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8 - TAMBOL SOCIOLOGICAL BENCH MARK SURVEY

LAM NAM OON FARM HOUSEHOLDS

SEPTEMBER 1980

ISSUED

BY

CENTER FOR RURAL DEVELOPMENT

LOUIS BERGER INTERNATIONAL, INC. U.S.A. UNDER CONTRACT

WITH MINISTRY OF AGRICULTURE AND COOPERATIVES

OF THE KINGDOM OF THAILAND

WORK PERFORMED BY

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## FOREWORD

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## CHAPTER I

### BACKGROUND, SETTING, AND METHODOLOGY

#### Background:

The Lam Nam Oon Integrated Rural Development Project is located in Amphoes\* Phang Khone, Pannanikom, and Muang, Changwat Sakon Nakhon, Thailand. It comprises a dam, reservoir, and main-secondary canal system that will provide irrigation water to approximately 220,000 rai\*\* of small farm holdings. About 10,000 farmers reside in the area.

Begun thirteen years ago, the infrastructure parts of the project are now almost completed. In order to develop efficient on-farm water delivery systems and water/farm management practices in the area, the Royal Thai Government has programmed US\$43,800,000 for special work during a five-year interval.

Of this amount, US\$4,500,000 comprises funds borrowed from the United States of America in order to finance technical assistance, equipment, and local development costs.

Starting October 12, 1979 the American consulting firm, Louis Berger International, Inc. was employed under contract to provide technical advisory services for the project. These advisory services are for the cooperating agencies comprising: The Ministry of Agriculture and Cooperatives; Royal Irrigation Department (R.I.D.) Community Development Department (C.D.) Department of Agriculture (D.A.) and Department of Agriculture Extension (D.O.A.E.).

#### Setting:

Starting in December, 1979 the contractor was tasked to provide technical advisory services for Agricultural Extension work at Lam Nam Oon. The contract limited the span of time for this purpose only to six months. It provided one expatriate advisor: Dr. George Hill, and two Thai advisors Kosin Saisaengchan, and Chainarong Butrobol.

During the six-month interval these advisors were greatly assisted in their work by four factors:

- 1) The Team Leader style of integrating departmental work at Lam Nam Oon and the consequent excellent support provided by the Department of Agricultural Extension at Bangkok through Khun Tweesackdi Sesaweek and Khun Vorasak Pakdee and the Kaset Changwat (Provincial Agricultural Extension Officer) Khun Nipan Prachantasen.

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\* Administrative Sub-Districts of a Changwat (Province)

\*\* Rai = 0.16 Hectare (0.40 Acre)

- 2) A decision to quickly extend and staff the National Training and visit (T and V) Agricultural Extension Program in Changwat Sakon Nakhon, and at the Lam Nam Oon area in particular. This was accomplished on March 1, 1980 - with all thirteen Tambols\* in the project area staffed with assigned Kaset Tambols (Tambol Agricultural Extension Officers).
- 3) The staff and assistance provided by other participating departments, particularly the Royal Irrigation Department, the Community Development Department, and the Department of Agriculture.
- 4) A decision was taken, in December, 1979 by the then Project Field Director Khun Roongrueng Chulajata - to concentrate advisory and development attention - during 1979/80 on eight Tambols only. The attached map outlines these, Annex A. These are Tambols, portions of which contain 72,000 rai, wherein the dry seasons of 1978/79 and 1979/80 the main and secondary canal systems were functional. As a consequence of that functioning, some percentages of farmers in those Tambols could be expected to make use of water for irrigating crops. The Tambols comprise:

Hai Yong	Population	8,576
Muang Kai	"	4,321
Rae	"	5,426
Chang Ming	"	7,838
Rai	"	3,670
Phanna	"	6,755
Wang Yang	"	5,977
Pok Noi	"	<u>6,788</u>
		50,351

Given the relative shortage of time contained in the contract for Agricultural Extension advisory services, it was decided that two tasks should be the objects of concentration. These included:

- A. The development and application of a sociological base line survey to a representative cross section of farmers in the 8-tambol area. Results of this survey are the subject of this Technical Note.
- B. The development and test of a special training program aimed at sharpening the skills and perceptions of Kaset Tambols who are to work within the Lam Nam Oon irrigation area. It was hoped that this test would demonstrate the special content and value of further future training.

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\* Tambols - Are Sub-units of Amphoes.

## Methodology:

As an experienced Rural Sociologist, Dr. George Hill designed and directed the bench mark survey:

- 1) To document, accurate, verifiable, facts about existing farm family composition, land and livestock resources, enterprise, health and education, and use of pesticides, fertilizers, seeds, and water among a representative sample of families within the 8-tambol area. The attached bi-lingual questionnaire was utilized, Annex B. Completion of the survey was to make it possible for successive studies to measure the progress or change over future time.
- 2) To provide the Kaset Tambols (who helped to apply the questionnaire) with a factual introduction to the families who manage the area's individual farm enterprises. The experience, plus the organized results of the survey, should help the Kaset Tambols in determining the nature and intensity of the kinds of advice which should be provided to local farmers.

From permanent household registers kept in the Amphoe Chief Officer's custody for all villages in his jurisdiction, a five per cent sample was drawn by noting every twentieth name on the residential lists and then interviewing the indicated families. The majority of the interviews were conducted with the household heads. Interviews were carried on in the fields in some instances, in the villagers' homes at other times, and sometimes in the compound of the village headmen.

The resulting sample families were distributed among 80 village systems and hamlets in the 8 tambols of concentration within Amphoes Phang Khone and Pannanikom. Surveving in Amphoe Muang was left for a later date. A total of 368 interviews were made and with four questionnaires discarded, the survey base is 364 households. Detailed records of each survey are available.

The corps of new Kaset Tambols could not start in the survey on the first date selected, and to avoid their having to work all through the month of April to the neglect of their other duties, the consultant's Extension Team helped with about one-third of the interviews, Community Development workers also helped in the job. Interviewing took place the latter fortnight in March and the first in April, 1980.

## CHAPTER II

### EXECUTIVE SUMMARY

Some of the most significant findings, and points for future survey comparisons, include:

- 1) A severe shortage of animal traction power. One-third of the farms have no buffaloes; and the other two-thirds averages 2.1 for all with the median running at about 1.7. (See Table 11)

Comment:

Additional survey work should examine this situation in more detail.

- 2) An excess of family farm labor supply the year around. Man-year equivalents available for Lam Nam Oon farms under 7 rai are 2.6 and 2.7 for farms in the median range of 20-29 rai. (See Table 8)

Comment:

Additional survey work must examine this situation in more detail. The issue is a complex one; and uncertainty continues about man-year usages under different cropping practices.

- 3) One-half of the farmers produce no rice to sell either in the wet or dry seasons. (See Table 15)

Comment:

Future bench mark surveys should further sharpen these figures through distinguishing between such matters as production on Land Consolidated areas and Ditch/Dyke areas; type of rice, etc..

- 4) At least 20% of the farmers are trying irrigated dry season farming; but on very modest amounts of rai. (See Table 16)

Comment:

Future surveys should measure this using additional criteria including: distances from secondary canals; the existence of Land Consolidation or Ditch/Dyke systems; and any observed expansion of the numbers of cultivated rai per farm during the dry season.

- 5) Families are located on small farms with 42.3 per cent on farms in the 20-24 rai range. More than 90 per cent possess Naw Saw 3 title and can be regarded as owner/operators.  
(See Table 9)

Comment:

Future comparisons must concentrate in particular, upon the distribution of farm plots by family, paddy, and upland as well as legal title situation in the Land Consolidation areas.

- 6) The borrowing proclivities of the larger farmers in the Lam Nam Oon already seem well established.  
(See Table 20)

Comment:

This finding may imply that the larger farmers will be able, and willing, to borrow in order to hire labor and invest inputs once irrigation facilities are reliably operative and market risks look acceptable. Future surveys should seek more detailed data about farm management costs and risks in the area.

- 7) There are confused signals about how many and what kinds of farmers organizations exist and how many members they possess.  
(See Table 21.)

Comment:

New measures and special surveys are needed to clarify such questions as why 60 per cent of the farm operators live in villages where associations are said to exist; but only 40 per cent are members. What kinds of associations are these; what do they do?

- 8) Lam Nam Oon farmers are native to Thailand. 70 per cent of them were born in the same villages in which they were living at the time of interview, they are of Laos ethnic origin.  
(See Table 1)

Comment:

Future comparisons should be alert to any significant population origin changes caused, for example, through migration into the area by wealthier farm investors or landless laborers- resulting from enhanced income opportunities as the irrigation system becomes effective.

- 9) Lam Nam Oon families are old and mature. 70% of the male and female heads of households exceed 40 years of age.  
(See Table 2)

Comment:

This phenomenon must continue to be documented. It is typical for Northeast Thailand. Younger people, both boys and girls, tend to migrate from the area in their teens and twenties. But is migration permanent or only for a few months or years? How does the Laotian concept of Phum Lam Nao affect this?\*

- 10) Lam Nam Oon's women have a high fertility rate. The average mother has 4.6 living children.  
(See Table 4)

Comment:

Future comparisons should use this Table as a checkpoint when examining future individual and programmed family planning in the area.

- 11) Husbands and wives have about the same educational preparation. 87% of the couples have completed the fourth grade.  
(See Table 3)

Comment:

Future comparisons should examine whether this trend is improving; and future surveys should seek to establish baseline data about participation by husbands and wives in various kinds of non-formal educational training programs in the area.

- 12) Lam Nam Oon children are enrolled late in schools and drop out early. Among boys, 56 per cent terminate their schooling by the sixth grade and 44 per cent of the girls.  
(See Table 5)

Comment:

There is a need to continually check on what may be an emerging favorable trend; that is, children of the present school-going age cohort are going to school longer than their parents - who stopped at a fourth grade education.

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\* Phum Lam Nao - Native Place Loyalties

- 13) Family drinking water supply facilities and waste disposal practices in the Lam Nam Oon area appear to be unhygienic. 92 per cent of the families depend upon open wells for water supplies and 47 per cent do not have a privy.  
(See Table 7)

Comment:

Future measures should survey this subject from several perspectives. To what extent, for example, do families depend on stored rain water for drinking water? To what extent do they rely on boiled water for drinking? How are the numbers, usage and qualities of the wells changing? To what extent, and how, is the bacteriological content changing?  
(See Table 7a)

- 14) The housing and home facilities of Lam Nam Oon families indicate some degree of achieved development. For example, 83 per cent of the houses have metal or asbestos tile roofs; and more than 50% have electricity and hand looms.  
(See Table 6)

Comment:

The existing range of indicators needs to be expanded. For example, what about large-scale rain water collection tins at each house; tin guttering; fly-screened food storage; numbers and types of electrical installations; improved food preparation facilities, etc.

CHAPTER III

INDIVIDUAL TABLES AND DETAILED COMMENT

TABLE 1: Residential Origins of Household Heads

Place of Origin	Males	Females	Total
Was born in the village	160	14	174
Father born there also	71	10	81
Born in adjoining village in Changwat	71	8	79
Born in another Changwat	27	3	30
Total:	329	35	364

70 per cent of these people were born in the village in which they were interviewed. About 8 per cent have moved into the area from other changwats.

TABLE 2: Male Household Heads, Spouses, and Female Heads,  
by Age

A g e	Male Head	Spouse	Female Head
Under 20		2	
20 - 29	24	45	1
30 - 39	80	94	2
40 - 49	100	101	7
50 - 59	73	53	13
60 plus	52	23	12
Total:	329	318	35
Medians	45.5	41.3	55.3

The median age of the male household head is 45.5 years, that of the female head, ten years older or 55.3. There are no household heads under 20 years age.

TABLE 3: Years of Education of Male Household Heads  
Compared With Their Wives

Husbands	Highest Grade Attended by Wives						
	None	"Few Years"	Finished Fourth	"Few Years" Beyond	Finished Secondary	Beyond Secondary	
None	6		3				9
"Few Years"	3	5	6				14
Finished Fourth	14	4	247	2	1		268
"Few Years" Beyond <u>1/</u>		1	10		1		12
Finished Secondary <u>1/</u>			3				3
Beyond Secondary <u>1/</u>			1		1	1	3
Total:	23	10	270	2	3	1	309 <u>2/</u>

1/ Four of the 18 household heads having more than a fourth grade education were merchants, and six were government officers at the village level or school teachers, in addition to farming.

2/ Excludes 19 widowers, 35 female heads, and one bachelor.

Husbands and wives have quite uniformly had the same educational preparation, both completing the former elementary system of four grades. As Table 3 shows, this includes 87 per cent of the couples.

TABLE 4: Spouses of Male Household Heads and Female Heads  
by Age and Number of Living Children

Number of Living Children	Ages of Mothers							Total
	Under 20:	20 - 29:	30 - 39:	40 - 49:	50 - 59:	60 - 69:		
None	1	2		2	2	1		8
One		3	5	2	6	8		24
Two	1	10	6	6	7	4		34
Three		15	13	14	10	5		57
Four		13	19	11	6	5		54
Five		2	16	12	7	3		40
Six		7	22	25	12	7		73
Seven		1	6	15	11	9		41
Eight				14	6	1		21
Nine				6	5	1		12
Total	2	53	87	107	72	43		364

Total number of children = 1,625

Average number per mother = 4.5

Families questioned about family planning responded that only about two-fifths of the mothers under 50 years of age were not yet participating in family planning. Twelve per cent are using tubal ligation, five per cent IUP, and the vast percentage said they were using pills and condoms.

The mean size family has 6.5 members. The most popular sized family has eight members; they made up 19 per cent of the 364 households.

TABLE 5: School Status of Children, Percentages, Ages 6 - 14 Years

G R A D E I N S C H O O L

Age	Not Yet		First		Second		Third		Fourth		Fifth		Sixth		Secondary	
	Enrolled															
	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys
Six	92	90	8	10												
Seven	58	27	31	71	12	3										
Eight	14	2	45	73	32	9	10	16								
Nine	3	6	39	55	21	12	33	24	5							
Ten			31	32	35	32	16	23	19	5		9				
Eleven	4	3	16	10	28	43	12	6	28	27						
Drop outs:					4	4	8	7								
Twelve		5		5	7	8	43	29	5	2	12	14	24	26	2	
Drop outs:				2			2		4	5				5		
Thirteen					4	3	29	34	4	7	11		14	17	6	10
Drop outs:							4	3	11	21			14	3	4	
Fourteen		2					7	9	11	2	7	6	11	5	19	19
Drop outs:								5	33	28		2	4	9	7	12

Some intervals will not always yield total of 100 per cent

As indicated in Table 5, ages of enrollment are deferred. Only 8 per cent of the girls and 10 per cent of the boys were enrolled at age six. At age seven, 58 per cent of the girls were not yet enrolled, and 22 per cent of the boys. Non-enrollment continues through age fourteen and girls are held back longer than boys.

The table also indicates existence of a serious drop-out level. It starts at the first grade and continues through the six grade elementary system. Among boys, 56 per cent have terminated their school by the time they have arrived at the sixth grade, and 44 per cent of the girls.

**TABLE 6: Housing and Home Facilities  
in Homes of Lam Nam Oon**

Facility	Number of Households		
	Have Facility	Do Not	Total Households
Thatched Roof	49	-	-
Metalic or Slate	308	-	-
One Room	54	-	-
Two Rooms	90	-	-
More than two	164	-	-
Electricity	198	161	359
T.V.	28	328	356
Refrigerator	3	355	358
Sewing Machine	86	269	355
Hand Loom	248	105	353

TABLE 7: Sources of Drinking Water of Households  
and Toilet Facilities

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Sanitary Facility	Water Piped In		Home Well		Village Well			TOTAL
	Village Tank	Home well	Covered with Pump	Uncovered	Covered with Pump	Uncovered	Open Well	
Outdoor Privy	5	1	6	48	3	122	3	138
None	2	1	3	36	4	116	7	164
Total	7	2	9	84	7	238	10	352

Sixty-eight percent of the families used their village open well for water consumption. Another 24 per cent had a similar uncovered well in their yards. Thus, about 92 per cent of the households rely on this unhygienic source of drinking water. A total of 42 per cent of the households do not have a privy.

Table 7a. Bacteriological Examination of Water  
Sakon Nakhon Health Laboratory 24 April 1980

Sample No.	Bacterial Count Colonies/ml	Brilliant Green Lactose bilebroth	M.P.N.
37	1,190	-	Less than 2.2
38	3,170	+	8.8
39	1,440	+	15.0
40	Uncountable	+	More than 240.0
41	Uncountable	+	More than 240.0
42	10,320	+	38.0
43	1,610	+	15.0
44	1,710	+	240.0

The foregoing Table 7a shows results from water samples taken in eight village wells in different Tambols. All but one of the samples was found to be contaminated by bacteria that originates from human excreta. World Health Organization standards allow a bacteria count to reach a maximum of 500 before water contamination reaches levels unsafe for human consumption. Among the 8 tested, the lowest had a count more than twice the acceptable maximum.

In a interview with the changwad medical officer, he reported that 1,200 covered wells with pumps had been installed throughout the province in the 1960s. He estimated, however, that 98 per cent of the pumps were now broken and the sanitary water source destroyed.

TABLE 8: Size of Owner Operated Farm  
and  
Man-Year-Equivalents per Farm

Man-Year Equivalents	Under: 7 Rai	7 - 10	11 - 19	20 - 29	30 - 39	40 plus	Total
Under 1.00		2	1			2	5
1.00 - 1.35		1	5	3		1	10
1.36 - 1.71	15	7	13	10	9	6	60
1.72 - 2.07	2	4	6	13	5	2	32
2.08 - 2.43	6	11	7	12	5	9	50
2.44 - 2.79	1	6	10	7	9	6	39
2.80 - 3.15	2	2	7	7	4	8	30
3.16 - 3.51	2	2	11	11	4	3	33
3.52 + 1		5	17	22	14	12	70
Total							329
M-Y-E per farm	2.6	1.9	2.3	2.7	2.7	2.8	2.6

Table 8 shows the man-year-equivalents as they existed in the various sized farm enterprises. The available supply of family labor equalled two man units on enterprises no larger than 10 rai or 2.5 acres. Accepting the maximum of 10 rai as size of the small farm all planted to glutinous rice from 150 to 170 man-equivalents of labor would have been required. If all of the "average" sized farms of 23.6 rai were planted in rice, that operation would have demanded from 354 to 401 man-days still well within the family labor resource of 2.7 to undertake. Well-known formulas of manpower experts were used in the recording of family labor supply. This ascribed a 1.0 male equivalent to all males in the age group 20-50 years, living with the family, not otherwise employed or physically incapacitated, and .67 man-year-equivalents, (M-Y-E) to all females meeting the same specifications. Males over 50 years of age were given .67 M-Y-E and females .50. Boys in the age group 15-19 were counted as .67 and girls .50. Both boys and girls in the ages 10-14 years were given weights of .25.

TABLE 9: Owner Operators, Renters and Landlords  
by Size of Farm

Size in Rai	Owner Operator	Rentor	Landlord	Total
Under 7	25	1		29
7 - 10	40	4		44
11 - 15	43	1		44
16 - 19	34		1	35
20 - 24	46	1		47
25 - 29	39			39
30 - 34	35	1	3	39
35 - 39	18			18
40 plus	46		1	47
Total	379	8	5	342
Average	23.7	13.3	33.7	23.6

The mid point of the largest interval was placed at 55 because the sample contained eight farms that were even larger than the arbitrarily selected mid point. The largest was 120 rai, the next largest 100, then 75, 70 and 65.

The average size of farm among the households interviewed is shown in Table 9; it is 23.6 rai, 9.4 acres. In the total, 13.7 per cent averaged 55 rai in size; all those 30 rai and larger in size accounted for 29 per cent of the total. In marked contrast, all those smaller in size than the class interval 20-24 rai, in which is found the "average", totalling 42.3 per cent; these make up the "smallest" category.

The data are presented in three tenure classifications in Table 9 only to show that in the Northeast everyone "owns" the land that they farm. When the term "ownership" is used this in no sense imputes any legal significance to the tenure designation. There was no point in asking who had what type of title because that is a factor that remains constant over a period of time. Other studies show that 90 per cent had a level Three (now saw 3) title, with the remainder described as having "no legal right" to the land.<sup>1/</sup>

TABLE 10: Household Heads,  
Their Tenure Class & Age

Age	Owner	Operator	Rentor	Share Cropper	Landlord	Landless Laborer	Total
20 - 29	19		1			3	23
30 - 39	74		1	3	1	4	83
40 - 49	96		2	3	1	5	107
50 - 59	79		3	1		3	86
60 plus	61		1		3		65
Total	329		8	7	5	15	364

Average ages were not computed because they are easily apparent on inspection of the distributions, and the numbers are too small in some classes to warrant more than a simple tabular distribution.

<sup>1/</sup> Lam Nam Oon Downstream Area Socio-Economic Survey, Directorate of Agricultural Economics, Ministry of Agriculture and Cooperatives, June 1976.

When precise questioning was attempted as to the working rules within the classes - share croppers, and laborers, this failed. Several conclusions are justified from the attempt: share cropping is not yet institutionalized in the LNO area clearly enough to establish rules which would require such arrangements to be in written rather than oral form; or to establish uniform or near uniform shares, by crop, that go to the owner and cropper, the two parties to the agreement; neither was any pattern found in the provision of such inputs as seed, fertilizer and power.

The same type of comment has to be made for landless laborers. There is no uniformity, nor was any even suggested in the matter of wages. These ranged from ten baht per day to a lone one of fifty. Most male laborers seemed to receive either twenty baht or thirty baht per day, while their wives who worked as laborers fell into the ten baht per-day category. Only in the large fields - a five or six rai planting or vegetables, for instance, where six, seven, or eight women would be found working under a foreman, did the owner of the enterprise pay his women laborers twenty baht per day.

Very few landless laborers appeared on the nai amphur's rolls and when queried the response was there are only "a few". Only through special probing which resulted in finding one, and then another, with 15 or 20 in some villages, could they be added to the list of families being interviewed.

TABLE 11: Farm Operators (Owners, Renters, Landlords),  
Size of Farm and Number

Buffalo Bulls & Cows, 2 Years of Age or Older

Farm Size:	Buffalo Bulls					Buffalo Cows					Average
	None	One	Two	Three	Four or More	None	One	Two	Three	Four or More	
Under 7	16	10	2	1	2	13	8	2	4	4	2.3
7 - 10	22	14	7	1	1	20	12	8	3	2	1.9
11 - 15	17	23	6	1		24	13	8	1	1	1.6
16 - 19	9	18	5			17	10	2	2		1.5
20 - 24	16	17	10	4		14	19	8	3	4	2.4
25 - 29	9	22	9		1	15	14	8	3	1	2.2
30 - 34	12	17	9	1		17	10	6	5	1	2.1
35 - 39	4	10	4			9	5	2	1	1	2.2
40 or more	11	16	11	4		13	11	10	2	6	2.2
Total:	116	147	63	12	4	142	101	54	24	20	2.1

In Table 11 can be seen the draft animal power on LNO area farms. This Table accounts only for those of working age, buffalo bulls and buffalo cows, two years old or older. Speaking in "average" terms the adult buffalo population allows for 2.1 head per farm. When precisely one-third of the farms are eliminated that had no buffaloes, this left the largest proportion of farms with but one head: two thirds of those who had any draft animals.

Thirty-five per cent of those owning some buffalo bulls had two or more; likewise, 49 per cent of buffalo cow owners had two or more each. When the rate of buffalo hire was reported, the charge was in kind: 600 kilograms of rice per head, per season.

Only two tractors were found among all the interviewed farmers. One is owned by a couple in their mid-fifties; the wife is a teacher in the village school and bought the tractor to provide more gainful employment for her grown sons than the 20 rai farm provided. They operate the tractor on a hire basis among their neighbors.

The other tractor owner is a larger farmer; of his 31 rai he had 20 planted in rice in the dry season and all 31 in the wet season of the 1979 farm year. He planted 10 rai this 1980 dry season and only the shortage of water kept him from putting all his land into production. His tractor represents an investment of Baht 22,950 and this past season he charged Baht 160 per rai for custom ploughing. He regularly ploughs for eight of his neighbors.

TABLE 12: Planted Areas of Rice, in Rai  
Wet and Dry Seasons, 1979  
and Size of Farm

Wet Season: Size of Farm	Number of Rai Planted							Total
	:None:	7	7 - 10:	11 - 19:	20 - 29:	30 - 39:	40 or more:	
Under 7	2	27						29
7 - 10		7	37					44
11 - 19		3	3	73				79
20 - 29			1	3	82			86
30 - 39				1	6	50		57
40 or more:				2	3	5	37	47
Total:	2	37	41	79	91	55	37	342
Dry Season: Size of Farm								
Under 7	24	5						29
7 - 10	37	7						44
11 - 19	63	13	2	1				79
20 - 29	72	8	4	1	1			86
30 - 39	50	2	5					57
40 or more:	39	1	3	2	1	1		47
Total:	285	36	14	4	2	1		342

Table 12 presents the Lam Nam Oon wet and dry season history. All but two farmers planted rice in the wet season. A normal relationship existed between size of farm and the portion of that area planted in rice during the wet season; this is to say, usually only 5 to 10 per cent of the farmers in the statistical size interval planted smaller amounts than the reported size of the farm. Part of the area not in rice was not suitable to rice, has another crop, etc. Size of wet season rice fields, therefore, coincided closely with size of farm reported on earlier.

In the dry season, there is little rice planting. 285 of the 342 interviewed did not plant, that is 83 per cent. The smallest farmers appear to be the most venturesome in planting rice during the dry season. A third of them (35 per cent) had dry season rice plantings. Their risk can be compared by rai planted as between wet and dry seasons: 6-wet, 1 dry; 4-wet and 2 dry; 7 wet and 2 dry etc. Generally, such farmers relied on a "mixed" supply of water. R.I.D. canals were one source; but fearful of varying water supply through this means farmers also relied upon carrying water to their fields using shoulder-carried buckets of water.

The foregoing situation prompted some special interviews aimed at determining in the 1980 dry season why so few large farmers planted rice.

The first farmer interviewed owned 68 rai, all of which had been in rice production in the 1979 wet season, but not one in that year's dry season, nor any cropped now in 1980. His holdings are in two parts; a 40 rai plot lies several kilometers from the secondary canal of his village, Pok Yai and with R.I.D. water now "available" he wonders how he can tap it at that distance? The other 22 rai are close to the R.I.D. canal but his family is small and he needs to hire labor, and the money for that is not available. He asked, how can he and his villagers get help to organize a farmers' association, which the village is now without, and through which the members might present a group application for a loan from the Bank for Agriculture and Agricultural Cooperatives. If that could be done, all of his dry season activity would be devoted to groundnut production, he said, with prices being so attractive as they are at present.

The second farmer owns 77 rai of which 12 are located very near the gate of the R.I.D. secondary canal and at its same level. It was an easy matter to hand dig a shallow ditch of less than one foot in depth and plant his current dry season rice crop. Upon query it was found only three others are in that same fortunate situation so that the overwhelming majority in his village are on land too high to depend on flowage from the one available gate. He had not yet decided if he would invest the necessary labor costs to bring more of his land under irrigation, and when asked why this was, he expressed skepticism over the certainty of R.I.D. being able to steadily and reliably supply the needed water at the higher level.

A 44-rai farmer was visited in Ban Bod Mard, and while his holdings lie along the R.I.D. canal but at too high a level, he is planning to siphon water for his use. He asked whether he would need authorization from the R.I.D. to install his pump.

In Ban Karng Hung the phuyaiban estimated that possibly 50 of his village's 200 farmers will be served by the R.I.D. gate which serves the low land area where these farmers are located. Realignment of the distribution system is needed, he said, for all farmers to have dry season water service. The first farmer to speak owns 50 rai, all of which was in rice during last year's wet season. When water starts flowing in the canal whose gate is only some 80 meters from his low land portion, this will allow his land to be irrigated, hopefully next season. But without an extension or realignment of the new secondary he does not know how he will get all of his land into dry season production.

The last farmer questioned owns 30 rai near the canal, all in the low land area so he believes it can be easily irrigated from the gate which serves the area. But why, he was asked, do you speak in the future tense, saying you will irrigate if, if?..... "I have never planted rice in the dry season. How can I be sure of getting help

from the Extension Officer to show me how to do that?"

The frankness with which this farmer described his problem prompted the phuyaiban and the other farmers in the group to elaborate on some of their unknowns about dry season farming. For example, there is their inability to control weeds. Why, they asked, do weeds grow so well in the dry season? The second year the plot has more so that in the third or fourth year weeds have choked out the rice.

TABLE 13: Rice Yields, Kilograms per Rai  
Dry and Wet Seasons, 1979

1979 Season	K i l o g r a m s p e r R a i								No.	Avg. per Farm
	Under: 100	100-160	161-220	221-280	281-340	341-400	400			
Dry	3	18	7	10	3	5	1	47	204 <sup>1/</sup>	
Wet	3	53	56	71	39	16	2	256	186 <sup>2/</sup>	

<sup>1/</sup> 67 per cent hybrid varieties

<sup>2/</sup> 23.5 per cent hybrids

Rice production levels reported by farmers who grew the crop in both the wet and dry seasons in 1979, are given in Table 13. This shows that yields averaged 186 kilograms per rai in the wet season, and 204 in the dry, with the extremes ranging from 100 to 400 kilograms per rai.

Hybrid glutinous varieties outnumbered native glutinous by two to one in the dry season. These ratios were reversed in the wet season when rice is grown for the family's home consumption needs, and for sale. Three-quarters of the production was that of native varieties, and only one-quarter or perhaps less was hybrid.

TABLE 14: Rice Harvest in the 1979 Wet Season  
and Size of Farm

Size of Farm	K i l o g r a m s H a r v e s t e d							Per Farm	Total Kilograms
	Under: 1,000	1,000-: 3,999	4,000-: 6,999	7,000-: 10,999	11,000-: 14,999	15,000-: 20,999	21,000-: or more		
- 5 rai	20	2						682	15,300
5 - 7	3	18						2,214	46,500
8 - 10	4	22	5					2,565	79,500
11 - 14	2	15	15		1			4,394	161,500
15 - 19	1	12	26	5				4,705	185,000
20 - 24	1	5	24	14	2			5,446	250,500
25 - 29		1	16	12	2			5,253	185,500
30 - 39		1	12	25	7	5		7,700	385,000
40 plus			2	16	4	10		14,563	466,000
Total <sup>+/</sup> Farms									
Average per Farm:	-	-	-	-	-	-	-	-	5,724 =====

<sup>+/</sup> Nineteen interviews from one tambon rejected due to inaccurate recording.

Table 14 gives total kilograms of wet season rice production per farm, which converts to an average of 5724 kilograms per farm. The large marketable portion shows up in the farms 15 rai in size and larger. However, looking closer at the 310 producers who were able to recall the necessary data, smaller farms are more productive because the small farmer puts more family labor into the production of every rai. This can be seen by comparing farm production averages at the two ends of the distribution. Starting with the smallest farm and reading toward the largest, (downward in the table) the simple arithmetic averages were 227, 352 and 285 kilograms per farm; continuing to read downward in the table, production was 210, 220, and 248 respectively on the largest.

TABLE 15: Reported Kilograms of Rice Sold,  
Dry and Wet Seasons, 1979

Season	K i l o g r a m s   S o l d							
	None	Under 500	500 - 1,000	1,001 - 1,500	1,501 - 2,500	2,501 - 3,500	3,501 - 4,500	Over 4,500
Dry	28	7	6	8	5	3		
Wet	168	9	35	41	40	16	16	15

Table 15 shows the percentages of farmers who had no rice to sell in either the dry or wet seasons, to be identical 49 per cent. After setting aside rice, the main food of the farmer, to take care of his family's needs, his near relatives and the monks, tak bart, one-half of the farmers have no rice to sell.

This fact needs emphasis because everyone looks on Lam Nam Oon as a land of farmers who live from the product of their farms. This is only partly true. Half of them have to look to other sources.

TABLE 16: Main Upland Crops, Wet and Dry Seasons, 1979  
and Dry Season, 1980, in Rai

Season and Crop	R a i								Total Ten: %
	One:	Two:	Three:	Four:	Five-Seven:	Eight-Ten:	Over:	Other:	
1979 Wet	:	:	:	:	:	:	:	:	:
Cassava	3:	3:	1:	3:	6:	:	:	6:	22
Corn	25:	3:	:	2:	:	:	:	:	30
Groundnut	8:	2:	1:	:	:	:	:	1:	:
Jute-Kenaf	:	1:	:	1:	1:	:	:	2:	5
1979 Dry	:	:	:	:	:	:	:	:	:
Peanuts	10:	17:	4:	3:	1:	1:	1:	1:	37
Corn	17:	4:	:	2:	1:	:	:	:	24
Vegetables	34:	7:	3:	4:	1:	2:	1:	1:	52
Tobacco	8:	4:	:	:	:	:	:	:	12
Melon-Banana	1:	3:	:	1:	1:	1:	1:	1:	8
1980 Dry	:	:	:	:	:	:	:	:	:
Mungbean	3:	3:	:	:	:	:	:	:	6
Peanuts	7:	13:	6:	5:	4:	3:	2:	2:	40
Vegetables	6:	6:	3:	1:	1:	:	:	:	17
Corn	6:	8:	1:	2:	1:	:	:	:	15
Cassava	1:	:	:	:	2:	1:	:	:	4

Table 16 gives the figures for the production of groundnut, corn, etc. in the two seasons, wet and dry, of 1979 and the dry season of 1980.

Not even one-third of the project area farmers tried to grow these crops in any of the three seasons, and when two-thirds of them attempted non-rice growing in either of the seasons, but one or two rai covered their production.

Growing of groundnut was mentioned frequently as a "next year's" (1981) crop when irrigation water is hopefully expected, (farmers attracted to it by current favorable prices). This is something that might be realized, because with the few dry season farmers it was one of their most frequently grown. The growing of vegetables joined groundnut as the most frequently grown. However, the numerous one or two rai given in the table included large numbers who had but one-quarter or only one-half rai in cultivation.

TABLE 17: Transport Employed  
in the  
Marketing of Rice and/or Upland Crops  
by Quantities Hauled

Rice Hauled (kgs.)	T r a n s p o r t   U s e d							
	Bicycle	Motor Cycle	Buffalo Cart	Bus	Truck	Picked Up by Trader	Nothing to Market	
Under 1,000	4			3	3	3		21
1,000-3,000	7		2	6	9	10		41
3,001-6,000	7	1	2	12	19	36		25
6,001-9,000	6			1	24	25		12
9,000-12,000	1				7	7		
Over 12,000				2	7	7		
Total Farms	25	1	4	24	69	98		99

The most frequent form of transport was that supplied by traders who came to the farm and picked up the rice for resale in private channels. This accounted for 42 per cent of those who had a harvest to sell. The next largest means of transport were the trucks, 33 per cent, hired by farmers to get their product. The remaining one-quarter carried their product by hand, half of them with a bicycle and the other half on the bus.

TABLE 18: Farm Operators Main Source of Supplementary Income,  
by Size of Farm

Supplementary Income Source	Size of Farm in Rai							Total
	Under: 7	7 - 10	11 - 19	20 - 29	30 - 39	40 plus		
None		9	20	14	21	16	80	
Seasonal Work on Other Farms	8	8	7	14	3	4	44	
Forestry Charcoal Fishing	8	8	14	19	8	9	66	
Sale of Artifacts	4	5	12	12	8	6	47	
Salary as Off. Teacher Military	1	2	4	9	2	2	20	
Pensions and Rents	1			1	1		3	
Remittances from Absent Children	4	5	10	8	6	8	41	
Samlor Trucking	3	7	11	7	4	2	34	
Merchant			1	2	4		7	
Total:							342	

The customary source of the small farmer to supplement his farm income is to work for wages on the farms of others, but it was only in that one source and that of samlor driving in which they appeared to dominate. That the larger farmers were present as day laborers off their own farms, and in fishing and forestry work, as frequently as the table indicates, is truly significant.

TABLE 19: Recorded Kilograms per Rai  
Fertilizer Applied Rice Plantings,  
Dry and Wet Seasons, 1979

Season	Kilograms per Rai						Total Users
	None	Under 5	5 - 9	10 - 19	20 - 29	30 or More	
Dry	24	3	4	12	11	3	33
Wet	212	46	28	23	21	10	128

Fertilizer use is described in Table 19. Farmers use fertilizer only if they know the amount they apply will pay back the cost incurred, and only a very few have demonstrated that to be the case. The majority who have used fertilizer have applied it in too small quantities to measurably increase production. Likewise, their recitations concerning its application showed what little knowledge they as yet have about the correct timing of application, to bring maximum results.

We asked, but received too few affirmative answers to make meaningful tabulations of amounts and kinds of insecticides and pesticide that were used.

**TABLE 20: Farmers Who Borrowed from the  
Bank for Agriculture and Agricultural Cooperatives  
by Size of Rice Plantings, Wet Season, 1979**

Farm Size (Rai)	Borrowers	
	Yes	No
Under 5	5	20
5 - 7	10	12
8 - 10	13	24
11 - 14	12	19
15 - 19	16	31
20 - 24	15	34
25 - 29	15	20
30 - 39	31	20
40 and Over	14	20
<b>Totals:</b>	<b>131</b>	<b>200</b>

Table 20 shows 40 per cent of the 331 farm operators borrowed one or more times from that bank in the last three years. Further, 28 per cent of the borrowers had paid back their loans in full; another 30 per cent had paid up half of their borrowed amounts. Only 19 per cent had not started repayments, most of them having only borrowed this year.

Those who said they had not borrowed from the bank 60 per cent - most frequently replied they had made no effort to borrow. The question was meant to solicit information as to how many might not have been able to qualify for a loan, but the replies showed that has not been a problem.

Only a few had borrowed from a private bank and, surprisingly, the much-maligned private money lenders did not appear to exist.

As to who the borrowers were, they ranged all the way from the smallest farmer to the largest. The farm size categories in Table 20 refer to the rai planted in the 1979 wet season, and only in the unit size interval of 30 to 39 rai, did bank borrowers outnumber the non-borrowers by a ratio of three to two.

As expected, non-borrowers among farmers growing the largest fields of rice, those having 40 or more rai, outnumbered almost two to one those in their size interval who had borrowed. Among other things this shows the borrowing capacity of larger farmers to hire the necessary labor when their irrigation facility has been installed and has become operative.

Small or large, LNO farmers seem to be good credit risks: when they borrowed they paid back. The pattern of borrowing is closely related to the presence of a farmers' association in the village; where that did not exist there were no borrowers from the BAAC.

TABLE 21: Participation of Farm Operators  
in Farmers Groups or Organization,  
by Tenure Class

T e n u r e	Village Has No Group	Village Has a Group	Member	
			Yes	No
Owner Operator	119	183	74	109
Renter	5	3	3	5
Landlord	3	2	2	3
Total:	127	188	79	117

In Table 21 it may be noted that six per cent of farm operators lived in villages having a farmers' association, whereas 40 per cent had no such an institution. But when asked if they were not members of their existing institutions, the percentages were reversed: 59 per cent replied "no" and 41 per cent "yes".

A corollary question to membership in farmer organizations concerned contacts between the Agricultural Agents and the interviewee farmer. One fourth, 26 per cent to be exact, answered they had entertained a visit from the Amphoe Agricultural Officer at least once on their farm in the past few years. Quite a few said two or three. When the question was turned around and the farmers were asked how many visits they had made in that time to the Agent in his office seeking technical information, 22 per cent said they had made one or more such visits.

## CHAPTER IV

### CONCLUSIONS

An initial Bench Mark survey of this kind only leads to tentative conclusions about the situation at Lam Nam Oon. Chapter II contains suggestions about additional survey work which is required. Therefore, the remarks offered here will not touch upon that subject.

The data suggests that:

1. Additional clarifying surveys and longitudinal studies concerning economic behavior and social/institutional systems among those Lao-Thai farmers are needed. Otherwise, correct policy-making about irrigated-related problems may not be possible.
2. These farmers are interested in year-around irrigation of crops.
3. A high degree of 15-25 year age cohort migration from the area may adversely affect labor elasticity in relation to new irrigated cropping work demands.
4. The reliability and availability of R.I.D. - supplied water is questioned by most farmers; but they are willing to take risks if water supply and market conditions seem favorable.
5. Farmers lack knowledge about proper water management practices during the dry season; and they want to learn.
6. Farmers want to learn more about various crops and cropping practices suited specifically to irrigation in the dry season.
7. Farm traction-power shortages in the area will probably adversely affect the large-scale expansion of irrigation farming more than any single other factor (assuming creation of reliable farm water supply systems).
8. Farmers associations do not appear to be widespread or possess large memberships.
9. There is already some social and economic development in the area; and this may provide a modest base which can support technical and capital development.
10. A great deal of effort has yet to be exerted by Royal Thai Government agencies in:

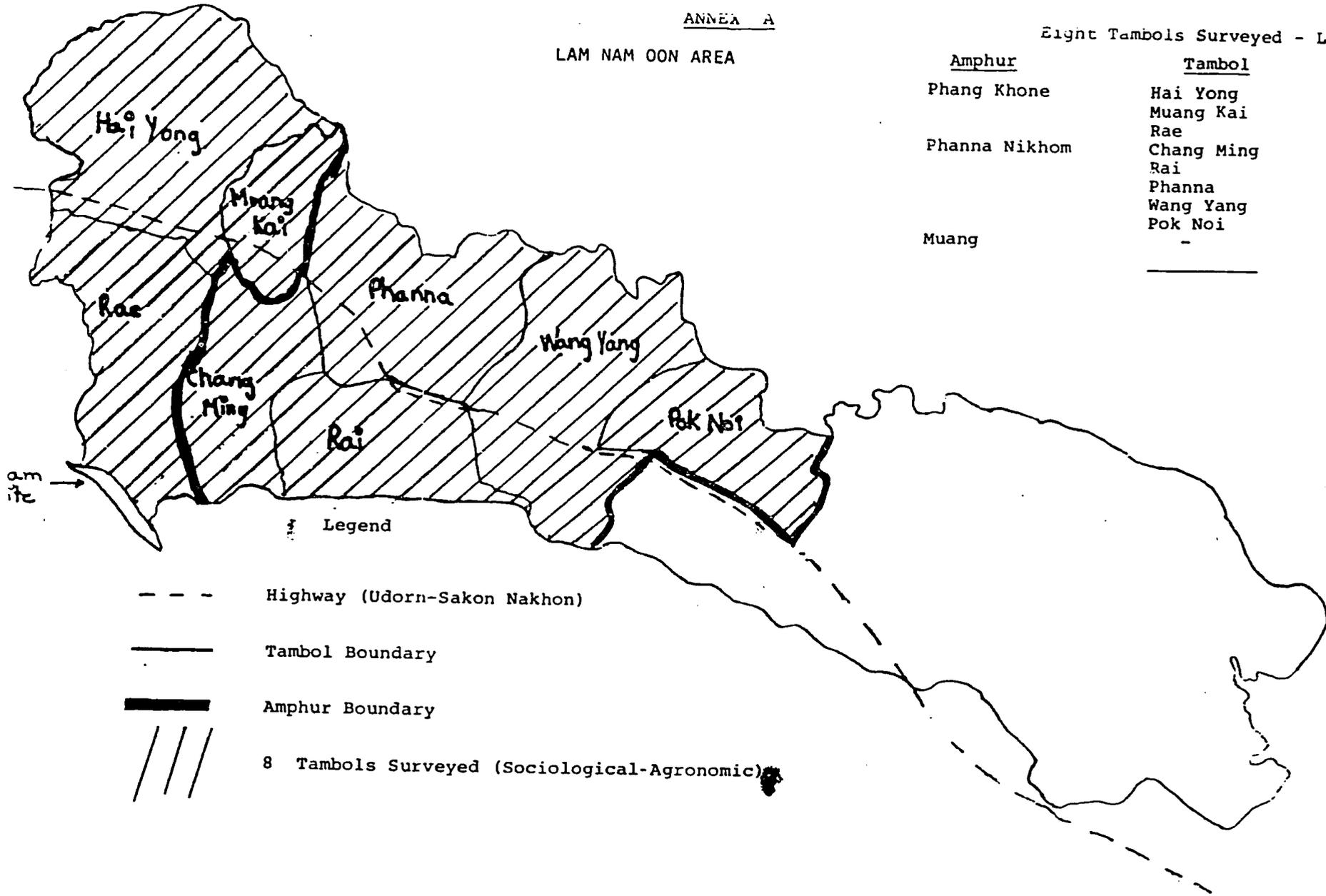
- a. Designing and operating on-farm water supply and management systems which reliably meet farm needs.
- b. Training farmers in how to use water most efficiently under the soil conditions existing in the area.
- c. Organizing farmers for purposes of promoting water management, farm credit, and other development programs.
- d. Developing and extending those field crops and crop management practices which are best suited to the water supply, soil conditions, and marketing potentials of the area.
- e. Remediating farm traction power shortages in the area, particularly when the entire water supply system becomes efficient enough to support large expansion in the amount of land that can be irrigated reliably.
- f. Developing market policies and systems which provide adequate incentives to farmers.

ANNEX A

LAM NAM OON AREA

Eight Tambols Surveyed - Legend

<u>Amphur</u>	<u>Tambol</u>	<u>Pop.</u>
Phang Khone	Hai Yong	8,576
	Muang Kai	4,321
	Rae	5,426
Phanna Nikhom	Chang Ming	7,838
	Rai	3,670
	Phanna	6,755
	Wang Yang	5,977
Muang	Pok Noi	6,788
	-	-
		<hr/>
		50,351



Legend

- Highway (Udon-Sakon Nakhon)
- Tambol Boundary
- ▬ Amphur Boundary
- /// 8 Tambols Surveyed (Sociological-Agronomic)

Family Interviewed \_\_\_\_\_

Interviewer \_\_\_\_\_

RURAL HOUSEHOLD SAMPLE SURVEY

การสำรวจครัวเรือนตัวอย่างในชนบท

LAM NAM OON

INTEGRATED RURAL DEVELOPMENT PROJECT

โครงการพัฒนาชนบทแบบบูรณาการ

1. Amphur \_\_\_\_\_ 2. Tambel \_\_\_\_\_ 3. Village \_\_\_\_\_

2. How many years have you lived in this village? 1 = Less than 10; 2 = more than 10; 3 = was born here; 4 = father also born here.

3. If you have moved to this village, 1 = did you move here from another village in Sakon-Nakong; 2 = from another Changwad, 3 = from another country?

HOUSEHOLD COMPOSITION

1. Sex of head of household, 1 = Male, 2 = Female.

2. Age, in years \_\_\_\_\_

3. How many years schooling, 0 = None, 1 = Only a few years, 2 = Finished 4th,

3 = 5th or 6th grades, 4 = Finished 7th, 5 = Some Secondary, 6 = Finished Secondary

7 = \_\_\_\_\_ years beyond Secondary.

4. Age of Spouse \_\_\_\_\_ years.

5. Her education, indicate by using one of the numbers in Question 3 \_\_\_\_\_

CHILDREN LIVING IN THIS HOME

Children who may be temporarily away from home to attend primary or secondary school, will be counted in this table. Children away from home to attend a university will be accounted for in the next one, No. 12.

Child of	Relation-Ship 1 = Son 2 = Dau.	Age in Years	In School Now by Grade Attending เรียนชั้นที่ ๘	Not in School by Highest Grade ever Attended เรียนชั้นที่ ๘	1 = On home farm 2 = Other farms 3 = Farm operator 4 = Temporary jobs 5 = Fulltime Nonfarm 6 = Samor Krin 7 = Govt. Military, Teacher 8 = Merchant. 9 = Unemployed		
					1	2	3
a.	11	12-13	14	15	16		
b.	17	18-19	20	21	22		
c.	23	24-25	26	27	28		
d.	29	30-31	32	33	34		
e.	35	36-37	38	39	40		
f.	41	42-43	44	45	46		
g.							

CHILDREN AWAY FROM HOME PERMANENTLY (เด็ก ๆ ออกจากบ้านไปถาวร)

a.	47	48-49	50	51	52
b.	53	54-55	56	57	58
c.	59	60-61	62	63	64
d.	65	66-67	68	69	70
e.					

- 3 = Bro.
- 4 = Sister
- 5 = Father
- 6 = Mother
- 7 = Other

OTHER RELATIVES LIVING IN THIS HOME (ญาติ ๆ ที่อาศัยอยู่ในบ้าน)

a.	71	72-73		74
b.	75	76-77		78
c.	rd 02 4	5-6		7
d.	8	9-10		11
e.	12	13-14		15
f.				

MAN EQUIVALENTS FAMILY LABOR

Age Intervals	10 - 14	15 - 19	20-50	Over 50
Male ME Ratio	0.25	0.65	1.00	0.67
Female ME Ratio	0.25	0.50	0.67	0.50
16-17-18, ME =				

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THE FARM ENTERPRISE

វិស័យកសិកម្ម

32-33-34. Total rai in farm \_\_\_\_\_  
 ផ្ទៃសរុបស្រែ

Plantings in rai. (ស្រែកសិកម្មស្រូវ)

Plantings in rai

35-36. Rice	179	Dry S.	_____	39-40. Will plant 1980 Dry S.	_____
37-38. "	"	Wet S.	_____	41-42. Will plant 1980 Dry S.	_____
41-42. Corn	"	Dry S.	_____	45-46. Will plant 1980 Dry S.	_____
43-44. "	"	Wet S.	_____	49-50. Will Plant 1980 Dry S.	_____
47-48. Mungbean	"	Dry S.	_____	51-52. Will Plant 1980 Dry S.	_____
49-50. "	"	Wet S.	_____	53-54. Will plant 1980 Dry S.	_____
53-54. Peanuts	"	Dry S.	_____	55-56. Will plant 1980 Dry S.	_____
55-56. "	"	Wet S.	_____	57-60. Will Plant 1980 Dry S.	_____
57-60. Vegetables	"	Dry S.	_____	61-62. Will Plant 1980 Dry S.	_____
61-62. "	"	Wet S.	_____	63-64. Will Plant 1980 Dry S.	_____
65-66. _____	"	Dry S.	_____	65-66. _____	_____
67-68. _____	"	Wet S.	_____	67-68. _____	_____
69-70. _____	"	Dry S.	_____	69-70. _____	_____
71-72. _____	"	Wet S.	_____	71-72. _____	_____
73-74. _____	"	Dry S.	_____	73-74. _____	_____
		Wet S.	_____	75-76. Will Plant 1980 Dry S.	_____

Col.

កម្រិតស្រូវ  
 HARVESTED, KGS./RAI

Col.

4-5-6 Rice, Dry S. 1979	_____	7-8-9 Wet So. 1979	_____
10-11-12 "	_____	13-14-15 "	_____
16-17-18 "	_____	19-20-21 "	_____

កម្រិតស្រូវ  
 SOLD, KGS.

22-23-24-25 Rice, Dry S. 1979	_____	26-27-28-29 Rice, Wet S. 1979	_____
30-31-32-33 "	_____	34-35-36-37 Wet S. 1979	_____
38-39-40-41 "	_____	42-43-44-45 "	_____

LIVESTOCK

6. No. buffalo bulls, 2 yrs. old or older	_____	47. No. under 2 yrs.	_____
8. No. buffalo cows	_____	49. " "	_____
10. No. cattle bulls, 2 "	_____	51. " "	_____
12. No. cattle cows, "	_____	53. " "	_____

Chickens, 1 = Yes, 2 = No. Figs, 1 = Yes, 2 = No. Ducks-Turkeys, 1 = Yes, 2 = No

RICE, 1979

	Dry Season, Rai	Wet Season, Rai
35-38 {	1. Glutinous, Native V. _____	37-38 { _____
	2. " Hybrid V. _____	
	3. Non-Glutinous _____	

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- How many visits did you make to his amphur office last year to ask advice on a farm problem? ((Do not include any calls made for selling rice.)) 1 - Once, 2 - Twice, 3 - three or more times, 4 - Not once.  
(ไม่รวมห้งการไปกัถของขายข้าว) ครั้งเดียว สองครั้ง  
สามครั้ง หรือ กว ไม่ไปเลย
- Have you borrowed money from the BAAC the past 3 years? 1 - Yes, 2 - No.  
ใช่ หรือ ไม่ใช่ โดยยืมเงินจาก บกส. ไทย ไทย ไม่ไทย
- Have you borrowed money from a private bank the past 3 years? 1 - Yes, 2 - No.  
ใช่ หรือ ไม่ใช่ โดยยืมเงินจากธนาคารพาณิชย์ไทย
- If either answer to 9 or 10 is "yes", how many years ago? \_\_\_\_\_  
เมื่อใดก่อน ค. หรือ ค. โดยไปยืมมาเมื่อปีมาแล้ว
- What percentage of this loan do you still owe? 1 - All, 2 -  $\frac{1}{2}$ , 3 -  $\frac{1}{3}$ , 4 -  $\frac{2}{3}$ , 5 - None.  
งานยืมเงินที่เหลืออยู่ร้อยละเท่าใด เกือบจำนวน หนึ่งในสี่ ครึ่งหนึ่ง สามในสี่  
ไม่ยืมเงินเลย
- If you did not borrow from either the BAAC or private bank, is this because, 1 - you did not apply for credit, 2 - you applied but were turned down?  
ถ้าหากว่า ท่านไม่ยืมเงิน ไม่มาจาก บกส. หรือ ธนาคารพาณิชย์ เป็นเพราะว่า ท่าน  
ไม่ยื่นเรื่องขอยืมเงิน ท่านยื่นเรื่องขอยืมแต่ไม่ได้รับอนุมัติใช่หรือไม่
- Did you borrow money for farm operations or family needs during the last three years from any of the following? 1 - local merchants, 2 - Private money lenders, 3 - Relatives?  
ท่านไปยืมเงินเพื่อใช้ในการทำฟาร์ม หรือ เพื่อใช้จ่ายในครอบครัว เมื่อ ๓ ปีมาแล้ว จากแหล่งดังต่อไปนี้  
พ่อค้าในท้องถิ่น นายทุนเงินกู้ญาติพี่น้อง
- What percentage of this (these) loan do you still owe? 1 - All, 2 -  $\frac{1}{2}$ , 3 -  $\frac{1}{3}$ , 4 -  $\frac{2}{3}$ , 5 - None.  
งานยืมเงินที่เหลืออยู่ร้อยละเท่าใด เกือบจำนวน หนึ่งในสี่ ครึ่งหนึ่ง  
สามในสี่ ไม่เป็นหนี้เลย

HEALTH AND SOCIAL SERVICES

(อนาถาและบริกาารสังคม)

- How many trips or visits did you and/or your family members make to a health center or clinic this past year? 0 - None, 1 - 1, 2 - 2, 3 - 3, 4 - 4 or more.  
เมื่อปีแล้ว ท่าน และ หรือ คนในครอบครัว ไปยังสถานอนามัยหรือสถานพยาบาลกี่ครั้ง  
หรือไม่ หรือมากกว่า
- For what reasons? \_\_\_\_\_  
เพราะอะไรจึงไป
- If spouse is under 50 years of age, is she now practicing family planning by, 1 - Using the pill, 2 - IUD, 3 - T.L. Operation, 4 - None.  
ถ้าหากภรรยาของท่านอายุต่ำกว่า ๕๐ ปี เธอใช้วิธีใดเกี่ยวกับการวางแผนครอบครัวโดย  
กินยาเม็ด ใส่ห่วง ทำการผ่าตัด หรือไม่ทำอะไรเลย
- Is there a Farm Women's Club in the village? 1 - Yes, and she knows its name, 2 - Yes, but she is not familiar with it, 3 - There is none in the village.  
มีกลุ่มสมาคมแม่บ้านเกษตรกรในหมู่บ้านนี้ไหม มี และรู้จักชื่อด้วย มี  
แต่ไม่รู้จักชื่อเลย ไม่มีเลย
- Is spouse a member of this club, 1 - Yes, 2 - No.  
ภรรยาของท่านเป็นสมาชิกของกลุ่มนี้หรือไม่ เป็น ไม่เป็น

1. Drinking water source for the family is: 1 - water is piped into the house from  
 เครื่องสูบน้ำที่รอบครัว จาก เครื่องสูบน้ำจากถังของหมู่บ้าน  
 village tank, 2 - piped into house from the home well, 3 - dug well in the yard  
 เครื่องสูบน้ำจากบ่อในบริเวณบ้าน ขุดบ่อในบริเวณบ้าน มีฝาปิด  
 that is permanently covered and has a pump, 4 - open well in the yard, 5 - from  
 บ่อ และไม่มีฝาปิด เอาไปใช้ในบ้าน บ่อเปิดในบริเวณบ้าน จากบ่อ  
 village well that is permanently covered and has a pump, 6 - open village well,  
 ของหมู่บ้าน มีฝาปิดบ่อ และมีสูบน้ำเอาไปใช้ บ่อเปิดของหมู่บ้าน  
 7 - from an irrigation ditch, 8 - from a running stream, 9 - from a standing pool  
 จากคลองชลประทาน จากลำธาร จากสระ บ่อที่มีอยู่ในบ้าน  
 or pond.

**OPINIONS**

(ความเห็น)

22. Has he attended meetings in his Tambel that were called by RID to explain the  
 เขาไปเข้าร่วมประชุม ซึ่งจัดขึ้นโดยทางการชลประทาน เพื่ออธิบายแจ้งให้ทราบถึงวัตถุประสงค์  
 purposes of the RID Integrated Rural Development Program? 1 - Yes, 2 - No.  
 โครงการพัฒนาชนบทแบบผสมผสาน หรือไม่  
 ไป ไม่ไป
23. Does he have access to an irrigation ditch? 1 - Yes, 2 - No.  
 เขาเคยไปเห็นคลองส่งน้ำไหม เคยไปเห็น ไม่เคย
24. Will he use water to double crop in the dry season? 1 - Yes, 2 - No.  
 เขาจะใช้น้ำชลประทานในการปลูกพืชครั้งที่สองในฤดูแล้งหรือไม่ เคย ไม่เคย
25. Do you, as the one doing the interviewing, rate this person as being, 1 - he is  
 ในฐานะที่ท่านเป็นผู้สัมภาษณ์ ท่านจะพิจารณาว่าเขานับเป็นอย่างไร เขาเป็น  
 very well informed on purposes of the development project, 2 - he has only a  
 ผู้ที่มีความรู้ และเข้าใจในวัตถุประสงค์ของโครงการเป็นอย่างดี เขาจึงยัง ๆ อยู่ ไม่  
 hazy idea of its purpose, 3 - he appears to be totally uninformed in the matter.  
 เขาก็ไม่เข้าใจ  
 เขาไม่ประสีประสาในเรื่องนี้เลย
26. How do you rate the probability that this farmer will begin double cropping in  
 ในการที่เกษตรกรผู้นี้จะตั้งตนปลูกพืชฤดูแล้งนั้น ท่านจะประเมินค่าไปกี่เพียงใด  
 the dry season? 1 - Very good, 2 - Very poor.  
 ดีมาก ไม่ดีเลย
27. If he is going to double crop, 1 - does he claim to have enough family labor for  
 ถ้าเขาจะทำการปลูกพืชครั้งที่สอง เขาคงต้องการจะมีแรงงานในครอบครัวให้พอเพียงสำหรับงานนั้น หรือไม่  
 the required work? 1 - Yes, 2 - No.  
 ต้องการ ไม่ต้องการ
28. If it is required, is he, 1 - willing to pay a water charge, or 2 - Is not?  
 ถ้าต้องการเขาจะ ชำระค่าน้ำให้ตามระเบียบ หรือไม่  
 29. Roof of house is 1 - thatched, 2 - metal, 3 - tile  
 หลังคามานุงควาย จากหรือเหล็ก สังกะสี กระเบื้อง (ไม้หรือซีเมนต์)
30. Number of rooms in house \_\_\_\_\_ 31. No. people who sleep here \_\_\_\_\_  
 จำนวนห้องในบ้าน จำนวนคนที่นอนในทอง
32. House has T.V. 1 - Yes, 2 - No. 33. Radio, 1 - Yes, 2 - No.  
 มีโทรทัศน์ไหม มี ไม่มี มีวิทยุไหม มี ไม่มี
34. Electricity, 1 - Yes, 2 - No. 35. Sewing Machine, 1 - Yes, 2 - No.  
 มีไฟฟ้าไหม มี ไม่มี มีจักรเย็บผ้าไหม มี ไม่มี
36. Weaving Equipment, 1 - Yes, 2 - No.  
 มีกี่ชนิดไหม มี ไม่มี
37. House has, 1 - flush toilet, 2 - privy, 3 - None.  
 ในบ้านมี ส้วมชักโครก ส้วมธรรมดา ไม่มี

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## AUTHORS

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