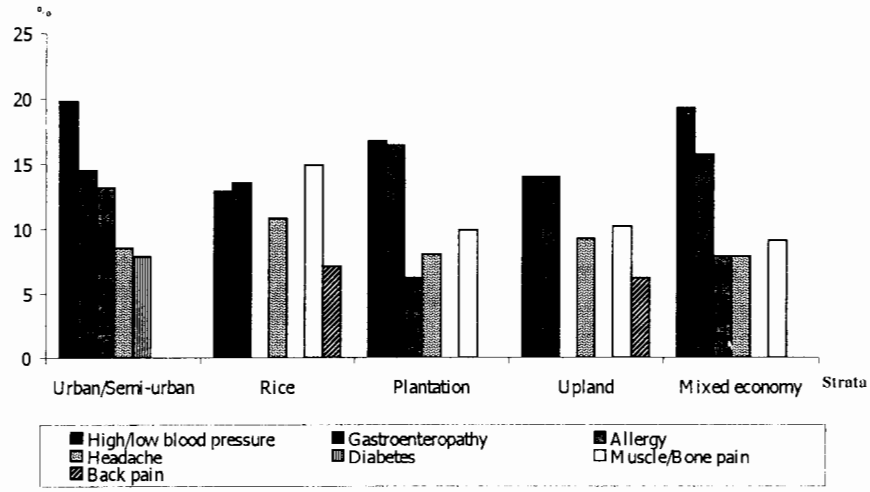

Figure 11.1 Five most common chronic illnesses in each strata

Recent Chronic Illnesses

While the percentage of the population experiencing a chronic illness within the past month showed little variability among strata (all around 40 percent), those persons living in rice strata suffered from chronic illnesses to a greater extent (48 percent) than those living in other areas. The least affected area (40 percent) was plantation strata (Table 11.1).

The five most common recent chronic illnesses (in descending order of magnitude) were: (1) colds, (2) headache, migraine, dizziness, (3) muscle/bone pain, (4) gastroenteropathy (stomachache), and (5) malaria. This illness pattern was similar in all strata, except that the percentage of the population suffering from malaria was highest among those living in upland strata (7 percent) and lowest among the urban/semi-urban population (0.07 percent) (Figure 11.2).

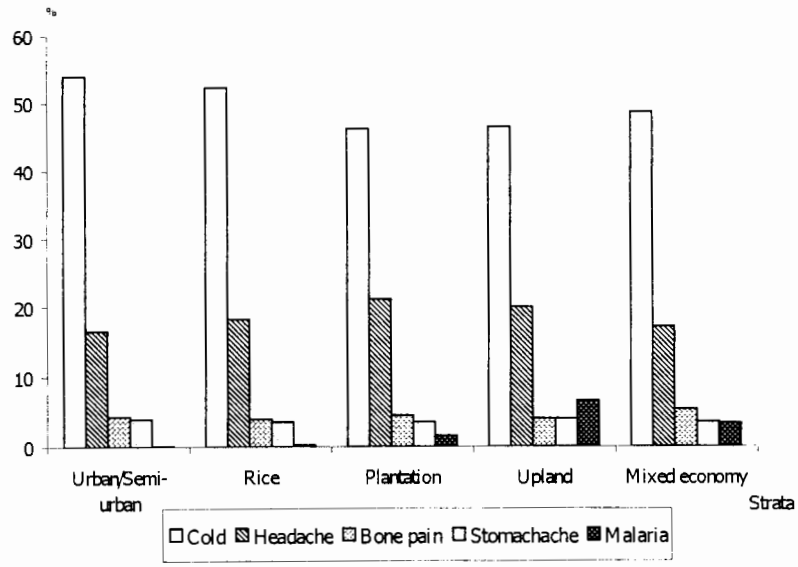

Figure 11.2 Percent distribution of the top five chronic illnesses in the past one month by strata

Health Risk Behaviour

Raw Meat Consumption

Raw (uncooked) meat can harbour parasites and microbes that lead to disease in humans and the increased need for health/medical care. Results from this study revealed that the majority of persons (ranging from 61 to 74 percent) living in all study areas did not consume raw meat. For those who most commonly did so, the percentages by areas are: plantation (39 percent), upland (38 percent) and rice producing (32 percent). In contrast, people living in urban/semi-urban strata and in mixed economy strata were less likely to consume raw meat (28 and 26 percent, respectively). Overall, not more than 4.5 percent of persons regularly consumed raw meat (Table 11.2).

Protection Against Mosquitoes

Mosquito-borne diseases such as malaria and dengue fever are common (if not endemic) in the study areas. As a result, people may be risking their health if they do not sleep under a mosquito net or in a screened room. Results showed, however, that almost all of the people in the study areas practiced one of these preventive measures on a daily basis (92-95 percent). Those least likely to protect themselves resided in urban/semi-urban and upland strata (Table 11.2).

Table 11.2 Percentage distribution of the population concerning health risk behaviour by strata

Risk Behaviour	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Raw Meat Consumption					
Never consumed	72.4	68.1	61.2	61.9	74.2
Rarely consumed	23.6	29.8	34.3	34.6	23.0
Often/daily consumption	4.0	2.1	4.5	3.5	2.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Sleep under mosquito net/with screen					
Never	6.7	2.5	2.4	4.1	3.3
Sometimes	1.6	3.8	2.7	3.6	2.3
Daily	91.7	93.7	94.8	92.3	94.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Latrine Use					
Never	0.6	2.5	6.6	7.9	3.7
Sometimes	0.5	5.6	5.2	4.1	2.1
Always	98.8	91.9	88.2	88.0	94.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Latrine Use

Although the vast majority of the population used latrines regularly (over 88 percent), persons living in urban/semi-urban strata used latrines to a higher extent (99 percent) than those persons living in plantation and upland strata (88.2 and

88.0 percent respectively). As a result, these two population groups may be at higher risk for fecal-borne diseases than persons living in other study areas.

Use of Potentially Addictive Substances

Substantial health risks exist through the consumption of potentially addictive substances such as cigarettes, beer, liquor, energetic beverages (energy drinks), canned coffee, pain relievers and sleeping pills. Use of such substances, especially on a regular basis, also reflects to some extent the emotional health of the population. Based on the results of this study (which in this analysis combined males and females), the following patterns are evident (Table 11.3):

- the majority of the population in all study areas reported that they never consumed such substances;

- for all study areas taken together (combined), the substances that on average were used the least were pain relievers and sleeping pills (5 percent usage rate), while beer, cigarettes and liquor were used the most (33 percent, 31 percent and 27 percent, respectively); moderate usage rates were noted for energy drinks and canned coffee at 23 percent and 15 percent respectively;

Table 11.3 Percent distribution of the population using potentially addictive substances by strata

Risk Behaviour	Urban/semi-urban	Rice	Plantation	Upland	Mixed Economy
Cigarettes					
Never consumed	79.0	73.6	68.7	49.4	72.5
Infrequently	1.9	2.0	2.3	2.8	2.0
Frequently (Often/daily consumption)	19.2	24.3	29.0	47.8	25.5
Total	100.0	100.0	100.0	100.0	100.0
Beer					
Never consumed	69.4	60.1	65.2	71.2	68.5
Infrequently	21.6	33.7	29.8	26.2	25.7
Frequently	9.1	6.2	5.0	2.3	5.8
Total	100.0	100.0	100.0	100.0	100.0
Liquor					
Never consumed	75.5	72.9	71.4	69.8	74.8
Infrequently	14.8	17.3	17.6	22.7	15.3
Frequently	9.6	9.8	11.1	7.5	9.8
Total	100.0	100.0	100.0	100.0	100.0
Energy drinks/energetic beverages					
Never consumed	79.2	71.1	74.3	82.4	75.5
Infrequently	11.6	19.3	18.2	14.4	16.8
Frequently	9.2	9.6	7.6	3.2	7.7
Total	100.0	100.0	100.0	100.0	100.0
Canned Coffee					
Never consumed	86.1	81.2	82.8	88.8	87.3
Infrequently	9.8	14.8	13.8	9.3	9.9
Frequently	4.1	4.0	3.4	2.0	2.9
Total	100.0	100.0	100.0	100.0	100.0
Other substances (i.e., pain relievers, sleeping pills)					
Never consumed	93.7	95.8	92.6	96.2	96.2
Infrequently	1.2	0.5	1.6	0.6	0.5
Frequently	5.1	3.7	5.8	3.2	3.3
Total	100.0	100.0	100.0	100.0	100.0

- for all study areas taken together (combined) and in terms of frequent (often/daily) use, cigarettes were consumed by 29 percent of the respondents, followed by liquor at 10 percent, energy drinks at 7.5 percent, beer at 6 percent, pain relievers and sleeping pills at 4 percent, and canned coffee at 3 percent;

- for cigarettes, the highest rate of smoking was among the upland population (51 percent) and the lowest rate among urban/semi-urban dwellers (21 percent), which places the former at greater risk of smoking-related health problems. Among smokers, most used cigarettes on a daily basis, with those in the upland strata smoking most frequently (48 percent);

- in terms of beer consumption, the highest usage rate was among persons living in rice strata (40 percent), and lowest among those living in upland strata (29 percent); the highest rate of frequent consumption, however, was among urban/semi-urban dwellers (9 percent);

- for liquor consumption, persons living in upland strata had the highest overall consumption rate (30 percent), while those living in urban/semi-urban strata had the lowest (24 percent). The highest rate for frequent consumption was among people living in plantation strata (11 percent), and surprisingly the lowest such rate was among upland dwellers;

- the consumption of energy drinks and canned coffee was highest among persons living in rice strata (29 and 19 percent respectively), whereas people living in upland strata had the lowest consumption rates for these two beverages (18 and 11 percent, respectively); most persons consumed these beverages on an infrequent (once in awhile) basis;

- the use of pain relievers and sleeping pills was most common among people living in plantation (7 percent) and urban/semi-urban strata (6 percent), compared to upland and mixed economy strata (4 percent each); the highest rates of frequent use were among plantation (6 percent) and urban/semi-urban dwellers (5 percent).

Summary

The health status profile presented here reveals a population where the prevalence of chronic illnesses is high, and most notably in terms of high/low blood pressure and gastroenteropathy, in all study areas. In addition, other chronic illnesses appear to affect different populations depending upon their workload or environmental conditions, i.e., muscle/bone pain among rice producers which may be work-related; allergies that affect people living in relatively closed environments (urban/semi-urban areas, plantations with a lot of trees or other vegetation) compared to relatively open ones (rice fields, upland areas); and diabetes which occurs among urban/semi-urban dwellers who may be more sedentary and overweight. In terms of the pattern of recent chronic illnesses (within the last month), very little difference exists between study areas, except in the case of malaria, which more heavily affects upland and mixed economy areas.

In terms of health risks, the study population appears to avoid such practices as the consumption of raw meat, exposure to mosquitoes, and the non-use of latrines. Likewise, the reported use of potentially addictive substances is also low, though the use of cigarettes and alcohol by about one-third of the population should prompt concern and more intensive health promotion efforts on the part of public health officials, and particularly those working in upland strata where the use of cigarettes and alcohol (beer and liquor) is highest.

12. Mortality

The analysis of mortality in this section is divided into three parts. The first part briefly presents general information, which is followed by a discussion of the levels and patterns of mortality. The final section is an analysis of the causes of death including death registration. The data used in this analysis is derived from household questionnaires.

General Information

Over the previous 12-month period prior to the survey, 408 households had at least one member who died. Of this total, 395 households had one member die, while two deaths were recorded for 13 households. There were no more than two deaths per household.

Mortality Levels and Patterns

Overall Levels and Patterns

For the 12-month period prior to the survey, the total number of deaths was 421 (256 males or 61 percent; 165 females or 39 percent) (Table 12.1). The mortality level as indicated by the crude death rate for males (13 per thousand) was higher than for females (7 per thousand). For both sexes combined, the crude death rate was 10 per thousand.

The mortality pattern, as indicated by age-sex specific death rates, is similar to that found in the general population, giving a J-shaped pattern. This means that infant mortality (under-one mortality) is high. Mortality then gradually decreases until the 10 - 14 year age group, which has the lowest mortality rate. Then again, mortality gradually increases with those persons aged 15 – 34 year having increasing rates of mortality, which then increases to higher age groups.

Both males and females had the same mortality pattern. The mortality level for females was lower than for males in almost all age groups. However, within the study population, mortality rates of females aged below one year and those of elderly females were higher than for males.

In addition, the mortality pattern is not smooth. Rather, it fluctuates across age groups. The cause of this fluctuation is due to the small population size for each age group. As a result, either increasing or decreasing the number of deaths in these age groups can markedly affect mortality rates (Table 12.1 and Figure 12.1).

Table 12.1 Number of population and deaths and death rates by age and sex

Age	Number of Population		Number of Deaths		Death Rate (per thousand)	
	Male	Female	Male	Female	Male	Female
0	414	360	1	5	2.4	13.9
1-4	1,718	1,689	5	6	2.9	3.6
5-9	2,241	2,127	3	3	1.3	1.4
10-14	2,116	2,053	4	1	1.9	0.5
15-19	1,538	1,608	4	5	2.6	3.1
20-24	1,276	1,586	11	7	8.6	4.4
25-29	1,593	1,778	23	8	14.4	4.5
30-34	1,609	1,940	28	6	17.4	3.1
35-39	1,646	1,804	17	11	10.3	6.1
40-44	1,466	1,722	9	4	6.1	2.3
45-49	1,236	1,376	16	4	12.9	2.9
50-54	889	1,019	17	5	19.1	4.9
55-59	737	835	15	7	20.4	8.4
60-64	642	729	20	17	31.2	23.3
65-69	498	567	22	10	44.2	17.6
70-74	378	392	21	10	55.6	25.5
75-79	178	279	12	20	67.4	71.7
80-84	104	149	13	16	125.0	107.4
85-89	50	65	4	10	80.0	153.9
90+	91	102	11	10	120.9	98.0
Total	20,420	22,180	256	165	12.5	7.4
	42,600		421		9.9	

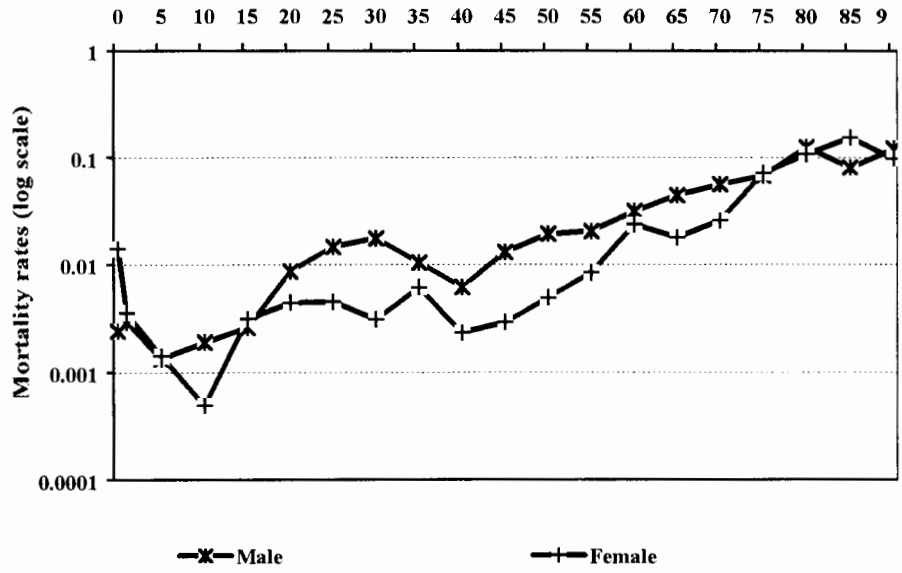

Figure 12.1 Age-sex specific deaths rates of the field site population

Mortality by Strata

Classifying by the strata within the study area reveals similar mortality levels. The mortality rate for each strata is about 10 per thousand except in the plantation strata, which has the lowest death rate (8 per thousand) (Table 12.2 and Figure 12.2).

Table 12.2 Age-sex specific death rates of the field site population by strata

Age	Urban/semi-urban		Rice		Plantation		Upland		Mixed economy	
	Male	Female	Male	Female	Male	Femal	Male	Female	Male	Female
0-4	0.00	0.0	3.2	0.0	8.9	6.8	2.9	12.0	0.0	2.5
5-9	0.00	2.6	0.0	0.0	0.0	0.0	2.8	3.2	2.4	0.0
10-14	2.5	0.0	0.0	0.0	2.9	0.0	3.2	1.7	0.0	0.0
15-19	2.8	2.4	3.4	0.0	4.1	0.0	2.9	9.4	0.0	2.8
20-24	6.7	0.0	0.0	4.2	9.4	3.7	9.9	5.4	16.0	9.7
25-29	22.5	2.4	8.0	6.8	12.0	0.0	14.5	6.5	12.4	5.9
30-34	5.7	2.2	22.9	6.5	17.5	3.2	14.4	2.1	30.8	2.5
35-39	13.7	2.4	23.5	3.0	0.0	10.7	9.4	6.9	5.8	8.9
40-44	6.0	0.0	9.2	0.0	4.2	0.0	7.6	2.6	3.5	8.5
45-49	11.2	0.0	10.2	0.0	5.4	10.9	14.6	6.3	20.6	0.0
50-54	28.1	8.4	34.3	5.6	22.9	0.0	9.8	9.7	8.7	0.0
55-59	37.3	15.5	17.9	0.0	18.9	0.0	11.7	6.3	16.0	17.1
60-64	38.2	11.0	8.1	21.1	33.9	8.9	47.3	67.2	24.8	12.6
65-69	46.0	15.4	28.0	25.2	25.0	13.3	64.8	8.6	51.7	23.6
70-74	116.3	45.0	23.0	26.0	25.6	16.1	45.5	14.3	51.3	21.3
75-79	114.3	45.5	63.8	32.8	43.5	150.0	62.5	60.6	48.8	105.3
80-84	185.2	55.6	200.0	90.9	0.0	0.0	83.3	277.8	69.0	166.7
85-89	0.0	153.9	0.0	200.0	200.0	62.5	0.0	200.0	230.8	181.8
90+	120.0	88.2	80.0	125.0	142.9	142.9	190.5	76.9	76.9	62.5
Crude death rates	15.5	5.9	12.8	7.3	9.8	5.8	11.6	9.2	12.7	8.4
Death Rates	10.3		9.9		7.8		10.4		10.4	

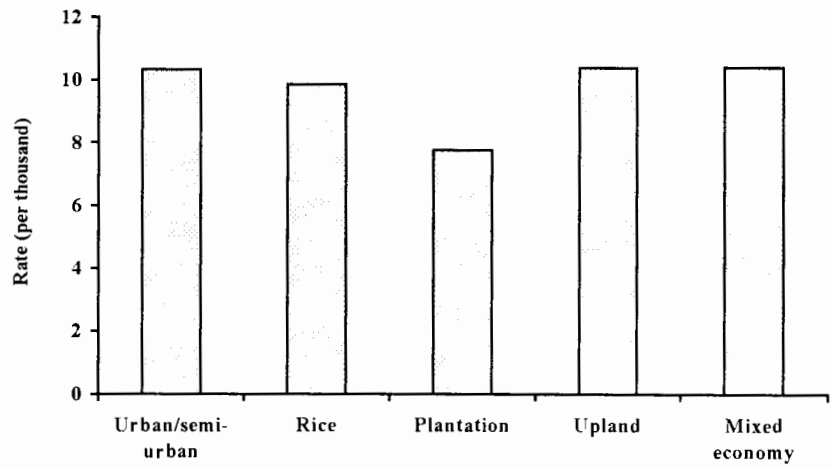

Figure 12.2 Death rates of the field site population by strata

Considering the mortality rate by sex and strata, male mortality is higher than that of females in every strata. In particular, the male mortality rate is notably higher in the urban/semi-urban strata (10 per thousand) compared to that found within the upland strata (2 per thousand). Other than these two strata, male mortality rates are between 4 and 5 per thousand, which are higher than those for females (Figure 12.3).

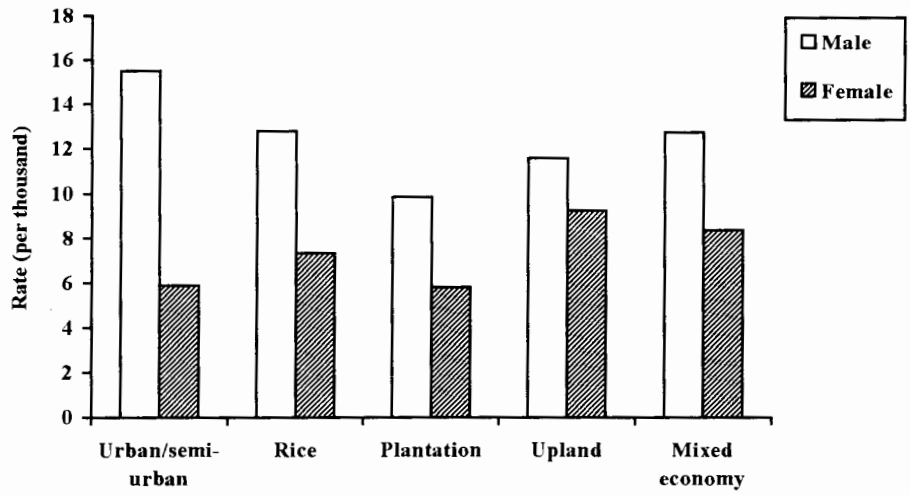

Figure 12.3 Crude death rates by sex and strata

Causes of Mortality and Death Registration

The causes of the 421 deaths that occurred within the one year before the survey can be classified into five major groups (in descending order of magnitude): sickness, senility (old age), accidents, homicide, and other causes. The highest proportion of deaths or 65 percent (274 cases) occurred due to sickness. The second and third causes were senility (14 percent or 58 cases) and accidents (14 percent or 57 cases). Homicide was the lowest cause of death at 3 percent (14 cases). Moreover, the causes of death when examined by strata are similar. Sickness remains as the major cause, followed by accidents and senility. Deaths by homicide and other causes are few (Figure 12.4)

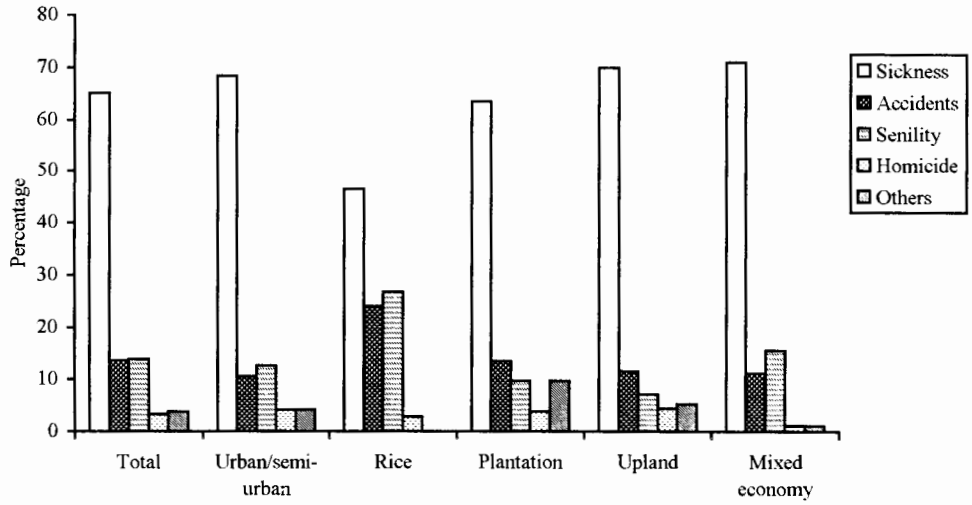

Figure 12.4 Percent distribution of deaths by causes and strata

The analysis also explored the extent to which the 421 deaths were registered. Results showed that while most of the deaths were registered, 37 deaths (9 percent) were not. Among unregistered deaths, the proportion of infant and child deaths is the highest. It then gradually decreases as the age of the person increases, with a final increase for the old age group (Figure 12.5).

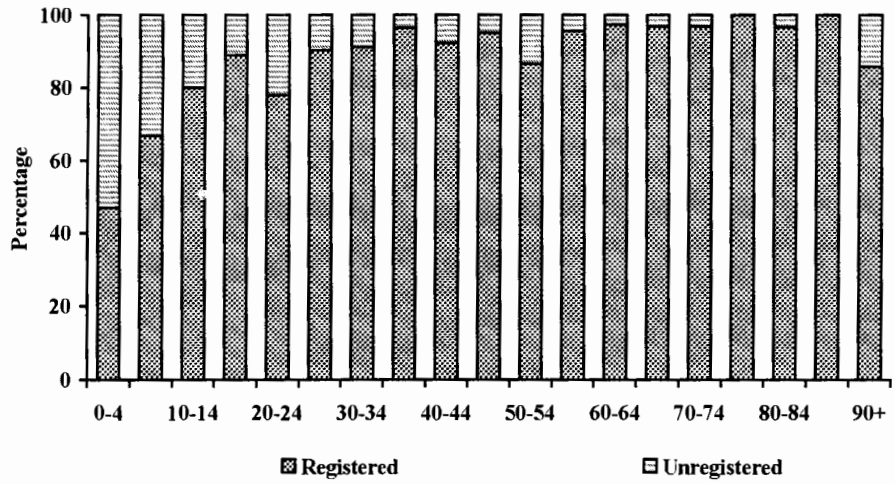

Figure 12.5 Percent distribution of deaths by death registered and age

The main reasons for unregistered deaths include: (i) aliens, (ii) unregistered births, (iii) did not know where to register the deaths, nor the process of registration, (iv) did not know that death registration is required, (v) too distant from the registration office, (vi) other important business to attend to, and (vii) the death occurred outside of the country.

Of these reasons, the most common given for not registering a death was lack of citizenship (aliens) at 49 percent, followed by unregistered births (16 percent). (Note: it is not necessary to register a death if there is no birth registration.) In addition, 11 percent of all cases did not know where to register the death nor did they know about the death registration process, while 5 percent entailed persons who did not know that they had to register a death. Deaths occurring outside of Thailand accounted for 3 percent of all cases (see Figure 12.6).

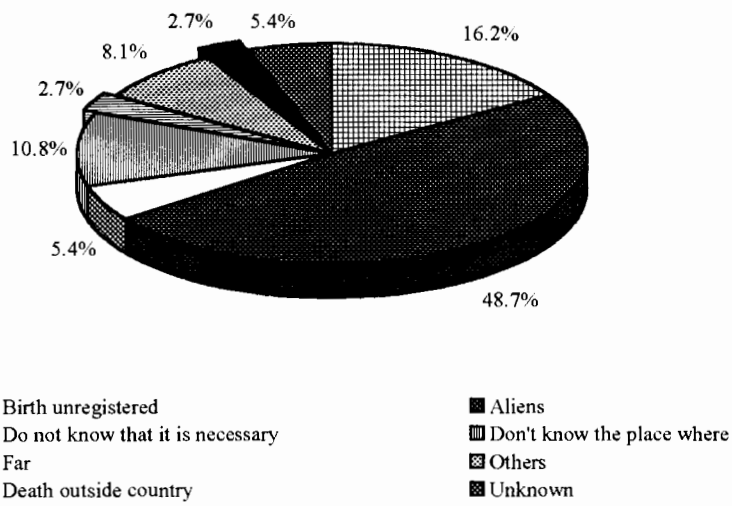

Figure 12.6 Percent distribution of unregistered deaths by causes

Summary

The mortality pattern found within the study area is similar to that of the general population, though slightly higher. There were 421 deaths, giving a crude mortality rate of 10 per thousand compared to 6 to 7 per thousand for the general Thai population. The mortality rates were similar among strata, except in the case of the plantation strata where the mortality rate is the lowest.

Moreover, mortality distributions by age and sex were similar to mortality patterns found within the general population in that both male and female mortality patterns were J-shaped. However, female mortality was lower than that of males in almost all age groups.

The three major causes of death were sickness, senility and accidents. Ninety-one percent of deaths that occurred one year prior to the survey were registered. For those that were not registered, the reasons for this were lack of citizenship (aliens), unregistered births, did not know where to register the deaths nor were aware of the death registration process.

13. Women and Community Participation

Thailand's Eighth Five-year National Economic and Social Development Plan (1997-2001) focuses on human resource development. As community participation is a key indicator for the process of human and social development it is a key monitoring indicator of the implementation of the Plan. This section presents information on the community participation of women aged 15-59, using data from the individual questionnaire for the analysis. A total of 13,057 women aged 15-59 were interviewed.

Membership in Community Groups by Study Area

Women living in the rice strata displayed the highest level of membership in community groups (24 percent), compared to only six percent of women in the urban and semi-urban strata. Women in the mixed economy strata have the next lowest proportion of membership of community groups (Table 13.1). Only 15 percent of the population were members of at least one community group.

Table 13.1 Percentage distribution of women by membership and strata

Strata	Member	Non-member	Percent	Number
Urban/semi-urban	6.0	94.0	100.0	3,094
Rice	23.6	76.4	100.0	2,224
Plantation	17.0	83.0	100.0	2,031
Upland	14.9	85.1	100.0	3,003
Mixed Economy	19.9	80.1	100.0	2,696

Characteristics of Members

Age

In all study areas the majority of community group members were middle aged (80 percent were 30 years and above). Less than 10 percent of members were less than 25 years old and there were very few members who were over 50 years of age. A higher proportion of members in urban strata were at older ages compared to members in other study areas (Table 13.2).

Table 13.2 Percentage distribution of members by age and strata

Age	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
15-19	4.9	1.5	3.5	10.7	2.1
20-24	3.8	3.6	6.9	12.2	3.2
25-29	4.9	10.7	9.2	14.8	8.6
30-34	11.5	15.8	15.3	14.9	17.4
35-39	21.3	21.0	17.1	13.0	15.3
40-44	18.6	16.8	18.2	12.5	21.6
44-49	11.5	14.7	13.0	9.8	16.4
50-54	13.7	8.6	8.7	6.7	9.0
55-59	9.8	7.4	8.1	5.4	6.5
Total	100.0	100.0	100.0	100.0	100.0

Education

Education level is divided into three categories: below primary school; completed primary school (usually six years), and education beyond primary school. Results reveal that women members living in urban strata had higher educational levels than those living in other strata (Table 13.3).

Table 13.3 Percentage distribution of membership by education level and strata

Education	Urban/ semi-urban	Rice	Plantation	Upland	Mixed Economy
Below primary	4.9	8.4	19.9	8.8	8.8
Primary	59.0	78.5	65.6	64.9	77.8
Above primary	36.1	13.1	14.5	26.3	13.4
Total	100.0	100.0	100.0	100.0	100.0

Marital Status

Marital status is assumed to be one factor that draws women into community activities. The majority of participants were currently married women (ranging from 70 percent in the urban strata to 81 percent in the upland and mixed economic strata). There were no clear differences in marital status by strata (Table 13.4).

Table 13.4 Percentage distribution of membership by marital status and strata

Marital status	Urban/ semi-urban	Rice	Plantation	Upland	Mixed economy
Single	16.5	14.8	11.6	11.1	10.4
Married	69.9	74.5	79.5	81.1	81.0
Widowed	8.7	5.9	4.9	4.7	4.3
Divorced/separated	4.9	4.8	4.0	3.1	4.3
Total	100.0	100.0	100.0	100.0	100.0

Number of Children

Number of children is divided into four groups: no children, 1-2 children, 3-4 children and 5 and over. The analysis shows that the majority of currently married members from all study areas had between one and four children. The highest proportion of women members with no children lived in the urban strata, while the highest proportion with at least five children was found in the plantation strata (Table 13.5).

Table 13.5 Percentage distribution of members by number of children and strata

Number of children	Urban/ semi-urban	Rice	Plantation	Upland	Mixed economy
None	2.7	1.1	1.2	1.4	1.3
1 – 2	55.9	60.3	51.0	54.9	53.7
3 – 4	40.5	35.9	40.4	37.3	39.1
5 +	0.9	2.7	7.4	6.4	6.0
Total	100.0	100.0	100.0	100.0	100.0

Difficulties in Handling Group Activities

The analysis also investigated constraints to group activities. Across all study areas the most important problem was inadequate participation by the group members, followed closely by budget limitations and limited management skills (see Table 13.6). Lack of budget was perceived as most problematic in the plantation strata, whereas no participation was seen as the major problem facing urban groups.

Table 13.6 Percent of members by difficulty and strata (multiple responses)

Difficulty	Urban/ semi-urban	Rice	Plantation	Upland	Mixed economy	Total
Financial problem	34.5	44.0	52.5	47.0	18.5	38.2
Lack of participation	55.2	36.0	33.9	28.8	48.1	39.3
Inadequate management skills	27.6	26.0	18.6	19.7	29.6	24.2
Inadequate resources and assets	3.4	0.0	5.1	9.1	4.9	4.9
Ineffective communication	3.4	2.0	5.1	15.2	0.0	5.6
Too few members	3.4	2.0	5.1	3.0	8.6	6.3
Others	0.0	0.0	0.0	4.5	0.4	1.4

14. Summary

One hundred villages/census blocks of the Kanchanaburi Project study areas were randomly sampled from five strata of Kanchanaburi province. The strata were urban/semi-urban, rice, plantation, upland, and mixed economy areas. Each strata consists of 20 villages/census blocks.

Fieldwork was conducted from 1st July 2000 to 15th August 2000 by ten interviewing teams (86 persons). Each team consisted of one supervisor and between five and nine interviewers. Details of every household and all individuals aged 15 years old and over were enumerated in the survey. Community data was also gathered from knowledgeable persons in each rural village.

The qualifications of supervisors were that they had at least a bachelors degree and that they had previous field experience. They were trained for five days and worked for one month before the interviewers were hired. Interviewers were required to have a bachelors degree. The majority had graduated from the Ratchaphat Institute Kanchanaburi and was therefore familiar with the province. The training session for interviewers was six days.

All questionnaires were edited in the field by interviewers and supervisors of each team before sending to the office for further editing. After the fieldwork, 22 interviewers/supervisors continued working in the data processing unit. The questionnaires were edited and coded before being keyed into computers. The period of data processing was from 28th August 2000 to 30th December 2000.

There were 11,758 eligible households and 29,828 eligible individuals. Of these, 11,612 households and 27,902 individuals were interviewed. Hence the response rates were 99 percent for households and 94 percent for individuals. Interviewing time ranged from three minutes to one and one-half hours for the household questionnaire and from two minutes to one hour and fifty-one minutes for the individual questionnaire. The mean interview time for households was 15 minutes and for individuals was 12 minutes. Analysis of interviewer's opinions on data quality suggests that quality was good to very good.

There were 42,614 persons interviewed in the 11,612 households. These consisted of 20,426 males and 22,188 females. Females outnumbered males in all strata except the uplands. The sex ratios for the elderly were low in all strata. Dependency ratios were highest in the uplands and lowest in the urban/semi-urban strata.

Agriculture was the major economic activity. The highest proportion involved in agriculture was observed in the plantation strata, followed by the uplands, rice, mixed economy and urban/semi-urban strata.

In-migrants in to the study areas within the 12 months prior to the interview were largely from within Kanchanaburi province. Urban/semi-urban strata experienced the highest in-migration rate (7 percent), followed by plantation, upland, and mixed economy strata. The lowest in-migration rate (2 percent) was observed in rice strata.

The majority of households owned land. They mostly used their land for agricultural purposes. The main agricultural activities were planting cash crops

and growing rice. The highest yield was observed in the plantation strata and the lowest in the uplands.

Spouses were the main receivers of remittances. In all areas except urban/semi-urban strata the proportion receiving money or goods from out-migrants was higher than sending resources to out-migrants. Children were the main receivers of money and goods sent out from the urban/semi-urban strata. Rural households had a high level of dependency on remittances.

Debt was highest in urban/semi-urban strata, being on average three times higher than for other areas. Except for urban/semi-urban households, debt was reported by more than half of the households in all areas. More than 60 percent of household in rice and plantation areas reported having debt.

The majority of adults in the study areas were currently married. Higher proportions of women than men were found in the categories of widowed or divorced/separated, with higher proportions of men reporting that they were currently married or single.

Males had a higher mean age of first marriage than did females. Persons in urban/semi-urban strata tended to marry at later ages than their rural counterparts (25 years old for men and 22 years old for women). On the other hand, persons in the uplands strata married at earlier ages (24 years old for men and 20 years old for women). Only 60 percent of married couples registered their marriages.

Fertility patterns were similar among strata but the levels were quite different. Fertility was lowest in urban/semi-urban strata and highest in the uplands (total fertility rates were 1.4 and 3.2 respectively).

Nearly all men and women knew of at least one contraceptive method. The proportion of men who knew of methods of contraception was lower than the proportion of women. This proportion was even lower without probing. Persons in the uplands had less contraceptive knowledge than others. The gap in contraceptive knowledge was wider between males and females in the uplands strata compared to other strata.

Three-fourths of currently married women of reproductive age were using contraceptive methods, with the exception of women in the uplands where the contraceptive prevalence rate was 64 percent. Upland women, compared to women in other strata, had lower knowledge of contraception, were less likely to use contraception, and had higher fertility.

Female sterilisation was the most popular method of contraception, followed by the pill and injection. Eight out of ten contraceptive users were using one of these three methods.

More than one-third of the adult population reported a chronic illness, with blood pressure problems and bone/body aches being most commonly reported. Across the five strata, 40 to 48 percent of the population reported a sickness within the month prior to the interview. Cold was the most common sickness reported in all areas.

Consumption of raw meat was reported in all study areas, although this was not a regular practice. Sleeping outside a mosquito net was seldom reported (less than 8 percent). Most respondents reported using a lavatory, with the highest levels of non-use reported in the uplands (12 percent) and plantation strata (12 percent).

Consumption of addictive substances such as cigarettes, beer, liquor, and tonic drinks was not common, with the exception of the upland population, where 42 percent reported they were regular smokers.

Only 421 deaths occurred in the year prior to the interview. The crude death rate was 10 per 1000. Mortality levels and patterns were similar to that found in the general Thai population, i.e. males had higher mortality than females and the mortality pattern had a J-shape. Most causes of deaths were sickness, accidents, and old age. Only nine percent of deaths were not registered. The reasons for not registering were: the person who died was an alien, never registered the birth, did not know registration office and did not know procedure.

Among women aged 15 – 59 years old, only 15 percent had joined community development groups. The majority of the members were middle aged, more than 80 percent were aged over 30 years old and only 10 percent were aged less than 25 years old. The majority had a primary level of education, with members in urban/semi-urban strata having the highest level of educational attainment. About three-fourths of members were currently married, with less than 20 percent in each strata being single.

Budget, lack of participation of members, and lack of management skills were the most cited problems of community development groups. Budget was the most cited problem in rice, plantation and highland strata. Lack of participation of members was observed in the urban/semi-urban strata and mixed economy strata.

Appendix

Table A2.1 Number, response rate, and average time for interviews (in minutes) by questionnaire

Questionnaire	Number eligible	Number of interviews	Response rate	Average time interview
Household	11,758	11,612	98.8	15
Individual	29,828	27,902	93.5	12

Table A2.2 Number and percentage distribution of interview non response by reason and type of questionnaire

Questionnaire	Household		Individual	
	Number	Percent	Number	Percent
Refused to be interviewed	47	32.6	340	17.7
Not available	45	31.3	467	24.2
Busy working	34	23.6	541	28.1
Sick/old/handicap	7	4.9	525	27.3
Vacant/deserted home	9	6.3	0	0.0
Drunk	0	0.0	14	0.7
Other	1	0.7	5	0.3
Do not know/no answer	1	0.7	34	1.8
Total	144	100.0	1,926	100.0

Table A2.3 Percentage distribution, and number of respondents by question and questionnaire

Question	Questionnaire	
	Household	Individual
What was the place where the interview was held like?		
Free from disturbances/ very private	50.0	48.5
There was some disturbance, but it did not affect the interview.	44.3	45.9
There was a disturbance and it affected the interview.	4.7	4.9
There was a lot of disturbance and the interview had to be stopped often/it is spoiled the atmosphere	0.7	0.5
Do not know / no answer	0.3	0.3
Total	100.0	100.0
(Number)	11,612	27,902
Was there anyone else present during the interview?		
Yes, all the time.	42.8	43.5
Yes, sometimes.	14.3	14.6
No, not at all.	42.5	41.6
Do not know / no answer	0.4	0.3
Total	100.0	100.0
(Number)	11,612	27,902
If there was another person in this interview, who was it? (Can answer more than one person)		
Other family members	73.5	81.2
Friend	7.5	7.5
Neighbor	31.0	25.0
Interpreter	3.6	3.6
Others (relatives, other interviewers, etc.)	3.3	3.4
Did such persons answer or give opinions for the respondent?		
Yes, a lot.	4.0	3.1
Yes, sometimes.	31.6	26.7
Yes, a little.	18.6	17.5
Not at all.	44.4	51.5
Do not know / no answer	1.4	1.2
Total	100.0	100.0
(Number)	6,676	16,303

Table A2.3 Continued

Question	Questionnaire	
	Household	Individual
How much cooperation did the respondent give during the interview?		
Very good	22.9	21.5
Good	72.3	73.0
Average	3.9	4.5
Little	0.4	0.6
Do not know / no answer	0.5	0.4
Total	100.0	100.0
(Number)	11,612	27,902
How did the respondent behave during the interview?		
Enjoyed answering	28.6	30.4
Indifferent	70.2	68.3
Reluctant to answer some questions.	0.6	0.8
Showed dissatisfaction of some questions.	0.1	0.1
Showed dissatisfaction of all questions.	0.1	0.1
Do not know / no answer	0.4	0.3
Total	100.0	100.0
(Number)	11,612	27,902
In general, what was the quality of the data obtained from this interview like?		
Very good	17.0	16.8
Good	76.3	76.2
Satisfied	6.1	6.4
Not good	0.2	0.3
Do not know / no answer	0.4	0.4
Total	100.0	100.1
(Number)	11,612	27,902

Appendix A 13.1: List of Community Groups

1. The Housewives' Group
2. The Police Housewives' Group
3. The Military Housewives' Group
4. The Community Leader Housewives' Group
5. The Health Officer Housewives'
6. Kanchanaburi Women's Group
7. The Village Voluntary Women's Group
8. The Women for Community Development Group
9. The Natural Conservation Group
10. The Women Travelling Group
11. The Women Leadership Group
12. The Ad hoc Group
13. The Savings Group
14. The Funeral Fund Group
15. The Aerobic for Health Group
16. The Local News Group
17. The Primary Education Foundation Group
18. The Elderly Group
19. The Youth Group
20. The Children's Folklore Activity Group
21. The Voluntary Social Welfare Group
22. The PTT for Development Group
23. The Child Minder Group
24. The Voluntary Community Development Group
25. The Village Tap Water Consumer Group
26. The Weaving Group
27. The Village Ranger Group
28. The Income Generating Activities Group
29. The Civil Society Group
30. The Sub-district Administrative Organization Group
31. The Village Health Communicator Group/Village Health volunteer Group
32. The Community Fishery Group
33. The Royal Patronage Fishery Group
34. The Savings Group supported by The Savings Bank
35. The Village Poverty Alleviation Group
36. The Law Group
37. The Community Safety Group
38. The Civil Safety Group
39. The Red Cross Group
40. The PDA Support Group

Institute for Population and Social Research, Mahidol University
Kanchanaburi Research Project
Year 2000

Household Data Questionnaire

Household No. _ _ _ _ _ _ _ _ _ _

Name of head of household
……
Name of respondent
……
House no. …… Village no. …… Village name …… Sub-district
……
District …… Kanchanaburi Province
Location 1. Municipality 2. Rural area

Result of 1st appointment 1. Yes 2. No, Next appointment: Date ……
Time……
Result of 2st appointment 1. Yes 2. No, Next appointment: Date ……
Time……
Result of 3st appointment 1. Yes 2. No,
because……

D/M/Y of 1st interview	D/M/Y of 2st interview	D/M/Y of 3st interview
……	……	……
Start at	Start at	Start at
……	……	……
End at	End at	End at
……	……	……
Total time	Total time	Total time
……	……	……

Name of Interviewer ……
Name of field supervisor ……
D/M/Y……
Name of editor ……
D/M/Y……
Name of coder ……
D/M/Y……

Part 1 : Basic Data on Household Occupants (ask only persons who are normally resident)

No.	1.1 First/Last Name	1.2 Date of birth			1.3 Age on last birthday*	1.4 Sex 1.Mele 2.Female	1.5 Relationship with head of household (See codes)
		Day	Month	Year			
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

* Q 1.3 record only those who do not know their birthday / or know year in Thai calendar.

Codes for Q 1.5 Relationship with head of household

0. Head of household	4. Child	8. Daughter in law	12. Friend
1. Spouse	5. Child of child	9. Grand child	13. Resident
2. Father	6. Sibling	10. Great grand child	14. Other (specify).....
3. Mother	7. Son in law	11. Relative	

1.6 Marital status (See codes)	1.7 Education level (Completed year) (Specify).....	1.8 Occupation (ask only persons age 4 and over) (Record job descriptions, such as rice farmer, crop farmer, teacher etc.) 0 Unemployed 995 Student	1.9 Has the person lived in this household for over a year? 1. Yes (go to Q 1.12) 2. No	1.10 When did the person move into this household? (month... year....)		1.11 Before moving into this household, where did the person live? (Name the last district and province)
				Month	Year	

Codes for Q 1.6 Marital status 1. Single 2. Married 3. Widowed 4. Divorced/Separated

No.	1.11 First/Last Name	1.12 Can this person comfortably carry out normal daily activities? 1. Yes (go to Q 1.14) 2. No	1.13 What type of disability does this person have? (Specify the type such as no leg, blind, no arms, or mental disability)
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

(For respondents aged less than 15 or aged 70 and over)				1.18
Q 1.14-1.16 Questions on health over the past month			1.17	(For respondents aged 15 and over)
1.14 Has the person ever been sick/contracted any disease? 1. Yes 2. No (go to Q 1.17)	1.15 What was the last sickness or symptom that the person had? (Specify).....	1.16 What kind of treatment did the person get? (Can answer more than one treatment) (See codes)	Over the past year was the person sick/contract any diseases?(Can answer more than one symptom/ disease) (See codes)	Is the person a member of any development group? 1. Yes 2. No 3. Do not know

Codes for Q 1.16 Treatment

0. No treatment
1. Obtain/purchase drugs
2. See health centre staff
3. Go to clinic
4. Go to a private hospital
5. Go to a malaria unit
6. Go to a government hospital
7. See a herbalist/traditional doctor
8. See a witch doctor
9. Self care without using any drugs e.g. cooling down the fever with wet cloth, avoid cloth taboo food
10. Other (Specify).....

Codes for Q 1.17 Type of diseases

0. No
1. Cold/Flu
2. Malaria
3. Elephantiasis
4. Tuberculosis
5. Diarrhea
6. Typhoid
7. Other (Specify).....

Part 2 : Household Characteristics

2.1 What dialect/language is normally used in the household ? (Only one answer)

1. Thai (Central)
2. Thai (Northeast)
3. Mon
4. Lao Song / Lao Puan
5. Burmese
6. Karen
7. Chinese
8. Other (Specify.....)

2.2 Do family members use other languages for communicating in this household ?

1. Yes
2. No (go to Q 2.3)

2.2.1 What dialects/languages ? (Can answer more than one dialect/language)

a. Thai (Central)
b. Thai (Northeast)
c. Mon
d. Lao Song / Lao Puan
e. Burmese
f. Karen
g. Chinese
h. Others (Specify.....)

2.3 Does this household have electricity?

1. Yes When did the electricity first become available? Year.....or about....year ago.
2. No

2.4 What kind of fuel is used in daily cooking ? (Rank importance from maximum to minimum used.)

a. Firewood rank .....
b. Charcoal rank .....
c. Gas rank .....
d. Electricity rank .....
e. Others (Specify .....) rank .....

2.5 Does this household have tap water ?

1. Yes When did tap water first become available? Year.....or about.....year ago.
2. No

2.6 What is the source of <u>drinking water</u> in this household ? (Can answer more than one source)

a. Rain water
b. Tap water
c. Natural source
d. Shallow well
e. Under ground water
f. Purchased drinking water

2.7 What is the source of <u>water for household use</u> ? (Can answer more than one source)

a. Rain water
b. Tap water
c. Natural source
d. Shallow well
e. Under ground water
f. Purchased drinking water

Does your family own these items ? If so, how many of each ? (Ask every item)

Items	2.8.1 Total number (If none, record `0')	2.8.2 How many years ago did you buy/ obtain the item? (record the most recent item if there are more than one) and (If less than 1 year, record `0')
1. Black/white TV		
2. Color TV		
3. Video/VCD		
4. Satellite disk		
5. Audio Equipment Stereo		
6. Mobile phone		
7. Telephone		
8. Pager		
9. Computer		
10. Electric fan		
11. Air conditioner		
12. Sewing machine		
13. Washing machine		
14. Gas stove		
15. Rice cooker		
16. Microwave		
17. Refrigerator		
18. Bicycle		
19. Motorcycle		
20. Motor cart		
21. Car (Specify model)		
22. Pick-up truck (four wheels) (Specify model)		
23. Truck (six wheels or more) (Specify model)		
24. Other (Specify).....		

Part 3 : Land Use and Agricultural Products

3.1 How many plots of agricultural land <u>belong to this household</u>? (If none, record 0)

Number of plots ..... plots

Plot 1: Total acreage..... rai ..... ngan .....square wa

Plot 2: Total acreage..... rai ..... ngan .....square wa

Plot 3: Total acreage..... rai ..... ngan .....square wa

Plot 4: Total acreage..... rai ..... ngan .....square wa

Plot 5: Total acreage..... rai ..... ngan .....square wa

3.2 Over the past year, did this household use land for agricultural purposes?

1. Yes ↓ 2. No (Go to Q 4.1)

Record details of land use, e.g., rice farming, crop farming (sugar cane, tapioca etc.), reforestation, and others etc.

Plot	Ownership 1. own 2. rent 3. other (Specify)	1st activity			2nd activity		
		Land use 1. rice farming 2. crop farming (Specify)..... 3. other (Specify)... ...	Cultivation period Activity (month – month)	Size of land used (rai)	Land use 1. rice farming 2. crop farming (Specify)..... 3. other (Specify)... ...	Cultivation period Activity (month - month)	Size of land used (rai)
1.							
2.							
3.							
4.							
5.							

3.3 Over the past year, what was the average household income selling agricultural products ? (from land use in Q 3.2)

.....Baht/year

Part 4 : Assistance from Household Residents

4.1 Over the past year, did any household member send money/items to support members who lived elsewhere?

1. Yes ↓ 2. No

Person supported (Relationship with head of household)	Amount (Baht/year)	Quantity of supplement (Specify) ..... (item/year and price/item)
a. Spouse		
b. Father		
c. Mother		
d. Child		
e. Children of the child		
f. Siblings		
g. Son in law		
h. Daughter in law		
i. Grand child		
j. Great grand child		
k. Relative		
l. Other (Specify)		

4.2 Over the past year, did your household receive any assistance in cash or in kind from household members living elsewhere, from others living elsewhere, or any agencies ?

1. Yes ↓ 2. No

Received support form	Amount (Baht/year)	Quantity of assistance (Specify) ..... (item/year and price/item)
A. Household members living elsewhere (relationship with head of household) 1. Spouse		
2. Father		
3. Mother		
4. Child		
5. Children of the child		
6. Siblings		
7. Son in law		
8. Daughter in law		
9. Grand child		
10. Great grand child		
11. Relative		
12. Other (Specify)		
B. Other support 1. Welfare money or living allowance for the handicapped		-
2. Welfare money for low income earners		-
3 Living allowance for the elderly		-
4. Social security money (e.g. severance pay)		-
5. Government support for children		-
6. Education loan for children		-
7. Occupational loan		-
8. Other (Specify)		

4.3 Does this household have any debts? (In terms of cash, rice credit or other debts)

1. Yes (Specify amount ..... Baht) 2. No

Part 5 : Mortality

Interviewer: Introduce this section with the following :

"As many deaths are not registered we are interested in obtaining information on death registration. Therefore could you tell me about any persons in your household who have died in the last year"

5.1 Over the past year, did any member of the household die ?

1. Yes 2. No

5.1.1 First/Last name	5.1.2 Date of birth			5.1.3 Date of death			5.1.4 Age at death*	5.1.5 Sex 1.Male 2.Female	5.1.6 Cause of death (See codes)	5.1.7 Specify illness that caused death 1. 2. 3.	5.1.8 Did you register the death? 1. Yes Where? (Specify)..... 2. No Why not?.....
	Day	Month	Year	Day	Month	Year					
1.											
2.											
3.											

* Q 5.1.4 record only those who do not know their birth date

Codes for Q 5.1.6 Cause of death

1. Sickness
2. Accident (Go to Q 5.1.8)
3. Old age (Go to Q 5.1.8)
4. Homicide (Go to Q 5.1.8)
5. Other (Specify).....

♣♣♣♣ End of Interview ♣♣♣♣

Interviewer's opinion: Interviewer, after ending this interview, please answer these questions frankly.

1. What was the place where the interview was held like?
   1. Free from disturbances.
   2. There was some disturbance, but it did not affect the interview.
   3. There was a disturbance and it affected the interview.
   4. There was a lot of disturbance and the interview had to be stopped often/it is spoiled the atmosphere.

2. Were there anyone else present during the interview?
   1. Yes, all the time.
   2. Yes, sometimes.
   3. No. (go to Q 5)

3. If there was another person in this interview, who was it? (Can answer more than one person)
   a. Other family members
   b. Friend
   c. Neighbor
   d. Other (Specify).....

4. Did such person answer or give opinions for the respondent?
   1. Yes, a lot.
   2. Yes, sometimes.
   3. Yes, a little.
   4. No.

5. How much cooperation did the respondent give during the interview?
   1. Very good
   2. Good
   3. Average
   4. Little

6. How did the respondent behave during the interview?
   1. Enjoyed answering
   2. Indifferent
   3. Reluctant to answer some questions. (Specify part/number).....
   4. Showed dissatisfaction with some questions. (Specify part/number).....

7. In general, what is the quality of the data obtained from this interview like?
   1. Very good
   2. Good
   3. Satisfied
   4. Not good

Institute for Population and Social Research, Mahidol University
Kanchanaburi Research Project
Year 2000

Individual Questionnaire for Respondents aged 15 and over

Household No. __ __ __ __ __ __ __ __ __
Family member No. __ __

Name of respondent
.....
Name of head of household
.....
House no. ..... Village no. ..... Village name ..... Sub-district .....
District ..... Kanchanaburi Province
Location 1. Municipality 2. Rural area

Result of 1st appointment 1. Yes 2. No, Next appointment: Date .....
Time.....
Result of 2st appointment 1. Yes 2. No, Next appointment: Date .....
Time.....
Result of 3st appointment 1. Yes 2. No,
because.....

D/M/Y of 1st interview	D/M/Y of 2st interview	D/M/Y of 3st interview
.....	.....	.....
Start at	Start at	Start at .....
End at	End at	End at .....
Total time	Total time.....	Total time .....

Name of Interviewer .....
Name of field supervisor .....
D/M/Y.....
Name of editor .....
D/M/Y.....
Name of coder .....
D/M/Y.....

Part 1 : Personal Data

1.1 What is your birthday ?
Day ..... Month ..... Year .....

1.2 How old were you on your last birthday ? (Record only those who do not know their birthday / or know year in Thai calendar)
Age in years .....

1.3 Sex of respondent.
1. Male 2. Female

1.4 What is your marital status ?
1. Single 3. Widowed
2. Married 4. Divorced/Separated

1.5 What is your (completed) educational level ? How long did it take to finish ?
Education level.....
Complete the education in year ..... or at age .....

Part 2 : Occupation and Income

Interviewer : The following are questions on occupation and income from April 1999 up to the present

Month	2.1 What is your major occupation ? (Specify in detail) 0 Unemployed (go to Q 2.5 and do not ask minor occupation)	2.2 What type of work do you do? (See codes)	2.3 What is your status? (See	2.4 What is your income? (Baht/ month)	2.5 (Ask only unemployed person) What is reason for not working? (See codes)	2.6 What is your minor occupation ? (Specify in detail) 0 Unemployed (go to Part 3)	2.7 What type of work do you do? (See codes)	2.8 What is your work status? (See codes)	2.9 What is your income? (Baht/ month)
April 99									
May 99									
June 99									
July 99									
August 99									
September 99									
October 99									
November 99									
December 99									
January 00									
February 00									
March 00									
April 00									
May 00									
June 00									
July 00									
August 00									

Codes for Q 2.2 and 2.7 Types of work :

1. Agriculture
2. Metals and non-metals mining
3. Industry/Handicraft
4. Construction
5. Public facilities/Sanitation
6. Commerce
7. Transportation and communication
8. Service
9. Other (Specify) .....

Codes for Q 2.3 and 2.8 Status at work :

1. Private sector employee
2. Government employee
3. State enterprise employee
4. Employer
5. Self-employed
6. Assist with family business
7. Contract work (work at home)
8. Labourer

Codes for Q 2.5 Reasons for not working :

1. Do house work
2. Study
3. Wait for a certain seasons/ assist with family business
4. Retired
5. Severely sick
6. Do not want to work
7. Caring for children
8. Caring for elderly
9. Other (Specify) .....

Part 3 : Migration

Interviewer : The following are questions to ask everyone

Migration History

3.1 Where is your birthplace ? (record the village, sub-district, district, province and country.)
Village no ..... Village name ..... Sub-district .....
District ..... Province ..... Country.....

3.2 At the time when you were born, was your birthplace located in a municipality, sanitary or rural area ?
1. Municipality 2. Rural area 3. Sanitary District

3.3 From April 1999 up to the present, did you ever move to stay somewhere else for one month or more ?
1. Yes (go to Q 3.3.1) 2. No (go to Q 3.4)

Where did you stay between April 1999 up to present ? (Ask only persons who have moved during that time)

3.3.1 Month	3.3.2 Village (Specify name) 0 City (Specify name of municipality / Sanitary)	3.3.3 Sub-district	3.3.4 District	3.3.5 Province	3.3.6 Country
April 99					
May 99					
June 99					
July 99					
August 99					
September 99					
October 99					
November 99					
December 99					
January 00					
February 00					
March 00					
April 00					
May 00					
June 00					
July 00					
August 00					

3.3.7 Person(s) you stayed with (Can be more than one person) (See codes)	3.3.8 Reason for moving there (Only the most important of reason) (See codes)	3.3.9 What major activities did you do ? (Record job characteristics) 0 Unemployed (go to Q 3.3.11)	3.3.10 Income/items brought back or sent back (Baht)	3.3.11 Reasons for moving away (Only the most important reason) (See codes)

Codes for Q 3.3.7 Person stayed with :

0 Alone	3 Mother	6 Child	9 Daughter-in-law	12 Employer
1 Spouse	4 Step father	7 Children of the child	10 Another family	13 Other (Specify).....
2 Father	5 Step mother	8 Son-in-law		11 Friend

Codes for Q 3.3.8 Reason for moving there, and for Q 3.3.11 reason for moving away :

1 For a job looking	4 Visit friends	7 Ordained	10 Receive medical treatment
2 Seasonal work	5 Visit relatives	8 Military service	11 Return home
3 Work	6 Study	9 Join spouse	12 Other (Specify).....

3.4 Are you thinking of moving to live elsewhere for more than one month in the next 12 months ?

1. Yes 2. No 3. Not certain

3.4.1 Where do you plan to move to in the next 12 month ? (Record village, sub-district, district, province.)

Village no ..... Village name ..... Sub-district.....

District ..... Province..... Country .....

3.4.2 Where is the place you plan to go ?

1. Municipality 2. Rural area 3. Sanitary

3.4.3 When do you plan to move ?

Month ..... Year .....

3.4.4 How long will you be away (month[s]) ?

..... Month(s)

3.4.5 Whom do you plan to stay with ? *(Can answer more than one person)*

a. Alone e. Child i. Employer

b. Spouse f. Children of the child j. Other (Specify) .....

c. Father g. Other family

d. Mother h. Friend

3.4.6 Reason for moving ? (the most important reason)

1. Look for a job 5. Visit relatives 9. Join spouse
2. Seasonal work 6. Study 10. Received medical treatment
3. Work 7. Ordained 11. Return home
4. Visit friends 8. Military service 12. Other (Specify).....

Part 4 : Health and Sanitation

4.1 Do you suffer from any persistent illness ? (Illness that makes you sick on and off)
1. Yes 2. No

↓

4.1.1 Persistent illness or symptom	4.1.2 How long have you been sick ? (approx.)	4.1.3 Methods of treatment (See codes)	4.1.4 Reason for choosing each treatment (See codes)
1.....	..... year ..... month	1..... 2..... 3..... 4.....	1..... 2..... 3..... 4.....
2.....	..... year ..... month	1..... 2..... 3..... 4.....	1..... 2..... 3..... 4.....

Codes for Q 4.1.3 Methods of treatment

0 No treatment
1 Get/purchase drugs for self-treatment
2 See health centre staff
3 Go to a clinic
4 Go to a private hospital
5 Go to a malaria unit
6 Go to government hospital (Specify).....
7 Go to a VD/AIDS clinic
8 Go to a herbalist/traditional doctor
9 Go to a witch doctor
10 Treat self without using drugs (e.g. cooling down the fever with wet cloth, avoiding taboo foods)
11 Other (Specify) .....

Codes for Q 4.1.4 Reason for choosing each treatment

1 Mild sickness
2 Not want to take drugs
3 Afraid of drug resistance
4 Get sick often and always get
6 Lazy to go for treatment
7 Can be treated by drugs
8 Try purchased drugs first
9 Save time
10 Serious illness
11 Good service and polite
12 Quick and convenient
13 Not better after taking drugs
14 Close to home
15 Cheap
16 Not better after going to a clinic
17 Good treatment
18 Can claim for medical care/health insurance
19 Other (Specify) .....

4.2 In the past month, did you have any disease or did you feel sick (Include both minor and serious sickness as well as accidents) ?

1. Yes 2. No

4.2.1 Disease or symptoms of sickness over the past month (Specify symptoms in detail)	4.2.2 Methods of treatment (See codes)	4.2.3 Main reason for choosing each treatment (See codes)
1.....	1..... 2..... 3.....	1..... 2..... 3.....
2.....	1..... 2..... 3.....	1..... 2..... 3.....
3.....	1..... 2..... 3.....	1..... 2..... 3.....

Codes for Q 4.2.2 Methods of treatment

0 No treatment
1 Get/purchase drugs for self-treatment
2 See health centre staff
3 Go to a clinic
4 Go to a private hospital
5 Go to a malaria unit
6 Go to government hospital (Specify).....
7 Go to a VD/AIDS clinic
8 Go to a herbalist/traditional doctor
9 Go to a witch doctor
10 Treat self without using drugs (e.g. cooling down the fever with wet cloth, avoiding taboo foods)
11 Other (Specify) .....

Codes for Q 4.2.3 Main reason for choosing each treatment

1 Mild sickness
2 Not want to take drugs
3 Afraid of drug resistance
4 Get sick often and always get
6 Lazy to go for treatment
7 Can be treated by drugs
8. Try purchased drugs first
9. Save time
10. Serious illness
11 Good service and polite
12 Quick and convenient
13 Not better after taking drugs
14 Close to home
15 Cheap
16 Not better after going to a clinic
17 Good treatment
18 Can claim for medical care/health insurance
19 Other (Specify) .....

Interviewer : If Q 4.1 and/or Q 4.2 is answered 1, then go to Q 4.4

4.3 In the past month, have you been treated with any of them ? *(Ask each treatment)* when you were sick ?

Treatment	Have you received this treatment ?		If so, in which case ? (Specify disease and reason)	
	1. Yes	2. No	Disease	Reason (Codes)*
4.3.1 Let the body heal itself	1	2		
4.3.2 Get/purchase drugs	1	2		
4.3.3 Go to health centre	1	2		
4.3.4 Go to a clinic	1	2		
4.3.5 Go to a private hospital	1	2		
4.3.6 Go to a malaria unit	1	2		
4.3.7 Go to a government hospital	1	2		
4.3.8 Go to a VD/AIDS clinic	1	2		
4.3.9 Go to a herbalist/traditional doctor	1	2		
4.3.10 Go to a witch doctor	1	2		
4.3.11 Treat self without using drugs (e.g. cooling down the fever with wet cloth, avoiding taboo foods)	1	2		
4.3.12 Other (Specify).....	1	2		

* See codes Q 4.2.3

4.4 In the past year, have you ever eaten raw or half-cooked food ? If so, how often ?

1. Never (go to Q 4.5)
2. Seldom
3. Once or twice a week
4. Everyday / almost everyday

4.4.1 What raw or half-cooked food do you often eat ?	....

4.5 Do you sleep in a mosquito net / a screened room ?

1. Never
2. Some days
3. Everyday
4. Other (Specify) .....

4.6 Do you regularly use a toilet ?

1. Never
2. Sometimes
3. All the time

4.7 Do you currently consume any of the following ? If so, how often ?

Item	Do you use it ? 1. Yes 2. No	How often ? (See codes)	Amount consumed (per day or per time)
a. Cigarettes			(per day)
b. Beer			(per day)
c. Liquor			(per day)
d. Stimulant drinks			(per day)
e. Coffee (canned)			(per day)
f. Other drugs (regularly) e.g. pain killers, tranquilizers.			(per time)

Codes for "How often? :

1 Once a week
2 Twice a week
3 Three times a week
4 Four times a week
5 Five times a week
6 Six times a week
7 Everyday
8 Seldom

4.8 Do you have any health insurance ? (For example, a health card or insurance from a private company)

1. Yes 2. No

4.8.1 What kind of health insurance do you have ? *(Can answer more than on card)*
a. Health card for a health centre / government hospital
b. Health insurance from a private company
c. Social security card
d. Other (Specify).....

4.8.2 Have you received a health insurance card from any government organization? *{Such as, low-income card, student card (age 0-12), student card (secondary school), community leader card, which are village head, village head assistance, sub-district medical officer card, health volunteer card, and disability person's card}*

1. Yes (Specify).....
2. No

4.9 Where have you received health knowledge or information (physical and mental health care) ?

Interviewer: If the respondent has ever received health information and answers item spontaneous by circle 1

If the respondent has never received health knowledge or information of any kind of source (1 is not circled), then ask for each item "have you ever received information from.....? If the respondent replies "yes" circle 2. If he or she has never received health knowledge or information from that source (by spontaneous responses asked or not), then circle 3.

Source	Response for health knowledge or information		
	1. Yes (leading)	2. Yes (no leading)	3. Never
a. Neighbor	1	2	3
b. Radio	1	2	3
c. TV	1	2	3
d. Poster / Brochure / Leaflet	1	2	3
e. Newspaper / Magazine	1	2	3
f. Medical personnel	1	2	3
g. Other (Specify)			

Part 5 : Child Bearing

Interviewer : The following are questions on child bearing. Ask only married women aged 15-50

5.1 Have you ever been pregnant ?

1. Yes (Specify.....) (not including this pregnancy) 2. No (go to Part 6)
3. Pregnant (Have been pregnant for ..... months)

5.1.1 No. of pregnancy	5.1.2 Pregnancy results 1. Born alive 2. Stillbirth 3. Spontaneous abortion 4. Abortion 5. Pregnant	5.1.3 When did the event happen ? Day	Month	Year	5.1.4 Did you register this birth ? 1. Register, where? (Specify)..... 2. Not register, why? (Specify).....	5.1.5 Name of child / children	5.1.6 Sex 1. Male 2. Female
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

5.1.7 Is this child still alive ? 1. Yes (go to next pregnancy) 2. No (cont. Q 5.1.8)	5.1.8 (If dead) Age at death (Specify no. of year/month or day for the baby)	5.1.9 What was the cause of death ? (Only the major cause) (See codes)	5.1.10 Did you register the death ? 1. Register, where? (Specify)..... 2. Not Register, why ? (Specify).....

Codes for Q 5.1.9 Cause of death

1. Sickness (Specify disease).....
2. Accident
3. Murder
4. Suicide
5. Natural disaster
6. Other (Specify).....

Interviewer summarizes the pregnancy history in the box below and checks for accuracy. If in accurate, go back to questions in the table and ask again.

5.1.11	How many children ever born ?	
	Male	Female .....
	Total	
5.1.12	How many living children ?	
	Male	Female .....
	Total	
5.1.13	Among the ever born children, how many were dead ?	
	Male	Female .....
	Total	
5.1.14	Number of failed pregnancies (stillbirth, spontaneous abortion, abortion)	
	No. of pregnancy	
5.1.15	Number of pregnancies (Excluding the present one)	
	No of pregnancy	

Part 6 : Contraceptives

Interviewer : The following are questions for every male and female aged less than 50 years Except questions about "Methods Used", do not ask single women.

6.1 What methods of contraceptive do you know about/have you used ?

Interviewer : If the respondent knows without a leading question, then circle 1
For methods that he or she does not know, then ask leading question. If he or she knows that method, then circle 2
For methods that he or she does not know, (both with and without lead question) then circle 3
Among methods that he or she knows, then ask "Have you ever used...methods ?

Contraceptive	Methods known			Methods Used (do not ask single women)	
	1. Yes (without leading)	2. Yes (with leading question)	3. No	1. Ever used	2. Never used
a. Female sterilization	1	2	3	1	2
b. Vasectomy	1	2	3	1	2
c. Implant (Nor plant)	1	2	3	1	2
d. Injection	1	2	3	1	2
e. Inter uterine device	1	2	3	1	2
f. pills	1	2	3	1	2
g. Condom	1	2	3	1	2
h. Withdrawal	1	2	3	1	2
i. Rhythm method	1	2	3	1	2
j. Other (Specify).....				1	2

Interviewer : For women, check if they used or are using contraceptives.
If so, continue Q 6.3
If not, go to part 7. For male respondents who know the condom method,
Continue to Q 6.2, If not, go to part 7.

Interviewer : The following are the questions for men who know the condom method only.

6.2 Besides using a condom for birth control, have you ever used condoms for other purposes ?

1. Yes (Specify the reason) ..... 2. No

Interviewer : The Following are questions to be used with women who have used any of the contraceptive methods in Q 6.1

6.3 Are you currently using any contraceptive method ?

1. Yes ↓ 2. Not any more (go to Part 7)

6.3.1 What method(s) are you using ? (Can answer more than method)

a. Female sterilization	e. Inter uterine device	i. Rhythm method
b. Vasectomy	f. Pills	j. Other (Specify).....
c. Implant	g. Condom	.....
d. Injection	h. Withdrawal	.....

(If there is more than one answer, the interviewer should underline the most effective method and ask about this method in Q 6.3.2 - 6.3.4)

6.3.2 When did you use the first (first use) contraceptive ?

month ..... year .....

(If cannot remember, what is age at first use ..... year)

Interviewer : If using a permanent method (female sterilization / vasectomy), go to Q 6.3.4

6.3.3 Have you ever stopped using the contraceptive since you started ?

1. Yes 2. No

↓

6.3.3.1 How many times did you stop ?

No. of times .....

6.3.3.2 When did you start using ..... method (the last time) ?

Starting date of the last usage: Day... Month.... Year...

6.3.4 Have you ever become pregnant while using .....method ?

1. Yes 2. No

↓

6.3.4.1 When did it happen ? (the last time)

Month..... Year.....

Part 7 : Marriage

Interviewer : The following questions are for persons who ever married.

No. of marriage	7.1 Age at marriage? (Year)	7.2 Did you register this marriage? 1. Yes 2. No	7.3 Are you still in this marriage? 1. Yes (go to Part 8) 2. No	7.4 If no, are you divorced from this person? 1. Yes 2. No (go to Q 7.6) 3. Widow (go to Q 7.6)	7.5 Did you register this divorce? 1. Yes 2. No	7.6 Age at divorce/ separate/ Widow ? (Year)	7.7 After divorce/ Separation/ widow, did you marry again? 1. Yes (go to the next marriage) 2. No (go to Part 8)
1.							
2.							
3.							
4.							
5.							

Part 8 : Women's Roles in Community Development

Interviewer : The following are questions for women aged 15-59 only

8.1 Are you a member of any community development group/club ?
1. Yes 2. No 3. Have no idea whether there is such a group

↓

8.1.1 What group/club do you belong to ? (Specify name.....)	8.1.2 What is your position in a club/group ?	8.1.3 What are your activities in this club/group ?	8.1.4 Over the past year, how many times did you join the activities ? (times per year)	8.1.5 What is the main problem of this club/ group ?
1st group				
2nd group				
3rd group				

♣♣♣♣ End of Interview ♣♣♣♣

Interviewer's opinion:

Interviewer, after ending this interview, please answer these questions frankly.

1. What was the place where the interview was held like?
   1. Free from disturbances.
   2. There was some disturbance, but it did not affect the interview.
   3. There was a disturbance and it affected the interview.
   4. There was a lot of disturbance and the interview had to be stopped often/it is spoiled the atmosphere.

2. Were there anyone else present during the interview?
   1. Yes, all the time.
   2. Yes, sometimes.
   3. No. (go to Q 5)

3. If there was another person in this interview, who was it? (Can answer more than one person)
   a. Other family members
   b. Friend
   c. Neighbor
   d. Other (Specify).....

4. Did such person answer or give opinions for the respondent?
   1. Yes, a lot.
   2. Yes, sometimes.
   3. Yes, a little.
   4. No.

5. How much cooperation did the respondent give during the interview?
   1. Very good
   2. Good
   3. Average
   4. Little

6. How did the respondent behave during the interview?
   1. Enjoyed answering
   2. Indifferent
   3. Reluctant to answer some questions. (Specify part/number).....
   4. Showed dissatisfaction with some questions. (Specify part/number).....

7. In general, what is the quality of the data obtained from this interview like?
   1. Very good
   2. Good
   3. Satisfied
   4. Not good

Institute for Population and Social Research, Mahidol University
Kanchanaburi Research Project
Year 2000

Village Questionnaire

Identification No. .....

Village no. .....Village name.....Sub-district .....
District..... Kanchanaburi Province

D/M/Y of 1st interview .....
Starting at ..... Ending at .....
Total time .....

Name of Interviewer .....
Name of field supervisor ..... D/M/Y .....
Name of editor .... D/M/Y.....
Name of coder .....D/M/Y .....

Opinion .....
.....
.....
.....
.....
.....
.....

Village Data

Name of respondents	Position	Age (years)	Sex	Household Number
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Number of other participants.....persons

Part 1 : General Data

Interviewer : Questions No. 1.1-1.4 start at the time that people migrated from another place to settle down at this village. **Do not start at the time when village was officially established .**

1.1 Where did the first group of villagers come from?
Village.....Sub-district.....
District.....Province.....

1.2 When was this community established? (How long?), and what was the name when it was first established?
Established since.....(or established for.....year)
Name of community.....

1.3 Since the village was established, had it ever been divided from other villages?
1. Yes. 2. No.

1.3.1 The name of the village that was divided .....

1.3.2 The village was divided since.....(or for..... years)

1.4 Currently, are most population of this village local or recent immigrants?
1. local 2. recent immigrants

1.4.1 Where did these people migrate from?

Village name.....Sub-district.....
District.....Province.....

1.4.2 Most people migrated to this village in ..... (or for.....years)

1.5 Currently, how many households are there in this village?
..... Households

1.6 Currently, how many males (including boys) are there in this village?
..... Males

1.7 Currently, how many females (including girls) are there in this village?
..... Females

Part 2 : Agriculture

2.1 How much land is used for agriculture in this village?
.....rai

2.2 What type of agriculture are most households in this village inolved in doing?
1. Rice farming (Ask Q. 2.3-2.6)
2. Crop farming (Ask Q. 2.7-2.10)
3. Vegetable garden (Ask Q. 2.11-2.14)
4. Orchard (Ask Q. 2.15-2.18)
5. Other (Specify).....

1. In case of rice farming (The rice was grown on owned land or rented land; this land could be located inside or outside the village.)

2.3 How many times per year do most households grow rice?
1. Once a year 2. Twice a year 3. Twice a year, but not every year
4. More than four times 5. Other (Specify).....

2.4 In the past year, how much rice did most households produce? (Kilograms per rai)
..... (Kilograms per rai)

2.5 In the past year, did households in this village spend money on fertilizer for growing rice? If yes, how much?
1. Yes. Cost..... Baht/Rai 2. No.

2.6 In the past year, did households in this village spend money on chemical products used for protecting and killing insects, weeds, and pests in rice farming? If yes, how much?
1. Yes. Cost..... Baht/Rai 2. No.

2. In case of crop farming (The crop was grown on the own land or rented land, which the land could be located inside or outside the village.)

2.7 In the past year, what type of crops did most households in this village grow?
Rank 1st .....
Rank 2nd .....
Rank 3rd .....

2.8 In the past year, how many crop products (Rank 1st in Q. 2.7) did most households produce?
..... (Kilogram per rai)

3. **In case of vegetable garden** (The vegetables were grown on owned land or rented land, this land could be located inside or outside the village, excluding vegetable gardens in the household area or the field.)

2.9 In the past year, did households in this village spend money on fertilizer for vegetable farming? If yes, how much?
1. Yes. Cost..... Baht/Rai 2. No.

2.10 In the past year, did households in this village spend money on chemical products used for protecting and killing insects, weeds, and pests in vegetable farming? If yes, how much?
1. Yes. Cost..... Baht/Rai 2. No.

2.11 In the past year, what type of vegetables did most households in this village grow?
Rank 1st .....
Rank 2nd .....
Rank 3rd .....

2.12 In the past year, how many vegetable products (Rank 1st in Q. 2.11) did most households produce? ..... (Kilograms per rai)

2.13 In the past year, did households in this village spend money on fertilizer for growing vegetables? If yes, how much?
1. Yes. Cost..... Baht/Rai 2. No.

2.14 In the past year, did households in this village spend money on chemical products used for protecting and killing insects, weeds, and pests in vegetable growing? If yes, how much?
1. Yes. Cost..... Baht/Rai 2. No.

4. **In case of orchard** (Fruit was grown on the own land or rented land, which the land could be located inside or outside the village, excluding fruit garden growing in the household area or the field.

2.15 Over the past year, what type of fruit did most households in this village grow?
.....

2.16 Over the past year, how many orchard products did most households produce?
..... (Kilograms per rai)

2.17 Over the past year, did households in this village spend money on fertilizer for orchards? If yes, how much?
1. Yes. Cost..... Baht/Rai 2. No.

2.18 In the past year, did households in this village spend money on chemical products used for protecting and killing insects, weeds, and pests in orchards? If yes, how much?

2.19 In the past year, did any households in this village undertake agriculture during the summer?

1. Yes. ↓ 2. No.

2.19.1 What did **most people** grow? (Specify).....

2.19.2 How much did they earn (from selling their products)? ..... Baht / Rai

2.20 What is the source of water for agriculture? (Can answer more than one source.)

a. Irrigation canal
b. Ground water
c. Creek or canal
d. Swamp or reservoir
e. Small dam for irrigation purpose
f. Rain water (only)
g. Other (Specify).....

Part 3 : Occupation

3.1 In the past year, did anyone in this village go to work as a labourer (in agriculture) in other villages (by going in a group of more than five people)?
1. Yes. 2. No. (Go to No. 3.2)

3.1.1 Where did the group go to work ? within the sub- district within the province other provinces(specify)..... abroad (specify).....	3.1.2 In which period of time and what were the job characteristics? (month-month or year)		3.1.3 How many people went to work as labourers (in agriculture)?		
	Period of time	Job characteristics	Total	Males	Females

3.2 In the past year, did anyone in this village go to work as a labourer (non-agriculture) in other villages (by going in a group of more than five people)?
1. Yes. 2. No. (Go to No. 3.3)

3.2.1 where did the group go to work ? within the sub- district within the province other provinces (specify).. abroad (specify).....	3.2.2 In which period of time and what were the job characteristics? (month-month or year)		3.2.3 How many people went to work as labourers (non agricultural)?		
	Period of time	Job characteristics	Total	Males	Females

3.3 In the past year, did anyone from other villages come to work as a labourer (in agriculture) in this village (by coming in a group of more than five people)?

1. Yes. 2. No. (Go to No. 3.4)

3.3.1 Where did the group come from? within the sub- district within the province other provinces (specify).. abroad (specify).....	3.3.2 In which period of time and what were the job characteristics? (month-month or year)		3.3.3 How many people came to work as labourers (in agriculture)?		
	Period of time	Job characteristics	Total	Males	Females

3.4 In the past year, did anyone from other villages come to work as a labourer (non-agricultural) in this village (by coming in a group of more than five people.)?

1. Yes. 2. No. (Go to No. 4.1)

3.4.1 Where did the group come from ? within the sub- district within the province other provinces (specify)... abroad (specify).....	3.4.2 In which period of time and what were the job characteristics? (month-month or year)		3.4.3 How many people came to work as labourers (non agricultural)?		
	Period of time	Job characteristics	Total	Males	Females

Part 4. Infrastructure and transportation

4.1 Does this village have electricity?
1. Yes, since..... 2. No.

4.2 Does this village have tap water?
1. Yes, since..... 2. No.

4.3 What are sources of drinking water in this village? (Can answer more than one source.)
a. Rain water c. Natural source e. Ground water
b. Tap water d. Shallow well f. Purchase drinking water

4.4 What are sources of water used by people in this village? (Can answer more than one source.)
a. Rain water c. Natural source e. Ground water
b. Tap water d. Shallow well f. Purchase drinking water

4.5 Does this village have any public telephone?
1. Yes, No. of telephones..... 2. No.
No. of working telephones.....

4.6 Do households in this village have telephones?
1. Yes, No. of telephone(s)..... 2. No.

4.7 Do the villagers have mobile/cellular telephones?
1. Yes, No. of mobile telephone(s)..... 2. No.

4.8 Does this village have a broadcasting tower?
1. Yes. 2. No.

4.9 Does this village have radios for communication?
1. Yes, No. of radio for communication ..... 2. No.

4.10 Can residents of this village communicate through the internet?
1. Yes. 2. No. 3. Do not know.

4.11 Does this village have temples or monks?
1. Yes, No. of temple(s)..... 2. No.
No. of monk .....

4.12 What type of main road do people use for travelling within the village? (excluding walkways)
1. Soil 2. Laterite 3. Asphalt 4. Concrete

4.13 What type of the road do people use for travelling outside the village?
1. Soil 2. Laterite 3. Asphalt 4. Concrete

4.14 In the past year, did the roads in this village have a flood problem (that caused people inconvenience when they traveled to the district)? If yes, which month?
1. Yes, (Record the month when the problem occurred) ..... 2. No.

4.15 Before the past year, did the roads in this village have a flood problem (that caused problems of travelling to the district)? If yes, which month?
1. Yes. (Record the month when the problem occurred) ..... 2. No.

4.16 How far is this village from the district? (The district where this village is located.)
..... .Kilometer(s)

4.17 Does this village have a bus route?
1. Yes 2. No. (Go to Q. 4.17.3)

4.17.1 How often does the bus pass this village? ..... Rounds/days
4.17.2 How long is each bus round? (Specify in time such as, every half an hour or every hour)
.....

4.18 If no, how far is this village from the place where the bus route?
..... Kilometer(s)

Part 5. Education

5.1 Does this village have any schools / government or private academic institutes?
1. Yes. 2. No.

5.1.1 If yes, What are they?

Name of school/institution	Year of establishment Year... ..	Type of school Government Private	What are the school's levels?		Number of students studying in each level of this school (age not over 18)			
			Minimum level	Maximum level	Kindergarten	Prathom 1-6 (Primary)	Mathayom 1-3 (Lower secondary)	Mathayom 4 and over (Upper secondary)

5.2 Do students in this village go to the school identified in Q. 5.1.1, or do some students go to other schools?

1. All students in this village go to the school identified in Q 5.1.1.
2. Some students go to other schools.

5.2.1 If yes, What school do they attend? (Only students, who commute to school daily)

Name of school/institution	Type of school 1. Government 2. Private 3. Other (Specify)	Location of school/institution				What are the school's levels?		Number of students studying in each level (age not over 18)			
						Minimum level	Maximum level	Kindergarten	Prathom 1-6 (Primary)	Mathayom 1-3 (Lower secondary)	Mathayom 4 and over (Upper secondary)
		Village/ town	Sub-district	District	Province						

Part 6 : Environmental Problems (Sources of problems do not necessarily occur from this village.)

6.1 Does this village have any environmental problems from using chemical fertilizers?

1. Yes. (Explain).....

2. No.

6.2 Does this village have any environmental problems from using insecticides?

1. Yes. (Explain).....

2. No.

6.3 Does this village have any environmental problems from using herbicides?

1. Yes. (Explain).....

2. No.

6.4 Does this village have any environmental problems from industrial wastewater?

1. Yes. (Explain).....

2. No.

6.5 Does this village have other environmental problems?

1. Yes. (Explain).....

2. No.

Part 7 : Communication

7.1 What languages can people in this village speak? (Can answer more than one language)

a. Standard Thai
b. Northeastern Thai
c. Mon
d. Song Loa/ Puan Lao
e. Burmese
f. Karen
g. Chinese
h. Other (Specify).....

7.2 What language do most people in this village normally speak in daily life?

.....

Part 8 : Health and Sanitation and Public Health Services

8.1 Does this village have any of the following Public Health Services or personnel? (If yes, record the numbers)

Type of Public Health Service	Yes. Specify)...	No.(✓)
Government		
Community hospital	.....	
Sub-district health station	.....	
Community based public health centre	.....	
Malaria Unit	.....	
Malaria Volunteer	.....	
Village public health volunteer	.....	
Drug fund/ Drug cooperative/ Drug Bank	.....	
Other (Specify).....	.....	
Private		
Private hospital	.....	
Private clinic	.....	
Dental Clinic (Treated by dentist)	.....	
Dentist place(Treated by other personnel, who are not dentists)	.....	
Obstetrics office/ Antenatal/postnatal clinic	.....	
Local midwife that has already been trained by public local health personnels	.....	
Local midwife that has not been trained	.....	
Trade trad doctor	.....	
Pharmacy	.....	
Grocery which also sells drug	.....	
Other (Specify).....	.....	

8.2 In the past year, What disease was the major problem of this community?
.....

♠♠♠♠ The end of interview ♠♠♠♠

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Angkor
Chanthabun
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Ko Phangan
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