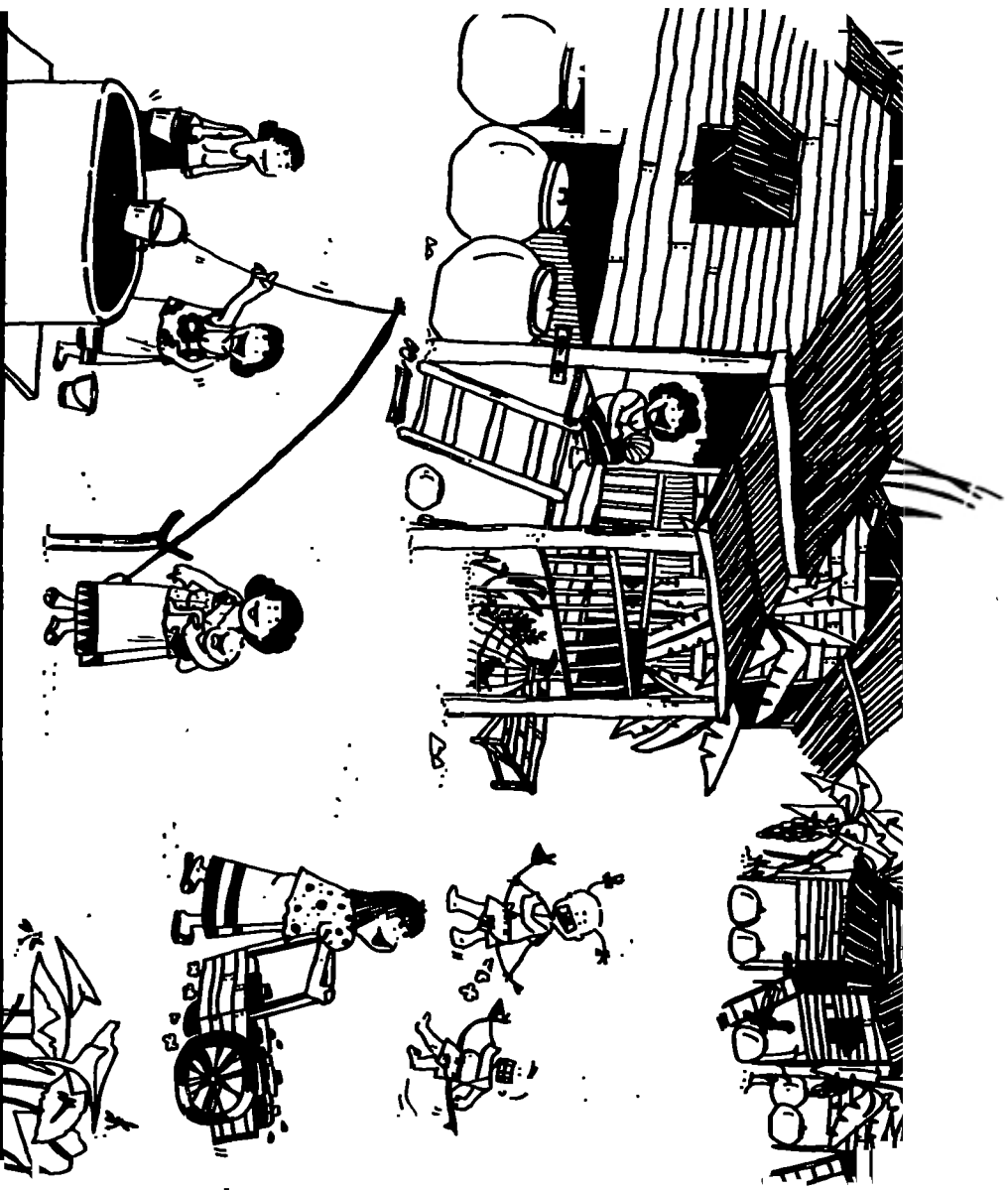


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**RESEARCH REPORT ON
WOMEN WATER AND SANITATION IN THE RURAL
NORTHEAST OF THAILAND**



202.1-4268

**NONGLUK TUNYAVANICH SUBARN PANVISAYAS PUTSATEE AGAMANON
YANWIPHA PASANDHANATORN KAMOLTI P KHATIKARN THAWATCHAI BOONCHOTE
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JANUARY 1987

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also shows that, on the average for the whole year, 89 percent of the people are drinking open dug well water and 80 percent do not drink hand-pumped water. The Government, through the Ministry of Public Health, is trying to achieve the goal set in the fifth and sixth Plan through a self-reliance concept. It gives the people the training to construct water facilities locally and sets up a village sanitary, revolving fund for people to borrow to install water facilities in their households. However, the impact of the program, in terms of knowledge about the program and in participation in the program in many areas, has been very low in the first two and a half years of implementation.

The Girl Guides Association of Thailand (GGAT) is an NGO which has worked in the area of development, especially women and youth development, for over two decades. Health is an area that GGAT puts an emphasis on. In 1983, GGAT started work on a project called, "The promotion of women as health care providers for family and community", for the purpose of stimulating an awareness of women's roles as health care providers. They also seek to promote participation of women in health and other social developments. Financial support came from WHO. A national meeting of related organizations and individuals was held in December 1983 and a national committee was set up with full support of the Ministry of Public Health and other related organizations to work on the project. In February 1984, a provincial level meeting was arranged

in Lamphoon and was very successful. It was a pilot project on how best to carry out a provincial meeting. Lessons learned from this meeting will help in following up with meetings nation-wide. A full scheme proposal on the subject was submitted to WHO for financial assistance. In December 1984, funds were given by WHO to hold four regional meetings and this work was accomplished during February - March 1985.

GGAT realizes that water is a very important component of good health ; since a majority of the water providers in rural areas in this country are women, the burden on the women in this respect is very great ; a lot of them still have to walk a distance to get water by hand every day. In addition, acceptable sources of clean water from the villager's point of view are limited. A majority of them still resort to an open dug wells which may not be clean.

Therefore, in response to the problems mentioned, GGAT, with the endorsement of the Thai Government has requested and obtained assistance from UNDP under a two-year project INT/83/003 to fund a Pilot Rural Community Based Water Supply Project. A key element in this project is the promotion of women's participation and initiation in improving their own water supplies.

The Faculty of Social Sciences and Humanities, Mahidol University, has agreed, with the assistance from WHO (ICP/CWS 005) to carry out a case study to document and evaluate the GGAT project in order that lessons learned from this pilot project may be of use to others in the future. In order to fulfill the task the following data are needed ; 1) baseline information gathered before the intervention activities by GGAT started. 2) records of all the activities implemented from the initial phase to the end of the project. 3) follow-up information after the intervention. This report will present an analysis of the baseline data before the intervention activities occurred.

Study Objective (first round)

The study's main objective was to collect baseline data related to village water supply and sanitation and factors that may affect the promotion of women's participation and initiation in the village-based water supply project.

Chapter 2

Methodology

The overall purpose of the case study is to document and evaluate the intervention undertaken by GGAT in order to promote women's participation and initiation in the village-based water supply project. Therefore, information gathered before, during and at the end of intervention activities is needed to arrive at some conclusions of the effect of the implementation. This part of the report will cover the baseline data before the intervention activities started ; this is the first task of the case study. To know the village, it is necessary to collect various types of baseline information. In this case, baseline data include socio-cultural, community awareness and involvement, sources of water supply, and their condition and utilization, and constraints on women's participation. Such a wide range of information must come from various sources. Therefore, the study was designed to collect data in selected villages from women, men and community leaders through the use of a survey questionnaire with participant observation as a supplement. In addition, laboratory tests on water quality of a number of water sources in the villages were also performed.

Sampling

Village sampling for this case study was not necessary since GGAT selected the villages for its intervention activities. The criteria for site selection set by GGAT were as follows :

Villages which

- have identified water supply and sanitation as a problem*
- expressed willingness to collaborate with the project*
- have government agencies present in the area which can provide technical support if required*
- are located within an area where the outreach of GGAT's northeast branch staff can supervise*

Such criteria were proposed to the National Economic and Social Development Board (NESDB) for review. NESDB also asked the Ministry of Public Health to help review the proposal. Their valuable comments were sent back to GGAT. It was suggested that there are two types of problem concerning water at the village level in the rural area that GGAT might be able to attack. The first one is the shortage problem and the second one is the

under-utilization and improper maintenance of existing facilities. This suggestion was incorporated in the above criteria for site selection.

The case study team as well as government officials, such as those in community development, public health, local administration departments at the district and provincial levels in Surin and Srisaket, were also involved in the selection of the villages.

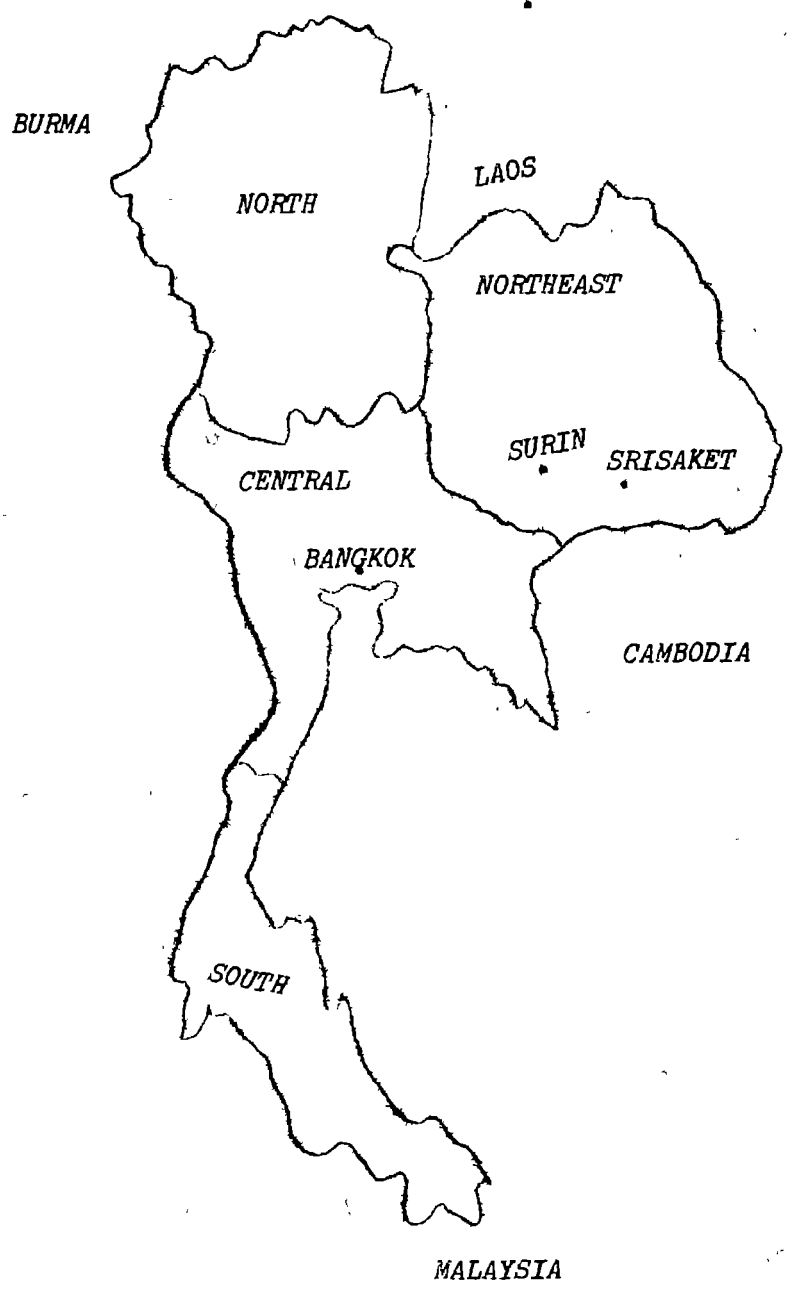
Subsequently, after dialogue with local concerned people and a survey of potential target villages, one criterion was added to the above list. It was, that other government and non-government agencies not be actively undertaking similar projects in the target areas.

Surin and Srisaket provinces in the northeastern region were selected for the project. Surin is the place where GGAT's northeast branch is located and Srisaket is the neighboring province (Figure 1). Four villages from Surin province and two villages from Srisaket province were selected. The total households were 461 but only 442 households were used in the survey ; the other 19 households had no women or nobody was at home during the data collection period.

Table 1 Number of households by village

Village		Total households	Households in survey
<i>Surin</i>	1. <i>Ban Bok</i>	41	40
	2. <i>Ban Samrong</i>	60	59
	3. <i>Ban Kwaonoi</i>	58	53
	4. <i>Ban Nonkortong</i>	110	108
<i>Srisaket</i>	5. <i>Ban Jiangwong</i>	85	82
	6. <i>Ban Phapa</i>	107	100
<i>Total</i>		461	442

Figure 1 Map of Thailand and project sites



For the purpose of case study data collection before intervention activities at the household level, the following survey (selection) procedures were employed. Pre-intervention data for households was gathered by using the following instruments and techniques :

- 1. Baseline data questionnaire (FORM A - main questionnaire). 100 percent of the total households in study area were chosen for interviews with women (wife/head of household/significant woman of household).*
- 2. Men's opinion on women's participation (FORM B - supplementary questionnaire). 50 percent of the households were systematically sampled (every other household) to interview men (husband/head of household/significant man of household).*
- 3. Women's daily time allocation (FORM C - supplementary questionnaire). 50 percent of the households were systematically sampled (every other household) to interview all women 15 years and older in each household. For not-at-home person(s), information was obtained by proxy from the respondents included in FORM A.*
- 4. Local key informants (FORM D - supplementary questionnaire). Village headman, village committee members, village health volunteers and village health communicators were interviewed, along with inspections, by the study team for community level information on ; sources and conditions of water*

supplies in villages, existing local committees and roles of women, women's groups, past water supply projects in the community, role of government agencies in community development especially those related to water and sanitation, health problems in the village, etc.

In addition to the survey method, participant observation was employed four out of the six villages. A guideline was prepared for participant observers. Three of these villages were in Surin was excluded from formal participation because of manpower and budget. The easiest two villages in Srisaket are covered by period visits and observation. The easiest participant observer was able to cover things in the other. The facilities such as

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(Bangkok, May 26-31, 1985) and, the terms of reference provided by the World Health Organization, were taken into consideration in the development of the study design and survey materials. A preliminary questionnaire was developed and both the questionnaire and study design were reviewed during a consultative meeting attended by the CGAT Project Director, a representative from the Ministry of Public Health, an anthropology professor from Chulalongkorn University, a sociology professor from the National Institute of Development Administration, the dean of Faculty of Sociology - Anthropology, Thammasart University and the participants' comments and

team. Following the meeting, the documents resulting in the questionnaire were incorporated into the documents resulting in the development of survey materials, including the questionnaire and guidelines. A and other supplementary questionnaires were incorporated into the study workplan and draft questionnaires were completed in December 1985. A letter of acknowledgement was sent to the participants as a guide for other investigators who were pretested in a village not being included in the research was done in Surin in December 1985. A letter of acknowledgement was sent to the participants as a guide for other investigators who were pretested in a village not being included in the research was done in Surin in December 1985.

ere made based on this pretest

One technique learned by the pretest, and this was very useful later in the data collection, was the way to ask attitude questions. The five point scale was a little too much for the villagers to separate out so an unfolding technique was needed. Each question was asked twice. The first question determines on which side of the scale the respondent stands in the five point scale. The first response states whether the respondent is on the upper side of the scale (4,5) or lower side of the scale (2,1) then the question will be asked again to see if it is a 5 or 4 for the upper end or it is 2 or 1 for the lower end.

The final version of the survey materials include the following questionnaires :

FORM A : Baseline Data

This form is 18 pages long and consists of 39 questions some of which have a number of sub-questions dealing with family socio-economic and demographic data, decision-making within the household, current women's activities in the village, opinions on women's activities in the village, opinions on various aspects of women's participation, and sources and utilization of water supplies and sanitation in the village. Most of the questions, except the opinion parts, provide the opportunity for the respondents to express their responses freely since they always have an "others (specify)....." category.

FORM B : Men's Opinions on Women's Participation

This form is five pages long and consists of two main parts. The first part is on opinion. All questions are identical with those in the opinion section of the FORM A. questionnaire. In other words, the same opinion questions were asked for both men and women. The second part is on the men's attitudes towards women's participation in community development and decision-making using the Osgood scale. There is a set of eight adjective words in each part and the men are supposed to rate their attitudes on this scale.

FORM C : Women's Daily Time Allocation

This form is two pages long. Each page provides for the non-farming season and for the farming season activities. The questions are all open-ended.

FORM D : Local Key Informants

There are eight pages in this form. The first seven pages are for the village headman and committees to secure village background information. The last page is on health for village health volunteers and communicators.

Data Collection and Quality Control

a) Recruiting and Training of Interviewers

The interviewers, six women and four men were recruited from the local area. They are natives of Surin and Srisaket provinces and speak the local dialects. They were taught about a) the objective of the research b) interviewing techniques c) sampling techniques and d) administrative procedures. Interviewers were trained to use structured questionnaires, to record respondents' answers, to use non-directive probing techniques and to provide respondents with appropriate feedback to encourage precise answers. Interviewers were also trained how to contact potential respondents and how to encourage participation without being too pushy. After the training, the interviewers were paired up to practice the interview using four common languages in the area, Thai, Laos, Cambodian and Suey. Comments on weak points and strong points in their performances were provided.

b) Data Collection and Quality Control

The survey was conducted during March 15-26, 1986. The data collection was done village by village. The whole team went to one village and completed the task before moving to the next one. The research team supervised the interviews very closely throughout the period. The completed questionnaires were checked

by the research team daily for completeness and accuracy. It is very important that all the questionnaires be checked and completed while the interviewers are in the villages. Problem ones can be corrected right away. There were four supervisors for the ten interviewers.

The participant observation in the villages was conducted by four graduate students who received one week of intensive training in observation techniques from anthropologists associated with Chulalongkorn, Thammasart and Mahidol Universities. The students, men who are masters degree candidates, each lived in four of the selected villages for six weeks to observe and record behaviors and attitudes of the people. An observation guideline, which was developed by the research teams was provided for the observers. It was unfortunate that a lack of physical facilities, such as latrines and water supply, in the villages, prevented women graduate students from participating as observers. The students were also supervised by the researchers and the principal investigator who coordinated the over all case study work.

After four weeks of observation, a meeting was held in Surin province where the participant observers presented the results of the in cumulative observations to the research team. Besides reviewing the progress of the work and getting feedback from the research team, it was also a great opportunity for the

observers to share their experiences and techniques with each other. At the end of the six weeks of observation, the observers presented the data obtained to the anthropologists who are associated with Chulalongkorn, Thammasart and Mahidol Universities and from whom they had received their training, the GGAT intervention team, and the Mahidol research team. Valuable comments were received from the anthropologists as how to interpret the information gathered and what to look for in future observations. It was also a good time for the intervention team to learn from the observers' points of view and to seek in-depth data from the observers. They were also able to share their thoughts as project implementation.

Data Processing and Analysis

Interviews were coded by 12 well trained coders. After the training they were asked to code the same interview and their choices were compared and discussed to help clarify code boundaries for open-ended responses. The baseline data questionnaires were coded first followed by the supplementary questionnaires. The code book developed by the research team was used for this task. The code values for most responses were already assigned in the codebook so coders only needed to transfer these values to codesheets. However, the supplementary questionnaires for women 15 years and older for their daily time allocation created a slight

problem since they were open-ended responses and the responses received had different degrees of detail and the activities varied from person to person. The research team grouped various detailed activities into manageable numbers of categories. Therefore, not all details mentioned by the respondents could be fully presented in this particular section.

Throughout the coding operation, members of the research team were the coding supervisors. Ten percent of the interviews were selected at random to be checked.

After coding, the code sheets were turned into the professional key puncher for transformation into a computer analysable set of data. The SPSS computer program was used for data analysis for this case study. Most data were presented in the cross-tabulation form in terms of percentage by village. The "don't know" category was not taken into calculation in most tables.

Chapter 3

Findings

In this chapter, the results of the baseline data analysis from six villages are presented. These include : socio-economic and demographic characteristics; village health situation; sources of water supply; their condition and utilization; sanitation; and certain aspects of men and women in study areas. The villages will be referred to by number instead of by name (Number corresponds with those in Table 1).

3.1 Socio-economic and Demographic Characteristics

In general, the six villages under study are not different from other rural villages in the northeastern region. The main occupation is farming, the family income is below the national average and their education is at the compulsory level or lower. The presentation of information will be done on the six villages as a whole but certain unique or different characteristics of a particular village may be noted. The focus of some characteristics and activities is on the female responses to the main questionnaire of wives of the heads of households or the heads of households themselves or a knowledgeable female of that particular household

if both of the former are not at home on the day of the interview (details in Table 2).

On the average there are 5.8 members per household. Village 3 has 6.7 which is the highest average number of family members and Village 1 has 5.1 which the lowest.

For family status of the respondents, 83.7 percent are wives of heads of households, 9.7 percent are heads of households themselves and 6.6 percent are daughters, daughters-in-law or aunts of the heads. A majority of the respondents (85.0 %) are married, while 8.4 percent are widows, 3.9 percent are divorced or separated and 2.7 percent are single. The average age of respondents is 40 years. A majority of respondents finished compulsory education which, at the time of their schooling, was four years. Twenty percent of the respondents have never gone to school at all and only 2.7 percent have education higher than grade four. The overall average education for this group is 3.8 years in school.

For the main occupation of the respondents, a majority of them (89.6 %) do rice farming with their families while 6.8 percent are employees and 2.3 percent are housewives or have no occupation. This latter group, in general, are the old women who are the heads of the households or the daughters who have just finished compulsory education.

It is interesting to note that very few people among these villagers are traders or government workers. The traders can generate income better than other occupations in the rural areas while the government workers can produce sure income and have a higher social status than farmers.

In addition to the main occupation, almost half of the respondents hold a second occupation to generate additional family income. About 14.3 percent of them are employees and 11.8 percent do weaving and raise silk worms. Weaving is usually regarded as women's work in the rural area. Village 4 has the highest number of women in the weaving and the raising of silk worms. The other second occupation mentioned, includes traders of little things, animal raising, fishing, and making charcoal.

For annual family income, including the value of products consumed, the average for the six villages is 17,712 baht (26 baht = 1 US dollar). The average for the four villages in Surin is 18,789 baht and the two villages in Srisaket is 16,171 baht. Both of these figures are lower than the estimated national figure of 25,000 baht set by the National Economic and Social Development Board (NESDB) as the minimum requirement to acquire adequate food in terms of protein and calories for adequate bodily functioning. Out of the six villages, the highest average annual income per family is 24,068 baht in Village 2.

This however, is still lower than the above-mentioned requirement. The lowest income average is 6,987 baht in Village 1.

When the respondents were asked if they received income from sources other than from their main and second occupation, 84.8 percent said "no" while 13.4 percent said they got additional money from their sons, daughters or relatives who went to work elsewhere, 1.1 percent said they received pensions and another 0.7 percent said they got some from rent and interest. The above-mentioned information from the survey agrees with information gathered by participant observers, i.e., a majority of people receive their main income from rice farming and its yield each year is not very high. It is just enough for family consumption or, perhaps slightly higher than family needs. Surpluses are sold in order to get the money to buy fertilizer, insecticide and other farming equipments for the next year. Rice planting and harvesting in the area under study is done once a year and depends solely on rain water. There is no irrigation system for farming in these areas. For those who get additional income from second occupations as employees, they generally have to go to other provinces in the eastern region to be sugar cane harvesting laborers. The housewives who weave usually do it in the dry season after the harvesting season. There are also family members who go to work as factory workers, domestic servants, taxi drivers, peddlers, etc., in Bangkok and other big cities and send some money home. During the

rice farming season, some of those family members who went to work elsewhere may return home to help work in the fields.

Regarding the credit, loan and saving situations, most of the households in all six villages are in debt. The average debt is 4,616 baht per household for the last year (1985). Only 43 out of 442 households admit that they give out loans and only 78 households have savings. The average savings per year is 4,135 baht per household.

Village 2 seems to be the most active in terms of financial matters. They have on the average, among the six villages, the highest family income, the highest debt, the highest amount of loans given out, and the highest savings. When farm size is taken into consideration, it was found that this village also has the largest farms. The average size is 24.7 rai which is above the average for Surin Province. This average is 15.5 rai (1985 figures from the Agriculture Statistic's Center, Ministry of Agriculture). Among the six villages, there are three villages, namely Village 1, 5 and 6 which have smaller farm sizes than average. For land ownership, only 68.3 percent of the people own the land they are farming. In Village 3 only 43.6 percent of the people own farm land. This is the lowest ownership rate among the six villages under study.

Other economic indicators investigated included ownership of the houses they are currently living in and television sets. A majority of them either own their houses or their parents own them. Only 1.6 percent of people rent houses or live in government housing provided for government workers. For television sets which could be one indicator of family economic status in the rural area, 91.6 percent of the households do not have one. Those who have them are from Villages 2, 4, 5 and 6. Villages 4, 5 and 6 are the ones with access to power lines. Village 2 had no electricity at the time of the baseline survey. However, three households own television sets and generate their own power. Village 1 and 3 have no access to the power and there were no television sets at the time of the survey.

In short, it may be said that the living conditions of the six villages in terms of economic, demographic and social considerations, are in general very similar to those of other rural families in the northeast region. Summarily, family size is rather big, people have low education and income, rice farming is the major occupation, many more than half of people are in debt and the farm size is small (average 16.2 rais per household).

Table 2 Socio-economic and demographic characteristics of female respondents by village

Characteristics	Village						Total
	1	2	3	4	5	6	
<u>Members per household</u>							
Less than 5	66.7	45.8	62.3	50.0	47.6	54.0	52.9
6 - 9	33.3	49.3	35.8	46.3	50.1	43.0	44.1
10	-	4.9	1.9	3.7	2.3	3.0	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	108	80	100	438
Mean	5.1	6.1	6.7	5.7	5.7	5.6	5.8
<u>Family status of respondents</u>							
Wife	89.5	94.9	77.8	83.3	76.8	85.0	83.9
Head of household	10.5	5.1	13.0	6.5	15.9	9.0	9.8
Daughter in-law	-	-	9.2	10.2	7.3	6.0	6.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	52	108	82	100	440

Table 2 (continued)

Characteristics	Village						Total
	1	2	3	4	5	6	
<u>Marital status</u>							
Married	89.5	88.1	74.5	87.0	81.5	88.0	85.0
Widow	5.3	3.4	12.7	7.4	11.1	9.0	8.4
Divorced-separated	5.3	8.5	7.3	3.7	-	2.0	3.9
Single	-	-	5.5	1.9	7.4	1.0	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	108	81	100	439
<u>Age (year)</u>							
Less than 19	-	1.7	5.5	3.7	3.7	2.0	2.9
20 - 29	21.1	16.9	20.0	16.7	18.3	16.0	17.6
30 - 39	39.5	39.0	27.3	31.5	28.0	31.0	31.9
40 - 49	15.8	22.0	21.8	26.9	23.2	26.0	23.8
50 - 59	18.4	13.6	20.0	12.0	17.1	18.0	16.1
60	5.3	6.8	5.5	9.3	9.8	7.0	7.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	108	82	100	440
Mean	40.2	39.0	38.8	39.3	40.7	40.4	39.8

Table 2 (continued)

Characteristics	Village						Total
	1	2	3	4	5	6	
<u>Education</u>							
No education	21.1	8.5	20.0	14.8	32.9	19.0	19.5
Less than grade 4	10.5	15.3	25.5	7.4	8.5	13.0	12.4
Grade 4	68.4	74.6	49.1	74.1	56.1	66.0	65.4
Higher than grade 4	-	1.7	5.5	3.7	2.4	2.0	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	108	82	100	440
Mean	3.7	3.8	3.5	4.0	3.8	3.8	3.8
<u>Main occupation</u>							
Farmer	97.4	81.4	85.5	91.7	92.7	89.9	89.8
Employee	2.6	18.6	7.3	4.6	4.9	5.1	6.8
Trader	-	-	-	2.8	-	1.0	0.9
Government service	-	-	-	-	-	1.0	0.2
Housewife and no occupation	-	-	7.2	0.9	2.4	3.0	2.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	108	82	98	432

Table 2 (continued)

Characteristics	Village						Total
	1	2	3	4	5	6	
<u>Second occupation</u>							
No second occupation	42.9	49.1	38.2	55.6	53.7	73.5	55.2
Farmer	-	3.6	1.8	1.9	3.6	2.0	2.3
Employee	28.6	18.2	23.6	9.3	14.6	7.1	14.3
Trader	14.3	10.9	9.1	5.6	12.2	3.1	8.1
Silk worm-raising + weaving	8.6	9.1	16.4	19.4	12.2	3.1	11.8
Animal raising	5.7	7.3	7.3	2.8	3.7	4.1	4.6
Others	-	1.8	3.6	5.6	-	7.1	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	35	55	53	108	82	98	431
Mean family income/year	6,986.84	24,068.97	21,616.36	18,666.67	11,997.56	19,628.28	17,712.20
N	38	58	53	108	82	99	438
Mean family income/year of Villages 1-4 (Surin)				18,789.19	baht		
Mean family income/year of Villages 5-6 (Srisaket)				16,171.26	baht		

Table 2 (continued)

Characteristics	Village						Total
	1	2	3	4	5	6	
<u>Other sources of income</u>							
None	84.2	89.8	81.8	91.7	87.7	73.7	84.8
Pension	2.6	1.7	1.8	-	-	2.0	1.1
Given by children + relatives	13.2	6.8	14.5	7.4	12.3	24.2	13.4
Rent, interest	-	1.7	1.8	0.9	-	-	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	108	82	99	438
Mean of debt	3,392.11	7,271.19	7,180.1	4,475.93	3,068.29	3,529.0	4,616.97
N	38	59	53	108	82	100	440
Mean of loans given out	11,600.00	11,900.0	960.0	3,175.0	3,433.33	3,577.78	5,804.6
N	8	6	5	12	3	9	43
Mean of savings	1,233.33	10,108.35	3,580	3,853.57	3,245.45	1,300.0	4,135.90
N	3	12	10	28	11	14	78
Mean of land used for farming (rais)	12.2	24.7	21.2	20.4	10.5	11.1	16.2
N	36	49	42	100	78	92	397

Table 2. (continued)

Characteristics	Village						Total
	1	2	3	4	5	6	
<u>Farmland ownership</u>							
None	10.5	22.0	21.8	8.3	4.9	8.0	11.3
Own some land	76.3	55.9	43.5	81.5	70.7	70.0	68.3
Rent from other	5.3	6.8	20.0	2.8	4.9	6.0	6.8
Own some land but rent out	-	5.1	5.4	3.8	3.6	2.0	3.4
Own some land and rent some	7.9	10.2	9.1	3.7	15.9	14.0	10.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	108	82	100	440
<u>House ownership</u>							
Self	84.2	84.7	90.6	90.7	86.6	88.0	87.9
Parents	13.2	13.6	9.4	8.4	12.2	9.0	10.5
Live with others	2.6	1.7	-	0.9	1.2	1.0	1.1
Rent, government housing	-	-	-	-	-	2.0	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	107	82	100	439

Table 2 (continued)

Characteristics	Village						Total
	1	2	3	4	5	6	
<u>Television set ownership</u>							
No	100.0	94.9	100.0	92.6	88.9	82.8	91.6
Yes	-	5.1	-	7.4	11.1	17.2	8.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	37	59	53	108	81	99	437

3.2 Village Health Situtation

From a review of approximately 200 health impact studies and from five other summary reviews by Mc. Junkin, it was concluded that, as a whole and in spite of their deficiencies, a significant body of evidence supports a positive linkage between sanitary water supplies, adequate excreta disposal and long term improvements in health status. This linkage is supported by long term empirical observations in both the developed and less developed countries (Mc. Junkin, p.94). However, the purpose of this case study is not to do health impact measurements. This section on health situation intends only to give some indication of health in the case study area. The information was gathered from village headmen, village committees, village health volunteers and communicators in addition to participant observation on diarrhea occurrence. The percieved benefits from clean water, present water treatments and waste disposal, were asked in the survey.

The three leading diseases for last year (1985), according to village leaders, were very similar in all six villages. They were mainly preventable, communicable diseases. The most common one of the top, three-mentioned diseases for all villages was diarrhea (Table 3). A record of diarrheal disease attacks was made during the March 15 to April 30, period in 1986 by participant observers in four villages. This recording form listed

every household member's name. Pens were provided to each family in each village and forms were marked daily by the householders. The observers collected and issued new forms weekly. Before collecting the old forms, the observers made sure that all incidences had been marked down by asking for confirmations from the respondents. During the first week people were reluctant to mark how many times they had diarrhea because they were embarrassed. Explanation was given and then cooperation was readily given.

Table 4 presents number of people with diarrhea and water stool during 6 week period. The WHO definition of three loose or watery stool per day was used to define diarrhea. These rates are higher than the national ones or those in a study done in Korat, another province in the northeast of the country. From the Public Health Statistics, the national morbidity rate in 1984 was 816 per 100,000 population and was 2,592 per 100,000 among children under 5 years of age (Ramaboot, 1986). And from Dr. Ruchira's study in 1984 in Korat, the attack rate was 644.3 per 10,000 population. Korat's rate is higher than the national one but much lower than that in the villages under study. One caution to be made in reading the figures, is that data collected in the four villages are for the summer period only and this is known to be the peak of the diarrheal disease cycle. National data or Dr. Ruchira's data on the other hand are for the whole year.

If we look at the origins of drinking water in the villages, it is found that 91.3 percent of the people drink rain water and 97.3 percent drink dug well water as is. There are a few percent of the people who said that they use cloth to filter it first. This does not mean anything in term of effectiveness. Debris being in the water does not affect its quality at all. A majority of people (43.4 %) said they deal with water the way they do because they are used to doing it that way. A number of them gave other reasons such as convenience, the water is good as is, and lack of time for alternatives. However, about one fifth of people said they boil water when they are sick and that cloth filtration makes water cleaner (Table 5). From participant observation it was found that boiled water was used for the sick, for babies, for the old but not for the population in general.

The next questions dealt with perceived benefits of adequate, safe water supplies. The responses given are about improving the efficiency of housework, such as cleaning, cooking, washing and the benefits for the animal raising and vegetable gardening or a combination of both. Direct health benefits were not mentioned till the question was probed. A majority of people know that clean water will prevent them from getting communicable intestinal track diseases, skin diseases and help refresh the body after bathing (Table 6).

Table 3 Top three leading diseases by village

Category	Village					
	1	2	3	4	5	6
Cold	/	/			/	/
Conjunctivitis		/	/	/		
Diarrhea	/	/	/	/	/	/
Dysentery			/			
Fever				/		
Measles					/	/
Stomachache	/					

Table 4 Diarrheal disease (DD) occurrence in the project area during
15 March to 30 April 1986 by village

	Villages			
	1	2	4	5
Number of households	41	60	111	85
Total population in village	315	472	673	549
Number of people with watery stool	36	94	246	171
Number of people with DD*	11	51	145	84
Crude incidence of watery stool (6 weeks) per 1,000 population	114.3	199.2	365.5	311.5
Crude incidence of DD (6 weeks) per 1,000 population	34.9	108.1	215.5	153.0
Six week surveillance rate of DD projected to annual basis (projected without correction facts)	302.4	936.8	1867.6	1326.0

* DD = three or more watery stools in 24 hours for one or more days.

Table 5 Water treatment before drinking by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Rain water</u>							
Nothing	43.5	83.3	89.6	96.9	94.7	96.8	91.8
Boiling	2.9	5.6	6.3	2.0	-	2.2	2.7
Filter through thin cloth	23.5	11.1	4.1	1.0	5.3	1.0	5.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<u>Dug well water</u>							
Nothing	94.9	91.4	96.2	100.0	98.7	98.0	97.3
Boiling	2.5	1.7	3.8	-	-	1.0	1.1
Filter through thin cloth	2.5	6.9	-	-	1.3	1.0	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	58	53	108	79	100	437

Table 5 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Reason for doing as above</u>							
Convenience	34.8	9.1	24.3	19.5	12.5	9.7	15.9
Lack of time	4.3	9.1	2.7	9.1	4.7	8.6	7.0
Used to doing	39.1	45.4	24.3	36.4	53.1	50.5	43.4
Boil when sick, filter for cleanliness	21.7	30.3	27.0	25.9	14.1	12.9	20.2
Nothing need to be done, water good as is	-	6.1	21.6	9.1	15.6	18.3	13.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	23	33	37	77	64	93	327

Table 6 Percieved benefit of adequate safe water supply by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Benefit in general</u>							
None	2.5	3.4	-	-	1.3	1.0	1.1
Housework, i.e., cleaning washing, cooking	32.5	13.8	13.0	11.4	12.7	15.2	15.0
Animal raising, vegetable gardening	10.0	24.1	13.2	22.9	53.3	20.2	20.5
Combination of above	55.0	58.6	73.6	65.7	60.7	63.6	63.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	58	53	105	79	99	434
<u>Health benefit</u>							
No GI tract disease	71.1	66.0	59.6	45.8	45.0	46.9	52.3
Physical refreshment	15.8	13.2	13.5	14.0	15.0	14.3	14.3
Combination of above	13.1	20.8	26.9	40.2	40.0	38.8	33.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	53	52	107	80	98	428

Table 6 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Effect of drinking</u>							
<u>unclean water</u>							
None	5.0	1.7	-	1.9	-	-	1.1
GI tract disease	85.0	91.4	53.1	66.0	66.7	65.3	69.7
GI tract + skin disease	10.0	6.9	46.9	32.0	33.3	34.7	29.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	58	49	103	78	98	426

3.3 Sources of Water Supply, Their Condition and Utilization

The overall picture of water sources and patterns of use will be illustrated first followed by more detailed information on the subject. It will be more appropriate to present data about drinking water and domestic use water together to avoid lengthiness even though many people separate the two sources and their containers.

For the six villages under study more than half of the households (56.3 %) use separate sources for drinking and domestic use water. A majority of people in Village 1 use the same source for both purposes because a lack of alternatives. About 57 percent of Village 4 use the same source because the quality of available domestic use water sources is not good according to their judgement. Only one hand-pumped well is available for use so a number of them use the drinking water source for domestic use as well. For Village 5, the reason is different. The houses are scattered, the wells yield good water and there is little pressure (causing fouling) on a few outlets (as there is in some villages). In other words, because of many outlets, there is no need to segregate the two kinds of water.

Table 7 illustrates the percentage of each village that uses separate and same source for drinking and domestic use purposes. Some villages however separate the water for drinking and general use after they take it to their houses from drinking general use water wells and other sources.

Table 7 Separation of sources for drinking and domestic use water

	Village						Total
	1	2	3	4	5	6	
Separate sources for drinking and domestic use	25.6	89.7	98.1	43.0	19.5	76.0	56.3
Same sources for drinking and domestic use	74.4	10.3	1.9	57.0	80.5	29.0	43.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	58	53	107	82	100	433

a) *Water Sources*

The water supply sources in each village are presented in Table 8. The most common water source for both drinking and general use purposes is the open dug well. However, all of them, except Village 5 which has two wells, are short of water in the dry season. The dug wells for drinking in Village 1, 5 and 6 have cement casings lining the inside of the wells. However, there are no platforms around the outside of these wells where people can stand to draw water. This makes the spilled water seep back into the well easily. The rest of the drinking wells in other villages have no casing at all. They have all-dirt walls and are very wet and muddy around their edges. There are one or two general use dug wells that have cement linings in all villages except Village 1. The majority of the wells do not have any form of casing. The drinking dug wells in general are open for public use while the general use water dug wells tend to be privately used.

Other sources of water supply which are mainly for general use are hand-pumped wells and ponds. There are four public hand-pumped wells installed in Villages 3, 4, 5 and 6. However, there are only two in working condition in Villages 4 and 6. Only people in Village 4 are currently using their hand-pumped well while the one in Village 6 is left unused because the people do not like

the quality of water from such source. The deep well handpumps in Village 3 and 5 were abandoned after they broke without any repairs being attempted. For Village 2, an unsuccessful attempt to install one was made a number of years ago. The reason for the failure, according to the villagers was that there is no water where the well was drilled. Many people from Village 2 walk about 1 kilometer one way to get general use water from a hand-pumped well of a neighboring village.

Some of the large ponds which are public, a were provided to the villages by the government through the Rural Job Creation Project (RJCP). The RJCP is a project in which the government pays for rural labor to work on projects the subdistrict councils consider beneficial and of priority to villagers. Many of these wells are not well taken care of and currently quite polluted. Washing and bathing often take place inside the pond. One pond in Village 2 was so polluted that no water could go through the filter paper for a laboratory test, the people themselves also mention about its dirtiness by saying that bathing can no longer be done there because the polluted water there will cause rash and an itch on the skin. And one pond of Village 6 is currently unused because the subsequent building of a school toilet causes the discharge of sewage water into it. The second pond of Village 6 is currently being used. Other villages with large public ponds share the same problem of pollution. As for the

small private ponds, Village 3 seems to have the most number of them. This type of pond is very shallow and its use is very limited because its water dries up very quickly. They are mainly used for watering tobacco plants and for other small domestic purposes.

Patterns of water utilization in all villages are very similar. However, it should be noted that the time for the data collection was during the dry season. Patterns differ in the rainy season. Figures 2-4 in the appendix depict the location of sources and who uses such sources. Full details are available for Villages 1, 2, 4, 5 while limited information for Villages 3 and 6 is given because no participant observers were stationed in the latter two villages.

In Village 1, all villagers use the open dug well by the temple as a source for both drinking and general use. It is about the only acceptable source available in the village. The other four open dug wells are private and used by only the owners to water plants. The pond is too polluted to use. When this source nearly dries up, there will be much waiting for more water to come up and the seeking of other sources in nearby villages.

In Village 2, people depend on the open dug well in a field about 200 meters from the north edge of the village for their only source of drinking water. They have a very long wait,

sometime overnight, during the dry season. For general use water, about one third the households use the pond on the east side of the village while the remainder walk to use the hand-pumped deep well of another village around 1 kilometer to the south.

Village 3 has only one source of drinking water. It is located about 500 meters from the south west side of the village. Around March this source dries up and alternative sources have to be sought. For domestic use water there are two big public ponds and number of small private ones but information on which one is used by whom is not available. There was no participant observation in the village to record such behavior.

Village 4 has four open dug wells used as drinking water sources. However, the most popular one is located on the east side of the village and used by about 80 percent of the people. The other three wells are used by the remainder of the people who live close to them. For domestic use water, the one year old hand-pumped deep well at the center of the village is the most famous. Many people also use the drinking well water for domestic use as a supplement to the hand-pumped well water. There are six households on the south side of the village which have private, hand-pumped, shallow wells for their domestic use. The ~~is~~ small open dug wells are used mainly for the watering of the plants because the people say that the water quality is bad, very turbid and deep orange yellow in color.

Village 5 is a village well known among villagers for having plenty of water. Many neighboring people come to fetch the water in the dry season. There are eight wells specified as drinking water wells scattered throughout the village. The most popular one is located in a field between groups of houses to the north and south. Water in this well is available all year round whereas others may dry up in the dry season. The people in this village also use the water from their drinking wells for general use even though there are five open dug wells specified for general use water wells scattered around the village. The one deep, public hand-pumped well was broken and nobody bothered to fix it. The Ministry of Public Health has offered to fix the pump if the people would pave its surroundings to prevent contamination. There was a refusal from the villagers.

Village 6 has a very scattered physical layout. There is one big group of households, one medium sized group and one smaller group. There are a total of five drinking dug wells in a variety of locations but the popular two are in the field by the school. However, the water does not last through the dry season and people have to walk to Village 5 which is from .5 km to 2 km. away depending on where their houses are located. For general use water, there are two private dug wells and 14 private shallow hand-pumped wells. In addition, there is a deep hand-pumped well in good working condition at the center of a big group of housing.

Nobody uses it because the people do not like the quality of such water. Again it is hard to say who uses which well since there was no participant observer living there to record such information.

Table 8 Number of water supply sources by village

Source	Village						Remark
	1	2	3	4	5	6	
Deep hand-pumped well	-	-	1	1	1	1	all public v.2 - attempt made to install but no water v.3,-v.5 - broken, no repair v.4 - works, in use v.6 - works, not use
Shallow hand-pumped well	-	-	-	6	2	14	all private
Open dug well (drinking)	1 (1)	1 (-)	1 (-)	4 (-)	8 (2)	5 (3)	public wells () with casing

Table 8 (Continued)

Source	Village						Remark
	1	2	3	4	5	6	
Open dug well (general use)	4 (-)	1 (1)	1 (1)	18 (1)	5 (2)	2 (2)	mostly private () with casing
Large pond	1	6	2	-	1	2	all public
Small pond	-	-	12	-	2	-	all private

b) *Water Quality*

The laboratory test of water quality was conducted in the six villages by Dr. Komol Sivaborvorn of the Faculty of Public Health, Mahidol University from March 17 to 23, 1986. Bacteriological assays were done at the source points to avoid transportation error. Dilution was necessary in only few samples. Physical and chemical assays of the water were done in the laboratory in Bangkok. A total of 56 samples of drinking and domestic use water from different sources were tested using the Total Coliform Membrane Filter Technique. The detailed results of the tests and the WHO standards for drinking water quality are enclosed in Appendix B.

It may be summarised that the main problems of drinking water quality are water turbidity and bacterial contamination. For the domestic use water, bacterial contamination seems to be prevalent in all villages while turbidity and high iron are problematic to a certain extent in all villages but more of a problem in Villages 2, 3 and 4. Other problems such as pH, alkalinity, hardness and chloride are present in some of the sources.

c) *Drinking Water and Domestic Use Water*

The most commonly used source of drinking water for all villages in the study is the open dug well. A majority of respondents (70.6 %) said their drinking sources are public and

23.0 percent said theirs are private. From observation it was found that all the drinking dug wells are located on private land. The general public is allowed to use these. The responses obtained from the survey might therefore be subject to misinterpretation when respondents are asked to specify whether the source is private or public. Actually, the wells are all on private land but are publicly used. The only source that can be distinguished as a clearly self-or parent-owned (private) drinking source is the water storage containers for few of those who use rain water as the number one drinking source. Of course those who actually own the land where dug wells are dug can claim ownership of the these sources.

Rain water is used most during the rainy season and it is the second most common source of drinking water in the villages.

Open dug well water is used on average for 9.9 months out of a year. Village 5 uses such water for 11.2 months while Village 2 uses it only for about 8.2 months out of a year because of the shortage problem in the dry season.

On average, the distance from homes to their number one drinking water sources is 511.4 meters. The shortest average distance of 162.6 meters is in Village 1 and longest of 934.7 meters is in Village 2 (Table 9).

The reasons for preferences or dislikes of the number one drinking water source were asked. The most common first reason for preference was no choice, taste and clearness. For the second reason, the greatest of response was for clearness, taste, and cleanliness. For the third reason cleanliness, taste and no choice were mentioned most often. It is obvious from their responses that, other than the limited choice of source, they have taste, clearness and cleanliness as their main reasons for the preference of a particular source. Concerning the reasons for their dislike of the number one source, the top answer for the first and second reasons was inconvenience with no choice and dirtiness for top answer for the third reason. It is interesting to note here that the water shortage problem was not mentioned as a top priority for dislike even though all villages except Village 5 have to go through that problem every year (Tables 10, 11).

The overall picture of the domestic use water source is similar to that for the drinking one. The number one source is the open dug well and the second source is rain water. However, if each village is looked at separately it appears that there is a difference in the sources used. A majority in Villages 1, 4 and 5 use dug well water, in Villages 2 and 3 people use pond water and in Village 6 they use a combination of dug well, pond and hand-pumped well water. All the households in Village 1 use dug well water because it is about the only source of acceptable

water available for a good part of the year. Village 2 has no hand-pumped well at all but 32.7 percent of the people reported using it. The explanation for this phenomenon is that when their village has a water shortage problem there is a hand-pumped well at the temple in the neighboring village. The people think the water quality there is satisfactory because it yields plenty of water all year round. Part of people from Village 2 therefore travel to get water from this source. Village 3 has two big ponds within the village boundary and it is therefore more convenient for them to use these than go out to the field to fetch dug well water for domestic use. About a quarter of the people use hand-pumped well water in Village 4. The remainder use dug wells since the quality of private dug wells from the villagers' point of view is not very good. There is also a public hand-pumped well at the center of the village which is convenient to use--plus six households have private hand-pumped wells in their housing compounds. The one hand-pumped well in Village 5 that is being used is private and equipped with an electrical power pump. Village 6 is interesting. It was about the same proportion of its people use the three sources available. The hand-pumped wells there are private. The number two domestic use water in all villages is rain water.

About 70 percent of the number one domestic water use sources are public and yield water for an average of 10.6 months per year. The shortest period for water availability (9.8 months)

is in Village 2 and the longest one (11.4 months) is in Village 5. The average distance of the number one sources from houses is 372.8 meters with the shortest distance being in Villages 1 and 4 (173.8 and 184.7 meters) and the longest distance being for Village 2 (790.9 meters). The average distance from home for domestic use water is much shorter than those for drinking water sources because villagers believe that drinking water sources have to be located outside the village for cleanliness. However, it is alright for domestic use water to be in villages for convenience sake (Table 9).

When the respondents were again asked the reasons for preferences and dislikes of the number one source for domestic use water, the top answer for the first reason for both was "no choice". They have to like it because they have no choice and they don't like it because they have no choice. Other than the no choice response, the highest answers for first, second and third reason for preference are convenience (short distance), clearness and cleanliness ; while turbidity, dirtiness and a combination of reasons are the main responses for the dislike of the source (Table 10 and 11).

A majority of respondents in all villages except in Village 5 feel that they have a drinking water shortage problem. A majority from Villages 2 and 3 said they have a severe shortage problem. The picture looks similar for domestic use water shortage

but the degree is less. About two thirds in Village 5, one third in Village 4 and almost half in Village 6 said they have no domestic use water shortage problems. However, Villages 2 and 3 expressed most problems as they did for drinking water (Table 12).

In order to get feedback on what kind of water they would prefer and why, for planning and intervention, questions of preferred drinking water and domestic use water quality were asked. They were also asked about how sources might be improved or added for maximum benefit of their families.

For drinking water, dug well water was chosen by more than half of the respondents (55.9 %) followed by rain water (42.6 %). Only 1.5 percent would choose other types of water such as pond water hand-pumped well water and piped water. These responses fit well with the fact that the two main sources of drinking water in the rural area are the rain water and dug well water and the people do drink both types of water. The rain water is used less than the latter kind because the amount is not enough to last them very long given the traditional storage containers and usual utilization behavior. The reasons given include, clearness and cleanliness. These reasons were given by the highest number of respondents followed by convenience, taste, no choice, and others (consecutively 39.7, 21.2, 18.5, 16.4, 16.4 %).

Since dug well water is preferred by most villagers, they, when asked about facility improvement and additions for the greatest benefit to families, said that dug wells could be improved or increased. The rain water container choice came second and the hand-pumped well, pond and combination of sources came last. (Table 13).

The picture for preferences for domestic use water are a little different. Almost half of the people (48.0 %) prefer to use dug well water. Hand-pumped well water was second choice of 31.4 percent of the people and pond water was the third choice (13.8 %). Hardly anybody mentioned rain water as a choice for domestic use water and nine people mentioned pipe water as their choice. The most important factor influencing their choice was convenience. Clearness and cleanliness were mentioned by only one fifth of the people. For the question about source to be improved or added for maximum benefit of their family, the answers received reflected the current sources being used in each village. A majority of Villages 1, 4 and 5 would like to have dug well improvements, Villages 2 and 6 hand-pumped wells and ponds, and Village 3, ponds (Table 13).

Table 9 Drinking and domestic use water sources by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Drinking water</u>							
No. 1 source							
Rain water	12.8	3.4	3.8	-	2.5	6.0	3.9
Open dug well	87.2	89.7	96.2	99.1	97.5	94.0	95.0
Hand-pumped well	-	1.7	-	.9	-	-	.5
Pond	-	5.2	-	-	-	-	.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	58	53	108	81	100	439
No. 2 source							
No second source	15.8	10.6	26.2	35.1	41.2	27.5	28.4
Rain water	65.8	63.8	69.0	58.5	55.9	53.8	59.5
Open dug well	13.2	8.5	4.8	3.2	2.9	17.6	8.4
Hand-pumped well	2.6	4.3	-	2.1	-	1.1	1.6
Pond	2.6	12.8	-	1.1	-	-	2.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	47	42	94	68	91	380

Table 9 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<i>Owner of No. 1 source</i>							
<i>Self/parents</i>	2.5	6.9	1.9	11.2	10.1	2.0	6.4
<i>Private owned</i>	2.5	10.3	34.0	43.9	22.8	10.1	23.0
<i>Public</i>	95.0	82.8	64.2	44.9	67.1	87.9	70.6
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>N</i>	40	58	53	107	79	99	436
<i>Average time No.1 source lasts (months)</i>							
	10.4	8.2	10.4	10.1	11.2	9.2	9.9
<i>N</i>	38	58	53	108	80	99	436
<i>Average distance No.1 source from home (meters)</i>							
	162.6	934.7	869.0	393.8	188.6	602.9	511.4
<i>N</i>	37	57	52	106	81	96	429

Table 9 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Domestic use water</u>							
No. 1 source							
Rain water	-	-	-	-	-	-	-
Open dug well	100.0	14.5	9.6	76.2	98.8	37.1	57.9
Hand-pumped well	-	32.7	-	23.8	1.2	28.9	16.7
Pond	-	52.7	90.4	-	-	34.0	25.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	55	52	105	81	97	430
No. 2 source							
Rain water	90.9	48.3	60.0	83.7	100.0	56.4	73.9
Open dug well	4.5	10.3	20.0	11.6	-	33.3	13.8
Hand-pumped well	-	6.9	10.0	2.3	-	2.6	3.2
Pond	4.5	34.5	10.0	2.3	-	7.7	9.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	23	29	20	43	35	39	188

Table 9 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<i>Owner of No. 1 source</i>							
<i>Self/parents</i>	-	5.2	-	20.9	15.2	21.4	13.4
<i>Private owned</i>	2.6	1.7	7.5	33.3	21.5	9.2	15.5
<i>Public</i>	97.4	93.1	92.5	45.8	63.3	69.4	71.1
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>N</i>	39	58	53	105	79	98	432
<i>Average time No. 1 source lasts (months)</i>							
	10.7	9.8	10.8	10.7	11.4	10.3	10.6
<i>N</i>	37	56	53	105	81	98	430
<i>Average distance No. 1 source from home (meters)</i>							
	173.8	790.9	259.5	248.8	184.7	551.3	372.8
<i>N</i>	36	57	55	94	78	85	405

Table 10 Reasons for preference of No. 1 water source

Category	Reasons for preference (top answer)		
	1st reason	2nd reason	3rd reason
<u>Drinking water</u>			
No choice	30.7	9.3	18.4
Adequate quantity	11.4	2.6	3.9
Taste	21.7	22.7	20.5
Clearness	15.8	34.7	17.5
Cleanliness	6.4	17.9	23.3
Convenience, close	12.1	9.6	10.0
Others, i.e., color, smell socialization at well	1.8	3.1	6.3
Total	100.0	100.0	100.0
N	437	418	331

Table 10 (continued)

Category	Reasons for preference (top answer)		
	1st reason	2nd reason	3rd reason
<u>Domestic use water</u>			
No choice	27.0	12.7	14.2
Adequate quantity	11.3	8.8	3.6
Taste	11.8	13.0	13.0
Clearness	16.6	24.7	19.4
Cleanliness	5.5	15.9	23.7
Convenience, close	26.7	20.9	17.8
Others, i.e., color, smell socialization at well	1.1	4.0	8.3
Total	100.0	100.0	100.0
N	434	377	253

Table 11 Reasons for dislike of No. 1 water source

Category	Reasons for dislike (top answer)		
	1st reason	2nd reason	3rd reason
<u>Drinking water</u>			
No choice	16.8	21.1	23.1
Shortage of water	22.1	8.0	11.0
Taste	2.5	2.4	1.2
Turbidity	10.3	14.2	12.1
Dirtiness	16.3	18.0	23.1
Inconvenience, far	24.4	22.5	13.9
Others, i.e., color, smell waiting time too many people at sometimes	7.5	13.8	15.6
Total	100.0	100.0	100.0
N	398	289	173

Table 11 (continued)

Category	Reasons for dislike (top answer)		
	1st reason	2nd reason	3rd reason
<u>Domestic use water</u>			
No choice	17.9	10.5	25.7
Shortage of water	11.4	2.5	8.4
Taste	6.7	9.0	3.9
Turbidity	20.7	16.6	9.5
Dirtiness	15.8	26.7	20.1
Inconvenience, far	12.2	15.5	10.1
Others, i.e., color, smell waiting time, too many people	15.3	19.1	22.3
Total	100.0	100.0	100.0
N	386	277	179

Table 12 Feeling of water shortage problem by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Drinking water</u>							
No problem	20.5	5.1	3.8	26.9	72.0	12.0	25.6
Little problem	20.5	1.7	7.5	24.1	6.1	22.0	15.0
Moderate problem	20.5	1.7	3.8	28.7	19.5	7.0	14.7
Severe problem	38.5	91.5	84.9	20.4	2.4	59.0	44.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	53	108	82	100	441
<u>Domestic use water</u>							
No problem	28.2	16.9	13.2	34.6	68.3	44.0	37.5
Little problem	25.6	11.9	45.3	17.8	12.2	15.0	19.3
Moderate problem	10.3	8.5	18.9	29.0	17.1	4.0	15.3
Severe problem	35.9	62.7	22.6	18.7	2.4	37.0	27.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	53	107	82	100	440

Table 13 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<i>Source to be improved/ added for maximum family benefit</i>							
Dug well	81.1	61.0	47.1	64.8	65.0	66.0	63.9
Water storage container	5.4	13.6	19.6	15.2	15.0	16.0	14.8
Hand-pumped well	5.4	13.6	5.9	6.7	5.0	4.0	6.5
Pond	2.7	8.5	13.7	1.0	6.3	1.0	4.6
Combination of above	5.4	3.4	13.7	12.5	8.9	13.0	10.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	37	59	51	105	80	100	432

Table 13 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Domestic use water</u>							
Water preference if given a choice							
Dug well water	71.9	15.7	13.0	44.2	89.3	45.5	48.0
Hand-pumped well	12.5	62.7	21.7	38.9	2.7	40.4	31.4
Pond	-	21.6	60.9	2.1	2.7	12.1	13.8
Others, i.e., rain, pipe water	15.6	-	4.3	14.7	5.3	2.0	6.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	32	51	46	95	75	99	398

Table 13 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<i>Reason for above preference</i>							
Convenience	39.4	55.1	57.4	61.5	54.2	63.3	57.4
Clearness and cleanliness	36.4	26.5	21.3	14.3	17.3	19.5	19.5
No choice	-	8.2	21.3	18.7	15.3	11.2	13.6
Others, i.e., taste, smell used to source	24.2	10.2	-	5.5	15.3	8.2	9.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	33	49	47	91	72	98	390

Table 13 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<i>Source to be improved/ added for maximum family benefit</i>							
Dug well	68.6	13.8	13.2	45.3	60.5	14.0	34.6
Water storage container	-	5.2	-	5.7	4.9	8.0	4.8
Hand-pumped well	22.9	43.1	17.0	33.0	12.3	36.0	28.4
Pond	5.7	34.5	58.5	8.5	16.0	33.0	24.9
Combination of above	2.9	3.4	11.3	7.5	6.1	9.0	7.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	35	58	53	106	81	100	433

d) *Household Provision of Water and Storage Containers*

In order to know how much water to provide for the villagers it is important to find out how much is needed daily and for what purposes. However, from the pretest it was found that the villagers were unable to say in exact figure how much water they consume in a day. But, based on the information that there are two types of water being used in every household, namely drinking water and domestic use water, and villagers make trips to fetch that water, an attempt was made to ask the villagers how often they have to fetch water, how many trips they make each time and what kind of water container they use. Calculations were then made to arrive at the quantity of water brought daily to houses for both purposes.

The result of the survey shows that, on average, each household brings in 57.6 liters of water for drinking purpose and 528 liters for domestic use purpose. If this figure is calculated in terms of per capita per day it would be 10.4 liters for drinking and 101 liters for domestic use (Table 14).

However, the amount of water brought in for drinking and for general use per person calculated from the responses seems to be too high. (The Ministry of Public Health set a standard of 2 liters per person per day for drinking water. The standard for domestic use water per person per day in Thailand is unknown).

Therefore, participant observation was used to discover how water is used and why the survey yielded such a high figure.

From the participant observation, it was found that not all the water brought to the house for drinking purpose was actually drunk. Each household usually has a drinking utensil, i.e., coconut shell with a handle, a cup, a glass at the drinking water jar and everybody who wants a drink uses this utensil. Before one uses this utensil to drink from, one usually dips the utensil into the jar to get water and washes off the utensil. Water is thrown away after this washing. The washing may be done once or twice and each time about a quarter to a half full utensil of water is used. Then a full utensil of water is drawn for the actual drinking. If the first container of water does not satisfy a person's thirst, a second full utensil of water is again drawn. Water left over from drinking is usually thrown away before the utensil is placed back on the water jar. Village 2 is more conservative on their water use than other villages. As for domestic use water, part of the water is carried to be used at the house but part of it is used near the water sources as indicated in Table 15. About 40 percent of the respondents do their washing and bathing at or near the water sources. If the source is a pond, many people will wash or bathe right in the pond without drawing the water out. If the source is a dug well or hand-pumped, the washing and bathing will take place near the source.

For the quantity of daily water used, participant observation shows that the use rate is 1.5 - 6 liters per person for drinking and 120 - 200 liters per household for domestic use. In Village 1, 20 household store drinking water in 750 cc. bottles. Water is drunk from bottles without throwing any of it away. It was found that on average a man drinks three bottles a day and a woman drinks two bottles a day. In Villages 2, 4 and 5, a different method of measurement was used since drinking water was stored and taken from jars. First, the actual measurement of the jar's capacity was done by using a measuring cup to fill the jar with water. Then, each house was observed all day to see how much water was used. The following day, at the same time as when jar was filled with water, the left-over water was measured again. From 32 households observed it was found that approximately 6 liters of drinking water is used per person per day. However, this amount is not used for drinking only, it is also used for washing the dipper or hands. Sometimes the left-over was thrown away.

For domestic use water, approximately 120 - 200 liters is brought to the house each day. It is to be noted here that Village 2 used slightly less water than the rest of the villages.

The most common person to go and fetch water for the household in all villages is the woman (Table 16). Water is usually drawn manually from the source, bucket by bucket using a drawing stick or a rope tied to the bucket. Each individual

brings his own bucket to draw water. If the water level is very low as in Villages 2 and 3 in the dry season, at least 2 persons have to go together to fetch water. One will climb down to the bottom of the well and use a small cup to get water to hand to the second person at surface level to put in the bucket. Most of the water fetchers carry the water home on their shoulders using a carrying stick with a bucket hanging on each end. If the distance is great then a switch of shoulder for carrying may be effected. Some people use the push cart to take the water home if they have one and the road to the wells permits such action.

Each day an average of 2.9 trips were made to fetch drinking water. The number of trips to get drinking water ranges from one to six times per day. If they don't have to wait for water, or water is always available to draw, an average of 24.1 minutes is needed per trip for drinking water. However, if a wait is necessary the respondents were asked to give the time for the longest wait. The average of that time is 99.6 minutes for drinking water (Table 17).

A note to keep in mind when reading the figures of time spent in fetching water, is that it is the estimation by the villagers without a watch. For the respondents who were unable to estimate the time, a code of missing data is assigned. Another point is that the longest average wait of the villages is usually in the dry season which is only a few months for the year.

It can be much higher than usual time needed. For example, there are a number of people in Village 2 who wait overnight for the drinking water in the dry season.

When the respondents were asked about problems in general encountered in fetching water, the answers were expressed in terms of quantity shortage and waiting time rather than distances and other things. It is to be noted here that these responses were from only half of the respondents since the other half gave a "don't know" answer. The question was open-ended and people said it is their duty to fetch water and they are used to doing it and did not know how to answer that question (Table 18).

The water storage containers available in the villages under study are small clay jars (10 to 40 liters capacity), ceramic jars (120 - 200 liters), giant cement jars (1,000 - 2,000 liters) and cement water tanks (3,000 - 5,000 liters). The most commonly used ones are the small clay and ceramic jars.

For drinking water storage purposes, on average, there are 1.7 small clay jars and 1.5 ceramic jars per household. The highest number of jars owned by a household is six for clay jars and five for ceramic jars. These were present in only two houses. However, 25.6 percent of the households have no small clay jars and 66.1 percent have no ceramic jars at all.

For domestic use water storage purposes the ceramic jar is most common. About 88 percent of the households have ceramic jars while clay jars are only present in 10 percent of the households. On the average, there are 0.1 clay jars and 1.5 ceramic jars per household for storing domestic use water (Table 19).

For the larger water storage container, such as the giant cement jars which in the study area were mainly provided for the villages by the government through the Rural Job Creation Project (RJCP) in 1984-1985, 38 households or 8.6 percent of the respondents claimed to have them for drinking water purpose and 13 households or 2.9 percent said they have them for storing domestic use water. It is very interesting to note here that the actual number of giant cement jars in existence in the six villages is 111 units (actual counting and mapping). The 38 units claimed to be in use for drinking water storage are only 34.2 percent of those existing. Another 13 units (11.4 %) are used for domestic use water. After taking into account both of these categories there are still 54.1 percent or 60 units unused (Table 20).

From the participant observation, the extent of use is even less than the survey data reveal. Some of the jars were said to be used only for that part of the year when the rain water could be caught during the rainy season. Furthermore, 80 percent of the houses were not well prepared to catch rain water since there were no gutterings to catch it. However, there are some

also at the other end of the spectrum extreme cases to pull the average down as well. There were 18 households or 4.1 percent which have no domestic use storage water containers at all.

Domestic use water containers seem to receive less attention from the owners than drinking water containers. Average capacity and actual number of containers for drinking water is greater. Drinking water containers are covered more. About 69.7 percent of drinking water containers have some kinds of covers which may be jar lids, pot lids, trays, or flat round baskets. However, only 13.4 percent of the domestic use water containers are covered. Drinking water containers are usually placed at a higher location, such as up in the house or on stilts, while domestic use water containers may be placed on the ground. The cleaning of drinking water containers by rinsing off the accumulation at the bottom of the jars is also done more often.

Table 14 Average quantity* (liter) of drinking and domestic use water brought to the household per household and per person per day by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Drinking</u>							
Average quantity brought to the house (per household)	75.1	58.7	68.9	54.1	55.8	49.0	57.6
N	38	59	55	108	82	99	441
Average quantity brought to the house (per person)	16.8	10.0	11.0	9.6	9.7	9.3	10.4
N	38	59	55	108	80	99	439

Table 14 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Domestic use</u>							
Average quantity brought to the house (per household)	417	367	278	683	557	611	528
N	38	58	55	108	82	99	440
Average quantity brought to the house (per person)	92	71	64	126	108	112	101
N	38	58	55	108	80	99	438

* Quantity obtained by the survey is the quantity brought to the house which is much higher than figures of actual consumption obtained by participant observation.

Table 15 Activities being performed at or near the water source

Category	Village						Total
	1	2	3	4	5	6	
None	69.2	66.1	52.8	60.2	36.7	70.0	58.9
Washing and bathing	28.2	33.9	43.3	37.9	63.3	29.0	39.7
Watering vegetables and animals	2.6	-	3.8	1.9	-	1.0	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	53	108	79	100	438

Table 16 *The water fetcher by village*

<i>Category</i>	<i>Village</i>						<i>Total</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	
<i>Children</i>	12.5	5.2	7.5	3.7	1.2	3.0	4.5
<i>Women</i>	67.5	74.1	52.8	63.9	75.0	65.0	66.7
<i>Men</i>	20.0	15.5	32.1	19.4	11.3	24.0	20.1
<i>Combination of above</i>	-	5.2	7.5	13.0	12.5	8.0	8.7
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>N</i>	40	58	53	107	80	100	438

Table 17 Number of trips and time spent in fetching drinking water by village

Category	Village						Total
	1	2	3	4	5	6	
Average number of trips/day	4.1	1.8	1.7	2.9	4.4	2.6	2.9
N	37	58	55	108	82	99	439
Average time (mins.) needed/trip if no wait	20.0	41.0	28.3	20.5	10.9	29.4	24.1
N	39	47	50	100	75	100	411
Average time (mins.) needed/trip with longest wait	80.5	168.6	113.5	69.2	32.1	94.1	99.6
N	32	54	51	60	28	69	294

Table 18 Problems in fetching water

Category	Village						Total
	1	2	3	4	5	6	
No problem	24.0	14.0	3.6	18.5	70.0	14.0	20.0
Distance, bad road	12.0	34.9	42.8	31.5	10.0	28.0	28.7
Long wait, water shortage	60.0	46.5	46.4	46.3	15.0	58.0	47.7
Others, i.e., safety at night, water no good in rainy season	4.0	4.7	7.1	3.7	5.0	-	3.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	25	43	28	54	20	50	220

Table 19 Number of water storage containers by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Drinking water</u>							
<i>Small clay jars</i>							
0	7.5	32.2	73.6	20.4	18.5	15.0	25.6
1	27.5	42.4	11.3	30.5	46.9	35.0	33.6
2	45.0	22.0	13.2	38.0	28.4	36.0	31.3
More than 2	20.0	3.4	1.9	11.1	6.2	14.0	9.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	53	108	81	100	441
<i>Small ceramic jars</i>							
0	82.5	50.8	22.6	68.5	82.5	76.0	66.1
1	10.0	27.1	49.1	24.1	16.3	18.0	23.4
2	7.5	16.9	18.9	3.7	-	6.0	7.5
More than 2	-	5.1	9.4	3.7	1.2	-	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	53	108	80	100	440

Table 19 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<i>Giant cement jar</i>							
0	75.0	100.0	98.1	100.0	81.5	88.0	91.4
1	25.0	-	1.9	-	18.5	12.0	8.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	53	108	81	100	441
<i>Rain water tank</i>							
0	100.0	100.0	100.0	100.0	98.8	99.0	99.5
1	-	-	-	-	1.2	1.0	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	53	108	81	100	441
<i>Total capacity of all containers per household</i>							
Mean (liters)	315	151	242	158	631	495	344
N	35	59	54	108	80	100	436

Table 19 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Domestic use water</u>							
<i>Small ceramic jars</i>							
0	5.0	5.1	5.6	4.6	24.7	20.0	12.1
1	42.5	55.9	47.2	35.2	48.1	47.0	45.1
2	45.0	25.4	30.2	39.8	21.0	23.0	29.9
More than 2	7.5	13.5	17.0	20.4	6.2	10.0	12.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	53	108	81	100	441
<i>Giant cement jar</i>							
0	77.5	100.0	100.0	100.0	98.8	97.0	97.0
1	22.5	-	-	-	1.2	3.0	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	52	107	81	100	439

Table 19 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<i>Cement water tank</i>							
0	100.0	100.0	100.0	100.0	100.0	100.0	99.8
1	-	-	-	-	-	-	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	52	107	81	100	439
<i>Total capacity of all containers per household</i>							
Mean (liters)	594	142	561	260	200	241	295
N	38	59	55	108	82	100	442

Table 20 Actual number of giant cement jars in existence and number said being used by village

Category	Village						Total	
	1	2	3	4	5	6	N	%
Actual number in existence	34	1	12	-	41	23	111	100.0
Number used for drinking water	10	-	1	-	15	12	38	34.2
Number used for domestic water	9	-	-	-	1	3	13	11.7
Difference in used and unused	15	1	11	-	25	8	60	54.1

3.4 Sanitation

Under sanitation, two aspects were investigated, namely, latrines and waste disposal.

a) Latrines

A majority of the households (87.0 %) under study do not have a latrine. Out of this number, 80.0 percent would like to have one while the other seven percent do not want one. Their reasons for not wanting one are the high construction costs and a feeling of a lack necessity. There are 13 percent who shared latrines, 2 households each in Villages 1, 4, 5 and 6.

The actual number of latrine in the six villages is 4, 0, 5, 16, 8 and 16 consecutively.

Since the number of households with latrines are so few, a hypothetical question was asked about the perceived benefits of having a latrine. The highest responses were (in order of importance) ; convenience, combination of convenience and safety and safety only. There are three households which said there is no benefit whatsoever in having a latrine. After such responses were given, a probe was made to get the indigenous meaning of convenience and safety. It is a very interesting and important point that convenience at night really stood out. Very few people thought of safety from a health point of view. About 2.7 percent

said it meant safe from flies while 5.1 percent said it meant safety from snakes and any danger that might occur at night. Therefore, to motivate them to build latrines, a stress on the point of convenience should be used along with the health benefit. It is fortunate to find out also that about two thirds of the respondents thought having a latrine would not a burden at all. About one fifth thought it would be a burden to fetch water for latrine usage and about 8 percent think the construction costs of a latrine would too high (Table 21). As well, 84.0 percent of the existing latrines are cleaned by women.

When the respondents were asked where they usually defecate, 85.0 percent said they go to the fields because they do not have latrine. However, when the question was narrowed down to late at night, about 3 percent of them admitted that they dig a hole underneath the house and defecate there. From participant observation it is evident that the distance they go out to defecate in the field is shorter at night than during the day. For those who use latrines, their reasons given (in order of importance) for using them were disease prevention benefits, convenience, cleaner than fields, and privacy. (Table 22).

Table 21 Latrine ownership and perceived benefit and burden by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Latrine ownership</u>							
No and not wanted	10.0	11.9	5.8	4.5	6.3	6.1	6.8
No but would like to have	75.0	88.1	84.6	79.3	81.0	75.5	80.2
Yes (private and shared)	15.0	-	9.6	16.2	12.7	18.4	13.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	52	111	79	98	439

Table 21 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Perceived benefit of</u>							
<u>having latrine</u>							
None	-	-	-	-	2.6	1.0	0.7
Safe	5.3	21.1	17.3	20.8	20.5	28.6	20.7
Convenience	44.7	57.9	46.2	40.6	35.9	27.6	40.1
Combination of 2nd and 3rd choices	50.0	21.1	36.5	38.7	41.0	42.0	38.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	57	52	106	78	98	429

Table 21 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Indigenous meaning of</u>							
<u>safe and convenient</u>							
<u>to have a latrine</u>							
Convenient-at night	60.0	62.9	70.0	62.8	64.3	56.7	62.6
-relaxation							
when using	20.0	11.4	15.0	5.1	7.1	1.7	8.2
-from rain,							
sun, no need							
to dig ground	4.0	-	5.0	6.4	7.1	10.0	5.8
Safe-from snake, and							
night danger	-	5.7	5.0	2.6	7.1	8.3	5.1
-from flies	-	5.7	-	6.4	1.8	-	2.2

Table 21 (continued)

Category	Village						Total
	1	2	3	4	5	6	
Combination of above convenient and safe	16.0	14.3	5.0	16.7	12.5	23.3	15.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	25	35	40	78	56	60	294
<u>Burden of having latrines</u>							
None	76.9	60.3	67.3	62.6	66.3	67.3	65.9
Fetching water	15.4	27.5	25.0	23.4	20.0	19.4	21.9
Construction costs	5.1	6.9	5.8	8.4	12.5	8.2	8.3
Combination of 2nd and 3rd choices	2.6	5.2	1.9	5.6	1.3	5.1	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	58	52	107	80	98	434

Table 22 Latrine utilization and defecation practices by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Where defecation is normally</u>							
Latrine	15.0	-	7.5	18.5	13.7	25.0	15.0
Field	85.0	100.0	92.5	81.5	86.3	75.0	85.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	53	108	80	100	440
<u>Those who use field-what</u>							
<u>to do if late at night ?</u>							
Field	100.0	82.5	100.0	100.0	100.0	97.3	96.8
Underneath the house	-	17.5	-	-	-	2.7	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	35	57	50	86	70	74	372

Table 22 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Those use latrine-reason</u>							
<u>for using</u>							
Disease prevention	20.0	-	-	38.1	72.7	52.2	42.9
Cleaner than field	20.0	-	75.0	14.3	9.1	13.0	17.1
Privacy	10.0	-	-	14.3	9.1	17.4	12.9
Convenience	50.0	-	25.0	33.3	9.1	17.4	27.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	10	-	4	21	11	33	69
<u>Indigenous practice for</u>							
<u>infant excreta</u>							
Leave as is	21.6	22.2	15.9	8.3	39.3	30.5	22.7
Put in latrine or bury	78.4	77.8	84.1	91.7	60.7	69.5	77.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	37	54	44	84	61	72	352

b) Waste Disposal

Part of the sanitation of the household is waste disposal. For household trash, burning is the most common method used. About 69.2 percent burn their trash, 12.1 percent bury it and 18.7 percent leave it as is. About one fifth to one fourth of households in Villages 2, 5 and 6 leave their garbage as it is. The participant observers reported a noticeable dirtiness among these villages as well.

For waste water, a majority throw it away after use wherever they use it. Fortunately, at the time of data collection, it was the dry season and the ground was very dry. As soon as water was dumped on it, it all seeped into the ground very quickly. The only place that had problem water laying on the ground, was near the water sources. Many people came there to draw and spill water and many also did their washing and bathing there.

Half of the respondents reported that they bury their animal waste and use it as fertilizer (42 households in the six villages do not have any animals.) However, there are another 40.0 percent of the people who said they leave animal waste as is without doing anything (Table 23). Insect and rodent problems were also mentioned by almost all of them. There are only 1.8 percent of the respondents who said they don't have such problems but a majority have all kinds of problems including flies,

cockroaches, and rats. Rats are usually the most common problem. However, the main problem in many households in Villages 3 and 6 seem to be flies (Table 24).

Table 23 Waste disposal by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Household garbage</u>							
Burn	79.5	72.9	60.4	75.0	62.0	67.0	69.2
Bury	7.8	3.4	32.1	9.4	12.7	11.0	12.1
Leave as is	12.8	23.7	7.5	15.7	25.3	22.0	18.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	53	108	79	100	438
<u>Waste water</u>							
Drain out	16.7	7.0	23.1	15.7	18.5	18.2	16.6
Leave as is	83.3	93.0	76.9	84.3	81.5	81.8	83.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	36	57	52	108	81	99	433

Table 23 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Animal waste</u>							
Leave as is	28.1	52.2	28.6	40.4	43.8	41.5	40.4
Bury/fertilizer	65.6	31.9	49.0	48.5	51.3	51.1	49.1
Give away	6.3	14.9	22.4	11.1	5.0	7.4	10.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	32	47	49	99	80	94	400

Table 24 Insect and rodent problems by village

Category	Village						Total
	1	2	3	4	5	6	
No problem	-	6.3	2.4	2.7	-	-	1.8
Rats	19.4	12.5	4.8	18.9	25.0	2.5	13.5
Flies	2.8	4.2	21.4	4.1	3.3	17.5	9.1
Cockroaches	-	2.1	4.8	1.4	3.3	7.5	3.5
Rats plus flies plus cockroaches	77.8	75.0	66.7	73.0	68.3	72.5	72.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	36	48	42	74	60	80	340

3.5 Certain Aspects of Women and Men in the Study Area

In this section, various aspects are presented that may facilitate a better understanding of the villagers especially for planning and implementing of community development programs.

There are 6 topics discussed under this section.

a) Women's Daily Time Allocation

Rural women in Thailand usually take on both the household role of looking after all the house work and the role of labor participant on the farm, the main source of family income.

The investigation of women's daily work time allocations can help understand the seasonal work potentials for these women. Such information will be useful in planning and development to promote community participation among these women.

Data in this section came from a study of all women 15 years and older in 442 households in 6 villages. The total number is 699 women. Sixty-five percent of them are between the working ages of 20 and 49 years old. The breakdown of the ages is 24.0 percent between 20 and 29 years, 23.8 percent 30 to 39 years, 17.0 percent 40 to 49 years, 13.6 percent 15 to 19 years, 11.7 percent 50 to 59 years and 10.0 percent 60 years and over. The average age of the group is 36.29 years (Table 25).

The levels of education of this group of women, ages 15 years and over, are very similar to the female respondents of the main questionnaire who are mainly wives of heads of households or are heads of households themselves. Sixty percent have four years of education, 28.0 percent have less than the compulsory education level which at that time was four years, 17.8 percent have no education at all, and 9.9 have 1-3 years of education. Only 10.4 percent of the women have finished present compulsory education to grade 6. About 2.0 percent have an education higher than grade 6. The mean number of years of schooling for the whole group is 3.5 (Table 26). Therefore any official communication through printed materials may have limited impact and inhibit participation.

Table 25 Age of women 15 years and older by village

Age	Village						Total
	1	2	3	4	5	6	
15 - 19	7.7	16.7	14.8	18.1	12.9	7.8	13.6
20 - 29	23.1	27.8	28.4	19.8	25.0	23.4	24.0
30 - 39	28.8	25.0	21.0	23.2	20.0	27.0	23.8
40 - 49	15.4	13.0	17.3	18.6	16.4	19.1	17.0
50 - 59	13.5	8.3	13.6	9.0	13.6	14.2	11.7
60	11.5	9.2	4.9	11.3	12.1	8.5	9.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	52	108	81	177	140	141	699

Table 26 Education level of women 15 years and older

<i>Level of education</i>	<i>N</i>	<i>Percent</i>
<i>No education</i>	<i>128</i>	<i>17.8</i>
<i>Grade 1 - 3</i>	<i>69</i>	<i>9.9</i>
<i>Grade 4</i>	<i>416</i>	<i>59.9</i>
<i>Grade 5 - 6</i>	<i>72</i>	<i>10.4</i>
<i>Higher than grade 6</i>	<i>14</i>	<i>2.0</i>
<i>Mean years of education = 3.5</i>		
<i>Total</i>	<i>699</i>	<i>100.0</i>

The analysis of women's daily time allocation will be divided into two parts, i.e., the off-farming season and the farming season. For the off-farming season, activities will be classified according to different time periods of the day, namely, activities after getting up, those after breakfast, those after lunch, and those after dinner. These periods have been adopted because rural people do not use watches to tell the time. In each period of time, three main activities are identified. The data is analyzed according to the different age groups of women. An average time spent for each period for an activity is calculated. However, an average for "do nothing" for each period has not been calculated because the differences from one person to another are very high. For example, one person may do one activity during a period and leave the rest of the time as "doing nothing". Another person may do three activities and use up all the time for that period while a third person may not do anything for the entire period. The "do nothing" period of these women may range from 5 to 10 minutes to hours. Therefore, it would be inappropriate to calculate the mean based on these extreme values of time spent on "doing nothing". More detailed information may be found in Appendix C.

a.1 Women's Daily Time Allocation in the Off-farming Season

a.1.1 Activities before Breakfast

The wake up time for the women is between 5 and 6 o'clock in the morning. For the first activity, a majority of the women aged between 20 and 59 years will cook breakfast. About 38.9 percent of the age group 15 to 19 year group and 28.6 percent of those aged 20 to 29 years will fetch water while only 15.1 percent of those aged 30 to 39 will do so. Five percent of the ages 40 to 49 group, 3.7 percent of the ages 50 to 59 group, and none of ages 60 years and over fetch water. It is to be noted here that the older the women get, the less they fetch water. Some (3.3 %) of the women will feed animals such as buffaloes and pigs after they get up while others (3.3 %) will tend children. Those who tend children usually are older women aged 60 years and over. Another group of women (13.6 %) do nothing after getting up. The breakdown of the group which does nothing after getting up will be 14.3 percent aged 40 to 49, 28.0 percent 50 to 59 and 56.5 percent 60 years and older. The average time for the first activity is one hour.

After the first activity, more women in all age groups will do nothing. The number who do nothing is higher than those who do small household tasks such as watering the

plants, cooking, and cleaning the house. The average time spent for this second activity is one hour.

For the third activity before breakfast, 86.4 percent do nothing. It is interesting to note that some women aged 40 to 49 in village four start weaving as soon as they get up.

a.1.2 Activities before Lunch (After Breakfast)

For the first activity during this period of time, 15.7 percent of the women will take the animals out to fields which are in general, far from homes, 15.6 percent will tend the children at home, 11.3 percent will do laundry, clean the house and fetch water. Some of the women from all age groups in every village will start to weave after breakfast. About six percent of the women will go out hunting for food such as frogs. The women who sit at home and have nothing to do during this period, account for about 30.8 percent. Many of them are older people and teenagers. Some of the first activities for some people may last from breakfast till lunch which is about one o'clock in the afternoon.

The main second activities after breakfast include fetching water, washing clothes, weaving, tending animals and caring for children. The percentage of those having no second activity rises to 77.3 percent. Only 3.2 percent of the people have a third activity during this period while the rest, 93.8 percent, sit around and do nothing.

a.1.3 *Activities before Dinner (After Lunch)*

The first activity of this period includes, 12.9 percent tending silk worms, 8.7 percent hunting for food and wood, 5.7 percent fetching water, 11.3 percent tending buffaloes and 12.4 percent taking care of children. There are 39.9 percent who do nothing during this period.

The second activity after lunch consists of 36.6 percent preparing food, 8.2 percent fetching water and the rest doing nothing.

The last activity of the period is mainly doing nothing. About 84.8 percent do not do anything, 10.0 percent prepare food, 2.9 percent fetch water and 3.2 percent clean the house, feed animals and enjoy television programs.

a.1.4 *Activities before Bed Time (After Dinner)*

A majority of women do not have activities between dinner and bed time. There are few women who clean the house, wash dishes, fetch water and enjoy the television program during this period. The bed time is usually around 21.00 o'clock.

a.2 Women's Daily Time Allocation during the Farming Season

The researchers have attempted to analyse the daily activities of the women during the farming season in the same way as they did for the off-farming season presented earlier. This was done without success because there is no different in the types of activities performed during different periods of the day during this season. Throughout the farming period there is only one pattern of activities. As soon as they get up, a majority of them (62.1 %) will prepare food and about one fifth (20.7 %) will go out to the field. The elders may look after children. There are only 11.7 percent of women who do not do anything after getting up. Subsequently, a majority will remain working in the field while some may do other work such as fetching water, washing clothes and looking after children. Those who tend not to do anything more are the elders and the teenagers.

After breakfast, 77.5 percent of women will continue working in the field, 9.3 percent will do other work such as feeding animals and house cleaning and the rest, 12.3 percent will do nothing. The do nothing group, in general, is the elders aged 60 years and over.

The work in the field will continue till after lunch or until evening. About 76.7 percent will continue with their work in the field till such time and 8.9 percent will do other work

such as looking after children, selling goods, etc., and 14.4 percent, who are mainly elders, will stay home and do nothing.

For the period after dinner, after 19.00 o'clock, (the normal dinner time in the rural northeastern region is around 19.00 o'clock or after the sun sets and people come home from the field), a majority of the women (84.8 %) will take it easy and relax after a day of hard work. There are 8.4 percent of them who wash dishes, 8.8 percent clean the house or wash clothes after dinner. Then, all of them will go to bed. The bed time during farming season will be earlier than off-farming season.

From the above analysis, it may be concluded that the busiest group of women are those between the ages of 20 and 39 years who generally have work to do in both periods. The percentage of this group who sit around and do nothing is much lower than in the other groups of women.

For those in every age group, who do nothing they usually do this later in the morning and in the late afternoon after finishing up one or two activities. The biggest groups of women who do nothing are the elders and the teenagers (15-19 years). The latter are proportionately less.

Water fetching activities during the off-farming season, are early in the morning before breakfast. There are some women who do it during other times but much less than in

early morning. The fetching of water early in the morning is usually done by the younger group of women, those aged 15 to 19 years and to a lesser extent by the 20 to 29 year group. But when water is drawn later in the day, it is done more by the older group, 30 to 39 years, than by the two younger groups mentioned earlier. The elders are not usually the water fetchers. During the farming season, women tend to fetch water early in the morning before breakfast and again late afternoon before dinner. After dinner, there are very few women who go to fetch water.

Weaving, which is commonly done by women in many rural villages in the northeast region of the country, usually starts after breakfast and continues throughout the afternoon. In Village 4 only, women start weaving even before breakfast.

b) Women's Role in Decision Making

As shown earlier, the daily lives of the women include both household tasks and the shaping of family futures. Under this section, information on women's roles in decision-making will be presented. This information will help in the planning and promotion of women's participation in various areas.

This survey is intended to look into the roles of women in decision-making in family matters as well as in other things such as participation in community development work. It aims at

seeing whether such decisions are left solely to the men or husbands. An old saying "men are the leaders as are the front feet of the elephant and women are the followers or the back feet of the elephant". The survey will indicate whether this saying is out of date now.

When the question "who is the pocket holder in your family" was asked, 86.7 percent of the women said it is they who have this role especially in Village 6 in which 96.0 percent of women are the pocket holders for the family. There are only 7.0 percent who said husbands are the pocket holders (Table 27).

In addition to the subject of pocket holders three other areas, were surveyed. First, decision making about children's matters such as their education, ordination, and marriage ; second, economic matters related to the purchasing of farming equipment, sale of farm produce, and loans for the farm ; third, decision making for participation in community work, water and sanitation.

The results of the study show that if matters relate to children, e.g., education, both parents will usually decide together. 64.2 percent of the respondents said both parents make such decisions together. The highest percentage of parents deciding together is found in Village 6 (72.3 %). The next highest response category is the mother (15.5 %) and the lowest one is the father (13.7 %). However, the children themselves also have

a role in making decision about their education but the percentage is quite low (5.2 %).

About sons' ordinations, 70.4 percent of parents decide together. Village 1 has the highest percentage of people making this decision together (75.9 %). The next highest category in the decision-making role is the mother, then the father and finally, the son himself.

For childrens' marriage, the decision-making roles follow the same pattern. A majority of parents jointly make such decisions (67.3 %). The next highest categories are the son himself or the daughter herself (13.4 %), the mother (9.5 %) and the father (8.4 %) (Table 28).

For family economic matters, such as the sale of farm produce, more than half of both husbands and wives decide together (54.2 %) then the husband alone (26.4 %) and the wife alone (17.5 %). For loans for farming, the same tendency seems to hold. More than half of the couples (53.7 %) make such decisions together, then the husband alone and the wife alone make such decisions.

However, for the purchase of farming equipment, there seems to be more of the man's role in making such decisions. About 44.8 percent of the husbands make this decision, 36.8 percent are husband and wife decisions, and 16.5 percent is the wife alone (Table 29).

In the area of decision-making for participation in community development work by any member in the family, the percentage of husbands alone is 38.9 %. For both husband and wife it is 37.4 % to decide together it is close to the same. However, only 20.5 percent of the women alone in all six villages make this decision. Village 6 has the highest number of husbands deciding alone (45.0 %) while Village 2 has the highest number of husbands and wives together deciding (47.5 %). Village 1 has the highest percent of women alone deciding (27.0 %).

Regarding decisions to purchase water jars or construct rain water storage containers, latrines and wells the highest percentage is for the husband to make this decision (39.3 %). 34.5 percent said that they decide together and 24.5 percent believe that it is a women's decision (Table 30).

From the above analysis concerning decision making, it may be said that the women are given a very important role as pocket holders in families. However, the amounts of money that they hold is probably very minimal. The main source of income is from the sale of farm products. This happens only once a year and part, if not all, of the money recieved is used to pay off standing debts. A majority of the households do have debts as mentioned earlier.

Decisions concerning children's education, ordination, marriage, are usually made together by husbands and wives. In cases where the decisions are not made together, the wife alone more than the husband alone makes decisions the exceptions are children's marriages. Children themselves have an input together with that of their parents.

For household economic matters, including both the sale of farm products and acquiring loans for occupational purposes both husbands and wives mostly decide together. For the purchases of farming equipment, husbands alone will more often make decisions. The reason men making such for decisions may be that they are more knowledgeable about equipment.

For participation by family members in various types of community development work and water and sanitation, this decision seems to be more for the men to make. This may be because rural people think of matters outside the house as belonging more to the men who are leaders in families. In addition, women may think that men are the ones who construct water sources.

If each village is looked at separately, it is found that Village 1 has the highest percentage of women in the decision-making category relating to family members' participation of community work. Village 2 has the highest relating to the sale of farm

products, and Village 3 is highest on children's affairs as well as the taking out of loans, the purchasing of farm equipment and the buying and constructing of water and sanitation facilities.

Village 6 is high on pocket holders while Villages 4 and 5 has little to distinguish them from the others.

Table 27 Family pocket holders by village

Pocket holders	Village						Total
	1	2	3	4	5	6	
Women (respondents)	76.3	89.8	81.8	80.6	89.0	96.0	86.7
Husband	15.8	10.2	7.3	9.3	2.4	3.0	7.0
Separate pocket of husband and wife	7.9	-	9.1	2.8	4.9	1.0	2.5
Others	-	-	1.8	7.3	3.7	-	3.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	40	59	53	108	82	100	442

Table 28 Decision makers concerning children's education, ordination and marriage by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Children's education</u>							
Women (respondents)	17.7	11.5	29.5	18.1	10.0	11.7	15.5
Husband	29.4	13.5	9.1	12.8	12.9	11.7	13.7
Husband and wife	52.9	67.3	47.7	61.7	70.0	72.3	64.2
Children	-	7.7	11.4	6.4	2.9	3.2	5.2
Others	-	-	2.3	1.0	4.2	1.1	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	34	52	44	94	70	94	388

Table 28 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Son's ordination</u>							
Women (respondents)	6.9	14.0	17.5	8.1	8.2	10.6	10.5
Husband	13.8	7.0	7.5	9.3	11.5	9.4	9.6
Husband and wife	75.9	74.4	60.0	72.1	72.1	68.2	70.4
Son	3.4	4.6	12.5	9.3	4.9	10.6	8.1
Others	-	-	2.5	1.2	3.3	1.2	1.4
Total.	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	29	43	40	86	61	85	344

Table 28 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Children's marriage</u>							
Women (respondents)	6.9	8.7	17.8	8.1	7.6	9.3	9.5
Husband	-	15.2	4.4	9.3	10.6	7.0	8.4
Husband and wife	79.3	67.4	57.8	68.6	66.7	67.4	67.3
Children	13.8	8.7	20.0	12.8	10.6	15.1	13.4
Others	-	-	-	1.2	4.5	1.2	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	29	46	45	86	66	86	358

Table 29 Decision makers concerning family economic matters

Category	Village						Total
	1	2	3	4	5	6	
<u>Sales of produce</u>							
Women (respondents)	21.1	25.9	25.0	14.4	12.4	14.7	17.5
Husband	21.0	14.8	28.9	30.8	32.1	24.2	26.4
Husband and wife	55.3	59.3	44.2	53.8	50.6	60.0	54.2
Others	2.6	-	1.9	1.0	4.9	1.1	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	54	52	104	81	95	424

Table 29 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Loans for farming</u>							
Women (respondents)	18.9	18.2	32.7	17.1	11.0	10.3	16.6
Husband	16.2	25.4	19.2	27.6	34.1	33.0	27.8
Husband and wife	64.9	56.4	48.1	54.3	48.8	54.6	53.7
Others	-	-	-	1.0	6.1	2.1	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	37	55	52	105	82	97	428

Table 29 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Purchase of farm equipments</u>							
Women (respondents)	18.4	21.1	28.0	12.5	12.2	15.3	16.5
Husband	44.7	29.8	42.0	53.8	52.4	38.8	44.8
Husband and wife	36.9	47.4	30.0	30.8	31.7	44.9	36.8
Others	-	1.7	-	2.9	3.7	1.0	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	57	50	104	82	98	429

Table 30 Decision makers concerning participation in community development (C.D.) and water and sanitation activities

Category	Village						Total
	1	2	3	4	5	6	
<u>Participation of family member in C.D.</u>							
Women (respondents)	27.0	20.3	26.0	19.6	22.0	15.0	20.5
Husband	29.7	30.5	37.0	38.3	43.9	45.0	38.9
Husband and wife	37.9	47.5	37.0	33.5	30.5	39.0	37.4
Others	5.4	1.7	-	6.6	3.6	1.0	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	38	59	53	107	82	100	439

Table 30 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Purchase and construction</u>							
<u>of water and sanitation</u>							
<u>facilities</u>							
Women (respondents)	20.5	16.9	37.7	25.2	25.6	22.0	24.5
Husband	30.8	32.2	22.7	45.8	45.1	44.0	39.3
Husband and wife	48.7	50.9	37.7	27.1	25.6	33.0	34.5
Others	-	-	1.9	1.9	3.7	1.0	1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	50	53	107	82	100	440

c) *Readiness of Women to Participate in Community Development Work*

The readiness of people is very important factor leading to the success or failure of community development activities. Certain factors that might indicate the readiness of the villagers under investigation in this study include, reception of mass media, communication with those outside of the villages, being members of various groups in the village, number of family members with experience of training on water and sanitation, and the level of education of villagers. Such factors may form the basis for the villagers to be ready to participate in community development work, especially in the area of water and sanitation, the emphasis of this project.

The results of the study show that about two thirds of the respondents (67.7 %) never read newspapers (or other printed document) while 22.0 percent of them seldom read them, and 10.3 percent read them everyday, almost everyday, or weekly. It is to be noted that out of this number only 1.6 percent read papers everyday. Village 2 has the most people who have never read any papers at all and Village 3 has the least. If level of education is taken into consideration, which for these villages is 3.8 years on the average, it may be said that lack of education and lack of reading materials might be causes that make most respondents uninterested in reading newspapers.

For radio, only one fifth of the respondents have never listened to one. About 34.6 percent of them listen to radio every day, 19.8 percent listen to it almost every day, 18.6 percent listen occasionally, and the rest listen on a weekly or monthly basis. Village 1 has the highest percentage of people who have never listened to any radio and Village 3 is at the opposite end which has the most number of people listening to radio on a regular basis.

For television, more than half of the respondents have never watched one at all. One reason may be that three out of the ^{the} ~~six~~ ^{six} villages do not have access to power lines at the current time and if a television set is to be used in such places, the owner needs to generate his own electricity. About 94.9 percent of all respondents have never watched television at all. Village 6 has the highest number of people watching television every day.

When the frequency of respondents going to town was looked at, it was found that 69.9 percent of them go to town occasionally, 15.3 percent go monthly, and 6.4 percent have never gone to town at all. Village 4 has the most and Village 3 has the least number of people who have never gone to town (Table 31).

Regarding organizations or groups in villages which may contribute to community development in some ways, it was found that 85.1 percent of the respondents do not belong to any group

at all. There are thus only 14.9 percent who are members of a group in the villages. Examples of these groups include housewives group, village scout groups agricultural groups family planning groups, traditional birth attendant groups, drug cooperative groups, and weaving groups. Village 4 has 93.8 percent of its women not belonging to any group. Village 2 has the most number of people belonging to groups, i.e., 13.0 percent belong to a village scout group (Table 32). However, the number of people who belong to any one group is quite small a only 59 people. Out of this number, 48 are ordinary members and other 11 hold positions in the group. Four are secretaries, two are chairpersons, one is the vice chairperson and four are the group's committee (Table 33).

When the respondents were asked if they or any members of their households ever attended any training on water and sanitation, 85.8 percent said "never", 5.5 percent said they went themselves and 8.7 percent said their family members went. Villages 4 and 6 have an equal percentage (90.7 %) of people who have never gone. The motivations for their going are as follows ; 26 people said they went because they were interested to learn while the other 24 people said they were asked to go (Table 34).

It may be concluded from the above information that if one would like to get women's participation in community development

work, especially the water and sanitation, a health education campaign to make these women aware of the importance of the work as well as the essentialness of their participation, is required. Furthermore, there is a need to motivate the men so that they understand the importance of women's participation and, in turn, may support the women's participation. The level of readiness of the women, judged by the above-mentioned indicators, is quite low. It should be noted here also that radio could play a vital role in getting the message across to these women since majority of them are currently listening to radios. Communication with outside world will also be important because a majority of women have never attended any training on the subject and most lack education (one fifth of them have never attended school and two thirds finished grade 4). Therefore, an innovative strategy to create readiness among this group should be used if successful implementation of programs are expected.

Table 31 Frequency of access to mass communications and to towns by female respondents by village

Category	Village						Total
	1	2	3	4	5	6	
<u>Read newspaper</u>							
Never	71.8	79.7	52.9	66.7	69.2	67.0	67.7
Every day	-	-	3.8	0.9	-	4.0	1.6
Almost every day	-	3.4	7.5	4.6	3.7	5.0	4.3
Weekly	5.1	-	-	1.9	1.2	1.0	1.4
Monthly	5.1	1.7	7.5	4.6	1.2	-	3.0
Seldom	18.0	15.2	28.3	21.3	24.7	23.0	22.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	53	108	81	100	440

Table 31 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Listen to radio</u>							
Never	33.3	22.0	5.6	16.7	26.8	19.2	20.0
Every day	30.8	32.2	45.3	37.9	28.1	33.3	34.6
Almost every day	17.9	18.6	30.2	22.2	14.6	17.2	19.8
Weekly	7.7	11.9	-	4.6	4.9	3.0	5.0
Monthly	2.6	1.7	1.9	1.9	1.2	3.0	2.0
Seldom	7.7	13.6	17.0	16.7	24.4	24.3	18.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	53	108	82	99	440

Table 31 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Watch television</u>							
Never	94.9	88.1	75.0	53.7	37.8	27.0	55.5
Every day	-	1.7	-	7.4	13.4	21.0	9.3
Almost every day	-	1.7	1.9	8.4	9.8	13.0	7.3
Weekly	-	-	5.8	3.7	2.4	6.0	3.4
Monthly	-	3.4	-	4.6	8.5	4.0	4.1
Seldom	5.1	5.1	17.3	22.2	28.1	29.0	20.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	52	108	82	100	440

Table 31 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Going to town</u>							
Never	2.6	5.3	1.9	10.2	8.7	5.0	6.4
Every day	-	-	-	-	-	2.0	0.4
Almost every day	2.6	3.5	5.7	1.9	-	2.0	2.3
Weekly	10.2	1.8	5.7	7.4	4.9	5.0	5.7
Monthly	28.2	14.0	16.9	15.7	13.6	11.0	15.3
Seldom	56.4	75.4	69.8	64.8	72.8	75.0	69.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	57	53	108	81	100	438

Table 32 Membership to village groups of women respondents

Membership	Village						Total
	1	2	3	4	5	6	
Yes	25.6	27.8	25.5	6.2	11.1	9.1	14.9
No	74.4	72.2	74.5	93.8	88.9	90.9	85.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	54	47	97	72	88	397

Table 33 Position in the village groups by female member*

Position	Village						Total
	1	2	3	4	5	6	
Regular member	9	14	8	6	7	4	48
Hold positions	1	1	4	1	-	4	11
<i>N</i>	10	15	12	7	7	8	59

*percentage was not presented because *N* is small

Table 34 Attendance of family members in training on water and sanitation

Training attendance	Village						Total
	1	2	3	4	5	6	
No	60.5	81.4	88.5	90.7	86.4	90.7	85.8
Yes-self	26.3	15.3	-	-	3.7	2.1	5.5
Yes-other family member	13.2	3.4	11.5	9.3	9.9	7.2	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	59	52	108	81	97	435
<u>Reason for participation*</u>							
Interested in topic	9	7	3	3	2	2	26
Was persuaded	2	2	2	6	6	6	24
Other	2	1	-	-	2	2	7
Total	13	10	5	9	10	10	57

* percentage was not presented because N is small

d) *Women's and Men's Opinions Towards Women's Participation in Community Development and Water*

From the results of the study illustrated earlier, it seems that the readiness for participation by women in project areas concerning community development, especially water and sanitation, is at a low level. Therefore, it is of interest also to find out how these women think they can help in community work and in water and sanitation. About 44.1 percent of the women have given no thought to this question. For those who responded, 55.9 percent thought women can help in some community development activities such as a village clean up, improvement or construction of roads, temple development and in the improvement and construction of wells. Villages 1 and 3 have the most number of women who think they can help one way or another in community development work (70.0 % and 69.8 %) while only 43.9 percent of women in Village 5 think they can do so (Table 35).

For the question asked specifically about how women can help with water, about half of the respondents (49.6 %) said women can help look after the well, 41.7 percent think women can boil water and cover water jars, 5.3 percent said women can help provide a new source of water. There are five respondents who said there is nothing women can do at all.

If villages are looked at individually it is obvious that Village 1 has the highest percentage of women (71.8 %) who think women can help by boiling water and covering jars. The highest number of women are in Villages 4 and 5 (57.6 % and 57.4 %) who think they can help look after the wells. For those who said women can help provide new sources of water, highest number are from Village 3 (Table 36).

Therefore, even though the women in these villages may have a low level of readiness to participate in community development projects, especially in water and sanitation, they may be motivated to take a maintenance role for water sources. This could be done without much trouble if adequate training is provided for them. About half of them already realize the importance of this role.

Another question was asked about who they would consult first if their families had problems concerning water and sanitation. About 80.6 percent would go to the village headman, assistant headman, or the venerable priest, 11.1 percent would discuss the matter within the family especially with husbands and only 3.2 percent think of public health workers (Table 37). This group of respondents is not much different from other general rural villagers who always trust and depend on village leaders for all problem solutions. Therefore, if these leaders are well respected by the villagers and have the right knowledge, they can be the most effective in transferring such knowledge to the villagers.

Table 35 *Opinion on women's participation on C.D. by women respondents*

Opinion	Village						Total
	1	2	3	4	5	6	
<i>Should participate</i>	70.0	67.8	69.8	54.6	43.9	48.0	55.9
<i>No comment</i>	30.0	32.2	30.2	45.4	56.1	52.0	44.1
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>N</i>	40	59	53	108	82	100	442
<i>Area of appropriate participation</i>							
<i>Well digging</i>	17.9	15.0	2.7	1.6	-	2.1	5.7
<i>Village cleanliness</i>	32.1	47.5	56.8	42.4	38.9	59.6	47.0
<i>Temple development</i>	-	-	2.7	10.2	5.6	4.3	4.5
<i>Road construction</i>	14.3	10.0	21.6	5.1	16.6	10.6	12.1
<i>Combination of 2 activities above</i>	3.6	5.0	-	5.1	5.6	8.5	4.8
<i>Combination of 3 activities above</i>	32.1	22.5	16.2	35.6	32.3	14.9	25.9
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>N</i>	14	40	37	59	36	47	233

Table 36 *Opinion on how women can participate in water supply development*

<i>Opinion</i>	<i>village</i>						<i>Total</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	
<i>Boil water, cover jars</i>	71.8	46.7	34.8	36.4	39.7	39.1	41.7
<i>Look after water sources</i>	9.4	37.8	50.0	57.8	57.4	55.2	49.6
<i>Provide additional water sources</i>	9.4	8.9	15.2	3.0	2.9	1.1	5.3
<i>Nothing can be done</i>	9.4	4.4	-	-	-	4.6	1.3
<i>Others</i>	-	2.2	-	3.0	-	-	2.1
<i>Total</i>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>N</i>	32	45	46	99	68	87	377

Table 37 Person to whom respondents will go if there is a water and sanitation problem

Person	Village						Total
	1	2	3	4	5	6	
Nobody	-	5.3	-	-	5.1	2.0	2.1
Village headman, assistant headman, venerable priest	69.2	80.7	86.8	82.2	75.9	83.7	80.6
Family member	17.9	7.0	5.7	15.0	10.1	10.3	11.1
Public health worker and volunteer	10.3	7.0	-	1.9	2.5	2.0	3.2
Others, i.e., C.D. worker,	2.6	-	7.5	0.9	6.3	2.0	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	39	57	53	107	79	98	433

After studying the opinions of the women concerning their participation in community development work and water, it is also be useful to find out the opinion of the men. The information from the men on their thoughts and roles in the above matters will provide a better understanding of the situation. Since men are usually the leaders in the family, their opinions may have an influence on the opinions and behavior of the women including the participation of women in community development and water and sanitation.

The male respondents (N 227) are those who are from the same households as the female respondents but the sample of males is only about half that of females. About 89.8 percent of them are husbands of the female respondents and in the working age group (30 years and older). Eighty-three percent of these males finished an education of grade 4 which is the same as the those in other rural areas (Table 38).

The opinions of the male respondents were about the current participation of women in four areas of local community development activities, namely, water source improvement/construction, village clean-up, village road expressed in terms of number of women participation, reasons for participation, type of activities that women participate in and how the women participate. The results of the study are as follows (details in Table 39).

For water source improvement/construction, about two-thirds of the male respondents think that at the present time there are less women participating than men whereas one fourth think that the number of women and men participating is about equal. It is to be noted that in Village 3 47.1 percent of the male respondents said there are more women participate than men and that in Village 2 50.0 percent of male respondents said both sexes participate equally.

For village clean-ups, about 48.1 percent of the males think the women participate less than the males and 36.9 percent think both sexes participate equally. In Village 3 27.3 percent of the respondents said there are more women participating than men.

For village road construction, 64.6 percent of the males think men participate more than women. About one fourth of Village 3 respondents also said there are more women participating than men. This is higher than for other villages.

For temple development, 35.8 percent of the males think there are about equal number of both sexes participating, 33.9 percent think there are less women and 30.3 percent think there are more women. Again, 36.8 percent of Village 3 males think there are more women. This number is higher than other villages.

For the question about whether women should participate in community development work or not and why only 12.0 percent of the males gave a negative response. They think community

development work is not the duty of women, women should only do housework, women are the weaker sex and they are not appropriate for community development work. However, 88.0 percent of males think women should participate in community development work because women can help increase development work. 17.7 percent think women can also represent their families in their participation in community development work. Village 5 has the highest responses from the males that women should participate in such work.

Questions on the type of activities the males think appropriate for women were also asked. About 34.3 percent of the males think women suit activities relating to food only, 32.5 percent think women should help in various activities such as food preparation, temple development, road construction, and village clean-ups.

Two thirds of the males (67.6 %) think that the number of women participating at the current time is too small especially in Village 6 where 85.1 percent think so while only one third (31.1 %) think that the current number of women participating is adequate.

An analysis of the data on men's opinion towards women's participation in community development work may be summarized as follows :

1. A majority of the male respondents think that there is more men's participation in community development work such as water source improvement or construction, village clean-up, and village road construction but the participation is about the same for both sexes in temple development work.

2. A majority of the males think that women should participate in community development work so that women can increase development. The activities women should participate in include things for consumption such as food for nutrition programs.

3. Many of the males think that the number of women who participate in community development work at the present time is still too small. The actual number of women currently participating is one woman per household.

It may be concluded that the male respondents would like to see more women's participation in community development work because the current number is too small. Therefore, the support of men to promote women's participation may be helpful and desirable.

Another issue for opinion getting was asked to male respondents. It was, "who should fetch water for the family and why". The result reveals that 71.2 percent of the males think it should be women's work and only 21.2 percent think it should be

men's. Their reasoning for the woman-affirmative answers (90.9 %) was that fetching water is a woman's job and a woman is more suited to this job. Those one fifth of the males who think that they should be responsible for fetching water said that they are the stronger sex so they should do the job. In addition, there are also other reasons such as the women are busy and the men can help them with their job (Table 40).

Table 38 General characteristics of male respondents

Category	Village						Total
	1	2	3	4	5	6	
<u>Relation to the women</u>							
<u>respondents</u>							
Husband	96.0	100.0	88.5	85.5	82.9	91.8	89.8
Head of household	-	-	11.5	9.1	2.4	4.1	4.9
Son, son-in-law	4.0	-	-	5.5	14.6	4.1	5.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	25	30	26	55	41	49	226

Table 38 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Age (year)</u>							
Less than 20	-	-	-	1.8	-	-	0.4
20 - 29	9.0	13.3	15.4	9.1	14.6	10.2	11.5
30 - 39	24.0	26.7	30.8	25.5	29.3	24.5	26.5
40 - 49	32.0	13.3	15.4	32.7	31.7	28.6	27.0
50 - 59	20.0	36.7	38.4	12.7	9.8	22.4	21.2
60 and over	16.0	10.0	-	18.2	14.6	14.3	13.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	25	30	26	55	41	49	226
<u>Education</u>							
None	8.3	10.3	15.4	7.3	17.5	12.2	11.7
Grade 4 or lower	87.5	89.7	80.8	87.3	72.5	83.8	83.3
Higher than grade 4	4.2	-	3.8	5.4	10.1	4.0	5.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	24	29	26	55	40	49	223

Table 39 Men's opinions on women's participation in C.D. and number of women who participate

Category	Village						Total
	1	2	3	4	5	6	
<u>Water source improvement/</u>							
<u>construction</u>							
More women participate than men	-	18.7	47.1	5.3	13.0	-	11.5
Less women participate than men	66.7	33.3	17.6	78.9	69.6	88.0	64.0
About equal numbers of men and women participate	33.3	50.0	35.3	15.8	1.4	12.0	24.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	18	18	17	38	23	25	139

Table 39 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Village clean-up</u>							
More women participate than men	9.5	13.6	27.3	16.7	10.7	12.0	15.0
Less women participate than men	52.4	31.8	22.7	61.9	42.9	64.0	48.1
About equal numbers of men and women participate	38.1	54.6	50.0	21.4	46.4	24.0	36.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	21	22	22	42	28	25	160

Table 39 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Village road construction</u>							
More women participate than men	4.0	3.3	24.0	3.6	9.8	2.1	6.7
Less women participate than men	72.0	46.7	36.0	80.0	56.1	76.6	64.6
About equal numbers of men and women participate	24.0	50.0	40.0	16.4	34.1	21.3	28.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	25	30	25	55	41	47	223

Table 39 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Temple development</u>							
More women participate than men	14.3	33.3	36.8	34.0	26.5	34.6	30.3
Less women participate than men	61.9	16.7	21.1	36.2	26.5	38.5	33.9
About equal numbers of men and women participate	23.8	50.0	42.1	29.8	47.0	26.9	35.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	21	18	19	47	34	26	165

Table 39 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Should women participate</u>							
<u>in C.D.</u>							
No (without reason given)	-	-	-	1.8	-	2.1	0.9
No (not women's job, women for housework, women are weak)	7.7	10.0	7.7	10.9	7.3	14.6	10.2
No (if women come, nobody will stay home)	-	-	3.8	-	-	2.1	0.9
Yes (without reason given)	7.7	3.3	-	7.3	-	2.1	3.5
Yes (women will help increase development)	53.8	40.0	50.0	54.5	73.2	62.5	57.1

Table 39 (continued)

Category	Village						Total
	1	2	3	4	5	6	
Yes (women can represent a family)	15.4	40.0	23.1	10.9	9.8	16.7	17.7
Yes (women are capable as men)	11.5	6.7	15.4	14.5	7.3	-	6.6
Yes (there are too few men)	3.8	-	-	-	2.4	-	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	26	30	26	55	41	48	226

Table 39 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Activities suited to</u>							
<u>women's to participation</u>							
Things related to foodstuff	20.0	18.2	33.3	46.5	41.2	31.2	34.3
Temple development	5.0	4.5	-	2.3	2.9	-	2.4
Village road construction	5.0	18.2	16.7	7.0	5.9	3.1	8.3
Village clean-up	20.0	27.3	16.7	11.6	17.6	3.1	14.8
Women's programs	20.0	4.5	-	7.0	2.9	9.4	7.1
Above 1-4 inclusive	30.0	27.3	33.4	25.6	29.4	53.1	32.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	20	22	18	43	34	32	169

Table 39 (continued)

Category	Village						Total
	1	2	3	4	5	6	
<u>Current women's participation</u>							
Adequate	46.2	50.0	50.0	23.6	24.4	14.9	31.1
Too little	53.8	46.7	46.2	74.6	75.6	65.1	67.6
Too much	-	3.3	3.8	1.8	-	-	1.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	26	30	26	55	41	47	225
<u>Number of women per family</u>							
<u>currently participating</u>							
1	85.0	59.1	70.6	66.7	64.5	81.8	71.0
2	15.0	18.2	11.8	23.7	19.4	15.2	14.9
3	-	13.6	11.8	7.7	12.9	3.0	8.0
4	-	9.1	5.8	2.5	3.2	-	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	20	22	17	39	31	33	162

Table 40 Men's opinion on who should fetch water

Opinion	Village						Total
	1	2	3	4	5	6	
<u>Best person to fetch water</u>							
Children (under 15 years)	3.8	3.3	3.8	-	-	2.1	1.8
Women	61.5	73.3	53.8	80.0	78.0	68.8	71.2
Men	30.8	23.8	30.8	16.4	14.6	20.8	21.2
Anybody	-	-	7.7	-	7.3	2.1	2.7
Everybody	3.8	-	3.8	3.6	-	6.3	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	26	30	26	55	41	48	226

Table 40 (continued)

Opinion	Village						Total
	1	2	3	4	5	6	
<u>Reason why women should</u>							
<u>fetch water</u>							
Women's duty, women more suitable for the job than men	88.9	90.9	92.3	84.4	88.6	85.0	87.3
Women have free time	-	4.5	7.7	11.1	5.7	7.5	6.9
Men are not at home	5.6	4.5	-	-	2.9	-	1.7
Both sexes should contribute to the job	5.6	-	-	4.4	2.9	7.5	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	17	22	13	43	31	37	173

Table 40 (continued)

Opinion	Village						Total
	1	2	3	4	5	6	
<u>Reason why men should</u>							
<u>fetch water</u>							
Men are strong	35.7	23.1	40.0	30.0	29.4	45.8	34.7
Men have free time	21.4	30.8	20.0	35.0	29.4	33.3	29.6
Necessity-no women in the house	-	-	10.0	10.0	5.9	4.2	5.2
To help do the job	28.6	30.8	20.0	10.0	17.6	8.3	17.3
Well is distant	-	7.7	-	-	5.9	-	2.0
Both sexes should help on the job	14.3	7.6	10.0	15.0	11.8	8.4	11.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	14	13	10	20	17	24	98

e) *Actual Roles of Men and Women in Community Development Activities*

The above presentation seems to indicate that both men and women have similar opinions on women's participation in community development work and on their household responsibilities. This section will discuss the findings of actual roles of men and women in various community development activities. The types of activities chosen to explore were those usually common in rural areas of that region. These activities are : 1) water source improvement/construction, 2) village clean-up, 3) village road construction, 4) temple development, and 5) other standing activities of village.

The results of the study show that even though the above activities take place regularly in the village, a considerable number of villagers, especially the women, do not participate. The reason given was that they did not know about such activities. Details on each activity and on village participation are presented below (details is enclosed in Appendix D).

1. Water source improvement/construction. About 27.8 percent of the men but 46.1 of the women did not participate because they did not know about such activities, especially in Village 2 where 66.1 percent of women did not know. Village 5

has the highest percent (38.9 %) of men who did not know. There are also those who knew but did not participate. This category includes 29.5 percent of women and 14.6 percent of men from the six villages.

If how both sexes of the respondents participate is looked at, it is found that a majority of them contribute their labor only. Decision-making, planning and proposing activities are performed by more men than women. About 15.7 percent of the men and 3.3 percent of the women had this function.

2. Village clean-up. About half of the women (52.3 %) and one fourth of the men (27.3 %) of all villages did not take part in the activity because they did not know about it. The highest number of both men (40.5 %) and women (72.0 %) who did not know so did not participate were from Village 6. Again, the participation of the villagers of both sexes mostly involved providing labor. The decision-making and planning people are few in number and mostly men.

3. Village road construction. For this activity, only 1.8 percent of men said they did not participate because they did not know about it while one third of the women (34.5 %) replied similarly. The participation pattern looks very much the same as the above two activities.

4. *Temple development.* About one fourth of the men (23.3%) and one half of the women (49.8%) did not participate because they did not know about the activity. One third of the men (34.1%) participated in the decision making and planning while only one tenth of the women (10.1%) did so. It is interesting to discover that 30.5 percent of the men and 26.5 percent of the women contributed things other than labor for temple development. This percentage is higher than the providing labor category and is different from the above-mentioned three activities. Other things here can mean donations, food, materials and so on.

5. *Other activities.* This category is open for whatever activities that may be taking place in a particular village. For the villages under study, other activities included, newspaper center construction and the establishment of rice, cow, and buffalo banks. A majority of the people (93.1 percent of men and 97.5 percent of women) said they did not help because they did not know about such activities. This is quite understandable since some of these activities may not be in existence or no longer occurring in some of the villages.

In looking at the actual participation in the five activities above, it may be concluded that the men participated in more of such activities than did women. The women's main participation is in the provision of labor. Decision-making and planning were

done more by men. There are a considerable number of people, more women than men, that did not participate because they did not know about the activities in the villages.

f) *Men's Attitude Towards Women's Participation in Community Development and Decision-Making*

The osgood scale was used in measuring the men's attitudes towards women's participation in community development and decision-making. A five-point scale rating for each of the eight pairs of objective words were given to the respondents to rate. In this scale, five is at the positive end and one is at the negative end. The results show that men's attitudes towards women's participation in community development are as follows :

1. *Success-failure.* Men tend to think that the development work will more likely be a success than a failure if the women participate. About 45.3 and 38.7 percent of the men rated it respectively 5 and 4 whereas only 1.8 percent rated it at 1.

2. *Active-passive.* When the men were asked to state whether the participation of women would make the work active or passive, 37.4 and 32.2 percent rated it at 5 and 4.

3. For other adjective words including smooth-rough, reasonable-unreasonable, quick-slow, appropriate-inappropriate, good-bad, and accurate-inaccurate, there were more men giving positive response than negative.

For men's attitude towards women's participation in decision-making, the following results were found :

1. *Accurate-inaccurate.* Men believe the statement that women's participation in decision-making is more accurate than inaccurate. An equal percentage of 36.6 of men rated it at 5 and 4.

2. *Success-failure.* More men think that the participation of women will lead to success than failure in decision-making. About 39.6 and 36.6 percent of the men rated a 5 a 4 respectively.

3. For other adjective words such as reasonable - unreasonable, appropriate-inappropriate, quick-slow, smooth - rough, good-bad, and active-passive, similar results were found. More men were positive than negative concerning women's participation in decision-making.

It may be said, in short, that a majority of the male respondents have positive attitudes towards women's participation in community development and decision-making (Appendix E).

The reason for males' acceptance of women may be because the women have historically, always been accepted to be for working side by side with men on the farm.

g) Opinion of Men and Women on Women's Participation in Community Development Work and about Duties in Houses.

In this last section, men's attitude towards women's participation in community development work is discussed. In general, men's attitudes were very positive. In the following section, opinions of men and women from the six villages will be compared in terms of how women can participate in community development activities and views on women's roles and responsibilities in households. Sixteen statements were given to both the men and the women to express their thoughts.

About 83.7 percent of the men and 85.0 percent of women agreed with the statement "men and women can equally do community development work". The highest percentage (96.2 %) of men who agreed on this statement are from Village 1 and the highest percentage (90.6 %) of women who agreed are from Village 3. On the disagreement side, the highest men's negation (17.1 %) is from Village 5 and the highest women's negation (17.0 %) is from Village 6.

Approximately an equal percentage of men and women (59.0 % and 59.6 %) disagreed with the statement that if women participate in community development work it will have bad effect on housework while 35.2 percent of men and 32.9 percent of women agreed. Village 1 has about half of the men (53.8 %) and half of the women (51.3 %) agreeing with the statement.

Around 71.8 percent of the men and 60.8 percent of the women agreed that the decision to make any kind of water resource should be left to men only. However, there are one fourth of men (25.6 %) and one-third of women (33.8 %) who disagreed with this statement. The highest percentage of men's disagreement (36.4 %) came from Village 4 and the highest of women's regation (53.8 %) came from Village 1.

For the statement that women can be community leaders, the agreement and disagreement responses are close to being the same. About 45.4 percent of men and 40.8 percent of women agreed while 45.8 percent of men and 51.3 percent of women disagreed. The highest percentage of men's disagreement (49.0 %) was from Village 6 and the highest of women's (60.4 %) was from Village 3.

The opinion towards the statement, "If a family is to cash a big amount of money, the woman should have a say", was agreed to by most men (88.5 %) and women (83.9 %). For those who did not agree, the highest percentage (15.4 %) of men was from

Village 3 and the highest percentage (25.7 %) of women was from Village 1.

A majority of both men (82.4 %) and women (80.7 %) agreed that women's opinions are acceptable. Village 6 has the highest percentage of men (12.2 %) and Village 5 has the highest percentage of women who disagreed.

When the statement presented was, "Jobs currently performed by women are not hard work", 70.0 percent of men agreed while only 56.0 percent of women agreed. About one fifth (23.3 %) of men and 37.6 percent of women disagreed. The highest percentage of both men (26.8 %) and women (40.2 %) who disagreed were from Village 5.

Approximately half of the men and women (54.2 % and 50.3 % respectively) agreed that fetching water is not heavy work. About two thirds of both the men and the women from Village 6 agreed with the statement. This is the highest agreement rate among the six villages. However, almost a half of the men (41.4 %) and women (45.6 %) disagreed. The highest percentage of men (60.0 %) who disagreed were from Village 2 and the highest percentage of women (62.2 %) who disagreed were from Village 3.

When the respondents were asked if they agreed that women and men can make equally good decision, 79.7 percent of men and 81.4 percent of women agreed. There were only 8.8 percent of men and 9.1 percent of women who disagreed with the statement. For Village 1 alone, 18.0 percent of the men disagreed and 13.3 percent of women in Village 2 disagreed. These are the highest percentages among all of the villages.

When the statement was about financial responsibility, a majority of all men and women (92.1 % and 93.8 % respectively) agreed that women are better able to be responsible for money. The highest percentage of men (96.2 %) who agreed are from Village 1 and the highest percentage of women (99.0 %) agreeing were from Village 6.

A little over half of the men (56.8 %) and women (54.6 %) disagreed that it was unnecessary for women to help in community development work. Both men and women in Village 1 have the highest percentage of disagreement (76.9 % and 66.6 % respectively). However, about one third of men (36.1 %) and of women (37.0 %) in the six villages agreed with such statement. Village 6 has the highest percentage of both men and women (46.9 % and 42.0 % respectively) who agreed. Almost three fourths of the men (73.1 %) and women (72.8 %) from all villages agreed that women suit housework more than community development work. Village 1

has the highest number of people who thought so (80.8 % of men and 79.2 % of women).

About half of the men (52.4 %) and women (48.3 %) did not agree that fetching water should be the men's job. Men of Village 4 and women of Village 1 disagreed the most (67.3 % and 59.0 % respectively). It is to be noted that more women (41.5 %) agreed with such statement than men (34.8 %). Men and women of Village 6 agreed with the statement most (51.0 % and 54.0 %).

About 80.2 percent of the male respondents agreed that men support women's participation while only 73.0 percent of women agreed on the same statement. Most men (83.6 %) from Village 4 and most women (82.0 %) from Village 6 agreed. It is interesting to note that 43.6 percent of women from Village 1 did not agree with such a statement while only 19.3 percent of women and 16.3 percent of men from all the six villages disagreed.

However, when the statement was made that, "villagers would like to see women's participation in provision of water", a majority of men (95.9 %) and of women (92.0 %) agreed. A hundred percent of men in Village 3 agreed (Appendix F).

The responses from the male and female respondents to the 15 statements above may be summarized as follows :

1. Both men and women have similar opinions on most of the statements. The exception was that, "Jobs currently performed by women are not hard work". A higher percentage of men (70.0 %) than women (56.0 %) agreed.

2. Both men and women seem to accept women's participation in community work. An especially high percentage of men agreed that they support women's participation in the provision of water.

3. A majority of men and women disagreed that fetching water should be the responsibility of the men. It is obvious from this opinion that both sexes believe that such work should be women's rather than men's.

Chapter 4

Conclusions and Recommendations

The results of baseline data analysis on women, water and sanitation in the six villages under study may be summarized as follows :

1. The general characteristics of the villagers under study are; rather large family sizes (average, 5.8 members), low education (4 years of schooling or less), low income (17,712 baht per family per year—lower than the national average), a majority are in debt, most respondents are rice farmers (90 %) and have small farms (16.2 rais per family).

2. The rice farming is done once a year so people are generally free outside of that season. Some people may go and find employment elsewhere while those who remain in the villages do not have much to do.

3. A majority of women are pocket holders but decision on the purchases of farm equipment, purchases of water jars, and the construction of latrines and wells, are taken by men. However, the selling of farm products or the acquiring of loans for farming, are taken by both a man and his wife.

4. A majority of women do not belong to any group in the community. Decisions on family members participating in community development activities are taken mainly by men. Participation in community activities by women is mainly to provide labor. Decisions and planning are usually done by a limited group of men. The current percentage of women who participate in community development activities is very limited except in village clean-ups.

5. Women are less educated than men. A majority of women have never read newspapers, never watched television but they do listen to radios and do go to towns every once in a while.

6. About 85 percent of the women have never participated in any training on water and sanitation. Women's perceptions of their roles concerning water are that they only to help look after the sources, cover jars or boil water. If they have problems with water, a majority would go to see the village headman.

7. Diarrheal disease is one of the top three diseases in all six villages.

8. Laboratory and field tests of water quality show that bacteria and turbidity (based on WHO standards for drinking water) are the main problems for drinking water and that bacteria, turbidity, and iron are the main problems for domestic use water.

9. The current main sources for drinking water are the dug wells (95 %) and rain water (4 %). This source is not available year-round. The average distance from home to source is 511.4 meters. If given a choice, a majority of the villagers would prefer water from dug wells (60 %) and rain water (40 %). To improve the sources of drinking water for the highest benefit to the family, a majority (64 %) still prefer dug wells and only 15 percent would opt for rain water containers.

10. The current main domestic use water sources are dug wells (58 %), ponds (25 %) and hand-pumped well (17 %). If villagers could make a choice for general use water sources, they would use dug wells (48 %) hand-pumped wells (31 %), ponds (14 %) and piped water and rain water (7 %). To improve the source of use water for the highest benefit to the family, the preferences vary in different villages. A majority of Village, 1, 4 and 5 want dug wells. Villages 2 and 6 hand-pumped wells and Village 3, ponds.

11. Some of the existing water facilities provided for the villagers by government organizations, i.e., cement jars and hand-pumped wells, are not fully utilized as intended.

12. The severity and nature of water problems and the readiness of people to participate in any project, are at different levels among the six villages.

13. The health benefits of water improvement are not regarded as a high priority among villagers.

14. About 87 percent of households do not have a latrine.

Recommendations for the implementation of the "Promotion of women's participation in water and sanitation project" based on the baseline data findings, are as follows :

1. The men need to be given attention in the implementing of the, "Promotion of women's participation in water and sanitation project" since the men are traditional decision-makers in matters concerning water and sanitation.

2. Good training on water and sanitation need to be provided for women since 85 percent have never had any before. In addition, community education for all would also be beneficial. Women alone will not be involved in the project.

3. Appropriate methods of training for women who have limited backgrounds in formal education and limited access to mass communication should be used.

4. Methodologies to implement water supplies and sanitation projects should be village-specific. The choice of facilities should coincide with the people's preferences, in order that they will be properly used and maintained.

5. *Benefits from the people's point of view along with health benefits should be stressed in every aspect of the project's implementation.*

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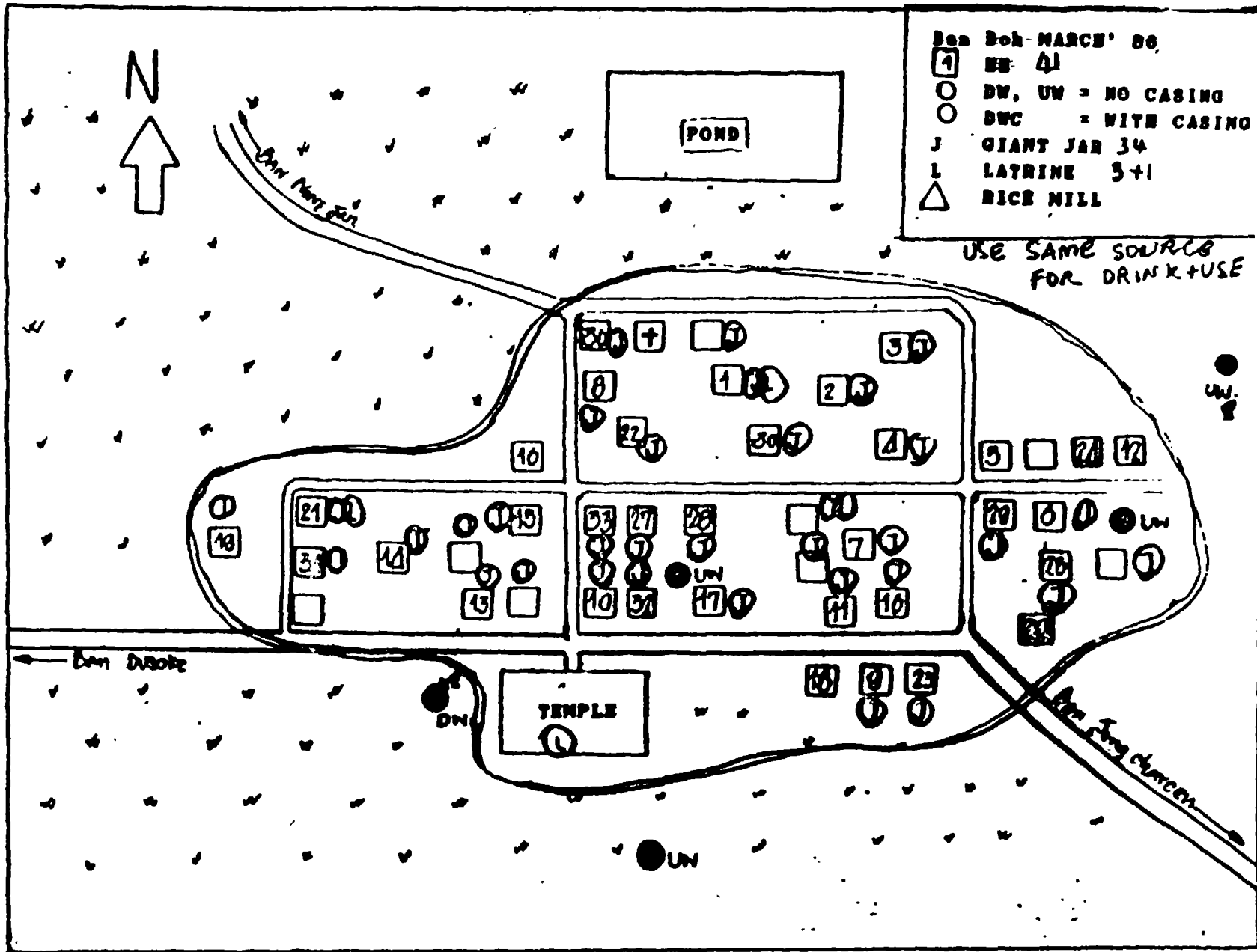
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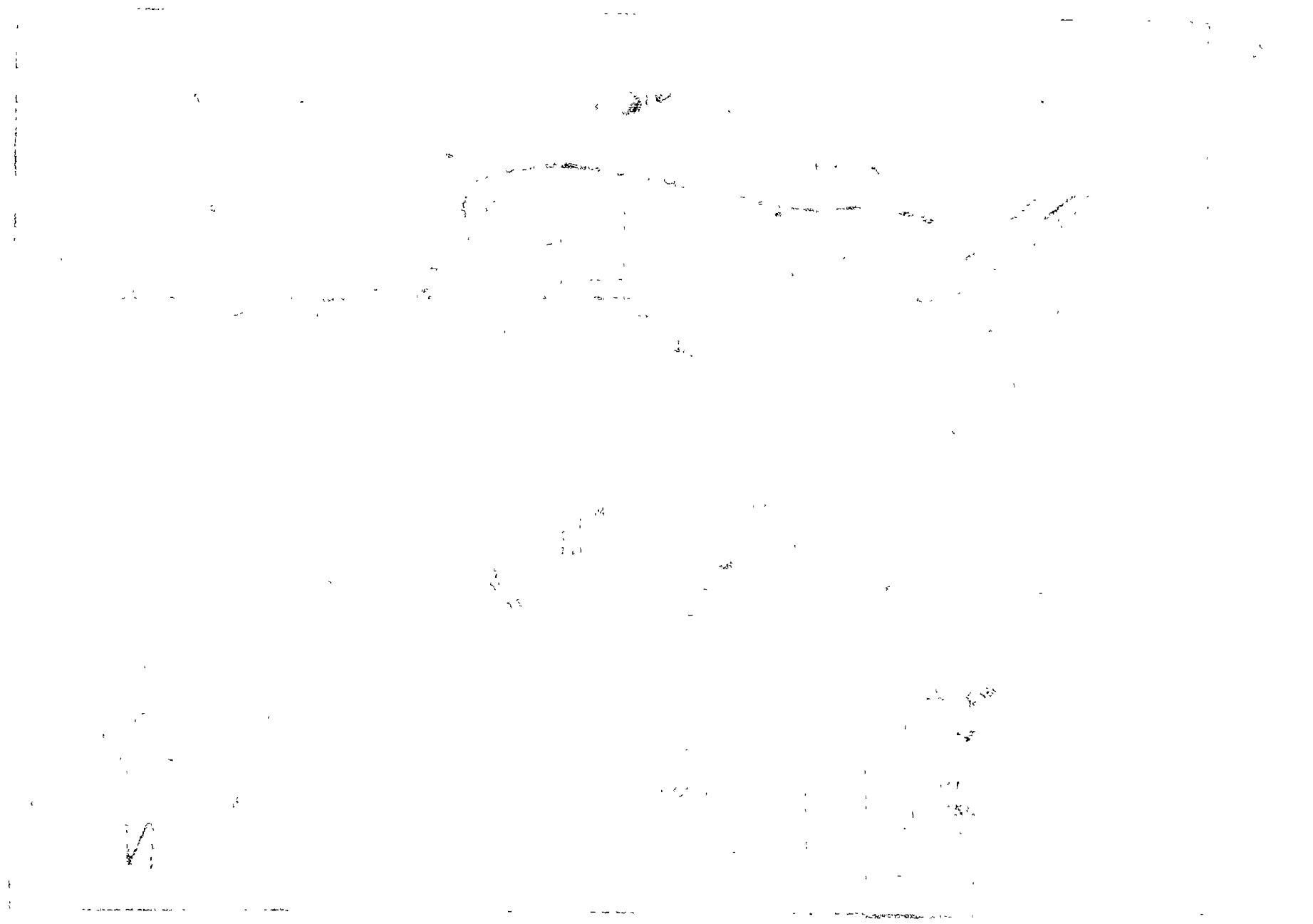
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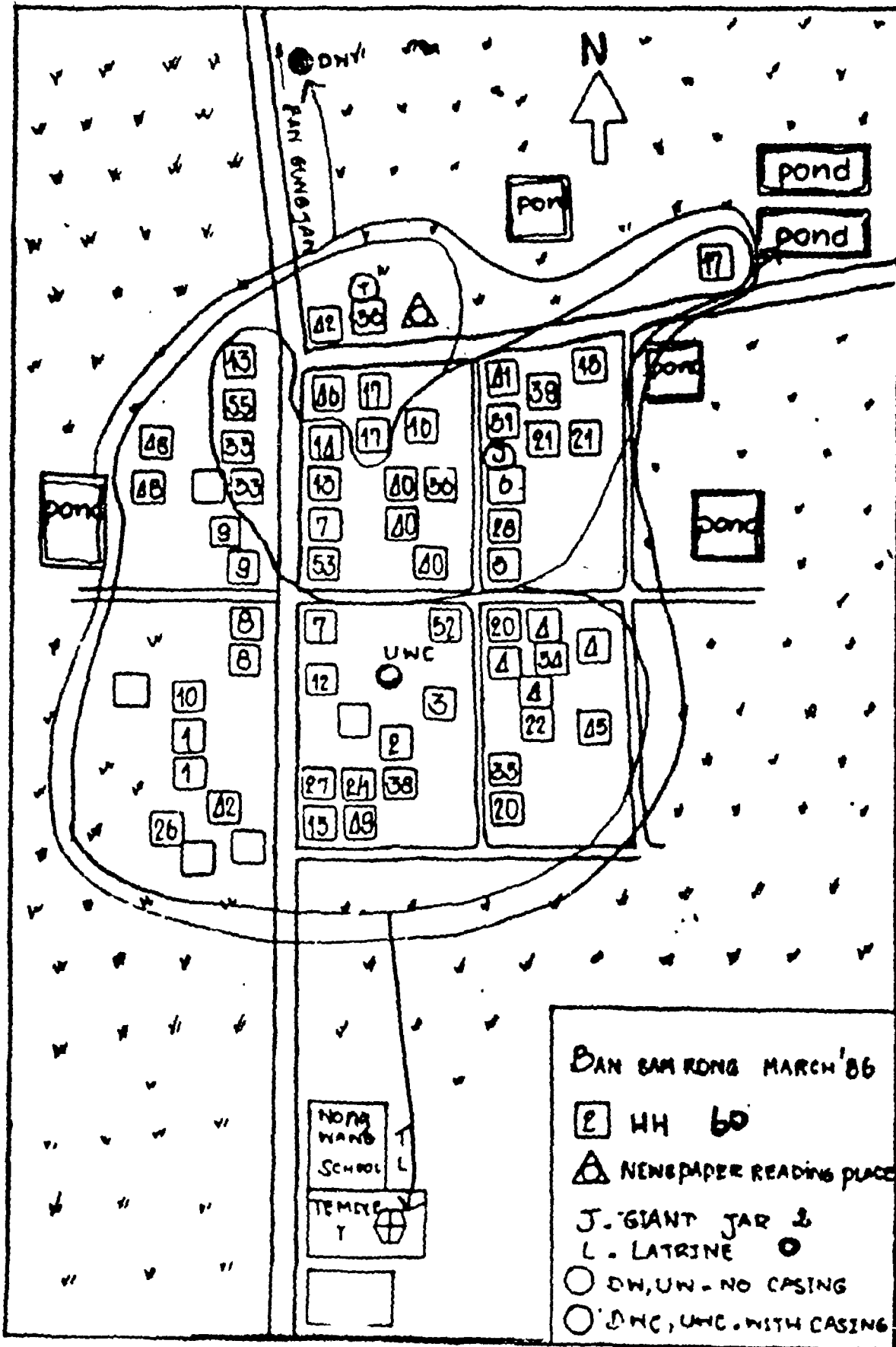
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Appendix A

Water Source and Use Pattern







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BAN KWAO NOI MARCH '86

3 HH 58

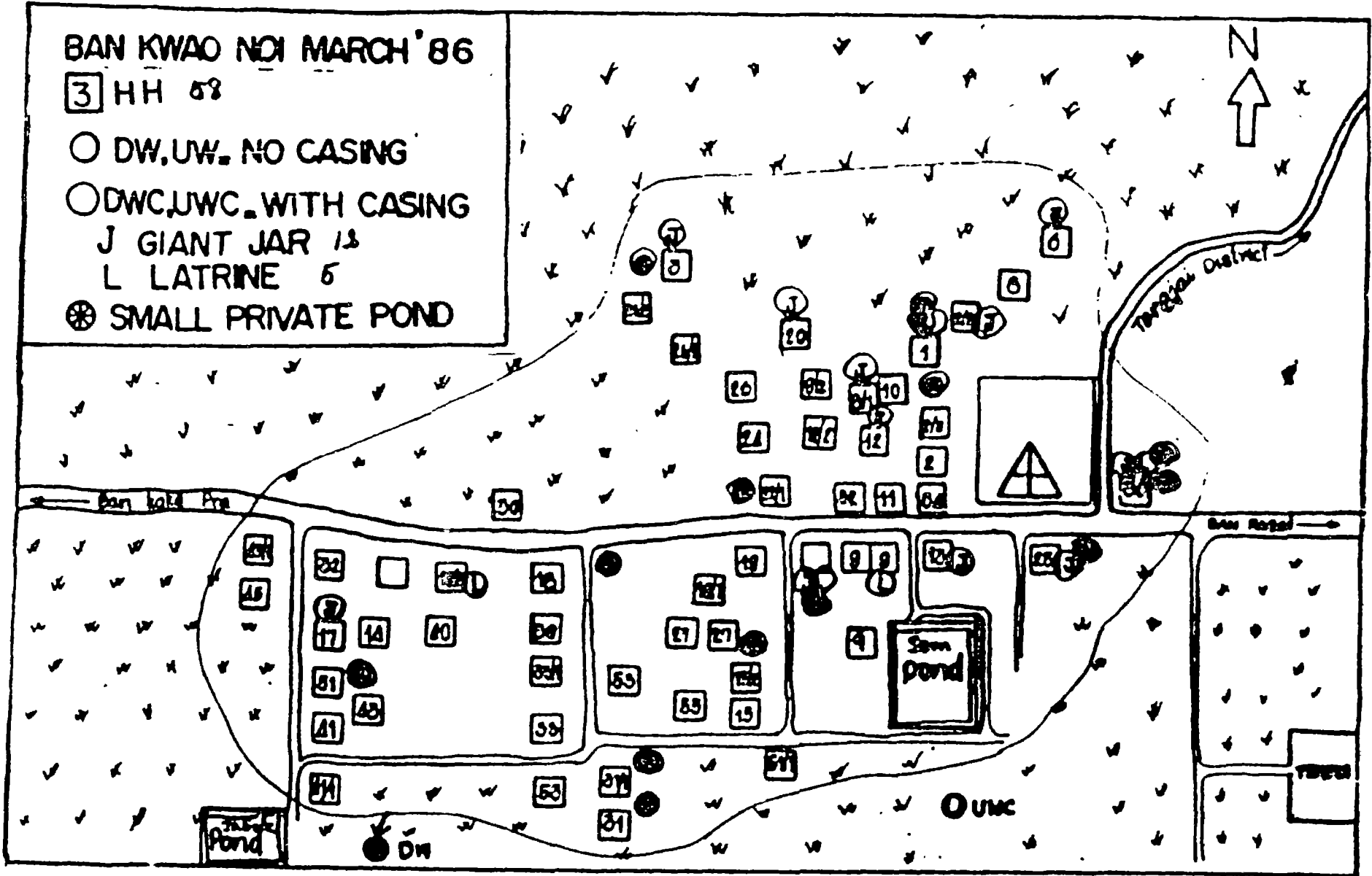
○ DW, UW, NO CASING

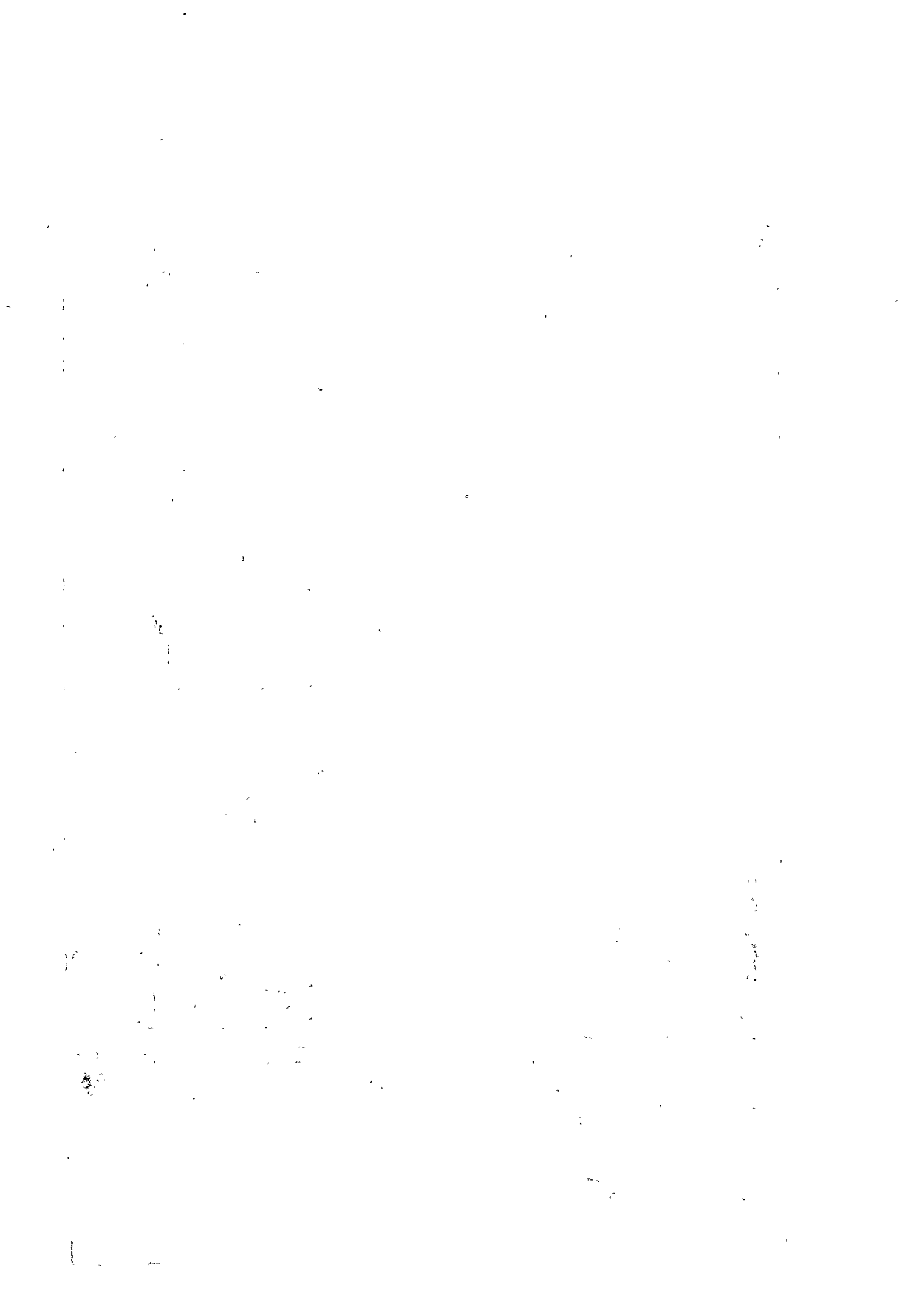
○ DW, UW, WITH CASING

J GIANT JAR 13

L LATRINE 5

⊗ SMALL PRIVATE POND





SAN NONK KORTONG MARCH '86

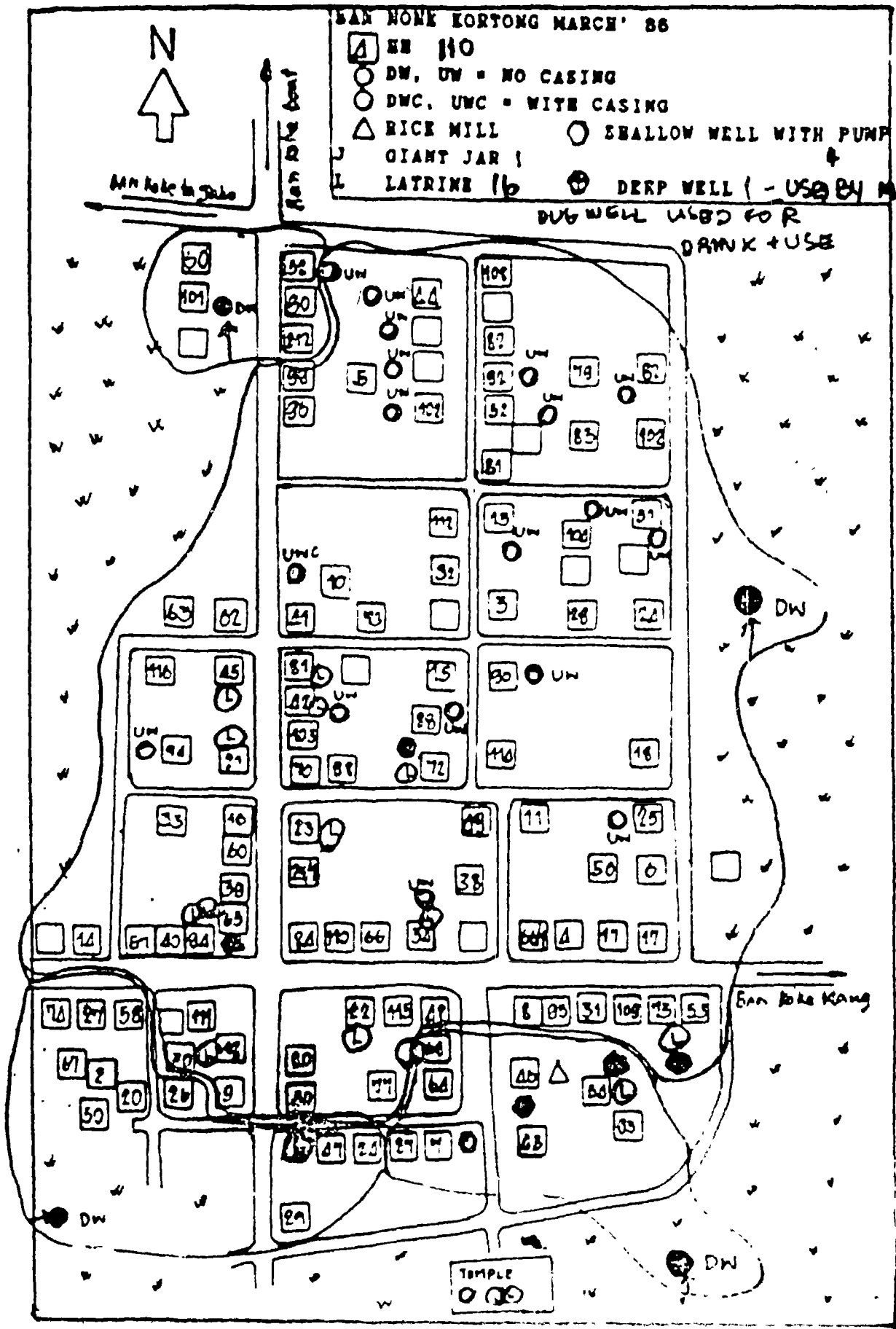
- △ HW 110
- DW, UW = NO CASING
- DMC, UWC = WITH CASING
- △ RICE MILL
- SHALLOW WELL WITH PUMP
- GIANT JAR
- ⊕ DEEP WELL (- USED BY MANY)
- ⊕ LATRINE 16



San Nong to San

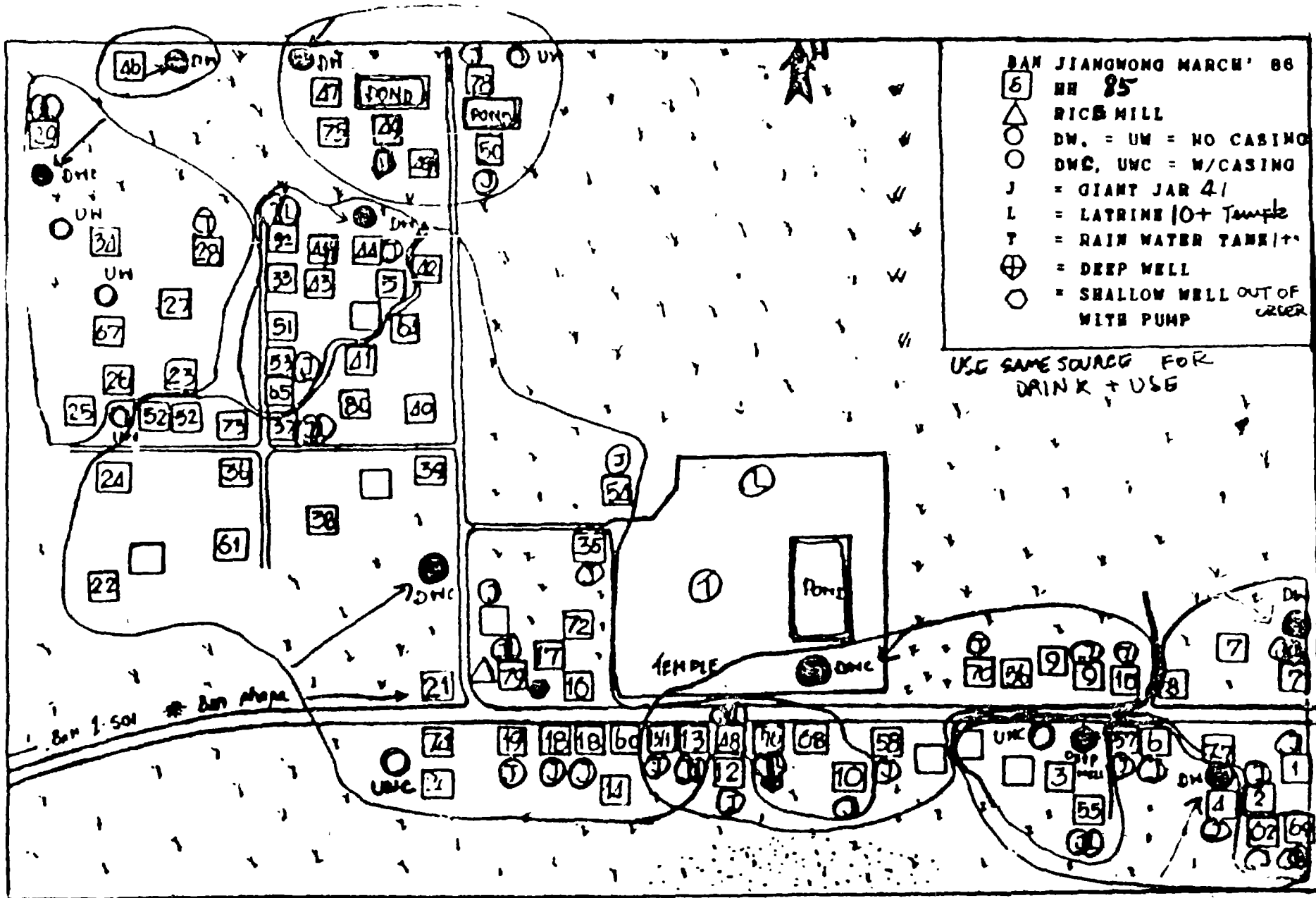
San Nong to San

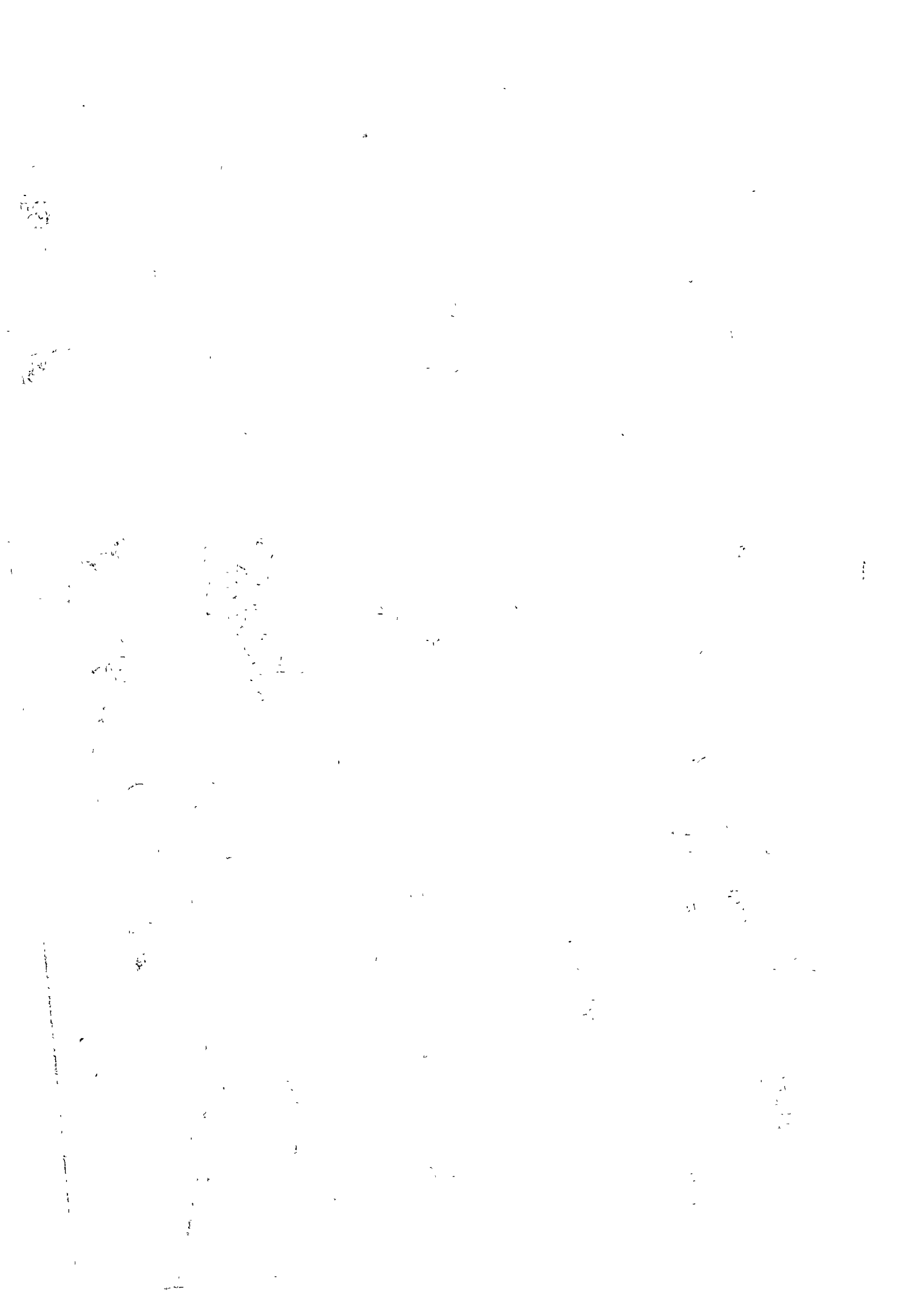
DUG WELL USED FOR DRINK + USE

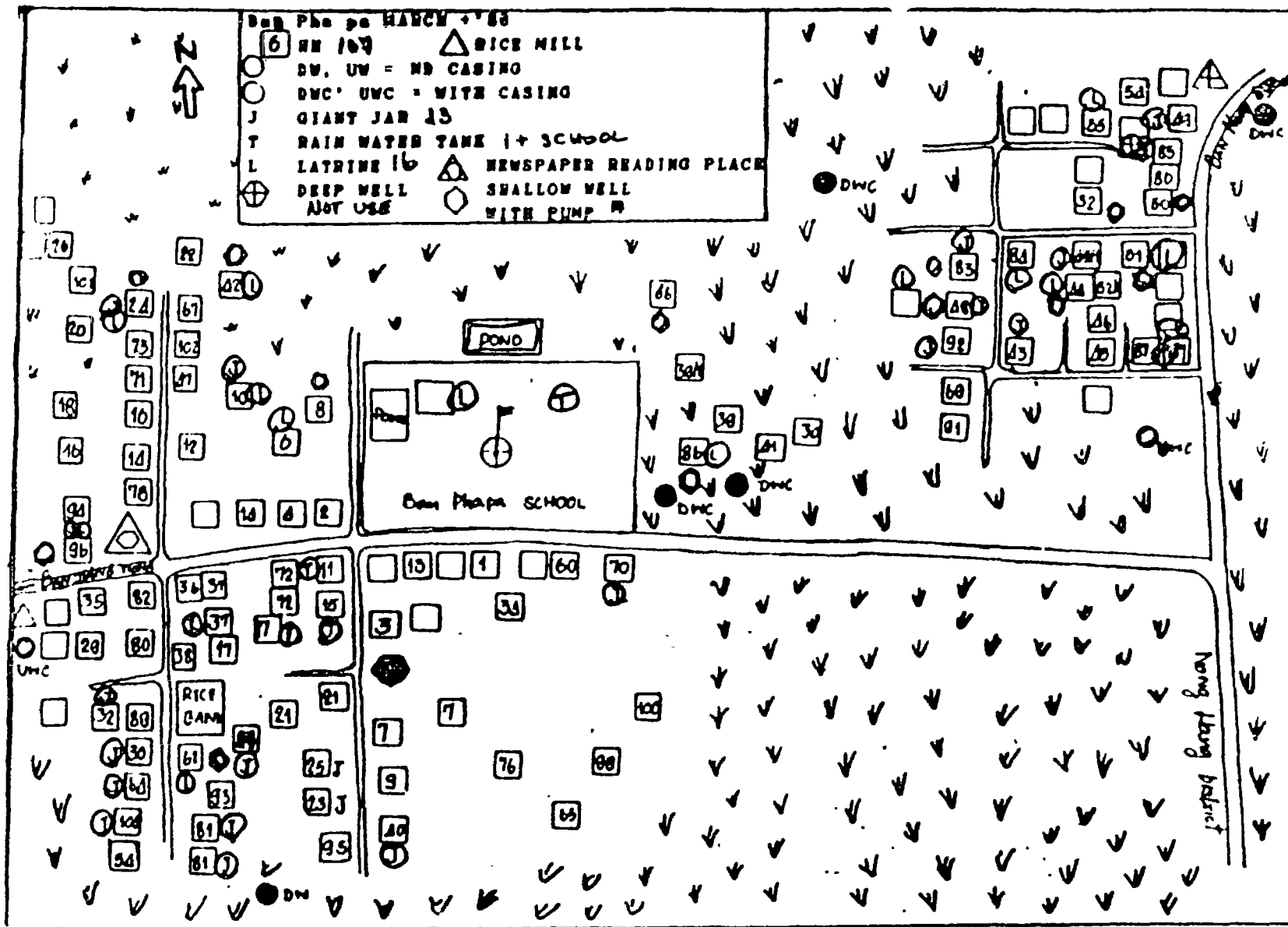


1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200.









Appendix B

Water Quality Test Results

Appendix B Water quality test results

| Sample | pH | color
(unit) | turbidity
(unit) | alkalinity
(ppm) | hardness
(ppm) | chloride
(ppm) | iron
(ppm) | coliform
bacteria
colony/
100 cc. | remarks |
|------------------|-----|-----------------|---------------------|---------------------|-------------------|-------------------|---------------|--|---------------|
| <u>Village I</u> | | | | | | | | | |
| S1 | 6.0 | 5 | <10 | 21.0 | 8.0 | 7.3 | 0.18 | 8 | SW |
| S2 | 6.5 | 7 | <10 | 26.0 | 12.0 | 10.0 | 0.10 | 2 | SW in EJ |
| S3 | 7.2 | 0 | <10 | 96.0 | 84.0 | 11.7 | 0.05 | 2 | SW in CJ |
| S4 | 5.9 | 5 | <10 | 20.0 | 16.0 | 14.7 | 0.09 | 8 | SW in EJ |
| S5 | 7.3 | 0 | 49 | 74.0 | 36.0 | 8.3 | 0.08 | 10 | SW + RW in CJ |
| S6 | 7.1 | 20 | 138 | 80.0 | 64.0 | 27.4 | 15.75 | 8 | pond |
| S7 | 6.6 | 10 | <10 | 16.0 | 12.0 | 11.7 | 0.21 | 2 | SW |
| S8 | 7.1 | 30 | <10 | 14.0 | 148.0 | 158.7 | 1.30 | 4 | SW |
| S9 | 7.5 | 0 | <10 | 267.0 | 212.0 | 4.9 | 0.05 | 2 | RW in CJ |
| S10 | 7.5 | 5 | <10 | 86.0 | 80.0 | 1.4 | trace | 2 | RW in CJ |

Appendix B (continued)

| Sample | pH | color
(unit) | turbidity
(unit) | alkalinity
(ppm) | hardness
(ppm) | chloride
(ppm) | iron
(ppm) | coliform
bacteria
colony/
100 cc. | remarks |
|-------------------|-----|-----------------|---------------------|---------------------|-------------------|-------------------|---------------|--|----------|
| <u>Village II</u> | | | | | | | | | |
| S11 | 7.2 | 40 | 63 | 45.0 | 8.0 | 27.9 | 5.0 | 16 | pond |
| S12 | 7.3 | 20 | 68 | 44.0 | 28.0 | 5.8 | 3.30 | 4 | pond |
| S13 | 6.8 | 15 | <10 | 380.0 | 228.0 | 16.1 | 0.20 | 0 | DW |
| S14 | 7.3 | 20 | 50 | 54.0 | 40.0 | 6.3 | 1.24 | 8 | SW in CT |
| S15 | 7.3 | 20 | 77 | 125.0 | 72.0 | 10.2 | 1.62 | 0 | SW in EJ |
| S16 | 6.9 | 5 | 80 | 20.0 | 8.0 | 3.4 | 1.00 | 2 | SW |
| S17 | 7.1 | 20 | <10 | 31.0 | 20.0 | 5.8 | 0.80 | 0 | pond |
| S18 | 7.4 | 40 | 68 | 47.0 | 8.0 | 8.3 | 0.50 | 4 | pond |
| S19 | 7.2 | 50 | 78 | 79.0 | 24.0 | 47.0 | 7.10 | 24 | pond |
| S20 | 7.3 | 30 | 39 | 24.0 | 12.0 | 4.9 | 1.20 | 2 | SW in EJ |
| S21 | 7.3 | 7 | <10 | 65.0 | 56.0 | 0.4 | trace | 4 | RW in CT |

Appendix B (continued)

| Sample | pH | color
(unit) | turbidity
(unit) | alkalinity
(ppm) | hardness
(ppm) | chloride
(ppm) | iron
(ppm) | coliform
bacteria
colony/
100 cc. | remarks |
|--------------------|-----|-----------------|---------------------|---------------------|-------------------|-------------------|---------------|--|----------|
| <u>Village III</u> | | | | | | | | | |
| S22 | 7.1 | 30 | 57 | 73.0 | 60.0 | 8.8 | 0.68 | 0 | pond |
| S23 | 7.2 | 12 | 40 | 105.0 | 136.0 | 18.6 | 0.50 | 6 | SW |
| S24 | 7.2 | 20 | <10 | 10.0 | 4.0 | 6.3 | 0.48 | 2 | SW |
| S25 | 7.1 | 40 | 98 | 57.0 | 40.0 | 6.8 | 5.0 | 8 | pond |
| S26 | 7.0 | 35 | 46 | 11.0 | 8.0 | 7.3 | 1.04 | 4 | SW |
| S27 | 6.4 | 25 | <10 | 12.0 | 8.0 | 3.4 | 0.73 | 0 | SW in EJ |
| S28 | 7.4 | 33 | 55 | 11.0 | 8.0 | 5.3 | 0.70 | 4 | EN in EJ |
| S29 | 7.2 | 0 | 39 | 20.0 | 12.0 | 1.4 | 0.73 | 5 | |

Appendix B (continued)

| Sample | pH | color
(unit) | turbidity
(unit) | alkalidity
(ppm) | hardness
(ppm) | chloride
(ppm) | iron
(ppm) | coliform
bacteria
colony/
100 cc. | remarks |
|-------------------|-----|-----------------|---------------------|---------------------|-------------------|-------------------|---------------|--|----------|
| <u>Village IV</u> | | | | | | | | | |
| S30 | 5.4 | 3 | 52 | 20.0 | 8.0 | 11.7 | trace | 6 | SW |
| S31 | 5.2 | 60 | 73 | 26.0 | 4.0 | 3.0 | 2.25 | 0 | SW |
| S32 | 6.4 | 3 | 41 | 23.0 | 8.0 | 10.0 | 0.20 | 12 | SW |
| S33 | 7.2 | 10 | 47 | 280.0 | 188.0 | 42.6 | 0.59 | 0 | DW |
| S34 | 6.9 | 3 | 39 | 29.0 | 8.0 | 12.2 | 0.68 | 2 | SW in EJ |
| S35 | 7.3 | 5 | 49 | 19.0 | 12.0 | 7.3 | 1.24 | 4 | pond |
| S36 | 7.2 | 3 | 42 | 51.0 | 28.0 | 19.1 | 5.40 | 12 | SW |
| S37 | 6.4 | 5 | 58 | 95.0 | 92.0 | 19.1 | 11.25 | 6 | SW |
| S38 | 7.1 | 5 | 72 | 42.0 | 48.0 | 19.6 | 6.50 | 16 | SW |

Appendix B (continued)

| Sample | pH | color
(unit) | turbidity
(unit) | alkalinity
(ppm) | hardness
(ppm) | chloride
(ppm) | iron
(ppm) | coliform
bacteria
colony/
100 cc. | remarks |
|------------------|-----|-----------------|---------------------|---------------------|-------------------|-------------------|---------------|--|----------|
| <u>Village V</u> | | | | | | | | | |
| S39 | 5.8 | 0 | 39 | 19.0 | 12.0 | 5.8 | 0.05 | 1 | SW |
| S40 | 5.3 | 0 | 42 | 20.0 | 8.0 | 8.3 | 0.21 | 6 | SW |
| S41 | 5.8 | 0 | <10 | 24.0 | 12.0 | 8.0 | 0.40 | 3 | SW |
| S42 | 6.5 | 3 | <10 | 80.0 | 60.0 | 4.9 | 0.34 | 1 | SW in CJ |
| S43 | 6.3 | 5 | <10 | 48.0 | 28.0 | 8.8 | 0.29 | 0 | SW |
| S44 | 7.8 | 0 | <10 | 50.0 | 36.0 | 0.4 | 0.21 | 16 | RW in CT |
| S45 | 8.1 | 0 | <10 | 42.0 | 32.0 | 0.3 | 0.18 | 00 | RW in CT |
| S46 | 6.9 | 3 | <10 | 197.0 | 676.0 | 362.2 | 0.30 | 6 | DW |
| S47 | 6.0 | 0 | <10 | 20.0 | 16.0 | 47.0 | 0.45 | 8 | SW |
| S48 | 5.7 | 5 | <10 | 23.0 | 8.0 | 6.8 | 0.15 | 2 | SW |
| S49 | 4.8 | 20 | <10 | 37.0 | 8.0 | 10.7 | 0.29 | 12 | SW |

Appendix B (continued)

| Sample | pH | color
(unit) | turbidity
(unit) | alkalinity
(ppm) | hardness
(ppm) | chloride
(ppm) | iron
(ppm) | coliform
bacteria
colony/
100 cc. | remarks |
|-------------------|-----|-----------------|---------------------|---------------------|-------------------|-------------------|---------------|--|----------|
| <u>Village VI</u> | | | | | | | | | |
| S50 | 6.8 | 0 | <10 | 51.0 | 40.0 | 6.8 | 0.10 | 3 | SW in EJ |
| S51 | 7.1 | 0 | <10 | 303.0 | 580.0 | 110.7 | 0.50 | 0 | DW |
| S52 | 7.0 | 0 | <10 | 191.0 | 1,580.0 | 179.8 | 0.89 | 6 | DW |
| S53 | 6.8 | 0 | <10 | 25.0 | 20.0 | 6.8 | 0.43 | 2 | SW in EJ |
| S54 | 7.4 | 25 | 30 | 32.0 | 24.0 | 8.3 | 0.83 | 16 | pond |
| S55 | 6.3 | 10 | <10 | 49.0 | 32.0 | 6.3 | 0.73 | 0 | SW |
| S56 | 7.0 | 0 | <10 | 85.0 | 68.0 | 4.9 | 0.64 | 4 | SW |

Note

RW = rain water
 SW = shallow well
 DW = deep well
 EJ = earth jar
 CJ = cement jar
 CT = cement tank

STANDARD OF DRINKING WATER QUALITY

| <i>Parameter</i> | <i>Maximum Allowable</i> |
|--------------------------|--|
| <i>Color</i> | <i>50 unit</i> |
| <i>Turbidity</i> | <i>25 unit</i> |
| <i>pH</i> | <i>6.8 - 8.2</i> |
| <i>Hardness</i> | <i>300 mg/l as CaCO₃</i> |
| <i>Alkalinity</i> | <i>100 mg/l as CaCO₃</i> |
| <i>Chlorides</i> | <i>250 mg/l</i> |
| <i>Iron</i> | <i>1.0 mg/l</i> |
| <i>Coliform bacteria</i> | <i>4 colonies/100 ml</i>
<i>(for Membrane Filter Technique)</i> |

From : WHO, Guideline for Drinking Water Quality

Vol. 1 - Vol. 2, 1984.

Appendix C

Women's Daily Time Allocation

Appendix C1 Women's daily activities off farming season by type of activity, age, and village

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>Before breakfast</u> | | | | | | | | |
| <u>1st activity</u> | | | | | | | | |
| Cooking | 47.4
(59.6) | 58.3
(43.3) | 75.3
(60.5) | 68.7
(34.8) | 51.2
(60.8) | 23.2
(70.8) | 58.5 | 56.7 |
| Fetching water | 38.9
(13.5) | 28.6
(30.6) | 15.1
(18.5) | 5.0
(18.1) | 3.7
(9.3) | -
(13.3) | 17.0 | 65.3 |
| Feeding animals | 2.1
(9.6) | 1.7
(2.8) | 1.8
(2.5) | 5.9
(2.3) | 6.1
(4.3) | 4.3
(2.2) | 3.3 | 69.8 |
| Cleaning house | 2.1
(5.8) | 3.6
(4.6) | 1.2
(3.7) | 3.4
(2.8) | 3.7
(3.6) | 5.8
(-) | 3.0 | 44.5 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|------------------|-----------------|-----------------|----------------|------------------|------------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| Weaving | -
(-) | -
(-) | -
(1.2) | 0.8
(1.7) | 3.6
(-) | -
(-) | 0.6 | 82.5 |
| Going to market | 1.1
(-) | 0.6
(1.9) | 1.2
(1.2) | -
(0.6) | -
(-) | 1.4
(0.7) | 0.7 | 148.0 |
| Tending children | 4.2
(-) | 4.8
(4.6) | 1.2
(2.5) | 0.8
(2.3) | 3.7
(5.7) | 8.7
(2.8) | 3.3 | 127.8 |
| Doing nothing | 5.3
(11.5) | 2.4
(12.0) | 4.2
(9.9) | 14.4
(17.4) | 28.0
(16.4) | 56.6
(9.9) | 13.6 | - |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 62.1 |
| N | 95
(52) | 163
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|--------------------------------|-----------------|----------------|-----------------|-----------------|-----------------|----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>2nd activity</u> | | | | | | | | |
| Hunting for food
i.e., frog | 1.1
(-) | 0.6
(0.9) | 1.8
(1.2) | -
(1.1) | -
(-) | -
(0.7) | 0.7 | 199.8 |
| Cooking | 7.4
(23.1) | 15.5
(25.9) | 11.4
(9.9) | 8.4
(8.5) | 11.0
(2.8) | 2.9
(4.3) | 10.4 | 52.2 |
| Fetching water | 25.3
(5.8) | 21.4
(15.7) | 20.5
(7.4) | 6.7
(15.8) | 4.9
(20.7) | 2.9
(17.7) | 15.5 | 56.9 |
| Getting hay for
buffalo | 1.1
(7.7) | 1.8
(2.8) | 6.0
(2.5) | 7.6
(3.4) | 11.0
(6.4) | 5.8
(8.5) | 5.2 | 64.3 |
| Cleaning house | 6.3
(17.3) | 7.7
(4.6) | 13.3
(18.5) | 10.9
(5.1) | 3.7
(2.9) | 2.9
(12.1) | 8.4 | 46.8 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean time used |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|----------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <i>Washing clothes</i> | 1.1
(-) | 3.0
(2.8) | -
(-) | 1.7
(0.6) | -
(0.7) | -
(2.1) | 1.1 | 52.5 |
| <i>Weaving</i> | 1.1
(-) | 1.2
(-) | 0.6
(1.2) | 1.7
(4.0) | 1.1
(-) | 1.4
(-) | 1.2 | 100.0 |
| <i>Tending children</i> | 4.2
(1.9) | 7.1
(4.6) | 1.2
(1.2) | 5.0
(4.5) | 3.7
(3.6) | 2.9
(6.4) | 4.1 | 87.2 |
| <i>Doing nothing</i> | 52.4
(44.2) | 41.7
(42.7) | 45.2
(58.1) | 58.0
(57.0) | 64.6
(62.9) | 81.2
(48.2) | 53.4 | - |
| <i>Total</i> | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 60.7 |
| <i>N</i> | 95
(52) | 183
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>3rd activity</u> | | | | | | | | |
| Hunting for food
& wood | -
(1.9) | -
(1.9) | 1.2
(1.2) | 1.7
(0.6) | -
(-) | 1.4
(-) | 0.7 | 108.6 |
| Cooking | 2.1
(3.8) | 3.0
(5.6) | 1.8
(3.8) | 1.7
(-) | -
(1.4) | 1.4
(-) | 1.9 | 37.7 |
| Fetching water | 1.1
(5.8) | 1.8
(3.6) | 4.2
(2.5) | 0.8
(-) | -
(-) | -
(2.1) | 1.7 | 65.0 |
| Feeding animals | 2.2
(3.8) | 4.2
(2.8) | 3.6
(-) | 4.2
(4.5) | 3.7
(2.9) | -
(5.0) | 3.4 | 62.7 |
| Cleaning house | 2.1
(1.9) | 1.8
(0.9) | 0.6
(1.2) | 1.7
(1.7) | -
(-) | 1.4
(2.1) | 1.3 | 55.6 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean time used |
|------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|----------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| Washing clothes | 3.2
(-) | 1.3
(0.9) | 1.2
(-) | -
(2.8) | -
(0.7) | -
(1.4) | 1.1 | 43.7 |
| Weaving | -
(-) | -
(-) | 1.2
(1.2) | 5.9
(2.8) | -
(0.7) | -
(1.4) | 1.3 | 83.9 |
| Tending children | -
(3.8) | 5.5
(1.9) | 2.4
(1.2) | 0.8
(2.3) | 1.2
(0.7) | -
(3.5) | 2.1 | 62.5 |
| Doing nothing | 88.3
(78.8) | 82.4
(82.4) | 83.8
(88.9) | 83.2
(85.8) | 95.1
(93.6) | 95.8
(84.5) | 86.5 | - |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 61.7 |
| N | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|------------------------|----------------|----------------|-----------------|----------------|----------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>After breakfast</u> | | | | | | | | |
| <u>1st activity</u> | | | | | | | | |
| Hunting for food | 2.1
(-) | 2.4
(5.6) | 9.6
(7.4) | 6.7
(5.6) | 2.5
(5.7) | 2.9
(2.8) | 4.9 | 209.4 |
| Washing dishes | 1.1
(11.5) | 5.4
(1.9) | 5.4
(2.5) | 3.4
(4.0) | -
(4.3) | 2.9
(1.4) | 3.6 | 17.8 |
| Hunting for wood | 1.1
(1.9) | 1.8
(1.9) | 3.6
(6.2) | 1.7
(1.1) | 1.3
(1.4) | -
(0.7) | 1.9 | 116.5 |
| Feeding animals | 14.7
(28.8) | 6.5
((.3) | 21.1
(3.7) | 20.2
(10.2) | 24.0
(23.6) | 4.3
(22.0) | 15.7 | 187.1 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <i>Washing clothes</i> | | | | | | | | |
| <i>fetching water and</i> | | | | | | | | |
| <i>doing housework</i> | 10.5
(19.2) | 15.5
(15.7) | 14.5
(12.3) | 10.1
(11.9) | 8.5
(8.6) | -
(6.4) | 11.2 | 73.1 |
| <i>Routine work (selling,</i> | | | | | | | | |
| <i>watering plant,</i> | | | | | | | | |
| <i>going to work)</i> | 9.5
(1.9) | 7.1
(4.6) | 6.6
(4.9) | 4.2
(9.0) | 3.7
(3.6) | 2.9
(7.8) | 6.0 | 190.2 |
| <i>Weaving</i> | 14.7
(3.8) | 10.7
(4.6) | 7.2
(23.5) | 12.6
(16.9) | 14.6
(7.1) | 1.4
(4.3) | 10.3 | 207.5 |
| <i>Tending children</i> | 5.3
(3.8) | 32.1
(22.2) | 14.5
(16.0) | 11.8
(12.5) | 8.5
(10.7) | 7.3
(23.4) | 15.6 | 201.5 |
| <i>Doing nothing</i> | 41.0
(29.1) | 18.5
(34.2) | 17.5
(23.5) | 24.3
(28.8) | 32.9
(35.0) | 78.3
(31.2) | 30.8 | - |
| <i>Total</i> | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 166.2 |
| <i>N</i> | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|------------------------------------|---------------|---------------|---------------|---------------|---------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>2nd activity</u> | | | | | | | | |
| Hunting for food | -
(1.9) | 2.4
(2.8) | 4.8
(2.5) | 1.7
(3.4) | 3.7
(2.1) | -
(1.4) | 2.4 | 154.4 |
| Cooking and doing
dishes | -
(1.9) | 1.8
(4.6) | 3.0
(2.5) | 2.5
(1.1) | -
(-) | -
(0.8) | 1.6 | 113.5 |
| Washing clothes,
fetching water | 2.1
(7.7) | 7.7
(10.2) | 8.4
(7.4) | 5.9
(3.4) | 1.2
(4.3) | 1.4
(3.5) | 5.4 | 72.5 |
| Tending children | 2.1
(7.7) | 4.2
(4.6) | 3.6
(4.9) | 4.2
(1.1) | 2.4
(2.9) | -
(2.2) | 3.1 | 109.8 |
| Doing work as
employed | 1.1
(1.9) | -
(-) | 1.2
(1.2) | 1.7
(1.1) | -
(-) | -
(0.8) | 0.7 | 155.0 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|---------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| | Village | | | | | | | |
| Improving farm-land | -
(3.8) | 1.8
(1.9) | 1.8
(2.5) | 3.4
(-) | 1.2
(2.1) | -
(1.4) | 1.6 | 140.0 |
| Weaving | 4.2
(1.9) | 1.8
(-) | 4.8
(2.5) | 6.7
(11.3) | 1.2
(2.1) | 2.9
(-) | 3.7 | 187.9 |
| Tending children | 1.1
(3.8) | 8.3
(4.6) | 4.2
(6.2) | 5.9
(4.0) | -
(3.6) | -
(3.5) | 4.2 | 162.0 |
| Doing nothing | 89.4
(69.4) | 72.0
(71.3) | 68.2
(70.3) | 68.0
(74.6) | 90.3
(82.9) | 95.7
(86.5) | 77.3 | - |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 131.4 |
| N | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total |
|-------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | |
| | Village | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <u>3rd activity</u> | | | | | | | |
| Continued previous work | 3.2
(13.5) | 7.1
(5.6) | 7.8
(12.3) | 9.2
(6.8) | 2.4
(3.6) | 2.9
(2.1) | 6.2 |
| Doing nothing | 96.8
(86.5) | 92.9
(94.4) | 93.2
(87.7) | 90.8
(93.2) | 97.6
(96.4) | 97.1
(97.9) | 93.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|------------------------------|---------------|---------------|----------------|----------------|----------------|---------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>After lunch</u> | | | | | | | | |
| <u>1st activity</u> | | | | | | | | |
| Hunting for food
and wood | 4.2
(26.9) | 8.3
(7.4) | 12.0
(7.4) | 9.2
(7.8) | 7.3
(7.9) | 8.7
(6.4) | 8.7 | 160.4 |
| Cooking | 4.2
(7.7) | 6.5
(2.8) | 6.0
(3.7) | 2.5
(2.3) | 1.2
(7.9) | -
(2.8) | 4.1 | 53.6 |
| Fetching water | 1.5
(3.8) | 8.9
(14.8) | 6.0
(1.2) | 3.4
(4.5) | 1.2
(2.9) | -
(6.4) | 5.7 | 103.7 |
| Tending buffalos | 8.4
(19.4) | 3.6
(9.3) | 15.7
(4.9) | 11.8
(5.1) | 23.2
(17.9) | 8.7
(14.9) | 11.3 | 172.3 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|--|----------------|----------------|----------------|----------------|----------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <i>Selling things,
going to school</i> | 7.4
(1.9) | 3.6
(3.7) | 3.6
(4.9) | 3.4
(4.5) | 2.4
(1.4) | 1.4
(5.0) | 3.7 | 216.9 |
| <i>Washing clothes</i> | -
(-) | 1.8
(1.9) | 3.0
(-) | -
(1.7) | -
(-) | -
(2.1) | 1.3 | 176.2 |
| <i>Weaving</i> | 16.8
(1.9) | 13.1
(3.7) | 9.1
(22.2) | 19.3
(26.0) | 13.4
(8.6) | 4.3
(6.4) | 12.9 | 224.6 |
| <i>Tending children</i> | 8.4
(1.9) | 24.4
(15.7) | 12.7
(17.3) | 8.4
(10.7) | 3.7
(9.3) | 5.8
(16.3) | 12.4 | 212.0 |
| <i>Doing nothing</i> | 40.1
(36.5) | 29.8
(40.7) | 31.9
(38.4) | 42.0
(37.9) | 47.6
(44.1) | 71.1
(39.7) | 39.9 | - |
| <i>Total</i> | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 178.1 |
| <i>N</i> | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|---------------------|-----------------|----------------|----------------|----------------|----------------|---------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>2nd activity</u> | | | | | | | | |
| Hunting for food | 2.1
(13.5) | 1.8
(1.9) | 4.8
(2.5) | 3.4
(3.4) | 3.7
(1.4) | -
(0.7) | 2.9 | 147.0 |
| Doing housework | 32.6
(25.0) | 44.0
(34.3) | 42.8
(35.8) | 41.2
(32.8) | 29.3
(34.3) | 7.2
(48.9) | 36.3 | 59.5 |
| Fetching water | 11.6
(- 9.6) | 11.3
(12.0) | 9.0
(8.6) | 5.0
(5.6) | 6.1
(6.4) | 1.4
(9.2) | 8.2 | 60.7 |
| Tending buffalos | 3.2
(5.7) | 1.9
(2.8) | 4.8
(2.4) | 3.3
(1.1) | 2.4
(2.9) | -
(4.4) | 2.9 | 110.0 |
| Cleaning house | 1.1
(1.9) | -
(0.9) | 0.6
(-) | 1.7
(1.1) | -
(-) | -
(-) | 0.0 | 75.0 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <i>Weaving</i> | 3.2
(3.8) | 0.6
(-) | 0.6
(2.5) | 0.8
(1.7) | 1.2
(-) | -
(-) | 1.0 | 162.8 |
| <i>Tending children</i> | 1.2
(-) | 6.0
(4.6) | 3.0
(2.5) | 3.4
(2.3) | -
(5.0) | 2.9
(2.8) | 3.1 | 171.8 |
| <i>Doing nothing</i> | 45.3
(40.5) | 34.4
(43.5) | 34.4
(45.7) | 41.2
(52.0) | 57.3
(50.0) | 88.5
(34.0) | 45.0 | - |
| <i>Total</i> | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 75.3 |
| <i>N</i> | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean time used |
|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|----------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>3rd activity</u> | | | | | | | | |
| Cooking | 4.2
(9.7) | 10.1
(10.2) | 18.1
(7.4) | 7.6
(9.0) | 12.2
(7.9) | -
(14.9) | 10.0 | 58.4 |
| Fetching water | 3.2
(5.8) | 4.8
(0.9) | 3.0
(1.3) | 2.5
(1.7) | 1.2
(5.0) | -
(3.5) | 2.9 | 34.5 |
| Others | -
(7.6) | 2.4
(-) | 4.2
(2.4) | 1.7
(0.6) | 1.2
(2.1) | 2.8
(-4.2) | 2.3 | 49.5 |
| Doing nothing | 92.6
(76.9) | 82.7
(88.9) | 74.7
(88.9) | 88.2
(88.7) | 85.4
(88.0) | 97.2
(77.4) | 84.8 | - |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 55.1 |
| N | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|-----------------------------------|----------------|----------------|----------------|----------------|---------------|---------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| | Village | | | | | | | |
| <u>After dinner</u> | | | | | | | | |
| <u>1st activity</u> | | | | | | | | |
| Washing dishes,
cleaning house | 12.6
(17.3) | 17.9
(18.5) | 15.7
(18.5) | 10.1
(8.5) | 4.9
(5.0) | -
(12.8) | 10.7 | 19.2 |
| Fetching water | 3.2
(1.9) | 6.5
(5.6) | 2.4
(7.4) | 0.8
(3.4) | 1.2
(1.4) | 1.4
(-) | 3.0 | 45.0 |
| Others | 3.1
(2.0) | 3.0
(1.8) | 1.2
(3.7) | 3.4
(6.2) | 2.5
(2.4) | 1.5
(-) | 3.8 | 76.1 |
| Watching television | 7.4
(1.9) | 7.1
(2.8) | 4.8
(2.5) | 5.0
(5.1) | 7.3
(7.1) | 1.4
(10.6) | 5.7 | 107.7 |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| Doing nothing | 73.7
(76.9) | 65.5
(71.3) | 75.9
(67.9) | 80.7
(76.8) | 84.1
(86.4) | 75.7
(76.6) | 76.8 | - |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 53.9 |
| N | 95
(52) | 168
(108) | 166
(81) | 119
(177) | 82
(140) | 69
(141) | 699 | |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | | |
| | Village | | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <u>2nd activity</u> | | | | | | | | |
| Watching television | 6.3
(1.9) | 7.1
(-) | 7.8
(-) | 3.4
(8.5) | 7.3
(7.9) | 1.4
(10.6) | 6.0 | 95.5 |
| Others | 2.1
(3.9) | 4.8
(4.6) | 2.4
(4.9) | 4.2
(5.1) | 4.9
(1.4) | 1.5
(1.5) | 3.4 | 29.6 |
| Doing nothing | 91.6
(94.2) | 88.1
(95.4) | 89.8
(95.1) | 82.4
(86.4) | 87.8
(90.7) | 97.1
(87.9) | 90.6 | -- |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 34.8 |
| N | 95
(52) | 168
(108) | 166
(81) | 119
(199) | 82
(140) | 69
(141) | 699 | |

Appendix C1 (continued)

| Type of activity | Age group | | | | | | Total | Mean
time
used |
|---------------------|-----------------|------------------|----------------|----------------|------------------|-----------------|-------|----------------------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | | |
| <i>3rd activity</i> | | | | | | | | |
| Watching television | 2.1
(-) | -
(-) | 0.6
(1.2) | 0.8
(1.1) | -
(-) | -
(0.7) | 0.6 | 75.0 |
| Doing nothing | 97.9
(100.0) | 100.0
(100.0) | 99.4
(98.8) | 97.2
(98.9) | 100.0
(100.0) | 100.0
(99.3) | 99.4 | - |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 75.0 |
| N | 95
(52) | 168
(108) | 166
(91) | 119
(177) | 82
(140) | 69
(141) | 699 | |

Appendix C2 Women's daily activities during farming season by type of activity, age, and village.

| Type of activity | Age group | | | | | | Total |
|-------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | |
| | Village | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <u>Before breakfast</u> | | | | | | | |
| <u>1st activity</u> | | | | | | | |
| Cooking | 26.0
(42.3) | 60.8
(54.6) | 82.5
(65.4) | 74.4
(63.3) | 70.7
(62.4) | 31.7
(72.3) | 62.1 |
| Working in the field | 62.5
(3.8) | 27.5
(27.8) | 6.6
(23.5) | 10.7
(21.5) | 11.0
(28.6) | 7.9
(11.3) | 20.7 |
| Fetching water | 4.2
(-) | 2.9
(3.7) | 3.0
(2.5) | -
(1.1) | -
(1.4) | -
(2.8) | 2.0 |
| Hunting for wood | 1.0
(-) | 1.2
(1.8) | -
(1.2) | -
(0.6) | -
(1.4) | 3.2
(1.6) | 1.2 |

Appendix C2 (continued)

| Type of activity | Age group | | | | | | Total |
|------------------|---------------|---------------|---------------|----------------|----------------|----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | |
| | Village | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| Tending children | 1.0
(3.9) | 1.2
(1.9) | 1.3
(1.2) | 1.7
(1.6) | 6.1
(2.2) | 11.2
(3.5) | 2.3 |
| Doing nothing | 5.3
(50.0) | 6.4
(10.2) | 6.6
(6.2) | 13.2
(11.9) | 12.2
(5.0) | 46.0
(8.5) | 11.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 96
(52) | 171
(108) | 166
(81) | 121
(177) | 82
(140) | 63
(141) | 699 |

| Type of activity | Age group | | | | | | Total |
|----------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | |
| | Village | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <u>2nd activity</u> | | | | | | | |
| Cooking | 7.3
(5.7) | 4.1
(3.7) | 3.0
(6.1) | 0.8
(2.8) | -
(0.7) | 3.2
(2.8) | 3.2 |
| Working in the field | 17.7
(28.8) | 52.0
(42.6) | 65.1
(50.6) | 58.7
(47.5) | 52.4
(49.3) | 19.0
(60.3) | 48.6 |
| Others | 8.3
(4.0) | 5.9
(2.8) | 10.2
(3.8) | 7.4
(7.9) | 4.9
(8.6) | 4.8
(11.4) | 7.3 |
| Doing nothing | 36.7
(61.5) | 38.0
(50.0) | 21.7
(39.5) | 33.1
(41.8) | 42.7
(41.4) | 72.0
(25.5) | 40.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 98
(52) | 171
(108) | 166
(81) | 121
(177) | 82
(140) | 63
(141) | 699 |

Appendix C2 (continued)

| Type of activity | Age group | | | | | | Total |
|------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | |
| | Village | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <u>After breakfast</u> | | | | | | | |
| Working in the field | 85.4
(44.2) | 85.4
(84.3) | 84.9
(84.0) | 78.5
(73.4) | 76.8
(85.0) | 23.8
(78.7) | 77.5 |
| Others | 8.3
(7.7) | 7.6
(5.5) | 6.1
(7.4) | 9.1
(14.2) | 9.8
(5.7) | 23.8
(11.4) | 9.3 |
| Doing nothing | 6.3
(48.1) | 7.6
(10.2) | 9.0
(8.6) | 12.4
(12.4) | 13.4
(9.3) | 52.4
(9.9) | 13.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 96
(52) | 171
(108) | 166
(81) | 121
(177) | 82
(140) | 63
(141) | 699 |

Appendix C2 (continued)

| Type of activity | Age group | | | | | | Total |
|----------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <i>Village</i> | | | | | | | |
| <u>After lunch</u> | | | | | | | |
| <u>1st activity</u> | | | | | | | |
| Working in the field | 84.4
(40.4) | 84.8
(83.3) | 83.1
(84.0) | 78.5
(72.9) | 75.6
(83.6) | 23.8
(78.7) | 76.7 |
| Others | 9.3
(9.6) | 6.4
(5.6) | 7.0
(6.1) | 6.6
(13.5) | 9.8
(8.5) | 22.2
(7.1) | 8.9 |
| Doing nothing | 6.3
(50.0) | 8.8
(11.1) | 9.6
(9.9) | 14.9
(13.6) | 14.6
(7.9) | 54.0
(14.2) | 14.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 96
(52) | 171
(108) | 166
(81) | 121
(177) | 82
(140) | 63
(141) | 699 |

Appendix C2 (continued)

| Type of activity | Agr group | | | | | | Total |
|----------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | |
| | Village | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <u>2nd activity</u> | | | | | | | |
| Cooking | 22.9
(21.2) | 41.5
(36.1) | 54.2
(46.9) | 54.5
(39.5) | 48.8
(47.1) | 27.0
(58.2) | 43.8 |
| Working in the field | 2.1
(1.9) | 3.5
(0.9) | 3.6
(-) | 4.1
(4.5) | 1.2
(2.1) | 1.6
(5.7) | 3.0 |
| Fetching water | 9.4
(1.9) | 2.9
(-) | 3.6
(1.2) | -
(5.1) | -
(5.0) | -
(1.4) | 2.9 |
| Others | 3.1
(5.8) | 1.2
(-) | 1.3
(1.3) | 0.9
(1.2) | -
(2.3) | 3.9
(0.7) | 1.4 |
| Doing nothing | 62.5
(69.2) | 50.9
(63.0) | 37.3
(50.6) | 40.5
(49.7) | 50.0
(43.6) | 68.8
(34.0) | 48.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 96
(52) | 171
(108) | 166
(81) | 121
(177) | 82
(140) | 63
(141) | 699 |

Appendix C2 (continued)

| Type of activity | Agr group | | | | | | Total |
|---------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60 ⁺ | |
| | Village | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <u>After dinner</u> | | | | | | | |
| <u>1st activity</u> | | | | | | | |
| Washing dishes | 7.3
(11.5) | 11.1
(11.1) | 12.7
(6.2) | 7.4
(7.3) | 3.7
(5.7) | -
(10.6) | 8.4 |
| Others | 1.4
(7.3) | 8.2
(2.8) | 5.4
(11.1) | 6.6
(8.0) | 3.6
(5.7) | 3.2
(6.4) | 6.8 |
| Doing nothing | 81.3
(80.8) | 80.7
(86.1) | 81.9
(82.7) | 86.0
(84.7) | 72.7
(88.6) | 96.8
(83.0) | 84.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 96
(52) | 171
(108) | 166
(81) | 121
(177) | 82
(140) | 63
(141) | 699 |

Appendix C2 (continued)

| Type of activity | Age group | | | | | | Total |
|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|-------|
| | 15-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ | |
| | (1) | (2) | (3) | (4) | (5) | (6) | |
| <i>Village</i> | | | | | | | |
| <u>2nd activity</u> | | | | | | | |
| Others | 8.3
(5.8) | 5.8
(2.8) | 4.2
(1.2) | 6.6
(10.2) | 6.1
(4.3) | 1.6
(5.7) | 5.6 |
| Doing nothing | 91.7
(94.2) | 94.2
(97.2) | 95.8
(98.9) | 93.4
(89.8) | 93.9
(95.7) | 98.4
(94.3) | 94.4 |



Appendix D

*Actual Roles of Men and Women
in Community Development Activities*

Appendix D Actual roles of men and women in various C.D. activities

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|---|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| <u>Water source</u>
<u>improvement/</u>
<u>construction</u> | | | | | | | | | | | | | | |
| No participation
because don't
know about
activity. | 38.3 | 33.3 | 15.4 | 66.1 | 28.0 | 56.6 | 27.7 | 39.3 | 38.9 | 45.1 | 22.5 | 42.0 | 27.8 | 46.1 |
| No participation
but know about
activity. | 8.3 | 20.5 | 15.4 | 8.5 | 8.0 | 20.8 | 6.4 | 29.9 | 13.9 | 36.6 | 32.5 | 44.0 | 14.6 | 29.5 |
| Participate by
offering labor. | 12.5 | 23.1 | 30.8 | 11.9 | 24.0 | 11.3 | 34.0 | 19.6 | 38.9 | 7.3 | 17.5 | 8.0 | 27.3 | 13.0 |

Appendix D (continued)

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|--|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| Participate by
giving opinion,
making decisions,
etc, | 12.5 | 5.1 | 26.9 | 3.4 | 20.0 | - | 21.3 | 1.9 | 2.8 | 2.5 | 12.5 | 2.0 | 15.7 | 2.3 |
| Other | 33.3 | 18.0 | 11.5 | 10.1 | 20.0 | 11.3 | 10.6 | 9.3 | 5.6 | 8.5 | 15.0 | 4.0 | 14.6 | 9.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 24 | 39 | 26 | 59 | 25 | 53 | 47 | 107 | 36 | 82 | 40 | 100 | 198 | 440 |

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|--|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| <u>Village clean up</u> | | | | | | | | | | | | | | |
| No participation
because don't
know about
activity. | 25.0 | 34.2 | 25.0 | 50.8 | 15.4 | 47.1 | 21.6 | 39.3 | 31.6 | 58.0 | 40.5 | 72.0 | 27.3 | 52.3 |
| No participation
but know about
activity. | 4.2 | 2.6 | - | 1.7 | - | - | - | - | - | - | 2.4 | 1.0 | 1.0 | 70.7 |
| Participate by
offering labor. | 29.2 | 34.2 | 39.3 | 23.7 | 34.6 | 31.4 | 29.4 | 34.6 | 44.7 | 22.2 | 38.1 | 16.0 | 35.9 | 26.2 |

Appendix D (continued)

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| Participate by
giving opinions,
making decisions,
etc, | 33.3 | 13.2 | 25.0 | 6.8 | 30.8 | 3.9 | 33.3 | 12.1 | 18.4 | 12.4 | 19.0 | 8.0 | 26.3 | 9.6 |
| Other | 8.3 | 15.8 | 10.7 | 17.0 | 19.2 | 17.6 | 15.7 | 14.0 | 5.3 | 7.4 | - | 3.0 | 9.6 | 11.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 34 | 38 | 28 | 59 | 26 | 51 | 51 | 107 | 38 | 81 | 42 | 100 | 209 | 436 |

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|--|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| <u>Village road</u>
<u>construction</u> | | | | | | | | | | | | | | |
| No participation
because don't
know about
activity. | 8.0 | 20.5 | - | 32.2 | - | 42.3 | 1.8 | 24.3 | - | 41.5 | 2.1 | 43.0 | 1.8 | 34.6 |
| No participation
but know about
activity. | - | - | - | 1.7 | - | - | - | 1.0 | 7.5 | - | 6.3 | - | 2.7 | 0.5 |
| Participate by
offering labor. | 40.0 | 41.0 | 63.3 | 39.0 | 50.0 | 36.5 | 54.5 | 10.7 | 57.5 | 37.8 | 66.7 | 45.0 | 56.7 | 41.2 |

Appendix D (continued)

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| Participate by
giving opinions,
making decisions,
etc, | 32.0 | 15.4 | 23.3 | 8.5 | 26.9 | 3.9 | 27.3 | 11.2 | 17.5 | 9.7 | 12.4 | 8.0 | 22.3 | 9.3 |
| Other | 20.0 | 23.1 | 13.3 | 18.6 | 23.1 | 17.3 | 16.4 | 19.6 | 17.5 | 11.0 | 12.5 | 4.0 | 16.5 | 14.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 25 | 39 | 30 | 59 | 26 | 52 | 55 | 107 | 40 | 82 | 48 | 100 | 224 | 439 |

Appendix D (continued)

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|--|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| <u>Temple development</u> | | | | | | | | | | | | | | |
| No participation
because don't
know about
activity. | 17.4 | 29.0 | 32.1 | 58.6 | 20.0 | 52.0 | 14.8 | 33.7 | 13.2 | 44.5 | 42.9 | 73.0 | 23.3 | 49.8 |
| No participation
but know about
activity. | - | 2.6 | - | 1.7 | - | - | - | - | 5.3 | - | 2.4 | - | 1.4 | 0.5 |
| Participate by
offering labor. | 21.7 | 15.8 | 21.4 | 8.6 | 20.0 | 16.0 | 18.5 | 16.8 | 31.6 | 17.3 | 11.9 | 6.0 | 20.5 | 13.1 |

Appendix D (continued)

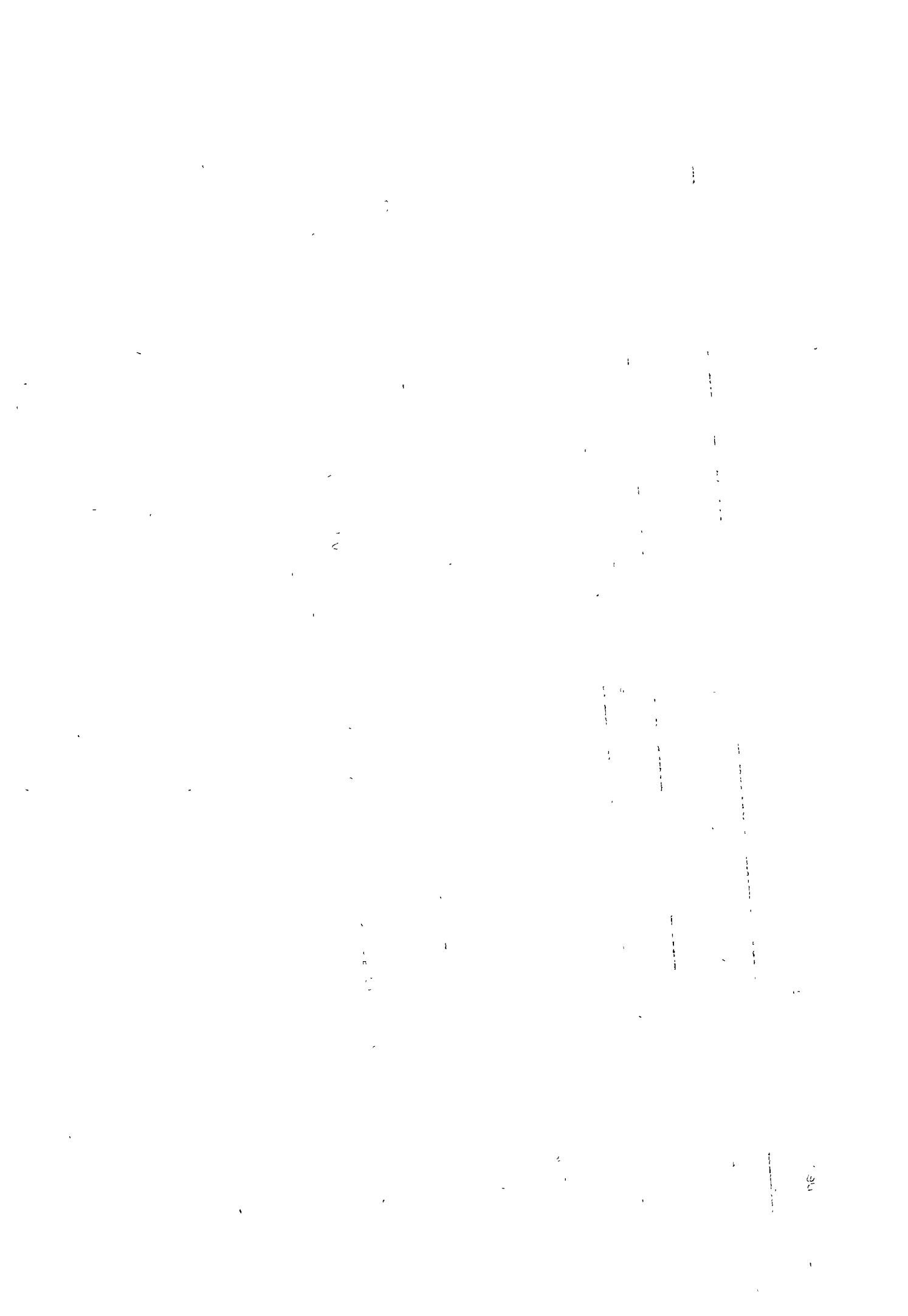
| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|--------------|--------------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| Participate by
giving opinions,
making decisions,
etc, | 30.4 | 10.5 | 21.4 | 10.4 | 32.0 | 4.0 | 29.6 | 13.1 | 15.8 | 12.3 | 19.0 | 8.0 | 24.3 | 10.1 |
| Other | 30.4 | 42.1 | 25.0 | 20.7 | 28.0 | 28.0 | 37.0 | 68.4 | 34.2 | 25.9 | 23.8 | 13.0 | 30.5 | 26.5 |
| Total
N | 100.0
23 | 100.0
38 | 100.0
28 | 100.0
58 | 100.0
25 | 100.0
50 | 100.0
54 | 100.0
107 | 100.0
38 | 100.0
81 | 100.0
42 | 100.0
100 | 100.0
210 | 100.0
434 |

Appendix D (continued)

| Activity and type of participation | Village | | | | | | | | | | | | Total | |
|---|---------|-------|------|-------|-------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| <u>Other activities</u> | | | | | | | | | | | | | | |
| No participation because don't know about activity. | 86.4 | 87.1 | 85.7 | 94.9 | 100.0 | 96.2 | 90.5 | 100.0 | 97.0 | 98.8 | 97.0 | 100.0 | 93.1 | 97.5 |
| No participation but know about activity. | - | 2.6 | - | 1.7 | - | - | - | - | 3.0 | - | - | - | 0.6 | 0.5 |
| Participate by offering labor. | 9.1 | 7.7 | 9.5 | 1.7 | - | 3.8 | - | - | - | - | - | - | 2.3 | 1.4 |

Appendix D (Continued)

| Activity and
type of
participation | Village | | | | | | | | | | | | Total | |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| Participate by
giving opinions,
making decisions,
etc, | 4.5 | 2.6 | - | - | - | - | 2.4 | - | - | - | 3.0 | - | 1.7 | 0.2 |
| Other | - | - | 4.8 | 1.7 | - | - | 7.1 | - | - | 1.2 | - | - | 2.3 | 0.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 22 | 39 | 21 | 59 | 22 | 53 | 42 | 108 | 33 | 82 | 33 | 100 | 173 | 441 |



Appendix E

*Men's Attitude Towards Women's
Participation in Community Development
and Decision-making*

Appendix E *Men's attitude towards women's participation in C.D. and decision-making*

| Attitude | Village | | | | | | Total |
|----------|---------|---|---|---|---|---|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |

Women's participation in C.D.

Success-failure

| | | | | | | | |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| 5 | 34.6 | 53.3 | 53.8 | 46.3 | 46.3 | 39.6 | 45.3 |
| 4 | 42.3 | 26.7 | 26.9 | 38.9 | 39.0 | 50.0 | 38.7 |
| 3 | 11.5 | 10.0 | 19.2 | 13.0 | 12.2 | 8.3 | 12.0 |
| 2 | 3.8 | 6.7 | - | - | 2.5 | 2.1 | 2.2 |
| 1 | 7.7 | 3.3 | - | 1.8 | - | - | 1.8 |
| <i>Total</i> | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| <i>N</i> | 26 | 30 | 26 | 54 | 41 | 48 | 225 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|-----------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Active-passive</i> | | | | | | | |
| 5 | 34.6 | 46.7 | 42.3 | 34.5 | 39.0 | 32.7 | 37.4 |
| 4 | 7.7 | 23.3 | 26.9 | 38.2 | 41.5 | 38.8 | 32.2 |
| 3 | 23.1 | 16.7 | 26.9 | 14.5 | 7.3 | 20.4 | 17.2 |
| 2 | 26.9 | 3.3 | 3.8 | 9.1 | 9.8 | 6.1 | 9.5 |
| 1 | 7.7 | 10.0 | - | 3.6 | 2.4 | 2.0 | 4.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |
| <i>Smooth-rough</i> | | | | | | | |
| 5 | 34.6 | 46.7 | 46.2 | 25.5 | 29.3 | 36.7 | 34.8 |
| 4 | 30.8 | 30.0 | 30.8 | 38.2 | 43.9 | 38.8 | 36.6 |
| 3 | 11.5 | 13.3 | 7.7 | 16.4 | 17.1 | 16.3 | 14.5 |
| 2 | 7.7 | 3.3 | 15.4 | 14.5 | 7.3 | 8.2 | 9.7 |
| 1 | 15.4 | 6.7 | - | 5.5 | 2.4 | - | 4.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|--------------------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Reasonable-unreasonable</i> | | | | | | | |
| 5 | 34.6 | 43.3 | 34.6 | 36.4 | 28.2 | 30.6 | 34.2 |
| 4 | 34.6 | 23.3 | 30.8 | 34.5 | 41.0 | 40.8 | 35.1 |
| 3 | 23.1 | 16.7 | 23.1 | 23.6 | 17.9 | 22.4 | 21.3 |
| 2 | - | 10.0 | 11.5 | 5.5 | 12.8 | 6.1 | 7.6 |
| 1 | 7.7 | 6.7 | - | - | - | - | 1.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 39 | 49 | 225 |
| <i>Fast-slow</i> | | | | | | | |
| 5 | 30.8 | 53.3 | 26.9 | 45.5 | 43.9 | 42.9 | 41.9 |
| 4 | 23.1 | 13.3 | 34.6 | 27.3 | 39.0 | 34.7 | 29.5 |
| 3 | 30.8 | 10.0 | 30.8 | 14.5 | 7.3 | 14.3 | 16.3 |
| 2 | 7.7 | 20.0 | 7.7 | 9.1 | 7.3 | 8.2 | 9.7 |
| 1 | 7.7 | 3.3 | - | 3.6 | 2.4 | - | 2.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|----------------------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Appropriate-inappropriate</i> | | | | | | | |
| 5 | 46.2 | 56.7 | 53.8 | 34.5 | 24.4 | 30.6 | 38.3 |
| 4 | 11.5 | 10.0 | 23.1 | 40.0 | 36.6 | 44.9 | 31.3 |
| 3 | 19.2 | 13.3 | 11.5 | 16.4 | 26.8 | 12.2 | 16.7 |
| 2 | 15.4 | 13.3 | 11.5 | 5.5 | 12.2 | 12.2 | 11.0 |
| 1 | 7.7 | 6.7 | - | 3.6 | - | - | 2.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |
| <i>Good-bad</i> | | | | | | | |
| 5 | 53.8 | 53.3 | 65.4 | 41.8 | 51.2 | 44.9 | 49.8 |
| 4 | 2.6 | 3.1 | 2.6 | 7.9 | 6.2 | 7.5 | 30.0 |
| 3 | 19.2 | 13.3 | 7.7 | 14.5 | 7.3 | 10.2 | 11.9 |
| 2 | - | 6.7 | 3.8 | 7.3 | 7.3 | 10.2 | 6.6 |
| 1 | 3.8 | 3.3 | - | 3.6 | - | - | 1.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|----------------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Accurate-inaccurate</i> | | | | | | | |
| 5 | 42.3 | 43.3 | 46.2 | 34.5 | 31.7 | 34.7 | 37.4 |
| 4 | 23.1 | 26.7 | 31.6 | 41.8 | 41.5 | 42.9 | 37.0 |
| 3 | 19.2 | 23.3 | 15.4 | 14.5 | 22.0 | 20.4 | 18.9 |
| 2 | 15.4 | 3.3 | 3.8 | 7.3 | 4.9 | 2.0 | 5.7 |
| 1 | - | 3.3 | - | 1.8 | - | - | 0.9 |
| <i>Total</i> | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| <i>N</i> | 26 | 30 | 26 | 55 | 41 | 49 | 227 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|----------|---------|---|---|---|---|---|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |

Women's decision making

Accurate-inaccurate

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 5 | 34.6 | 43.3 | 46.8 | 41.8 | 31.7 | 26.5 | 36.6 |
| 4 | 23.1 | 30.0 | 23.1 | 32.7 | 43.9 | 53.1 | 36.6 |
| 3 | 23.1 | 16.7 | 23.1 | 18.2 | 19.5 | 12.2 | 18.1 |
| 2 | 11.5 | 6.7 | 3.8 | 7.3 | 4.9 | 6.1 | 6.6 |
| 1 | 7.7 | 3.3 | 3.8 | - | - | 2.0 | 2.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |

| Attitude | Village | | | | | | Total |
|--------------------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Success-failure</i> | | | | | | | |
| 5 | 19.2 | 43.3 | 61.5 | 32.7 | 29.3 | 38.8 | 36.6 |
| 4 | 30.8 | 43.3 | 26.9 | 38.2 | 53.7 | 38.8 | 39.6 |
| 3 | 34.6 | - | 3.8 | 18.2 | 9.8 | 12.2 | 13.2 |
| 2 | 11.5 | 6.7 | 7.7 | 9.1 | 7.3 | 8.2 | 8.4 |
| 1 | 3.8 | 6.6 | - | 1.8 | - | 2.0 | 2.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |
| <i>Reasonable-unreasonable</i> | | | | | | | |
| 5 | 53.8 | 43.3 | 53.8 | 32.7 | 29.3 | 36.7 | 39.2 |
| 4 | 23.1 | 30.0 | 23.1 | 38.2 | 43.9 | 34.7 | 33.9 |
| 3 | 19.2 | 13.3 | 23.1 | 21.8 | 19.5 | 22.4 | 20.3 |
| 2 | 3.8 | 6.7 | - | 7.3 | 4.9 | 6.1 | 5.3 |
| 1 | - | 6.7 | - | - | 2.4 | - | 1.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|----------------------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Appropriate-inappropriate</i> | | | | | | | |
| 5 | 42.3 | 43.3 | 42.3 | 38.2 | 27.5 | 26.5 | 35.4 |
| 4 | 26.9 | 33.3 | 34.6 | 40.0 | 35.0 | 36.7 | 35.4 |
| 3 | 26.9 | 13.3 | 15.4 | 16.4 | 27.5 | 26.5 | 21.2 |
| 2 | 3.8 | 6.7 | 7.7 | 3.6 | 10.0 | 10.2 | 7.1 |
| 1 | - | 3.3 | - | 1.8 | - | - | 0.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 40 | 49 | 226 |
| <i>Fast-slow</i> | | | | | | | |
| 5 | 30.8 | 26.7 | 53.8 | 25.5 | 42.5 | 37.5 | 35.1 |
| 4 | 11.5 | 23.3 | 7.7 | 27.3 | 32.5 | 25.0 | 23.1 |
| 3 | 30.8 | 16.7 | 19.2 | 21.8 | 10.0 | 6.3 | 16.4 |
| 2 | 19.2 | 30.0 | 7.7 | 16.4 | 12.5 | 25.0 | 18.7 |
| 1 | 7.7 | 3.3 | 11.5 | 9.1 | 2.5 | 6.3 | 6.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 40 | 48 | 225 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|---------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Smooth-rough</i> | | | | | | | |
| 5 | 30.8 | 33.3 | 50.0 | 30.9 | 31.7 | 34.7 | 34.4 |
| 4 | 19.2 | 40.0 | 30.8 | 29.1 | 31.7 | 24.5 | 29.1 |
| 3 | 19.2 | 10.0 | 15.4 | 21.8 | 26.8 | 32.7 | 22.5 |
| 2 | 26.9 | 10.0 | - | 12.7 | 7.3 | 6.1 | 10.1 |
| 1 | 3.8 | 6.7 | 3.8 | 5.5 | 2.4 | 2.0 | 4.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |
| <i>Good-bad</i> | | | | | | | |
| 5 | 42.3 | 40.0 | 46.2 | 49.1 | 39.0 | 38.8 | 42.7 |
| 4 | 26.9 | 26.7 | 26.9 | 27.3 | 43.9 | 34.7 | 31.7 |
| 3 | 15.4 | 23.3 | 19.2 | 12.7 | 14.6 | 20.4 | 17.2 |
| 2 | 11.5 | 10.0 | 7.7 | 9.1 | 2.4 | 6.1 | 7.5 |
| 1 | 3.8 | - | - | 1.8 | - | - | 0.9 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 26 | 30 | 26 | 55 | 41 | 49 | 227 |

Appendix E (continued)

| Attitude | Village | | | | | | Total |
|-----------------------|---------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | |
| <i>Active-passive</i> | | | | | | | |
| 5 | 19.2 | 37.9 | 30.8 | 25.5 | 43.9 | 38.8 | 33.2 |
| 4 | 15.4 | 17.2 | 23.1 | 34.5 | 17.1 | 28.6 | 24.3 |
| 3 | 34.6 | 24.1 | 26.9 | 20.0 | 17.1 | 12.2 | 20.9 |
| 2 | 23.1 | 17.2 | 11.5 | 12.7 | 17.1 | 20.4 | 16.8 |
| 1 | 7.7 | 3.4 | 7.7 | 7.3 | 4.9 | - | 4.9 |
| <i>Total</i> | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| <i>N</i> | 26 | 29 | 26 | 55 | 41 | 49 | 226 |

Appendix F

*Opinions of Men and Women on Women's
Participation in Community Development Work
and Household Duties*

Appendix F Opinions of men and women on women's participation in C.D. and household responsibilities

| Opinion | Village | | | | | | | | | | | | Total | |
|---|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| N | 26 | 39 | 30 | 59 | 26 | 53 | 55 | 108 | 41 | 82 | 49 | 100 | 227 | 441 |
| 1. Women and men
can participate
equally in
community
development
activities | | | | | | | | | | | | | | |
| Agree | 96.2 | 89.7 | 80.0 | 86.4 | 84.6 | 90.6 | 83.6 | 84.3 | 82.9 | 85.4 | 79.6 | 80.0 | 83.7 | 85.6 |
| Not sure | - | 7.7 | 3.3 | 5.1 | - | - | 3.6 | 0.9 | - | - | 4.1 | 3.0 | 2.8 | 2.0 |
| Disagree | 3.8 | 2.6 | 16.7 | 8.5 | 15.4 | 9.4 | 12.7 | 14.8 | 17.1 | 14.6 | 16.3 | 17.0 | 14.1 | 13.0 |

Appendix F (continued)

| Opinion | Village | | | | | | | | | | | | Total | |
|--|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| 2. If a woman participates in community development activities it will affect her housework. | | | | | | | | | | | | | | |
| Agree | 53.8 | 51.3 | 33.3 | 33.9 | 38.5 | 34.0 | 21.9 | 25.0 | 31.7 | 28.0 | 42.9 | 37.0 | 35.2 | 32.9 |
| Not sure | 3.8 | 10.2 | 3.3 | 1.7 | 3.8 | 7.5 | 1.8 | 7.4 | 12.2 | 9.8 | 8.2 | 8.0 | 5.7 | 7.5 |
| Disagree | 42.3 | 38.5 | 63.3 | 64.4 | 57.7 | 58.5 | 76.4 | 67.6 | 56.1 | 62.2 | 49.0 | 55.0 | 59.0 | 59.6 |
| 3. Decisions in choosing water sources and facilities should be men's only | | | | | | | | | | | | | | |
| Agree | 73.1 | 38.5 | 83.3 | 61.0 | 73.1 | 62.2 | 60.0 | 62.1 | 68.3 | 67.1 | 79.6 | 62.0 | 71.8 | 60.8 |
| Not sure | - | 7.7 | - | 8.5 | 3.8 | 3.8 | 3.6 | 4.6 | 4.9 | 6.1 | 2.0 | 4.0 | 2.6 | 5.4 |
| Disagree | 26.9 | 53.8 | 16.7 | 30.5 | 23.1 | 34.0 | 36.4 | 33.3 | 26.8 | 26.8 | 18.4 | 34.0 | 25.6 | 33.8 |

| Opinion | Village | | | | | | | | | | | | Total | |
|---|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| 4. Women are capable of being community leaders | | | | | | | | | | | | | | |
| Agree | 42.3 | 41.0 | 53.3 | 40.7 | 50.0 | 34.0 | 43.6 | 50.9 | 43.9 | 32.9 | 42.9 | 40.0 | 45.4 | 40.8 |
| Not sure | 15.4 | 10.3 | 3.3 | 3.4 | 3.8 | 5.6 | 9.1 | 10.2 | 12.2 | 8.6 | 8.2 | 8.0 | 8.8 | 7.9 |
| Disagree | 42.3 | 48.7 | 43.3 | 55.9 | 46.2 | 60.4 | 47.3 | 38.9 | 43.9 | 58.5 | 49.0 | 52.0 | 45.8 | 51.3 |
| 5. If a family is to decide on spending a large amount of money, the women should also have a say | | | | | | | | | | | | | | |
| Agree | 88.5 | 69.2 | 93.3 | 77.9 | 84.6 | 86.8 | 89.1 | 87.0 | 92.7 | 87.8 | 83.7 | 85.0 | 88.5 | 83.9 |
| Not sure | 3.8 | 5.1 | - | 10.2 | - | 3.8 | 1.8 | 7.4 | - | 4.9 | 6.1 | 2.0 | 2.2 | 5.4 |
| Disagree | 7.7 | 25.7 | 6.7 | 11.9 | 15.4 | 9.4 | 5.6 | 7.3 | 7.3 | 10.2 | 13.0 | 9.3 | 10.7 | 10.6 |

Appendix F (continued)

| Opinion | Village | | | | | | | | | | | | Total | |
|---|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| 6. Women's opinions are acceptable | | | | | | | | | | | | | | |
| Agree | 88.5 | 71.8 | 96.7 | 79.7 | 84.6 | 90.6 | 83.6 | 84.3 | 75.6 | 73.2 | 73.5 | 82.0 | 82.4 | 80.7 |
| Not sure | 7.7 | 15.4 | - | 6.8 | 7.7 | 7.5 | 12.7 | 6.5 | 19.5 | 12.2 | 14.3 | 9.0 | 11.5 | 9.1 |
| Disagree | 3.8 | 12.8 | 3.3 | 13.6 | 7.7 | 1.9 | 3.6 | 9.2 | 4.9 | 14.6 | 12.2 | 9.0 | 6.2 | 10.2 |
| 7. Housework is not heavy work. | | | | | | | | | | | | | | |
| Agree | 69.2 | 59.0 | 76.7 | 49.1 | 73.1 | 49.1 | 69.1 | 56.5 | 65.9 | 54.9 | 69.4 | 63.0 | 70.0 | 56.0 |
| Not sure | 7.7 | 5.1 | 3.3 | 11.9 | 11.5 | 11.3 | 5.5 | 4.6 | 7.3 | 4.9 | 6.1 | 4.0 | 6.6 | 6.3 |
| Disagree | 23.1 | 35.9 | 20.0 | 39.0 | 15.4 | 39.6 | 25.5 | 38.9 | 26.8 | 40.2 | 24.5 | 33.0 | 23.3 | 37.6 |

Appendix F (continued)

| Opinion | Village | | | | | | | | | | | | Total | |
|--|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| 8. Fetching water
is not heavy
work. | | | | | | | | | | | | | | |
| Agree | 46.2 | 43.6 | 40.0 | 40.7 | 50.0 | 32.1 | 49.1 | 48.1 | 61.0 | 61.0 | 69.4 | 62.0 | 54.2 | 50.3 |
| Not sure | - | 7.7 | - | 8.5 | 3.8 | 5.7 | 5.5 | 2.8 | 7.3 | 1.2 | 6.1 | 3.0 | 4.4 | 4.1 |
| Disagree | 53.8 | 48.7 | 60.0 | 50.8 | 46.2 | 62.2 | 45.5 | 49.1 | 31.7 | 37.8 | 24.5 | 35.0 | 41.4 | 45.6 |
| 9. Men and women
are equally
good in making
decisions | | | | | | | | | | | | | | |
| Agree | 73.2 | 69.2 | 80.0 | 88.1 | 73.1 | 79.3 | 78.2 | 76.8 | 85.4 | 82.9 | 83.7 | 87.0 | 79.7 | 81.4 |
| Not sure | 15.4 | 12.8 | 6.7 | 6.8 | 15.4 | 13.2 | 12.7 | 13.0 | 12.2 | 7.3 | 6.1 | 6.0 | 11.0 | 9.5 |
| Disagree | 7.7 | 18.0 | 13.3 | 5.1 | 11.5 | 7.5 | 9.1 | 10.2 | 2.4 | 9.8 | 10.2 | 7.0 | 8.8 | 9.1 |

Appendix F (continued)

| Opinion | Village | | | | | | | | | | | | Total | |
|--|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| 10. Women are better
pocket holders
for the family
than men | | | | | | | | | | | | | | |
| Agree | 96.2 | 82.1 | 86.7 | 89.8 | 84.6 | 90.6 | 92.7 | 93.5 | 95.1 | 95.1 | 93.9 | 99.0 | 92.1 | 93.2 |
| Not sure | - | 10.3 | 6.7 | 3.4 | - | 1.9 | 1.8 | 2.8 | - | - | 2.0 | - | 1.8 | 2.2 |
| Disagree | 3.8 | 7.7 | 6.7 | 6.8 | 15.4 | 7.5 | 5.5 | 3.7 | 4.9 | 4.9 | 4.1 | 1.0 | 6.2 | 4.5 |
| 11. Women do not need
to participate in
community
development | | | | | | | | | | | | | | |
| Agree | 23.1 | 30.8 | 33.3 | 39.0 | 34.6 | 34.0 | 32.7 | 31.5 | 39.0 | 41.5 | 46.9 | 42.0 | 36.1 | 37.0 |
| Not sure | - | 2.6 | 10.0 | 5.1 | 3.8 | 9.4 | 3.6 | 8.3 | 14.6 | 13.4 | 8.2 | 8.0 | 7.0 | 8.4 |
| Disagree | 76.9 | 66.6 | 58.7 | 55.9 | 61.5 | 56.6 | 63.6 | 60.2 | 46.3 | 45.1 | 44.9 | 50.0 | 56.8 | 54.6 |

| Opinion | Village | | | | | | | | | | | | Total | |
|---|---------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| 12. Women are more suitable for housework than community development work | | | | | | | | | | | | | | |
| Agree | 80.8 | 74.4 | 76.7 | 72.9 | 76.9 | 79.2 | 69.1 | 72.2 | 75.6 | 70.7 | 67.3 | 71.0 | 73.1 | 72.8 |
| Not sure | 7.7 | 7.7 | 6.7 | 3.4 | 7.7 | 5.7 | 12.7 | 13.0 | 12.2 | 13.4 | 10.2 | 8.0 | 10.1 | 9.3 |
| Disagree | 11.5 | 17.9 | 16.7 | 23.7 | 15.4 | 15.1 | 18.2 | 14.8 | 12.2 | 15.9 | 22.4 | 21.0 | 16.7 | 17.4 |
| 13. Fetching water should be the men's job | | | | | | | | | | | | | | |
| Agree | 30.8 | 30.8 | 33.3 | 35.6 | 30.8 | 39.6 | 21.8 | 34.3 | 39.0 | 46.3 | 51.0 | 54.0 | 34.8 | 41.5 |
| Not sure | 19.2 | 10.2 | 3.3 | 10.2 | 11.5 | 7.6 | 10.9 | 11.1 | 21.9 | 7.4 | 10.2 | 13.0 | 12.8 | 10.2 |
| Disagree | 50.0 | 59.0 | 63.3 | 54.2 | 57.7 | 52.8 | 67.3 | 54.6 | 39.0 | 46.3 | 38.8 | 33.0 | 52.4 | 48.3 |

Appendix F (continued)

| Opinion | Village | | | | | | | | | | | | Total | |
|---|---------|-------|------|-------|-------|-------|------|-------|------|-------|------|-------|-------|-------|
| | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | men | women |
| | men | women | men | women | men | women | men | women | men | women | men | women | | |
| 14. Men support women's participation in community development work. | | | | | | | | | | | | | | |
| Agree | 73.1 | 43.6 | 76.7 | 66.1 | 80.8 | 69.8 | 83.6 | 77.8 | 82.9 | 76.8 | 79.6 | 82.0 | 80.2 | 73.0 |
| Not sure | - | 12.8 | - | 8.5 | 3.8 | 11.3 | 3.6 | 5.5 | 4.9 | 7.3 | 6.1 | 6.0 | 3.5 | 7.7 |
| Disagree | 26.9 | 43.6 | 23.3 | 25.4 | 15.4 | 18.9 | 12.7 | 16.7 | 12.2 | 15.9 | 14.3 | 12.0 | 16.3 | 19.3 |
| 15. We would like to see women's participation in water and sanitation activities | | | | | | | | | | | | | | |
| Agree | 96.2 | 82.0 | 96.7 | 91.5 | 100.0 | 92.4 | 98.2 | 93.5 | 97.6 | 95.1 | 95.9 | 92.0 | 97.4 | 92.1 |
| Not sure | - | 10.3 | - | 5.1 | - | 1.9 | 1.8 | 1.9 | - | - | - | 3.0 | 0.4 | 2.9 |
| Disagree | 3.8 | 7.7 | 3.3 | 3.4 | - | 5.7 | - | 4.6 | - | 4.9 | 4.1 | 5.0 | 1.8 | 5.0 |



Appendix G

Survey Questionnaires

FORM A : Main questionnaire for baseline data

Interview females (wife/head of HH/significant women)

Name of respondent :

Wife

Head of household

Other (specify).....

Address.....

Date in interview..... Time start.....

Time end.....

Name of interviewer.....

Name of editor..... Date.....

Name of coder..... Date.....

Name of verifier..... Date.....

1. Number of people living in this house.....

Male..... Female.....

| Household member | 1 | 2 | 3 | 4 | 5 | 6 |
|--|---|---|---|---|---|---|
| Name | | | | | | |
| Relation to head of household | | | | | | |
| Sex | | | | | | |
| Age | | | | | | |
| Marital Status | | | | | | |
| Education Level | | | | | | |
| <u>Main occupation and income/year</u> | | | | | | |
| Rice farming (produce × price) | | | | | | |
| Other type of farming (specify)..... | | | | | | |
| Employee (specify)..... | | | | | | |

| <i>Household member</i> | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| <i>Trader</i> | | | | | | |
| <i>Government worker</i> | | | | | | |
| <i>Other (specify).....</i> | | | | | | |
| <u><i>Second occupation and income/year</i></u> | | | | | | |
| <i>Rice farming (produce × price)</i> | | | | | | |
| <i>Other type of farming (specify).....</i> | | | | | | |
| <i>Employee (specify).....</i> | | | | | | |
| <i>Trader</i> | | | | | | |
| <i>Other (specify).....</i> | | | | | | |

| Household member | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------------------|---|---|---|---|---|---|
| <u>Other source of income</u> | | | | | | |
| Pension | | | | | | |
| Support from children/relative | | | | | | |
| Other (specify)..... | | | | | | |
| Total income/year | | | | | | |

Total income of family.....baht/year

2. How much farming land do you have ?

Own land.....rais (1 acre = 2.5 rais)

Rent.....rais

Own land but rent out.....rais

None

3. Currently, how much debt does your family have ?

Amount.....baht

None

4. Currently, how much money do others owe your family ?

Amount.....baht

None

5. How much savings does your family have in the past 12 months ?

Amount.....baht

None

6. Does your family have a television ?

Yes

No

7. Who own this house (the one your family are now living in) ?

You or husband

Your parents

Rent at.....baht/month

Living with other without charge

Other (specify).....

8. Who is the pocket holder in your family ?

You yourself

Husband

Separated pocket of individual

Other (specify).....

9. Who is the decision maker for the following matters ?

| Matters | Decision maker | | | | |
|---|----------------|---------|----------------|---------------|----------------|
| | your self | husband | husband & wife | other specify | not applicable |
| (1) Son's/daughter's further education | | | | | |
| (2) Son's priestcraft | | | | | |
| (3) Son's/daughter's marriage | | | | | |
| (4) Purchase of farming equipment | | | | | |
| (5) Sale of produces | | | | | |
| (6) Loan for career investment | | | | | |
| (7) Participation in community
development of family member | | | | | |
| (8) Purchase/construction of water
and sanitation facilities | | | | | |

10. Water sources and utilization

| Category | Quantity/
day/family | Does your family have a
water shortage problem ? | What type of water
source improvement
would most benefit
your family ? | What activities do you/
your family engage at or
near the water sources ? |
|-----------------------|-------------------------|---|---|--|
| <u>Drinking Water</u> | | <input type="checkbox"/> Serious problem
<input type="checkbox"/> Moderate problem
<input type="checkbox"/> Little problem
<input type="checkbox"/> No problem | <input type="checkbox"/> Dug well
<input type="checkbox"/> Water storage
container
(specify)....
<input type="checkbox"/> Hand-pumped
well
<input type="checkbox"/> Pond
<input type="checkbox"/> Other
(specify)....
.....
..... | <input type="checkbox"/> Washing
<input type="checkbox"/> Bathing
<input type="checkbox"/> Vegetable
gardening
<input type="checkbox"/> Animal feeding
<input type="checkbox"/> Other (specify)
.....
.....
.....
<input type="checkbox"/> None |
| | | Suggested solution....
.....
.....
..... | | |

| Category | Quantity/
day/family | Does your family have a
water shortage problem ? | What type of water
source improvement
would most benefit
your family ? | What activities do you/
your family engage at or
near the water sources ? |
|----------|-------------------------|---|---|---|
|----------|-------------------------|---|---|---|

Domestic Use Water
, i.e.,

- | | | |
|------------------------------------|--|--|
| - Cooking, | <input type="checkbox"/> Serious problem | <input type="checkbox"/> Dug well |
| - Washing, | <input type="checkbox"/> Moderate problem | <input type="checkbox"/> Water storage
container
(specify).....
.....
..... |
| - Bathing, | <input type="checkbox"/> Little problem | |
| - Latrine use, | <input type="checkbox"/> No problem | |
| - Vegetables
gardening,
etc. | Suggested solution.....
.....
.....
..... | <input type="checkbox"/> Hand-pumped well

<input type="checkbox"/> Pond

<input type="checkbox"/> Other
(specify).....
.....
..... |

Water quality and quantity (quality will be lab tested)

11. What kinds of drinking water containers does your family have ?

Small jars.....total Capacity.....cans # W/covers.....

Medium jars.....total Capacity.....cans # W/covers.....

Giant jars.....total Capacity.....cans # W/covers.....

Cement tank.....total Capacity.....cans # W/covers.....

Other (specify).....total Capacity.....cans # W/covers.....

Total capacity of drinking water containers.....cans =liters

12. What kind of domestic water containers does your family have ?

Small jars.....total Capacity.....cans # W/covers.....

Medium jars.....total Capacity.....cans # W/covers.....

Giant jars.....total Capacity.....cans # W/covers.....

Cement tank.....total Capacity.....cans # W/covers.....

Other (specify).....total Capacity.....cans # W/covers.....

13. How do you treat water before drinking it ?

| | If it is
rain water ? | If it is
dug well water ? | If it is
other water ? |
|--------------------------|--------------------------|------------------------------|---------------------------|
| | ----- | ----- | ----- |
| Boiling | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Filtration with filter | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Sedimentation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Filtration with cloth | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Nothing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other (specify)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Reason for doing so..... | | | |

14. What would be the benefit of having adequate clean water ?

(can answer more than one choice but no suggesting of alternatives)

Can clean the house more often

Can do laundry more often

Can use latrine more conveniently

Can raise animals

Can grow vegetables

Other (specify).....
.....

No benefit, no change

Don't know

15. What would be the health benefit of clean water (can answer more than one choice but no suggesting of alternatives)

No. G.I. tract disease, i.e., diarrhea

Better personal hygiene

Other (specify).....
.....

No benefit, no change

Don't know

16. What would be the effect of using unclean water ? (specify).....
.....

Latrine and waste

17. Normally, Where do you defecate ?

Latrine (go to 18)

In the field

Other (specify).....

If it is late at night what do you do ?.....

.....(go to 19)

18. (If No. 17 use latrine) Why do you use a latrine ?

(If more than one choice is given, rank)

Health benefits, disease prevention

Cleaner than going to the field

Privacy

Convenience

Other (specify).....

19. (If No. 17 not use latrine) Why don't you use latrine ?

- Have no latrine
- Not used to using latrine
- Difficult to find water
- Other (specify).....

20. Does your house have a latrine ?

- Yes, private latrine (including one being built)
- Yes, share with others
- No ----- Do you want latrine
 - Yes specify type.....
 - No specify reason.....

(go to 22)

21. *If you have latrine (for latrine owners only)*

21.1 *What type ?*

Water seal latrine

Pit latrine

Other (specify).....

21.2 *Who generally cleans the latrine in your house ?*

Children

Women

Men

22. *When a baby in your house defecates, what do you do with the feces ?*

Leave it as is on the ground

Sweep it out of the house

Throw it into a latrine

Bury it

Other (specify).....

Not applicable (have no baby in the house)

23. What is the benefit of using a latrine ?

(can answer more than one choice, but no suggesting of alternatives)

- Clean, prevent disease diffusion
- Convenient, specify how.....
- Safe, specify how.....
- Other, specify.....
- No benefit
- Don't know

24. Do you think having a latrine in the house is a burden to you ?

- Yes, specify how.....
-
- No

25. What do you do with household garbage ? (also observe around the place)

- Burn
- Bury
- Ferment and use as fertilizer
- Leave it as is
- Other (specify).....

26. What do you do with household waste water ? (also observe around the place)

- Drain through the system
- Leave it as is
- Other (specify).....

27. What do you do with animal waste ? (also observe around the place)

- Leave it as is
- Bury
- Use for fertilizer
- Use for biogas
- Other (specify).....

28. Do you have insect and rodent problem ?

Yes (specify).....

No

Women's activities in the village

29. How often do you do the following activities ?

| Activities | every day | almost every day | <u>weekly</u> | monthly | seldom | never |
|---------------------------------|-----------|------------------|---------------|---------|--------|-------|
| 1. Read a newspaper or magazine | | | | | | |
| 2. Listen to a radio | | | | | | |
| 3. Watch television | | | | | | |
| 4. Go to town | | | | | | |

30. Have you ever participated in any kind of community development work ?

Yes (go to 31)

No (go to 32)

Specify details of activities
and your participation below

| <input type="checkbox"/> Improve/construct
water facilities | <input type="checkbox"/> Clean up
village | <input type="checkbox"/> Construct
village road | <input type="checkbox"/> Develop
temple | <input type="checkbox"/> Other, specify
.....
..... |
|--|--|--|--|---|
| <input type="checkbox"/> No participation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Give opinion or
suggestion | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Help make
decisions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Help with the
expense | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Give materials | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Give labor | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Other (specify)....
..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> No such activity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

31. Why did you participate in community development work as stated in No. 30 ?

(can choose more than one answer)

- Aware of the importance of C.D. work
- Was persuaded to do so
- In order to be famous
- It is a way to cooperate in the village
- Recieve support from family to do so
- Want to make use of the free time
- Other (specify).....

32. Why don't you participate in community development work stated in No. 30 ?

- Husband/family does not support
- Lack of time
- Lack of knowledge
- Ill health
- Don't know about it
- Other family member already went
- Other (specify).....

33. Do you or a female member of your family belong to any group in the village ?

Yes, specify group and position.....

.....

No

34. What kind of community development work do you think women can participate ?

.....

.....

.....

35. How do you think women can participate in water or sanitation work ?

.....

.....

.....

36. Did you or your family members participate in training on water/sanitation before ?

Yes

No

- a) Participant.....
- Topic of training.....
- Reason for participation Interested
- Was asked
- Other specify.....
- Organiser of training.....
- Training date.....

37. When your family have water and sanitation problem, who do you go to ?

- First person.....Address.....
- Second person.....Address.....

38. Opinion (same as opinion questions in supplement questionnaire for men)

38.1 Women and men can equally participate in the community development activities

Agree

Not agree

Not sure

38.2 If a woman participates in the community development activities, it will affect her housework

Agree

Not agree

Not sure

38.3 Decisions on choosing water sources and facilities should be men's only

Agree

Not agree

Not sure

38.4 Women are capable of being community leaders

Agree

Not agree

Not sure

38.5 If a family is to decide on spending a large amount of money, the women should also have a say

Agree

Not agree

Not sure

38.6 *Women's opinion is acceptable*

Agree

Not agree

Not sure

38.7 *Housework is heavy work*

Agree

Not agree

Not sure

38.8 *Fetching water is not heavy work*

Agree

Not agree

Not sure

38.9 *Men and women are equally good in making decisions*

Agree

Not agree

Not sure

38.10 *Women are better pocket holders for families than men*

Agree

Not agree

Not sure

38.11 *Women do not need to participate in community development work*

Agree

Not agree

Not sure

38.12 *Women are more suitable for housework than community development work*

Agree *Not agree* *Not sure*

38.13 *Fetching water should be the man's job*

Agree *Not agree* *Not sure*

38.14 *Men support women's participation in community development work*

Agree *Not agree* *Not sure*

38.15 *We would like to see women's participation in water and sanitation activities*

Agree *Not agree* *Not sure*

39. For interviewer please observe and note the following

39.1 Type of house

- Hut
- One storey house on stilts
- One storey house on the ground
- Two storey wooden house
- Half concrete/half wooden house
- Concrete building
- Other (specify).....

39.2 What is the roof made of ?

- Thatch
- Corrugated Zinc Sheet
- Tile
- No roof
- Other (specify).....

39.3 Is there guttering connected to the roof to catch rain water ?

Yes, explain how it drains into a water container.....

.....

No, explain how do they get rain water into a water container.....

.....

39.4 Cleanliness of house and surroundings

| | | | |
|--------------|--------------------------------|--|---|
| Floor | <input type="checkbox"/> Clean | <input type="checkbox"/> Rather dirty | <input type="checkbox"/> Very dirty |
| Garbage | <input type="checkbox"/> None | <input type="checkbox"/> Some here and there | <input type="checkbox"/> All over the place |
| Waste water | <input type="checkbox"/> None | <input type="checkbox"/> Some | <input type="checkbox"/> All over the place |
| Animal waste | <input type="checkbox"/> None | <input type="checkbox"/> Some | <input type="checkbox"/> All over the place |

FORM B : Supplement questionnaire for man. Interview men
(husband/head of HH/significant man)

Name of respondent :

Husband

Head of household

Other (specify).....

Address :

Date of interview..... Time start.....

Time end.....

Name of interviewer.....

Name of editor..... Date.....

Name of coder..... Date.....

Name of verifier..... Date.....

1. Is there C.D. work in your village ?

No

Yes

Specify details of activities and your participation below.

| <input type="checkbox"/> Improve/Construct | <input type="checkbox"/> Clean up village | <input type="checkbox"/> Construct village road | <input type="checkbox"/> Develop temple | <input type="checkbox"/> Other specify
.....
..... |
|---|---|---|---|--|
| <input type="checkbox"/> No participation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Give opinion or suggestion | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Help make decision | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Help with the expense | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Give materials | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Give labor | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> Other (specify).....
.....
..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> No such activity | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. In general, do women participate in community development work ?

Improve/construct water facilities

- Yes
 - More than men
 - Less than men
 - About the same
- No
- Don't know

/ / Village clean-up

- Yes
 - More than men
 - Less than men
 - About the same
- No
- Don't know

Road construction

- Yes
 - More than men
 - Less than men
 - About the same
- No
- Don't know

Develop temple

- Yes
 - More than men
 - Less than men
 - About the same
- No
- Don't know

Other, specify.....

Yes

More than men

Less than men

About the same

No

Don't know

3. Do you think women should participate in C.D. work ?

Yes, Reason.....

Type of project in which women should participate ?

1.

2.

3.

No, Reason.....

4. Has any female member of your family ever participated in C.D. work ?

Yes.....people. Specify who.....

No

Not apply (No C.D. work in village)

5. Do you think women's participation at the current time is

Adequate

Too little

Too much

Other specify.....

6. Who do you think should fetch the water for your family ?

Children Reason.....

Women Reason.....

Men Reason.....

7. Do you agree or not agree with for following statements.

(Use the same statements as No. 38.1 - 38.15 in FORM A.)

8. Attitude of men towards women's participation in decision-making and development.

Please make a circle around the number of your choice for your feelings about the following :

8.1 For me, women's participation in community development work means :

| | | | | | | |
|--------------------|---|---|---|---|---|----------------------|
| <i>Success</i> | 5 | 4 | 3 | 2 | 1 | <i>Failure</i> |
| <i>Active</i> | 5 | 4 | 3 | 2 | 1 | <i>Passive</i> |
| <i>Smooth</i> | 5 | 4 | 3 | 2 | 1 | <i>Rough</i> |
| <i>Reasonable</i> | 5 | 4 | 3 | 2 | 1 | <i>Unreasonable</i> |
| <i>Fast</i> | 5 | 4 | 3 | 2 | 1 | <i>Slow</i> |
| <i>Appropriate</i> | 5 | 4 | 3 | 2 | 1 | <i>Inappropriate</i> |
| <i>Good</i> | 5 | 4 | 3 | 2 | 1 | <i>Bad</i> |
| <i>Accurate</i> | 5 | 4 | 3 | 2 | 1 | <i>Inaccurate</i> |

8.2 For me, women's participation in decision making means :

| | | | | | | |
|--------------------|---|---|---|---|---|----------------------|
| <i>Accurate</i> | 5 | 4 | 3 | 2 | 1 | <i>Inaccurate</i> |
| <i>Success</i> | 5 | 4 | 3 | 2 | 1 | <i>Failure</i> |
| <i>Reasonable</i> | 5 | 4 | 3 | 2 | 1 | <i>Unreasonable</i> |
| <i>Appropriate</i> | 5 | 4 | 3 | 2 | 1 | <i>Inappropriate</i> |
| <i>Fast</i> | 5 | 4 | 3 | 2 | 1 | <i>Slow</i> |
| <i>Smooth</i> | 5 | 4 | 3 | 2 | 1 | <i>Rough</i> |
| <i>Good</i> | 5 | 4 | 3 | 2 | 1 | <i>Bad</i> |
| <i>Active</i> | 5 | 4 | 3 | 2 | 1 | <i>Passive</i> |

FORM C : Supplement questionnaire for women (women daily time allocation)

Interview all women 15 years and older

Name of respondent :

Relation to head of household.....

Address.....

Date in interview..... Time start.....

Time end.....

Name of interviewer.....

Name of editor..... Date.....

Name of coder..... Date.....

Name of verifier..... Date.....

(During farming reason)

| | | |
|-----------|-----------|-----------|
| No..... | No | No |
| Name..... | Name..... | Name..... |

Relation to head of HH

Age

Marital status

Occupation

| <i>Time</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> |
|-------------|--------------------------|----------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|
|-------------|--------------------------|----------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|

Activities

Wake up

*Activities before
breakfast*

- 1.
 - 2.
 - 3.
-

Breakfast

*Activities after
breakfast*

- 1.
 - 2.
 - 3.
-

| <i>Time</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> |
|-------------|--------------------------|----------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|
|-------------|--------------------------|----------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|

Activities

Lunch

Activities after lunch

- 1.
 - 2.
 - 3.
-

Dinner

Activities after dinner

- 1.
 - 2.
 - 3.
-

*End of activities for
the day*

Bed time

(Off farming season)

No..... No..... No.....

Name..... Name..... Name.....

Relation to head of HH

Age

Marital status

Occupation

| <i>Time</i> | <i>Starting</i>
<i>time</i> | <i>Total time</i>
<i>(mins/hrs)</i> | <i>Starting</i>
<i>time</i> | <i>Total time</i>
<i>(mins/hrs)</i> | <i>Starting</i>
<i>time</i> | <i>Total time</i>
<i>(mins/hrs)</i> |
|-------------|--------------------------------|--|--------------------------------|--|--------------------------------|--|
|-------------|--------------------------------|--|--------------------------------|--|--------------------------------|--|

*Activities**Wake up*

Activities before
breakfast

- 1.
 - 2.
 - 3.
-

Breakfast

Activities after
breakfast

- 1.
 - 2.
 - 3.
-

| <i>Time</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> | <i>Starting
time</i> | <i>Total time
(mins/hrs)</i> |
|-------------|--------------------------|----------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|
|-------------|--------------------------|----------------------------------|--------------------------|----------------------------------|--------------------------|----------------------------------|

Activities

Lunch

Activities after lunch

- 1.
 - 2.
 - 3.
-

Dinner

Activities after dinner

- 1.
 - 2.
 - 3.
-

*End of activities for
the day*

Bed time

FORM D : Supplement questionnaire for key informants

For village headman/leaders

1. Name of respondent.....
 Position in village.....
 Age..... Sex..... level of education.....

2. How long have you been in this village.....years
 How long have you held this position.....years

3. Number of families in village.....
 Number of people in village..... Male..... Female.....

4. Number of newborns last year..... Male..... Female.....
 Number of deaths last year..... Male..... Female.....

5. Number of in-migrations last year.....Male.....Female.....
Number of out-migrations last year.....Male.....Female.....
Reasons for moving out.....

6. Total land area of village.....rais
Agricultural land area.....rais
Forest/unused land area.....rais

7. Does your village have access to electricity ?

Yes for.....years No

Number of households with electricity.....

8. Is there a market in the village ?

Yes No, The closest market is.....km. away

Name of buying/selling place for the villagers.....

distance.....km. away

9. Number of roads to village.....condition.....
 Is the road usable year round ? Yes No
 Most convenient way to communicate with outside.....

10. Number of temples in village.....

11. Health center that most people in village use.....
 Distance from village.....
 # Drug stores in village.....specify location.....km.

12. Is there a preschool center in village ?
 Yes.....places No specify place children go.....

Any elementary schools ?
 Yes.....schools No specify place children go.....
 Number of teachers..... Where do most children go to school.....
 Number of students..... Distance from village.....km.

Any secondary schools ?

Yes

No, specify place children go.....

Number of teachers.....

Where do most children go to school.....

Number of students.....

Distance from village.....km.

13. Is there a village library or village reading center ?

Yes.....places

No

Condition.....

Average users/day.....

14. Any on-going community development project in village ?

Yes

No

Project.....

Implementing agency.....

15. Is there any GO/NGO program that support women's participation in C.D. work ?

Yes, specify.....
.....
.....

No

16. Has this village ever done C.D. work as a group without initiation or support from government ?

Yes, specify type of work.....
Initiator.....
Time done.....
How did you yourself participate ?.....
Is such group still in existence ?.....
If so, do you think that more people will join ?.....

No

17. *What are the main problems in your village ?*

1.
2.
3.

18. *Community organization/groups*

| | <i>Total
membership</i> | <i>Female
membership</i> | <i>Position
help by
female</i> | <i>Role of female member in a
meeting/working, i.e.,</i>
1. <i>Giving opinions</i>
2. <i>Decision-making</i>
3. <i>Nothing</i>
4. <i>Other specify</i> |
|--|-----------------------------|------------------------------|--|--|
|--|-----------------------------|------------------------------|--|--|

1. *Village committee*2. *Village group*2.1 *Farmers' group*2.2 *Housewives' group*2.3 *Weaving group*

2.4

2.5

2.6

18. (Continued)

| Total membership | Female membership | Position help by female | Role of female member in a meeting/working, i.e.,
1. Giving opinions
2. Decision-making
3. Nothing
4. Others specify |
|------------------|-------------------|-------------------------|--|
|------------------|-------------------|-------------------------|--|

3. Village fund

3.1 Nutrition

3.2 Drug

3.3 Water and sanitation

3.4

3.5

3.6

19. Drinking water and domestic water supply (village self-constructed sources)

| Name and location | Characteristic of source
-With cover
-With pavement
-With casing
-Other, specify | Water available months/year | Percent of people using that source | Quality
-Clearness
-Taste
-Cleanliness | Purpose of water use
1. Drinking
2. Cooking
3. Laundry
4. Bathing
5. Vegetable gardening
6. Animal feeding
7. Others specify | Condition of equipment
(if any)
1. Good
2. Out of order
occasionally
3. Out of order all the time
4. Unusable (last time it is out of order | Convenience in using source
1. Very convenient
2. Not very convenient
3. Not convenient at all | Care-taker
1. No
2. Yes, specify | Distance from village |
|-------------------|--|-----------------------------|-------------------------------------|---|---|---|---|--|-----------------------|
|-------------------|--|-----------------------------|-------------------------------------|---|---|---|---|--|-----------------------|

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

19. (Continued)

(Natural source of water)

| Name and location of source | Water available month/year | Condition of source
1. Good and in use now
2. Bad not in use since | Quality
1. Clearness
2. Taste
3. Cleanliness | Percent of people using source | Purpose of use of water
1. Drinking
2. Cooking
3. Laundry
4. Bathing
5. Vegetable gardening
6. Animal feeding
7. Other | Water treatment before use
1. None
2. Sedimentation
3. Boiling
4. Other | Distance from village |
|-----------------------------|----------------------------|--|---|--------------------------------|---|---|-----------------------|
|-----------------------------|----------------------------|--|---|--------------------------------|---|---|-----------------------|

19. (Continued)

(Sources constructed by GO/NGO)

| Name and location of water source | Name of GO/NGO | Characteristic | Percent of people that use source | Quality
-Clearness
-Taste
-Cleanliness | Purpose of use of water
1. Drinking
2. Cooking
3. Laundry
4. Bathing
5. Vegetable gardening
6. Animal feeding
7. Other, specify | Condition of equipment (if any)
1. Good
2. Out of order
occasionally
3. Out of order all the time
4. Unusable (last time out or order) | Convenience in using source
1. Very convenient
2. Not very convenient
3. Not convenient at all | Care-taker
1. No
2. Yes, specify | Distance from village |
|-----------------------------------|----------------|----------------|-----------------------------------|---|--|---|---|--|-----------------------|
|-----------------------------------|----------------|----------------|-----------------------------------|---|--|---|---|--|-----------------------|

By GO

- 1.
- 2.
- 3.
- 4.
- 5.

19. (Continued)

(Sources constructed by GO/NGO)

| Name and location of water source | Name of GO/NGO | Characteristic of source | Percent of people that source | Quality | Purpose of use of water | Condition of equipment (if any) | Convenience in using source | Care-taker | Distance from village |
|-----------------------------------|----------------|--------------------------|-------------------------------|--------------|-------------------------|--------------------------------------|-----------------------------|-----------------|-----------------------|
| | | -With cover | | -Clearness | 1. Drinking | 1. Good | 1. Very convenient | 1. No | |
| | | -With pavement | | -Taste | 2. Cooking | 2. Out of order | 2. Not very convenient | 2. Yes, specify | |
| | | -With casing | | -Cleanliness | 3. Laundry | 3. Occasionally | 3. Not convenient | | |
| | | -Others specify | | | 4. Bathing | 4. Out of order all the time | 4. Unusable | | |
| | | | | | 5. Vegetable gardening | 5. Unusable (last time out of order) | | | |
| | | | | | 6. Animal feeding | | | | |
| | | | | | 7. Other, specify | | | | |

By NGO

- 1.
- 2.
- 3.
- 4.
- 5.

- 20. Number of houses with big cement jar.....
- Number of houses with cement tank.....
- Number of houses with latrine.....

For public health worker/VHV/VHC

21. Is there a health center in the village ?

Yes

No

Number of personnel.....

22. How many VHV.....Females.....Males.....

VHC.....Females.....Males.....

23. Most common diseases in the village during the past year

1.season.....treatment.....
2.season.....treatment.....
3.season.....treatment.....

24. Any epidemic last year ?

Yes

No

1.season.....etiology.....
2.season.....etiology.....
3.season.....etiology.....

25. Did the people have the following diseases last year ?

25.1 GI treat diseases i.e., diarrhea, typhoid, etc.

Yes.....people

No

Season.....

Treatment.....

25.2 Skin diseases i.e., taenia, ringworm, lice, etc.

Yes.....people No

Season.....

Treatment.....

25.3 Parasitic diseases

Yes.....people No

Season.....

Treatment.....



WATER SUPPLY