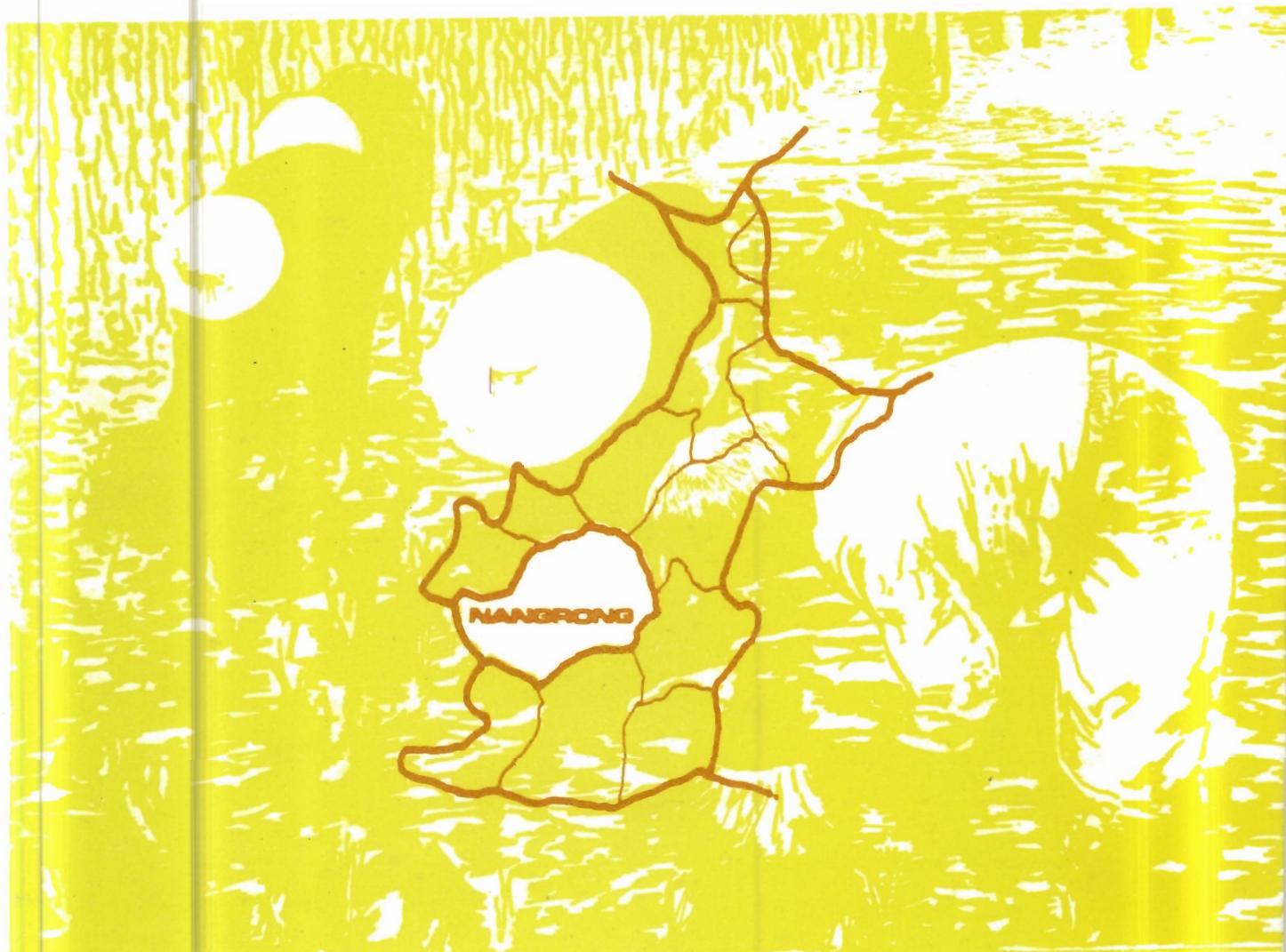


# THE MID-INTERVAL SURVEY REPORT



COMMUNITY BASED INTEGRATED RURAL DEVELOPMENT (CBIRD)  
EVALUATION PROJECT

**Institute for Population and Social Research**  
**Mahidol University**

ISBN 974-586-197-9

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THE

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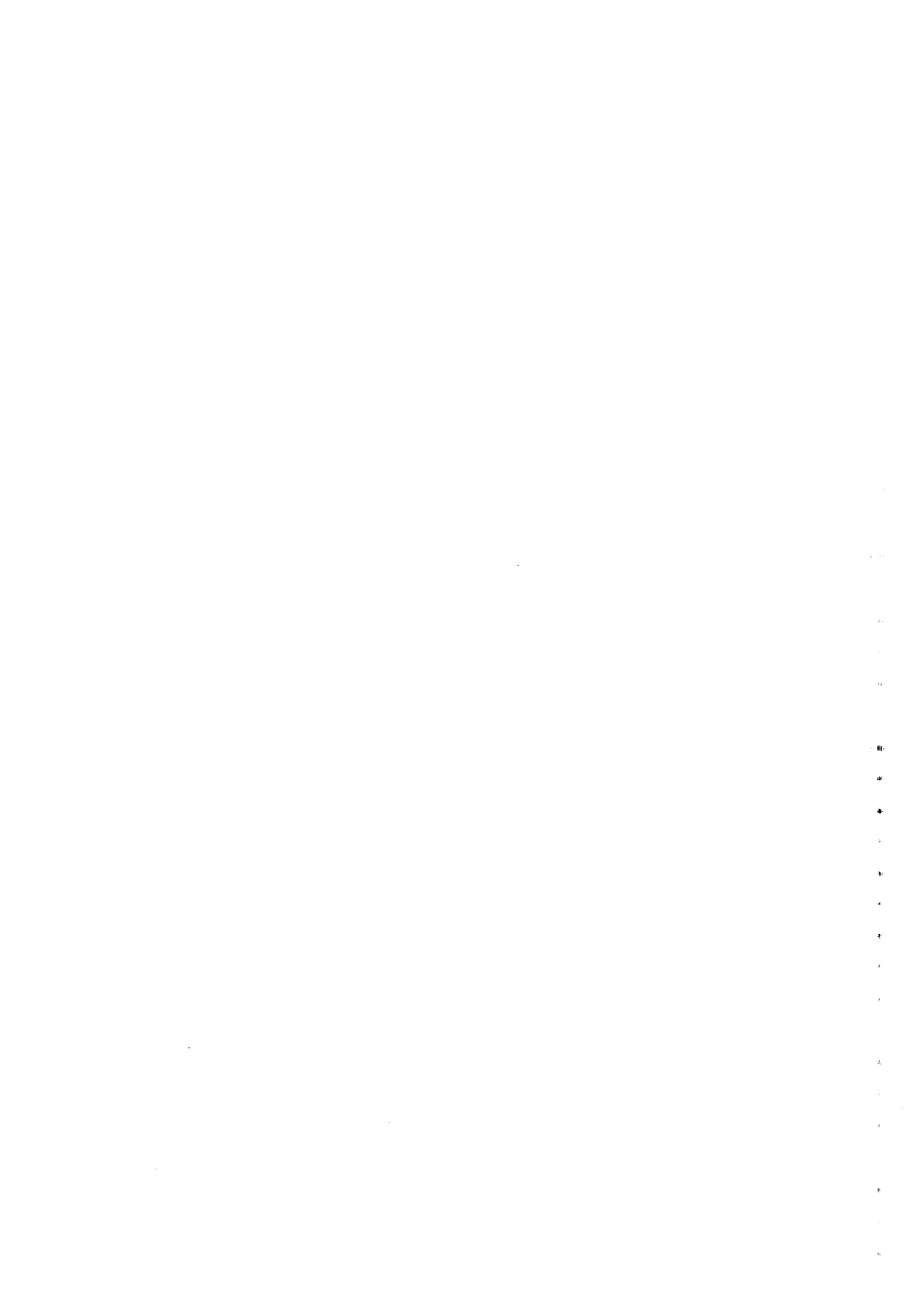
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- " International Development Research Centre especially Dr. Jingjai Hanchenlak and Dr. H. Dean Nielsen



## Preface

The Community Based Integrated Rural Development Project (CBIRD) by the Population and Community Development Association is a 4-year project supported by Canadian International Development Agency (CIDA). It has commenced its activities at Nang Rong District, Burirum Province in 1984, the objectives of which are to improve quality of life of the rural community and to counter against its poverty. The activities conducted by the PDA between 1984 and 1986 included giving training in income generating activities of the people, supporting careers of the villagers for the purpose of an increase of their income, improving health and sanitation, and establishing the mother club, fund development i.e. drug fund, rice fund, fertilizer fund etc.

The CBIRD Evaluation Project (CEP) was set by the Institute for Population and Social Research (IPSR). Mahidol University in January 1984 to conduct an evaluative study of the CBIRD's activities. According to the time schedule, there are three phases of the CEP's implementation. The first phase of the evaluative study - the Baseline Survey was undertaken in April 1984, and its report was issued in October 1984. The Mid-interval Survey, the second phase, was conducted in 1986 and the last phase - the Impact Survey will be implemented in 1988.

It should be noted that the Mid-interval Survey does not aim to evaluate any impact of the CBIRD Project because it is too soon. More time should be allowed to assess the result of the project since the integrated rural development is a time consuming process and requires quite a period of time in order to see its effectiveness.

On the other hand, the Mid-interval Survey's objectives are to determine the knowledge, opinions, attitudes of the people in the studied areas towards the CBIRD Project's activities and their participation in the project. It also aims to identify the problems occurred during the CBIRD activities, if any, and to provide useful suggestions and guidelines to the PDA for the purpose of the improvement of future activities and monitoring of the project. Besides, we have included the data classified into 14 villages where the survey has been implemented. Also include is the data classified into various activities which have been promoted by the CBIRD. This is to feed necessary information to the PDA.

In concurrence with the CEP, the IPSR has used many areas in Nang Rong District for the studies in the following subjects : dietary nutrition, indebtedness etc.

It is hoped that the information contained in the Mid-interval Survey would be beneficial to the implementor - that is the PDA staff, in conducting the project to the suitable direction. In addition, we

hope that this should be helpful to any researchers and/or organizations whose work is dealing with the development of the country by using this information as examples when implementing their development activities.

The CBIRD Evaluation Project by the IPSR has been conducted with the financial support from the International Development Research Centre (IDRC) and we wish to express our appreciation to the assistance. Special thanks are given particularly to Dr. H. Dean Nielsen who has always shown his interest in followed up our work as well as identified some essential points which are always useful and helpful to us in initiating new and creative ideas.

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March 1987



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## I. INTRODUCTION

Concurrent with the initiation and the implementation of the Community Based Integrated Rural Development Project (CBIRD) at Nang Rong District, Buri Ram Province in 1984, the Institute for Population and Social Research, a designated external evaluator responsible for the evaluation of the project also initiated the CBIRD Evaluation Project (CEP) with the following stated objectives :

1. To measure changes and impact of the CBIRD project on economic, environment and health development.
2. To evaluate periodically the process of implementation in order to supply feedback for the Population and Community Development (PDA), for remodification of the program activities/strategies
3. To study the feasibility, efficiency and effectiveness of different CBIRD strategies and models.

The Mid-interval survey which was conducted in 1986 is one of the two components of the Mid-interval study. The other component is an in-depth study utilizing direct observation of operations and unstructured interview techniques for data collection.

With a view to facilitating the better understanding of the rationale as well as the background of the present survey, especially for persons who do not have the opportunity to read the baseline survey report entitled "A Demographic, Socio-Economic and Health Profile of A Rural Community in Nang Rong : A Baseline Report," Chapters

1 to 3 are reproduced here as an Annex. The three chapters describe more fully about the CBIRD project, its objectives ; inputs, activities and criteria for selection of villages for participation in the programs. More importantly, for the sake of understanding the present survey report, the CEP research design, key variables and the baseline study will serve as a linkage for the purpose.

## II. THE MID-INTERVAL SURVEY

### 1. OBJECTIVES

Objectives of the survey are :

1. to measure knowledge, attitudes and satisfaction of the villagers with regard to the CBIRD project and its activities.
2. to find out the extent to which the people participate in the project and to identify the problem, if any, in their participation ; and,
3. to provide information which may be useful for strengthening CBIRD activities.

### 2. METHODOLOGY

Although the noble objectives of CBIRD activities to improve the quality of life of villagers through various means such as training to provide skills and knowledge in the production and marketing of agricultural and home industry products, promotion of health, nutritional and family planning and environmental sanitation development activities may be considered as something good and desirable for the people themselves, its sole and perhaps supreme guiding principle is that villagers' participant must be voluntary. Consequently, after a certain period of operations, there emerges differential participation rates. As of January 1986, of the 40 target villages, percentages of households participated in CBIRD major income

generating activities ranged from 11 percent to 63 percent of all households. The ranges of participant rate in other development and minor income supplementary activities were equally wide. Using participation rate of 20 percent as a cut-off point, CBIRD 40 target villages were classified into high-and low-participation villages. The classification was used as a basis for determination of the survey coverage.

### 2.1 The Sample Design

The sample design used in the survey is purposive sampling by including 10 villages with participation rate in major income generating activities of 20 percent or higher and label them as "high participation villages" and 4 villages with participation rate in major income generating activities of 11 percent or lower and label them as "low participation villages." All 1,674 households in these 14 villages with 1,259 households in the high participation villages and 415 households in the low participation were include for interviews.

### 2.2 Data Collection

Data were collected by means of interviewing household heads or spouses, using standardized questionnaires by a corp of well trained interviewers, all of which are university graduates. The following data were collected :

- household characteristics (size, number of member in working age, major and minor occupation).
- villagers' knowledge of CBIRD project, their opinions regarding the project's benefits,
- villagers' participation in CBIRD income generating and other development activities, problems and benefits derived from participation
- villagers' satisfaction from participation, their suggestions including expectation from the CBIRD

Analysis of data including the discussion of implications of survey findings on CBIRD on-going and future activities are in the subsequent chapters.

### III KNOWLEDGE AND OPINIONS OF VILLAGERS

#### 1. NO ONE HAS NO KNOWLEDGE OF CBIRD PROJECT

The extent to which villagers being aware of or know about the CBIRD project or activities is measured by asking a direct and simple question :" Do you know CBIRD or Meechai project ? In this regard it could be stated that villagers' knowledge of the CBIRD project is universal. Practically all respondents, about 98.4 percent of those who were interviewed in high participation villages and 99.0 percent in low participations villages responded that they know about the project. For interviewees who responded as "do not know the project" after being prompted by citing any other names were not further interviewed. It should also be noted that there is no significant difference in knowledge of the project between villagers in high and low participation villages.

#### 2. VILLAGERS' PERCEPTION OF THE PROJECT

What development activities are implemented by the CBIRD project, according to the villagers' understanding, is another measure obtained by the survey. It may also be viewed as a measure of how well the project is known by villagers. Among a series of development activities being promoted by the project, animal husbandry is the best known activities, being mentioned by all respondents. Percentages of villagers mentioning types of activities as shown in Table 1

indicate the perception of villagers which seem to be in line with major inputs of the project.

Table 1. Percentage of villagers mentioning type of activities implemented by CBIRD project by high and low participation villages

Type of activities	High participation	Low participation
	villages	villages
Animal husbandry	100.0	100.0
Agricultural development	67.0	42.4
Village development	54.0	56.9
Compost fertilizer	23.0	20.5
Development fund	16.0	20.2
Health development	13.7	16.6
Latrine construction	48.5	51.1
Occupational development	2.0	0.2
Others	1.3	2.2
Number (for each category)	1,259	415

How well the project is known by villagers may be measured in terms of the number of type of activities mentioned by respondents. It may be seen that practically all villagers know at least one activity. Percentage of those mentioning at least two activities is more

or less near universal, i.e. 95 percent in high participation villages and 96 percent in low participation villages. The proportion of those knowing at least three activities is also high, approximately four-fifths. All in all slightly more than half of villagers know four CBIRD activities, (see Table 2).

Table 2. Percentage of villagers knowing CBIRD activities by number of activities known and by high and low participation villages

Number of activities known	High participation villages	Low participation villages
Knowing four CBIRD activities	56.3	51.6
Knowing three CBIRD activities	81.4	82.5
Knowing two CBIRD activities	95.0	95.9
Knowing only one CBIRD activities	99.6	99.0
Knowing CBIRD but do not know any activities of CBIRD	0.4	1.0
N (for each category)		1,259
		415

From the analysis made above, it may be seen that villagers' knowledge of the project is genuine and is not simply a kind response just to please the interviewers because among those responded as knowing the project is able to mention the type of activities being implemented by the project.

### 3. VILLAGER'S CONTACT WITH THE PROJECT

As may be seen from Annex, the project major inputs involve a series of education and training activities in both income generating and other development purposes. To implement these activities, the CBIRD Demonstration Centre (CDC) was constructed. Respondents were asked if they had ever visited the centre and if "yes" the purpose of their visit. From data presented in Table 3 below, it may be seen that the proportion of villagers ever visited CDC from high participation villages, i.e. about 31 percent, is higher than that of the low participation villages, i.e. about 24 percent. To receive training at CDC seems to be the major purpose of visit, accounted for about three-fourths of those ever visited CDC from both high and low participation villages.

Table 3. Percentage of villagers ever visited CBIRD Demonstration Centre by purpose of visit and by high and low participation villages.

Visit experience and purpose	High participation villages	Low participation villages	
Never visited	66.7	73.2	
Ever visited	30.7	24.3	
Animal husbandry training	21.4	12.9	
Agricultural training	19.1	21.8	
Health and nutrition training	13.7	10.9	
Other occupational skill training	3.6	1.0	
Purchase and sale of products	5.9	7.9	
Observation of CBIRD activities and study tour	21.8	19.8	
Others*	14.5	25.7	
No answer	2.5	2.4	
Total**	100.0	100.0	100.0
Number	1,259	387	415
			100

\* Others include other types of training conducted by CBIRD and other government agencies.

\*\* Total does not necessarily add up to 100.0 due to rounding errors. Such remark is applicable to all subsequent tables showing percentage distribution.

#### 4. VILLAGERS' OPINIONS ON ABILITY OF THE PROJECT TO ASSIST THEM

Villagers' opinions regarding the extent to which CBIRD could assist them were obtained by means of asking the direct and simple question : To what extent do you think the CBIRD project could assist the villagers ? Nearly half of the villagers in high participation villages responded very positively and about 45 percent of villagers in low participation villages responded so. Percentage of those expressed favourable opinion in the high participation villages is as high as 93 percent and the corresponding percentage in the low participation villages is about 86 percent, indicating some degree of significant difference between these two types of villages. The fact that 7 percent of villagers in the high participation and 14 percent of villagers in the low participation opined unfavourably seems to indicate that favourable opinions given by them were not expensed out of villagers courtesy, see Table 4.

Table 4. Villagers opinions on the extent to which the project could assist them by high and low participation villagers

Opinions on the extent of assistance of the project	High participation villages	Low participation villages
Very much	48.2	44.3
Fairly much	45.0	41.9
Little	2.4	5.5
Do not know/no answer	4.4	8.2
Total	100.0	100.0
Number	1,259	415

#### IV PARTICIPATION OF VILLAGERS IN CBIRD'S ANIMAL HUSBANDRY

##### 1. THE EXTENT OF PARTICIPATION

While adopting the principle of voluntary participation, the CBIRD program also specifies some guidelines to assist the village committees in their selection of household to be trained and to participate in CBIRD activities. Consequently, only a certain proportion of households are eligible and being selected for training in the promoted activities. In the area of animal husbandry, i.e. raising of pigs, ducks and chickens, for example, only 222 households or 17.6 per cent of all households in the high participation villages were eligible and voluntarily participated in the training. The corresponding percentage for low participation villages was 14.4 per cent. Of those being trained, the proportions of villagers who have actually engaged in animal raising were still lower, being 11.8 per cent of all households in high participation villages and 6.7 per cent of all households in low participation villages, (see Table 1).

Table 1 Percentage of households selected to be trained about animal raising (pigs, ducks and chickens) at CBIRD Demonstration Center and households raising such animals after been trained by high and low participation villages.

Animals	High participation villages		Low participation villages	
	Being trained	Raising animals	Being trained	Raising animals
	-----	-----	-----	-----
Pigs, ducks, chickens	4.1	0.0	3.3	0.0
Pigs	22.5	29.0	5.0	10.7
Ducks	59.9	56.1	80.0	64.3
Chickens	5.0	6.8	6.7	10.7
Pigs and ducks	5.4	6.8	0.0	0.0
Pigs and chickens	0.9	0.7	0.0	0.0
Ducks and chickens	2.2	0.7	5.0	14.3
Total	100.0	100.0	100.0	100.0
Number	222	148	60	28

When being asked about the amount of time being spent in raising animals, it is quite surprised to find that only 2.7 per cent of animal raising households in high participation villages and about 3.6 per cent in low participation villages responded that they spent more time than usual. The rest of households in both types of

villages responded that the amount of time spent is as usual or less than usual.

With regard to the intention to spend income generated from animal raising, a very low proportion, i.e. about 2.2 per cent of animal raising household in high participation villages responded that they intend to reinvest in other rounds of animal raising. Since relatively high proportion of households has not yet received "profit" or "income" from the understating, i.e. about 49 percent in high participation villages and 41 percent in low participation villages, responses to this type of question could not as yet be taken seriously

## 2. VILLAGERS DETERMINATION

The extent of determination of villagers was obtained by asking them if they are still raising animals under the assistance of CBIRD program. From the data presented in Table 2, it is interesting to note that except chicken raising where villagers experiencing loss, proportions of households which continue raising animals are relatively high, more than four-fifths.

Table 2 Percentage of households raising animals (pigs, ducks and chickens) from the beginning up to present by high and low participation villages.

Animal raising status	High participation villages			Low participation villages		
	Pigs	Ducks	Chickens	Pigs	Ducks	Chickens
Still raising	88.9	89.5	58.3	100.0	85.7	50.0
Stop raising due to:						
Lack of capital	1.8	3.1	8.3	0.0	0.0	0.0
Lack of time	0.0	2.1	0.0	0.0	0.0	12.5
Lack of labour	0.0	0.0	0.0	0.0	4.8	12.5
Incurred loss	3.7	0.0	33.3	0.0	0.0	25.0
Other reasons	5.6	5.3	0.0	0.0	9.5	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Very high proportions of households which are still raising animals, when asked whether they will continue raising animals after the termination of CBIRD assistance, responded that they will. Such intention, if it could be validated by the follow-up study conducted at a later date, would represent a kind of "impact" which the CBIRD program on income generation for villagers, (see Table 3).

Table 3 Percentage of households intending to continue raising animal (pigs, ducks and chickens) after the termination of CBIRD assistance by high and low participation villages

Type of animals	High participation villages		Low participation villages	
	Continue raising	Stop raising	Continue raising	Stop raising
Pigs	97.9	2.1	100.0	0.0
Ducks	95.8	4.2	94.1	5.9
Chickens	100.0	0.0	40.0	60.0

3. TYPES OF ASSISTANCE USED BY VILLAGERS AND PROBLEMS ENCOUNTERED IN ANIMAL HUSBANDRY

In promoting animal husbandry, CBIRD program provide a complete cycle of assistance from production to marketing such as supplying animal breeds, animal feeds, vaccination service, advice on appropriate method and the process of raising to all households in villages regardless of whether they are selected to participate in the training program or not. It is interesting to note that relatively low proportions of villagers make use of such services or follow CBIRD process in animal husbandry. This may partly explain the fact that a very high proportions of villagers expressed confidence that they will be able to continue the activities after the termination of the CBIRD program (see Table 4).

Table 4 Percentage of households making use of CBIRD services in animal raising by high and low participation villages

Category	High participation villages			Low participation villages		
	Pigs	Ducks	Chickens	Pigs	Ducks	Chickens
<b>Buy CBIRD breed ?</b>						
Yes	13.2	21.3	1.7	2.2	9.3	2.9
No	86.8	78.7	98.3	97.8	90.7	97.1
<b>Buy CBIRD feeds ?</b>						
Yes	11.8	2.1	1.5	2.2	1.2	2.0
No	88.2	97.9	98.5	97.8	98.8	98.0
<b>Receive CBIRD vaccination services ?</b>						
Yes	11.2	24.1	56.8	11.7	13.0	60.0
No	88.8	75.9	43.2	88.3	87.0	40.0
<b>Seek advice from CBIRD officials ?</b>						
Yes	69.9	67.4	73.3	75.9	74.7	84.0
No	30.1	32.6	26.7	24.1	25.3	16.0
<b>Follow CBIRD process in raising ?</b>						
Yes, every step	12.1	6.0	3.4	4.4	5.6	3.7
some steps	25.4	22.5	20.2	18.2	18.5	16.0
No	62.5	71.5	76.4	77.4	75.9	80.3
<b>Able to continue raising animals after CBIRD program termination ?</b>						
Yes	92.4	91.7	93.0	91.2	96.3	93.4
No	5.6	6.0	5.5	7.3	1.8	6.0
Not sure	2.0	2.3	1.5	1.5	1.8	.6
<b>Number</b>						
	448	614	1,016	137	162	349

As for the problems encountered by villagers in animal raising, proportions of those having problems in chicken raisings are much higher than having problems in pig and duck raising. Among type of problems mentioned, sickness and death of animals are predominant ones in all three types of animals (see Table 5).

Table 5 Problems in animal raising encountered by households by high and low participation villages

Type of problems	High participation villages			Low participation villages		
	Pigs	Ducks	Chickens	Pigs	Ducks	Chickens
No problems	57.2	70.1	21.3	58.5	82.1	29.1
<b>Have problems:</b>						
Gaining weight slowly	6.1	0.2	0.3	4.5	0.0	0.3
Sickness	25.1	1.3	9.8	28.9	1.2	12.6
Death	3.1	26.3	68.1	3.7	13.6	58.0
Lack of animal feeds	3.3	0.0	0.0	0.7	0.0	0.0
No vaccination	0.2	0.0	0.2	0.0	0.0	0.0
Marketing	0.2	0.0	0.0	0.0	0.0	0.0
<b>Unable to follow</b>						
CBIRD process	0.2	0.2	0.1	0.0	0.0	0.0
Incurred loss	4.5	0.2	0.1	3.7	1.2	0.0
Inefficient breeds	0.0	0.0	0.1	0.0	0.0	0.0
Others	0.0	1.8	0.1	0.0	1.8	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	448	614	1,016	137	162	349

## V. PARTICIPATION OF VILLAGERS IN CBIRD RICE FARMING TECHNOLOGY

Rice, in addition to being staple food for villagers is also one of main sources of cash income for households having surplus after consumption. Increase in the efficiency of rice production implies an increase in villagers income. Consequently, one of the major inputs of CBIRD program is the provide improved rice farming technology. The training in rice production provide by CBIRD program covers proper methods of growing rice, seed selection, fertilizer application, selection and use of insecticides and herbicides, production and use of compost fertilizer. Unlike the participation in CBIRD training program on animal husbandry, participation in a series of rice family technology improvement training program is open to all villagers.

### 1. THE EXTENT OF PARTICIPATION IN TRAINING ACTIVITIES

The proportions of household participating in various training programs vary from as low as 53 per cent in method of seed selection and as high as 73 per cent in the method of producing and using compost fertilizer. If the proportions of those learning from others but never attending the training are taken into account, the low and high participation rates would have been 59 and 84 percent respectively (see Table 1).

Table 1 Percentage of households participating in the training by experience in attending training and by high and low participation villages

Type of training activities and experience in attending training	High participation villages	Low participation villages
<b>Method of rice growing:</b>		
Attended the training	60.7	58.4
Learning about the method		
from neighbors but never attended	6.2	5.8
Never attended	33.1	35.8
<b>Method of seed selection:</b>		
Attended the training	53.0	51.1
Learning about the method from		
neighbors but never attended	6.1	4.9
Never attended	40.8	44.0
<b>Method of applying fertilizer:</b>		
Attended the training	71.3	71.8
Learning about the method from		
neighbors but never attended	6.6	5.1
Never attended	22.0	23.1

Table 1 (cont'd)

Type of training activities and experience in attending training	High participation villages	Low participation villages
<b>Method of selection and use of herbicides and insecticides:</b>		
Attended the training	61.7	59.8
Learning about the method from neighbors but never attended	5.6	3.9
Never attended	32.6	36.3
<b>Method of producing and using compost fertilizer:</b>		
Attended the training	72.9	70.1
Learning about the method from neighbors but never attended	11.3	9.0
Never attended	15.8	20.9
<b>Number (excludes no answers</b>	<b>1,239</b>	<b>411</b>

## 2. THE EXTENT OF ADOPTING CBIRD TECHNOLOGY

Experience in attending the CBIRD training seem to be a decisive factor in the villagers' adoption of new technology introduced by CBIRD, as may be seen from data presented in Table 2 below.

Table 2 Percentage of households adopting the CBIRD technology by experience in attending training and by high and low participation villages\*

Type of training activities and experience in attending training	High participation villages		Low participation villages	
	Yes	No	Yes	No
<b>Method of rice growing:</b>				
Attended the training	32.0	68.0	21.7	78.3
Learning about the method from neighbors but never attended	11.7	88.3	12.5	87.5
<b>Method of seed selection:</b>				
Attended the training	31.7	68.3	24.8	75.2
Learning about the method from neighbors but never attended	14.5	85.5	25.0	75.0
<b>Method of applying fertilizer</b>				
Attended the training	45.6	54.4	44.4	55.6
Learning about the method from neighbors but never attended	15.9	84.1	38.0	62.0

Table 2 (cont'd)

Type of training activities and experience in attending training	High participation villages		Low participation villages	
	Yes	No	Yes	No
<b>Method of selection and use of herbicides and insecticides</b>				
Attended the training	36.5	63.5	26.4	73.6
Learning about the method from neighbors but never attended	12.9	87.1	6.2	93.8
<b>Method of producing and using compost fertilizer</b>				
Attended the training	45.6	54.4	44.4	55.6
Learning about the method from neighbors but never attended	15.9	84.1	38.0	62.0

\*The number which is a base for computing percentage for each category of training method varies according to the extent of participation in each method, see Table 1.

### 3. RESULTS OF ADOPTING CBIRD TECHNOLOGY

Except one training activity, percentages of households reporting a very good result from adopting the CBIRD technology are high as may be seen from data presented in Table 3 below. The fact that a somewhat lower proportion of households reporting very good results in the training on method of producing and using compost fertilizer deserve further investigation. From another perspective, the low percentage of favourable reporting also help to validate the high percentages of favourable report.

**Table 3      Percentage of household reporting results of adopting CBIRD technology by type of training activities and by high and low participation villages**

Type of training activities and results of adoption	High participation villages	Low participation villages
<b>Method of rice growing:</b>		
Very good	71.8	76.4
Not so good	26.2	18.2
Don't know/not sure	2.0	5.4
<b>Method of seed selection:</b>		
Very good	88.5	87.7
Not so good	11.0	3.5
Don't know/not sure	0.5	8.8
<b>Method of applying fertilizer</b>		
Very good	86.0	79.1
Not so good	12.8	20.1
Don't know/not sure	1.2	0.7
<b>Method of selection and use of herbicides and insecticides:</b>		
Very good	75.3	84.8
Not so good	24.0	15.2
Don't know/not sure	0.7	0.0
<b>Method of producing and using compost fertilizer</b>		
Very good	54.9	29.4
Not so good	7.9	0.0
Don't know/not sure	37.2	70.6

#### 4. VILLAGERS' OPINIONS ON BENEFITS OF KNOWLEDGE AND SKILIS OBTAINED

Villagers' opinions on the benefits of knowledge and skills obtained on their rice farming activity vary according to whether they have actual experience in attending the training programs or simply learning from others but never attended the training. Such difference is apparent in both high and low participation villages (see Table 4).

**Table 4 Percentage of villagers' opinions on benefits of knowledge and skills obtained by type of training activities and by high and low participation villages.**

Type of training activities and villagers' opinions	High participation		Low participation	
	Attended	Learning from others	Attended	Learning from others
<b>Method of rice growing:</b>				
Very beneficial	41.9	27.9	36.6	12.5
Fairly beneficial	51.2	55.9	54.0	70.8
Not so beneficial	4.9	11.8	3.8	8.3
None	2.1	4.4	5.5	8.3
<b>Method of seed selection:</b>				
Veryly beneficial	47.1	29.6	43.2	30.0
Fairty beneficial	47.9	57.7	48.5	55.0
Not so beneficial	4.1	9.9	3.9	5.0
None	0.8	2.8	4.4	10.0
<b>Method of applying fertilizer:</b>				
Very beneficial	50.4	37.3	49.7	19.0
Fairly beneficial	45.3	54.7	44.9	66.7
Not so beneficial	3.4	6.7	2.7	9.5
None	0.9	1.3	2.7	4.8
<b>Method of selection and use of herbicides and insecticides:</b>				
Very beneficial	47.0	47.0	45.5	18.8
Fairly beneficial	47.4	47.0	46.3	62.5
Not so beneficial	4.6	4.5	4.1	12.3
None	1.0	1.5	4.1	6.2
<b>Method of producing and using compost fertilizer:</b>				
Very beneficial	49.3	42.7	44.3	40.5
Fairly beneficial	47.2	50.8	50.0	54.1
Not so beneficial	2.5	5.7	3.9	0.0
None	1.0	0.8	1.8	5.4

## VI. PARTICAPATION OF VILLAGERS IN OTHER INCOME SUPPLEMENTING ACTIVITIES

Two of the major income supplementing activities are the vegetable gardening and mushroom culture. These two activities, in addition to being sources of villagers' cash income also serve a source of nutrition. It should be noted, however, that quite a high proportion of households used to engage in vegetable gardening before the CBIRD's introduction of new technology, approximately 90 per cent of all households in high participation villages and about 63 per cent of all households in low participation villages. The proportions of those who used to culture mushroom in high and low participation villages are, however, much lower, being 14.1 and 12.0 per cent respectively.

### 1. VEGETABLE GARDENING

Although vegetable gardening is a familiar activities, participation of villagers in the training of vegetable gardening is quite high, approximately two-thirds of all households which used to engage in such activity in high participation villages. In the low participation villages, the participation of villagers in the training is much lower, being only 40

per cent. Of those who attended the training, including those who learned about the technology from other but never attended, about 60 and 35 per cent of them in high and low participation villages adopted the technology. Villagers in both type of villages, however, think that the promoted activity is beneficial to them (see Table 1).

Table 1 Percentage of households which used to engage in vegetable gardening participating in the training, adopting the technology and expressing the opinions on knowledge and skill obtained in CBIRD vegetable gardening training by high and low participation villages

Category	High participation villages	Low participation villages
<b>Participation in training</b>		
Attended the training	67.5	39.0
Learning from neighbors but never attended	2.8	1.9
Neither attend nor learn about it	29.7	59.0
Total	100.0	100.0
Number	1,133	262
<b>Adoption of technology</b>		
Yes	60.2	35.1
No	39.8	64.9
Total	100.0	100.0
Number	797	107
<b>Opinions on benefits</b>		
Very beneficial	62.6	55.1
Fairly beneficial	36.0	40.9
Not so beneficial	1.3	2.8
None	0.1	1.2
Total	100.0	100.0
Number	797	107

## 2. MUSHROOM CULTURE

Participation of villagers who used to culture mushroom in the training organized by CBIRD is more or less on the same extent in both high and low participation villages, around 72 per cent. Of those who actually attended the training including those who learned about the technology from others but never attended about two-thirds adopted the technology. They also think that the technology is beneficial (see Table 2).

Table 2 Percentage of households which used to engage in mushroom culture participating in the training, adopting the technology and expressing opinions on knowledge and skills obtained in CBIRD mushroom culture training by high and low participation villages.

Category	High participation villages	Low participation villages
Participation in training		
Attended the training	71.9	72.0
Learning from neighbors but never attended	5.1	6.0
Neither attend nor learn about it	23.0	22.0
Total	100.0	100.0
Number	178	50
Adoption of technology		
Yes	69.3	64.1
No	30.7	35.9
Total	100.0	100.0
Number	137	39
Opinions on benefits		
Very beneficial	52.6	48.9
Fairly beneficial	41.0	44.2
Not so beneficial	5.1	4.7
None	1.3	2.2
Total	100.0	100.0
Number	137	39

## VII. PARTICIPATION OF VILLAGERS IN HEALTH, FAMILY PLANNING AND MOTHER CLUB ACTIVITIES

Proportions of households which have been trained or advised in the area of health improvement, family planning are relatively high but the proportion of households which have been trained or advised in the organization of mother club for health and family planning promotion is somewhat low. When asked whether their households benefit from these activities, the proportions of those who responded "yes" vary by type of activity. Being highest in the area of health improvement (around 80 per cent). Next in the order is mother club, about 61 per cent in the high participation villages and 51 per cent in the low participation villages. The surprised findings are that only about one half of the households responded that they benefit from CBIRD family planning activity, taking into consideration of the fact that CBIRD is under the umbrella of the PDA, the best known family planning related NGO, (see Table 1 below)

Table 1 Percentage of households being trained or advised in health improvement, family planning and organization of mother club and percentage of households responded that they benefit from these activities by high and low participation villages

Category	High participation villages	Low participation villages
<b>Being trained/advised ?</b>		
<b>Health improvement</b>		
Yes	80.1	83.2
No	19.9	16.8
<b>Family planning</b>		
Yes	69.6	74.0
No	30.4	26.0
<b>Mother club organization</b>		
Yes	36.3	23.1
No	63.7	76.9
Total	100.0	100.0
Number	1,239	411
<b>Getting benefits ?</b>		
<b>Health improvement</b>		
Yes	80.3	83.2
No	19.7	16.8
Total	100.0	100.0
Number	992	342
<b>Family planning</b>		
Yes	47.0	53.6
No	53.0	46.4
Total	100.0	100.0
Number	862	304
<b>Mother club organization</b>		
Yes	61.3	50.7
No	38.7	49.3
Total	100.0	100.0
Number	450	95

## VIII. PARTICIPATION OF VILLAGERS IN OTHER DEVELOPMENT ACTIVITIES AND BENEFITS DERIVES THEREFROM

To satisfy the objective of improving the quality of life of villagers, other development activities such as the establishment of village drug fund to facilitate the access to simple household drugs at reasonable price and rice fund to provide rice reserve are promoted in addition to the support in the improvement of other health and environmental sanitation activities. Proportions of households being membership in different types of fund or receiving support from CBIRD program vary. Benefits of the activities extended to both members and non-members. It is a matter of course that higher percentages of households which are members or receive support from CBIRD reported that they benefit from activities than those who are not member or do not receive direct support. Details of which follow.

### 1. PARTICIPATION IN DIFFERENT TYPES OF FUND

The level of participation in drug fund and rice fund is different between high and low participation villages but is the same in their participation in the fertilizer fund (see Table 1).

**Table 1 Percentage of households participating in different types of fund by high and low participation villages**

Type of fund	High participation villages	Low participation villages
<b>Drug fund:</b>		
Being members	75.1	64.5
Not being members	24.9	35.5
Total	100.0	100.0
<b>Rice fund:</b>		
Being members	50.7	28.2
Not being members	49.3	71.8
Total	100.0	100.0
<b>Fertilizer fund:</b>		
Being members	32.1	32.8
Not being members	67.9	67.2
Total	100.0	100.0
Number	1,259	415

## 2. BENEFITS FROM THE FUND

In response to question whether their households benefit from the fund, percentages of households being members who responded "yes" are higher than those households which are non-members. There are differences between members and non-members as well as between high and low participation villages, (see Table 2).

Table 2 Percentages of households reporting whether or not they benefit from different types of fund by high and low participation villages

Type of fund	High participation villages		Low participation villages	
	Member	Non-members	Member	Non-members
<b>Drug fund :</b>				
Yes	91.4	58.7	88.2	62.3
No	8.6	41.3	11.8	37.5
Total	100.0	100.0	100.0	100.0
<b>Rice fund:</b>				
Yes	55.9	10.7	43.3	11.7
No	44.1	89.3	56.7	88.3
Total	100.0	100.0	100.0	100.0
<b>Fertilizer fund:</b>				
Yes	88.3	7.9	80.0	11.2
No	11.7	92.1	20.0	88.8
Total	100.0	100.0	100.0	100.0

**3. USEFULNESS OF CBIRD SUPPORT IN LATRINE CONSTRUCTION MAKING OR RAIN WATER STORAGE TANK AND GIANT WATER JAR**

Although the percentages of households receiving direct support from CBIRD in these activities are low, nearly all villagers responded that latrines, rain water tanks and water jar are very useful or somewhat useful (see Table 3).

**Table 3 Percentage of opinions of villagers who receive support from CBIRD on the usefulness of latrine, rain water tanks and giant water jar by high and low participation villages**

Type of activity	High participation villages	Low participation villages
<b>Latrine construction:</b>		
Very useful	92.3	75.4
Fairly useful	2.2	1.8
Not useful	3.3	12.3
Under construction	2.2	10.5
Total	100.0 (183)	100.0 (57)
<b>Rain water storage tank</b>		
Very useful	90.9	100.0
Fairly useful	0.0	0.0
Not useful	9.1	0.0
Total	100.0 (11)	100.0 (2)
<b>Giant water jar</b>		
Very useful	90.6	100.0
Fairly useful	9.4	0.0
Not useful	0.0	0.0
Total	100.0 (32)	100.0 (11)

Figure in parenthesis represents the number of households

IX. VILLAGERS' OTHER OPINIONS ON CBIRD PROJECT AND THEIR  
EXPRESSED NEEDS

1. THE EXTENT OF CBIRD PROJECT RESPONDING TO VILLAGERS' NEEDS

Of the variety of development activities implemented by CBIRD project, it is of utmost importance to know if these activities respond to villagers' needs. It is interesting to note that quite a high proportion of them think so, as may be seen from data presented in table 1 below

Table 1 Percentage of villagers' opinions on whether CBIRD activities respond to their needs by high and low participation villages

Opinion	High participation villages	Low participation villages
Yes, very much	95.5	93.5
Yes, somewhat	2.2	4.3
No, whatsoever	.6	0.0
No, answer	1.7	2.2
Total	100.0	100.0
Number	1,259	415

## 2. VILLAGERS' ABILITY TO INVEST AND TO PAY IN THE COST SHARING SCHEME

Participation of villagers' in some development activities requires that they have to invest certain amount of money or share some cost. A question was asked whether such requirement create some problems for them. Although three-fourths of them responded that they have no problems, the remaining one-fourths require some attention, (see Table 2).

Table 2 Percentage of villagers' opinion on their ability to invest or to pay in cost sharing scheme by high and low participation villages

Opinion	High participation villages	Low participation villages
No problems	76.6	78.3
Some problems	13.7	14.0
Unable to do so	7.3	5.5
No answer	2.3	2.2
Total	100.0	100.0
Number	1,259	415

### 3. VILLAGERS' OPINIONS ON THE WORK OF CBIRD STAFF

When asked how do they think of the work performed by CBIRD staff, although villagers' rating is quite favourable, more effort deserves further attention (see Table 3).

Table 3 Percentages of villagers' opinions on CBIRD staff's performance by high and low participation villages.

Opinion	High participation villages	Low participation villages
Very good	60.6	55.2
Fairly good	35.9	41.0
Need to improve	0.8	0.9
No answers	2.6	2.9
Total	100.0	100.0
Number	1,259	415

### 4. VILLAGERS' EXPRESSED NEEDS

It is interesting to note that when asked what joint CBIRD-village development activities they wish to have implemented in their own villages, relatively low proportion of them mentioned "direct" income generating activities. The responses were obtained by asking them to rank what are their first, second and third needs. Data may

be interpreted in a variety of ways. Villagers may have already been satisfied with CBIRD income generating activities and wish to see CBIRD devoting its attention to other activities. Such expressed needs may be viewed as a reflection of what they are lacking or long for. Validation of the above interpretation has to await the result of the indepth study. From the data in Table 4 below, transportation is the first expressed need of about 46 per cent of households in the high participation villages whereas 25 percent expressed "health" as their first need. In the low participation villages, however, the order of the villagers'expressed first needs is reverse. Health was specified by about 55 percent of the households and transportion by about 24 per cent of households. The high degree of consistent in the expressed first, second and third needs in health, transportation and electricity deserve further investigation,(see Table 4)

Table 4 Percentage of joint CBIRD-village development activities which the villagers wish to see implemented by villages of high and low participation and by expressed first, second and third needs.

Expressed needs	High participation villages			Low participation villages		
	st	nd	nd	st	nd	nd
	1 Needs	2 Needs	3 Needs	1 Needs	2 Needs	3 Needs
Earning	4.7	5.6	4.4	2.9	2.0	5.8
Health	24.5	30.3	48.6	54.5	56.7	47.7
Transportation	45.7	19.9	9.9	24.1	15.5	16.3
Village Development	8.8	12.2	12.7	5.0	5.2	4.7
Electric	9.6	23.2	11.6	11.1	17.9	17.4
Agriculture	3.4	4.9	4.4	0.5	1.2	2.3
Composed Fertilizer	0.8	0.4	-	0.8	-	2.3
Animal husbandry	0.8	1.9	1.7	-	1.2	1.2
Marketing	0.8	0.3	1.7	0.5	-	1.2
Others	0.9	1.2	5.0	0.5	0.4	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	1093	673	181	377	252	86

## X. SUMMARY AND IMPLICATIONS OF FINDINGS

## 1. SUMMARY

1.1 Villagers knowledge of the CBIRD program is almost universal. There is essentially no difference in the level of knowledge between villagers in high and low participation villages. They are able to mention correctly about the type of activities implemented or promoted by the CBIRD program and all villagers are practically able to specify at least one type of CBIRD activities. However, at the time of the survey the proportions of villagers who have ever visited the CBIRD Demonstration Centre for receiving training in one development activities or another and for other purpose are about one-thirds of villagers in high participation villages and about one-fourths in low participation villages

1.2 Proportions of villagers participating in different development activities vary by types of activities, being high in activities which do not require capital investment or sharing of the cost. There is also some multiplying effect in that some villages gain knowledge on CBIRD technology in animal husbandry and rice farming from neighbours who have ever participated in the training. Proportions of villages trained in animal husbandry adopting CBIRD technology or receiving CBIRD ancillary animal raising services are still low. Proportions of those trained in rice farming technology

adopted the CBIRD technology are somewhat higher. In this regard, those who had ever attended the training tend to adopt the technology easier than those who have just learned or heard about the technology from neighbours and friends. In the rice farming technology, high proportions of villagers reported very good results from adopting various CBIRD techniques except in the technique of producing and using compost fertilizer.

1.3 High proportions of villagers have a high regard to assistances provided by CBIRD training and other types. Percentages of villagers stating that the CBIRD assistances and activities are very useful or beneficial and fairly useful or beneficial are over 90 per cent.

1.4 In non-income generating activities, the level of participation of villagers in health improvement program is the highest and percentages of those expressing that they benefit from the activities are also highest in both high and low participation villages.

1.5 In some development activities, such as drug fund, there is some difference in the participation rate between high and low participation villages. Although those who are not members of the fund also think that they benefit from the fund, the proportions of those who think so are much lower and those of villagers who are members.

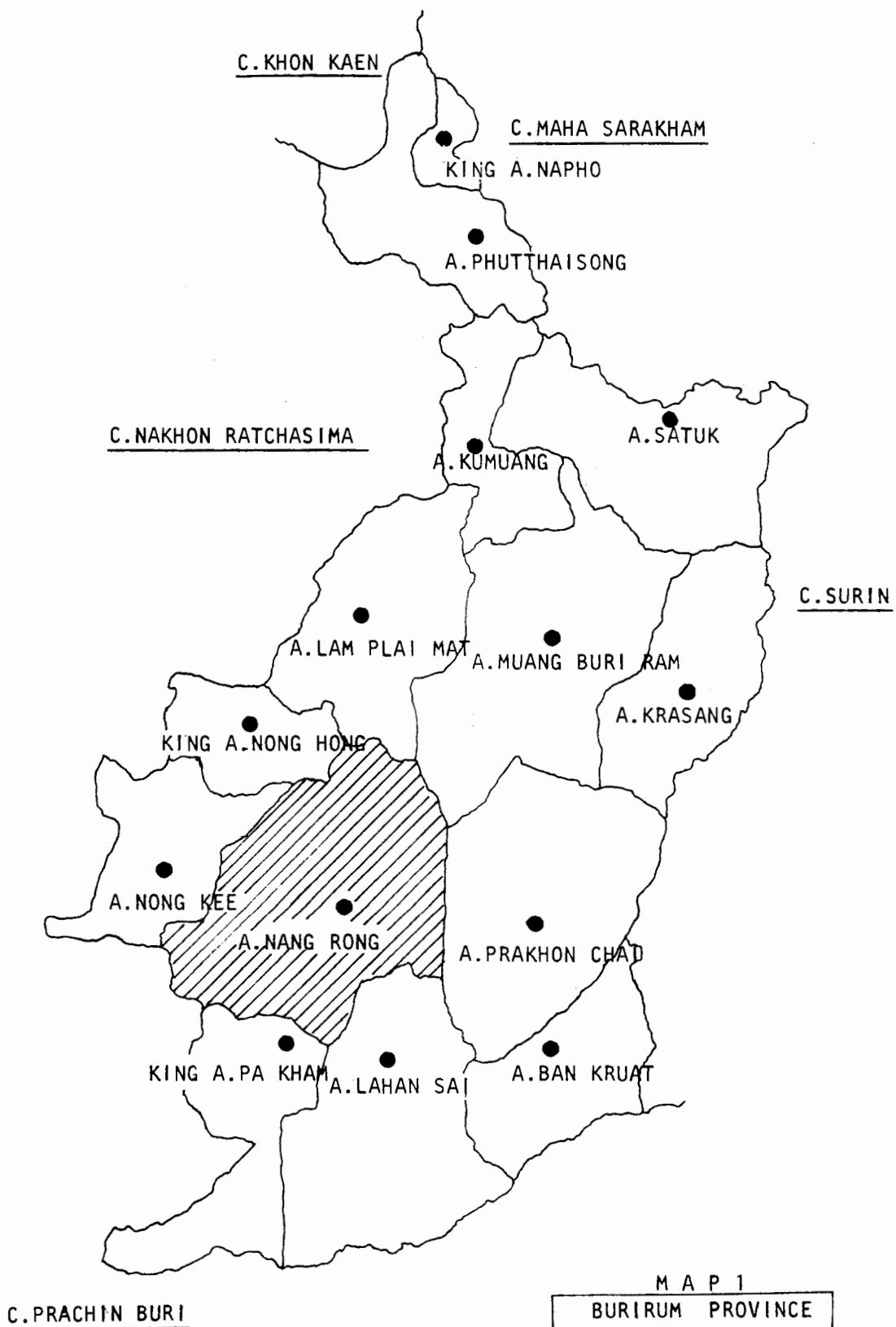
1.6 In general, villagers have a relatively positive attitudes towards the CBIRD program. Over 90 per cent of villagers think that the program could assist them, the activities implemented to date respond to their needs. The CBIRD staff's performance is rated by villagers as above average. The fact that villagers's expressed needs in development activities do not reflect CBIRD-type inputs deserves further in-depth study to determine whether such contradiction is merely a reflection of villagers's positive response bias to questions about how effective CBIRD is or the expression for needs which have not yet been satisfied.

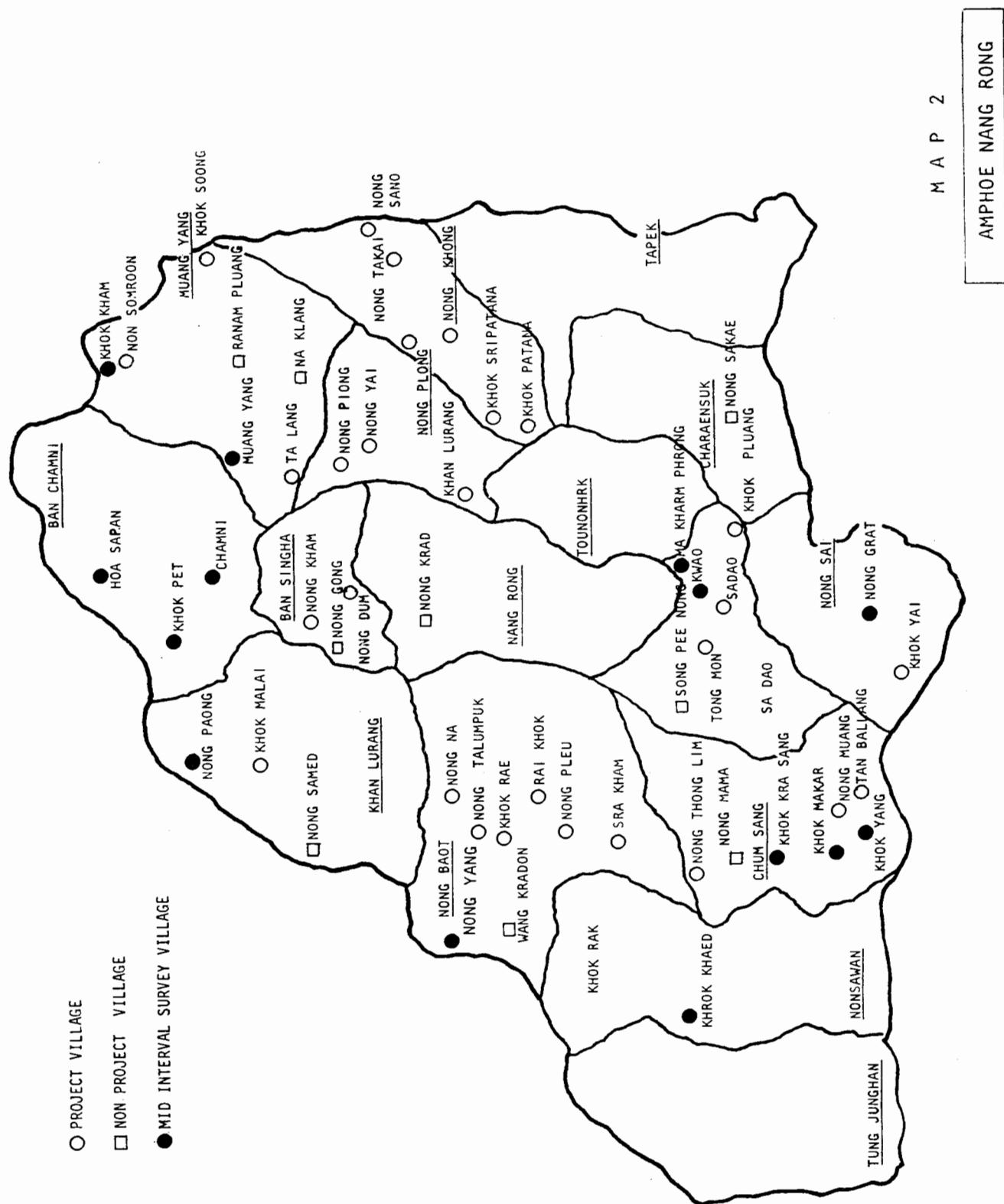
1.7 More than three-thirds of villagers respond that they have no problems in participating in activities requiring capital investment or schemes which they have to burden certain proportion of cost.

## 2. IMPLICATIONS OF FINDINGS

Some degree of success in attaining the objective of improving the quality of life of villagers through various development activities achieved to date and the relatively favourable attitudes toward CBIRD activities and staff should not in any way lead to complacency. There are many areas, such as major income generating activities, if it could be demonstrated beyond doubt that the adoption of technology does not entail loss in their investment, the level of their participation would be higher.

Last but not least, if villagers have no problem in investing some money or in sharing cost of activities as they stated, it is worthwhile to explore alternative means to increase their participation. After all, these villagers are the intended beneficiaries of the CBIRD program.





## ANNEX I

1. THE COMMUNITY BASED INTEGRATED RURAL DEVELOPMENT  
PROJECT (CBIRD)

## 1.1 Introduction

The community Based Integrated Rural Development Project (CBIRD) at Nang Rong district, Burirum province is not an original project nor it represents a break through in community development. The project grew out of its prototype in the first CBIRD Project Mahasraham and Ban Phai initiated in 1981. However the CBIRD Nang Rong which launches its operation in April 1984 reflects a rather unique strategy for trying to improve the quality of life of Thailand rural villages in one of the poorest districts in Northeast Thailand, (see map).

The main architect of the CBIRD scheme is the Population and Community Development Association (PDA) whose original commitment lies in the promotion of family planning practice in Thai rural communities. The association which was established in 1974 is nowadays the largest non-profit NGO development organization in Thailand. It has long enjoyed the recognition as the pioneer in the introduction of "community-based" implementation strategy for family planning services. The current PDA's programs include various village "self-help"

activities in primary health care, agriculture, water resource development, sanitation, family planning education and training services.

The CBIRD project is the consequence of an inspiration and conviction among PDA personnel that a well planned and integrated approach is the most effective means to eliminate rural poverty and that individuals are capable of determining and fulfilling their own development need, if given the opportunity. Based on this strong belief, PDA hopes to induce the process of rural transformation in Thailand. Experiences obtained from implementing CBIRD Mahasarakam and Ban Phai, are used to modify strategies. As a result, CBIRD Nang Rong has placed stronger emphasis on marketing aspect of income generating component and concentrate only in a few prove-to-be successful activities such as animal raising. The revolving fund scheme continues to be the major component of the project.

The CBIRD Nang Rong has the approach that has been considered more comprehensive and integrated, combining extensive and diversified efforts to both stimulate and reinforce community development with the final goal to making the 40 villages under the project become self-reliant at the end of 5 years when the CBIRD project terminates.

The program of the CBIRD Project combines 3 main component :

- 1) income generating component (the most important and most diversified component) ;
- 2) the environment improvement component ; and
- 3) the health component.

### 1.2 Objectives of CBIRD

As the CBIRD project aims to improve the quality of life of poor villagers in Nang Rong district in the province of Buriram, the stated objectives of the CBIRD projects are to:

- (1) create an increase in income through the introduction of income generating activities by improving skills and productive capacity of the villagers in terms of agriculture, livestock raising and home industry;
- (2) raise environmental standards and improve health for general population by : introducing more sanitary facilities, increasing year - round availability of clean water, and nutritious foods, and promoting better health care practices.

### 1.3 Inputs, activities and criteria for selection of project villages

The program major inputs involve: 1) technical assistance and complementary support services by giving education and training of necessary skills for farm, non-farm and marketing activities including knowledge about health and nutrition with consultation and supervision services available throughout the process of each activity; 2) financial assistance by providing "in kind" supply of equipment and raw materials on "no interest basis"; 3) marketing assistance by acting as a buying agent of farm produce at guaranteed prices

Development activities integrated into the CBIRD Project Nang Rong belong to 6 main activities as follows:

a) Animal husbandry The component is introduced with the purposes of: 1) increasing supplementary agricultural income from noncrop sources; 2) providing dry season employment opportunities; and; 3) improving the protein availability in the villages.

Livestock to be included in this component are pigs, commercial chickens, fish, village chickens, ducks and geese.

b) Crop production : CBIRD will assist villagers to improve their farming skills to increase rice yield and to grow supplementary crops for income generation and home consumption.

Activities included in crop production component are produce pricing, backyard gardens growing and trees growing.

c) Environmental sanitation : The component is aimed to create preventive health impact.

The component consists of activities such as constructing and making village ponds, village wells, rain water catchment, latrine, economic stoves and biogas.

d) Home industries : CBIRD will support the development of small-scale home and cottage industries to increase villager's income and productive use of time especially during the dry season.

Activities to be supported are silk raising and weaving, cotton weaving, clothes making, food processing and preservation and other home industries.

e) Open box component : This component is in the form of reserved funds being set aside to support additional activities initiated by the villagers themselves.

Activities that are likely to be put in this component include the establishment co-operatives, fair price stores, storage facilities, cottage industries rice, and buffalo banks.

f) Health, population and nutrition : The component is designed to be under the responsibility of the Community Based Family Planning Services (CBFPS) which is also a section of PDA with their work in Nang Rong started in 1974. CBFPS activities include health aspects of CBIRD activities, family planning, training for CBFPS volunteers, and maternal and child health.

After its official launch in April 1984, the CBIRD Nang Rong has commenced its preparation phrase which includes activities such as local need assessment, development of preliminary targets for activities, demonstration farm construction and other preparations. The implementation of development activities is scheduled to start 6 months after the preparation phrase. The implementation of activities will be continuously carried out in all 40 project villages throughout the program duration of 60 months.

PDA has adopted the following criteria for the selection of project villages.

1. Villages have poor economic status.
2. Villages are of appropriate size, year round reachability by normal vehicle, having access to water sources.
3. Villages are within proximity to CBIRD farm center.
4. Villages have already been serviced by CBFPS (family planning) volunteers.
5. Villagers are enthusiastic in project participation.
6. Villagers make strong commitment to project objectives.

## 2. THE CBIRD EVALUATION PROJECT

(CEP)

### 2.1 Introduction

Since the CBIRD Nang Rong represents a rather unique strategy in the realm of rural development and being a continuous multi-disciplinary and multi-program project by it self, to insure the maximum efficiency of operation process and effective outputs, it will require an additional external assisting agency to perform the tasks of objective evaluation. The project of such a magnitude and duration requires an evaluation scheme of equal complexity. As for the CBIRD Nang Rong, the Institute for Population and Social Research, Mahidol University, is designated by the International Development Research Center (IDRC) to be an external evaluator responsible for the evaluation of the project.

The Institute for Population and Social Research (IPSR), established in 1971, is a research organization whose status is equivalent to a faculty within Mahidol University. IPSR has been a leader in population research in Thailand and its emphasis is placed upon applied research in the field population development and other related field such as sociology, economics, medicine and public health. IPSR has long been an important contributor to national efforts to lower population growth, improve health status and promote development especially in the rural area.

Planning for CEP began in 1983 and in 1984 an agreement was reached with the IDRC to provide support for the 44 months. The CEP will cover relevant quantitative measures of the impact of the project on the economic, health and environmental status of both project villages residents and non-project villages residents. In addition, CEP will conduct qualitative analysis of the implementation of the CBIRD project through periodic anthropological and focus group studies. Results of various evaluation activities will be consistently shared with the CBIRD staff both at Nang Rong Center and in Bangkok as the feedback information for the purposes of monitoring and redirectioning of the project if such situation should arise. As IPSR is acting as an independent evaluator, the entire evaluation process of the CBIRD Project can be assured of total objectivity which is essential for evaluation work such as CEP.

## 2.2 Objectives of CEP

The CEP has the following objectives:

1. To measure changes and impact of CBIRD project on economic, environment and health development.
2. To evaluate periodically the process of implementation in order to supply feedback for PDA for remodification of the program activities/strategies.
3. To study the feasibility, efficiency and effectiveness of different CBIRD strategies and models.

### 3. THE CEP RESEARCH DESIGN

#### 3.1 Outline

The research design used in this evaluative study is the "before-after" design involving three phases of study: the baseline study, the mid-interval study and the impact (final) study. In each phase, several data collection techniques and research methodologies such as census and sample survey, anthropological study, focus group interview, physical examination and health surveillance will be utilized to obtain the needed data.

For the purpose of comparison and measurement of development effects, data will also be collected from other 10 villages in addition to the CBIRD-targeted 40 villages. As is well known in this type of social action program, it is undesirable as well as unethical, let alone possible, to prevent the "spill over" of any beneficial effects from the target villages to surrounding villages. Consequently, instead of labelling them as "experimental" and "control" villages as has usually been done in this type of evaluative study, they are named project and non-project villages. To approximate the experimental situation, the criteria used by PDA in the selection of project villages were used to select non-project villages with the additional requirement that they should be located outside the sphere of influence of CBIRD activities.

### **3.1 The Baseline Study**

This phase of study, in addition to collecting the benchmark data to be used as bases for measuring changes and impact, also aims to supply data to PDA for the formulation of appropriate strategies and activities for each village. A community profile study, using a community level questionnaire module, will be conducted concurrently with a household survey, an anthropological study and a health survey. Details of the baseline study are in Chapter III.

### **3.2 The Mid-interval Study**

The socio-economic survey and the health and family planning survey conducted during the baseline study phase will be repeated at the end of the second year of the implementation of the CBIRD project. Data from this phase of study may also be used by PDA to make necessary adjustment or modification of its strategies and program operation.

### **1.3 The Impact Study**

The impact study will be conducted upon the completion of the implementation of all CBIRD development activities or approximately 3 years after the initiation of the CBIRD operation. In this phase, all studies conducted during the baseline phase, except a household census, will be carried out.

The anthropological study using both structured and unstructured questionnaires and different data collection techniques is scheduled to be conducted trisemesterly. During the whole period of CEP, 9 studies covering different topics of interest will be carried out. Periodic review of PDA monitoring records and analysis of official population registration and health and family planning service records will also be conducted as part of the evaluation process.

A table summarizing the type of study, methodology and schedule follows,

## CEP SCHEME AND SCHEDULE

Type of study	Methodology and coverage	Phase of study and year (in bracket)		
		Baseline	Mid- interval	Impact
1. Household Survey				
1.1 Household census	Interview of all households in 40 project villages and 10 non-project villages.	X(1)	-	-
1.2 Sample surveys				
Socio-economic	Interview of household heads using structured questionnaires Systematic random sampling of households in 10 simple randomly selected project villages and in all 10 non-project villages.	X(1)	X(3)	X(4)
Health and family planning	Same as socio-economic survey except that respondents are married women 15-49 years old.	X(1)	X(3)	X(4)
2. Health Survey	Physical examination and laboratory test of children under 5 years of age in randomly selected 2 project villages and 2 non-project villages.	X(1)	-	X(4)
3. Community Profile Study	Group discussion technique in 40 project villages and 10 non-project villages. About 3-5 community leaders in each group.	X(1)	-	X(4)
4. Anthropological Study	Using all relevant methodologies. covering approximately one half of project and non-project villages		Every 4 months from year 1 to 3.	

### 3.2 Variables

Variables included in CEP studies are those considered to be necessary for measuring the extent of obtaining the stated objectives of the CBIRD project. These CBIRD objectives related variables are :

<u>CBIRD objectives</u>	<u>Related variables</u>
1. Income generation	1. Income from animal raising 2. Income from agricultural crops 3. Income from home industry 4. Surplus from production for own consumption 5. Utilization of credit extension system for income raising purpose
2. Environmental improvement	1. Environmental condition 2. Utilization of credit extension extension system for environmental improvement component
3. Health and nutritional improvement.	1. General health status 2. Nutritional status 3. Health care utilization and practice. 4. Family planning.

CEP variables are based on data and information collected by different research instruments as follows:

Survey variables

1. Socio-economic and demographic status (household income, indebtedness of household property, children education, occupation status, land holding, educational attainment, literacy, marital status, duration of marriage, age, sex, and number of living and dead children and migration).
2. Health (maternal and child health care, mortality).
3. Fertility and family planning (fertility pattern, knowledge and practice of contraception).

Anthropological and community profile studies variables

1. Basic information of village demographic, social and economic structure (population profile, transportation facilities, roads, education facilities, health service water supply irrigation structure, market, infrastructure, social and political activities).
2. Community development and community participation status.
3. Farming (crops, activities, animal husbandry and marketing).
4. Non-farming activities (potential, and related problems).
5. Health related behaviors (health service use, and personal health care practice).

### 3.3 The CEP staff

The professional staff of CEP includes a project director, 2 project coordinators, 4 principal investigators, whose responsibility will be in 4 areas of study, namely population, economics, health and anthropology. The project receives advice and guidance from 4 others consultants who are local experts of specific field such as nutrition, population, agriculture, and health.

## 4. THE BASELINE STUDY METHODOLOGY

As mentioned in section II, three main phases of study were planned, i.e. the baseline study, the mid-interval study and the impact study.

With a view to obtaining as complete and reliable quantitative and qualitative data as possible, a number of studies and surveys utilizing most appropriate techniques to collect data at individual, household and community levels were designed for the baseline study phase, they are;

1. A household survey;
2. A health survey;
3. A community profile study;
4. An anthropological survey.

In this section, each specific study and survey will be described in details.

## 4.1 A HOUSEHOLD SURVEY

### 4.1.1 The Household Census

The household census was the complete enumeration of all households in 40 project villages and 10 non-project villages.

A one-page questionnaire called Form A was employed to collect data from head of the household or his/her spouse or one the senior adult members of the household. Form A was divided into three separate parts as follows:

Part A.1 collected information on all of each household member who was currently present. Data collected were relationship to head of household, sex, age, education, occupation (primary and secondary), marital status and contraceptive practice.

Part A.2 collected information on each member who was temporarily absent from the household for a period from one month to one year prior to the census date. In addition to data on the relationship to head of household, sex, age, education and marital status, the information on previous and present occupations, reason for moving, present place of residence, the person's intention to move back and remittance was collected.

Part A.3 collected information on housing characteristics such as type of living quarters, sources of water for drinking, land daily uses, type of cooking fuel, lighting, toilet facility, possession of durable household appliances, agricultural land tenure, number of livestock, type of economic activities, membership in economic, social and security groupings and head of households perception on areas requiring improvement.

The household censuses enumerated approximately 4,725 households and 26,154 persons in the 40 project villages and 1,143 households and 6,401 persons in the 10 non-project villages.

Interviewers were 20 graduate and undergraduate students at the Department of Social Sciences, Buriram Teacher Training College. Two sessions of training, lasting 2 days for each session, were organized. Other standard procedures necessary for obtaining the quality data such as the pretesting of questionnaire, the pilot census operation, the constant supervision of field operation were strictly applied. Completed questionnaire were screened, edited and partially coded in the field by supervision before they were accepted and forwarded to central office for data processing. Quality control procedures were applied at all stages of data processing.

#### 4.1.2 The Sample Survey

Two surveys, covering socio-economic aspects of households and health and family planning practices of household members were conducted following the completion of the operation of the household census. The same group of supervisors and interviewers were assigned the responsibility of data collection. All quality control procedures used in the household census were equally applied in these two surveys.

##### 4.1.2.1 The Sample Design

Two-stage random sampling was used in the selection of sample respondents, they were:

- A. Simple random sampling. Ten villages were selected by method of simple random sampling from the 40 project villages. For the 10 non-project villages, sample selection was not applied.
- B. Systematic random sampling. Thirty percent of households in the 10 sample project villages and in 10 non-project villages were selected for interview by a systematic random sampling method.

With a view to ensure that the desired sample size could be attained, 10 percent of the substituted sample households were also selected by a systematic random sampling method as the reserved sample households.

#### 4.1.2.2 The Socio-Economic Survey

Respondents for the survey were heads of sample households under 60 years old or spouses or any household members who were responsible the economic well being of the household. Data collected by Form B.1 covering 791 sample households were grouped into five categories as follows:

1. Economic activities, income and expenditure.
2. Indebtedness and saving.
3. Possession of durable household appliances and production equipment.
4. Participation in community development activities.
5. Morbidity, health service utilization and sanitation

#### 4.1.2.3 The Health and Family Planning Survey

Respondents for the survey were married women 15-49 years old in the sample households. Data collected by Form B.2 covering 643 respondents in the sample households included the following information:

1. Socio-economic and demographic characteristics.
2. Marriage and maternity history.
3. Family planning : knowledge, attitude and practice.

#### **4.2.A Health Survey**

Children under 5 years old in randomly selected 2 project villages and 2 non-project villages were covered by this survey. Data collection techniques employed were physical examination, specimen collection and laboratory investigation. Data collected by a health form 311 children under 5 years old in 4 sample villages included information on:

1. Birth history;
2. Vaccination history;
3. Results of physical examination;
4. Results of laboratory investigation.

#### **4.3.A Community Profile Study**

The information on 50 project and non-project villages was collected by a community level questionnaire module through group interview of key persons and participatory observation within the village settings. Interviewers were graduate students performing the functions of interviewer, note taker and ethnographer. In-depth information was obtained by probing at the group discussion of key informants, e.g. village headman (Phu-Yai-Ban), member of the village council, village health volunteer or village health communicator.

#### 4.4 An Anthropological Study

The objective of an anthropological study was to obtain information supplementary to the data from census and surveys. Various techniques were applied for the study, e.g., general observation, participation, key-informant interview and focus group interview. The instrument used was an interview guideline. The study was carried out by 5 trained graduate students in social sciences under the overall supervision and guidance of a senior anthropologist. The 57 interviewees were key-informants of the villages such as the community leaders, the young and old farmers, members of husbandry groups, groups, members of women groups, managers of co-operatives and government officials for development.

Since the study was planned to be conducted trisemesterly, altogether there will be 9 studies covering different topics of interest including those considered to be useful for both CBIRD and CEP activities.

## ANNEX II

Table 1 Percentage of villagers' suggestions on husbandry by high and low participation villages.

Suggestions	High participation villages			Low participation villages		
	Pigs	Ducks	Chickens	Pigs	Ducks	Chickens
Effective and sufficient help in prevention and treatment of disease	6.0	9.3	18.9	5.3	5.6	16.6
Regular visit and advice from CBIRD staff	5.5	2.2	3.5	4.6	1.9	5.5
Breeds suitable for area	4.8	3.0	1.8	1.5	1.9	0.9
Help in marketing	4.6	0.2	0.6	1.5	0.6	1.2
Need lower price of animal feed	1.8	0.2	0.1	2.3	0.0	0.3
Need CBIRD advice before the occurrence of epidemic disease	0.2	2.7	5.2	0.0	0.0	3.2
Need CBIRD help for equipment or capital to invest	0.5	0.2	0.3	0.0	0.0	0.0
Not necessary to follow CBIRD raising process every step	0.0	0.2	0.1	0.8	0.0	0.0
No suggestions	76.6	82.0	69.5	84.0	90.0	72.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number (excludes no answers)	(435)	(592)	(989)	(132)	(160)	(344)

**Table 2 Percentage of villagers' suggestions about CBIRD training on method of rice growing by high and low participation villages**

Suggestions	:	High participation	:	Low participation
	:	villages	:	villages
Cannot follow CBIRD advice (not used to, take time, no capital)		8.2		12.2
Regular visit and advice from CBIRD staff		2.9		0.4
Need help in protecting plant disease		1.7		3.5
Need suitable method for the area		1.3		0.8
Need help in developing both water resources and soils		1.0		2.0
Need CBIRD to advise during the growing season		0.8		0.8
CBIRD method not useful (give the same result as usual method)		0.3		0.4
No suggestions		83.9		79.9
<b>Total</b>		100.0		100.0
<b>Number (excluding no answers)</b>		(781)		(254)

**Table 3 Percentage of villagers' suggestions about CBIRD training on method of seed selection by high and low participation villages**

Suggestions	:	
	High participation villages	Low participation villages
Need effective and sufficient seeds	15.0	15.3
Need suitable seeds for the area	2.9	7.2
Need understandable advice	1.4	0.0
Need regular visit and advice from CBIRD staff	1.0	0.9
Cannot follow CBIRD advice	0.9	0.9
Need more advice in protecting plant disease	0.4	0.5
Need CBIRD to advise during the growing season	0.1	1.3
No suggestions	78.2	73.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
Number (excluding no answers)	(698)	(222)

**Table 4 Percentage of villagers' suggestions about CBIRD training on method of applying fertilizer by high and low participation villages**

Suggestions	:	
	High participation villages	Low participation villages
Need more fertilizer	12.8	10.7
Cannont follow CBIRD advice (e.g. no money, no fertilizer)	3.8	7.4
Need suitable fertilizer for plant and area	3.5	2.6
Need understandable advice	2.0	0.3
Need less expensive fertilizer than market price	1.3	1.9
Need regular visit and advice from CBIRD staff	1.0	1.0
Need help in developing soil and water resources	0.5	0.3
No suggestions	75.1	75.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
Number (excluding no answers)	(920)	(229)

**Table 5 Percentage of villagers' suggestions about CBIRD training on method of selection and use of herbicides and insecticides by high and low participation villages.**

Suggestions	: High participation : Low participation	
	villages	villages
Need effective and sufficient herbicides and insecticides	10.0	7.8
Need regular visit and advice from CBIRD staff	4.8	6.3
Need understandable advice	3.5	3.5
Need free herbicides or insecticides	2.3	3.1
Need herbicide equipment for the villages	1.4	2.8
Need CBIRD to advise during the growing season	1.0	0.4
No suggestions	77.0	76.1
Total	100.0	100.0
Number (exceeding no answers)	(798)	(255)

**Table 6 Percentage of villagers' suggestions about CBIRD training on method of producing and using compost fertilizer by high and low participation villages**

Suggestions	:	
	High participation villages	Low participation villages
Need CBIRD to advise (never been advised from CBIRD)	4.6	6.7
Too long to produce fertilizer (waste of time)	2.2	2.8
Need some yeast from CBIRD	1.7	0.0
Need regular visit and advice from CBIRD staff	1.6	2.2
Produce inadequate fertilizer to use	1.0	0.0
Need CBIRD to encourage other villagers to participate	0.8	0.3
Not known the result yet	0.1	3.5
Others	0.8	1.3
No suggestions	87.1	83.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
Number (excluding no awswers)	(995)	(315)

**Table 7 Percentage of villagers' suggestions about CBIRD training on vegetable gardening by high and low participation villages**

Suggestions	:	
	High participation villages	Low participation villages
Need vegetable seeds from CBIRD	8.7	4.6
Need fertilizer, herbicides and insecticides from CBIRD	5.0	3.1
Need CBIRD help in developing water resources	4.1	22.4
Need regular visit and advice from CBIRD	3.7	1.5
Need help in marketing	2.9	0.4
Need CBIRD to advise during the growing season	1.6	1.5
Others	0.6	0.4
No suggestions	73.4	66.0
 Total	100.0	100.0
Number (Excluding no answers)	(803)	(259)

**Table 8 Percentage of villagers' suggestions about CBIRD training on mushroom culture by high and low participation villages**

Suggestions	:	
	High participation villages	Low participation villages
Need more effective mushroom yeast	6.0	8.4
Need regular visit to advise and help solving the problem from CBIRD	3.3	5.6
Need understandable advice	1.9	1.8
Need help in marketing	1.8	0.3
Need CBIRD to advise during the growing season	0.9	1.0
Need help in developing water resources	0.7	4.6
Cannot follow CBIRD suggestion (e.g., lack of equipment, lack of capital)	0.6	1.4
Others	1.1	0.7
No suggestions	83.7	76.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
Number (excluding no answers)	(847)	(286)

**Table 9 Percentage of villagers' suggestions on CBIRD Health program by high and low participation villages**

Suggestions	: High participation villages	: Low participation villages
Need regular visit to advise or cure the sick	9.7	8.4
Need advice about food and nutrition	2.5	4.2
Need CBIRD to bring medicine and advise how to use	1.6	0.3
Others	0.6	0.3
No suggestions	85.5	86.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
<b>Number (excluding no answers)</b>	<b>(975)</b>	<b>(334)</b>

**Table 10 Percentage of villagers' suggestions on CBIRD Family Planning Program by high and low participation villages**

Suggestions	: High participation villages	: Low participation villages
Need CBIRD to give more knowledge about family planning (e.g., effect of male sterilization)	2.3	3.7
Need regular visit to advise, especially to the one who was sterilized	1.1	4.7
Need CBIRD to provide more pills in the villages	0.4	1.0
No suggestions	96.2	90.6
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
<b>Number (excluding no answers)</b>	<b>(834)</b>	<b>(300)</b>

**Table 11 Percentage of villagers' suggestions on Mother Club organization by high and low participation villages**

Suggestions	: High participation	: Low participation
	: villages	: villages
Need regular visit and advice from CBIRD staff	6.1	6.7
Need CBIRD to advise about food cooking	0.9	2.2
Need CBIRD to encourage villagers to participate in the club	0.7	2.2
Others	0.2	1.1
No suggestions	92.1	87.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
Number (excluding no answers)	(443)	(90)

Table 12 Percentage of villagers' suggestions on drug fund by high and low participation villages

Suggestions	: High participation : Low participation	
	: villages	: villages
Need every kind of medicine	18.0	20.3
Need more places to sell medicine	2.8	5.6
Need good quality or cheaper	2.2	3.1
medicine		
Go on supporting the fund	1.2	1.6
Need to improve the fund administration	0.8	0.3
Need to know about the implementation and benefit of the fund	0.7	0.9
Others	0.8	3.1
No suggestions	73.5	65.0
Total	100.0	100.0
Number (excluding no answers)	(856)	(320)

**Table 13 Percentage of villagers' suggestions on Rice Fund by high and low participation villages**

Suggestions	:	
	: High participation	: Low participation
	: villages	: villages
Need CBIRD to explain about the benefit from the fund	2.5	2.8
Need CBIRD to encourage other villagers to participate in the fund	2.2	2.8
Need to collect more rice in the barnes	1.8	3.8
Need to improve the fund administration	1.6	2.8
Others	1.6	1.0
No suggestions	90.3	86.7
 Total	100.0	100.0
Number (excluding no answers)	(318)	(105)

**Table 14 Percentage of villagers' suggestions on Fertilizer Fund by high and low participation villages**

Suggestions	: High participation : Low participation	
	villages	villages
Need CBIRD to provide more fertilizers	20.1	21.1
Need quality and cheap fertilizers	1.4	1.5
Need to improve the fund administration	1.3	1.7
Fairly selecting the one who got the fertilizer	1.0	0.6
Go on supporting the fund	1.0	0.3
No suggestions	75.2	74.8
<b>Total</b>	<b>100.0</b>	<b>100.0</b>
<b>Number (excluding no answers)</b>	<b>(997)</b>	<b>(341)</b>

### ANNEX III

Table 1 : Percentage of villagers knowing CBIRD by village in high and low participation villages.

Table 2 : Percentage of villagers mentioning type of activities implemented by CBIRD project by village in high and low participation villages.

Type of activities	High participation villages										Low participation villages						
	Hua Saphan	Koak Pet	Chamri Pa-ong	Nong Yang	Muang Prong	Koak Yang	Makham Kawao	Nong Grat	Kroag Kaew	Koak Kham	Nong Yang	Krasang	Koak Maka	Koak Maka	Koak Maka	Koak Maka	
Animal husbandry	31.9	100.0	100.0	78.8	100.0	100.0	54.8	100.0	97.8	100.0	100.0	100.0	87.6	100.0			
Agriculture development	100.0	71.6	32.1	46.6	69.6	40.0	80.8	89.5	86.0	54.9	27.0	81.7	39.2	32.8			
Compost fertilizer	1.8	15.8	6.7	17.8	33.3	11.4	51.9	39.0	36.6	22.6	21.6	17.1	24.7	18.4			
Development fund	35.4	21.1	20.9	21.2	13.7	6.0	6.7	11.6	11.8	15.0	31.5	37.8	16.5	1.6			
Health development	7.1	4.2	8.2	17.1	16.7	14.4	20.2	17.4	19.4	10.5	26.1	13.4	16.5	10.4			
Latrine construction	53.1	40.0	64.9	48.0	45.1	48.0	49.0	47.1	32.5	50.4	29.7	52.4	72.2	52.8			
Occupational development	0.0	0.0	0.0	0.0	0.0	0.0	18.3	1.2	4.3	0.0	0.9	0.0	0.0	0.0	0.0	0.0	
Villages development	53.1	35.8	38.8	52.8	19.6	80.8	88.5	61.6	41.9	48.9	62.2	4.9	76.3	71.2			
Others	0.9	0.0	0.0	2.7	2.0	1.2	1.0	2.3	1.1	0.8	0.9	2.4	0.0	4.8			
Number (for each category)	(113)	(95)	(134)	(146)	(102)	(167)	(104)	(172)	(93)	(133)	(111)	(82)	(97)	(125)			

Table 3 : Percentage of villagers ever visited CBIRD Demonstration Centre by purpose of visit by village in high and low participation villages.

Visit experience and purpose	High participation villages						Low participation villages					
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Prong	Koak Yang	Makham Kawa	Koak Grat	Nong Krasang	Koak Kham	Nong Yang	Koak Maka
Never visited	77.8	69.5	76.1	63.0	69.6	68.9	54.8	72.7	49.5	58.6	77.5	69.5
Ever Visited	19.5	28.4	22.4	28.1	29.4	26.9	45.2	27.3	48.4	39.9	22.5	29.3
No answers	2.7	2.1	1.5	8.9	1.0	4.2	0.0	0.0	2.2	1.5	0.0	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	(113)	(95)	(134)	(146)	(102)	(167)	(104)	(172)	(93)	(133)	(111)	(82)
<b>Purpose of visit</b>												
Animal husbandry training	13.6	22.2	46.7	9.8	36.7	4.4	17.0	27.7	8.9	34.0	8.0	20.8
Agricultural training	40.9	25.9	16.7	7.3	20.0	6.7	12.8	29.8	15.6	26.4	28.0	25.0
Health & nutrition training	0.0	0.0	0.0	43.9	0.0	22.2	21.3	8.5	24.4	0.0	36.0	4.2
Other occupational skill training	0.0	0.0	0.0	0.0	6.7	0.0	4.2	14.9	6.7	0.0	0.0	4.2
Purchase & sale of products	13.6	11.1	3.3	2.4	3.3	4.4	6.4	6.4	2.2	9.4	0.0	20.8
Observation of CBIRD activities and study tour	9.1	22.2	10.0	21.9	13.3	28.9	27.7	8.5	35.5	26.4	8.0	20.8
Others	22.7	18.5	23.3	14.6	20.0	33.3	10.6	4.2	6.7	3.8	20.0	4.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	(22)	(27)	(30)	(41)	(30)	(45)	(47)	(47)	(53)	(25)	(24)	(13)
												(39)

\* Others include other types of training conducted by CBIRD and other government agencies.

Table 4 : Villagers' opinions on the extent to which the project could assist them by village in high and low participation villages.

Opinions on the extent of assistance of the project	High participation villages										Low participation villages				
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Yang	Koak Prong	Makham Grat	Kawao Kaew	Nong Grat	Kroag Kham	Koak Yang	Nong Yang	Krasang	Koak Maka	
Very much	57.5	41.1	56.7	45.9	41.2	39.5	53.8	54.1	30.1	56.4	39.6	36.6	62.9	39.2	
Fairly much	36.3	48.4	33.6	41.8	47.1	58.1	39.4	40.1	67.7	41.4	42.3	45.1	24.7	52.8	
Little	3.5	6.3	1.5	2.1	2.9	1.2	3.8	1.7	1.1	1.5	2.7	6.1	11.3	3.2	
Do not know / no answer	2.7	4.2	8.2	10.2	8.9	1.2	2.9	4.1	1.1	0.8	15.3	12.1	1.0	4.8	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Number	(113)	(95)	(134)	(146)	(102)	(167)	(104)	(172)	(93)	(133)	(111)	(82)	(97)	(125)	

raising (pigs, ducks and chickens) at CIRD Demonstration Center and households raising such animals after being trained by village in high and low participation

Participation Villages		Low participation villages																											
		Kuang Yang			Koat Yang			Nthan Prong			Larao			Mong Grat			Kroag haey			Koat Tha			Kong Yang			Koat Krassing			Koat Maha
ng Pa-ong		Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained	Raising	Being Trained		
0	0.0	6.1	0.0	7.1	0.0	0.0	0.0	10.5	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0			
4	83.3	15.1	20.0	0.0	0.0	40.0	45.5	31.6	37.5	0.0	0.0	23.5	27.8	33.3	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
0	0.0	66.7	53.3	64.3	75.0	52.0	50.0	31.6	31.2	88.2	95.2	70.6	66.7	22.2	22.2	80.0	80.0	95.8	100.0	86.4	100.0	86.4	71.4	0.0	0.0				
6	16.7	3.0	0.0	7.1	16.7	0.0	0.0	10.5	12.5	2.9	4.8	0.0	0.0	22.2	22.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	14.3	0.0			
0	0.0	9.1	20.0	0.0	0.0	8.0	4.5	15.8	18.8	0.0	0.0	2.9	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
0	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
0	0.0	0.0	0.0	21.4	8.3	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	22.2	22.2	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0			
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0				
6	(33)	(15)	(14)	(12)	(25)	(22)	(19)	(16)	(34)	(21)	(34)	(18)	(21)	(34)	(18)	(9)	(9)	(5)	(5)	(24)	(7)	(22)	(7)	(7)	(7)				

Table 6 : Percentage of households participation in the training of rice farming technology by experience in attending training and by village in high and low participation villages.

Type of training activities and experience in attending training	High participation villages								Low participation villages							
	Hua Saphan	Koak Pet	Chamnni	Nong Pa-ong	Muang Yang	Koak Yang	Makham Prong	Kawao	Nong Grat	Kroag Kaew	Koak Kham	Nong Yang	Krasang	Koak Yang	Koak Maka	
<u>Method of rice growing:</u>																
- Attended the training	69.1	55.9	46.2	65.2	58.4	39.8	85.6	62.8	76.3	61.6	49.5	55.6	68.0	60.7		
- Learning about the method from neighbors but never attended	6.4	7.5	0.8	3.0	7.9	10.8	2.9	9.9	5.4	5.3	6.3	7.4	7.2	3.3		
- Never attended	24.5	36.6	53.0	31.8	33.7	49.4	11.5	27.3	18.3	33.1	44.1	37.0	24.7	36.1		
<u>Method of seed selection :</u>																
- Attended the training	52.7	53.8	38.6	68.1	50.5	39.2	70.2	53.5	64.5	48.9	41.4	65.4	55.7	46.7		
- Learning about the method from neighbors but never attended	9.1	4.3	3.8	3.7	8.9	9.0	2.9	7.0	5.4	6.0	2.7	11.1	4.1	3.3		
- Never attended	38.2	41.9	57.6	28.1	40.6	51.8	26.9	39.5	30.1	45.1	55.9	23.5	40.2	50.0		
<u>Method of applying fertilizer :</u>																
- Attended the training	77.3	72.0	59.8	67.4	69.3	66.9	92.3	66.9	81.7	70.7	60.4	72.8	76.3	77.9		
- Learning about the method from neighbors but never attended	9.1	9.7	6.1	3.7	5.9	11.4	1.0	5.8	5.4	6.8	9.9	8.6	2.1	0.8		
- Never attended	13.6	18.3	34.1	28.9	24.8	21.7	6.7	27.3	12.9	22.6	29.7	18.5	21.6	21.3		
<u>Method of seed selection and use of herbicides and insecticides :</u>																
- Attended the training	69.1	65.6	45.5	63.7	58.4	57.2	80.8	56.4	67.7	63.2	51.4	71.6	59.8	59.8		
- Learning about the method from neighbors but never attended	7.3	6.5	3.8	3.7	8.9	10.8	1.0	4.6	2.2	6.0	1.8	11.1	4.1	0.8		
- Never attended	23.6	28.0	50.8	32.6	32.7	31.9	18.3	39.0	30.1	30.8	46.8	17.3	36.1	39.3		
<u>Method of producing and using compost fertilizer :</u>																
- Attended the training	60.0	62.4	60.6	77.8	70.3	69.9	91.3	85.5	80.6	67.7	61.3	60.5	82.5	74.6		
- Learning about the method from neighbors but never attended	10.0	17.2	17.4	9.6	14.9	16.3	5.8	5.2	4.3	12.0	11.7	12.3	9.3	4.1		
- Never attended	30.0	20.4	22.0	12.6	14.9	13.9	2.9	9.3	15.1	20.3	27.0	27.2	8.2	21.3		
- Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
Number (excludes no answers)	(110)	(93)	(132)	(135)	(101)	(166)	(104)	(172)	(93)	(133)	(111)	(81)	(97)	(122)		

Table 7 : Percentage of households adopting the CBIRD rice farming technology by village in high and low participation villages.

Type of training activities and adoption of the CBIRD technology		High participation villages						Low participation villages						
		Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Prong	Koak Yang	Makham Grat	Kawao Grat	Nong Kaeo	Kroag Kham	Koak Yang	Nong Krasang	Koak Maka
<u>Method of rice growing :</u>														
Yes	28.9	35.6	48.4	34.8	44.8	19.0	40.2	14.4	21.1	29.2	27.4	43.1	19.2	2.6
No	71.1	64.4	51.6	65.2	55.2	81.0	59.8	85.6	78.9	70.8	72.6	56.9	80.8	97.4
<u>Method of selection :</u>														
Yes	29.4	37.0	51.8	40.2	31.7	15.0	25.0	26.0	24.6	24.7	26.5	37.1	24.1	11.5
No	70.6	63.0	48.2	59.8	68.3	85.0	75.0	74.0	75.4	75.3	73.5	62.9	75.9	88.5
<u>Method of seed applying Fertilizer :</u>														
Yes	41.1	56.6	46.0	41.7	57.9	26.2	43.3	40.0	43.2	47.6	48.7	56.1	52.6	25.0
No	58.9	43.4	54.0	58.3	42.1	73.8	56.7	60.0	56.8	52.4	51.3	43.9	47.4	75.0
<u>Method of selection and use of herbicides and insecticides :</u>														
Yes	25.0	44.8	26.2	33.0	30.9	22.1	48.2	38.1	36.9	42.4	33.9	35.8	9.7	21.6
No	75.0	55.2	73.8	67.0	69.1	77.9	51.8	61.9	63.1	57.6	66.1	64.2	90.3	78.4
<u>Method of producing and using compost fertilizer :</u>														
Yes	3.9	10.8	16.5	47.5	24.4	8.4	13.9	39.1	11.4	13.2	9.9	28.8	4.5	6.3
No	96.1	89.2	83.5	52.5	75.6	91.6	86.1	60.9	88.6	86.8	90.1	71.2	95.5	93.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

\* The number which is a base for computing percentage for each category of training method varies according to the extent of participation in each method.

Table 8 : Percentage of villagers' opinions on benefits of knowledge and skills obtained by type of training activities and activities and by village in high and low participation villages.

Type of training activities and villagers' opinion	High participation villages										Low participation villages									
	Hua Saphan					Koak Pet					Chamni Pa-ong					Muang Yang				
	Hua	Koak	Chamni	Nong	Muang	Koak	Makham	Kawao	Nong	Kroag	Koak	Kham	Kaew	Grat	Kawao	Yang	Krasang	Koak	Koak	
<u>Method of rice growing :</u>																				
- Very beneficial	47.0	69.6	66.1	54.3	54.7	25.0	32.6	24.8	30.7	39.1	22.6	58.8	44.1	19.2						
- Fairly beneficial	43.4	26.1	30.6	39.1	34.4	60.7	56.5	66.4	65.3	59.8	71.0	23.5	41.2	76.9						
- Not so beneficial	7.2	4.3	1.6	2.2	6.2	11.9	8.7	6.4	2.7	1.1	1.6	7.8	5.9	2.6						
- None	2.4	0.0	1.6	4.3	4.7	2.4	2.2	2.4	1.3	0.0	4.8	9.8	8.8	1.3						
<u>Method of seed selection :</u>																				
- Very beneficial	54.4	62.5	66.1	55.7	50.8	35.0	42.7	31.7	36.5	38.4	32.7	54.8	40.7	37.7						
- Fairly beneficial	35.3	29.2	30.3	41.2	40.7	53.8	54.7	59.6	63.5	60.3	65.3	24.2	48.1	62.3						
- Not so beneficial	8.8	8.3	1.8	1.0	6.8	8.8	2.7	8.7	0.0	1.4	0.0	6.5	9.3	0.0						
- None	1.5	0.0	1.8	2.1	1.7	2.5	0.0	0.0	0.0	0.0	2.0	14.5	1.9	0.0						
<u>Method of applying fertilizer:</u>																				
- Very beneficial	52.6	64.4	69.0	58.3	60.8	35.4	41.2	44.8	41.3	43.7	33.3	56.1	58.1	45.3						
- Fairly beneficial	45.3	33.3	29.9	34.4	33.8	55.4	48.5	51.2	57.5	56.3	62.8	28.8	36.5	52.6						
- Not so beneficial	2.1	2.2	0.0	5.2	4.0	6.9	9.3	4.0	0.0	0.0	2.6	6.1	2.7	2.1						
- None	0.0	0.0	1.1	2.1	1.4	2.3	1.0	0.0	1.2	0.0	1.3	9.1	2.7	0.0						
<u>Method of selection and use of herbicides and insecticides:</u>																				
- Very beneficial	47.6	60.6	57.8	51.6	65.2	41.6	40.0	42.8	32.3	44.6	30.5	49.3	45.9	47.9						
- Fairly beneficial	52.4	39.4	32.8	42.9	30.3	46.0	56.5	61.5	52.2	61.0	32.8	45.9	50.7							
- Not so beneficial	0.0	0.0	9.4	4.4	0.0	9.7	3.5	6.7	4.6	3.3	5.1	7.5	4.9	1.4						
- None	0.0	0.0	0.0	1.1	4.5	2.7	0.0	0.0	1.5	0.0	3.4	10.4	3.3	0.0						
<u>Method of producing and use of compost fertilizer:</u>																				
- Very beneficial	48.7	35.7	62.1	59.3	51.3	41.3	29.6	54.5	43.6	44.1	23.5	49.2	50.6	52.1						
- Fairly beneficial	47.4	42.9	30.1	36.4	43.6	55.8	64.3	42.9	56.4	55.9	74.1	30.5	45.9	46.8						
- Not so beneficial	2.6	21.4	5.8	4.2	3.8	2.2	3.1	1.9	0.0	0.0	1.2	10.2	3.5	1.1						
- None	1.3	0.0	1.9	0.0	1.3	0.7	3.1	0.6	0.0	0.0	1.2	10.2	0.0	0.0						
<b>Total</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0						

**Table 9 : Percentage of households participating in the training, adopting the technology and expressing the opinion on knowledge and skill obtained in CBIRD vegetable gardening training by village in high and low participation villages.**

Category	High participation villages								Low participation villages					
	Hua Saphan	Koak Pet	Chamni	Nong Pa-ong	Muang Yang	Koak Yang	Makham Prong	Kawao Grong	Nong Kham	Kroag Kaew	Koak Kham	Nong Yang	Krasang	Koak Maka
<u>Participation in training</u>														
- Attended the training	71.6	47.3	41.7	68.9	53.5	65.1	94.2	77.3	67.7	60.2	56.8	44.4	77.1	66.4
- Learning from neighbors but never attended	1.8	4.3	0.0	1.5	9.9	1.8	1.9	1.2	7.5	38.3	43.2	2.5	4.2	1.6
- Neither attend nor learn about it	26.6	48.4	58.3	29.6	36.6	33.1	3.8	21.5	24.7	1.5	0.0	53.1	18.7	32.0
- Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
- Number (excludes no answers)	(109)	(93)	(132)	(135)	(101)	(166)	(104)	(172)	(93)	(133)	(111)	(81)	(96)	(122)
<u>Adoption of technology</u>														
- Yes	42.5	37.5	47.3	80.0	57.8	29.7	79.0	74.8	52.9	50.0	50.8	26.3	19.2	37.3
- No	57.5	62.5	52.7	20.0	42.2	70.3	21.0	25.2	47.1	50.0	49.2	73.7	80.8	62.7
- Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
- Number	(80)	(48)	(55)	(95)	(64)	(111)	(100)	(135)	(70)	(82)	(63)	(38)	(78)	(83)
<u>Opinions on benefit</u>														
- Very beneficial	68.8	56.5	58.2	58.9	60.3	47.7	70.0	81.5	35.7	57.5	58.7	50.0	60.2	47.0
- Fairly beneficial	30.0	39.1	40.0	41.1	30.2	52.3	28.0	17.8	60.0	42.5	41.3	39.5	32.1	53.0
- Not so beneficial	1.2	4.3	0.0	0.0	9.5	0.0	2.0	0.7	4.3	0.0	0.0	5.3	6.4	0.0
- None	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	1.3	0.0
- Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
- Number	(80)	(23)	(55)	(95)	(63)	(111)	(100)	(135)	(70)	(80)	(63)	(38)	(78)	(83)

**Table 10 : Percentage of households participating in the training, adopting the technology and expressing the opinions on knowledge and skill obtained in CBRID mushroom culture training by village in high and low participation villages.**

Category	High participation villages						Low participation villages					
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Prong	Makham Kawao	Nong Grat	Kraag Kaew	Koak Kham	Nong Yang	Krasang Maka	
<u>Participation in training</u>												
- Attended the training	77.1	31.2	35.6	77.8	58.4	67.5	97.1	76.2	81.7	58.6	63.1	39.5
- Learning from neighbors but never attended	5.5	5.4	3.0	2.2	10.9	6.6	1.0	5.2	3.2	9.8	2.7	9.9
- Neither attend nor learn about it	17.4	63.4	61.4	20.0	30.7	25.9	1.9	18.6	15.1	31.6	34.2	50.6
- Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
- Number (excludes no answers)	(109)	(93)	(132)	(135)	(101)	(166)	(104)	(172)	(93)	(133)	(111)	(81)
<u>Adoption of technology</u>												
- Yes	10.0	0.0	15.7	50.9	22.9	12.2	41.2	27.1	26.6	25.3	32.9	5.0
- No	90.0	100.0	84.3	49.1	77.1	87.8	58.8	72.9	73.4	74.7	67.1	95.0
- Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
- Number	(90)	(34)	(51)	(108)	(70)	(123)	(102)	(140)	(79)	(91)	(73)	(40)
<u>Opinions on benefit</u>												
- Very beneficial	48.9	60.0	52.9	51.8	47.8	38.2	49.0	69.3	40.2	50.6	50.7	42.1
- Fairly beneficial	46.7	20.0	41.2	43.5	40.3	48.8	47.1	27.1	46.8	48.3	46.6	36.8
- Not so beneficial	3.3	0.0	3.9	3.7	11.9	12.2	0.0	2.9	11.7	0.0	2.7	13.2
- None	1.1	20.0	2.0	0.9	0.0	0.8	3.9	0.7	1.3	1.1	0.0	7.9
- Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
- Number	(90)	(5)	(51)	(108)	(67)	(123)	(102)	(140)	(77)	(89)	(73)	(38)

Table 11 : Percentage of households being trained or advised in health improvement, family planning and organization of mother club by village in high and low participation villages.

		High participation villages						Low participation villages							
		Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Yang	Koak Prong	Makham Yang	Kawao Prong	Nong Grat	Kroag Kaeo	Koak Kham	Nong Yang	Koak Krasang	Koak Maka
<u>Health improvement</u>															
Yes	88.2	88.1	60.6	85.9	74.2	80.1	95.1	79.1	82.8	73.7	85.6	75.3	94.9	77.0	
No	11.8	11.8	39.4	14.1	25.7	19.9	4.8	20.9	17.2	26.3	14.4	24.7	5.1	23.0	
<u>Family planning</u>															
Yes	78.2	81.7	52.3	78.6	68.3	72.3	71.2	57.6	77.4	69.2	72.1	76.6	84.5	65.6	
No	21.8	18.3	47.7	21.5	31.7	27.7	28.8	42.4	22.6	30.8	27.9	23.4	15.5	34.4	
<u>Mother Club Organization</u>															
Yes	16.3	11.8	5.3	65.2	9.0	56.6	56.7	35.5	67.7	30.1	36.9	16.0	9.3	96.7	
No	83.6	88.2	94.7	34.8	91.0	43.4	43.3	64.5	32.3	69.9	63.1	84.0	90.7	3.3	
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Number (excludes no answers)	(101)	(93)	(132)	(135)	(101)	(166)	(104)	(172)	(93)	(133)	(111)	(81)	(97)	(122)	

Table 12 : Percentage of households reporting whether or not they benefit from different types of fund by village in high and low participation villages.

Type of fund	High participation villages						Low participation villages								
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Prong	Koak Yang	Makham	Kawao	Nong Grat	Kroag Kaew	Koak Kham	Nong Yang	Koak Krasang	Koak Maka	
<u>Drug fund</u>															
Yes	85.8	3.2	2.2	78.1	1.0	76.6	95.2	75.0	55.9	75.9	81.1	9.7	78.4	66.4	
No	8.0	4.2	3.0	10.3	2.9	15.6	3.8	23.8	10.8	19.6	17.1	17.1	14.4	16.0	
No answer	6.2	92.6	94.8	11.6	96.1	7.8	1.0	1.2	33.3	4.5	1.8	73.2	7.2	17.6	
<u>Rice fund</u>															
Yes	2.7	1.0	52.2	0.0	32.4	0.6	0.0	0.6	0.0	0.7	6.3	8.5	0.0	0.0	
No	10.6	3.2	40.3	16.4	50.0	4.2	20.2	11.0	4.3	3.8	73.9	11.0	0.0	1.6	
No answers	86.7	95.8	7.5	83.6	17.6	95.2	79.8	88.4	95.7	95.5	19.8	80.5	100.0	98.4	
<u>Fertilizer fund</u>															
Yes	55.8	24.2	23.1	13.7	33.3	22.1	34.6	21.5	36.6	21.0	27.9	39.0	29.9	20.0	
No	22.1	26.3	50.0	59.6	29.4	60.5	58.7	71.5	34.4	51.9	60.4	32.9	68.0	48.8	
No answers	22.1	49.5	26.9	26.7	37.3	17.4	6.7	7.0	29.0	27.1	11.7	28.1	2.1	31.2	
Total Number	100.0 (113)	100.0 (95)	100.0 (134)	100.0 (146)	100.0 (102)	100.0 (167)	100.0 (104)	100.0 (167)	100.0 (93)	100.0 (172)	100.0 (111)	100.0 (133)	100.0 (82)	100.0 (97)	100.0 (125)

Table 13 : Percentage of opinions of villagers who receive support from CBIRD on the usefulness of latrine, rain water tank and giant water jar by village in high and low participation villages.

Type of activity	High participation villages								Low participation villages					
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Yang	Koak Yang	Makham Prong	Kawao	Nong Grat	Kroag Kaew	Koak Kham	Nong Yang	Krasang	Koak Maka
<u>Latrine construction</u>														
Very useful	85.7	87.5	100.0	100.0	61.5	94.9	100.0	100.0	100.0	78.6	87.5	12.5	86.7	84.6
Fairly useful	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0
Not useful	4.8	0.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	21.4	0.0	12.5	13.3	15.4
Under construction	0.0	12.5	0.0	0.0	7.7	5.1	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0
Total Number	100.0 (21)	100.0 (8)	100.0 (18)	100.0 (10)	100.0 (13)	100.0 (39)	100.0 (15)	100.0 (39)	100.0 (18)	100.0 (27)	100.0 (14)	100.0 (8)	100.0 (15)	100.0 (26)
<u>Rain water storage tank</u>														
Very useful	0.0	0.0	0.0	100.0	0.0	100.0	75.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Fairly useful	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not useful	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Number	0.0 (0)	0.0 (0)	0.0 (1)	100.0 (0)	0.0 (0)	0.0 (1)	100.0 (4)	100.0 (5)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	100.0 (2)
<u>Giant water jar</u>														
Very useful	91.7	100.0	100.0	100.0	0.0	83.3	0.0	0.0	100.0	0.0	100.0	100.0	100.0	100.0
Fairly useful	8.3	0.0	0.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Not useful	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Number	100.0 (12)	100.0 (2)	100.0 (2)	100.0 (0)	0.0 (0)	100.0 (6)	0.0 (0)	0.0 (0)	100.0 (1)	0.0 (0)	100.0 (0)	100.0 (3)	100.0 (4)	100.0 (1)

Table 14 : Percentage of villagers' opinion on whether CBIRD activities respond to their needs by village in high and low participation villages.

Opinion	High participation villages						Low participation villages							
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Yang	Koak Prong	Makham Kawao	Kawao	Nong Grat	Kroag KaeW	Koak Kham	Nong Yang	Krasang	Koak Maka
Yes, very much	88.5	94.7	97.8	90.4	94.1	98.2	98.1	98.8	95.7	95.5	96.4	85.4	96.9	93.6
Yes, somewhat	6.2	1.1	0.7	2.1	4.0	1.2	1.9	0.6	3.3	3.8	0.0	12.1	3.0	4.0
No, whatsoever	2.7	2.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
No answers	2.7	2.1	1.5	7.5	1.0	0.6	0.0	0.6	1.1	0.0	3.6	2.4	0.0	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	(113)	(95)	(134)	(146)	(102)	(167)	(104)	(172)	(93)	(133)	(111)	(82)	(97)	(125)

Table 15 : Percentage of villagers' opinion on their ability to invest or to pay in cost sharing scheme by village in high and low participation villages.

Opinion	High participation villages						Low participation villages							
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Yang	Koak Prong	Makham Grong	Kawao Krong	Nong Grat	Kroag Kaeo	Koak Kham	Nong Yang		
No problems	79.6	56.8	79.1	71.9	69.6	76.6	81.7	84.3	75.3	82.7	86.5	74.4	79.4	72.8
Some problems	11.5	28.4	17.9	8.2	13.7	13.2	14.4	13.4	12.9	9.0	10.8	19.5	13.4	13.6
Unable to do so	6.2	11.6	1.5	11.6	14.7	9.0	1.9	1.2	10.7	8.3	1.8	4.9	4.1	10.4
No answers	2.7	3.2	1.5	8.2	2.0	1.2	1.9	1.2	1.1	0.0	0.9	1.2	3.1	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	(113)	(95)	(134)	(146)	(102)	(167)	(104)	(172)	(93)	(133)	(111)	(82)	(79)	(125)

Table 16 : Percentage of households intending to develop own innovative activities after the termination of CBI RD project by village in high and low participation villages.

Intention to develop own innovation activities	High participation villages						Low participation villages							
	Hua Saphan	Koak Pet	Chamni Pa-ong	Nong Yang	Muang Yang	Koak Prong	Makham Kawaو	Grat	Nong Grat	Kroag Kaew	Kham	Nong Yang	Koak Krasang	Koak Maka
Yes	44.2	44.2	26.9	38.4	39.2	31.7	26.0	22.1	31.2	35.3	18.0	37.8	13.4	30.4
No	8.9	10.5	14.2	12.3	5.9	15.6	1.0	5.8	9.7	11.3	3.6	12.2	8.2	8.8
No answers	46.9	45.3	59.0	49.3	54.9	52.7	73.0	72.1	59.1	53.4	78.4	50.0	78.4	60.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	(113)	(95)	(134)	(146)	(102)	(167)	(104)	(172)	(93)	(133)	(111)	(82)	(97)	(125)

Table 17 : Percentage of villagers' opinions on CBIRD staff's performance by village in high in and low participation villages.

		High participation villages										Low participation villages					
		Hua Saphan	Koak Pet	Chamnii	Nong Pa-ong	Muang Yang	Koak Yang	Makham	Kawao	Prong	Nong Grat	Kroag Kaew	Koak Kham	Nong Yang	Krasang	Koak Maka	
Very good		76.1	63.2	70.1	63.0	55.9	53.9	61.5	54.7	48.4	60.9	44.1	61.0	70.1	49.6		
Fairly good		21.2	32.6	28.4	26.0	41.2	44.9	34.6	39.5	51.6	39.1	48.6	36.6	27.8	47.2		
Need to improve		0.0	2.1	0.0	1.4	2.0	0.0	3.0	1.2	0.0	0.0	1.0	1.2	2.0	0.0	0.0	
No answers		2.7	2.1	1.5	9.6	1.0	1.2	1.0	4.7	0.0	0.0	6.3	1.2	0.0	3.2		
Total	Number	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
		(113)	(95)	(134)	(146)	(102)	(167)	(104)	(172)	(93)	(133)	(111)	(82)	(97)	(125)		

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