

Annex A-9 Socio-Economic Survey

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF AGRICULTURE AND FORESTRY
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

THE STUDY
ON
SMALL SCALE
AGRICULTURAL AND RURAL DEVELOPMENT PROGRAM
ALONG THE MEKONG RIVER
IN
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

**FARM HOUSEHOLD SURVEY
IN SELECTED MODEL FEASIBILITY STUDY AREAS**

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MAJOR STUDY ITEMS AND METHODS

During the course of the second phase of the study a socio-economic survey was carried out in order to assess the rural community situation in the selected model F/S areas. The sample survey method at household level similar to the previous field survey implemented during phase 1 was prepared and implemented. The questionnaire for household survey (form 2B attached to this report) was elaborated from the previous field survey to include additional information concerning farming practices, credit and household's income and expenditure. Survey items were: rural population, land tenure, education level, family, gender aspects, farming practice, credit, farm economy, household's income and expenditure.

The selection of households was based of the selection criteria set during the previous phase and on the present situation of the villages located in the model F/S areas. Interviewed households cover about 12% of the total households of the villages and represent the sample of all households located in the F/S areas. In order to cover farming practice during the dry season, 30% of households which have irrigated agriculture activities were selected.

The total number of households interviewed is 110 and is specified per model F/S area as follows

Model F/S area	Name of village	No. of Households	Interviewed Households	Number of people in HH
Bolikhamsay, Thongharb-Nakhua	Ban Thongharb	83	12	47
	Ban Nakhua Nai	135	14	86
	Ban Nakhua Nok	94	9	63
	Ban Nahin	63	7	43
	Ban Namdua	78	8	70
	Subtotal		453	50
Khammouane, Vangkhong	Ban Vangkhong	47	10	62
	Subtotal		47	10
Savannakhet, Phonthan	Ban Phonthan	158	24	172
	Ban Nakham Tai	141	14	105
	Ban Nakham Nua	120	12	99
	Subtotal		419	50
Total		919	110	747

The district surveyors that have been trained during Phase 1 made the household interviews. Additional refreshment training was provided by the study team to the surveyors in order to get the appropriate selection of households and data information that are stipulated in the questionnaire.

The surveyors followed the following steps during their survey work.

- Review the village situation with the village authority and up-date the village inventory data (form 1).
- Select the households to be interviewed according to given criteria with the village authority.
- Interview the selected family (with the presence of husband and wife) by using form 2B.
- Compile the data and information given through the interview.

The final compilation of the socio-economic data was made with the assistance of a data base specialist.

The interfaces of the questionnaire form 2B were created using Microsoft Access 2000 in order to develop software for future socio-economic survey. The Rural Community Farmer Organization Expert of the study team made the processing and reporting of those data.

MAJOR FINDINGS

Based on the result of the interview and the processing of the data information from the questionnaires, the following aspects and conditions were found from the interview of 110 families in the 3 model F/S areas.

1. Household Size and Family Structure.

The family size of the 110 households surveyed ranks between 2 persons to 14 persons. The average household size for the whole survey plot is 7 persons per family. About 292 people are fully engaged in agriculture production. This represents 39% of the population interviewed or about 90% of the active population. About 418 people are considered as part time farmers. This category represents people working in other sector, students and pupils who are also employed in the household farming activities after office or school hours. According to the survey the farming population represents about 95% of the population in the household interviewed. 5% of the people are working away from home in the provincial town and in Thailand. The total population working in Thailand represents 3% of the population interviewed.

The structure of the population interviewed is specified in table as below.

Household population	Thongharb - Nakhua						Vangkhong		Phonthan				Grand Total
	Thongharb	Nakhua	Nakhua Nok	Nakhua	Nakhua	Total	Vangkhong	Total	Phonthan	Nakhua	Nakhua Nok	Total	
Number of household	8	14	9	7	12	50	10	10	24	14	12	50	110
Number of population	47	86	63	43	70	309	62	62	172	105	99	376	747
Male	25	42	28	22	33	150	22	22	80	49	47	176	348
Female	22	44	35	21	37	159	40	40	92	56	52	200	399
Average size of household	6	6	7	6	6	6	6	6	7	8	8	8	7
Number of full time farm workers	15	35	28	20	27	125	26	26	74	40	27	141	292
Number of part time farm workers	4	7	4	0	6	21	1	1	11	6	7	24	46
Number of seasonal farm workers	27	40	31	22	36	156	34	34	75	52	55	182	372
People working away from home	1	4	0	1	1	7	1	1	12	7	10	29	37
People working outside the country	1	0	0	0	0	1	0	0	11	5	8	24	25
Non active labour (children etc.)	12	17	15	11	19	74	12	12	64	29	30	123	209

The level of education of the majority of the people is up to primary school (50%) and lower secondary school (14%). The level of education is specified in the following table.

Household population	Thongharb - Nakhua						Vangkhong		Phonthan				Grand Total
	Thongharb	Nakhua	Nakhua Nok	Nakhua	Nakhua	Total	Vangkhong	Total	Phonthan	Nakhua	Nakhua Nok	Total	
Illiterate	1	0	0	1	1	3	0	0	2	0	0	2	5
Child not at school	12	17	15	11	19	66	12	12	64	29	30	123	177
Primary school (including pupils)	27	40	31	22	36	156	34	34	75	52	55	182	372
Lower secondary (incl. Students)	2	22	9	9	8	50	14	14	20	16	6	42	106
Upper secondary	4	7	4	0	6	21	2	2	11	6	7	24	47
Vocational	0	0	3	0	0	3	0	0	0	2	1	3	6
University	1	0	1	0	0	2	0	0	0	0	0	0	2

2. Household Assets

2.1. Land Assets

Two families in the 110 surveyed do not possess land. The average land holding varies from 1.84 to 2.99 ha/HH in the different villages located in the F/S areas. The average housing quarter land holding is 0.47 ha/HH for the whole area. There are 100 households (91%) that possess paddy land. The average size of the paddy land is 1.61 ha for the whole area, but is varies from 0.97 to 2.59 ha in the different villages. A summary of the land holding situation in the survey area in shown in the following table.

Household population	Thongharb - Nakhua						Vangkhong		Phonthen				Grand Total
	Thongharb	Nakhua	Nakhua HH	Nakhua	Nakhua	Total	Vangkhong	Total	Phonthen	Nakhua	Nakhua HH	Total	
Number of household	8	14	9	7	12	50	10	10	24	14	12	50	110
Number of population	47	86	63	43	70	309	62	62	172	105	99	376	747
No. of Household holding land	8	14	9	7	10	48	10	10	24	14	12	50	108
Total land area (ha)	14.70	27.21	21.16	17.19	29.66	109.92	27.98	27.98	96.32	36.48	35.92	168.72	306.62
Average land holding per HH (ha)	1.84	1.94	2.35	2.45	2.47	2.29	2.80	2.80	4.00	2.61	2.99	3.37	2.84
Average land value per sqm (kip)	328	613	815	497	576	580	520	520	881	1,894	615	1,178	
No. of household holding housing land	8	14	9	6	10	47	9	9	24	14	12	50	106
Total housing area	0.28	0.47	1.30	0.12	0.78	2.95	0.32	0.32	16.58	16.59	13.21	46.38	49.65
Aver. housing land holding per HH	0.04	0.03	0.14	0.02	0.08	0.06	0.04	0.04	0.07	0.12	0.11	0.93	0.47
Average land value per sqm (kip)	1,656	4,948	2,286	12,170	2,832	3,188	5,643	5,643	9,702	21,034	8,674	13,462	
No. of household holding house garden	2	3	2	3	5	15	5	5	6	0	2	8	28
Total house garden land area	0.48	0.22	0.72	0.04	5.32	6.77	0.52	0.52	3.30	0.00	20.20	23.5	30.79
Aver. House garden land holding per HH	0.24	0.07	0.36	0.01	1.06	0.45	0.10	0.10	0.55	0.00	10.10	2.94	1.10
No. of household holding paddy land	7	14	8	6	8	43	9	9	22	14	12	48	100
Total paddy land area	6.82	20.60	7.96	6.64	9.28	51.30	1.81	1.81	56.98	24.71	26.32	108.02	161.12
Aver. paddy land holding per HH	0.97	1.47	1.00	1.11	1.16	1.19	0.20	0.20	2.59	1.77	2.19	2.25	1.61
Average land value per sqm (kip)	479	528	841	693	593	588	475	475	828	1,048	1,083	941	
No. of household holding irrigated land (1)	5	1	1	1	4	12	0	0	9	5	0	14	26
Total irrigated land area	4.08	0.40	1.28	2.00	1.44	9.20	0.00	0.00	8.30	3.33	0.00	11.63	20.83
Aver. Irrigated land holding per HH	0.82	0.40	1.28	2.00	0.36	0.77	0.00	0.00	0.92	0.67	0.00	0.83	0.80
No. of household holding fruit tree land	0	5	1	1	1	8	1	1	3	0	0	3	12
Total fruit tree area	0.00	1.79	3.00	0.09	0.32	5.20	0.05	0.05	2.08	0.00	0.00	2.08	7.33
Aver. Fruit tree garden holding per HH	0.00	0.36	3.00	0.09	0.32	0.65	0.05	0.05	0.69	0.00	0.00	0.69	0.61
No. of household holding river bank land	3	1	4	1	3	12	9	9	0	0	0	0	21
Total river bank land area	1.28	0.01	0.96	0.16	1.44	3.85	1.30	1.30	0.00	0.00	0.00	0.00	5.15
Aver. River bank land holding per HH	0.43	0.01	0.24	0.16	0.48	0.32	0.14	0.14	0.00	0.00	0.00	0.00	0.25
No. of household holding upland crop land	2	0	1	0	3	6	1	1	0	0	0	0	7
Total upland crop land area	1.28	0.00	0.48	0.00	3.44	5.20	1.00	1.00	0.00	0.00	0.00	0.00	6.20
Aver. Upland crop land holding per HH	0.64	0.00	0.48	0.00	1.15	0.87	1.00	1.00	0.00	0.00	0.00	0.00	0.89
No. of household holding brush land	1	5	6	7	5	24	8	8	17	5	8	30	62
Total brush land area	0.48	2.00	5.46	8.14	6.00	22.08	6.98	6.98	24.00	6.18	5.38	35.56	64.62
Aver. Brush land holding per HH	0.48	0.40	0.91	1.16	1.20	0.92	0.87	0.87	1.41	1.24	0.67	1.19	1.04

Notes :

(1). Irrigated lands are included in paddy land.

(2). Estimated 1 US\$ = 7,000 Kips

(3) house value is calculated in the land value

2.2. Livestock assets

In the Lao rural area big animals such as cows and buffaloes are considered as assets, which farmers could trade with in case of emergency. Therefore livestock possession is considered as a criteria to define the wealth of a family.

Livestock assets and their value are summarized in the following table.

Household population	Thongphab - Nakha						Vangphong		Phouphan			Grand	
	Thongphab	Nakha-Nai	Nakha-Nak	Nakha	Nakha	Total	Vangphong	Total	Phouphan	Nakham Sai	Nakham Nua	Total	Total
Number of household	8	14	4	5	12	43	7	7	19	8	11	38	88
Number of chicken	114	148	61	45	262	630	49	49	332	173	298	803	1,482
Number of animals per HH	14	11	15	9	22	71	7	7	17	22	27	66	144
Total value of livestock assets	920,000	992,000	410,000	630,000	3,110,000	6,062,000	460,000	460,000	2,919,000	1,625,000	3,260,000	7,804,000	14,326,000
average animal value per head	8,070	6,703	6,721	14,000	11,870	9,622	9,388	9,388	8,792	9,393	10,940	9,719	9,657
Number of household	2	5	0	1	3	11	5	5	11	7	9	27	43
Number of local ducks	25	13	0	4	16	58	19	19	123	72	95	290	367
Number of animals per HH	13	3	0	4	5	24	4	4	11	10	11	32	60
Total value of livestock assets	320,000	280,000	0	120,000	375,000	1,095,000	460,000	460,000	3,300,000	1,180,000	1,121,000	5,601,000	7,156,000
average animal value per head	12,800	21,538	0	30,000	23,438	18,879	24,211	24,211	26,829	16,389	11,800	19,314	19,499
Number of household	2	1	2	2	4	11	0	0	0	0	0	0	11
Number of breded duck	20	1	12	9	23	65	0	0	0	0	0	0	65
Number of animals per HH	10	1	6	5	6	27	0	0	0	0	0	0	27
Total value of livestock assets	450,000	20,000	230,000	190,000	760,000	1,650,000	0	0	0	0	0	0	1,650,000
average animal value per head	22,500	20,000	19,167	21,111	33,043	25,385	0	0	0	0	0	0	25,385
Number of household	2	3	1	1	5	12	1	1	18	11	9	40	53
Number of pig	2	7	2	1	21	33	4	4	71	30	32	141	178
Number of animals per HH	1	2	2	1	4	11	4	4	4	3	4	18	33
Total value of livestock assets	900,000	1,200,000	800,000	400,000	3,550,000	6,850,000	600,000	460,000	15,030,000	10,450,000	4,350,000	30,890,000	38,200,000
average animal value per head	450,000	171,429	400,000	400,000	169,048	207,578	150,000	150,000	211,690	348,333	135,938	219,078	214,607
Number of household	1	1	1	0	5	8	3	3	8	2	4	20	31
Number of cows	3	1	5	0	40	49	14	14	58	3	23	112	175
Number of animals per HH	3	1	5	0	8	17	5	5	7	2	6	24	46
Total value of livestock assets	2,000,000	1,200,000	4,000,000	0	37,300,000	44,500,000	9,600,000	460,000	22,600,000	1,800,000	15,000,000	49,460,000	94,420,000
average animal value per head	666,667	1,200,000	800,000	0	932,500	908,163	685,714	685,714	389,655	600,000	652,174	441,607	539,543
Number of household	1	5	3	5	4	18	4	4	12	5	7	32	54
Number of water buffaloes	2	24	16	10	20	72	7	7	32	14	15	75	154
Number of animals per HH	2	5	5	2	5	19	2	2	3	3	2	11	32
Total value of livestock assets	1,500,000	27,100,000	21,400,000	14,200,000	32,800,000	97,000,000	8,800,000	460,000	48,600,000	21,400,000	24,000,000	103,260,000	200,720,000
average animal value per head	750,000	1,129,167	1,337,500	1,420,000	1,640,000	1,347,222	1,257,143	1,257,143	1,518,750	1,528,571	1,600,000	1,376,800	1,303,377

2.3. Other Household Assets

Other household assets and housing equipment are specified in the following table.

Household population	Thailand - Sukhothai						Yogyakarta		Phonchan				Grand
	Household	Number	Value	Number	Value	Total	Household	Total	Household	Value	Household	Total	Total
Number of household	1	6	1	2	5	15	0	0	5	0	2	7	22
Number of hand driven tractor	1	6	1	2	5	15	0	0	5	0	2	7	22
Number of asset per HH	1	1	1	1	1	1	0	0	1	0	1	1	1
Total value of household assets	8,000,000	42,400,000	16,600,000	21,200,000	38,200,000	126,400,000	0	0	66,080,000	0	24,000,000	68,080,000	215,480,000
average asset value per item	8,000,000	7,066,667	16,600,000	10,600,000	7,640,000	8,426,667	0	0	13,016,000	0	12,000,000	12,725,714	9,794,545
Number of household	1	3	1	0	1	6	1	1	6	6	1	13	20
Number of hand driven tractor with trailer	1	3	1	0	1	6	1	1	6	6	1	13	20
Number of asset per HH	1	1	1	0	1	1	1	1	1	1	1	1	1
Total value of household assets	12,000,000	38,000,000	11,000,000	0	8,000,000	69,000,000	6,500,000	6,500,000	75,400,000	79,000,000	18,000,000	172,400,000	247,900,000
average asset value per item	12,000,000	12,666,667	11,000,000	0	8,000,000	11,500,000	6,500,000	6,500,000	12,566,667	13,166,667	18,000,000	13,261,538	12,395,000
Number of household	1	0	1	0	1	3	0	0	4	3	2	9	12
Number of water pump	1	0	1	0	1	3	0	0	4	3	2	9	12
Number of asset per HH	1	0	1	0	1	1	0	0	1	1	1	1	1
Total value of household assets	1,000,000	0	400,000	0	1,000,000	2,400,000	0	0	2,200,000	3,000,000	2,250,000	7,450,000	9,650,000
average asset value per item	1,000,000	0	400,000	0	1,000,000	800,000	0	0	550,000	1,000,000	1,125,000	827,778	820,833
Number of household	0	0	1	0	1	2	0	0	0	1	1	2	4
Rice threshing machine	0	0	1	0	1	2	0	0	0	1	1	2	4
Number of asset per HH	0	0	1	0	1	1	0	0	0	1	1	1	1
Total value of household assets	0	0	4,000,000	0	4,000,000	8,000,000	0	0	0	600,000	0	600,000	8,600,000
average asset value per item	0	0	4,000,000	0	4,000,000	4,000,000	0	0	0	600,000	0	300,000	2,150,000
Number of household	1	0	1	0	3	5	0	0	3	1	1	5	10
Rice mill	1	0	1	0	3	5	0	0	3	1	1	5	10
Number of asset per HH	1	0	1	0	1	1	0	0	1	1	1	1	1
Total value of household assets	8,000,000	0	14,000,000	0	35,200,000	57,200,000	0	0	27,000,000	16,000,000	20,000,000	63,000,000	120,200,000
average asset value per item	8,000,000	0	14,000,000	0	11,733,333	11,440,000	0	0	9,000,000	16,000,000	20,000,000	12,600,000	12,020,000
Number of household	0	3	2	0	2	7	1	1	0	2	1	5	13
Number of motorcycle	0	3	2	0	2	7	1	1	0	2	1	5	13
Number of asset per HH	0	1	1	0	1	1	1	1	0	1	1	1	1
Total value of household assets	0	22,000,000	4,000,000	0	8,300,000	34,300,000	17,000,000	17,000,000	0	10,500,000	7,600,000	52,100,000	103,400,000
average asset value per item	0	7,333,333	2,000,000	0	4,150,000	4,900,000	17,000,000	17,000,000	0	5,250,000	7,600,000	10,420,000	7,953,846
Number of household	2	9	8	3	9	31	2	2	12	9	9	34	67
Number of bicycle	3	11	10	6	12	42	2	2	17	16	13	50	94
Number of asset per HH	2	1	1	2	1	1	1	1	1	2	1	1	1
Total value of household assets	1,000,000	1,690,000	970,000	1,490,000	1,915,000	7,065,000	300,000	300,000	2,469,000	5,300,000	2,750,000	11,119,000	18,484,000
average asset value per item	333,333	153,666	97,000	248,333	159,563	168,214	150,000	150,000	145,235	331,250	211,556	222,360	196,638
Number of household	2	11	5	3	2	28	5	5	10	9	7	36	64
Number of TV set	2	11	5	4	2	24	5	5	10	9	8	37	66
Number of asset per HH	1	1	1	1	1	1	1	1	1	1	1	1	1
Total value of household assets	1,100,000	4,850,000	1,740,000	2,000,000	1,100,000	10,790,000	3,110,000	3,110,000	8,600,000	8,900,000	510,000	24,230,000	38,130,000
average asset value per item	550,000	440,909	348,000	500,000	550,000	449,583	622,000	622,000	860,000	988,889	63,750	654,665	577,727
Number of household	3	2	0	2	2	9	4	4	0	1	1	10	23
Number of radio	4	2	0	2	2	10	4	4	0	1	1	10	24
Number of asset per HH	1	1	0	1	1	1	1	1	0	1	1	1	1
Total value of household assets	440,000	150,000	0	100,000	163,000	663,000	196,000	196,000	0	60,000	50,000	482,000	1,521,000
average asset value per item	110,000	75,000	0	50,000	81,500	66,300	46,500	46,500	0	60,000	50,000	48,200	63,375

The value of land, livestock and households assets considered as the capital of the family is specified in the following table.

Value of household assets

Household population	Thonghaeb Nakhu			Yangkhong			Phonthan			Total
	Thonghaeb Nakhu	Nakhu	Nakhu	Yangkhong	Total	Phonthan	Nakham	Nakham	Total	
Number of household	8	14	9	7	12	10	10	24	14	50
Number of population	47	86	63	43	70	62	62	172	105	376
Total Land value	48,300,000	166,900,000	153,200,000	85,470,000	170,850,000	145,450,000	145,450,000	848,800,000	691,000,000	1,987,000,000
Number of HH	8	14	8	7	12	10	10	24	14	50
Average land value per HH	6,037,500	11,921,429	19,150,000	12,210,000	14,237,500	14,545,000	14,545,000	35,366,667	49,357,143	39,740,000
Total Livestock value	6,220,000	31,362,000	26,840,000	15,870,000	78,225,000	20,401,000	20,401,000	94,169,000	36,595,000	178,520,000
Number of HH	8	14	6	7	12	9	9	24	13	49
Average livestock value per HH	777,500	2,240,143	4,473,333	2,267,143	6,518,750	2,266,778	2,266,778	3,923,708	2,815,000	3,643,265
Total household assets' value	33,340,000	114,540,000	53,510,000	25,950,000	98,178,000	34,216,000	34,216,000	189,429,000	135,420,000	408,495,000
Number of HH	6	14	9	5	11	9	9	20	13	44
Average HH assets value	5,556,667	8,181,429	5,945,556	5,190,000	8,925,273	3,801,778	3,801,778	9,471,450	10,416,923	9,284,068
Total household capital	87,860,000	312,802,000	233,550,000	127,280,000	347,253,000	200,067,000	200,067,000	1,132,398,000	863,015,000	2,574,019,000
average number of HH	7	14	8	6	12	9	9	23	13	48
Average HH capital per HH	11,980,909	22,343,000	30,463,043	20,098,421	29,764,543	21,435,750	21,435,750	49,956,735	64,726,125	54,000,399

3. Hygiene, water and sanitation

Most of the households use well or traditional deep well as source of drinking water and water supply. Almost all households have acceptable drinking water. The hygiene, water and sanitation situation of the household surveyed is specified in the table as follows.

Household population	Thongharb-Nakhua					Vangkhong		Phonthan			Grand Total		
	Thongharb	Nakhua	Nakhua No.	Nabin	Nakhua	Total	Vangkhong	Total	Phonthan	Nathan		Nakhua No.	Total
Number of household	8	14	9	7	12	50	10	10	24	14	12	50	110
Number of population	47	86	63	43	70	309	62	62	172	105	99	376	747
Water source													
Rain water jar (%)	38%	7%	0%	0%	0%		0%		0%	0%	0%		
well (public & private) (%)	63%	93%	100%	100%	100%		100%		100%	100%	100%		
Water quality													
Acceptable (%)	38%	50%	56%	0%	67%		0%		100%	100%	100%		
Good (%)	63%	50%	44%	100%	33%		100%		0%	0%	0%		

The sanitation of the people living in the survey area is very poor. People are bathing in streams and rivers or at the well area. Only few households have a bathroom. There are limited latrines

The protein consumption of the people living in the survey area is mostly based on fish and small animals. 90 households (82%) claim to have fish for daily consumption.

4. Power and fuel source

49 households (45%) have no electricity. 5 households (5%) use private power generator and car battery to generate electricity. The remaining households that are mostly located in Thongharb-Nakhua area use kerosene and gas oil lamps for lighting.

The main source of power for cooking and heating during the cool season (November-January) is fuel wood. 96 households (87%) use fuel wood for home consumption and 14 households (13%) use charcoal. Fuel wood is collected in the brush land next to each village. The average distance for collecting fuel wood is 1.9 kilometer for Phonthan area, 550 meter for Vangkhong area, and 1.8 kilometer for Thongharb-Nakhua area.

5. Farm credit

About 9% of the villagers have borrowed money from relatives and private moneylender (6%) for household expense. There are also a few people who joined social forestry and animal credit program of NGOs (3%).

The summary of communal loan is given in the following table.

Leader Name	From	R	N	Activity	Amount (Kip)	Interest rate year	Loan Period month
Thonharb Nakhua Area							
Ban Thongharb							
1 Bong/Aouan	1 relatives	1		Household exp.	400,000	0%	unlimited
Ban Nakhua Nai							
None	0						
Ban Nakhua Nok							
2 Khamphone/Koune	1 relatives	1		Household exp.	800,000	0%	unlimited
3 Yhome/Chone	1 relatives	1		Household exp.	100,000	0%	unlimited
Ban Nahin							
None	0						
Ban Namdua							
4 bounyong/Bounta	1 NGOs		1	Social Forestry	200,000	8%	24
5 xengchun/Mai	1 relatives	1		Household exp.	600,000	0%	unlimited
Total HH	5	4	1		2,100,000		
average loan amount per HH					420,000		
percentage to HH interviewee	10%	8%	2%				
Vangkhong Area							
Ban Vangkhong							
6 Sysavan/Paiboun	1 relatives	1		Household exp.	80,000	0%	unlimited
7 Boualai/Phimphone	1 relatives	1		Household exp.	200,000	0%	unlimited
8 Lae/Dao	1 relatives	1		Household exp.	200,000	0%	unlimited
Total HH	3	3	0		480,000		
average loan amount per HH					160,000		
percentage to HH interviewee	30%	30%	0%				
Phonthan Area							
Ban Phonthan							
None	0						
Ban Nakham Tai							
9 Bounlaod/Hom	1 NGOs		1	buy Animal	200,000	8%	36
Ban Nakham Nua							
10 Hong/Leud	1 NGOs		1	Social Forestry	2,000,000	7%	96
Total HH	2	0	2		2,200,000		
average loan amount per HH					1,100,000		
percentage to HH interviewee	4%	0%	4%				
Summary of Areas							
Total HH	10	7	3				
average loan amount per HH					478,000		
percentage to HH interviewee	9%	6%	3%				

Wet season credit has been provided by APB in Phonthan area for 9 of the household interviewed. Most of the credits were provided through credit groups for fertilizer and pesticide. There is also one household in Vangkhong that got credit from APB for the wet season.

Wet season credit from APB is summarized in the table below.

Leader Name	year started to borrow	Credit given to	No. of pers.	Loan period month	Interest rate %	Loan used for	Total amount Kip	Interst paid up Kip	
Thongharb-Nakhua Area									
(no credit program from APB)									
Total HH	0								
Average % to HH interviewed	0%								
Vangkhong Area									
Ban Vangkhong									
1 Sompid/Ma	1	1999	indiv.	1	6	6.0%	fertilizer & pest.	638,000	39,000
Total HH	1			1					
Average % to HH interviewed	10%								
Phonthan Area									
Ban Phonthan									
2 Bounxou/Thavone	1	1999	group	12	6	10.0%	fertilizer & pest.	525,000	52,500
3 Mouan/Thae	1	1999	group	7	6	10.0%	fertilizer & pest.	600,000	60,000
4 Tha/Thone	1	1999	group	10	6	10.0%	fertilizer & pest.	225,000	22,500
5 Kong/Toud	1	1999	group	7	6	10.0%	fertilizer & pest.	150,000	15,000
6 Sao/My	1	1999	group	10	6	10.0%	fertilizer & pest.	375,000	37,500
7 Phomma/Mouan	1	1999	group	10	6	10.0%	fertilizer & pest.	750,000	75,000
8 Douangchun/Seng	1	1999	group	7	6	10.0%	fertilizer & pest.	430,000	43,000
9 Khame/Tha	1	1999	group	10	6	10.0%	fertilizer & pest.	525,000	52,500
10 Xengyun/Kong	1	1999	group	10	6	10.0%	fertilizer & pest.	800,000	80,000
Ban Nakham Tai									
None									
Ban Nakham Nua									
None									
Total HH	9			83					
Average % to HH interviewed	18%			9					
Areas Summary									
Total HH	10			84					
Average % to HH interviewed	9%								

About 24% of the household interviewed in Thongharb-Nakhua area and 10% in Phonthan area got credit from APB for irrigated paddy production. Most of the credit is provided to credit groups and is used for input supplies for production. In Thongharb area, part of the credit was provided as fuel to run irrigation fuel pumps.

Dry season credit from APB is summarized in the table below.

Leader Name	Year started to borrow	Credit given to	No. of pers.	Loan period month	Interest rate %	Loan used for	Total amount Kip	interest paid up Kip
Thonharb-Nakhua Area								
Ban Thongharb								
1 Thidtheung/My	1 1999	group	11	6	8.0%	fuel for production	1,800,000	144,000
2 sysuphane/Fhuey	1 1997	group	10	6	7.5%	to pay hired labor	200,000	15,229
3 Ban/Thong	1 1998	group	10	6	8.3%	fertilizer and pesticide	505,000	25,250
4 Kinnaly/Beng	1 1997	group	11	6	8.5%	to pay hired labor	350,000	29,000
5 Bounlien/Seuy	1 1997	group	12	6	8.5%	to pay hired labor	300,000	22,844
6 Bounkong/Thongvan	1 1997	group	8	6	8.5%	fertilizer and pesticide	307,500	23,500
7 Savai/Phagn	1 1997	group	8	6	8.5%	fertilizer and pesticide	300,000	22,850
Ban Nakhua Nai								
None								
Ban Nakhua Nok								
None								
Ban Nahin								
8 Thidboun/Nali	1 1998	group	17	6	6.0%	fuel for production	400,000	20,000
9 Leung/Phone	1 1998	group	17	6	6.0%	fuel for production	350,000	17,500
Ban Nam Dua								
10 Nouy/Khamta	1 1998	group	12	6	6.0%	fuel for production	500,000	25,000
11 Beuay/Phancha	1 1998	group	11	6	8.0%	fuel for production	250,000	20,000
12 Boune/Chanma	1 1998	group	12	6	6.0%	fuel for production	480,000	24,000
Total HH	12		127					
Average			11					
% to HH interviewed 24%								
Vangkhong Area								
(no credit program from APB)								
Total HH	0							
Average								
% to HH interviewed 0%								
Phonthan Area								
Ban Phonthan								
Taem/Phommy	1 1999	group	7	6	10.0%	fertilizer and pesticide	375,000	37,500
13 Sopha/Kome	1 1999	group	10	6	10.0%	fertilizer and pesticide	300,000	30,000
14 Phong/Bon	1 1999	group	10	6	10.0%	fertilizer and pesticide	334,000	33,400
15 Phong/Puccd	1 1999	group	10	6	10.0%	fertilizer and pesticide	1,500,000	150,000
16 Sengaloun/Teng	1 1998	group	10	6	10.0%	fertilizer and pesticide	540,000	54,000
Ban Nakham Tai								
None								
Ban Nakham Nua								
None								
Total HH	5		47					
Average			9					
% to HH interviewed 10%								

6. Agriculture Land Use and Agriculture Production

The average land use area for low land paddy per household varies from 1.12 ha to 3.63 ha in the villages located in the survey area. Lower land use areas are located in Vangkhong and Thongharb. The average land use for irrigated paddy is 0.93 ha for the whole area. In Phonthan a large portion of upper land is used for crop production, the average land use for upland crops is 1.28 ha per household. Levees considered to be between the lowland paddy and upland field or on the slope of the river are commonly used for growing vegetable and cash crops. The average land use area is about 1.18 ha/HH in the whole area. By considering the land use pattern and area in each F/S area, Phonthan area has the highest land use intensity. The average agriculture land use per household is specified in the table as follows.

In the all areas paddy production is produced during the wet season and during the dry season in areas that have irrigation. In rainfed paddy production improved rice variety such as Thadokham (TDK) and RD species are widely applied. There is still a large portion of indigenous variety utilized in all model F/S area. The average yield for the improved rice variety is 2.64 tons/ha as the average yield for the indigenous species is 2.38 tons/ha.

In irrigated areas paddy is the dominant crop. Most of all rice variety used are TDK, CR 203 and improved variety from the Thasano Seed Center in Savannakhet. The average yield for TDK is 2.69 tons/ha in Thongharb-Nakhua area and 1.54 tons/ha in Phonthan area.

In the upland rainfed area, paddy is also widely cultivated, especially in the Phonthan area. Improved variety are used but the yield is low is compared with the low land paddy area. The average yield for TDK is 1.75 tons/ha for Thongharb-Nakhua and 1.46 tons/ha for Phonthan.

The rice production and yield for paddy production in all areas as specified above is shown in the following tables.

In the levees and upland area, vegetables and cash crops are commonly cultivated during the raining season. The major crops are; long bean, maize/sweet corn, green pepper, sugar cane, vegetables, and banana. The land use area and yield for those crops are specified in the following tables.

Average agricultural land use per household

Household population	Thonghaat			Nashua			Vangkhay			Preaek			Grand Total	
	Members	Households	Total	Members	Households	Total	Members	Households	Total	Members	Households	Total		
Number of household	8	14	9	7	12	50	10	10	10	24	14	12	50	110
Number of population	47	86	63	43	70	309	62	62	62	172	105	99	376	747
Number of HH	6	14	9	7	11	47	9	9	9	24	14	11	49	105
% to HH interviewed	75%	100%	100%	100%	92%	94%	90%	90%	90%	100%	100%	92%	98%	95%
Total lowland paddy (ha)	9.96	21.20	10.78	14.48	23.45	79.87	10.06	10.06	10.06	87.23	29.82	31.45	148.50	238
Average land use for lowland paddy	1.66	1.51	1.20	2.06	2.13	1.70	1.12	1.12	1.12	3.63	2.13	2.86	3.03	2.27
Number of HH	4	0	0	0	4	8	0	0	0	9	5	1	15	23
% to HH interviewed	50%	0%	0%	0%	33%	16%	0%	0%	0%	38%	36%	8%	30%	21%
Total lowland paddy (irrigated)	3.78	0.00	0.00	0.00	3.56	7.34	0.00	0.00	0.00	8.20	3.83	2.00	14.03	21
Average land use for lowland paddy	0.95	0.00	0.00	0.00	0.89	0.92	0.00	0.00	0.00	0.91	0.76	2.00	0.94	0.93
Number of HH	0	1	1	0	1	3	0	0	0	10	4	4	18	21
% to HH interviewed	0%	7%	11%	0%	8%	6%	0%	0%	0%	42%	29%	33%	36%	19%
Total upland field	0.00	1.00	0.48	0.00	0.48	1.96	0.00	0.00	0.00	15.80	4.08	5.10	24.98	27
Average land use for upland field	0.00	1.00	0.48	0.00	0.48	0.65	0.00	0.00	0.00	1.58	1.02	1.27	1.39	1.28
Number of HH	0	0	0	0	1	1	0	0	0	9	5	2	16	17
% to HH interviewed	0%	0%	0%	0%	8%	2%	0%	0%	0%	36%	36%	17%	32%	15%
Total levee land	0.00	0.00	0.00	0.00	4.00	4.00	0.00	0.00	0.00	8.20	4.83	3.00	16.03	20
Average land use for levee land	0.00	0.00	0.00	0.00	4.00	4.00	0.00	0.00	0.00	0.91	0.96	1.50	1.00	1.18
Number of HH	0	1	2	3	0	6	0	0	0	15	4	7	26	32
% to HH interviewed	0%	7%	22%	43%	0%	12%	0%	0%	0%	63%	29%	58%	52%	29%
Total forest land	0.00	1.00	2.34	3.95	0.00	7.32	0.00	0.00	0.00	20.70	4.67	3.62	28.99	36
Average land use for forest land	0.00	1.00	1.17	1.33	0.00	1.22	0.00	0.00	0.00	1.38	1.17	0.62	1.12	1.13

¹ The land use area specified by the farmers may include land leased from other farmers.

Rice production area and yield for lowland rainfed paddy

Household population	Eksongbep Nakhae Na Nakay/Nok			Thonghato Nakhae Na Nakay/Nok			Vatgrong Total			Phonban Nakham Ja Nakham Na		
	Number of HH	Planted area (ha)	Average yield (ton/ha)	Number of HH	Planted area (ha)	Average yield (ton/ha)	Number of HH	Planted area (ha)	Average yield (ton/ha)	Number of HH	Planted area (ha)	Average yield (ton/ha)
Number of HH	4	13	8	7	9	41	1	1	7	11	11	11
TDK Planted area (ha)	2.80	17.10	5.92	10.00	12.84	48.66	1.50	1.50	5.80	12.22	18.55	18.55
Average cultivated area (ha) per HH	0.70	1.32	0.74	1.43	1.43	1.19	1.50	1.50	0.83	1.11	1.69	1.69
Average yield (ton/ha)	2.70	2.10	2.79	1.68	2.79	2.41	1.44	1.44	2.00	3.55	2.37	2.37
Number of HH	4	0	1	0	0	5	0	0	0	0	0	0
RD Planted area (ha)	1.92	0.00	0.40	0.00	0.00	2.32	0.00	0.00	0.00	0.00	0.00	0.00
Average cultivated area (ha) per HH	0.48	0.00	0.40	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00
Average yield (ton/ha)	2.08	0.00	5.25	0.00	0.00	1.47	0.00	0.00	0.00	0.00	0.00	0.00
Number of HH	0	0	0	1	0	1	1	1	13	11	11	11
Thasano Planted area (ha)	0.00	0.00	0.00	0.50	0.00	0.50	0.20	0.20	27.80	12.22	18.55	18.55
Average cultivated area (ha) per HH	0.00	0.00	0.00	0.50	0.00	0.50	0.20	0.20	2.14	1.11	1.69	1.69
Average yield (ton/ha)	0.00	0.00	0.00	3.00	0.00	0.60	1.20	1.20	2.13	3.55	2.37	2.37
Number of HH	0	1	0	0	2	3	0	0	4	1	2	2
Jasmin Planted area (ha)	0.00	0.16	0.00	0.00	1.12	1.28	0.00	0.00	3.80	0.30	0.51	0.51
Average cultivated area (ha) per HH	0.00	0.16	0.00	0.00	0.56	0.43	0.00	0.00	0.95	0.30	0.26	0.26
Average yield (ton/ha)	0.00	0.80	0.00	0.00	2.40	0.64	0.00	0.00	2.14	2.50	2.40	2.40
Number of HH	3	3	2	0	2	10	6	6	10	3	1	1
Indigenous rice Planted area (ha)	0.96	1.94	1.64	0.00	1.45	5.99	7.51	7.51	8.52	2.70	0.28	0.28
Average cultivated area (ha) per HH	0.32	0.65	0.82	0.00	0.73	0.60	1.25	1.25	0.85	0.90	0.28	0.28
Average yield (ton/ha)	2.57	1.00	2.10	0.00	3.23	1.78	1.10	1.10	2.13	2.20	2.80	2.80

Rice production area and yield for lowland irrigated land type

Leader Name	TDK			CR 203			Thasano SC			Indigenous		
	HH	Planted area (ha)	Yield (ton/ha)	HH	Planted area (ha)	Yield (ton/ha)	HH	Planted area (ha)	Yield (ton/ha)	HH	Planted area (ha)	Yield (ton/ha)
Thonharb - Nakhua Area												
Ban Thongharb												
1 Thidtheung/My	1	1.00	3.00	1	1.00	3.00						
2 sysuphane/Fhuey	1	0.32	3.56									
3 Ban/Thong	1	0.96	2.00									
4 Kinnaly/Beng	1	0.48	2.88									
5 Bounlien/Seuy	1	0.48	0.85									
6 Bong/Aouan	1	0.48	2.90									
7 Bounkong/Thongvane	1	0.48	3.56									
8 Savai/Phagn	1	0.64	2.80									
Ban Nakhua Nai												
None												
Ban Nakhua Nok												
None												
Ban Nahin												
9 Thidboun/Nali	1	0.32	3.00									
10 Kong/Phouvong	1	0.32	0.40									
Ban Namdua												
11 somda/Khoun	1	0.64	2.30									
12 Nouy/Khamta	1	1.28	4.20									
13 Beuay/Phancha	1	0.28	3.00	1	0.20	3.00						
14 Boune/Chanma	1	0.64	3.20									
Total	14	8.52	37.65	2	1.20	6.00	0	0.00	0.00	0	0.00	0.00
Average area (ha)		0.59	2.69		0.60	3.00		0.00	0.00		0.00	0.00
Vangkhong Area												
Ban Vangkhong												
None												
Total	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Average area (ha)		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
Phonthan Area												
Ban Phonthan												
15 Leuam/Phong							1	1	3			
16 Mouan/Thae	1	0.5	1.2									
17 Sao/My	1	0.2	1.5				1	0.3	1.5			
18 Taem/Phommy	1	1	3									
19 Khame/Tha							1	1.5	1			
20 Sopha/Kome	1	1	1.8									
21 Tane/Auon	1	0.3	0.8									
22 Phong/Bon	1	1.5	2.7									
23 Sengaloun/Teng							1	1	2.1			
Ban Nakham Tai												
24 Vy/Kasy	1	0.5	3.2									
25 Yeuong/	1	1	0									
26 Yark/Vane										1	1	0.1
27 Sy/Kong	1	0.63	1.11									
28 Koua/Pao	1	0.7	0.1									
Ban Nakham Nua												
None												
Total	10	7.33	15.41	0	0	0	4	3.8	7.6	1	1	0.1
Average area (ha)		0.73	1.54		0.00	0.00		0.95	1.90		1.00	0.10

Paddy production area and yield for upland rainfed paddy land type

HH/ender	TDK			Thasano SC			Jasmine rice			Indigenous			
	HH	Planted area (ha)	Yield (ton/ha)	HH	Planted area (ha)	Yield (ton/ha)	HH	Planted area (ha)	Yield (ton/ha)	HH	Planted area (ha)	Yield (ton/ha)	
Thonharb-Nakhua Area													
Ban Thongharb													
None													
Ban Nakhua Nai													
1	Khamphong/Nang	1	1.00	2.00									
Ban Nakhua Nok													
2	Bounyou/Bang	1	0.16	1.50						1	0.32	2.20	
Ban Nahin													
3	Symeuang/Mai									1	0.48	1.50	
Ban Namdua													
None													
Total		2	1.16	3.50	0	0.00	0.00	0	0.00	0.00	2	0.80	3.70
Average area (ha)			0.58	1.75		0.00	0.00		0.00	0.00		0.40	1.85
Vangkhong Area													
None													
Total		0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Average area (ha)			0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
Phonthan Area													
Ban Phonthan													
4	Mouan/Thae						1	3.00	2.50				
5	Kong/Toud				1	0.20	1.20			1	0.30	1.20	
6	Phou/Nouad	1	0.50	0.75						1	0.50	0.75	
7	Sao/My	1	0.50	2.00	1	1.00	2.00			1	0.50	2.00	
8	Sopha/Kome									1	0.50	2.00	
9	Tane/Auon				1	0.20	1.50			1	0.50	1.50	
10	Thidkhoun/Suk									1	1.50	1.90	
11	Ya/Meng	1	0.50	1.70	1	0.30	1.70						
12	Sytha/				1	0.30	1.70			1	0.80	1.80	
13	Xengyun/Kong				1	1.50	1.80						
14	Phong/Bon	1	1.80	1.75	1	1.40	1.75						
Ban Nakhm Tai													
15	Vy/Kasy	1	1.00	1.50									
16	Chune/									1	2.00	1.20	
17	Pae/Aoum	1	0.50	1.20									
18	O/Sy				1	0.83	1.40			1	1.00	1.40	
Ban Nakhm Nua													
Thiemg/lume													
Total		6	4.80	8.90	9	7.35	14.95	1	3.00	2.50	9	7.60	13.75
Average area (ha)			0.80	1.48		0.81	1.66		3.00	2.50		0.84	1.53

Other crop production area and yield

Leader Name	HH	Planted (ha)	Yield (ton/ha)	HH	Planted (ha)	Yield (ton/ha)	HH	Planted (ha)	Yield (ton/ha)	HH	Planted (ha)	Yield (ton/ha)	HH	Planted (ha)	Yield (ton/ha)	HH	Planted (ha)	Yield (ton/ha)	HH	Planted (ha)	Yield (ton/ha)	
Thonharb - Nakhua Area																						
1 Ban/Tnong	1	0.80	0.10																			
2 Bounlien/Seau				1	0.32	3.13	1	0.08	0.60													
3 Khamphong/Nang	1	0.04	2.30																			
4 Chanda/Ty				1	0.08	6.00																
5 Khamphong/Kasy							1	0.08	6.00													0.08
6 Bounpheun/Thongtip							1	0.50	8.00													0.32
7 Changun/Kong							1	0.16	6.00													0.24
8 Kong/Phouwong							1	0.16	5.00													0.16
9 /Keo							1	0.30	6.00													0.75
10 xengmy/Boun							1	1.00	7.00													1.00
11 bounyong/Bounta				1	0.60	3.00																0.05
12 xengchun/Mai							1	0.20	4.00													0.20
13 mouan/Dann				1	0.20	3.00																0.08
14 Khouay/Phai				1	0.20	3.00																10.00
15 sornida/Khoum				1	0.16	7.00																0.64
Total	4	0.99	4.95	5	1.28	13.63	7	0.68	0.60													3.19
Average area (ha)		0.25	1.24		0.32	2.73		0.17	0.15													0.45
Vangkhang Area																						
16 Keudmy/Doungchune				1	0.40	2.50																0.20
Total	0	0.00	0.00	1	0.40	2.50	0	0.00	0.00													1.50
Average area (ha)		0.00	0.00		0.40	2.50		0.00	0.00													0.20
Phonthan Area																						
17 Bounxou/Thavone				1	0.10	1.00																0.10
18 Nouan/Done							1	0.04	0.70													1.00
19 Tha/Thone				1	0.03	0.90	1	0.03	1.00													0.01
20 Phou/Nouad							1	0.10	0.50													2.00
21 Sao/My							1	0.20	1.50													
22 Taem/Phommy							1	0.06	1.00													
23 Phomma/Mouan							1	0.04	1.00													
24 Douangchun/Seng							1	0.10	2.00													
25 Khame/Tha							1	0.30	1.20													
26 Tane/Auon							1	0.15	0.60													
27 Ya/Meng							1	0.30	0.40													
28 Sytha/							1	0.10	0.50													
29 Xengyun/Kong							1	0.30	0.50													
30 Phong/Bon				1	0.30	1.50	1	0.30	0.50													
31 Phong/Pued	1	0.10	2.00																			
32 Chune/							1	0.50	1.60	1	0.10	0.50										
33 Kay/Deng										1	0.05	0.80										
34 Yaik/Vane										1	0.03	2.00										
35 Sy/Kong										1	0.03	0.80										
36 Koua/Pao										1	0.06	5.00										
37 Ngoua/La										1	0.03	0.80										
38 Churmanyong/Thip							1	0.20	0.15													
39 Yae/Phao				1	0.25	2.50																
40 Sornphong/Deung							1	0.25	2.50													
41 Hong/Leud							1	0.50	1.50	1	0.10	0.70										
42 Churnsy/Phone	1	0.04	2.00																			
Total	2	0.14	4.00	11	2.38	13.70	10	1.32	5.35	0	0.00	0.00	9	0.43	4.10	0	0.00					0.00
Average area (ha)		0.07	2.00		0.22	1.43		0.13	0.54		0.00	0.00		0.05	1.57		0.00					0.00

The use of fertilizer and pesticide during the wet and dry season rice production is specified in the following tables.

Dry season paddy farm inputs ratio

Leader Name	New improved seed			Fertilizer 46-0-0			Fertilizer 16-0-0		
	HH	Unit Price	Ratio applied per ha	HH	Unit Price	Ratio applied per ha	HH	Unit Price	Ratio applied per ha
Thongharb-Nakhua Area									
Thidtheung / My	1	600	100	1	950	208	1	550	313
sysuphane / Phuey	1	800	94	1	950	156	1	550	156
Ban / Thong	1	800	100	1	950	100	1	550	150
Kinnaly / Beng	1	800	63	1	950	104	1	104	150
Bounlien / Seuy	1	800	25	1	950	208	1	550	313
Bong / Aouan	1	800	100	1	890	100	1	550	150
Bouklong / Thongvane	1	800	104	1	950	104	1	550	208
Savai / Phagn	1	800	78	1	950	156	1	550	156
Chanda / Ty	1	700	36	1	1,700	100	1	1,500	100
Thidboun / Nali	1	700	75	1	420	312	1	320	312
Kong / Phouvong	1	700	75				1	340	312
somda / Khoun	1	700	75	1	950	50	1	1,100	100
Nouy / Khanta	1	700	78	1	1,700	200	1	1,500	300
Beuay / Phancha	1	600	75	1	0	100	1	550	150
Boune / Chanma	1	700	100	1	890	100	1	550	100
Total	15	11,000	1,178	14	13,200	1,998	15	9,814	2,970
Average		733	79		943	143		654	198
Vangkhong Area									
(No irrigated paddy)									
Total	0	0	0						
Average		0	0						
Phonthan Area									
Mouan / Thae	1	325	25	1	3,000	100	1	4,500	150
Sao / My	1	400	50	1	1,500	150			
Taem / Phommy	1	400	60				1	3,750	250
Khame / Tha	1	400	40				1	1,500	100
Sopha / Kome	1	400	50	1	1,400	100	1	1,600	100
Tane / Auon	1	400	15				1	1,600	166
Phong / Bon	1	400	40	1	1,240	66	1	1,400	100
Sengaloun / Teng	1	400	20				1	1,200	200
Vy / Kasy	1	400	30	1	1,100	50	1	1,200	50
Yeoung /	1	400	60		1,300	50			
Yark / Vane	1	400	90				1	1,000	150
Sy / Kong	1	400	30	1	2,000	50	1	2,000	50
Koua / Pao	1	400	50					1,400	300
Ngoua / La	1	400	50	1	1,700	150	1	1,800	250
Total	14	5,325	610	7	13,240	716	11	22,950	1,866
Average		395	44		946	102		2,086	170

Dry season paddy farm inputs ratio

Leader Name	Improved Seed		manure		fertilizer (kg/ha)				organic	insecicide	litre/ha	
	HH	kg/ha	HH	kg/ha	HH	16-20-0	HH	46-0-0				HH
Thongharb-Nakuha Area												
Total	46	3,739	0	0	10	785	7	620	8	21,820	0	0
average ratio per ha		81		0		79		89		2,728		0
% to HH interviewed	92%		0%		20%		14%		16%		0%	
Vangkhong Area												
Total	9	520	0	0	3	199	1	75	3	818	0	0
average ratio per ha		58		0		66		75		273		0
% to HH interviewed	90%		0%		30%		10%		30%		0%	
Phonthan Area												
Total	47	4,631	6	31,800	46	10,685	23	3,300	29	54,650	6	9
average ratio per ha		99		5,300		232		143		1,884		1
% to HH interviewed	94%		12%		92%		46%		58%		12%	

7. Agricultural Support Services

There are 94 households that received technical support services from the DAFSO and PAFSO. 42 households (38%) are not satisfied with the technical support.

The support of DAFSO extension staff and the satisfaction of the farmers in the extension service are shown in the following table.

	Never visited	Visit			satisfied		model farmer
		1 y	2-3 y	>3 y	Yes	No	
Thongharb-Nakhua Area							
Number of HH	3	11	24	12	36	14	1 rice
% to HH interviewed	6%	22%	48%	24%	72%	28%	2%
Vangkhong Area							
Number of HH	0	1	5	4	8	2	1 rice
% to HH interviewed	0%	10%	50%	40%	80%	20%	10%
Phonthan Area							
Number of HH	13	13	18	6	24	26	1 rice
% to HH interviewed	26%	26%	36%	12%	48%	52%	2%
Summary of all areas							
Number of HH	16	25	47	22	68	42	3
% to HH interviewed	15%	23%	43%	20%	62%	38%	3%

8. Marketing of crops

The farmers sell part of the wet season paddy to village or town middlemen. Paddy is sold at the husk house (farm gate) or at the threshing yard. In Vangkhong area due to low productivity all paddy are consumed. The farmers in all the survey area sell only 20% of the dry season paddy. The average price of paddy varies from 600 to 1000 Kips depending location.

In most of areas farmers complain about low price of agriculture products, a few farmers consider the quality of their products and transportation as constraints. The following table shows the marketing situation for the major crops in the surveyed area.

Leader name	Price per Kilogram in Kip										
	dry season HH paddy	dry season HH paddy	wet season HH paddy	wet season HH paddy	Maize	other HH Crops	other HH Crops	selling problems price	selling problems quality	selling problems transport	
Thongharb-Nakhua Area											
Average price per kg	14	8,550	29	19,730	10	7,450	11	24,100	27	2	5
% to HH interviewed	28%	611	58%	680	20%	745	22%	2,191	54%	4%	10%
Vangkhong Area											
Average price per kg	0	0	1	1,000	1	500	1	2,000	2	0	0
% to HH interviewed	0%	0	10%	1,000	10%	500	10%	2,000	20%	0%	0%
Phonthan Area											
Average price per kg	8	5,150	41	29,260	11	14,400	9	43,800	36	4	3
% to HH interviewed	16%	644	82%	714	22%	1,309	18%	4,867	72%	8%	6%
Summary of all areas											
Average price per kg	22	13,700	71	49,990	22	22,350	21	69,900	65	6	8
% to HH interviewed	20%	623	65%	704	20%	1,016	19%	3,329	59%	5%	7%

9. Household income and expenditure

In Thongharb-Nakhua the average income per household is 9,155,757 Kip². The highest family income is up to 39,194,80 Kip and the lowest income is 436,000 Kip. It is difficult to evaluate the actual household revenue because the figure given by the surveyor is based on facts. It is noted that the major income of the wealthy families is from livestock rather than crop production. However, according to tradition the raising of cattle is a capital investment and the selling of those assets is mainly for paying debt, cultural events (wedding, holly ceremony etc.), and buying farm equipment. It is anticipated that the lowest household income has not declared all its revenue from the collect of forest products and hunting for its subsistence. The average income per household having dry season crop is 10,732,353 Kip. The average income per capita of the area is 1,529,192 Kip/person. In the area the income and expenditure is generally balancing with some profit. However, the net profit after deduction of the household labor is negative for 18 families and is meaning less (less than 1 million Kip) for 10 families.

In Vangkhong the average yearly income per household is 6,245,170 Kip. The lowest household income is 2,214,800 Kip and the highest 22,556,000 Kip. It is noted that the highest income was generated by the sale of cattle, which is considered as a transfer of home capital into cash. The per capita income of the area is about 993,317 Kip per person.

In Phonthan area, the average household income of the area is 9,282,616 Kip. The lowest household income is 1,310,000 Kip and the highest 26,505,000 Kip. In general, the revenue of the high-income families is generated from livestock selling that is considered as a cash procurement of the families.

² The exchange rate between the US Dollars and the local currency (Kip) is 1 US\$ = 7,000 Kips.

Household income summary

	HH size	Crop production	Livestock	HH processing	Hired labor	Non farm	Total	Gross per capita income/year
Thongharb - Nakhua Area								
Average income per HH (Area)		2,550,638	3,434,140	549,420	1,721,002	900,557	9,155,757	1,429,192
		27.86%	37.51%	6.00%	18.80%	9.84%	100.00%	
Lowest income (Area)	4	420,000			16,000		436,000	109,000
		96.33%	0.00%	0.00%	3.67%	0.00%	100.00%	
Highest income (Area)	8	199,800	28,680,000	2,515,000	7,800,000		39,194,800	4,899,350
		0.51%	73.17%	6.42%	19.90%	0.00%	100.00%	
HH with irrigation	93	2,738,875	3,852,429	383,929	1,884,120	1,843,000	10,702,352	1,637,038
Total 14 HHs		25.59%	36.00%	3.59%	17.60%	17.22%	100.00%	
Vangkhong Area								
Average income per HH (Area)		917,880	2,648,100	138,000	1,194,310	1,346,880	6,245,170	993,317
		14.70%	42.40%	2.21%	19.12%	21.57%	100.00%	
Lowest income (Area)	8	499,800	75,000	100,000	1,540,000		2,214,800	276,850
		22.57%	3.39%	4.52%	69.53%	0.00%	100.00%	
Highest income (Area)	7	1,296,000	13,760,000		2,100,000	5,400,000	22,556,000	3,222,286
		5.75%	61.00%	0.00%	9.31%	23.94%	100.00%	
Phonthan Area								
Average income per HH (Area)		3,605,376	3,718,180	194,720	949,080	815,260	9,282,616	1,258,849
		38.84%	40.06%	2.10%	10.22%	8.78%	100.00%	
Lowest income (Area)	5	360,000	140,000		660,000	150,000	1,310,000	262,000
		27.48%	10.69%	0.00%	50.38%	11.45%	100.00%	
Highest income (Area)	14	6,945,000	16,570,000	240,000	750,000	2,000,000	26,505,000	1,893,214
		26.20%	62.52%	0.91%	2.83%	7.55%	100.00%	
HH with irrigation	117	5,231,143	4,279,429	286,071	2,155,000	565,571	12,517,214	1,674,420
Total 15 HHs		42%	34%	2%	17%	5%	100%	

Household Expenditure Summary

Leader Name	Dry season crops	Wet season crops	Other crops	Livestock	Machinery	Handicraft	Home Expenses	Other Expenses	Total
Ban Thongharb									
Average expend. per HH	786,351	393,750	18,305	102,375	641,031	2,500	1,105,588	71,821	3,121,721
Percentage	25%	13%	1%	3%	21%	0%	35%	2%	100%
Ban Nakhua Nai									
Average expend. per HH	62,643	874,214	12,857	479,643	335,857	92,714	3,620,758	75,643	5,554,329
Percentage	1%	16%	0%	9%	6%	2%	65%	1%	100%
Ban Nakhua Nok									
Average expend. per HH	0	547,307	44,444	475,440	501,667	133,944	3,901,024	77,778	5,681,604
Percentage	0%	10%	1%	8%	9%	2%	69%	1%	100%
Ban Nahin									
Average expend. per HH	73,864	367,614	20,000	299,043	122,857	71,429	1,700,029	45,357	2,700,193
Percentage	3%	14%	1%	11%	5%	3%	63%	2%	100%
Ban Namdua									
Average expend. per HH	758,733	769,167	217,058	548,292	866,000	22,583	2,597,538	61,967	5,841,338
Percentage	13%	13%	4%	9%	15%	0%	44%	1%	100%
Summary of Area Thongharb-Nakhua									
Number of HH	16,789,660	32,118,060	3,471,140	20,485,780	25,597,250	5,294,500	137,715,175	5,594,868	242,866,213
Average expend. per HH	1,199,261	713,735	239,262	569,049	835,718	143,239	2,754,304	84,867	6,579,434
Percentage	18%	11%	4%	9%	13%	2%	42%	1%	100%
Summary of Area Vangkhong									
Number of HH	9,898,000	72,000	72,000	759,000	1,737,650	360,500	16,461,110	1,979,600	31,207,860
Average expend. per HH	989,800	7,200	7,200	75,900	173,765	36,050	1,640,111	197,960	3,120,786
Percentage	0%	32%	9%	2%	6%	1%	53%	6%	100%
Ban Phonthan									
Average expenditure per HH	197,198	821,917	60,875	281,867	182,917	154,250	1,247,948	63,596	3,010,567
Percentage	7%	27%	2%	9%	6%	5%	41%	2%	100%
Ban Nakhom Tai									
Average expenditure per HH	157,107	1,046,554	14,300	331,911	91,886	126,429	1,389,463	0	3,157,649
Percentage	5%	33%	0%	11%	3%	4%	44%	0%	100%
Ban Nakhom Nua									
Average expenditure per HH	180,208	962,608	61,775	273,000	237,292	19,167	1,540,250	0	3,274,900
Percentage	6%	29%	2%	8%	7%	1%	47%	0%	100%
Summary of Area Phonthan									
Number of HH	9,094,750	45,929,050	2,402,500	14,687,550	6,553,900	5,702,000	67,856,235	1,526,300	155,752,295
Average expend. per HH	806,317	956,855	109,205	376,604	405,900	196,621	1,357,725	66,361	4,075,367
Percentage	15%	23%	3%	9%	10%	5%	33%	2%	100%

10. Environment impact

During the survey the use of chemical pesticide by the farmers was one component of the interview. Only 39 households (35%) pretend to know how to use chemical pesticide. The 39 households through DAFSO extension workers (31%) obtained the knowledge about the use of agro-chemicals, neighbors (62%), and reading label instruction (8%). All households are aware about the danger of chemical pesticide. 52 households (47%) have health problems after the use of pesticide.

The major diseases in the area are malaria (57%), diarrhea (7%), and respiratory diseases (24%). 102 households (93%) have access to medication and receive regular visit from doctors.

11. Gender awareness

The gender responsibility and structure of duty of the family members in the productive and non-productive household activities was collected during the interview and is shown in following.

	Household activity	% male	% female
	<i>Productive household activity</i>		
1	Preparing land for crop production	98	2
2	Preparing seed bed	93	7
3	Transplanting plants	15	85
4	Weeding	19	81
5	Fertilizer, pesticide application	88	12
6	Get water, water management	94	6
7	Harvesting	29	71
8	Threshing	87	13
9	Transporting and storing crops	89	11
10	Grazing cows/buffalo	79	21
11	Feeding pigs and poultry	27	73
12	Handicraft processing	5	95
13	Processing of farm product	15	85
14	Selling home commodity to local market	22	78
15	Selling paddy and rice	62	38
	<i>Non-productive household activity</i>		
1	Going to village meeting	96	4
2	Going to credit group meeting	96	4
3	Going to WUO meeting	97	3
4	Going to pagoda/temple meeting	95	5
5	Participating in training	100	0
6	Fetching water	7	93
7	Fetching fuel wood	63	37
8	Cooking	3	97
9	Cleaning household	2	98
10	Taking care of children and baby	5	95
11	Keeping money	29	71
12	Borrowing money with village people	76	24
13	Borrowing money with APB	94	6
14	Repair house	100	0
15	Repair tool and equipment	100	0

Female does 45% of the overall productive activities of the household. However, there is a clear division of labor between gender concerning specific production activities. The activities occupying more than 70% of female are; transplanting plant, weeding, harvesting, feeding pigs and poultry, handicraft processing, processing of farm products, and selling home commodity to local market.

In non-productive activities, the reproduction³ activities are given to the housewife. Responsibility in fetching water and fuel wood relies on the women. The long tradition in ethnic Lao Lum housewife is responsible for keeping the money and to procure funds for the household expenses. However, it is noticed that in social activities such as; going to village meeting, going to credit group meeting, going to WUO meeting, going to pagoda/temple meeting, and participating in training is mostly done by men. This shows that social and communal decision is still the responsibility of men.

12. Main problem encountered by the farmers

The households were asked to notify the 3 main problems they are actually facing. The district surveyors summarized the problems specified below.

1. Households with crops pest and disease	49	households
2. Households with shortage of water	42	
3. Households with shortage of budget	33	
4. Households with lower knowledge in cultivation	32	
5. Households with shortage of capital and credit	29	
6. Households with flood problems	25	
7. Households with labor shortage	19	
8. Households with little fertilization	17	
9. Households with poor road conditions	17	
10. Households with drought problems	13	
11. Households with few improved variety and seed purity	11	
12. Households with weed damage	10	

The problems are summarized in the table as follows.

³ reproduction activities refers to maternity care and house care activities

