

สำมะโนการเกษตร พ.ศ. 2546

ภาคเหนือ

2003 AGRICULTURAL CENSUS

NORTHERN REGION



สำนักงานสถิติแห่งชาติ

NATIONAL STATISTICAL OFFICE

กระทรวงเทคโนโลยีสารสนเทศและการสื่อสาร

MINISTRY OF INFORMATION AND COMMUNICATION TECHNOLOGY

PREFACE

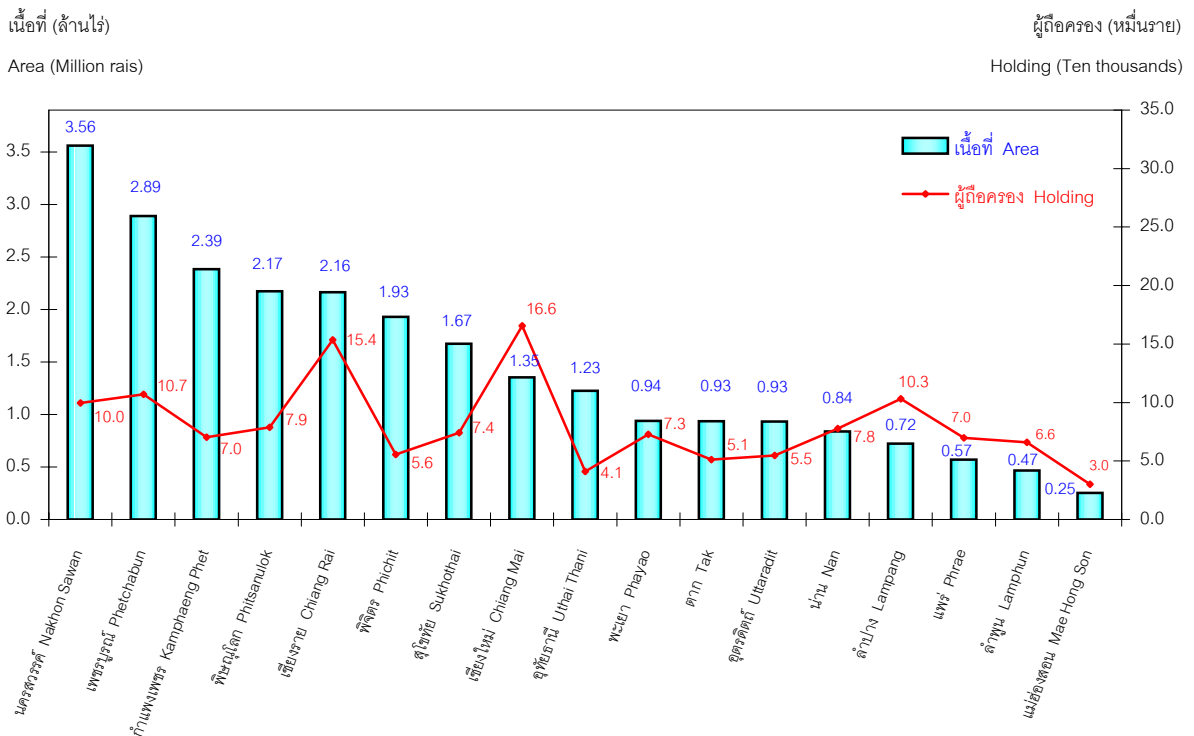
The National Statistical Office conducted the Fifth Agricultural Census in 2003 in order to collect the data on agricultural structure. The results obtained from the census are essential for both national and local policy-making, monitoring and evaluation of the agricultural development projects.

Preliminary report and advanced report of the 2003 Agricultural Census have been released. This report is one in the series of the final report in which the data by provinces, regions and the whole kingdom are presented.

National Statistical Office
Ministry of Information and Communication Technology

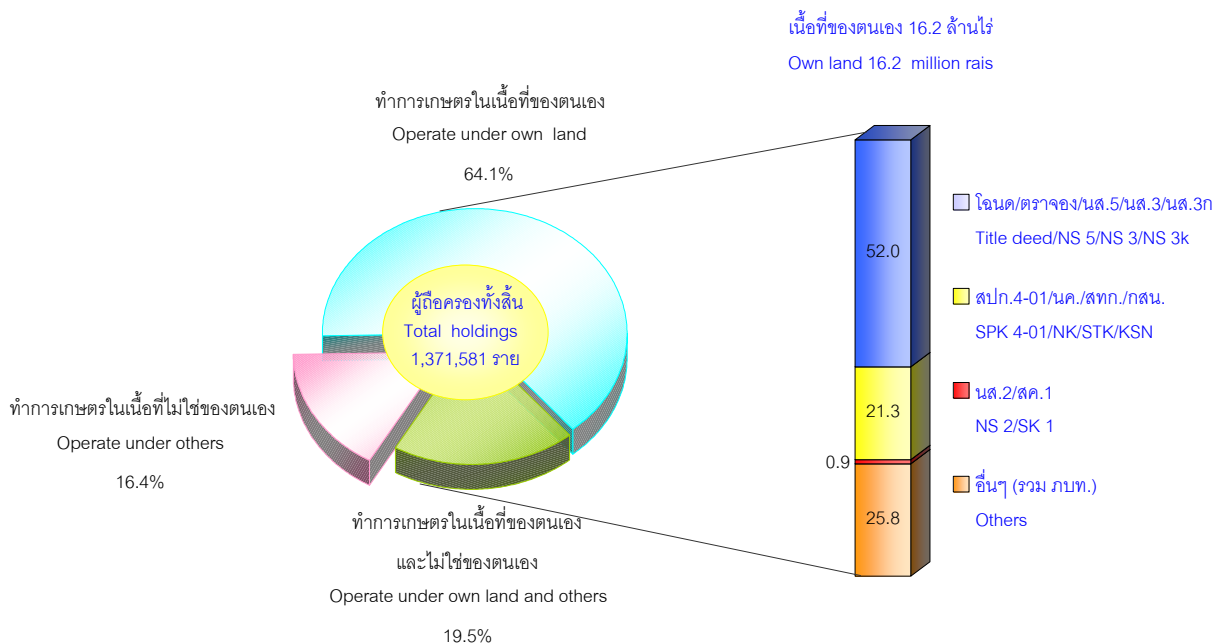
แผนภูมิ 1 จำนวนผู้ถือครอง และเนื้อที่ถือครองทำการเกษตร รายจังหวัด

Figure 1 Number and area of holdings by province



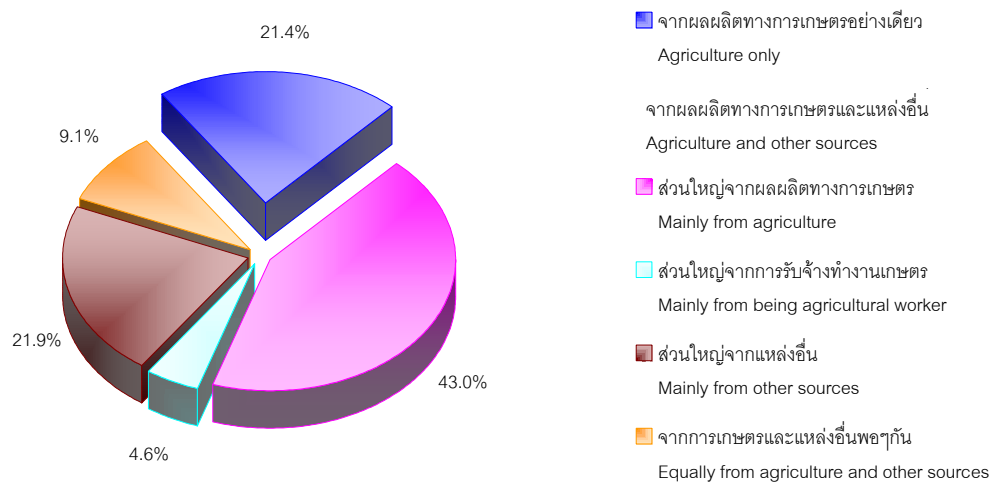
แผนภูมิ 2 จำนวนผู้ถือครองทำการเกษตร จำแนกตามลักษณะการถือครองที่ดิน และเนื้อที่ถือครองของตนเอง จำแนกตามเอกสารสิทธิ์

Figure 2 Number of holdings by land tenure and area owned by documentary of right



แผนภูมิ 3 จำนวนผู้ถือครองทำการเกษตร จำแนกตามแหล่งที่มาของรายได้ของครัวเรือน

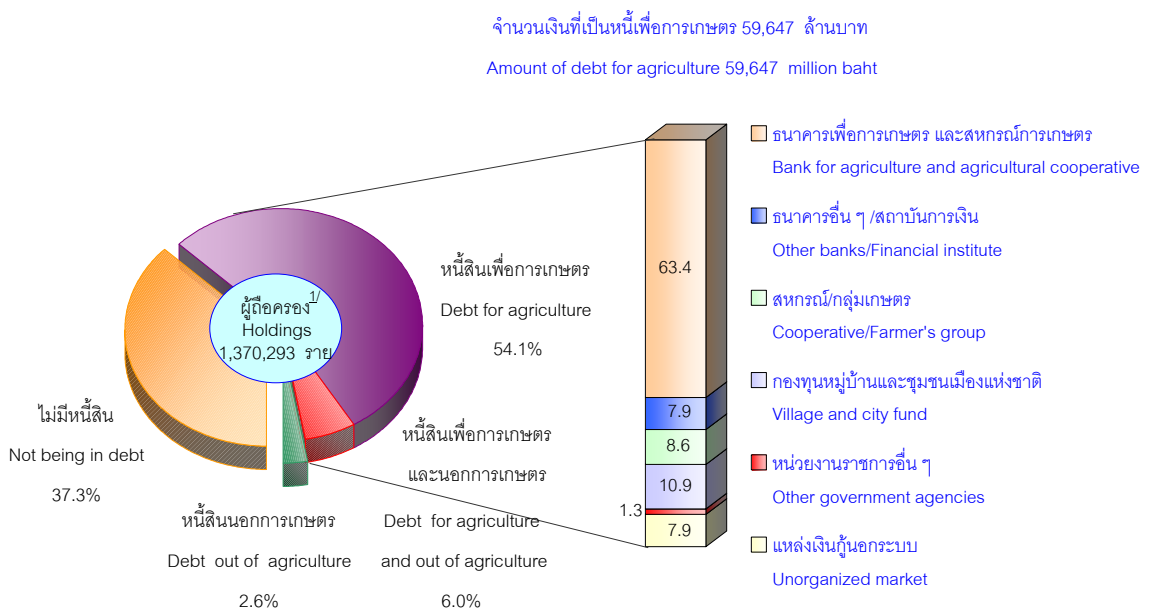
Figure 3 Number of holdings by source of household income



แผนภูมิ 4 จำนวนผู้ถือครองทำการเกษตร จำแนกตามการมีหนี้สินของครัวเรือน

และจำนวนเงินที่เป็นหนี้เพื่อการเกษตร จำแนกตามแหล่งเงินกู้

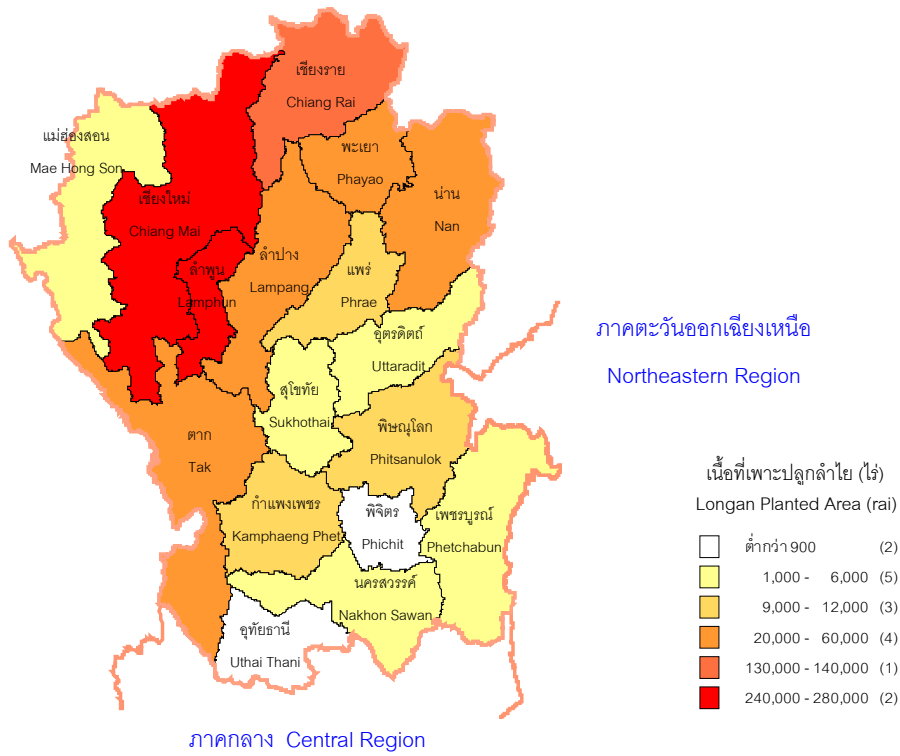
Figure 4 Number of holdings being in debt of household and amount of debt for agriculture by source of loan



^{1/} ไม่รวม บริษัท ห้างหุ้นส่วนนิติบุคคล
Excluding corporation

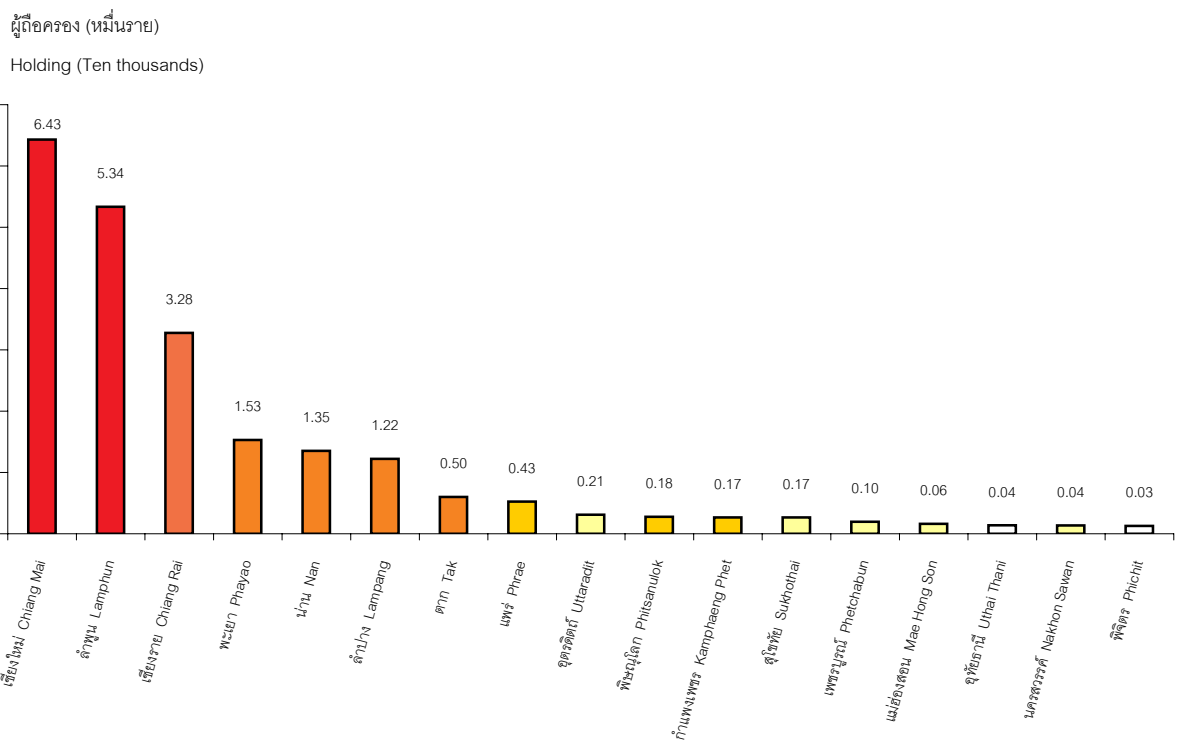
แผนภูมิ 5 เนื้อที่เพาะปลูกลำไย รายจังหวัด

Figure 5 Longan : Planted area by province



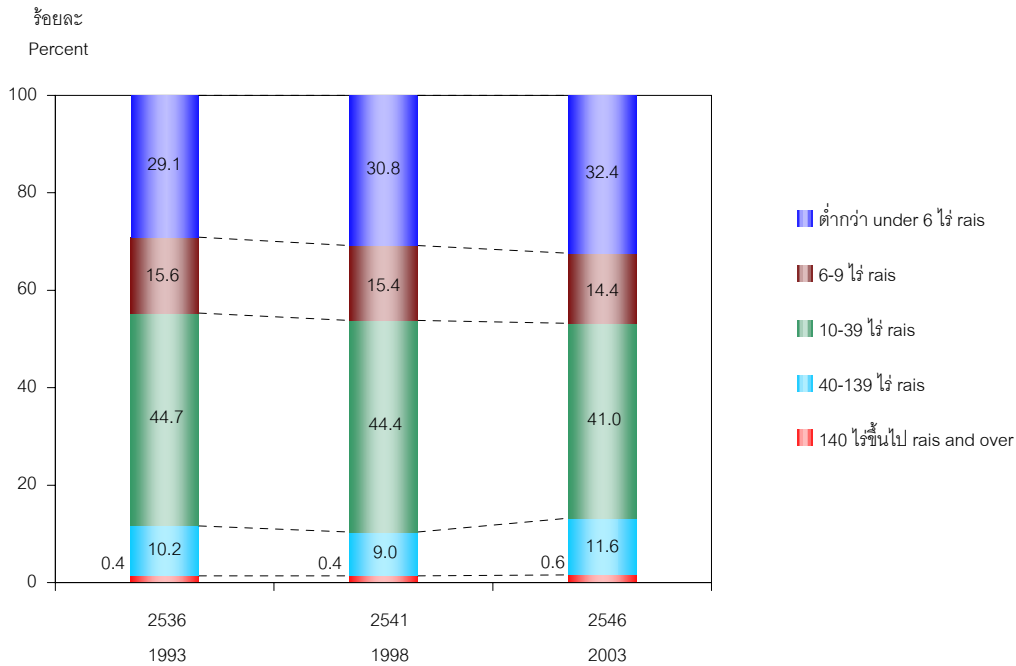
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Figure 6 Longan : Number of holdings by province



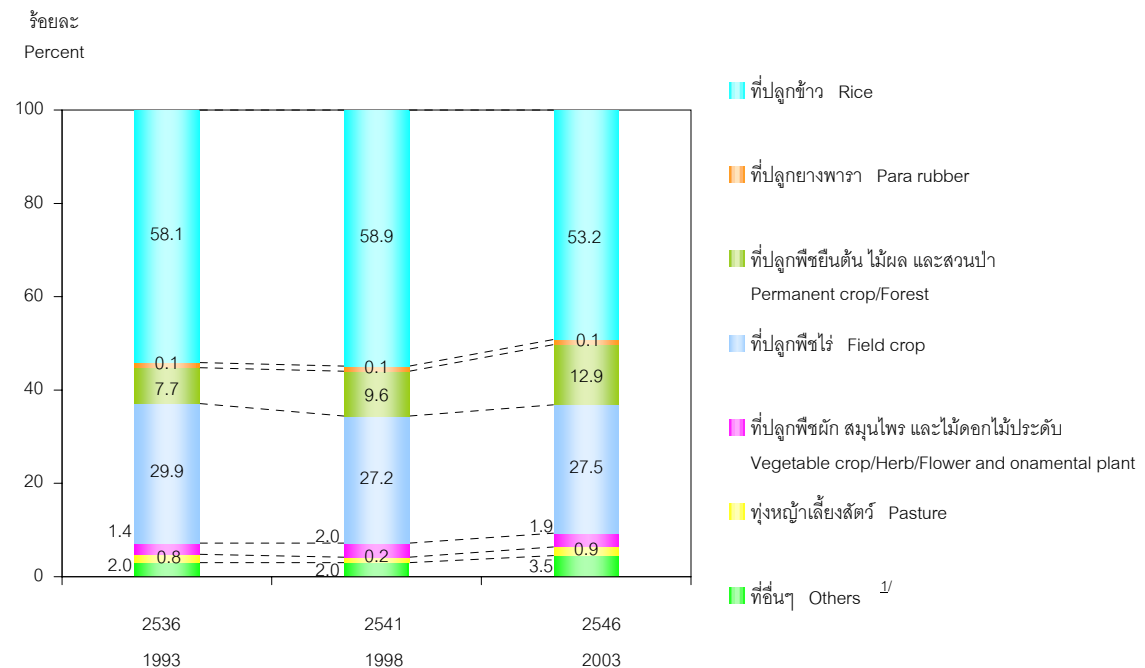
แผนภูมิ 7 จำนวนผู้ถือครองทำการเกษตร จำแนกตามขนาดเนื้อที่ถือครองทั้งสิ้น

Figure 7 Number of holdings by size of area of holding



แผนภูมิ 8 เนื้อที่ถือครองทำการเกษตร จำแนกตามการใช้ประโยชน์ที่ดิน

Figure 8 Area of holding by land use



^{1/} ปี 2546 รวมเนื้อที่เพาะเลี้ยงสัตว์น้ำในพื้นที่น้ำจืด (0.5%)
In 2003, including fresh water culture area (0.5%)

CHAPTER 1

INTRODUCTION

1.1 Background

The National Statistical Office conducted the First Agricultural Census in 1950, the Second in 1963, the Third in 1978 and the Fourth in 1993. To obtain timely statistics of agricultural structure data for policy-making, monitoring and evaluation of the agricultural development projects and in accordance with the recommendations of the Food and Agriculture Organization of the United Nations (FAO), the Fifth Agricultural Census was thus conducted in 2003.

1.2 Objective

The objectives of the agricultural census were as follows:

1. To collect data on agricultural structures such as number and area of holdings, land use, land tenure, planted area of crops, number of inland fishery establishments, water area under fresh water culture, number of livestock, the use of fertilizer and pesticide, machinery and equipment, etc.
2. To provide data for small administrative units.
3. To provide a frame for other agricultural surveys.
4. To study changes of agricultural structures in 10 years.

1.3 Coverage

The 2003 Agricultural Census covered all holdings which agricultural activity were cultivating crops, rearing livestock and culturing fresh water.

1.4 Definitions

1. Holding

A holding is an economic unit of agricultural production (cultivating crops, rearing livestock and culturing fresh water) under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title or legal form. The holding's land may consist of one or more parcels, located in one or more separate areas of the same province.

2. Holder

A holder refers to a civil or juridical person who exercises management control and takes major decisions over the agricultural holding operation. The holder has technical and economic responsibility for the holding and may undertake all responsibilities directly, or delegate responsibilities to a hired manager. A hired manager participating in economic and financial responsibilities in addition to managing the holding is considered a holder.

3. Area of Holding

Area of holding is the combined area of all the holding's parcels in the province, including land owned by the holder, rented from others and land under other tenure forms. (Land owned by the holder but rented to others are excluded).

The holding area includes farmyard, land occupied by farm buildings and holder's house located on the holding.

4. Land Tenure

This refers to the arrangements or rights under which the holder holds or uses holding land. A holding may be operated under one or more tenure forms as follows:

1) **Owned** : A holder is considered an owner of a piece of land if

(1) he, according to the law, has a full right in it, i.e. he possesses a land certificate such as title deed, NS 3, SK 1 which is issued by the authority concerned, he may have the right on the land which is resulted by the law or he may possess some certificates, according to the Land Reform Act, which legally permits him to operate the land; or

(2) he occupies and cultivates the land as if he were the owner as in the case of inheritance pending documentary evidence or pending the separation of the title deeds or other important documents; or

(3) he has occupied and cultivated the land continually without any resistance for 10 years and over.

2) **Rented** : A renter is one who rents the land from another person for agricultural operation and he has to pay rents to the land owner by cash or crop product.

3) **Mortgage** : A contract whereby a person, called the mortgagor, assigns a property to another person, called the mortgagee, as security for the performance of an obligation, without delivering the property to the mortgage.

4) **Sale with right of redemption** : A contract of sale whereby the ownership of the property sold passes to the buyer subject to an agreement that the seller can redeem that property.

5) **Others** : this refers to all types of tenure not covered by above forms.

4. The Census Day

This refers to May 1, 2003.

CHAPTER 2
CENSUS METHODOLOGY AND DATA PROCESSING

2.1 Census Methodology

A combination of complete and sample enumeration was applied for the 2003 Agricultural Census. In this method, the questionnaire was divided into two parts. The first part was used for collecting data on basic agricultural structure from all holdings whereas the second part was used for collecting other agricultural structure data from a 25% sample of holdings.

2.2 Method of Estimation

The estimate of the total number of each characteristic of holdings from the enumeration form was based on the formula :

- Province level

$$\hat{X}_{hi} = \sum_{j=1}^{m_{hi}} \sum_{k=1}^8 \frac{N_{hijk}}{n_{hijk}} \sum_{l=1}^{n_{hijk}} x_{hijkl}$$

Where x_{hijkl} is the number of characteristic X of the l^{th} sample holder, k^{th} size of total area of holding, j^{th} amphoe, i^{th} province, h^{th} region.

N_{hijk} is the total number of holders of the k^{th} size of total area of holding, j^{th} amphoe, i^{th} province, h^{th} region.

n_{hijk} is the total number of sample holders of the k^{th} size of total area of holding, j^{th} amphoe, i^{th} province, h^{th} region.

m_{hi} is the total number of amphoes in the i^{th} province, h^{th} region.

- Region level

$$\hat{X}_h = \sum_{i=1}^{A_h} \hat{X}_{hi}$$

Where A_h is the total number of provinces in the h^{th} region.

2.3 Data Collection

The face to face interview was the method of data collection for the 2003 Agricultural Census. The field work was carried out during May 13 to June 10, 2003. Around 25,000 enumerators were recruited from village health volunteers and 5,000 supervisors were recruited from local officer of Department of Agricultural Extension. The enumerators were sent out to interview all head of households using listing form to find out agricultural holders. Approximately 5.8 million agricultural holders were interviewed for detailed information using enumeration form subsequently.

2.4 Census Items

The data collected in the 2003 Agricultural Census are as follows :

- 1) Activity and legal status
- 2) Holding area by land use, land tenure and documentary of right
- 3) Livestock
- 4) Rice
- 5) Para rubber
- 6) Permanent crop and forest (planted)
- 7) Field crop
- 8) Vegetable crop, herb, flower and ornamental plant
- 9) Fresh water culture
- 10) Fertilizer and pesticide
- 11) Employment on holding
- 12) Machinery and equipment
- 13) Holder household's members and activity status
- 14) Education and membership of agricultural activity groups
- 15) Income and debt for agriculture of holder's household

Note ; Item 1) - 9) are basic agricultural structure data

Item 10) - 15) are other agricultural structure data

2.5 Data Processing

All filled questionnaires which had already been edited during the field operation were again examined by manual editing for completeness and consistency for all items in questionnaires including coding process for some items before sending to the central office. Then, all information was entered by image scanning system (ICR and OMR)^{1/}. Before tabulation were prepared, all raw data were edited by computer for final review and correction to ensure that data were all clean for further tabulation.

Publication of the census results are presented in three series ; Changwat, Region and Whole Kingdom.

2.6 Post Enumeration Survey

In July 2003, after the conclusion of census field work, a Post Enumeration Survey was carried out in order to evaluate the quality of the data by selecting 4% of the total enumeration areas. All enumerators were regular field staff officers of the National Statistical Office.

^{1/} ICR = Intelligence Characters Recognition

OMR = Optical Mark Reader

CHAPTER 3

SUMMARY OF FINDINGS

1. Number and Area of Holdings

The 2003 Agricultural Census show that the total number of holdings in the Northern Region was 1.4 million. Changwat Chiang Mai occupied the largest number of holdings with 165,660 (12.1%). It was followed by Changwat Chiang Rai, Phetchabun, Lampang and Nakhon Sawan (11.2, 7.8, 7.5 and 7.3% respectively) and Mae Hong Son had the smallest number of holdings with 30,236 (2.2%)

With the total area of holding of around 25.0 million rais,^{1/} or about 7.8% of the total area of the country.^{2/} For the provincial area, Changwat Nakhon Sawan occupied the largest area of holding with 3.6 million rais (14.2%), followed by Changwat Phetchabun, Kamphaeng Phet, Phitsanulok and Chiang Rai with 11.6, 9.5, 8.7 and 8.6% respectively and the smallest area was in Changwat Mae Hong Son (1.0%). The average area per holding of the Northern Region was 18.2 rais, it showed a gradual increase from 17.8 rais in 1993 and 1998.^{3/} The holding in Changwat Nakhon Sawan had the largest average area of 35.8 rais, and the smallest average area was in Changwat Lamphun and Lampang with 7.0 rais. (Figure 1)

2. Some Characteristics of Holdings

2.1 Size of Total Area of Holding

In the Northern Region, the number of holdings having an area under 10 - 39 rais constituted 41.0% and 32.4% were the holdings with area under 6 rais, while the largest size (140 rais and over) had only 0.6%.

From 1998 to 2003 the number of holdings in the Northern Region increased by 64,512 (4.9%). Especially the proportion of holdings with 40 - 139 and under 6 rais which increased by 2.6 and 1.6 percent respectively. (Table 1)

^{1/} 1 rai = 1,600 square meters.

^{2/} Total are of Thailand 320.7 million rais. (Royal Thai Survey Department).

^{3/} The 1993 Agricultural Census, the 1998 Intercensal Survey of Agriculture. (National Statistical Office).

Table 1 Number of Holdings by Size of Total Area of Holding

Size of total area of holding (rai)	Number of holdings			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
Total	1,408,363	1,307,069	1,371,581	100.0	100.0	100.0	-7.2	4.9
Under 6	409,650	403,154	445,137	29.1	30.8	32.4	-1.6	10.4
6 – 9	219,921	201,657	197,294	15.6	15.4	14.4	-8.3	-2.2
10 – 39	629,028	580,114	562,759	44.7	44.4	41.0	-7.8	-3.0
40 – 139	143,706	117,106	158,632	10.2	9.0	11.6	-18.5	35.5
140 and over	6,058	5,038	7,759	0.4	0.4	0.6	-16.8	54.0

2.2 Land Tenure and Documentary of Right

As regards the land tenure, it was found that the majority of holdings operated under own land only (64.1%), 19.5% of the holdings operated not only under own land but also under other land and 16.4% of the holdings operated under other land. It was observed that the number of holdings of other land increased by 19.3% from 1998. For the documentary of right, the data show that most of the holdings with own land had Title deed, NS 5, NS 3, NS 3k (66.0%). (Table 2)

Table 2 Number of Holdings with Land by Land Tenure and Documentary of Right

Item	Number of holdings			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
Number of holdings with land	1,408,363	1,304,771	1,370,784	100.0	100.0	100.0	-7.4	5.1
By land tenure								
Own land	958,363	910,827	878,849	68.0	69.8	64.1	-5.0	-3.5
Others	271,618	188,597	224,938	19.3	14.5	16.4	-30.6	19.3
Own land and others	178,382	205,347	266,997	12.7	15.7	19.5	15.1	30.0
By documentary of right^{1/} (own land only)								
Title deed/ NS5/ NS3/ NS3k			756,756			66.0		
SPK 4-01/ NK/ STK/ KSN			217,690			19.0		
NS2/ SK1			17,763			1.6		
Others			319,344			27.9		

^{1/} One holding may report more than one type of documentary of right.

In 1993 and 1998, no question about documentary of right in the questionnaire.

3. Area of Holding by Land Use, Land Tenure and Documentary of Right

The total area of holding in the Northern Region was 25.0 million rais. Of these, the major portion (53.2%) was the area under rice, followed by field crop (27.5%) and permanent crop / forest (12.9%) respectively.

From 1998 to 2003 the total area of holding in the Northern Region increased by 1.8 million rais (7.7%). Of which increased in the area under permanent crop / forest and field crop 1.0 million and 572,290 rais respectively, while the area under rice decreased by 2.8%. Considering land tenure, it was found that the major portion (64.8%) was the area owned by the holder which most of them had Title deed, NS 5, NS 3, NS 3k (52.0%). (Table 3)

Table 3 Area of Holding by Land Use, Land Tenure and Documentary of Right

Item	Area (rai)			Percent			Percentage of Change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
Total area of holding	25,042,362	23,223,277	25,020,833	100.0	100.0	100.0	-7.3	7.7
By land use								
Rice	14,551,860	13,686,303	13,302,009	58.1	58.9	53.2	-5.9	-2.8
Para rubber	13,684	13,177	20,995	0.1	0.1	0.1	-3.7	59.3
Permanent crop / Forest	1,920,626	2,217,897	3,230,998	7.7	9.6	12.9	15.5	45.7
Field crop	7,483,324	6,313,996	6,886,286	29.9	27.2	27.5	-15.6	9.1
Vegetable crop / Herb / Flower and Ornamental plant	351,918	472,691	468,411	1.4	2.0	1.9	34.3	-0.9
Pasture	209,874	47,023	227,872	0.8	0.2	0.9	-77.6	384.6
Fresh water culture ^{1/}			126,674			0.5		
Others	511,076	472,190	757,588	2.0	2.0	3.0	-7.6	60.4
By land tenure								
Own land	15,081,481	16,767,076	16,201,641	60.2	72.2	64.8	11.2	-3.4
Others	9,960,881	6,456,201	8,819,192	39.8	27.8	35.2	-35.2	36.6
By documentary of right^{2/} (own land only)			16,201,641			100.0		
Title deed/ NS5/ NS3/ NS3k			8,426,206			52.0		
SPK 4-01/ NK/ STK/ KSN			3,453,578			21.3		
NS2/ SK1			149,095			0.9		
Others			4,172,762			25.8		

^{1/} In 2003, including fresh water culture in the coverage.

^{2/} In 1993 and 1998, no question about documentary of right in the questionnaire.

4. Fertilizer and Pesticide

Out of a total 1.3 million holdings with crops in the Northern Region, 86.5% used fertilizers. Most of them (83.0%) using inorganic fertilizers, of which the holdings using inorganic fertilizers only was 57.3%, while 25.7% of holdings used inorganic and organic fertilizers. There was very small number of holdings using only organic fertilizers (3.5%). The average quantity used of inorganic fertilizers was 43.2 kg./rai which increased from 1993 and 1998 (31.6 and 37.6 kg./rai respectively). However, the number of holdings using inorganic fertilizers only decreased by 15.7% from 1998.

Considering the use of pesticides, 71.7% of holdings reported of using pesticides, of which 68.3% used chemical. (Table 4)

Table 4 Number of Holdings with Crops by Using Fertilizer and Pesticide, and Area Treated and Quantity Used Inorganic Fertilizer

Item	Number			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
1. Number of holdings with crops	1,376,938	1,299,220	1,320,495	100.0	100.0	100.0	-5.6	1.6
By using fertilizer								
Not use fertilizer	334,989	164,840	178,239	24.3	12.7	13.5	-50.8	8.1
Use fertilizer	1,041,949	1,134,380	1,142,256	75.7	87.3	86.5	8.9	0.7
Inorganic	669,129	898,502	757,267	48.6	69.2	57.3	34.3	-15.7
Organic	67,147	23,272	45,596	4.9	1.8	3.5	-65.3	95.9
Inorganic and organic	305,673	212,606	339,393	22.2	16.3	25.7	-30.4	59.6
By using pesticide								
Not use pesticide	601,988	384,904	373,225	43.7	29.6	28.3	-36.1	-3.0
Use pesticide ^{1/}	774,950	914,316	947,270	56.3	70.4	71.7	18.0	3.6
Chemical			901,867			68.3		
Organic			49,159			3.7		
Natural-enemies			13,970			1.1		
Others			80,775			6.1		
2. Area treated inorganic fertilizer (rai)	16,063,643	21,402,249	22,951,513				33.2	7.2
3. Quantity used inorganic fertilizer (1,000 kg.)	507,971	805,045	992,018				58.5	23.2
Average per rai (kg.)	31.6	37.6	43.2				19.0	14.9

^{1/} One holding may report more than one method of using pesticide.

In 1993 and 1998, no question about method of using pesticide in the questionnaire.

5. Demographic Characteristics and Activity Status

Table 5 indicates that 79.3% of holders were male and only 20.7% were female. However, the proportion of female holders increased nearly 2 times from 1998. Most of them (86.3%) in the age group of 35 years and over. Out of this, 74.9% in the age group 35 - 64 years and 11.4% in the age group 65 years and over, which the proportion of the holders in this group increased by 2.9% from 1998.

Table 5 Number of Holders by Sex and Age Group

Item	Number			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
Total number of holders (Excluding corporation)	1,407,417	1,306,961	1,370,293	100.0	100.0	100.0	-7.1	4.8
By sex								
Male	1,258,234	1,167,618	1,086,294	89.4	89.3	79.3	-7.2	-7.0
Female	149,183	139,343	283,999	10.6	10.7	20.7	-6.6	103.8
By age group								
Under 25 years	31,801	11,746	13,585	2.3	0.9	1.0	-63.1	15.7
25 – 34 years	284,995	190,603	173,435	20.2	14.6	12.7	-33.1	-9.0
35 – 44 years	427,012	391,627	388,018	30.3	29.9	28.3	-8.3	-0.9
45 – 54 years	306,894	348,962	410,691	21.8	26.7	30.0	13.7	17.7
55 – 64 years	244,702	253,127	227,839	17.4	19.4	16.6	3.4	-10.0
65 years and over	112,013	110,896	156,725	8.0	8.5	11.4	-1.0	41.3

There were 4.9 million holder's household members or 40.5% of total population in the Northern Region, of which 51.8% were male and 48.2% were female. The average number of members was 3.6 persons. It showed a gradual decrease from 3.9 and 3.8 persons in 1993 and 1998 respectively. The dependency ratio^{1/} was 39.5%. It was observed that, the higher in age groups the less in number of members, which member under 25 years old constituted the largest group with 31.3% while member 65 years and over were the smallest with 7.2%.

Regarding the activity status of holder's household members aged 10 years and over, it was found that 76.0% engaged in agricultural work on the holding, among these 33.2% engaged in agricultural work only on the holding and 42.8% engaged both in agricultural work on the holding and other works. While 6.3% of members did not engage in agricultural work on the holding. It was found that the member engaged in agricultural work only on the holding had an downward tendency from 56.0, 42.8 to 33.2% in 1993,1998 and 2003 respectively. (Table 6)

^{1/} Dependency ratio = $\frac{\text{Number of population aged under 15 years and 60 years and over}}{\text{Number of population aged 15 – 59 years}} \times 100$

Table 6 Number of Holder's Household Members by Sex, Age Group and Activity Status

Item	Number			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
1. Total number of holder's household members (Excluding corporation)	5,517,725	5,023,687	4,895,543	100.0	100.0	100.0	-9.0	-2.5
Average per household	3.9	3.8	3.6				-2.6	-5.3
By sex								
Male	2,783,124	2,514,082	2,534,871	50.4	50.1	51.8	-9.7	0.8
Female	2,734,601	2,509,605	2,360,672	49.6	49.9	48.2	-8.2	-5.9
By age group								
Under 25 years	2,285,419	1,964,538	1,531,736	41.4	39.1	31.3	-14.0	-22.0
25 – 34 years	1,035,218	786,016	903,002	18.8	15.7	18.4	-24.1	14.9
35 – 44 years	914,855	870,230	913,738	16.6	17.3	18.7	-4.9	5.0
45 – 54 years	569,970	663,235	781,416	10.3	13.2	16.0	16.4	17.8
55 – 64 years	443,076	453,395	411,310	8.0	9.0	8.4	2.3	-9.3
65 years and over	269,187	286,273	354,341	4.9	5.7	7.2	6.3	23.8
2. Number of holder's household members 10 years of age and over	4,471,555	4,029,025	4,425,131	100.0	100.0	100.0	-9.9	9.8
By activity status								
Economically active	4,038,585	3,315,189	3,642,634	90.3	82.3	82.3	-17.9	9.9
Engaged in agricultural work on the holding only	2,502,635	1,725,477	1,470,869	56.0	42.8	33.2	-31.1	-14.8
Engaged in agricultural work on the holding and other works	1,316,910	1,453,927	1,893,019	29.4	36.1	42.8	10.4	30.2
Mainly engaged in agricultural work on the holding	877,143	832,343	1,164,862	19.6	20.7	26.3	-5.1	39.9
Mainly engaged in agricultural work on other holdings	71,473	170,245	189,612	1.6	4.2	4.3	138.2	11.4
Mainly engaged in other works	368,294	451,339	538,545	8.2	11.2	12.2	22.5	19.3
Not engaged in agricultural work on the holding	219,040	135,785	278,746	4.9	3.4	6.3	-38.0	105.3
Mainly engaged in agricultural work on other holdings	8,744	3,567	32,493	0.2	0.1	0.7	-59.2	810.9
Mainly engaged in other works	210,296	132,218	246,253	4.7	3.3	5.6	-37.1	86.2
Not economically active	432,970	713,836	782,497	9.7	17.7	17.7	64.9	9.6

6. Income and Debt of Holder's Household

There were 21.4% of holders who had household income from agriculture only, while 78.6% from agriculture and other sources. It was observed that the proportion of holders who had household income from agriculture only decreased nearly 50% from 1998. This indicates that most of the holder's household did not rely only on income from agriculture but also on income from other sources. Regarding income from agricultural product of holding. It was found that the holders 31.4% have income from agricultural product in 20,001 - 50,000 baht, followed by income in 10,001 - 20,000 and 50,001 - 100,000 baht with 19.1 and 16.0% respectively. (Table 7)

Table 7 Number of Holders by Household Income

Item	Number			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
Total number of holders (Excluding corporation)	1,407,188	1,306,961	1,370,293	100.0	100.0	100.0	-7.1	4.8
By source of household income								
Agriculture only	661,365	506,490	293,371	47.0	38.8	21.4	-23.4	-42.1
Agriculture and other sources	745,823	800,471	1,076,922	53.0	61.2	78.6	7.3	34.5
Mainly from agriculture	415,569	405,510	589,907	29.5	31.0	43.0	-2.4	45.5
Mainly from being agricultural worker	30,851	69,867	62,800	2.2	5.3	4.6	126.5	-10.1
Mainly from other sources	221,112	275,597	299,619	15.7	21.1	21.9	24.6	8.7
Equally from agriculture and other sources	78,291	49,497	124,596	5.6	3.8	9.1	-36.8	151.7
By income from agricultural product^{1/}								
Not having agricultural product	25,609	20,852	40,863	1.8	1.6	3.0	-18.6	96.0
Having agricultural product (baht)	1,381,579	1,286,109	1,329,430	98.2	98.4	97.0	-6.9	3.4
Under 5,001	226,876	77,808	101,549	16.1	6.0	7.4	-65.7	30.5
5,001 - 10,000	335,566	207,059	176,119	23.8	15.8	12.8	-38.3	-14.9
10,001 - 20,000	332,855	268,911	261,510	23.7	20.6	19.1	-19.2	-2.8
20,001 - 50,000	339,880	394,311	429,805	24.2	30.2	31.4	16.0	9.0
50,001 - 100,000	105,877	222,589	218,931	7.5	17.0	16.0	110.2	-1.6
100,001 and over	40,525	115,431	141,516	2.9	8.8	10.3	184.8	22.6

^{1/} Value of agricultural product

According to debt of household, there were 60.1% of the holders being in debt for agriculture. The amount of debt for agriculture of the Northern Region was 59,647 million baht, which increased by 63.0% (23,050 million baht) from 1998. The average per household in debt was 72,426 baht. Most of debt (63.4%) borrowed from Bank for agriculture and agricultural cooperative. It should be notice that there were 10.9% from village and city fund which was established recently by the government. (Table 8)

Table 8 Number of Holders by Being in Debt for Agriculture
and Amount of Debt for Agriculture by Source of Loan

Item	Number			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
1. Total number of holders (Excluding corporation)	1,407,181	1,306,958	1,370,293	100.0	100.0	100.0	-7.1	4.8
By being in debt for agriculture								
Not being in debt	787,184	615,295	546,741	55.9	47.1	39.9	-21.8	-11.1
Being in debt	619,997	691,663	823,552	44.1	52.9	60.1	11.6	19.1
2. Amount of debt for agriculture (million baht)	20,931	36,597	59,647	100.0	100.0	100.0	74.8	63.0
By source of loan								
Bank for agriculture and agricultural cooperative	11,155	26,908	37,790	53.3	73.5	63.4	141.2	40.4
Other banks / Financial institute	4,506	2,820	4,702	21.5	7.7	7.9	-37.4	66.7
Cooperative / Farmer's group	1,996	2,506	5,129	9.6	6.9	8.6	25.6	104.7
Village and city fund ^{1/}			6,519			10.9		
Other government agencies ^{2/}		1,002	777		2.7	1.3		-22.5
Unorganized market	3,274	3,361	4,730	15.6	9.2	7.9	2.7	40.7
Middleman	960	1,227	1,056	4.6	3.4	1.7	27.8	-13.9
Money lender	1,118	822	1,780	5.3	2.2	3.0	-26.5	116.5
Relative / Neighbour / Others	1,196	1,312	1,894	5.7	3.6	3.2	9.7	44.4
Average per household in debt (baht)	33,760	52,912	72,426				56.7	36.9
Average per total households (baht)	14,874	28,002	43,529				88.3	55.4

^{1/} In 1993 and 1998, no question about village and city fund in the questionnaire.

^{2/} In 1993, no question about other government agencies in the questionnaire.

7. Employment on Agricultural Workers

In Northern Region, there were 59.8% of the total holdings employed agricultural workers, of which most of them employed workers on an occasional basis. The data show that only 1.4% of the total holdings employed permanent agricultural workers with 106,985 persons, among these 25.2% were the foreigner workers. (Table 9)

Table 9 Number of Holdings by Employment and Number of Permanent Workers

Item	Number			Percent			Percentage of change	
	1993	1998	2003	1993	1998	2003	1998/93	2003/98
1. Total number of holdings	1,407,908	1,306,960	1,371,466	100.0	100.0	100.0	-7.2	4.9
Not employ agricultural workers	676,965	324,950	550,761	48.1	24.9	40.2	-52.0	69.5
Employ agricultural workers	730,943	982,010	820,705	51.9	75.1	59.8	34.3	-16.4
Permanent workers	6,818	2,079	6,305	0.5	0.1	0.4	-69.5	203.3
Occasional workers	709,323	972,050	801,168	50.4	74.4	58.4	37.0	-17.6
Permanent and occasional workers	14,802	7,881	13,232	1.0	0.6	1.0	-46.8	67.9
2. Number of permanent workers	344,981	29,282	106,985	100.0	100.0	100.0	-91.5	265.4
By sex								
Male	101,243	18,736	63,292	29.3	64.0	59.2	-81.5	237.8
Female	243,738	10,546	43,693	70.7	36.0	40.8	-95.7	314.3
By source of workers^{1/}								
Thai			79,988			74.8		
Foreigner			26,997			25.2		

^{1/} In 1993 and 1998, no question about source of permanent workers in the questionnaire.