IMPACT EVALUATION REPORT

Farmer Training in SRI and Farmer Organization (FTSF)

IN TAKEO AND PREY VENG, CAMBODIA

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Table of Contents

Executive Summary

Since April 2004, CEDAC has implemented a project entitled "FLIP" Farmer Training in SRI and Farmer Organization with funded by German Agro Action (GAA). The project has targeted in 300 villages of Takeo and Prey Veng province.

The goal of the project is to improve living conditions of 6000 small farmers and their enhanced standing in Cambodian society. In order to reach the goal the project aims to improve livelihood of small farmers through the development of farmer led and self-sustained agricultural extension, marketing and community finance services. The project also aims at enabling farmers to increase agricultural production and income through the application of innovations in ecological agriculture, especially rice intensification, animal husbandry, aquaculture, home gardening and crop diversity and active participation in farmer association and network.

This report is aiming to present the study findings on the project impact which was conducted in February 2007 by the project team under the support of R&D department of Cedac. Data processing and analysis were done in March and April. 284 households have been randomly selected and interviewed from 22 villages in the project target area. To facilitate the analysis of the project impact, number of samples has been equally divided into four groups based on the total incomes of the household interviewed before the project phase: lowest quartile, lower average quartile, higher average quartile and highest quartile.

It is found that project has made significant improvement on the rural livelihoods of the beneficiaries. Not only improving agricultural incomes, but it also impact on the household physical assets, financial assets and food security as well. Remarkably, project has strongly impact on the poorest households (lowest quartile and lower average quartile). In FTSF-PV Project, lowest quartile households have increased household incomes 167% and lower average quartile households have increased household incomes 76%. While in FTSF-TK Project, lowest quartile households have increased household incomes 155% and lower average quartile households have increased household incomes 75%.

Table A: FTSF-PV: Main indicators of project impact

Types of main impact indicators	Before project	At the present (2005-06)	Percentage of Change
Nb. households regularly drink boiled or filtered water	27.7%	40.5%	46%
Number of households have motorbike	22.2%	41.2%	86%
Number of households have TV	66.1%	85.1%	29%
Number of households have water pump	24.2%	39.2%	62%
Number of households have a good house condition	30.4%	36.5%	20%
Number of households have toilet	12.8%	20.9%	63%
Total rice harvest (Kg/hh/Year)	2492	3027	21%
Rice yield / ha (Kg / Ha)	1535	1887	23%
Number of households could sell vegetable	20.3%	30.4%	50%
Incomes from selling vegetable (Riel/hh/Y)	143,400	222,000	55%
Number of households raise fattening pig	43.9%	25.0%	-43%
Number of households could sell chicken	47.3%	48.6%	3%
Incomes from selling chicken (Riel/hh/Y)	87,300	112,300	29%
Number of household using chemical fertilizer	97.3%	95.9%	-1%
Average amount of chemical fertilizer use (Kg/hh/Y)	148	110	-26%
Number of household using chemical pesticide	31.1%	16.2%	-48%
Average expenses on chemical fertilizer use (R/hh/Y) = B	160,700	155,800	-3%
The amount of chemical pesticide use (R/hh/Y) = C	8,800	5,400	-39%
Additional expenses on veg-consumption (R/hh/Y) = D	92,700	76,300	-18%
Nb. household spend for additional purchasing vegetable	95.9%	95.3%	-1%
Fish consumption from fish raising and trapping (Kg/Y)	49	49	0%

Total agriculture cash incomes per year (Riel/hh) = A	1,877,400	2,799,100	49%
Net incomes from agricultural innovation adoption = E = A – (B+C+D)	1,775,700	2,561,600	44%

Table B: FTSF-TK: Main indicators of project impact

Types of main impact indicators	Before project	At the present (2005-06)	Percentage of Change
Nb. households regularly drink boiled or filtered water	43.4%	68.4%	58%
Number of households have motorbike	16.4%	43.4%	165%
Number of households have TV	45.1%	65.1%	44%
Number of households have water pump	17.6%	34.6%	97%
Number of households have a good house condition	10.3%	15.4%	50%
Number of households have toilet	8.8%	14.0%	59%
Total rice harvest (Kg/hh/Year)	2030	2571	27%
Rice yield / ha (Kg / Ha)	1584	2103	33%
Number of households could sell vegetable	14.7%	16.9%	15%
Incomes from selling vegetable (Riel/hh/Y)	110,300	124,500	13%
Number of households raise fattening pig	63.2%	41.9%	-34%
Number of households could sell chicken	72.8%	71.3%	-2%
Incomes from selling chicken (Riel/hh/Y)	121,300	157,000	29%
Number of household using chemical fertilizer	96.3%	93.4%	-3%
Average amount of chemical fertilizer use (Kg/hh/Y)	141	119	-16%
Number of household using chemical pesticide	21.3%	18.4%	-14%
Average expenses on chemical fertilizer use (R/hh/Y) = B	149,200	160,400	8%
The amount of chemical pesticide use (R/hh/Y) = C	68,000	64,800	-5%
Additional expenses on veg-consumption (R/hh/Y) = D	138,300	149,400	8%
Nb. household spend for additional purchasing vegetable	100%	98.5%	-2%
Fish consumption from fish raising and trapping (Kg/Y)	76	58	-24%
Total agriculture cash incomes per year (Riel/hh) = A	1,728,700	2,324,000	34%
Net incomes from agricultural innovation adoption = E = A – (B+C+D)	1,373,200	1,949,400	42%

Table C: FTSF-PV: Total household incomes before the project phase and at the present

	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
A1 = Total income before project	978770	1837459	2747135	4778581	2585486
A2 = Total income in 2006	2593846	3222154	4430803	8134976	4595445
B = Profit from reduction of expenditure chemical fertilizer and pesticide	16541	16565	8446	-2178	9843
C= Total net income in 2006 =A2+B	2610386	3238719	4439249	8132797	4605288
Net increasing rate of incomes =(C-A1)*100/A1	167%	76%	62%	70%	78%

Table D: FTSF-TK: Total household incomes before the project phase and at the present

	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
A1 = Total income before project	745029	1638235	2728721	4750382	2465592

A2 = Total income in 2006	1943265	2899662	3301291	5593662	3434470
B = Profit from reduction of expenditure chemical fertilizer and pesticide	-41903	-25985	25618	28421	-3463
C= Total net income in 2006 =A2+B	1901362	2873676	3326909	5622082	3431007
Net increasing rate of incomes =(C-A1)*100/A1	155%	75%	22%	18%	39%

From this impact it would be concluded that project has brought significant impact to household beneficiaries, especially among the lower and lowest quartiles. They are able to start as well as to increase their agricultural production. Almost all economic strata, project beneficiaries can generate cash incomes from selling the surplus products mainly rice, vegetable and chicken. Project also has brought significantly impact on reducing the chemical inputs in agriculture mainly chemical pesticide and fertilizer. Community people has been aware of health related issues which affected by chemical inputs and its exposure.

Based on these evaluation findings, the support on pig raising should be strengthened. Input supply chain and marketing facilitation supports can encourage the small pig producers to enlarge or increase their investment on pig raising. The same as pig, improving the extension activities on fish raising is needed. There are good cases of fish raising farms but the dissemination of innovation in community seems relatively low.

Last but not least, it is to remark that the study aims to measure the impact change on livelihoods of target beneficiaries. For sure, not only one project contributes to make this change. Detail analysis of the project outcome or “outcome mapping” can present more clearly on added-value of the project in contribution to whole change of the rural livelihood of the target beneficiaries in the project coverage area.

I. Introduction

Since April 2004, CEDAC has implemented a project entitled "FLIP" Farmer Training in SRI and Farmer Organization with funded by German Agro Action (GAA). The project has targeted in 300 villages of Takeo and Prey Veng province.

The goal of the project is to improve living conditions of 6000 small farmers and their enhanced standing in Cambodian society. In order to reach the goal the project aims to improve livelihood of small farmers through the development of farmer led and self-sustained agricultural extension, marketing and community finance services. The project also aims at enabling farmers to increase agricultural production and income through the application of innovations in ecological agriculture, especially rice intensification, animal husbandry, aquaculture, home gardening and crop diversity and active participation in farmer association and network.

This report is aiming to present the study findings on the project impact which was conducted in February 2007 by the project team under the support of R&D department of Cedac.

II. Methodology and approach

2.1. Study framework

As project addressing the livelihood issue, livelihood framework has been adopted to develop questionnaires for household survey and in complementation with the project intervention in order to measure the project impact. This impact evaluation is mainly to measure, the livelihood assets and livelihood outcomes derived from agricultural and non-agricultural livelihood strategies. Pre-design questionnaire has been used to collect information. Draft questionnaires have been presented to project officers and project coordinator prior to conduct this survey.

2.2. Data collection and analysis

Data collection has been done in February 2007 by the project staffs and with the support from M&E experts from R&D department of Cedac. Data processing and analysis were done in March and April. 284 households have been randomly selected and interviewed from 22 villages from the project target area. To facilitate the analysis of the project impact, number of samples has been equally divided into four groups based on the total incomes of the household interviewed before the project phase: lowest quartile, lower average quartile, upper average quartile and highest quartile. The presentation of the results of FTSF-PV and FTSF-TK is broken down.

2.3. Description of samples interviewed

Concerning the sample interviews, mostly they are at middle age (47-48 years old). However, some respondents were provided interviews on behalf of their parents and they are 19 or 20 years as well but usually they used to involve in the project activities.

For FTSF-PV, most of the project beneficiaries interviewed have involved in the project (Cedac project) from 2004 (37.8%), 2005 (47.3%) and 2006 (13.5%). While FTSF-TK, most of the project beneficiaries interviewed have involved in the project from 2004 (23.5%), 2005 (72.8%) and 2006 (2.9%).

Table 01: Gender representative of sample selection

Sex of interviewee	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Female	64.9%	45.9%	40.5%	45.9%	49.3%
Male	35.1%	54.1%	59.5%	54.1%	50.7%

Total	100.0%	100.0%	100.0%	100.0%	100.0%
FTSF-TK					
Female	73.5%	67.6%	55.9%	35.3%	58.1%
Male	26.5%	32.4%	44.1%	64.7%	41.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

FTSF-PV

Concerning the family status, about 82.4% of the respondents are living in couple while 16.2% are single headed families (widow or widower). It is important to note the single headed families mainly found in the lowest quartile (24.3%) of the sample.

FTSF-TK

Concerning the family status, about 80.9% of the respondents are living in couple while 18.4% are single headed families (widow or widower). It is important to note the single headed families mainly found in the lowest quartile (35.3%) of the sample.

Table 02: Family status of household interviewed

Family status	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Married	70.3%	86.5%	83.8%	89.2%	82.4%
Single	0.0%	0.0%	0.0%	0.0%	0.0%
Widow/er	24.3%	13.5%	16.2%	10.8%	16.2%
N/A	5.4%	0.0%	0.0%	0.0%	1.4%
Total	100%	100%	100%	100%	100%
FTSF-TK					
Married	61.8%	85.3%	82.4%	94.1%	80.9%
Single	2.9%	0.0%	0.0%	0.0%	0.7%
Widow/er	35.3%	14.7%	17.6%	5.9%	18.4%
Total	100%	100%	100%	100%	100%

Table 03: Gender concerned in poverty distribution among the household interviewed

Sex of HH head	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Female	54.1%	45.9%	35.1%	35.1%	42.6%
Male	45.9%	54.1%	64.9%	64.9%	57.4%
Total	100%	100%	100%	100%	100%
FTSF-TK					
Female	35.3%	23.5%	14.7%	2.9%	19.1%
Male	64.7%	76.5%	85.3%	97.1%	80.9%
Total	100%	100%	100%	100%	100%

III. Analysis of the project impacts

3.1. Human capitals

Number of economically active members, dependent members, education level of household head and health of household members are the main elements of human capitals of each household. Concerning the family members, better-off households have more economically active labor than the poor family (lowest or lower average quartiles). It is important to note that most of respondent are literate.

Table 04: Literacy status of the household interviewed

Literacy of HH head	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Illiterate	13.5%	13.5%	2.7%	8.1%	9.5%
Literate	86.5%	86.5%	94.6%	91.9%	89.9%
N/A	0.0%	0.0%	2.7%	0.0%	0.7%
Total	100%	100%	100%	100%	100%
FTSF-TK					
Illiterate	20.6%	8.8%	11.8%	5.9%	11.8%
Literate	79.4%	91.2%	88.2%	94.1%	88.2%
Total	100%	100%	100%	100%	100%

Table 05: Family member of the household interviewed

Distribution of household composition	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Total HH members (head/hh)	4.6	5.5	5.3	6.0	5.3
Total female members (head/hh)	2.1	2.6	2.6	2.8	2.5
Members > 61 Y (head/hh)	0.5	0.2	0.6	0.4	0.4
Members 19-60 Y (head/hh)	2.6	3.4	3.2	3.8	3.2
Members 16-18 Y (head/hh)	1.3	1.1	1.1	1.5	1.3
Members < 16 Y (head/hh)	0.2	0.7	0.4	0.4	0.4
Full active members (head/hh)	2.2	2.7	2.7	2.8	2.6
Half active members (head/hh)	1.0	1.0	0.8	1.2	1.0
Number of household member have cooperated with FNP (head/hh)	1.1	0.9	1.2	1.1	1.1
FTSF-TK					
Total HH members (head/hh)	4.5	5.1	5.6	6.4	5.4
Total female members (head/hh)	2.5	2.6	2.8	3.3	2.8
Members > 61 Y (head/hh)	0.4	0.4	0.6	0.5	0.4
Members 19-60 Y (head/hh)	2.3	2.6	3.1	3.8	3.0
Members 16-18 Y (head/hh)	1.4	1.5	1.5	1.8	1.5
Members < 16 Y (head/hh)	0.4	0.7	0.4	0.4	0.5
Full active members (head/hh)	2.1	2.4	2.5	3.1	2.6
Half active members (head/hh)	1.2	1.2	1.5	1.6	1.4
Number of household member have cooperated with FNP (head/hh)	1.4	1.8	1.4	1.6	1.5

Health is a main component of human assets of every household. Besides working on agricultural innovation, Cedac also promote simple health care practices through community school and especially through the support to woman group. Drinking boiled water or filtered water is promoted by the project. It is found that number of household drinking boiled water or filtered water is significantly increased.

In FTSF-PV, it is found that 27.7% of households interviewed drink boiled water regularly before project phase while at the present, there are about 40.5%. The same in FTSF-TK, it is found that 43.4% of households interviewed drink boiled water regularly before project phase while at the present, there are 68.4%. More importantly, numbers of household has changed to drinking of boiled water or filtered water are found all the economic strata.

Table 06: FTSF-PV: Number of household drinking boiled water or filtered water

Drink boiled or filtrated water	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					

Before the project	Irregularly	64.9%	70.3%	75.7%	78.4%	72.3%
	Regularly	35.1%	29.7%	24.3%	21.6%	27.7%
	Total	100%	100%	100%	100%	100%
Present	Irregularly	45.9%	64.9%	62.2%	64.9%	59.5%
	Regularly	54.1%	35.1%	37.8%	35.1%	40.5%
	Total	100%	100%	100%	100%	100%
FTSF-TK						
Before the project	Irregularly	55.9%	55.9%	58.8%	55.9%	56.6%
	Regularly	44.1%	44.1%	41.2%	44.1%	43.4%
	Total	100%	100%	100%	100%	100%
Present	Irregularly	32.4%	47.1%	23.5%	23.5%	31.6%
	Regularly	67.6%	52.9%	76.5%	76.5%	68.4%
	Total	100%	100%	100%	100%	100%

3.2. Physical capitals

Concerning the land holding, both total land as well as other different types of land, the size of land is almost stayed the same.

Table 07: FTSF-PV: Land holding of household interviewed

		1/4 Lowest	1/4 Lower	¼ Higher	1/4 Highest	Total
Total Land holding						
Total lands before project (ha/hh)	Average	1.46	1.49	2.25	2.55	1.94
	N Valid	100%	100%	100%	100%	100%
Total owned lands at the present (ha/hh)	Average	1.55	1.35	2.49	2.40	1.95
	N Valid	100%	100%	100%	100%	100%
Residential land						
Owned residential land before project (m^2/hh)	Average	976	1150	3427	1621	1794
	N Valid	100%	100%	100%	100%	100%
Owned current residential land (m^2/hh)	Average	1068	1177	3608	1475	1834
	N Valid	100%	100%	100%	97%	99%
Total rice land						
Owned total rice field before project (ha/hh)	Average	1.34	1.35	1.74	2.34	1.69
	N Valid	100%	100%	100%	100%	100%
Owned current total rice field (ha/hh)	Average	1.42	1.21	1.96	2.13	1.68
	N Valid	100%	100%	100%	100%	100%
Wet season rice land						
Owned wet season rice field before project (ha/hh)	Average	1.29	1.34	1.60	2.06	1.58
	N Valid	100%	100%	100%	100%	100%
Owned current wet season rice field (ha/hh)	Average	1.33	1.20	1.76	1.86	1.54
	N Valid	100%	100%	100%	100%	100%
Dry season rice land						
Owned dry season rice field before project (ha/hh)	Average	2.00	0.19	0.82	1.14	0.98
	N Valid	3%	5%	16%	24%	12%
Owned current dry	Average	1.10	0.19	1.04	1.00	0.95

season rice field (ha/hh)	N Valid	8%	5%	19%	27%	15%
Other lands						
Other owned lands before project (ha/hh)	Average	0.06	0.09	0.39	0.21	0.20
	N Valid	41%	24%	43%	22%	32%
Other current owned lands (ha/hh)	Average	0.06	0.08	0.39	0.43	0.24
	N Valid	41%	27%	43%	30%	35%

Table 08: FTSF-TK: Land holding of household interviewed

		1/4 Lowest	1/4 Lower	¼ Higher	1/4 Highest	Total
Total Land holding						
Total lands before project (ha/hh)	Average	0.83	1.36	1.45	2.53	1.54
	N Valid	100%	100%	100%	100%	100%
Total owned lands at the present (ha/hh)	Average	0.82	1.66	1.22	2.22	1.48
	N Valid	100%	100%	100%	100%	100%
Residential land						
Owned residential land before project (m^2/hh)	Average	807	1452	877	1253	1095
	N Valid	100%	97%	100%	100%	99%
Owned current residential land (m^2/hh)	Average	809	1327	856	1241	1059
	N Valid	100%	100%	100%	100%	100%
Total rice land						
Owned total rice field before project (ha/hh)	Average	0.75	1.20	1.33	2.36	1.42
	N Valid	97%	100%	100%	100%	99%
Owned current total rice field (ha/hh)	Average	0.73	1.50	1.11	2.05	1.35
	N Valid	97%	100%	100%	100%	99%
Wet season rice land						
Owned wet season rice field before project (ha/hh)	Average	0.70	1.06	1.25	1.98	1.25
	N Valid	97%	100%	100%	100%	99%
Owned current wet season rice field (ha/hh)	Average	0.68	1.15	1.04	1.73	1.15
	N Valid	97%	100%	100%	100%	99%
Dry season rice land						
Owned dry season rice field before project (ha/hh)	Average	0.38	0.49	0.47	0.99	0.67
	N Valid	12%	29%	18%	38%	24%
Owned current dry season rice field (ha/hh)	Average	0.38	1.00	0.47	0.92	0.81
	N Valid	12%	35%	15%	35%	24%
Other lands						
Other owned lands before project (ha/hh)	Average	0.09	0.05	0.07	0.10	0.08
	N Valid	29%	41%	41%	41%	38%
Other current owned lands (ha/hh)	Average	0.08	0.06	0.07	0.10	0.08
	N Valid	32%	44%	41%	44%	40%

Motorbike is an important and a common asset of the household. It can be multi-purpose-usages: for traveling, transporting and providing the service for cash incomes.

In FTSF-PV, 47% of household interviewed has motorbike. It is found that about 19% of household interviewed has purchased motorbike during project phase whereas about 28% have purchased it before project phase. It is also found that 85% of household interviewed own TV on average one TV per household: 19% of household interviewed purchased TV during the project phase. It is also important to note that bout 39.2% of household interviewed have water-pump in which 15% purchased motor-pump during the project phase as well.

In FTSF-TK, 43.4% of household interviewed has motorbike. It is found that about 27.2% of household interviewed has purchased motorbike during project phase whereas about 28% have purchased it before project phase. It is also found that 65.4% of household interviewed own TV on average one TV per household: 20% of household interviewed purchased TV during the project phase. It is also important to note that bout 34.6% of household interviewed have water-pump in which 17% purchased motor-pump during the project phase as well.

Table 09: Physical asset holding: Motorbike, TV and Water Pump

Type of physical assets		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Nb of Motor-bike	Average	1.0	1.0	1.1	1.1	1.0
	N Valid	37.8%	35.1%	37.8%	54.1%	41.2%
Nb of TV	Average	1.0	1.0	1.0	1.0	1.0
	N Valid	81.1%	83.8%	83.8%	91.9%	85.1%
Nb of Water Pump	Average	1.0	1.1	1.1	1.1	1.1
	N Valid	32.4%	27.0%	40.5%	56.8%	39.2%
FTSF-TK						
Nb of Motor-bike	Average	1.0	1.0	1.1	1.0	1.0
	N Valid	14.7%	50.0%	50.0%	58.8%	43.4%
Nb of TV	Average	1.0	1.0	1.0	1.0	1.0
	N Valid	47.1%	55.9%	82.4%	76.5%	65.4%
Nb of Water Pump	Average	1.0	1.0	1.0	1.1	1.0
	N Valid	17.6%	44.1%	29.4%	47.1%	34.6%

Table 10: FTSF-PV: Year of purchasing physical assets: Motorbike, TV and Water Pump

Year purchased		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Motorbike	1979-1990	0.0%	2.7%	0.0%	2.7%	1.4%
	1991-2000	5.4%	10.8%	10.8%	16.2%	10.8%
	2001-2003	10.8%	0.0%	10.8%	16.2%	9.5%
	2004-2007	18.9%	21.6%	16.2%	18.9%	18.9%
	N/A	2.7%	0.0%	0.0%	0.0%	0.7%
	Total	37.8%	35.1%	37.8%	54.1%	41.2%
TV	1979-1990	5.4%	10.8%	5.4%	8.1%	7.4%
	1991-2000	54.1%	29.7%	51.4%	59.5%	48.6%
	2001-2003	5.4%	18.9%	5.4%	8.1%	9.5%
	2004-2007	16.2%	24.3%	18.9%	16.2%	18.9%
	N/A	0.0%	0.0%	2.7%	0.0%	0.7%
	Total	81.1%	83.8%	83.8%	91.9%	85.1%
Water Pump	1979-1990	0.0%	0.0%	2.7%	2.7%	1.4%
	1991-2000	13.5%	5.4%	8.1%	21.6%	12.2%
	2001-2003	8.1%	10.8%	10.8%	10.8%	10.1%
	2004-2007	10.8%	10.8%	16.2%	21.6%	14.9%
	N/A	0.0%	0.0%	2.7%	0.0%	0.7%
	Total	32.4%	27.0%	40.5%	56.8%	39.2%

Table 11: FTSF-TK: Year of purchasing physical assets: Motorbike, TV and Water Pump

Year purchased		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Motorbike	1979-1990	2.9%	0.0%	0.0%	0.0%	0.7%
	1991-2000	0.0%	2.9%	8.8%	2.9%	3.7%
	2001-2003	2.9%	11.8%	5.9%	20.6%	10.3%
	2004-2007	8.8%	32.4%	32.4%	35.3%	27.2%
	N/A	0.0%	2.9%	2.9%	0.0%	1.5%
	Total	14.7%	50.0%	50.0%	58.8%	43.4%
TV	1979-1990	0.0%	2.9%	17.6%	8.8%	7.4%
	1991-2000	14.7%	14.7%	29.4%	32.4%	22.8%
	2001-2003	0.0%	23.5%	17.6%	20.6%	15.4%
	2004-2007	32.4%	14.7%	17.6%	14.7%	19.9%
	Total	47.1%	55.9%	82.4%	76.5%	65.4%
Water Pump	1979-1990	0.0%	0.0%	0.0%	2.9%	0.7%
	1991-2000	0.0%	8.8%	2.9%	5.9%	4.4%
	2001-2003	2.9%	20.6%	8.8%	14.7%	11.8%
	2004-2007	14.7%	14.7%	17.6%	20.6%	16.9%
	N/A	0.0%	0.0%	0.0%	2.9%	0.7%
	Total	17.6%	44.1%	29.4%	47.1%	34.6%

It is important to note the purchase of physical assets is strongly related to the increase of agricultural incomes.

Table 12: Relation of purchasing motorbike and increasing of agricultural incomes

% among HH bought motor-bike	Period of buying motor-bike		Total
Net increase of agriculture gross income (= annual agriculture gross income in 2006 - annual agriculture gross income before cooperated with the project)	During the project period (2004-2007)	Before the project period (<2004)	
FTSF-PV			
High decrease (2-4 million riel)	0.0%	1.7%	1.7%
Little decrease (0.5 - 2 million riel)	3.3%	5.0%	8.3%
Same as before (+ or - 500000 riel)	16.7%	15.0%	31.7%
Little increase (0.5-2 million riel)	15.0%	13.3%	28.3%
High increase 2-5 million riel)	10.0%	11.7%	21.7%
Highly increase (more than 4 million riel)	1.7%	6.7%	8.3%
Total	46.7%	53.3%	100.0%
FTSF-TK			
Highly decrease (< - 4 million riel)	0.0%	3.5%	3.5%
Little decrease (0.5 - 2 million riel)	1.8%	1.8%	3.5%
Same as before (+ or - 500000 riel)	21.1%	8.8%	29.8%
Little increase (0.5-2 million riel)	33.3%	15.8%	49.1%
High increase 2-5 million riel)	7.0%	5.3%	12.3%
Highly increase (more than 4 million riel)	1.8%	0.0%	1.8%
Total	64.9%	35.1%	100.0%

Table 13: Relation of purchasing TV and increasing of agricultural incomes

% among HH bought motor-bike	Period of buying TV		Total
Net increase of agriculture gross income (= annual agriculture gross income in 2006 - annual agriculture gross income before cooperated with the project)	During the project period (2004-2007)	Before the project period (<2004)	

FTSF-PV			
High decrease (2-4 million riel)	0.0%	2.4%	2.4%
Little decrease (0.5 - 2 million riel)	2.4%	7.2%	9.6%
Same as before (+ or - 500000 riel)	8.0%	24.0%	32.0%
Little increase (0.5-2 million riel)	9.6%	27.2%	36.8%
High increase 2-5 million riel)	1.6%	13.6%	15.2%
Highly increase (more than 4 million riel)	0.8%	3.2%	4.0%
Total	22.4%	77.6%	100.0%
FTSF-TK			
Highly decrease (< - 4 million riel)	0.0%	3.4%	3.4%
Little decrease (0.5 - 2 million riel)	3.4%	6.7%	10.1%
Same as before (+ or - 500000 riel)	14.6%	18.0%	32.6%
Little increase (0.5-2 million riel)	9.0%	33.7%	42.7%
High increase 2-5 million riel)	2.2%	7.9%	10.1%
Highly increase (more than 4 million riel)	1.1%	0.0%	1.1%
Total	30.3%	69.7%	100.0%

Table 14: Relation of purchasing water pump and increasing of agricultural incomes

% among HH bought motor-bike	Period of buying water pump		Total
Net increase of agriculture gross income (= annual agriculture gross income in 2006 - annual agriculture gross income before cooperated with the project)	During the project period (2004-2007)	Before the project period (<2004)	
FTSF-PV			
High decrease (2-4 million riel)	1.8%	0.0%	1.8%
Little decrease (0.5 - 2 million riel)	7.0%	1.8%	8.8%
Same as before (+ or - 500000 riel)	5.3%	19.3%	24.6%
Little increase (0.5-2 million riel)	15.8%	19.3%	35.1%
High increase 2-5 million riel)	5.3%	17.5%	22.8%
Highly increase (more than 4 million riel)	3.5%	3.5%	7.0%
Total	38.6%	61.4%	100.0%
FTSF-TK			
Highly decrease (< - 4 million riel)	4.3%	0.0%	4.3%
Little decrease (0.5 - 2 million riel)	2.2%	0.0%	2.2%
Same as before (+ or - 500000 riel)	6.5%	13.0%	19.6%
Little increase (0.5-2 million riel)	30.4%	26.1%	56.5%
High increase 2-5 million riel)	4.3%	6.5%	10.9%
Highly increase (more than 4 million riel)	2.2%	4.3%	6.5%
Total	50.0%	50.0%	100.0%

Concerning the house condition of the household interviewed, the general household condition has been improved.

In FTSF-PV, number of households having poor house condition before project has decreased from 9.5% before to 6.1% at the present while the number of good house condition before project has increased from 30.4% and to 36.5% at the present.

In FTSF-TK, number of households having poor house condition before project has decreased from 19% before to 10% at the present while the number of good house condition before project has increased from 10% and remained only 15.4% at the present.

Table 15: Observation of house condition of respondents

House condition		1/4 Lowest	1/4 Lower	¼ Higher	1/4 Highest	Total
FTSF-PV						
Before the project	Good	27.0%	16.2%	35.1%	43.2%	30.4%
	Poor	10.8%	16.2%	8.1%	2.7%	9.5%
	Medium	62.2%	67.6%	56.8%	54.1%	60.1%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Present	Good	29.7%	16.2%	37.8%	62.2%	36.5%
	Poor	5.4%	10.8%	5.4%	2.7%	6.1%
	Medium	64.9%	73.0%	56.8%	35.1%	57.4%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
FTSF-TK						
Before the project	Good	11.8%	5.9%	14.7%	8.8%	10.3%
	Poor	32.4%	17.6%	14.7%	11.8%	19.1%
	Medium	55.9%	76.5%	70.6%	79.4%	70.6%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
Present	Good	14.7%	20.6%	17.6%	8.8%	15.4%
	Poor	23.5%	5.9%	5.9%	5.9%	10.3%
	Medium	61.8%	73.5%	76.5%	85.3%	74.3%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

Concerning the toilette, in FTSF-PV, about 13% of household interviewed have toilet before project and at the present it is about 21%. While in FTSF-TK, about 9% of household interviewed has toilet before project while at the present, it is about 14%.

Table 16: Does you household has toilet?

Answers		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Before the project	No	89.2%	86.5%	94.6%	78.4%	87.2%
	Yes	10.8%	13.5%	5.4%	21.6%	12.8%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
At the present	No	83.8%	81.1%	89.2%	62.2%	79.1%
	Yes	16.2%	18.9%	10.8%	37.8%	20.9%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
FTSF-TK						
Before the project	No	94.1%	94.1%	91.2%	85.3%	91.2%
	Yes	5.9%	5.9%	8.8%	14.7%	8.8%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%
At the present	No	91.2%	91.2%	82.4%	79.4%	86.0%
	Yes	8.8%	8.8%	17.6%	20.6%	14.0%
	Total	100.0%	100.0%	100.0%	100.0%	100.0%

3.3. Livelihood strategies and outcomes

A. Farming activities

A1. Rice production

Concerning household rice production, number of rice farmer is a little bit decreased and rice cultivated area is a bit decreased as well while rice harvest is quite significant increased due to the

increasing of yield/ha. Both rice yield and total household rice harvest are increased in all economic groups (from lowest quartile to highest quartile). Total rice harvest in the household is closely related to the increase of rice yield which resulted from the application of SRI techniques.

It is also found that SRI's yield in the lowest quartile is higher than the SRI's yield in the highest quartile. However, the land size of lowest quartile is smaller than the land size of the highest quartile. It is also important to note that number of household could sell rice harvest is significantly increased. However, the total rice harvest or incomes from selling rice in lowest quartile is less than the amount of rice sold in the highest quartile.

Table 17: Rice production and its harvest

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Total cultivated rice field before project (ha/hh)	Average	1.35	1.40	1.84	2.42	1.75
	N Valid	100%	100%	100%	100%	100%
Total current cultivated rice field (ha/hh)	Average	1.33	1.30	1.99	2.20	1.71
	N Valid	100%	97.3%	100%	100%	99.3%
Total paddy harvested before project (kg/hh)	Average	1326	2233	2538	3832	2492
	N Valid	97.3%	97.3%	100%	100%	98.6%
Total paddy harvested in 2006/07 (kg/hh)	Average	2156	2285	3346	4299	3027
	N Valid	100%	97.3%	100%	100%	99.3%
Rice yield before the project (kg/ha)	Average	1220	1835	1406	1677	1535
	N Valid	97.3%	97.3%	100%	100%	98.6%
Rice yield in 2006/07 (kg/ha)	Average	1690	2017	1813	2033	1887
	N Valid	100%	97.3%	100%	100%	99.3%
FTSF-TK						
Total cultivated rice field before project (ha/hh)	Average	0.76	1.20	1.33	2.36	1.41
	N Valid	100%	100%	100%	100%	100%
Total current cultivated rice field (ha/hh)	Average	0.73	1.59	1.11	1.93	1.34
	N Valid	100%	100%	100%	100%	100%
Total paddy harvested before project (kg/hh)	Average	823	1474	2048	3775	2030
	N Valid	100%	100%	100%	100%	100%
Total paddy harvested in 2006/07 (kg/hh)	Average	1281	2824	2052	4127	2571
	N Valid	100%	100%	100%	100%	100%
Rice yield before the project (kg/ha)	Average	1407	1572	1660	1698	1584
	N Valid	100%	100%	100%	100%	100%
Rice yield in 2006/07 (kg/ha)	Average	2266	1978	1966	2203	2103
	N Valid	100%	100%	100%	100%	100%

Table 18: FTSF-PV: SRI application and yield

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Total rice plots: SRI and Non-SRI	Average	3.46	3.56	4.54	4.92	4.12
	N Valid	100%	97.3%	100.0%	100.0%	99.3%
Total SRI plots	Average	2.50	2.46	3.18	3.85	3.02
	N Valid	86.5%	75.7%	89.2%	89.2%	85.1%
Total SRI area (ha/hh)	Average	0.86	0.89	1.08	1.36	1.06
	N Valid	86.5%	75.7%	89.2%	89.2%	85.1%
Total SRI product (kg/hh)	Average	1862	1899	2063	3194	2266
	N Valid	86.5%	75.7%	86.5%	86.5%	83.8%
Overal SRI yield	Average	2235	2602	2633	2527	2496

(kg/ha)	N Valid	86.5%	75.7%	86.5%	86.5%	83.8%
Plots of good SRI field	Average	1.15	1.10	1.44	1.37	1.29
	N Valid	35.1%	27.0%	43.2%	51.4%	39.2%
Size of good SRI field (ha)	Average	0.30	0.23	0.34	0.38	0.33
	N Valid	35.1%	27.0%	43.2%	51.4%	39.2%
Products of good SRI	Average	912	626	1045	1273	1013
	N Valid	35.1%	27.0%	40.5%	48.6%	37.8%
Yield of good SRI (kg/ha)	Average	3255	3638	3696	3765	3605
	N Valid	35.1%	27.0%	40.5%	48.6%	37.8%
Plots of partly SRI field	Average	2.50	2.32	2.73	3.37	2.76
	N Valid	70.3%	67.6%	81.1%	81.1%	75.0%
Size of partly SRI field (kg/ha)	Average	0.90	0.90	1.01	1.26	1.03
	N Valid	70.3%	67.6%	81.1%	81.1%	75.0%
Products of partly SRI field (kg/hh)	Average	1835	1876	1736	2643	2039
	N Valid	70.3%	67.6%	78.4%	81.1%	74.3%
Yield of partly SRI (kg/ha)	Average	2028	2459	2263	2273	2255
	N Valid	70.3%	67.6%	78.4%	81.1%	74.3%

Table 19: FTSF-TK: SRI application and yield

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Total rice plots: SRI and Non-SRI	Average	3.62	5.76	4.44	6.56	5.10
	N Valid	100%	100%	100%	100%	100%
Total SRI plots	Average	3.58	4.38	3.48	4.48	3.99
	N Valid	76.5%	76.5%	73.5%	79.4%	76.5%
Total SRI area (ha/hh)	Average	0.69	1.06	0.85	1.23	0.96
	N Valid	76.5%	76.5%	73.5%	79.4%	76.5%
Total SRI product (kg/hh)	Average	1160	1837	1386	3044	1749
	N Valid	64.7%	52.9%	44.1%	38.2%	50.0%
Overal SRI yield (kg/ha)	Average	2156	1947	2689	1917	2173
	N Valid	64.7%	52.9%	44.1%	38.2%	50.0%
Plots of good SRI field	Average	1.50	2.00	1.80	1.25	1.63
	N Valid	23.5%	35.3%	44.1%	47.1%	37.5%
Size of good SRI field (ha)	Average	0.30	0.77	0.28	0.34	0.42
	N Valid	23.5%	35.3%	44.1%	47.1%	37.5%
Products of good SRI	Average	695	1143	674	503	745
	N Valid	17.6%	23.5%	29.4%	26.5%	24.3%
Yield of good SRI (kg/ha)	Average	4945	4404	3829	2464	3799
	N Valid	17.6%	23.5%	29.4%	26.5%	24.3%
Plots of partly SRI field	Average	3.68	3.91	3.00	4.81	3.86
	N Valid	64.7%	67.6%	58.8%	61.8%	63.2%
Size of partly SRI field (kg/ha)	Average	0.71	0.80	0.85	1.32	0.91
	N Valid	64.7%	67.6%	58.8%	61.8%	63.2%
Products of partly SRI field (kg/hh)	Average	1186	1407	1351	3237	1679
	N Valid	52.9%	50.0%	32.4%	32.4%	41.9%
Yield of partly SRI (kg/ha)	Average	1852	1818	1870	1887	1852
	N Valid	52.9%	50.0%	32.4%	32.4%	41.9%

Table 20: Traditional rice application and its harvest

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Plots of conventional	Average	2.4	3.5	2.7	2.7	2.8

field	N Valid	54.1%	45.9%	62.2%	56.8%	54.7%
Size of conventional field (ha/hh)	Average	1.10	1.28	1.64	1.75	1.46
	N Valid	54.1%	45.9%	62.2%	56.8%	54.7%
Products of conventional field (kg/hh)	Average	1064	1712	2407	2709	2009
	N Valid	51.4%	45.9%	56.8%	56.8%	52.7%
Yield of conventional practice field (kg/ha)	Average	1161	1459	1499	1672	1455
	N Valid	51.4%	45.9%	56.8%	56.8%	52.7%
FTSF-TK						
Plots of conventional field	Average	2.3	4.1	3.4	4.1	3.6
	N Valid	38.2%	54.1%	55.9%	73.5%	56.6%
Size of conventional field (ha/hh)	Average	0.52	1.33	0.86	1.30	1.07
	N Valid	38.2%	54.1%	55.9%	73.5%	56.6%
Products of conventional field (kg/hh)	Average	940	2158	1361	2336	1701
	N Valid	32.4%	32.4%	35.3%	32.4%	33.8%
Yield of conventional practice field (kg/ha)	Average	2385	2037	1633	1909	1984
	N Valid	32.4%	32.4%	35.3%	32.4%	33.8%

Table 21: Incomes from selling rice harvest

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Total paddy sold before project (kg/hh)	Average	591	982	988	1763	1181
	N Valid	29.7%	59.5%	67.6%	73.0%	57.4%
Total income from paddy sold before project (riel/hh)	Average	265455	466364	421400	757333	519565
	N Valid	29.7%	59.5%	67.6%	73.0%	57.4%
Total paddy sold presently (kg/hh)	Average	932	989	1729	2224	1540
	N Valid	67.6%	48.6%	75.7%	78.4%	67.6%
Total income from paddy sold presently (riel/hh)	Average	570120	639167	1016946	1368793	939275
	N Valid	67.6%	48.6%	75.7%	78.4%	67.6%
FTSF-TK						
Total paddy sold before project (kg/hh)	Average	169	419	1060	2387	1497
	N Valid	11.8%	29.4%	29.4%	67.6%	34.6%
Total income from paddy sold before project (riel/hh)	Average	73125	223080	509600	1169935	734634
	N Valid	11.8%	29.4%	29.4%	67.6%	34.6%
Total paddy sold presently (kg/hh)	Average	628	1832	1052	2246	1574
	N Valid	55.9%	70.6%	47.1%	88.2%	65.4%
Total income from paddy sold presently (riel/hh)	Average	345558	1103125	639938	1268430	913848
	N Valid	55.9%	70.6%	47.1%	88.2%	65.4%

A2. Vegetable and other crop production

In FTSF-PV, vegetable and other crop production are significantly increased in term of number of household involved (20.3% of hh growing vegetable before project and 30.4% of hh growing vegetable at the present). However, in term of production is mainly increased only in the lowest and lower average quartiles. The general improvement of vegetable selling is a bit increase (each household earn: 143,400 riels/year before project and 222,000 riels/year at the present).

In FTSF-TK, vegetable and other crop production are significantly increased in term of number of household involved (14.7% of hh growing vegetable before project and 16.9% of hh growing vegetable at the present). However, in term of production is mainly increased only in the lowest and lower average quartiles. The general improvement of vegetable selling is a bit increase (each household earn: 110,200 riels/year before project and 124,500 riels/year at the present).

Table 22: Vegetable and other crop production

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Vegetable sold before the project (riel/year/hh)	Average	57571	101667	165714	213000	143433
	N Valid	18.9%	16.2%	18.9%	27.0%	20.3%
Vegetable sold presently (riel/year/hh)	Average	66545	117722	136071	572273	222033
	N Valid	29.7%	24.3%	37.8%	29.7%	30.4%
Fruit sold before the project (riel/year/hh)	Average	138750	40000	59333	92000	88188
	N Valid	10.8%	2.7%	16.2%	13.5%	10.8%
Fruit sold presently (riel/year/hh)	Average	26667	32500	26000	77500	44722
	N Valid	8.1%	10.8%	13.5%	16.2%	12.2%
Other crop products sold before the project (riel/year/hh)	Average	160000	300000		230000	230000
	N Valid	5.4%	5.4%	0.0%	10.8%	5.4%
Other crop products sold presently (riel/year/hh)	Average	15000	1066667	136667	626000	520769
	N Valid	5.4%	8.1%	8.1%	13.5%	8.8%
FTSF-TK						
Vegetable sold before the project (riel/year/hh)	Average	22500	174000	95000	106000	110250
	N Valid	5.9%	14.7%	23.5%	14.7%	14.7%
Vegetable sold presently (riel/year/hh)	Average	290000	132500	93583	85000	124478
	N Valid	8.8%	11.8%	35.3%	11.8%	16.9%
Fruit sold before the project (riel/year/hh)	Average	40000		100000	363333	246000
	N Valid	2.9%	0.0%	2.9%	8.8%	3.7%
Fruit sold presently (riel/year/hh)	Average	45000		100000	66667	62143
	N Valid	8.8%	0.0%	2.9%	8.8%	5.1%
Other crop products sold before the project (riel/year/hh)	Average	30000	300000			120000
	N Valid	5.9%	2.9%	0.0%	0.0%	2.2%
Other crop products sold presently (riel/year/hh)	Average	61667	4000	55000	20000	44000
	N Valid	8.8%	2.9%	2.9%	2.9%	4.4%

A3. Pig production

In general, number of household involved in pig raising is decreased. Numbers of pig raised and sold are also slightly decreased. Many households interviewed reported that the decrease of pig production is due to the low price of live pig which cannot compete with the imported pig from Vietnam and Thailand.

Table 23: FTSF-PV: Household pig production

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Fattening pig sold before project (riel/year)	Average	231818	314615	434389	932065	552254
	N Valid	29.7%	35.1%	48.6%	62.2%	43.9%
Fattening pig sold presently (riel/year)	Average	345000	834444	1009500	1445050	940959
	N Valid	21.6%	24.3%	27.0%	27.0%	25.0%
Nb of fattening pig in stock presently	Average	2.5	2.4	2.8	5.2	3.4
	N Valid	29.7%	18.9%	27.0%	35.1%	27.7%
Sow pig sold before project (riel/year)	Average	0	300000	360000	475000	381250
	N Valid	0.0%	2.7%	13.5%	5.4%	5.4%
Sow pig sold presently (riel/year)	Average	0	80000	110000	900000	300000
	N Valid	0.0%	2.7%	5.4%	2.7%	2.7%
Nb of sow pig in stock	Average	1.4	1.6	1.5	1.5	1.5

presently	N Valid	21.6%	29.7%	45.9%	29.7%	31.8%
Piglets sold before project (riel/year)	Average	206667	344286	434615	500000	411875
	N Valid	8.1%	18.9%	35.1%	24.3%	21.6%
Piglets sold presently (riel/year)	Average	289000	237500	284545	654286	377538
	N Valid	10.8%	10.8%	29.7%	18.9%	17.6%
Nb of piglets in stock presently	Average	4.6	4.3	5.1	3.4	4.4
	N Valid	13.5%	21.6%	18.9%	13.5%	16.9%

Table 24: FTSF-TK: Household pig production

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Fattening pig sold before project (riel/year)	Average	222353	356667	399048	513704	389767
	N Valid	50.0%	61.8%	61.8%	79.4%	63.2%
Fattening pig sold presently (riel/year)	Average	288714	450769	502353	698462	482842
	N Valid	41.2%	38.2%	50.0%	38.2%	41.9%
Nb of fattening pig in stock presently	Average	1.9	1.8	2.5	2.6	2.2
	N Valid	41.2%	47.1%	44.1%	58.8%	47.8%
Sow pig sold before project (riel/year)	Average	215000	331667	338000	385000	342381
	N Valid	5.9%	17.6%	14.7%	23.5%	15.4%
Sow pig sold presently (riel/year)	Average	150000	347500	350000	800000	374000
	N Valid	2.9%	11.8%	11.8%	2.9%	7.4%
Nb of sow pig in stock presently	Average	1.1	1.3	1.6	1.4	1.4
	N Valid	23.5%	32.4%	29.4%	26.5%	27.9%
Piglets sold before project (riel/year)	Average	326667	345455	564286	400000	411379
	N Valid	8.8%	32.4%	20.6%	23.5%	21.3%
Piglets sold presently (riel/year)	Average	307500	326667	575000	245000	373750
	N Valid	11.8%	17.6%	11.8%	5.9%	11.8%
Nb of piglets in stock presently	Average	4.4	4.7	5.3	3.0	4.6
	N Valid	14.7%	26.5%	17.6%	8.8%	16.9%

A4. Chicken and duck production

It is found that numbers of households could sell chicken and duck as well as the average amount per household are quite significantly increased in comparing before and at the present situation.

In FTSF-PV, each household on average earn: 87,300 riel/year before project and 112,300 riels/year at the present). While in FTSF-TK, each household on average earn: 121,300 riel/year before project and 157,000 riel/year at the present.

Table 25: FTSF-PV: Chicken and duck production

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Chicken sold before project (riel/year)	Average	52125	73750	81471	129048	87271
	N Valid	43.2%	43.2%	45.9%	56.8%	47.3%
Chickens sold presently (riel/year)	Average	80375	121832	118813	123048	112303
	N Valid	43.2%	51.4%	43.2%	56.8%	48.6%
Nb of chicken in stock presently	Average	7.8	7.9	7.2	9.7	8.2
	N Valid	75.7%	67.6%	67.6%	81.1%	73.0%
Ducks sold before project (riel/year)	Average	0	50000	120000	140250	121833
	N Valid	0.0%	2.7%	2.7%	10.8%	4.1%
Ducks sold presently (riel/year)	Average	52500	116667	112667	85000	94417
	N Valid	5.4%	8.1%	8.1%	10.8%	8.1%
Nb of ducks in stock	Average	7.6	4.7	4.8	9.2	6.6

presently	N Valid	18.9%	18.9%	10.8%	13.5%	15.5%
Poultry eggs sold before project (riel/year)	Average	0	0	9000	1000000	504500
	N Valid	0.0%	0.0%	2.7%	2.7%	1.4%
Poultry eggs sold presently (riel/year)	Average	0	0	0	72000	72000
	N Valid	0.0%	0.0%	0.0%	2.7%	0.7%
Young poultry sold before project (riel/year)	Average	0	20000	27500	0	25000
	N Valid	0.0%	2.7%	5.4%	0.0%	2.0%
Young poultry sold presently (riel/year)	Average	0	20000	0	0	20000
	N Valid	0.0%	2.7%	0.0%	0.0%	0.7%
Nb of young poultry in stock presently	Average	19.0	18.3	25.6	20.0	20.3
	N Valid	51.4%	40.5%	32.4%	54.1%	44.6%

Table 26: FTSF-TK: Chicken and duck production

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
Chicken sold before project (riel/year)	Average	96739	131053	100645	160385	121263
	N Valid	67.6%	55.9%	91.2%	76.5%	72.8%
Chickens sold presently (riel/year)	Average	116227	113375	97214	284444	156974
	N Valid	64.7%	58.8%	82.4%	79.4%	71.3%
Nb of chicken in stock presently	Average	7.2	7.6	7.5	8.1	7.6
	N Valid	76.5%	76.5%	91.2%	85.3%	82.4%
Ducks sold before project (riel/year)	Average	200000	1600000	575000	818333	725714
	N Valid	2.9%	2.9%	17.6%	17.6%	10.3%
Ducks sold presently (riel/year)	Average	160000	660000	800000	391125	567682
	N Valid	2.9%	5.9%	11.8%	11.8%	8.1%
Nb of ducks in stock presently	Average	5.0	2.6	6.8	4.1	4.4
	N Valid	8.8%	14.7%	11.8%	26.5%	15.4%
Poultry eggs sold before project (riel/year)	Average	0	0	65000	1900000	1166000
	N Valid	0.0%	0.0%	5.9%	8.8%	3.7%
Poultry eggs sold presently (riel/year)	Average	0	1000000	0	0	1000000
	N Valid	0.0%	2.9%	0.0%	0.0%	0.7%
Young poultry sold before project (riel/year)	Average	0	0	0	50000	50000
	N Valid	0.0%	0.0%	0.0%	2.9%	0.7%
Young poultry sold presently (riel/year)	Average	0	0	0	0	0
	N Valid	0.0%	0.0%	0.0%	0.0%	0.0%
Nb of young poultry in stock presently	Average	11.4	16.4	19.4	18.1	16.6
	N Valid	41.2%	41.2%	50.0%	52.9%	46.3%

A5. Selling cattle and other animal raised

Concerning the incomes from selling cattle and other animals, it is found that both numbers household received such incomes and the amount of incomes almost stays the same.

Table 27: Household cattle raising

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Cattle and other animals sold before project (riel/year)	Average	425000	256000	644444	995000	728667
	N Valid	5.4%	13.5%	24.3%	37.8%	20.3%
Cattle and other animals sold presently (riel/year)	Average	947500	485714	705556	944900	787618
	N Valid	21.6%	18.9%	24.3%	27.0%	23.0%
FTSF-TK						

Cattle and other animals sold before project (riel/year)	Average	0	600000	1500000	1245000	1260000
	N Valid	0.0%	2.9%	8.8%	11.8%	5.9%
Cattle and other animals sold presently (riel/year)	Average	0	600000	800000	903333	818333
	N Valid	0.0%	2.9%	5.9%	8.8%	4.4%

A6. Fish production and fish trapping

It is found that number of household involved in fish raising and fish trapping are slightly increased. From this involvement, numbers of household do fish raising and fish trapping for home consumption and for selling are increased. The improvement has been found almost in all economic strata.

Table 28: Fish production and fish trapping

		1/4 Lowest	¼ Lower	1/4 Higher	1/4 Highest	Total
FTSF-TK						
Fish raising/trapping for home consumption before the project (kg/hh)	Average	21	24	37	87	47
	N Valid	24.3%	21.6%	16.2%	32.4%	23.6%
Fish raising/trapping sold out before the project (riel/hh)	Average	150000	176667	683333	239800	302071
	N Valid	8.1%	8.1%	8.1%	13.5%	9.5%
Fish raising/trapping for home consumption presently (kg/hh)	Average	25	25	26	117	52
	N Valid	32.4%	29.7%	27.0%	37.8%	31.8%
Fish raising/trapping sold out presently (riel/hh)	Average	86667	213333	96667	192500	160588
	N Valid	8.1%	8.1%	8.1%	21.6%	11.5%
FTSF-TK						
Fish raising/trapping for home consumption before the project (kg/hh)	Average	18	26	31	107	63
	N Valid	5.9%	14.7%	14.7%	29.4%	16.2%
Fish raising/trapping sold out before the project (riel/hh)	Average		115000	125000	485000	302500
	N Valid		5.9%	5.9%	11.8%	5.9%
Fish raising/trapping for home consumption presently (kg/hh)	Average	12	77	31	68	59
	N Valid	5.9%	20.6%	17.6%	44.1%	22.1%
Fish raising/trapping sold out presently (riel/hh)	Average		175000	123333	381667	273636
	N Valid		5.9%	8.8%	17.6%	8.1%

A7. Total agricultural incomes

In FTSF-PV, concerning the total agricultural incomes, each household has increased their agricultural incomes about 49% comparing to before project. Remarkably, the lowest quartile has improved their incomes about 129%. Concerning the general perception, about 68% of household interviewed has report that their living has been improved a little better to fairly better since collaborating with the project.

In FTSF-TK, concerning the total agricultural incomes, each household has increased their agricultural incomes about 20% comparing to before project. Remarkably, the lowest quartile has improved their incomes about 61%. Concerning the general perception, about 70% of household interviewed has report that their living has been improved a little better to fairly better since collaborating with the project.

Table 29: Total agricultural incomes in comparison before the project phase and at the present

		¼ Lowest	¼ Lower	¼ Higher	¼ Highest	Total
FTSF-PV						

Total income from agriculture production (excluding fishing and natural harvest) before the project	Mean	822743	1425139	1987784	3261689	1877395
	Minimum	383000	450000	300000	800000	300000
	Maximum	1320000	2250000	3140000	9570000	9570000
Total current annual from agriculture production (excluding fishing and natural harvest)	Mean	1887414	2087695	3027830	4193516	2799114
	Minimum	224000	100000	920000	980000	100000
	Maximum	4500000	6550000	10300000	11745500	11745500
Increasing of agri-incomes		129%	46%	52%	29%	49%
FTSF-TK						
Total income from agriculture production (excluding fishing and natural harvest) before the project	Mean	642235	1306765	1798353	3167324	1728669
	Minimum	160000	480000	265000	375000	160000
	Maximum	1100000	2100000	3050000	8110000	8110000
Total current annual from agriculture production (excluding fishing and natural harvest)	Mean	1175206	2426132	2065982	3629162	2324121
	Minimum	336000	856000	610000	630000	336000
	Maximum	3110000	14670000	5660000	8350000	14670000
Increasing of agri-incomes		61%	-14%	47%	16%	20%

Table 30: Trend of incomes from agriculture in comparison present and before the project

Trend of income	¼ Lowest	¼ Lower	¼ Higher	¼ Highest	Total
FTSF-PV					
Highly decrease	0.0%	0.0%	0.0%	5.4%	1.4%
Medium decrease	2.7%	5.4%	0.0%	2.7%	2.7%
Little decrease	8.1%	8.1%	18.9%	10.8%	11.5%
Same as before	27.0%	24.3%	5.4%	8.1%	16.2%
Little increase	32.4%	43.2%	43.2%	35.1%	38.5%
Medium increase	27.0%	18.9%	29.7%	32.4%	27.0%
Highly increase	2.7%	0.0%	2.7%	5.4%	2.7%
Total	100%	100%	100%	100%	100%
FTSF-TK					
Highly decrease	2.9%	0.0%	0.0%	0.0%	0.7%
Medium decrease	2.9%	0.0%	0.0%	2.9%	1.5%
Little decrease	8.8%	5.9%	14.7%	5.9%	8.8%
Same as before	26.5%	8.8%	17.6%	23.5%	19.1%
Little increase	29.4%	47.1%	26.5%	29.4%	33.1%
Medium increase	26.5%	38.2%	41.2%	38.2%	36.0%
Highly increase	2.9%	0.0%	0.0%	0.0%	0.7%
Total	100%	100%	100%	100%	100%

B. Non-farming activities

B1. Natural fishing

Concerning the harvest of natural fish for home consumption and for sale, it is found that the amount of fish harvest and number of household involved are little bit decreased. In FTSF-PV, on average each household can harvest natural fish for home consumption about 47kg/year before project and 44kg/year at the present. While in FTSF-TK, each household on average can harvest natural fish for home consumption about 58kg/year before project phase and 45kg/year at the present.

Table 31: Natural fish harvest for home consumption and for sale

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Natural fishing for home consumption before the project (kg/hh)	Average	35	52	54	42	47
	N Valid	35.1%	40.5%	62.2%	56.8%	48.6%
Natural fishing sold out before the project (riel/hh)	Average	120000	382500	186286	192000	230235
	N Valid	2.7%	10.8%	18.9%	13.5%	11.5%
Natural fishing for home consumption presently (kg/hh)	Average	37	48	43	52	44
	N Valid	48.6%	32.4%	59.5%	37.8%	44.6%
Natural fishing sold out presently (riel/hh)	Average	160000	143333	168333	400000	224000
	N Valid	5.4%	8.1%	16.2%	10.8%	10.1%
FTSF-TK						
Natural fishing for home consumption before the project (kg/hh)	Average	35	59	60	71	58
	N Valid	50.0%	55.9%	82.4%	58.8%	61.8%
Natural fishing sold out before the project (riel/hh)	Average	97000	250000	106000	590000	225526
	N Valid	14.7%	17.6%	14.7%	8.8%	14.0%
Natural fishing for home consumption presently (kg/hh)	Average	27	42	43	64	45
	N Valid	38.2%	55.9%	73.5%	55.9%	55.9%
Natural fishing sold out presently (riel/hh)	Average	115000	87500	40000	365000	122500
	N Valid	5.9%	11.8%	11.8%	5.9%	8.8%

B2. Incomes from non-farming activities

For the non-farming activities, the study contains of the full set of activities which all household interviewed involved. However, in this report, the report presented only total incomes obtained from those activities as project did not support the non-farming activities. As a result, number of household involved in the non-farming activities have increased, in FTSF-PV, from 65.5% before project phase to 89% at the present situation while in FTSF-TK, it was decreased from 88.5% before project phase to 75.7% at the present situation.

Table 32: FTSF-PV: Total incomes from non-farming activities

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Non farm income before project(riel/year)	Mean in total HHI	144676	409486	670054	1474730	674736
	Mean Valid HHI	297388	688681	953538	1760161	1029494
	% of THI	48.6%	59.5%	70.3%	83.8%	65.5%
Non farm income presently (riel/year)	Mean in total HHI	687784	1122838	1348649	3838757	1749507
	Mean Valid HHI	848266	1340161	1425714	4058114	1976541
	% of THI	81%	84%	95%	95%	89%
FTSF-TK						
Non farm income before project(riel/year)	Mean in total HHI	88529	287353	914779	1531000	705415
	Mean Valid HHI	215000	465238	1036750	1794965	1020601

	% of THI	81.1%	83.8%	94.6%	94.6%	88.5%
Non farm income presently (riel/year)	Mean in total HHI	761294	463235	1230603	1943029	1099540
	Mean Valid HHI	1176545	750000	1442775	2131064	1451820
	% of THI	64.7%	61.8%	85.3%	91.2%	75.7%

Concerning the trend of non-farming incomes, about 65% of household interviewed in FLIP-PT reported that their non-farming incomes have increased little to highly increase while in FTSF-TK, about 55% of household interviewed reported that their non-farming incomes have little to highly increased.

Table 33: Trend of non-farming incomes before the project phase and at the present

Trend of non farm income	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Highly decrease	8.1%	0.0%	0.0%	2.7%	2.7%
Medium decrease	0.0%	0.0%	0.0%	8.1%	2.0%
Little decrease	5.4%	8.1%	13.5%	5.4%	8.1%
Same as before	27.0%	24.3%	18.9%	16.2%	21.6%
Little increase	37.8%	45.9%	37.8%	32.4%	38.5%
Medium increase	18.9%	16.2%	27.0%	27.0%	22.3%
Highly increase	2.7%	5.4%	2.7%	8.1%	4.7%
Total	100%	100%	100%	100%	100%
FTSF-TK					
Highly decrease	0.0%	0.0%	2.9%	0.0%	0.7%
Medium decrease	2.9%	0.0%	2.9%	0.0%	1.5%
Little decrease	8.8%	5.9%	11.8%	8.8%	8.8%
Same as before	38.2%	52.9%	17.6%	23.5%	33.1%
Little increase	35.3%	20.6%	26.5%	38.2%	30.1%
Medium increase	11.8%	20.6%	35.3%	29.4%	24.3%
Highly increase	2.9%	0.0%	2.9%	0.0%	1.5%
Total	100%	100%	100%	100%	100%

3.4. Household expenditure

A. Expenditure on chemical inputs in agricultures

Concerning the chemical inputs in agricultural activities, it is found that both in FTSF-PV and FTSF-TK, number of farmers use chemical fertilizer also stay the same while the amount of fertilizer is decreased from 148kg/year before project phase to 110kg/year at the present. However, both number of farmers and the amount of chemical pesticide use are decreased in FTSF-PV.

Table 34: Expenditure on chemical inputs in agricultures

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Chemical fertilizer used before project (kg/year)	Average	128	132	156	178	148
	N Valid	97.3%	97.3%	97.3%	97.3%	97.3%
Chemical fertilizer used	Average	146097	144000	168417	184472	160747

before project (riel/year)	N Valid	97.3%	97.3%	97.3%	97.3%	97.3%
Chemical fertilizer used presently (kg/year)	Average	87	102	116	136	110
	N Valid	97.3%	94.6%	100%	91.9%	95.9%
Chemical fertilizer used presently (riel/year)	Average	133357	131774	160054	198944	155785
	N Valid	94.6%	94.6%	100%	91.9%	95.3%
Chemical pesticide used before project (riel/year)	Average	5083	6500	15846	6000	8783
	N Valid	16.2%	29.7%	35.1%	43.2%	31.1%
Chemical pesticide used presently (riel/year)	Average	3500	4357	4929	7643	5375
	N Valid	8.1%	18.9%	18.9%	18.9%	16.2%
FTSF-TK						
Chemical fertilizer used before project (kg/year)	Average	80	132	129	223	141
	N Valid	94.1%	94.1%	100%	97.1%	96.3%
Chemical fertilizer used before project (riel/year)	Average	89375	138422	130132	237333	149206
	N Valid	94.1%	94.1%	100%	97.1%	96.3%
Chemical fertilizer used presently (kg/year)	Average	105	122	87	159	119
	N Valid	85.3%	91.2%	97.1%	100%	93.4%
Chemical fertilizer used presently (riel/year)	Average	151697	164774	115758	207109	160385
	N Valid	85.3%	91.2%	97.1%	100%	93.4%
Chemical pesticide used before project (riel/year)	Average	74833	12500	70250	89429	68034
	N Valid	8.8%	17.6%	17.6%	41.2%	21.3%
Chemical pesticide used presently (riel/year)	Average	55000	40000	38750	89667	64840
	N Valid	5.9%	20.6%	11.8%	35.3%	18.4%

B. Expenditure on additional purchase of vegetable

Concerning the vegetable consumption, even though they can produce more vegetable for home consumption and sale but they still purchase other vegetables for consumption as well due to the different of vegetable growing season or types of vegetable which are suitable for growing condition. As a result, almost all household interviewed have additionally purchased vegetable for home consumption. In general, both number of farmers and the amount vegetable purchased are decreased in comparing the present situation to the situation before project phase.

Table 35: Expenditure on additional purchase of vegetable

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Buy additional vegetables before the project (kg/hh)	Average	93	89	115	103	100
	N Valid	43.2%	43.2%	48.6%	43.2%	44.6%
Buy additional vegetables before the project (riel/hh)	Average	82094	91972	106914	89822	92675
	N Valid	94.6%	97.3%	94.6%	97.3%	95.9%
Buy additional vegetables presently (kg/hh)	Average	96	69	110	97	94
	N Valid	37.8%	40.5%	48.6%	43.2%	42.6%
Buy additional vegetables presently (riel/hh)	Average	62088	74600	88944	78689	76260
	N Valid	91.9%	97.3%	97.3%	94.6%	95.3%
FTSF-TK						
Buy additional vegetables before the project (kg/hh)	Average	121	169	122	118	133
	N Valid	76.5%	91.2%	97.1%	88.2%	88.2%
Buy additional vegetables before the project (riel/hh)	Average	193726	133912	109968	115406	138253
	N Valid	100%	100%	100%	100%	100%
Buy additional vegetables presently (kg/hh)	Average	98	187	89	107	122
	N Valid	73.5%	94.1%	94.1%	88.2%	87.5%

Buy additional vegetables presently (riel/hh)	Average	166300	165244	140400	125762	149368
	N Valid	97.1%	100%	97.1%	100%	98.5%

C. Expenditure on additional purchase of fish

The situation of purchasing additional fish for home consumption is almost not changed both in term of number of household and quantity to purchase.

Table 36: Expenditure on additional purchase of fish

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Buy additional fish before the project (kg/hh)	Average	47	46	46	57	49
	N Valid	56.8%	56.8%	64.9%	64.9%	60.8%
Buy additional fish before the project (riel/hh)	Average	164900	196663	176197	233485	193207
	N Valid	86.5%	94.6%	86.5%	89.2%	89.2%
Buy additional fish presently (kg/hh)	Average	44	45	52	55	49
	N Valid	59.5%	59.5%	62.2%	70.3%	62.8%
Buy additional fish presently (riel/hh)	Average	181844	205536	250613	285435	231350
	N Valid	86.5%	89.2%	83.8%	91.9%	87.8%
FTSF-TK						
Buy additional fish before the project (kg/hh)	Average	69	99	66	68	76
	N Valid	88.2%	97.1%	97.1%	94.1%	94.1%
Buy additional fish before the project (riel/hh)	Average	290447	379647	252606	276971	300268
	N Valid	100%	100%	97.1%	100%	99.3%
Buy additional fish presently (kg/hh)	Average	58	59	56	59	58
	N Valid	88.2%	97.1%	97.1%	94.1%	94.1%
Buy additional fish presently (riel/hh)	Average	348518	348309	288394	319985	326582
	N Valid	100%	100%	97.1%	100%	99.3%

D. Expenditure on additional purchase of meat

The situation of purchasing additional meat for home consumption is almost not changed in term of number of household and quantity to purchase. But the cash expenses seem increasing due to price of meat is increased.

Table 37: Expenditure on additional purchase of meat

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Buy additional meat before the project (kg/hh)	Average	23	25	24	19	22
	N Valid	64.9%	59.5%	73.0%	73.0%	67.6%
Buy additional meat before the project (riel/hh)	Average	152131	147906	149817	142778	148130
	N Valid	94.6%	97.3%	97.3%	97.3%	96.6%
Buy additional meat presently (kg/hh)	Average	22	24	20	21	22
	N Valid	70.3%	62.2%	73.0%	75.7%	70.3%
Buy additional meat presently (riel/hh)	Average	158750	175072	152306	159181	161327
	N Valid	97.3%	97.3%	97.3%	97.3%	97.3%
FTSF-TK						
Buy additional meat before the project (kg/hh)	Average	41	49	49	40	45
	N Valid	88.2%	97.1%	100%	94.1%	94.9%

Buy additional meat before the project (riel/hh)	Average	250950	329191	295859	250294	281574
	N Valid	100%	100%	100%	100%	100%
Buy additional meat presently (kg/hh)	Average	40	44	43	40	42
	N Valid	91.2%	97.1%	100%	94.1%	95.6%
Buy additional meat presently (riel/hh)	Average	316971	343426	334203	327441	330510
	N Valid	100%	100%	100%	100%	100%

E. Expenditure on additional purchase of rice

Concerning the rice consumption at the household level, number of household purchased additional rice for home consumption is decreased about 9% both in FTSF-PV and in FTSF-TK. It is important to note that rice food security of the rural household is one factor determined by the total annual rice harvest but another factor also determined by whether they have sold it for cash to meet any household demand or not. Even they can produce enough rice for home consumption but if they need to sell it for cash, thus they still need to buy it back during the shortage period.

Table 38: Expenditure on additional purchase of rice

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV						
Buy additional rice before the project (riel/hh)	Average	313000	239375	387500	175000	301800
	N Valid	27.0%	21.6%	16.2%	2.7%	16.9%
Buy additional rice presently (kg/hh)	Average	740	230	283		430
	N Valid	10.8%	10.8%	8.1%	0.0%	7.4%
Buy additional rice presently (riel/hh)	Average	570000	212500	288333		363182
	N Valid	10.8%	10.8%	8.1%	0.0%	7.4%
FTSF-TK						
Buy additional rice before the project (riel/hh)	Average	203750	210833	217182	130833	196686
	N Valid	35.3%	17.6%	32.4%	17.6%	25.7%
Buy additional rice presently (kg/hh)	Average	197	538	320	133	310
	N Valid	17.6%	14.7%	23.5%	8.8%	16.2%
Buy additional rice presently (riel/hh)	Average	160000	328000	306375	106667	244136
	N Valid	17.6%	14.7%	23.5%	8.8%	16.2%

3.5. General household improvement

A. Total and net household incomes

In FTSF-PV, it is found that on average, the total incomes of each household have increased 78% in comparison the two situations: situation before the project phase and at the present. In term increasing rate, the lowest quartile and lower average quartile have increased total household incomes more than the higher average quartile and highest quartile (lowest quartile: 167%, lower average quartile: 76%, higher average quartile: 62% and highest quartile: 70%).

Table 39: FTSF-PV: Total household incomes before the project phase and at the present

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
A1 = Total income before project	Mean	978770	1837459	2747135	4778581	2585486
	Minimum	400000	1450000	2280000	3200000	400000
	Maximum	1450000	2250000	3200000	9720000	9720000

A2 = Total income in 2006	Mean	2593846	3222154	4430803	8134976	4595445
	Minimum	224000	450000	1217000	1740000	224000
	Maximum	6550000	8155000	11500000	28850000	28850000
B = Profit from reduction of expenditure chemical fertilizer and pesticide	Mean	16541	16565	8446	-2178	9843
	Minimum	-342000	-200000	-151500	-321000	-342000
	Maximum	200000	137000	290000	365000	365000
C= Total net income in 2006 =A2+B	Mean	2610386	3238719	4439249	8132797	4605288
	Minimum	237000	450000	1244500	1670000	237000
	Maximum	6577500	8215000	11500000	28744000	28744000
Net increasing rate of incomes =(C-A1)*100/A1		167%	76%	62%	70%	78%

In FTSF-TK, it is found that on average, the total incomes of each household have increased 39% in comparison the two situations: situation before the project phase and at the present. In term increasing rate, the lowest quartile and lower average quartile have increased total household incomes more than the higher average quartile and highest quartile (lowest quartile: 155%, lower average quartile: 75%, higher average quartile: 22% and highest quartile: 18%).

Table 40: FTSF-PV: Total household incomes before the project phase and at the present

		1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
A1 = Total income before project	Mean	745029	1638235	2728721	4750382	2465592
	Minimum	245000	1180000	2220000	3100000	245000
	Maximum	1100000	2210000	3050000	8110000	8110000
A2 = Total income in 2006	Mean	1943265	2899662	3301291	5593662	3434470
	Minimum	386000	856000	610000	2250000	386000
	Maximum	8426000	14670000	5660000	9950000	14670000
B = Profit from reduction of expenditure chemical fertilizer and pesticide	Mean	-41903	-25985	25618	28421	-3463
	Minimum	-1125000	-492000	-190000	-545000	-1125000
	Maximum	260000	241000	350000	210000	350000
C= Total net income in 2006 =A2+B	Mean	1901362	2873676	3326909	5622082	3431007
	Minimum	372000	806000	640000	2126000	372000
	Maximum	8546500	14178000	5470000	10110000	14178000
Net increasing rate of incomes =(C-A1)*100/A1		155%	75%	22%	18%	39%

B. Trend of living standard

In FTSF-PV, respondents have reported their household livelihood have been slightly improved (40.5%) and fairly improved (35.8%). However, when asking how do you think in the next 5 years, whether their household livelihoods will be improved or continued to improve? Households interviewed reported that about 82% of the interviewees believe that their livelihoods will be improved and continued to improve more while about 18% said that it will stay the same or decrease.

In FTSF-TK, respondents have reported their household livelihood have been slightly improved (42.6%) and fairly improved (39.7%). However, when asking how do you think in the next 5 years, whether their household livelihoods will be improved or continued to improve? Households interviewed reported that about 82% of the interviewees believe that their livelihoods will be improved and continued to improve more while about 18% said that it will stay the same or decrease.

Table 41: Trend of living standard compare to before the project

	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Highly decrease	0.0%	0.0%	0.0%	0.0%	0.0%
Medium decrease	0.0%	0.0%	0.0%	2.7%	0.7%
Little decrease	5.4%	2.7%	2.7%	8.1%	4.7%
Same as before	21.6%	18.9%	13.5%	18.9%	18.2%
Little increase	45.9%	45.9%	40.5%	29.7%	40.5%
Medium increase	27.0%	32.4%	43.2%	40.5%	35.8%
Highly increase	0.0%	0.0%	0.0%	0.0%	0.0%
Total	100%	100%	96.6%	100.0%	99.1%
FTSF-TK					
Highly decrease	0.0%	0.0%	2.9%	0.0%	0.7%
Medium decrease	0.0%	0.0%	0.0%	0.0%	0.0%
Little decrease	2.9%	2.9%	0.0%	0.0%	1.5%
Same as before	8.8%	11.8%	17.6%	17.6%	14.0%
Little increase	44.1%	38.2%	44.1%	44.1%	42.6%
Medium increase	41.2%	44.1%	35.3%	38.2%	39.7%
Highly increase	2.9%	2.9%	0.0%	0.0%	1.5%
Total	100%	100%	100%	100%	100%

Table 42: Next 5 years outlook on living standards by respondents

	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV					
Highly decrease	0.0%	2.7%	0.0%	0.0%	0.7%
Medium decrease	2.7%	0.0%	0.0%	0.0%	0.7%
Little decrease	10.8%	2.7%	5.4%	0.0%	4.7%
Same as before	18.9%	16.2%	0.0%	13.5%	12.2%
Little increase	35.1%	37.8%	43.2%	32.4%	37.2%
Medium increase	29.7%	40.5%	43.2%	35.1%	37.2%
Highly increase	2.7%	0.0%	8.1%	18.9%	7.4%
Total	100%	100%	100%	100%	100%
FTSF-TK					
Highly decrease	0.0%	0.0%	0.0%	0.0%	0.0%
Medium decrease	0.0%	0.0%	2.9%	0.0%	0.7%
Little decrease	5.9%	10.8%	2.9%	0.0%	5.1%
Same as before	11.8%	8.1%	14.7%	11.8%	11.8%
Little increase	14.7%	10.8%	20.6%	11.8%	14.7%
Medium increase	58.8%	56.8%	50.0%	73.5%	61.0%
Highly increase	8.8%	5.4%	8.8%	2.9%	6.6%
Total	100%	92%	100%	100%	100%

IV. Conclusion and suggestions

4.1. Conclusion

From these findings, it would be concluded that:

- Project has brought significant impact to household beneficiaries, especially among the lower and lowest quartiles. They are able to start as well as to increase their agricultural production.

- Almost all economic strata, project beneficiaries can generate cash incomes from selling the surplus products mainly rice, vegetable and chicken.

- Project also has brought significantly impact on reducing the chemical inputs in agriculture mainly chemical pesticide and fertilizer. Community people has been aware of health related issues which affected by chemical inputs and its exposure.

- Moreover, most of household interviewed believe that their household livelihoods will be improved and continued to improve in the next five years.

4.2. Suggestions

Based on these evaluation findings, some suggestions would be considered:

- The support on pig raising should be strengthened. Input supply chain and marketing facilitation supports can encourage the small pig producers to enlarge or increase their investment on pig raising.

- The same as pig, improving the extension activities on fish raising is needed. There are good cases of fish raising farms but the dissemination of innovation in community seems relatively low.

Last but not least, it is to remark that the study aims to measure the impact change on livelihoods of target beneficiaries. For sure, not only one project contributes to make this change. Detail analysis of the project outcome or "outcome mapping" can present more clearly on added-value of the project in contribution to whole change of the rural livelihood of the target beneficiaries in the project coverage area.

Annexes

Annex 01: FTSF-PV: Village and number of samples selected and interviewed

FTSF-PV	Prey Veaeng		BroLeung Meas	BroLeung Meas	2
			Dom Reypourn	O Kondore	15
			Peam Rorng	Krang Chombors	14
				Tropeang Smao	15
			Somroung	BroLeung Meas	13
		Prey Veaeng	Svay Antor	Por Chhrey	15
		Sithor Kandal	Prey Dorm Thneng	Prey DormThneng II	15
				Prey DormThneng III	15
			Prey Toeng	Khana	15
				Prey Toeng	15
			Rom Lich	Char	14

Annex 02: FTSF-PV: Village and number of samples selected and interviewed

FTSF-TK	Takaev	Bourei Cholsar	Dong Kpous	RoTesPlouk	9
				Sopy	15
				Tashiey	14
		Treang	BramBeymom	Prey CherTeal	3
				PreyCherTeal	12
			Chis Chmar	Yol Jack	11
			Prey Sleak	Trapang Tamouk	14
			Tlork	KrangRong	14
				PUNLEY	14
				Samnor Khmao	15
			TroLach	Som Roung	15

Annex 03: Year of involvement of the project beneficiary in the project

Year began to cooperate with project	Period	1/4 Lowest	1/4 Lower	1/4 Higher	1/4 Highest	Total
FTSF-PV	2001	0.0%	2.7%	0.0%	0.0%	0.7%
	2004	21.6%	45.9%	40.5%	43.2%	37.8%
	2005	54.1%	40.5%	54.1%	40.5%	47.3%
	2006	24.3%	10.8%	5.4%	13.5%	13.5%
	N/A	0.0%	0.0%	0.0%	2.7%	0.7%
	Total	100%	100%	100%	100%	100%
FTSF-TK	2003	0.0%	0.0%	2.9%	0.0%	0.7%
	2004	14.7%	29.4%	17.6%	32.4%	23.5%
	2005	82.4%	70.6%	73.5%	64.7%	72.8%
	2006	2.9%	0.0%	5.9%	2.9%	2.9%
	Total	100%	100%	100%	100%	100%