

CHAPTER 7

RURAL DEVELOPMENT

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This chapter is organized into three parts. The first part analyzes the present situation of the study area at macro and micro levels. In the second part, past and present policy and program of rural development are reviewed. Planning issues are identified based on the present problems and future perspectives. And finally, development plan is discussed.

7.1 Macro-Overview of the NBR

7.1.1 Review of the Development Indicators

(1) Basic Minimum Needs

The basic living standards in the rural areas of NBR have been significantly improved for the last decades. According to the result of a Basic Minimum Needs survey in 1999 (Table 7.1), which is conducted every year for rural households by the Community Development Department (CDD) of Ministry of Interior, basic needs of health, housing, education and others are almost fulfilled in NBR.

When the 1999 result is compared with that of 1992¹ (Table 7.2), the improvement in basic service delivery is much clearer. The number of indicators whose achievement levels were lower than that of the national average or regional average of the Northeast are 13 in Nakhon Phanom and Sakon Nakhon, 10 in Mukdahan, and 7 in Kalasin in 1992; on the other hand, in 1999, 3 in Nakhon Phanom, and 6 in the other 3 provinces. Especially, improvement of nutrition intake of children and availability of safe drinking water are notable.

¹ Results of this type of survey are available since 1991. But because the indicators of 1991 are very different from those in 1999, 1992's data are used for comparison.

**Table 7.1 Village Basic Minimum Needs Indicators of the NBR
(Sakon Nakhon and Mukdahan: Year 2000, Nakhon Phanom and Kalasin: Year 1999)**

Category	Indicators	Target %	National level	North-eastern region	Achievement		
					Nakhon Phanom	Sakon Nakhon	Mukdahan Kalasin
Category 1 Good health	1 Pregnant women receive adequate care before delivery	80					
	2 Pregnant women are attended at birth	95					
	3 Pregnant women take necessary nutrients	93					
	4 Babies are breast-fed	30					
	5 Children under 1 years old receive vaccines	95					
	6 Children under 5 years old receive necessary nutrients	80					
	7 Children between 6-15 years old receive necessary nutrients	90					
	8 Children between 6-12 years receive vaccines	100	99.3	99.4	99.9	99.9	99.7
	9 Household members do not eat raw food or uncooked food	90	88.4	82.2		83.4	69.7
	10 Household members have adequate iodine intake	60					80.6
Category 2 Housing conditions	11 Household members eat safe food	85					
	12 Household members have knowledge how to use medicines	60					
	13 Households have permanent houses	95					
	14 Households have access to and use a toilet	95					
	15 Households have access to safe water for drinking and other uses	95	89.9	88.9	94.6	91.7	80.2
	16 Households are managed healthily	60					
	17 Households are free from pollution	95	93.8	94.8			94.3
	18 Children between 2-5 years old have access to care services	90					
	19 Children between 6-12 years old attend compulsory education	100	99.1	99.5	99.9	99.9	99.8
	20 Children completing compulsory education continue on to secondary school	98	91.9	89.6	89.0	86.0	93.1
Category 3 Educational attainment	21 Children not continuing on to secondary education receive occupational training	80	64.3	55.9	42.6	31.4	66.4
	22 People between 14-50 years old can read and write Thai	99	97.8				97.6
	23 People receive public information at least 3 times a week	95					
	24 Households have possess basic knowledge of AIDS	80					
	25 Couples between 15-44 years old practice family planning	77					64.8
	26 Households have good relationship among the members	90					
	27 Households are safe from accidents	100	98.4	98.6	99.1	98.6	98.3
	28 Households and their property are secure	100	99.4	99.5	99.9	99.5	99.2
	29 Households income is not less than 20,000 Baht per person per annum						
	30 Households are members of local groups	70	48.9	34.2	27.6	35.4	21.8
Category 4 Family life	31 Households exercise their right to vote	90	87.2				32.8
	32 Household participate in maintaining public property	90	81.3	80.3	84.6	73.6	85.1
	33 Households participate in religious activities	95					
	34 Household members are not alcoholics	90					
	35 Household members are not addicted to cigarette	90	87.3	84.9	89.9	82.2	78.9
	36 Household members are not addicted to traditional activities	90					
	37 Old and disabled people receive adequate care	90					
	38 Households participate in natural resources conservation	90					
	39 Households protect and conserve the environment	90					

Note: Percentage of achievement are shown only for the indicators which could not meet the target.

* These indicators already met the target in 2000.

The term of "compulsory education" in indicator 19 uses old definition, which means elementary education up to grade 6.

Source: Basic Minimum Needs Survey result, Community Development Department of each province

**Table 7.2 Village Basic Minimum Needs Indicators of the NBR
(Year 1992)**

Category	Indicators	Target	National level	North-eastern region	Achievement					
					Nakhon Phanom	Sakon Nakhon	Mukdahan	Kalasin		
Category 1 Good food	1 Weight of newborn babies is more than 3000kg	70								
	2 Children under 5 years old have no malnutrition									
	3 Children between 6-14 years old receive necessary nutrients	93	91.7	91.7	88.9	90.5	91.9	91.6		
	4 Household members do not eat raw food or uncooked food	60		46.9	39.3	34.0	39.4	29.5		
	5 Household members eat safe food	75								
Category 2 Housing conditions	6 Households have permanent houses for more than 5 years	90			89.2					
	7 Households are managed healthily	90	69.4	66.5	57.9	59.4	59.3	65.6		
	8 Households have access to and use a toilet	95	82.3	81.9	82.6	73.5		73.7		
	9 Households have safe water for drinking	95	61.4	60.1	41.1	44.6	41.2	54.3		
Category 3 Good health	10 Households are free from pollution	80								
	11 Pregnant women receive adequate care before delivery	75								
	12 Pregnant women are attended at birth and after	80								
	13 Children under 1 years old receive vaccines	95	94.3							
	14 Elementary school children receive vaccine	99	97.7	98.7	98.6	98.9	93.7	98.0		
	15 Households have basic knowledge of AIDS	80			73.0					
	16 Households have knowledge of AIDS protection	80			72.0					
	17 Children between 3-6 years old are raised properly	60								
	18 Children between 6-12 years old attend compulsory education	99	97.5	98.7	98.2	98.6	98.0	98.6		
	19 Children completing compulsory education continue on to secondary school	73	56.3	48.0	47.4	42.8	58.0	54.5		
	20 Children not continuing on to secondary education receive occupational training	80	32.1	28.4	30.9	25.1	28.1	29.1		
	21 People between 14-50 years old can read and write Thai	99	95.3	97.5	95.4	96.9	96.1	97.8		
	22 Households receive public information	85	83.0		78.5		82.6			
	23 Households and their property are secure	100	97.1	97.3	96.1	96.3	95.2	96.7		
	24 Household are safe from accidents	60								
	Category 4 Safety of family life Category 5 Good income Category 6 Family life Category 7 Participation	25 Household income is not less than 15,000 Baht per person per annum	70	38.7	25.4	14.9	19.1	14.2	29.1	
		26 Couples practice family planning	77							
27 Couples have not more than 2 children		75	60.3	56.6	51.7	48.2	51.9	58.3		
28 Households are members of local groups		60								
29 Households exercise their right to vote		90	77.1	81.2	87.9	79.2		81.4		
30 Households participate in maintaining public property and development activities		80								
31 Households participate in religious activities		90	80.3	87.6	82.4	83.2	84.4	87.6		
32 Household members are not alcoholics		90								
33 Household members are not addicted to cigarette		90	74.7	72.2	69.1	63.1	66.8	63.0		
34 Household members participate in traditional activities		90								
Category 8 Moral standard	35 Old people receive adequate care	90								
	36 Households participate in natural resource conservation	90	81.3	88.1	84.9	80.8	89.2	87.0		
	37 Households protect and conserve the environment	90	80.9	87.8	86.0	80.6	89.4	88.9		

Note: Percentage of achievement are shown only for the indicators which could not meet the target.

Source: Basic Minimum Needs Survey result, Community Development Department, Ministry of Interior

However, there are two indicators in 1999 that are considerably lower than the average of whole Kingdom and the Northeastern region, i.e., household income level and occupational training attainment for children after elementary school.

(2) Village Development

The situation of village development is also monitored by CDD. Every two years since 1990, CDD has been collecting Village Basic Information (NRD2C) of all villages in Thailand and evaluating their development level from various aspects such as infrastructure, agricultural production, employment, education and health.

The information is collected through interviews in village committees and with village leaders by using questionnaires; results are then compiled and scored according to 31 composite indicators. Depending on the scores of villages, they are classified into 3 groups: backward, moderately developed, and progressive villages.

Table 7.3 shows the percentage of backward villages to total villages in each province in NBR according to indicators. The top 10 indicators which point to the backwardness of a village is defined on the next page:

Indicator	Definition of backwardness of a village
1. Type of land right	Titles to most of the areas in the village are not documented.
4. Land ownership	More than 25% of households have to rent land for agricultural activities.
5. Village business	The village has no rice mills, grocery store, and production distribution center, or has only one of these.
6. Earning and employment	The percentage of households with more than one economic activity or over 40,000 baht income from wage work only is less than 50%.
9. Products from other plant-farming	The yield of main field crop in the village is less than the following standards: (Kg/rai) Corn: 80, Mungbean: 100, Soybean: 200, Sesame: 120, Sugarcane: 7000, Cassava: 1200, Cotton: 160 Or, the income per household from the main field crop is less than 20,000 baht/year.
10. Other occupation	The income from the main occupation other than rice and crops cultivation mentioned in 9 is less than the following standards: (Baht/year) Rubber: 20,000, Fresh water fishery: 20,000 Sea water fishery: 30,000 (small scale), 3,000,000 (large scale) Sea fish cultivation: 100,000, Freshwater fish cultivation: 20,000 Orchard: 20,000, Home industry: 40,000 Or, less than 40% of households raising livestock.
11. Migration to work	More than 20% of households have members who migrate outside Tambon (sub-district) to work.
13. Dry season agriculture	Less than 20% of households grow rice twice a year, or plant short-term crops in dry season.
16. Mental health	The village has a record of patients with mental diseases, or deaths by suicide and murder. Or, the village has no facility for mental health development (relaxation place, sports facility, etc.).
20. Clean drinking water	Less than 63% of households have access to clean drinking water.
22. Water for agriculture	The village has shortage of water in dry season for growing the second rice, short-term crop, vegetables, flowers and orchards.
24. Further studying rate	Less than 73% of children finish elementary school.
28. Activities in region, culture and sport	There were no religious, cultural or traditional activities in the past year. Or there were no sports activities.
29. Forest	The village is located in a forest reserve and less than 50% of the area is actually covered by perennial crops or forest.
30. Soil	Not more than 74% of total arable land is used for agricultural activities.
31. Water	One of the sources of surface water is of poor water quality and is not appropriate for use.

Table 7.3 The Ratio of Backward Villages by Province

Group	Indicator	Nakhon Phanom		Sakon Nakhon		Mukdahan		Kalasin	
		%	Rank	%	Rank	%	Rank	%	Rank
1 Infrastructure	1 Type of land right					15.9	8		
	2 Electricity accessibility								
	3 Transport								
	4 Land ownership			16.2	9			16.9	10
2 Product, Income and Employment	5 Village business							21.1	7
	6 Earning and employment	23.5	5	20.2	6				
	7 Wage rate								
	8 Products from rice farming								
	9 Products from other plant-farming			16.2	10	25.2	5	29.0	3
	10 Other occupation	39.2	3	25.2	4	31.3	3	26.1	4
	11 Migration to work	67.5	1	60.1	1	54.3	1	52.1	1
3 Public health and Sanitation	12 Farmer grouping								
	13 Dry season agriculture	22.0	6	30.8	2	39.1	2	23.2	5
	14 Protection for drug consuming								
	15 Protection from contagious diseases								
	16 Mental health	24.6	4	19.5	7	23.5	6	17.2	9
4 Water resources	17 Environment sanitation								
	18 Work safety								
	19 Participation in health and sanitation activities								
5 Knowledge, Education and Culture	20 Clean drinking water					13.5	10	23.0	6
	21 Water for using								
6 Natural resources & Environment	22 Water for agriculture	19.0	8	26.8	3	30.7	4	44.2	2
	23 Education level								
	24 Further studying rate	14.5	9	23.3	5				
	25 Education obtaining								
	26 Educating places								
	27 Information service places								
6 Natural resources & Environment	28 Activities in religion, culture and sport	11.3	10						
	29 Forest					15.0	9		
	30 Soil	19.2	7	18.9	8	20.3	7	17.7	8
	31 Water	57.9	2						

Source: Village Basic Information (NRD2C), Community Development Department, Ministry of Interior, 1999

Based on the NRD2C result, village situation in NBR is summarized below:

- Labor migration to outside the village is commonly practiced;
- In dry season, not many households can grow any crop;
- Agricultural and off-farm economic activities other than paddy cultivation do not provide adequate income for households;
- Arable land is not fully utilized for agricultural activities; and
- Not enough attention is given to mental health of people.

7.1.2 Socio-Economic Situation

(1) Land Holding

Usually, in the Northeast region of Thailand, a family owns several small plots of land in different places in the village. This present land holding pattern evolved from the

inheritance system of the Northeast, which divides property (mainly land) to all children, and through marriage over generations. Therefore, a farmer selects a different crop for different plot according to the land condition.

This inheritance system had also decreased total land holding size per household. On average of the Northeast region, land size per household is about 22 rai. However, as Table 7.4 shows, nearly half of rural households in NBR has less than 10 rai of land. It is obvious that majority of rural households have land below average size.

Table 7.4 Household Land Holding Size by Province

Land holding size	% of total rural households			
	Nakhon Phanom	Sakon Nakhon	Mukdahan	Kalasin
< 10 rai	45.8	36.9	58.8	50.6
11 rai =< =< 20 rai	30.5	35.2	25.0	29.5
21 rai =< =< 50 rai	13.2	17.0	7.9	11.4
50 rai <	2.9	3.0	1.5	2.6
Unknown	7.6	7.9	6.8	5.9
Total	100	100	100	100

Source: NRD2C, Community Development Department, Ministry of Interior, 1999

(2) Household Income Structure

Household income structure in the Northeast region follows distinctive characteristics different from those of other regions as Table 7.5 indicates such as:

- Cash income from agriculture is very minimal, but ratio of agricultural expense to the income is highest among all regions; and
- Non-farm income share out of total cash income, which is more than 60%, is much higher than that of other regions.

Table 7.5 Average Cash Income of Farm Household in Thailand, 1995

Unit: Baht

Items	Region	Whole Kingdom	Northeast	Central	North	South
Cash income from agriculture (A)		61,818	31,191	124,384	97,654	104,202
Cash expense for agriculture (B)		32,006	19,386	68,812	31,561	37,098
Expense share out of income (B) / (A): shown by %		52%	62%	55%	32%	36%
Net cash income from agriculture (C) = (A) - (B)		29,812	11,805	55,572	26,093	67,104
Non-farm cash income : (D)		51,058	50,891	65,737	38,662	58,324
Total household cash income (E) = (A) + (D)		112,876	82,082	190,121	136,316	162,526
Non-farm income share out of total income (D) / (E) : shown by %		45%	62%	35%	28%	36%

Source: Agricultural Statistics of Thailand 1997/98, Ministry of Agriculture and Cooperatives

In case of provinces in NBR (Table 7.6), these characteristics are more distinguished. Except Sakon Nakhon, only about 30% of income left after deducting necessary agricultural expense. Although “Farm Households” are supposed to be perceived as households whose main occupation is agriculture, their livings seems to depend totally on non-farm income. In other words, current farm households in NBR cannot survive without non-farm economic activities.

Table 7.6 Average Cash Income of Farm Household in NBR

Items	Province	Unit: Baht			
		Nakhon Phanom	Sakon Nakhon	Mukdahan	Kalasin
Cash income from agriculture (A)		19,888	27,106	26,867	21,986
Cash expense for agriculture (B)		14,037	17,012	18,781	16,718
Expense share out of income (B) / (A): shown by %		71%	63%	70%	76%
Net cash income from agriculture (C) = (A) – (B)		5,851	10,094	8,086	5,268
Non-farm cash income : (D)		49,796	53,023	59,898	59,410
Total household cash income (E) = (A) + (D)		69,684	80,129	86,765	81,396
Non-farm income share out of total income (D) / (E) : shown by %		71%	66%	69%	73%

Source: Ministry of Agriculture and Cooperatives

(3) Labor Migration

Since rain-fed agriculture is predominant and its income is not sufficient enough in NBR, temporal labor migration in dry season has been common practice. In addition, some of household members leave for outside the village to find permanent job.

According to the NRD2C, the households that have members who migrate outside Tambon to work are 31.5 % of the total rural households in Nakhon Phanom, 28.3% in Sakon Nakhon, 45.2% in Mukdahan, and 25.4% in Kalasin.

Decrease of the land size due to the succession custom is supposed to be a main cause of increasing permanent labor migration. Children can easily imagine that they cannot succeed enough land to support their future family so they try to find non-farm job opportunities. In case that they get stable job outside the village, they tend not to come back home even when they succeed land but to sell it to their siblings or relatives.

(4) Social Service and Infrastructure

Generally speaking, basic social service is well provided in the NBR (Table 7.7). Piped water is mainly used for domestic purposes except for drinking water since people prefer drinking rainwater. The water shortage for daily use is not so serious problem in

most of the villages whereas they suffer from serious shortage of water for agricultural purpose.

Most of the villages have electricity supply and broadcast service, so people have good access to information. On the contrary, provision of public telephone is not as good as these services. Usually, there are several public telephone booths in a village, but some of them are always broken. Therefore, % of villages actually accessible to telephone service might be less than the figure shown in Table 7.7. Otherwise, public telephone is important communication tool for villagers. For example, they contact several cassava processing factories to know which factory offers better purchase price of cassava, and also communicate with their family members working outside the villages. Alternative communication tool is postal service but not all villages have post office.

Solid waste management is not popular service yet at the village level.

Table 7.7 Provision of Main Social Service and Infrastructure

Type of services	% of villages out of total villages in the province			
	Nakhon Phanom	Sakon Nakhon	Mukdahan	Kalasin
% of villages having piped water supply service	82.5	71.2	90.9	71.7
% of villages having electricity supply	97.6	99.2	96.7	98.9
% of villages having broadcast service	97.0	95.6	97.3	97.1
% of villages having public telephone service	61.8	52.2	43.7	53.4
% of villages having post office	45.4	44.4	42.4	31.9
% of villages having primary school	96.7	98.2	96.6	96.9
% of villages having solid waste management	0.9	12.7	13.7	11.5

Source: NRD2C, Community Development Department, Ministry of Interior, 1999

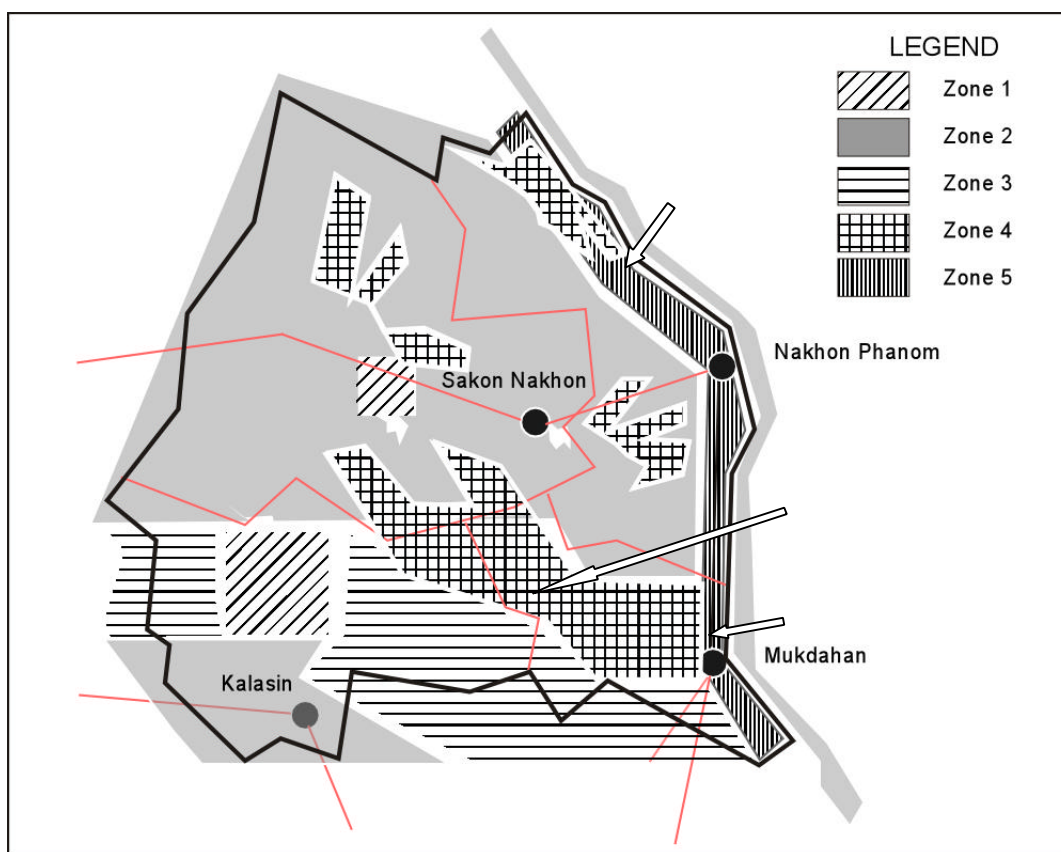
7.2 Rural Society in NBR: Micro-level Analysis

The analysis in this section is mainly based on the outcomes of the Study Team's social survey. The Rapid Rural Appraisal (RRA) was the most important part of the Social Survey, which was undertaken by a team from Khon Kaen University upon the request of JICA Study Team.

Ten villages were selected as sample villages to conduct RRA. Following are the distinctive features of each village and its location. In each village, 4 households, selected by villagers themselves, were interviewed. These four households consisted of one rich household, one average household and two poor households. Definition of "rich", "average", and "poor" was based on perception of villagers in relative sense.

Table 7.8 Sample Villages for the Social Survey

Village No.	Name of village	Tambon (sub-district)	Amphoe (district)	Changwat (Province)	Features of the village
1	Nong Sang	Wang Ta Moa	Muang	Nakhon Phanom	<ul style="list-style-type: none"> • Located in rain-fed area • Classified as backward village by CDD
2	Tha Dok Keaw	Tha Jampa	Tha Utane	Nakhon Phanom	<ul style="list-style-type: none"> • High level of rainfall, fertile soil, but no irrigation • Upland crops are dominant • Suitable for para rubber plantation
3	Hua Khua	Ummao	Yang Talad	Kalasin	<ul style="list-style-type: none"> • Good access to main road • Near municipality • More off-farm employment opportunities
4	Tom	Bua Ban	Yang Talad	Kalasin	<ul style="list-style-type: none"> • Commercialized agriculture has been developed due to large scale irrigation
5	Sisomboon	Nikom	Sahatsakan	Kalasin	<ul style="list-style-type: none"> • Rain-fed area • Rice and field crop • Land holding size is relatively small
6	Sri Suk	Sila	Song Daw	Sakon Nakhon	<ul style="list-style-type: none"> • Moderate level of rainfall, no irrigation
7	Khua Gai	Khua Gai	Wanonnias	Sakon Nakhon	<ul style="list-style-type: none"> • Located in rain-fed, no irrigation area • Rice mono-cropping • High rate of labor migration
8	Pa Jod	Koa Kiew	Warichaphum	Sakon Nakhon	<ul style="list-style-type: none"> • Progressive village which introduced dairy farm activity
9	Bang Sai Yai	Sai Yai	Muang	Mukdahan	<ul style="list-style-type: none"> • Located near municipality • Located along the Mekong river • Sufficient water and fertile soil
10	Wang	Nong Sang Tai	Nong Sung	Mukdahan	<ul style="list-style-type: none"> • Located in mountainous area • Fruits trees and field crop are dominant



Note: Conceptual Zoning Map of the JICA Study Team is used as a base map. With regard to the criteria of each zone, please refer the Chapter S2: Land Use

Figure 7.1 Village Location Map

7.2.1 Farming System and Rural Household Economy

The livelihood of rural households in NBR, as a matter of fact, varies from household to household, but their livelihood centers on agricultural production activities. However, the farming system, which each household can take, is principally determined by natural condition, access to agricultural infrastructure, and land holding size. Therefore, household members have to cope with these “given conditions” and select their individual economic behavior according to their life cycle in order to make better livings.

(1) Paddy Cultivation

Farmers tend to grow paddy first in order to secure their food unless their land is not suitable for paddy. Even though paddy is not economically profitable due to its low productivity and high input cost, they insist on planting their conventional crop. In all sample villages, there are rice farmers.

1) Cropping Pattern and Productivity

In the Northeast region, sticky rice is the staple food so people grow sticky rice for their own consumption. In general, 5 rai is an enough size to secure annual rice consumption for one household. However, a household tends to grow more than 5 rai in order to keep more amount of paddy in preparation for contingency such as flood and drought. If food security is maintained and some land plots still remain, people grow ordinary rice for sale.

Usually, yield and price of ordinary rice are higher than those of sticky rice are. However, in Sample Villages, data shows opposite in case of yield (Table 7.9). Rain-fed cultivation might cause this result since ordinary rice, which is hybrid variety, can increase its yield in the irrigated field.

Table 7.9 Yield and Price of Paddy

Province		Nakhon Phanom		Kalasin			Sakon Nakhon			Mukdahan	
Village number		1	2	3	4	5	6	7	8	9	10
Yield (kg / rai)	Sticky rice	300	300-350	450	N.A.	200-300	400	300	400	560	350
	Ordinary rice	285	N.A.	N.A.	N.A.	N.A.	380	250	350	470	340
Farmgate price (Baht / kg)	Sticky rice	4.6	N.A.	6.0	N.A.	N.A.	4.8	6.0	4.8	N.A.	4.1
	Ordinary rice	7.2	N.A.	N.A.	N.A.	N.A.	5.4	7.0	5.5	N.A.	7.0

Source: Social Survey

Table 7.10 explains the actual cropping pattern of Sample Households in the Social Survey. Among 40 households, 31 households grow rice. All households grow sticky rice and 12 households grow ordinary rice but there are no households growing ordinary rice only. 15 households sell surplus of product and 10 out of them grow ordinary rice.

Although there are 15 households which have no agricultural activities other than paddy cultivation, there is no household which make living solely on paddy cultivation. Except a few cases, income from rice sales ranges from 7,000 to 30,000 Baht. There is a little profit left after deducting the production cost.

Table 7.10 Paddy Cultivation of Sample Households

Village No.	Household No.	Sticky rice (rai)	Ordinary rice (rai)	Rice-mono cropping	Gross income (Baht)
1	1	10	51	X	66,516
	2	10	10	X	15,000
	3	4	0	X	0
2	5	5	0	X	0
	6	14	0		10,000
	7	4	4		0
	8	5	0	X	0
3	9	7	0		0
	10	10	0		0
	11	3	0	X	0
4	14	7	0		0
	16	3	0		0
5	17	6.5	0		0
6	21	13	6		16,000
	22	14	4		0
	23	10	0	X	7,000
	24	8	0	X	0
7	25	22	4	X	12,060
	26	22	9		7,000
	27	3.5	0	X	2,800
8	29	17	0		0
	30	3.5	0.5		2,000
	31	5	0	X	2,000
9	33	3	10	X	60,500
	34	3	7	X	14,000
	35	3	7	X	18,000
	36	6	0	X	0
10	37	15	10		31,000
	38	10	0		0
	39	16	0		11,520
	40	6	0		0

Source: Social Survey

2) High Input Cost

Production cost varies from household to household. Because some household uses only family labor and its own farm equipment while some household hires all necessary labor. Amount of fertilizer used is also different among households. However, in general, most households spend too much for input (Table 7.11). Major input items are out-contract of land preparation, chemical fertilizer, and hired labor for transplanting and harvesting.

It can be concluded that paddy cultivation does not help increase cash income of rural households. Therefore, if they do not have adequate land for other cash crop rather than paddy, off-farm economic activities are very essential for the household livelihood.

Table 7.11 Cost and Benefit of Paddy Cultivation

Village No.	Household No.	Gross income (Baht) (A)	Input cost (Baht) (B)	Net profit (Baht) (A) – (B)	Rice-mono cropping
1	1	66,516	68,590	-2,074	X
	2	15,000	7,200	7,800	X
2	6	10,000	7,000	3,000	
6	21	16,000	8,900	7,100	
	23	7,000	11,090	-4,090	X
7	25	12,060	15,813	-3,753	X
	26	7,000	2,118	4,882	
	27	2,800	1,790	1,010	X
8	30	2,000	1,880	120	
	31	2,000	3,051	-1,051	X
9	33	60,500	12,763	-47,737	X
	34	14,000	10,450	3,550	X
	35	18,000	9,110	8,890	X
10	37	31,000	4,220	26,780	
	39	11,520	4,890	6,630	

Source: Social Survey

(2) Field Crop Cultivation

Major field crops in NBR are cassava and sugarcane. They can grow in the areas where soil is not suitable for paddy cultivation and water is insufficient. Among all Sample Households, 8 are growing field crop. Since yield of field crop is very high (Cassava: 2-3 ton/rai, Sugarcane: 8 ton/rai), gross income becomes large although unit price is small (Cassava: 0.6-0.8 Baht/kg, Sugarcane: 0.4-0.5Baht/kg). However, high input cost is required especially to hire labor for planting and harvesting, sufficient profit cannot be expected unless the household has large cultivation area.

As Table 7.12 depicts, 5 out of 8 households are large landowners who have more than 30 rai. Actually, they not only grow field crop but also paddy, and others such as fruits tree and vegetables. In case of average or small land owners, introduction of other commercial crop or off-farm economic activities need to be combined with their conventional crop cultivation in order to make a living.

Table 7.12 Field Crop Cultivation of the Sample Households

Village No.	Household No.	Total farm land (rai)	Paddy (rai)	Cassava (rai)	Sugarcane (rai)	Gross income from field crop (Baht)	Input cost for field crop (Baht)	Net income from field crop (Baht)
5	17	38	6.5	18.5	13	164,000	75,805	88,195
	18	15	0	13	0	19,500	16,728	2,772
	19	7	0	7	0	24,000	7,660	16,340
6	21	51	19	24	0	144,000	53,260	90,740
	22	60	18	0	30	87,500	42,400	45,100
10	37	74	25	4	0	2,250	2,000	250
	38	31	10	0	10	81,522	54,167	27,355
	40	11	6	0	5	N.A.	N.A.	N.A.

Source: Social Survey

(3) Labor for Agricultural Production

In the Northeast region, labor exchange or mutual help for paddy cultivation has been commonly practiced. Nowadays, however, it is hardly seen in NBR. Even though people ask for help of relatives, they usually pay in cash or kind (usually in case of harvest) for their work.

The farm households hire labor when planting and harvesting for both paddy and field crop. Daily wage rate is usually about 100 Baht per capita. In case of land preparation, they contract out its work to the person who has tractor. It costs about 150 Baht per rai.

Recently, the farm households tend to spend for hired labor more than before. They prefer to be engaged in off-farm economic activities to earn immediate cash income that enables them to hire labor for their own farm. The households, which have higher non-farm income, seem to spend more for hired labor; on the contrary, those which have smaller farmland with less non-farm income tend to do all kind of farming activities by their own family labor.

(4) Livestock Raising

Number of buffalo is recently decreasing in NBR. This is a nationwide tendency. Currently, farmers prefer owning two-wheel tractor or contract out farmland preparation rather than using own buffalo. According to NRD2C data, more than 50 % of total households in Sample Villages own power tiller. There are two main reasons for decrease of buffalo. One is that there is no family labor to take care of buffalo. Children have to go to school, and the youth tend to leave village to find off-farm job. The other is that there is no sufficient land for buffalo to graze freely. Land shortage affects cattle raising, too. Most of rice mill owners raise pig because they can gain broken rice and rice bran from their rice mill as pig feed. Otherwise, they have to buy commercial feed.

In Sakon Nakhon, some villages have formed cooperative and started daily farming.

Table 7.13 Livestock in the Sample Villages

Province	Nakhon Phanom		Kalasin			Sakon Nakhon			Mukdahan	
	1	2	3	4	5	6	7	8	9	10
Village Number										
No. of households	219	317	93	458	116	296	379	190	419	176
No. of Buffalo (head)	75	86	20	0	45	20	180	50	35	15
No. of Cattle (head)	66	3	25	90	79	60	183	270	90	245
No. of Pig (head)	22	100	N. A.	60	0	36	200	110	N. A.	27

Source: The Social Survey

(5) Commercialized Agriculture near Urban Center

In NBR, commercialized agriculture is found along the Mekong River and irrigated area in Kalasin. Accessibility to water irrigation system or the Mekong River and soil fertility enables a variety of crops to be planted. Most of households have less than 10 rai and some have even less than 5 rai but are still sufficiently well off.

People have gathered around this area in search of arable land for a long time because land is productive the whole year round. Moreover, children of those who own land in this area are grateful for their land inheritance, even though it may be just a small piece of land in this area. These factors result in the current situation of small farmland size and settlement pattern of houses adjacent to one another.

This characteristic makes it difficult to raise cattle. Since land is fully utilized the whole year round, there is no free land to graze cattle. Only a small number of chicken or duck can be raised in the homestead.

In addition, these areas are likely to be near urban centers. This advantage provides not only a good market to farm products but also a number of off-farm income-earning opportunities. Therefore, household members tend to engage in both farming and off-farm activities. Sufficient income from off-farm activities not only enables the household to cover agricultural input cost and but also to enjoy an urbanized life style.

An example of cash flow below, which is derived from one sample household in the Social Survey, illustrates actual situation of such household.

Table 7.14 Household Cash Flow: Household with Commercialized Agriculture

Household No. 33 (Mukdahan)			
Household members	5 people: Household head & his wife Parents of his wife 1 unmarried son (student)		
Land holding & Land use	Total land size	14 rai	
	(Breakdown)	Paddy	13
		(Growing spring onion after paddy)	(0.75)
	Fallow	1	
Farm Cash Income	Paddy	60,500	
	Spring onion	54,500	
	Livestock (pig, chicken, & cattle)	38,800	
Gross Farm Income: (A)		153,800	
Farm Cash expenditure: (B)		25,800	
Net Farm Income: (C) = (A) – (B)		128,000	
Non-farm Income	Transportation service	11,250	
	Rice mill	36,000	
Total Non-farm Income: (D)		47,250	
Total Income: (C) + (D)		175,250	
Total Non-farm expenditure		116,758	

Source: The Social Survey

(6) Large-scale and Diversified Agriculture

Large-scale and diversified agriculture is found even in rain-fed area of NBR. Although it does not represent the majority of rural households, it is proved that a large-scale farm with crop diversification makes it possible for the household to earn a better living from agricultural activity even in rain-fed area.

Their agriculture is “high input high return” type. Since the household has various income sources from diversified agriculture, it is presumed that other crops could compensate a possible failure of one crop due to price decline, disease and other reasons. Therefore, the family could sustain a moderate living standard.

Following is an annual cash flow balance of one sample household. It exemplifies actual situation of large-scale and diversified farm household.

Table 7.15 Household Cash Flow: Large-scale and Diversified Farm Household

Household No. 22 (Sakon Nakhon)			
Household members	7 people	Household head & his wife 1 daughter, her husband & child 1 unmarried daughter (student) 1 unmarried son (student)	
Land holding & Land use	Total land size	72 rai	
	(Breakdown)	Paddy	18
		Sugarcane	30
		Pumpkin	22
		Melon	1
Corn & Peanuts	1		
Farm Cash Income	Sugarcane	107,500	
	Pumpkin	35,000	
	Corn	1,000	
	Melon	10,880	
Gross Farm Income: (A)		154,380	
Farm Cash expenditure: (B)		64,980	
Net Farm Income: (C) = (A) - (B)		89,400	
Non-farm Income: (D)	Wage labor	2,000	
Total Income: (C) + (D)		91,400	
Total Non-farm expenditure		85,550	

Source: The Social Survey

7.2.2 Overview of Household Cash Flow

(1) Annual Income

Annual household income of the 32 sample Households, which the social survey could get reliable answers, ranges from 9,750 to 457,020 Baht (Table 7. 16). Only several households can get sufficient income from agricultural activities among them. These households have large farm land and plant various kinds of crop (Household No. 17, 21, 22, and 38), or are engaged in highly profitable shrimp raising (No. 14 and 15) at the irrigated land, or have access to urban market to sell product (spring onion) (No. 33).

Other households heavily depend on non-farm income for their livings. There are 9 households which have no income from farming at all (Household No. 4, 5, 7, 12, 16, 20, 24, 27, and 29). Only 3 are landless households (No. 4, 12 and 20) among them. The source of non-farm income is various kinds of off-farm economic activities such as wage labor work near the village, small business, and remittance from the children working outside. There are described in 7.2.4 in detail.

Dependency on remittance should not be neglected, too. In case of 5 households among the Sample Households, more than 50 % of total income comes from remittance from their family members working outside the village (Household No. 2, 4, 31, 32, and 39). In addition, there are 5 more households that have received remittance from their family members in the past (No. 6, 7, 28, and 32).

Table 7.16 Income Structure of the Sample Households

Village No.	Household No.	Gross farm income (A)	Non-farm income		Gross Household Income (D) = (A) + (B)	Non-farm income ratio (B) / (D) shown by %	Remittance ratio (C) / (D) shown by %
			Total (B)	Remittance (C)			
1	2	24,500	48,000	36,000	72,500	66%	50%
	4	0	10,000	6,000	10,000	100%	60%
2	5	0	145,500	0	145,500	100%	0%
	6	55,200	42,500	42,000	97,700	44%	43%
	7	0	84,750	0	84,750	100%	0%
	8	300	37,300	2,500	37,600	99%	7%
3	9	23,700	0	0	23,700	0%	0%
	10	41,300	61,000	0	102,300	60%	0%
	12	0	15,250	0	15,250	100%	0%
4	14	619,000	30,000	30,000	649,000	5%	5%
	15	421,600	3,600	0	425,200	1%	0%
	16	0	22,430	0	22,430	100%	0%
5	17	174,100	3,000	3,000	177,100	2%	2%
	18	33,500	83,400	14,400	116,900	71%	12%
	20	0	32,160	12,000	32,160	100%	37%
6	21	169,000	21,000	0	190,000	11%	0%
	22	134,380	27,000	0	161,380	17%	0%
	23	7,000	90,000	42,000	97,000	93%	43%
	24	0	19,000	0	19,000	100%	0%
7	25	54,050	32,400	2,000	86,450	37%	2%
	26	27,088	10,000	3,000	37,088	27%	8%
	27	0	11,440	0	11,440	100%	0%
	28	660	3,400	0	4,060	84%	0%
8	29	0	11,440*	0	11,440	100%	0%
	30	47,700	33,000	0	80,700	41%	0%
	31	6,000	36,000	36,000	42,000	86%	86%
	32	4,160	12,600	12,000	16,760	75%	72%
9	33	153,800	47,250	0	201,050	24%	0%
	34	14,000	202,000	0	216,000	94%	0%
	35	18,000	105,500	0	123,500	85%	0%
10	38	89,522	20,500	0	110,022	19%	0%
	39	11,520	40,200	33,000	51,720	78%	64%

Source: The Social Survey

(2) Annual Expenditure and Change of Life Style

Annual household expenditure also varies in accordance with its income scale. Apart from farm expenditure, most households spend largest portion of income on food (Table 7.17). Other major items of non-farm expense are water and electricity, education, medical expense, donation and group activity, and fuel for vehicle and transport.

Infrastructure development and penetration of cash economy have increased the demand of cash for daily life of rural households. In the past, people could find plentiful food in forest that is now almost diminishing. Nowadays however, except for rice, people purchase most of food items at a grocery shop in the village or a market near the village. In any corner of the rural area, there is a grocery shop selling food items such as cooking oil, seasonings, instant noodle, and snack while good road access enables people much easier to go to market selling perishable foods. Widespread water and electricity service has brought about convenient and modern life, but it also required rural households to bear its cost regularly. Education cost is also not negligible. In general, it costs 1,000 – 3,000 Baht annually per child for primary school, 3,000 – 8,000 Baht for secondary school, and 20,000 – 40,000 Baht for collage/university. Although no tuition fee for primary and lower secondary school is required, parents have to give children transportation and food fee to go to school. Since road access is much better than before, better off family tends to send its children to school in town where better education is supposed to be provided.

It is remarkable that there are 4 households whose non-farm expenditure exceeds household income (Household No. 12, 16, 20, and 27). These households are always in debt to balance the household budget. The characteristics of them are landless (No. 12 and 20), or rice farmers with small land (No. 16: 2 rai, No. 27: 3.5 rai). They have to always borrow money from relatives or formal credit institute. In case they have loan from formal credit institute, they temporary borrow money from moneylender or relatives to clear the loan before due date and apply new loan again. It is vicious and endless circle.

Table 7.17 Expenditure Structure of the Sample Households

Village No.	Household No.	Farm income (A)	Farm expenditure (B)	Net farm income (C) = (A) - (B)	Non-farm income (D)	Net household income	Total Non-farm expenditure	Major items of Non-farm expenditure				% out of total Non-farm expenditure			
								Food	Water & electricity	Education	Medical expense	Donation & group activity	fuel for vehicle & transport	Food	Water & electricity
1	2	24,500	7,200	17,300	48,000	65,300	31,404	7,200 (23%)	2,880 (9%)	5,000 (16%)	1,000 (3%)	1,000 (3%)	2,000 (23%)	(0%)	
	4	0	0	0	10,000	10,000	8,710	4,740 (54%)	720 (8%)	(0%)	1,200 (14%)	(0%)	18,000 (15%)	(0%)	
2	5	55,200	2,890	-2,890	145,500	142,610	120,580	18,000 (15%)	10,800 (9%)	3,000 (2%)	500 (0%)	300 (0%)	18,000 (15%)	(0%)	
	6	29,430	2,010	-2,010	84,750	82,740	32,820	19,000 (73%)	1,440 (6%)	2,240 (9%)	500 (2%)	2,700 (10%)	1,800 (5%)		
3	7	300	650	-350	37,300	36,950	24,630	19,200 (78%)	1,200 (5%)	3,060 (12%)	(0%)	1,170 (5%)	(0%)		
	8	23,700	10,470	13,230	0	13,230	13,155	7,200 (55%)	1,440 (11%)	(0%)	250 (2%)	1,000 (8%)	(0%)		
4	9	41,300	14,890	26,410	61,000	87,410	48,315	36,000 (75%)	3,600 (7%)	4,900 (15%)	500 (1%)	1,000 (3%)	(0%)		
	10	619,000	191,980	427,020	30,000	457,020	78,600	5,400 (7%)	34,200 (44%)	1,320 (2%)	500 (1%)	21,260 (27%)	(0%)		
5	11	421,600	245,340	176,260	3,600	179,860	133,926	41,400 (31%)	3,216 (2%)	32,520 (24%)	8,000 (6%)	6,000 (4%)	(0%)		
	12	0	1,250	-1,250	22,430	21,180	22,080	7,200 (33%)	660 (3%)	1,100 (5%)	360 (2%)	2,970 (13%)	2,020 (9%)		
6	13	174,100	78,060	96,040	3,000	99,040	63,550	28,000 (44%)	4,080 (6%)	4,000 (6%)	1,000 (2%)	750 (1%)	25,000 (39%)		
	14	33,500	31,178	2,322	83,400	85,722	61,998	28,800 (46%)	(0%)	680 (1%)	6,500 (10%)	960 (2%)	13,680 (22%)		
7	15	108,000	31,660	76,340	4,000	80,340	22,010	12,000 (55%)	3,000 (14%)	(0%)	500 (2%)	750 (3%)	(0%)		
	16	0	0	0	32,160	32,160	34,910	28,800 (82%)	2,100 (6%)	(0%)	500 (1%)	2,430 (7%)	(0%)		
8	17	169,000	62,160	106,840	21,000	127,840	33,750	14,400 (43%)	960 (3%)	600 (2%)	500 (1%)	5,290 (16%)	10,500 (31%)		
	18	134,380	64,980	69,400	27,000	96,400	85,550	36,000 (42%)	1,200 (1%)	430 (1%)	(0%)	3,750 (4%)	10,450 (12%)		
9	19	7,000	11,090	-4,090	90,000	85,910	65,260	29,000 (44%)	16,800 (26%)	1,500 (2%)	500 (1%)	1,650 (3%)	7,200 (11%)		
	20	0	600	-600	19,000	18,400	14,790	11,800 (80%)	1,080 (7%)	1,760 (12%)	30 (0%)	120 (1%)	(0%)		
10	21	54,050	15,813	38,237	32,400	70,637	34,775	25,200 (72%)	1,335 (4%)	1,100 (3%)	600 (2%)	2,800 (33%)	(0%)		
	22	27,088	3,468	23,620	10,000	33,620	8,520	600 (7%)	960 (11%)	1,330 (16%)	600 (7%)	2,800 (33%)	(0%)		
11	23	47,700	17,275	30,425	11,440	41,865	10,781	3,800 (35%)	480 (4%)	(0%)	1,900 (18%)	2,100 (19%)	(0%)		
	24	6,000	3,051	2,949	36,000	38,949	13,890	6,000 (43%)	1,800 (13%)	(0%)	(0%)	4,090 (29%)	(0%)		
12	25	153,800	25,800	128,000	47,250	175,250	116,758	43,108 (37%)	8,160 (7%)	12,900 (11%)	6,190 (5%)	6,800 (6%)	22,500 (19%)		
	26	14,000	11,350	2,650	202,000	204,650	107,800	44,000 (41%)	10,800 (10%)	20,000 (19%)	7,200 (7%)	1,800 (2%)	22,000 (20%)		
13	27	18,000	9,110	8,890	105,500	114,390	110,495	40,000 (36%)	2,760 (2%)	38,200 (35%)	4,000 (4%)	5,000 (5%)	15,000 (14%)		
	28	89,522	57,767	31,755	20,500	52,255	46,150	26,500 (57%)	1,380 (3%)	10,900 (24%)	(0%)	4,490 (10%)	2,880 (6%)		
	29	11,520	5,190	6,330	40,200	46,530	41,546	35,516 (85%)	1,560 (4%)	(0%)	(0%)	1,590 (4%)	2,880 (7%)		

Source: The Social Survey

(3) Debt Situation and Access to the Loan

Most of the rural households are, more or less, in debt. In case of Sample households, 27 households (68% of total households) are in debt at present (Table 7. 18). Among those who are not in debt now, most of them have experience to borrow money from formal credit institutes in the past, or often borrow small amount of money in emergency case from non-formal sources.

Bank of Agriculture and Agricultural Cooperatives (BAAC) is the most major formal credit source for rural households. For short-term loan in which the period is less than a year and the amount is not more than 50,000 baht, people can use group guarantee. Nowadays, however, group guarantee is no longer preferred because of the uncertainty of repayment by the group members. For medium- and long-term loans of more than 50,000 baht, BAAC requires land as a mortgage. Therefore, people who do not have full land title cannot borrow money. It means that the relatively better off households have access to formal credit institutes while the poor do not. The interest rate differs from 9 to 12 %. It depends on the past repayment record of the borrowers.

The use of loan from BAAC is not limited to agricultural production purposes. For example, it is used for investing in small non-farm businesses, renovating or building house, and buying pickup truck or motorbike.

There are the other formal credit sources such as Agricultural Cooperatives and village fund. The village fund has been established by the initiative of CDD. It aimed at encourage rural people, who have difficult access to formal credit institutes, to save money and manage to meet their own cash demand by their own collective efforts. Due to this purpose, however, the fund can only lend thousands of Baht. In case of Agricultural Cooperatives, they have much less number of branches than BAAC so that accessibility is quite limited.

As small money shortage such as several hundreds or thousands Baht, people borrow from other villagers or relatives. In case of relatives, they lend without interest while neighbors or informal moneylenders in the villages usually impose 5-10% interest per month.

Table 7.18 Debt Situation of the Sample Households

Village No.	Household No.	Outstanding loan	Credit source	Interest	Credit purpose
1	1	50,000	BAAC	N. A.	N. A.
2	6	34,000	BAAC (24,000) Brother (10,000)	10% No	N. A.
	8	8,000	Village Fund (2,000) Relative & friends (6,000)	N. A. 5% (per month)	To buy rice & household items
3	9	100,000	BAAC	13%	House renovation
	10	7,000	BAAC	N. A.	N. A.
	11	2,000	Village Fund	2% (per month)	Household expense
	12	1,000	Village Fund	N. A.	N. A.
4	14	150,000	BAAC	N. A.	To buy pickup truck
	16	20,000	BAAC	N. A.	To establish shrimp farm
5	17	80,000	Agricultural Cooperatives	12%	N. A.
	19	14,000	Agricultural Cooperatives	12%	N. A.
	20	30,000	BAAC	15%	N. A.
6	21	50,000	BAAC	12%	To invest in sugarcane production
	22	46,000	BAAC (40,000) Poverty Alleviation Program (6,000)	N. A.	N. A.
	23	90,000	Unknown	N. A.	N. A.
7	25	20,000	BAAC	12%	To invest in agricultural activities
	26	60,000	BAAC	11%	To invest in fruits tree plantation & to buy power tiller
	28	15,000	Agricultural Cooperatives	N. A.	For judicial costs for the son
8	29	350,000	Commercial Bank (150,000) Housing Bank (300,000)	N. A.	N. A.
	30	20,000	BAAC	N. A.	N. A.
	31	40,000	BAAC	12%	For eldest son's wedding
	32	25,000	BAAC	12%	For rice farming input & household expense
9	35	10,000	BAAC	9%	N. A.
10	37	20,000	BAAC	12%	House construction
	38	40,000	BAAC	12%	To buy power tiller
	39	60,000	BAAC	10%	House renovation
	40	35,000	BAAC	10%	N. A.

Source: The Social Survey

Note: Interest of No. 20 is penalty rate

7.2.3 Potential Risks of Agriculture

(1) Natural Disasters

Since agriculture in NBR greatly depends on natural conditions, especially rain, farmers are always threatened with floods or drought, which have occurred almost periodically in NBR for the last decades. Outbreak of plant diseases and insect infestations are also possible dangers.

Such natural disasters negatively affect the quantity and quality of agricultural production so that on-farm income decreases to a large extent.

(2) Price Risk of Agricultural Products

Prices of agricultural products have always fluctuated. Although it can have either a positive or negative effect on farm household, a sharp decline of products' farm-gate price is a highly possible risk for farmers.

When the above-mentioned incidents happen in reality, their impact on household economy is felt for years. Once the household economy falls into deficit, the family has to compensate for their income to survive. If they borrow money, income of succeeding years should be enough to repay the debt. If it is not enough, they have to borrow again for repayment or find another way to earn money. As Figure 7.2 depicts, it takes a long time to recover from a deficit situation. If such a bad incident happens repeatedly or simultaneously, the situation becomes worse.

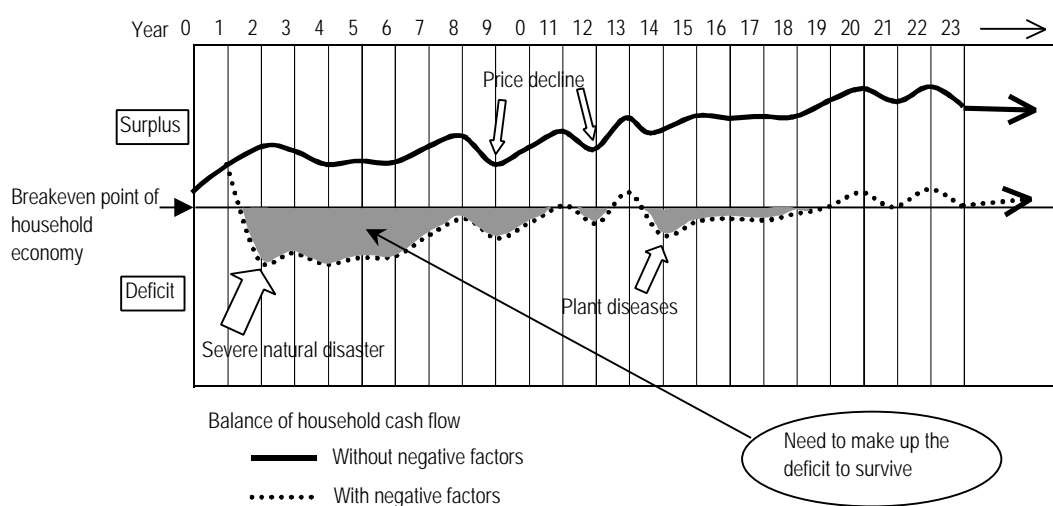


Figure 7.2 Influence of Negative Factors on Household Cash Flow

7.2.4 Off-farm Economic Activities and Labor Migration

Off-farm economic activities are very important for rural households to get cash income. Popular off-farm economic activities for rural people are categorized into five types:

- Wage labor;
- Self-employed worker;
- Domestic labor migration;
- Overseas labor migration; and
- Cottage industries.

People are engaged in one or a combination of these activities according to such conditions as sex, age, and life stage.

(1) Wage Labor

Wage labor is the most easily accessible form of off-farm economic activity. The most popular one is agricultural work around the village, but it is available only during transplanting and harvesting season. These activities take up between 15 and 20 days for each season, or about 30 to 40 days in a year. Daily wage is about 100 baht on average. When working in a village, rice replaces wage in cash. Construction work is also popular, but it is always temporary and job information depends on informal channels. Various kinds of persons are engaged in such type of work because working places are relatively near their homes and it does not require any special skill or education.

(2) Self-employed Worker

There are various kinds of small business rural people are engaged in. Followings are examples found in the Sample Households:

- Small rice mill, which a household can get rice bran so that they also raise pig by using it as feed;
- Private transport service using own pickup truck;
- Selling used timbers gained from demolished old houses;
- Running food vender; and
- Selling vegetables, which are harvested from home garden, at the fresh market nearby.

(3) Labor Migration

Labor migration is a common strategy for the rural households of NBR to increase their income or to save the family from financial crisis. In Sample Villages, significant number of people works outside their province or country (Table 7.19).

Table 7.19 Situation of Labor Migration in the Sample Villages

Province	Nakhon Phanom		Kalasin			Sakon Nakhon			Mukdahan	
Village Number	1	2	3	4	5	6	7	8	9	10
No. of Total household	219	317	93	458	116	296	379	190	419	176
No. of people working in other province	150	140	34	206	80	60	100	60	100	100
No. of people working abroad	16	32	0	33	1	40	37	5	18	1

Source: NRD2C and the Social Survey

1) Domestic Labor migration

Domestic labor migration requires people to leave home and work far away for a certain period of time. This type has three different working arrangements.

Case 1: People go to work only during slack season and come back home for their own farming activities. The employment can be semi-permanent or multi-year basis if the employer agrees to this arrangement.

Case 2: People stay at some place for work and come back home only during the New Year holidays. The employment is usually on a permanent basis.

Case 3: People settle down elsewhere to work for years and do not come back home until the work is terminated.

Working Place and Kinds of Work

In Case 1, working as construction site labor in Bangkok is most popular. Some cases are found in Sample Villages that people go to work as agricultural labor in the Western region (mostly sugarcane harvest) and the Eastern region (cassava harvest) during slack season.

In Case 2 and 3, main destinations are Bangkok, the Eastern Seaboard, and the southern part of Thailand. In Bangkok, main occupations are as factory worker, waitress, housemaid, security guard, construction site worker, and workers in small workshops, such as machine and car repair shops. In the Eastern Seaboard, factory workers are popular, and in the south, rubber plantation workers. In the Sample Villages, there are some cases that younger children move to help their siblings who settle in other province and run small business such as welding shop, printing shop, and large-scale shrimp farming.

In all cases, driver of truck or passenger vehicle is also popular work.

People's Characteristics of Different Working Styles

Case 1 is most common for men who have families and adequate size of farmland. Young males and females tend to work in the second working arrangement (Case 2) when they are single. In case that married couples follow the second arrangement, they have to leave their children with their parents or relatives and just send money for their care. If they have farmland, they have to remit more to hire labor to work on their farm.

In case of working in rubber plantations in the south, young married couples without any land stay and work there for a number of years. After making enough money, they come home to their villages with their children, buy land, build a house and settle down.

2) Overseas Labor Migration

Usually, people get overseas jobs through employment agencies. Working contract is usually 2 years long but some renew their contracts many times and end up working abroad for more than ten years. Main destinations of overseas labor are Singapore, Taiwan, Brunei, Korea, and the Middle East countries. Occupations are factory workers for both sexes, construction site workers for men, and housemaids for women.

(4) Impacts of Labor Migration

Labor migration obviously contributes to the improvement of household economy. According to informants in the villages, domestic migrant workers are able to remit 10,000-20,000 baht to their family annually. In the case of overseas workers, the amount of money can be far more, for instance, 100,000-200,000 baht per year for a construction worker in Saudi-Arabia. Earned money is usually used for paying a debt, constructing or repairing a house, and buying livestock, land and other durable goods as well as for the higher education of children. In addition, their savings are also used as seed money for investing in business after they come back to the village.

Skills and connection obtained from working can be made used of when starting a small business in the village. For example, some women are able to get some sewing work from the factory nearby the village. That factory does some business with the factory in Bangkok where the women had worked before (see the next section). Some started providing welding service in the village by using skills that were learned while working in Bangkok.

Despite such merits, there are considerable negative impacts as follows:

- The community is losing its vitality because of the lack of human resources, especially younger generation, who are needed to work together for village development;
- Family ties become weak because of the separation of family members;
- The youth that have experienced working in the city bring back a lifestyle that is not easily affordable for rural households. There is also the problem of drug use, which is now prevalent among teenagers;
- There have been cases where people infected with HIV/AIDS during their work overseas come home to the village to die;
- Some family members get sick or seriously injured while working abroad and are sent back home. Their families have to spend a lot of money to care for them and oftentimes fall into poverty;
- Job opportunities in other provinces or abroad are not open to everyone, because of the high initial cost involved; and
- Sometimes, employment conditions and salary are very different from the ones which people expected, so they cannot earn sufficient money to remit to their family.

(5) Behavior and Perception of the Youth

The youth tend to go to urban centers to find jobs outside the province because there are few employment opportunities with fair and stable salary near home. They prefer working as an employee rather than as a farmer and are attracted by an urban life style. This type of people tends not to come back to their village once they get employed. Those who attained relatively higher education have this kind of tendency.

However, there is another type of young people who works in urban areas only for limited years, then come back home. From the beginning, they have less intention to settle in urban area but have more interest in getting experience in outside world and acquiring skills to do business on their own in future. Its independent and self-help mind is like a farmer. After coming back to the village, such people tend to start something new as well as succeed to their parents' farming activities.

7.2.5 Cottage Industry

In the rural area, mainly women undertake cottage industries. Information on the following cases is obtained through individual interviews at several villages and during the Social Survey. These cases exemplify the problems facing the cottage industry in NBR.

(1) Case 1 (Sakon Nakhon) : Better than nothing

One women's group, which was started in 1992, is engaged in hand cotton weaving. They grow cotton and spin thread; they also buy threads from Loei Province. They use mainly chemical dye, but they are now trying natural dye extracted from plants. According to them, by working as a group, they are able to share ideas of pattern and design that each member has learned from their mothers and can effectively divide the production process among members. In that way, their respective skills are used optimally and exclusively for the different stages of work, such as spinning, weaving or dyeing. The group has received government support by way of a weaving skill training given by the Department of Labor Skill Development, and accounting and management skill training by the Community Development Department (CDD). The group currently plans to apply for a Poverty Alleviation Project by CDD as well.

So far, the group's finished products are only textiles. They are also trying to make shirts and skirts using their textiles but the design is not sophisticated and stitching is poor. Visitors come to buy the group's products, but the origin of the buyers is not known in detail. They guessed that the buyers heard about them from somebody. Usually, the products made by such groups supported by CDD are displayed for market promotion at the CDD's district offices. People interested in such handmade products

visit the CDD office so that they can see actual products and get information about the group.

The main problem of this group is low profitability of their products. Profit is equally divided among the members; net benefit is only 5 baht per meter. Last year, one member received approximately 5,000 baht. Some members said that they have nothing to do during dry season, so even a small profit is better than no income at all. The other problem is quality of dyeing. It is difficult to get the right color from natural dye, which is very sensitive to the slightest difference of technique and natural environment.

Young women show little interest in such activities. They prefer regular-salary jobs. Weaving has been a type of traditional work that rural women could do during their spare time after farming and household work. Young women do not want to be always busy doing small work for a small and uncertain profit.

(2) Case 2 (Sakon Nakhon) : Expensive products limit market

The village is famous for its silk weaving. Many skillful weavers have received awards for their excellent products. Even though some weavers could get 2,000-2,500 baht per month, they believe that the profit is not enough to compensate for the time and cost they had to spend. They also pointed out the limitation of market. The main customers are only government officials and those who want and can afford to wear silk to a formal occasion.

(3) Case 3 (Mukdahan) : Bangkok connection

This is a case where women started a business by using skills and connection that they had obtained during their work in Bangkok. The young women in the village went to work for the same sewing factory (Factory A) in Bangkok. After the economic crisis in 1997, some of them came back to the village and formed a group to get subcontract work from a nearby sewing factory (Factory B). The owners of Factory A and B are friends. In short, the group was able to get subcontracted work from Factory B. The members bought secondhand sewing machines using their savings. The order from the factory is not on regular basis. At the time when the interview survey was conducted, the group had an order for 400 dozen sports shirts. No due date was set. The factory will pay 15 baht per dozen upon completion of the order.

According to the group leader, problems of the group are as follows: 1) the order does not come regularly even though they are capable to do more work, 2) they have to bear cost for sewing machine maintenance and sewing threads so they cannot reinvest to buy additional sewing machines for women who might want to join the group, and 3) they cannot negotiate for increasing payment because they receive an order in favor of the factory.

(4) Case 4 (Nakhon Phanom) : Poverty Alleviation Project

CDD has been implementing the Poverty Alleviation Project since 1993. The purpose of the project is to increase the income of poor households. CDD disburses fund to a village and the Village Committee is responsible for managing the fund to lend to poor households who want to invest in their economic activities. This loan does not impose interest and repayment period is five years. Those able to repay their loans can apply for another loan. Type of business varies from agricultural to service activities, such as raising duck, making sweets, running grocery shops, and selling ice cream. Many people started to earn income from 350 baht to 3,000 baht per month.

In the case of a woman making Vietnamese-style bamboo hats, she borrowed 7,000 baht in 1995 to start the business. She learned the trade from her mother and sisters, who used to make hats for a long time. She can earn 5 baht per hat after deducting the cost of raw materials. She alone makes about 1,000 hats annually, and earned 20,000 baht the last 5 years. She used the money to pay for her children's education, to renovate her house, and to buy some furniture. She also invested to expand her production capacity. In order to shape a hat, a flame is required. If there were many flames, many hats could be produced at the same time. She therefore reinvested a part of her profit to buy a number of flames when others spent their profit for consumption goods.

She has already repaid the initial amount (7,000 baht) borrowed in March 2000. Now she plans to be an in-village middleman—buying hats made by those who want to get income as soon as possible and then selling them to outside middlemen who come to the village regularly. She thinks that she could get a profit margin of 0.5 to 1 baht per hat.

From the above cases, it can be said that development of cottage industry is constrained by the following factors:

- Poor production design and quality control;
- Lack of positive marketing research;
- Lack of stable market channel; and
- Insufficient investment capital.

7.2.6 Social Relationship and Tradition

(1) Traditional Mutual Help

Villagers help each other in various ways, although the elder said that people nowadays think only of themselves and how to earn money unlike the old days. The poor can borrow money or rice for consumption from relatives and neighbors. Grandparents take care of their grandchildren while the parents work far away from the village. When

people working outside come to know of available jobs or are asked to find a worker, he/she recommends people in the same village or his/her own relatives.

Such a manner has been derived from the ties of kinship that has perpetuated rural community. Even though hired labor has replaced labor exchange, people ask for available labor from the relatives first. Idle land is usually rent out to the poorer relatives so that they can obtain rice for consumption after giving some portion of products as a rent fee. If some problems occur among the villagers, their kinship ties ease the conflict.

(2) Buddhist Temple

Except Village 3, each Sample Village has a Buddhist temple. In case of Village 3, poor economic situation prevents villagers from building a temple. Most of villages organize gathering every month at temple. This is an opportunity for villagers to talk together and collect money for maintenance of the temple. Religious ceremonies are also organized by villagers' cooperative efforts at least three times (July, October and November) a year. In addition, villagers give offerings to the monk every day and poor families often rely on daily food from temple.

Likewise, temple events are still routines in rural society and a temple is a kind of symbol of mutual help and cooperation among people. Even those, who left villages and are successful in business outside, regularly donate to the temple. It shows the strong tie between village and temple.

(3) Succession of the Family Property

As mentioned already, in the Northeast region, parents divide their property among all children. In case of *Thai-Lao*, for example, its matri-lineal system makes younger daughter, who is supposed to take care of the parents, inherit parents house and larger land than the other siblings. Male sometimes inherits only non-real estate such as livestock and money since he moves to his wife's family. However, main property which children succeed is land. At household interview in the RRA, most of interviewees, who are household head or his/her spouse, said that they intend to divide their land among all their children. It means that land would be further divided into small pieces whose size is far less than enough to feed one family. Such phenomena are already found in some Sample Villages. Some child is engaged in off-farm job and just keeps such small land idle while some sold his/her portion to other siblings. In future, such cases will increase more.

7.2.7 Group Activities for the Village Development

Many kinds of people's groups have been organized in villages with the support of the government. Those groups, such as rice bank and savings group, have aimed at achieving particular purposes. Some groups failed and have already disappeared while the others are still successfully functioning. The following information collected from interviews with Community Development Officers and key informants in villages gives some insights on why some groups have succeeded and others have failed. To summarize, there are many different groups, but reasons of success and failure are almost the same.

- A savings group failed because of ill management. The committee gave out loans even to non-group members. Because it amounted to more than half of the total deposits and borrowers did not return the money, the group ceased functioning.
- A successful savings group has lasted more than 15 years. Factors of success are: 1) strong leadership and devotion of committee members who have worked for the group from the beginning, and 2) continuous support and guidance by a Community Development worker who has been responsible for that village and has now settled in the village after retirement.
- A successful group managing a village demonstration shop has an outside consultant. He is "Khon-Isan" (in Thai, it means the person born in and brought up in the northeastern region) usually working in Bangkok but serving voluntarily, advising villagers how to manage the group. His activities derive from his willingness to contribute to improvement of rural people's life.
- In cases of unsuccessful groups, villagers did not trust the group leaders who had initiated the activities and therefore did not participate in them.
- Nowadays, people are not interested in activities that do not directly benefit them.
- The poor cannot participate in group activities because they are busy making a living. As a result, better-off persons control the activities.
- There is a loan service for fertilizer run by the women's group and farmers' group supported by CDD. The groups provide fertilizer to their members, who pay them with interest after the harvest season. The villagers appreciate this service which relatively works well compared with the activities of other groups in the village.

7.3 Past Development Policy and Program

Rural development was firstly stressed in the Third National Plan (1972 – 1976). Before the 3rd 5-year plan, economic growth was the ultimate objective of the plan, so that the plans/projects concentrated on infrastructure development in order to improve agricultural productivity and to promote private investment.

7.3.1 The Third Plan Period (1972-1976)

Rural poverty was first addressed in the Second Plan (1967-1971). Then, in the Third Plan (1972-1976), the Thai Government conceived a program concerning rural employment, the “Ngern Pun” (Tambon Project), in 1975. With a large budget allocation from the government, this was the starting point to rural development.

The main objectives of the Tambon Project were:

- to provide jobs for rural poor during the agricultural off-season so that they do not need to migrate to Bangkok and other cities where there are a number of employment opportunities;
- to enable the farmers to earn cash to invest for the next agricultural season; and
- to encourage people’s participation in development projects to meet their own needs.

The scope of work of the project included construction of irrigation canal, rural roads, bridges and rural electrification, and school maintenance. In 1976, Tambon Development Program was launched as the successor of “Ngern Pun.” The project, however, was plagued with problems of improper operational system and inadequate implementation period (just three months in rainy season); some work could not be completed on time, resulting to their cancellation. These two projects of the Third Plan seemed rather a political showcase of the government in order to satisfy the people’s clamor for a more democratic society²

Family planning, whose success has been contributing to the alleviation of rural poverty, was initiated in this period.

7.3.2 The Fourth Plan (1977-1981)

During the Fourth Plan, income disparities between the rural and urban areas, as well as among the regions, was largely recognized in relation to the influence of the “Thai Communist Party.” The new Village Development Program, implemented between 1979 and 1981 in North, South and Northeast regions, aimed at political security of the nation against the threat of communism. In 1980, the Rural Job Creation Project (RJCP) was launched in the same context as the Tambon Development Program and continued up until 1989 (see details in “the Fifth Plan”). These programs contributed in improving infrastructure and facilities in villages, not only in the NBR but also in the northeastern region.

² Hongladarom Chira, “Chapter 9,” *The Poor in Asia: Productivity-raising Programs and Strategies* (APO, 1985).

7.3.3 The Fifth Plan (1982 -1986)

The Fifth Plan was the first plan in which the government set a clear policy of rural development, stressing on the development of backward rural areas and the establishment of “top-down” and “bottom-up” approach for rural development. The National Rural Development Committee (NRDC) was established to be fully responsible for rural development at the national level. Likewise, Provincial Development Committee (PDC) and District Development Committee (DDC) were organized. At the local level, Tambon Councils and Village Development Committees were established. The roles of these local bodies were to identify problems and needs of communities and to encourage public participation in planning and implementation of development activities. PDC and DDC provided necessary support and supervision to these local bodies aside from being responsible for consolidating the needs of each Tambon and submitting project proposals to the central level. In addition, NESDB developed two information systems, namely, NRD2C and Basic Minimum Needs indicators, to measure the situation of village development and living standard of households.

Based on these systems, the Poverty-stricken Area Development Plan (or Poverty Area Program) was implemented throughout the country, covering 12,562 villages in 38 provinces. Under this plan, Ministry of Interior, Ministry of Agriculture and Cooperatives, Ministry of Education, and the Ministry of Public Health executed projects. The projects were divided into three categories, namely:

Basic Needs Program:

- Establishment of district hospitals and Tambon health centers
- Training of village health volunteers
- Provision of water supply facilities
- Nutritional programs for children
- Provision of educational materials
- Legal training for village committees

Production Program:

- Soil improvement project
- Saline soil improvement (in the Northeastern region)
- Agricultural seed research
- Village extension worker training
- Food production for nutrition
- Village activity program
- Village rice and buffalo bank project

- Village fisheries development
- Water resource development (small dam, canal, and reservoir)
- Occupational training for handicraft industries

Despite the success of the integrated approach of the program, some problems were identified, such as 1) lack of public participation in project identification and policy-making process, 2) high percentage of projects integrated into non-poverty area, 3) lack of coordination among relevant government agencies, and 4) lack of qualified personnel³.

Besides, Rural Job Creation Project, as mentioned above, was implemented between 1980 and 1989. The evaluation of this project was found in many research papers and a summary is provided as follows: Being labor-intensive, the project contributed to employment of a large number of rural people in the earlier years. In the latter years, however, its budget was spent more for purchase of modern machinery to maintain the quality of construction, thus, the number of people employed by the project decreased.

There was the inequality across the region. For example, people in the Southern and Central regions, who were much better off, gained more income than those in the poorer Northeastern and Northern regions⁴. Employment opportunities were not exclusively available for the poorest of poor. Non-poor tended to be hired and to receive better pay. The project contributed to reduce seasonal labor migration in earlier years. Once people knew that the duration of one project was always short (rarely more than a month), however, such positive impact decreased.

Evaluation of infrastructure improvement by the project is controversial. There are those who said that it eventually helped the usual economic activities of rural people, while others thought that the project did not do a good job of providing quality and long-lasting infrastructure. There was poor planning and the construction period was short, i.e. work was done only in dry season but had to be finished in one fiscal year.

7.3.4 The Sixth Plan (1987 – 1991)

The policy and strategy of the Sixth Plan followed those of the Fifth Plan. The Poverty-stricken Area Development Plan expanded to the poor villages that had not been covered in the Fifth Plan. There were some innovations such as the Village Medical Fund and the Village Development Fund. In addition, the villages categorized as middle-level villages in terms of development were also included to the plan under a different strategy emphasizing production, investment, income and employment in

³ Soparth Pongquan, *Participatory Development Activities at Local Level: Case Studies in Villages of Central Thailand*, "Ph.D. dissertation" (1992).

⁴ Somchai Jitsuchon, *Alleviation of Rural Poverty in Thailand* (TDRI, Bangkok, 1989).

order to strengthen their self-reliance⁵. For progressive villages, private sector investment was encouraged.

7.3.5 The Seventh Plan (1992 – 1996)

The targets of rural development in the Seventh Plan were:

- To develop the quality of life of every household to reach the standard of BMN;
- To increase income and employment opportunities especially for landless and low-income households; and
- To conserve natural resources and environment with the participation of local organizations.

The government established the National Rural Development and Decentralization Committee (NRDDC) to strengthen the rural development institutions by decentralizing the decision-making process. Each province was encouraged to design their own provincial rural development projects as well as to prepare an investment plan which enabled private investors to identify the investment potentials of each province.

In order to promote rural industrialization, privileges and incentives were offered to enterprises which are to locate outside Bangkok Metropolis and its vicinity, especially in Zone 3. These incentives were effective to a certain extent for such areas near the Eastern Seaboard, but not enough to attract enterprises to locate their production bases in further distant areas.

Moreover, rural credit was provided through formal financial institutions including the Krung Thai Bank, the Industrial Finance Corporation of Thailand (IFCT), the Government Saving Bank and the Government Housing Bank.

7.4 Current Development Policy

7.4.1 The Eight Plan (1997-2001)

In the current Plan, empowerment and capacity building of local people and government are more emphasized in order to boost rural development potential and to achieve fairer distribution of development benefits.

The targets of the Plan are:

- To narrow the gap in income between the richest and poorest households;
- To reduce the number of people living in poverty;
- To redistribute and expand provision of economic and social services to support

⁵ M. G. Quibria (ed.), *Rural Poverty in Developing Asia* (Asian Development Bank, 1996).

capacity building and occupational development of people;

- To expand the area of farmland under sustainable agriculture;
- To create employment opportunities for the rural poor; and
- To encourage communities to play a greater role in the conservation and rehabilitation of local natural resources and environments.

The key strategies to meet these targets, as the Plan states, are people and community participation, enhancement of employment opportunities, and restructuring of local government administration.

7.4.2 Development Projects/Programs in NBR

Many government organizations and agencies are responsible for rural development: Ministry of Agriculture and Cooperatives, Ministry of Interior, Ministry of Education, Ministry of Public Health, and Ministry of Industry. This section briefly reviews the main projects/programs implemented by the Community Development Department (CDD) of Ministry of Interior. They focus more on community-based, local people oriented activities.

(1) Poverty Alleviation Project

This project, which CDD is currently putting a lot of emphasis into among their activities, aims at increasing the income of poor rural households by providing the poor households with fund for starting income earning activities or for strengthening their existing economic activities. At the first year of Phase I (1993-1997) of the project, 11,608 villages all over Thailand each received 280,000 baht. The project is now on Phase II (1998-2001) and is regarded as being successful so far.

The achievement of Phase I is summarized as follows by the CDD office in each province.

Table 7.20 Achievement of Poverty Alleviation Project (Phase I: 1993-97)

Nakhon Phanom	No. of villages that joined the project		120		No. of households that borrowed money		7,733
	No. of households	%	Amount of money borrowed (Baht: X)	%	Income earned (Baht: Y)	Y/ X (%)	
Agriculture	5,328	69	33,595,537	61	8,101,601	24	
Retailing	1,296	17	11,705,667	21	5,250,482	45	
Home industry	534	7	3,564,800	6	2,076,402	58	
Craftsman	393	5	4,110,480	7	1,580,793	38	
Others	182	2	2,202,800	4	820,260	37	
Total	7,733	100	55,179,284	100	17,829,538	32	

Sakon Nakhon		No. of villages that joined the project	230	No. of households that borrowed money		13,958
Type of occupation	No. of households	%	Amount of money borrowed (Baht: X)	%	Income earned (Baht: Y)	Y/ X (%)
Agriculture	11,233	80	92,423,153	82	58,659,731	63
Retailing	1,384	10	10,123,153	9	54,261,069	536
Home industry	565	4	3,719,600	3	4,245,168	114
Craftsman	553	4	4,611,400	4	115,784	3
Others	223	2	2,259,300	2	235,740	10
Total	13,985	100	113,136,606	100	123,778,462	109

Mukdahan		No. of villages that joined the project	103	No. of households that borrowed money		5,414
Type of occupation	No. of households	%	Amount of money borrowed (Baht: X)	%	Income earned (Baht: Y)	Y/ X (%)
Agriculture	4,389	81	21,075,109	73	4,853,626	23
Retailing	615	11	4,172,182	14	1,340,084	32
Home industry	173	4	1,476,432	5	658,343	45
Craftsman	200	3	1,748,570	6	657,891	38
Others	37	1	367,700	1	145,008	39
Total	5,414	100	28,840,000	100	7,657,952	27

Kalasin		No. of villages that joined the project	124	No. of households that borrowed money		6,308
Type of occupation	No. of households	%	Amount of money borrowed (Baht: X)	%	Income earned (Baht: Y)	Y/ X (%)
Agriculture	4,862	77	27,776,000	80	2,810,300	10
Retailing	409	6	2,202,000	6	440,580	20
Home industry	279	4	1,505,700	4	161,200	10
Craftsman	410	6	2,101,170	6	576,420	27
Others	348	6	1,134,230	3	190,025	16
Total	6,308	100	34,719,100	100	4,178,525	12

The fund is managed by Village Committees. Households have to pay back money within 5 years. The money returned is used as a revolving fund, so households can borrow again if necessary after the first rotation. No interest is imposed.

The amount of money borrowed per household ranges from about 4,000 to 15,000 baht. Some successful households could increase their income to 10,000 – 30,000 baht annually. Types of business are diverse: chicken raising, fish cultivation, grocery store, noodle vendor, bicycle repair shop, weaving and other types of handicraft business.

(2) Other Projects

As mentioned in 15.3, CDD has been supporting many group activities in villages. “Group activity” is centered in CDD projects. The role of CDD is like a facilitator to encourage villagers to take act together to improve their life. “Self-reliance” is also a key term.

1) Support for economic activities

Main forms of support are provision of initial fund, necessary facility and equipment, skill training, training of group management, and continual advice. The final goal of this kind of project is to make villagers economically self-reliant. The activities already have a long history of implementation. Following are some of examples in NBR:

- Women's weaving group;
- Village rice mill cooperative;
- Livestock raising by youth group;
- Community store operation;
- Village saving group; and
- Fertilizer purchasing group.

2) Support for a specific target group

Child development center is one good example of this kind of activity. The center is like a kindergarten for children under school age run by villagers. It chiefly aims at sound development of children. It is also intended to help mothers and ease the burden on elder brothers/sisters who are supposed to take care of them. Villagers form a child development committee to manage the center and teachers are also selected among villagers. CDD assists in training of teachers and committee, and providing the center's facilities, food for children, and wages of teachers.

Another example is drug prevention program. It is a program to prevent the youth from falling into drug addiction. CDD initiates recreational events and gives occupational training to the youth aside from giving information about the harmful effects of drugs.

(3) Problems and Constraints

CDD staff, or Community Development Workers (CDW) are skillful for identifying needs of villagers, and encouraging them to organize and manage activities by themselves. However, it sometimes happens that they could not provide specific knowledge and skill to villagers. One such instance is when villagers need advice on product marketing. Since CDWs are not a specialist of business, handicraft, or marketing, any advice from them would be quite limited.

7.5 Planning Issues of the Study Area

7.5.1 Needs of Villagers

In the Social Survey, the survey team conducted group discussion in each sample village. During the discussion, which was open to all the villagers, the team asked them what they think are needed for the development of their village. The result of this discussion is summarized as follows (Table 7.21):

Table 7.21 Summary of Village Needs

Needs	No. of villages
1. More income earning opportunities	8
2. Improvement of farm management and agricultural technology	5
3. More investment capital	5
4. Stable and adequate price of agricultural products	5
5. Better road	5
6. Better market network for the products	4
7. Installation of public telephone in village	2
8. Promotion of village-based industry	2
9. Improvement of access to water for agriculture	2
10. Solving the problem of drugs	2

Most of the villagers' needs relate to their economic activities. It implies that rural people hope to increase their income by improving their agricultural activities and expanding off-farm income generating opportunities. In order to do so, people think that they need to have appropriate technology and good management for farming, investment capital, and good market network.

7.5.2 Issues of the Rural Household Economy

Based on the analysis in 7.2, issues of the rural household economy in NBR are summed up as follows:

- Mono-cropping of either paddy or traditional field crop such as cassava and sugarcane) is not sustainable for rural households to make a living because of low productivity, high input cost, and small land size.
- Dependence on single crop is vulnerable to change of natural condition and price fluctuation.
- To maintain paddy cultivation is greatly important for rural households from the viewpoint of food security.
- Households in rain-fed areas require a larger size of farmland and crop diversification in order to earn a decent living solely by agriculture.
- The inheritance practice in NBR over generations has resulted into the division of land into small parcels.
- More than 50% of household income depends on non-agricultural sources. Agriculture alone cannot sustain the family life.
- Because of decrease of food self-sufficiency and introduction of modern life style, cash demand has greatly increased. Rural household regularly needs to spend for food, water & electricity charge, children's education and fuel for vehicle and transportation fee.
- Most of rural households are in debt. They utilize different sources of loan wisely and flexibly in accordance with their various needs. However, the outstanding loan

continuously strains household economic situation.

- Labor migration inside/outside the country is a major strategy to improve living standards of families and farming activities.
- Children in rural households tend to leave their homes to find jobs in urban areas outside the province in order to support their family.
- Currently, the youth prefer working as employees to farming because the former can get regular and stable income.

7.6 Development Strategies

In consideration of all issued involved, following strategies should be taken to realize rural development in NBR.

7.6.1 Improvement of Farming System

Improvement of farming system is necessary to increase farm income. In this regard, following schemes should be taken into consideration:

- 1) Crop diversification or mixed-farming is strongly recommended because of two main reasons:
 - It will strengthen household food security, or reduce household expense for food.
 - It will reduce risks brought about by dependence on a single source of income.
- 2) In order to restructure household farming system, a long-term soft loan is necessary. The loan condition should be customized to respond to different household profiles such as:
 - Land size
 - Crop type
 - Purpose of restructuring
 - Income source other than agriculture

In addition, the repayment schedule should be flexible when the household faces financial difficulties due to unexpected circumstances.

- 3) Further division of land should be avoided to maintain sustainable agriculture at the household level.
- 4) Land integration scheme will make possible for rural households to materialize large-scale diversified agriculture in rain-fed area.

7.6.2 Promotion of Cottage Industries

Cottage industry is one of the important income sources for rural households because family members, especially women, can use their spare time to engage in this type of activity and still perform their own farming and household chores. Sound development of cottage industry will mostly benefit those who are engaged in farming at present because they would no longer have to leave home, especially the children, to find work in far away places.

In order to promote cottage industry, the following constraints should be addressed:

- Poor production design and quality control;
- Lack of positive marketing research;
- Lack of stable market channel; and
- Insufficient investment capital.

In addition, development of new products using local resources and appropriate technology is required.

7.6.3 Enhancement of Off-farm Employment Opportunities

Labor migration is also a principal measure for rural people to increase their income. However, it has risks for individuals and negative impacts on rural community as discussed.

Enhancement of off-farm employment opportunities near villages will benefit not only existing labor force but also future labor force. As already mentioned, traditional inheritance practice in NBR has gradually reduced land size per household. It means that there will come a time when some children will not have land to farm and therefore have to find jobs in the non-agricultural sector. Therefore, enhancement of off-farm employment opportunities will greatly help to reduce outflow of young and promising human resources to outside NBR and to maintain a vital rural community.

Off-farm income supports not only family living but also supplements investment cost on farming activities especially during the period that the household is restructuring their farming system. Therefore, the scheme to induce the development of non-agricultural sector will support the development of agriculture as well as household economy.

7.6.4 Networking of Resource Persons

Currently, problems and needs of villages are more diverse and specific. It will become more difficult for government officials to deal with such problems and needs by

themselves alone. Both for government officials and for local people, what is more important is how large their pool or network of people with specific knowledge and skills. Such resource persons could be in either public sector or private sector, or some experienced local persons nearby.

In the near future, the main role of government officials would therefore be like a mediator or matchmaker to connect such a resource person with rural people who need appropriate help and advice.

7.7 Development Project and Program

Rural development can be fully achieved only by integrated efforts of all relevant sectors such as agriculture, industry, education, transportation, and others. Since the project for farming system improvement is discussed in the section of Land Use and Agricultural Development, this section proposes **Local Products Promotion Program** to materialize the other strategies mentioned above.

7.7.1 Local Products Promotion Program

This is an integrated program consisting of several projects. Its primary objective is to enhance off-farm income generating opportunities. To achieve it, the program consists of several projects to develop effective use of local resources and knowledge in combination with information and market network.

The projects are as follows.

- Products Development and Exhibition Center Project
- Artisan Certificate Project
- Women's Production Group Strengthening Project
- One village One Product Promotion Project
- CDW Service Improvement Project
- Tourist/visitor Center (Highway service station) Project
- Compatriot Office (in Bangkok) Project
- E-commerce Promotion Project

(1) Products Development and Exhibition Center Project

1) Project Concept

The major objective of the project is to research and develop potential local materials and products. This is a center where local people, experts of local education institutes, and local entrepreneurs jointly develop innovative and value-added products and share these outcomes. Exhibition place should be also included in the center. That place

can be used for various events such as “NBR Textile Collections”, “NBR Handicraft Competition”, and “New Products Exhibition”. These events will expose their products to many people including potential buyers and consumers so that it will encourage local people to improve their products to meet market demand.

2) Project Components

- Provision of center facility
- Research and development of local materials and products
- Development of new products
- Development of local production technology
- Plan and implementation of the events
- Information service

(2) Artisan Certificate Program

1) Project Concept

Overall objectives of this project are to raise the quality of handicraft and to motivate producers to improve craftsmanship of products.

In Thailand, there are many kinds of handicraft but some of them are very similar to each other. The quality of products is also not much different with the exception of a few excellent items. There are copies of better-looking products but they poorly made in terms of material used and skill. As a result, products of low quality and price are spread over the market and, in the end, it is the producers themselves who turn out to be the losers.

The program attempts to give prestige and appreciation to the most skillful craftsmen and protect their original idea and technique from being copied. It will be a challenge for other craftsmen and give them incentives to try to improve their production quality.

2) Project Components

- Fact finding survey
- Setting evaluation criteria and system
- Selection of craftsmen
- Promotion
- Incentive provision

(3) Women's Production Group Strengthening Project

1) Project Concept

The project objective is to improve income generation activities of women's groups so that household cash income increases.

Income generation activities of women's groups mainly concentrate on handicraft and agro-processing by using local resources and skills, which they already have. However, the following problems prevent the group from gaining sufficient profit:

- Poor production design and quality control;
- Lack of positive marketing research;
- Lack of stable market channel; and
- Insufficient investment capital.

The project aims at solving these problems. The project requires the cooperative efforts of relevant agencies such as CDD, Ministry of Industry, Ministry of Commerce, and the private sector.

2) Project Components

- Training (designing, quality control, business management)
- Study tour
- Establishment of support system (loan, consulting)

(4) One Village One Product Promotion Project

1) Project Concept

The objective of the project is to encourage advocacy of "One Village One Product" movement. "One Village One Product" movement, originated from Oita Prefecture in Japan, is already well known among the Southeast Asian countries and some of them try to use this idea to boost rural development. However, as some villages and towns in Japan which followed the same idea could not succeed in creating "One Product", only imitating the idea will result to failure. The project, therefore, will give opportunities to local people to know the principles of the movement and encourage them to find their own "One Product".

2) Project Components

- Seminar
- Study tour and training
- Consulting service

(5) CDW Service Improvement Project

1) Project Concept

The objective of the project is to strengthen resourcefulness of Community Development Workers (CDWs).

Currently, problems and needs of villages are more diverse and specific. Although CDWs are skillful for identifying needs of villagers, and encouraging them to organize and manage activities by themselves, it becomes more difficult for them to provide specific knowledge and skill to villagers when they face difficulty.

Therefore, it is necessary to establish a network and database system of resource persons who are specialized in particular knowledge and skills with rich experience. There are such persons in public and private sectors, or even at village level.

CDWs and Community Development Department can play a key role to establish this system. The system should be designed in such a way that local people can access the system by themselves in the future.

In the near future, the main role of government officials will be like a mediator or matchmaker to connect such a resource person with rural people who need appropriate help and advice.

2) Project Components

- Demand survey
- Data system establishment
- Registration of resource persons
- Establishment of match-making service system

(6) Tourist/visitor Center (Highway service station) Project

1) Project Concept

The project aims at providing a spot for travelers to be able to look and buy local products while they are resting. Currently, there are many tiny individual spots selling handicraft and agricultural products along the roadside. Most of them are just a simple stall or a part of individual house front. The service station will be a public spot run by nearby villagers to serve local food or snack, sell their products, present local culture and history. It is an outreach of villages to where few people now pay attention. In addition, such activities will foster the ownership and self-esteem of villagers.

2) Project Components

- Preparation of facility

- Technical support and consultation for operation

(7) Compatriot Office (in Bangkok) Project

1) Project Concept

The project aims at providing people in NBR with a station in Bangkok to learn national and global market situation and to know their relative position in these markets. Obtained information will be sent to production places in NBR to develop and improve their local products. This office is also a place to advertise NBR products and promote tourism. Products Development and Exhibition Center should have close cooperation with this office.

2) Project Components

- Provision of compatriot office in Bangkok
- Advertisement of I-san brand goods and products
- Setting up of sales research center for I-san products
- Sales promotion activities with exhibition room
- Provision of room for meetings and information exchange among I-san

(8) E-commerce Promotion Project

1) Project Concept

This project attempts to evolve new market through Internet in future. The direct interface between producers and consumers will enhance possibility of new business opportunities. In addition, it will help to reduce marketing cost when middlemen go between.

2) Project Components

- Preparatory research
- System development
- Facility installation