

สำมะโนการเกษตร พ.ศ. 2546

ภาคกลาง

2003 AGRICULTURAL CENSUS

CENTRAL REGION



สำนักงานสถิติแห่งชาติ

NATIONAL STATISTICAL OFFICE

กระทรวงเทคโนโลยีสารสนเทศและการสื่อสาร

MINISTRY OF INFORMATION AND COMMUNICATION TECHNOLOGY

PREFACE

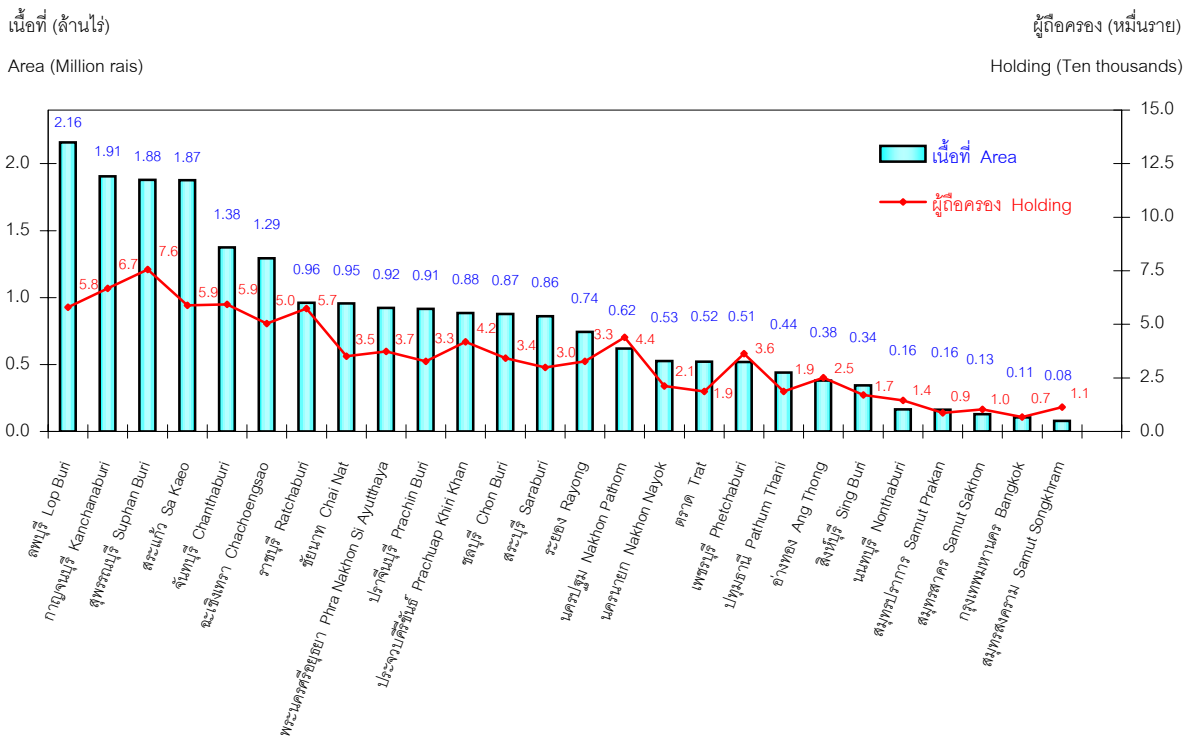
The National Statistical Office conducted the Fifth Agricultural Census in 2003 in order to collect the data on agricultural structure. The results obtained from the census are essential for both national and local policy-making, monitoring and evaluation of the agricultural development projects.

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

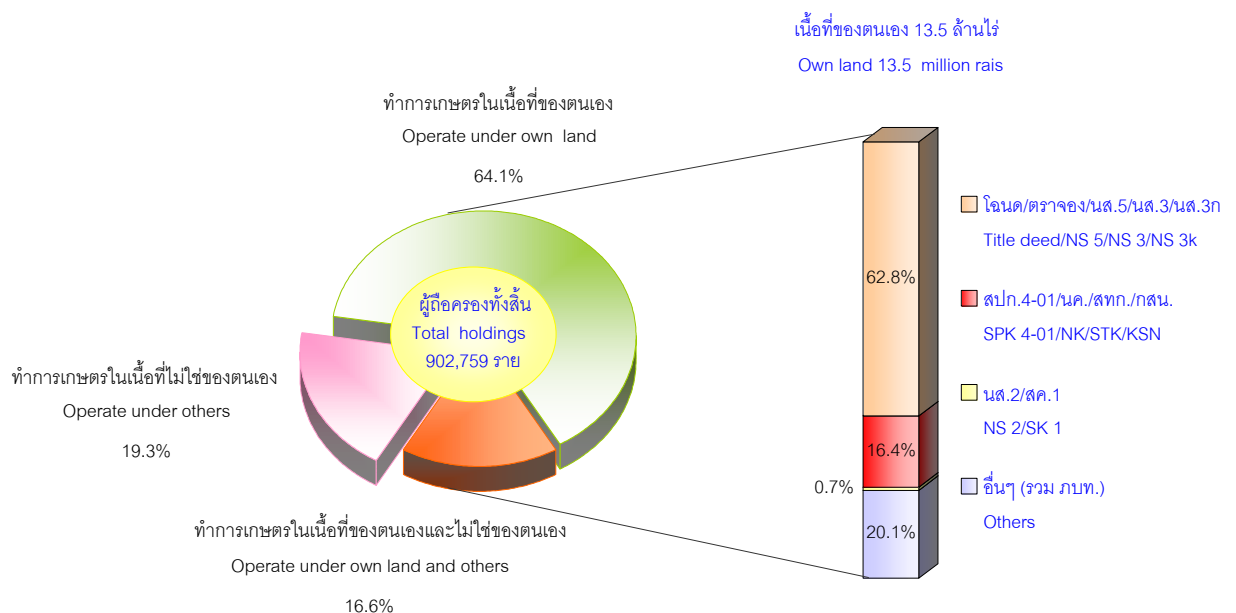
แผนภูมิ 1 จำนวนผู้ถือครอง และเนื้อที่ถือครองทำการเกษตร รายจังหวัด

Figure 1 Number and area of holdings by province



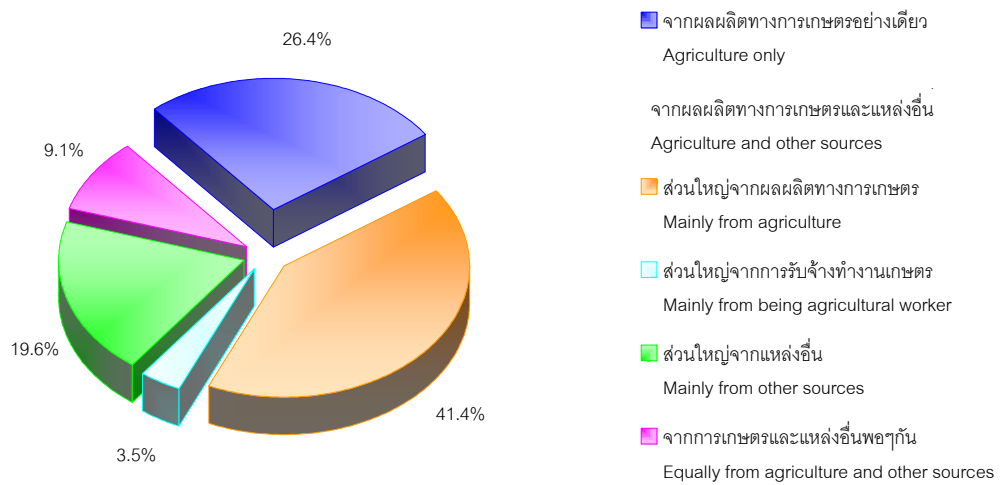
แผนภูมิ 2 จำนวนผู้ถือครองทำการเกษตร จำแนกตามลักษณะการถือครองที่ดิน และเนื้อที่ถือครองของตนเอง จำแนกตามเอกสารสิทธิ์

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



แผนภูมิ 3 จำนวนผู้ถือครองทำการเกษตร จำแนกตามแหล่งที่มาของรายได้ของครัวเรือน

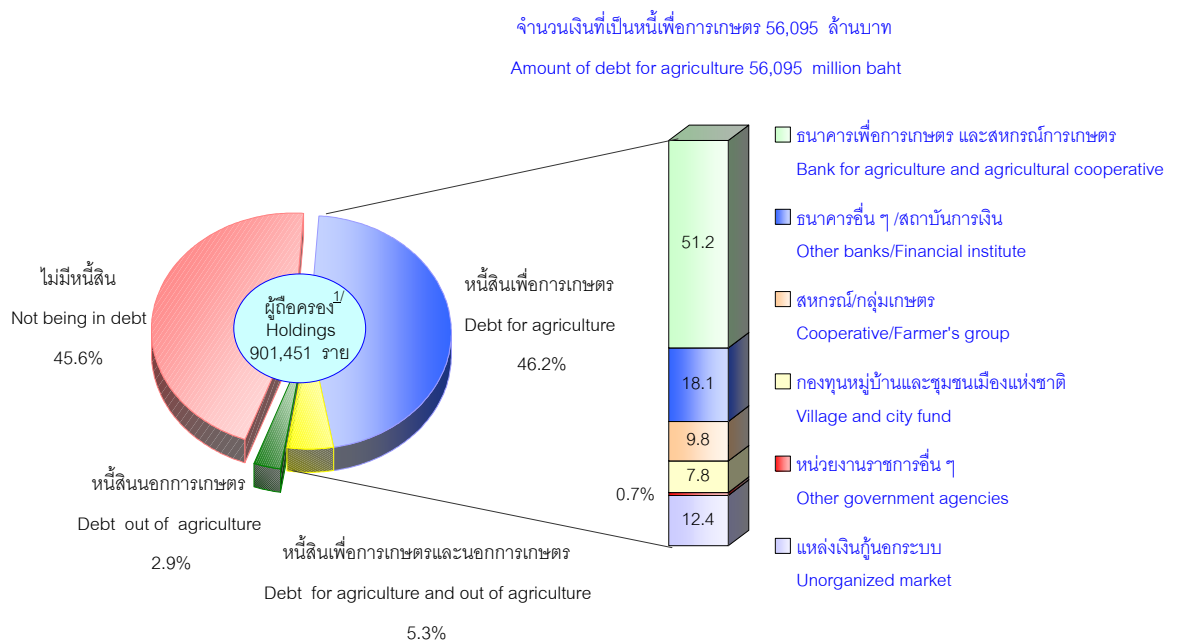
Figure 3 Number of holdings by source of household income



แผนภูมิ 4 จำนวนผู้ถือครองทำการเกษตร จำแนกตามการมีหนี้สินของครัวเรือน

และจำนวนเงินที่เป็นหนี้เพื่อการเกษตร จำแนกตามแหล่งเงินกู้

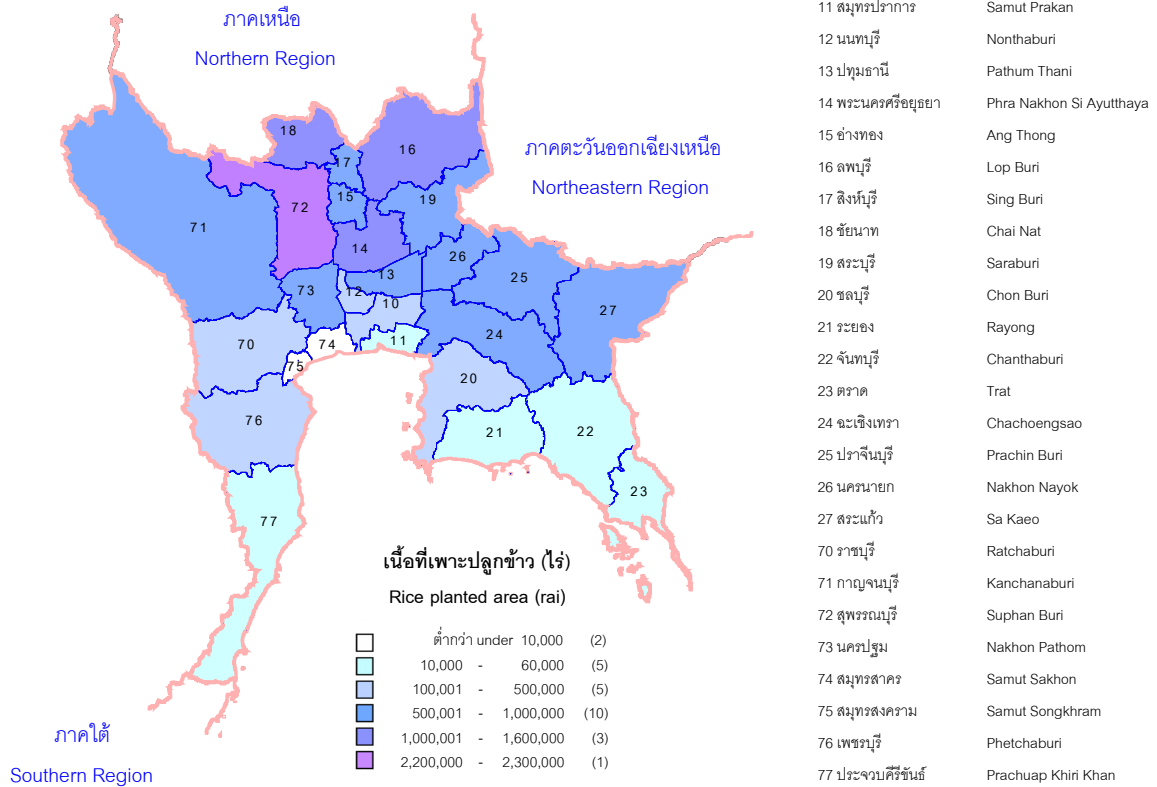
Figure 4 Number of holdings being in debt of household and amount of debt for agriculture by source of loan



^{1/} ไม่รวม บริษัท ห้างหุ้นส่วนนิติบุคคล
Excluding corporation

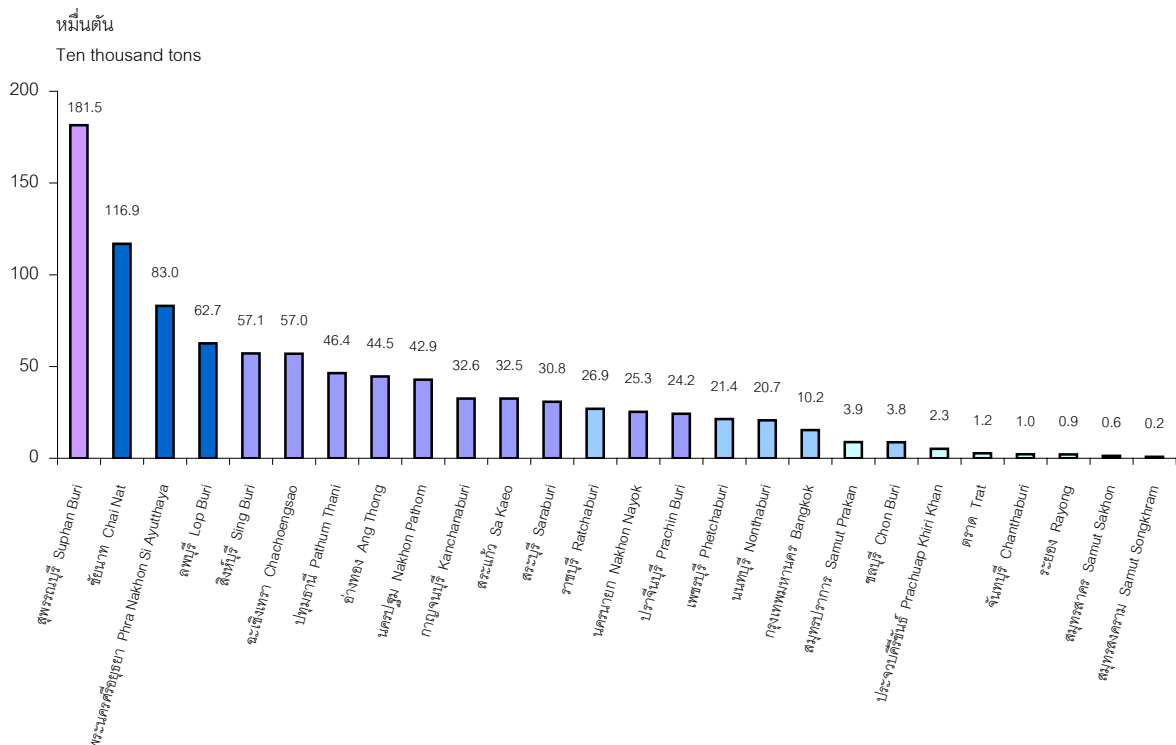
แผนภูมิ 5 เนื้อที่เพาะปลูกข้าว รายจังหวัด

Figure 5 Rice planted area by province



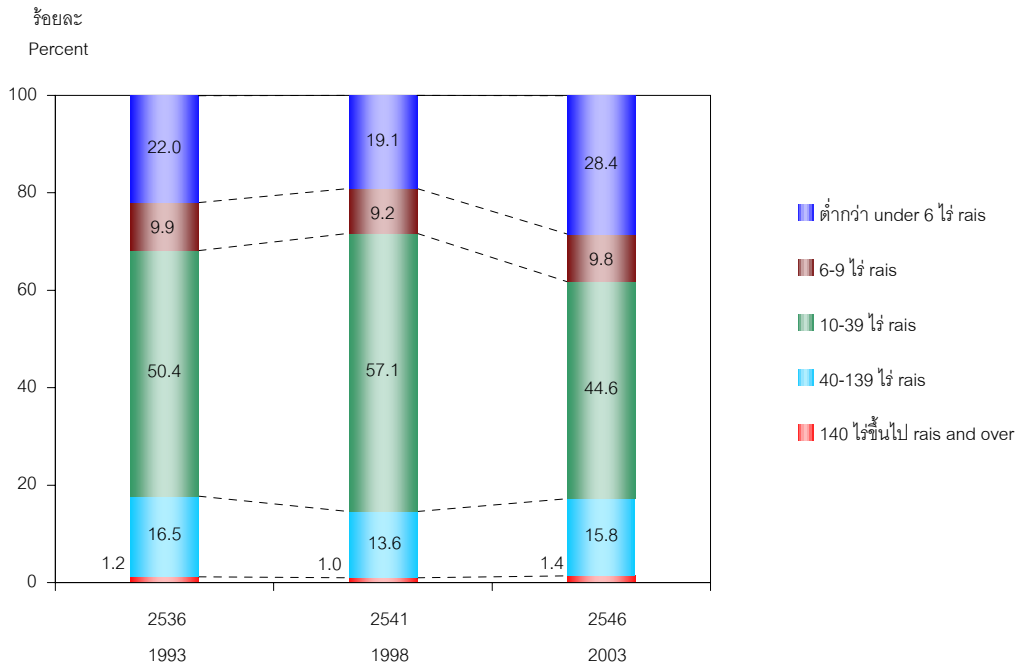
แผนภูมิ 6 ผลผลิตข้าว รายจังหวัด

Figure 6 Rice product by province



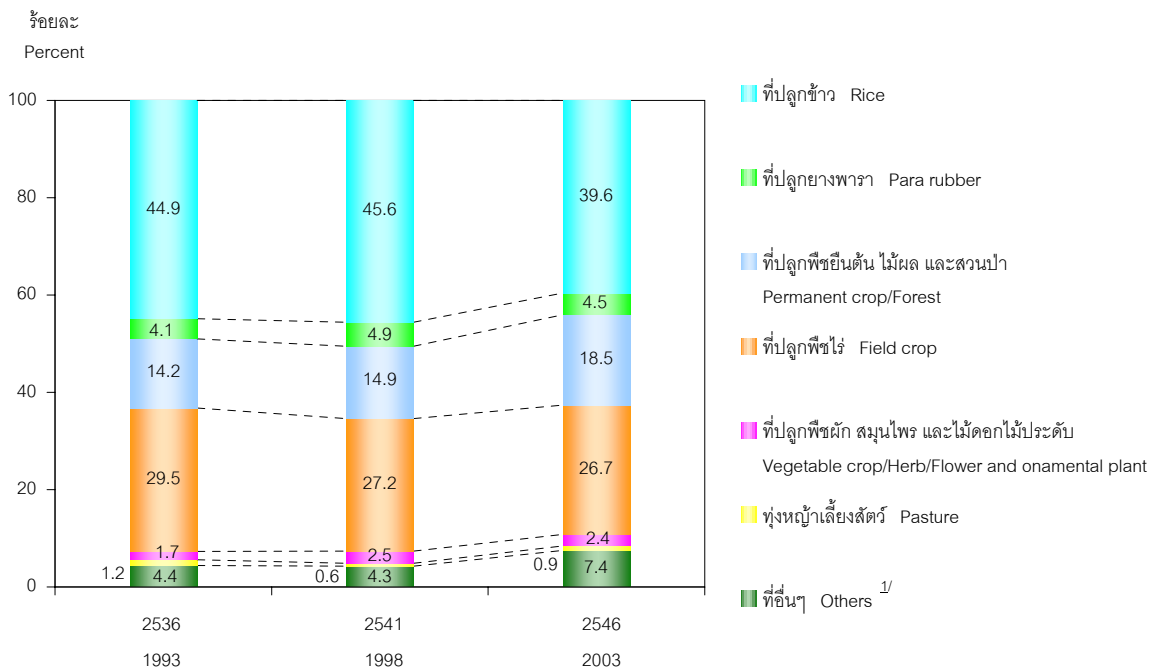
แผนภูมิ 7 จำนวนผู้ถือครองทำการเกษตร จำแนกตามขนาดเนื้อที่ถือครองทั้งสิ้น

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 (3.4%)
In 2003, including fresh water culture area (3.4%)

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 Central Region was 902,759. Changwat Suphan Buri occupied the largest number of holdings with 75,643 (8.4%). It was followed by Changwat Kanchanaburi with 66,852 (7.4%) and Bangkok had the smallest number of holdings with 6,659 (0.7%)

With the total area of holding of around 21.6 million rais,^{1/} or about 6.7% of the total area of the country.^{2/} For the provincial area, Changwat Lop Buri occupied the largest area of holding with 2.2 million rais (10.0%), followed by Changwat Kanchanaburi, Suphan Buri and Sa Kaeo with 8.8, 8.7 and 8.6% respectively and the smallest area in Changwat Samut Songkhram (0.4%). The average area per holding of the Central Region was 23.9 rais, it showed a gradual decrease from 25.8 and 25.0 rais in 1993 and 1998 respectively.^{3/} The holding in Changwat Lop Buri had the largest average area of 37.2 rais, and the smallest average area was in Changwat Samut Songkhram with 6.9 rais. (Figure 1)

2. Some Characteristics of Holdings

2.1 Size of Total Area of Holding

In the Central Region, the number of holdings having an area under 10 - 39 rais constituted 44.6%, of which 28.4% were the holdings with area under 6 rais, while the largest size (140 rais and over) had only 1.4%.

From 1998 to 2003 the number of holdings in the Central Region increased by 50,506 (5.9%). It was found that almost all the size of holdings had increased, especially in the smallest size (under 6 rais) which increased by 57.5 percent. (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	934,024	852,253	902,759	100.0	100.0	100.0	-8.8	5.9
Under 6	205,200	163,103	256,848	22.0	19.1	28.4	-20.5	57.5
6 – 9	92,113	78,395	88,341	9.9	9.2	9.8	-14.9	12.7
10 – 39	470,736	486,537	402,452	50.4	57.1	44.6	3.4	-17.3
40 – 139	154,241	115,606	142,825	16.5	13.6	15.8	-25.0	23.5
140 and over	11,734	8,612	12,293	1.2	1.0	1.4	-26.6	42.7

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%), 16.6% of the holdings operated not only under own land but also under other land and 19.3% of the holdings operated under other land. It was observed that the number of holdings of other land increased by 37.4% 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 (76.2%). (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	934,024	848,860	902,483	100.0	100.0	100.0	-9.1	6.3
By land tenure								
Own land	622,129	591,484	578,707	66.6	69.7	64.1	-4.9	-2.2
Others	190,887	126,700	174,074	20.5	14.9	19.3	-33.6	37.4
Own land and others	121,008	130,676	149,702	12.9	15.4	16.6	8.0	14.6
By documentary of right^{1/} (own land only)								
Title deed/ NS5/ NS3/ NS3k			554,926			76.2		
SPK 4-01/ NK/ STK/ KSN			85,914			11.8		
NS2/ SK1			5,928			0.8		
Others			104,675			14.4		

^{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 Central Region was 21.6 million rais. Of these, the major portion (39.6%) was the area under rice, followed by field crop (26.7%), permanent crop / forest (18.5%) respectively.

From 1998 to 2003 the total area of holding in the Central Region increased by 253,112 rais (1.2%). It was observed that the area under permanent crop / forest and pasture increased by 25.1 and 69.3% respectively, while the area under rice decreased by 12.2%. Considering land tenure, it was found that the major portion (62.4%) was the area owned by the holder which most of them had Title deed, NS 5, NS 3, NS 3k (62.8%). (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	24,127,818	21,339,253	21,592,365	100.0	100.0	100.0	-11.6	1.2
By land use								
Rice	10,826,521	9,723,401	8,541,412	44.9	45.6	39.6	-10.2	-12.2
Para rubber	1,002,668	1,049,918	980,168	4.1	4.9	4.5	4.7	-6.6
Permanent crop / Forest	3,425,767	3,186,947	3,986,821	14.2	14.9	18.5	-7.0	25.1
Field crop	7,120,369	5,807,834	5,754,882	29.5	27.2	26.7	-18.4	-0.9
Vegetable crop / Herb / Flower and Ornamental plant	402,337	542,297	512,345	1.7	2.5	2.4	34.8	-5.5
Pasture	281,515	121,350	205,407	1.2	0.6	0.9	-56.9	69.3
Fresh water culture ^{1/}			741,661			3.4		
Others	1,068,641	907,506	869,669	4.4	4.3	4.0	-15.1	-4.2
By land tenure								
Own land	14,157,916	15,268,599	13,476,951	58.7	71.6	62.4	7.8	-11.7
Others	9,969,902	6,070,656	8,115,414	41.3	28.4	37.6	-39.1	33.7
By documentary of right^{2/} (own land only)			13,476,951			100.0		
Title deed/ NS5/ NS3/ NS3k			8,460,791			62.8		
SPK 4-01/ NK/ STK/ KSN			2,205,224			16.4		
NS2/ SK1			98,282			0.7		
Others			2,712,654			20.1		

^{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 812,669 holdings with crops in the Central Region, 87.3% used fertilizers. Most of them (82.2%) using inorganic fertilizers, of which the holdings using inorganic fertilizers only was 53.2%, while 29.0% of holdings used inorganic and organic fertilizers. There was very small number of holdings using only organic fertilizers (5.1%). The average quantity used of inorganic fertilizers was 57.3 kg./rai which increased from 1993 and 1998 (52.6 and 55.9 kg./rai respectively). However, the number of holdings using inorganic fertilizers only decreased by 17.2% from 1998.

Considering the use of pesticides, 75.0% of holdings reported of using pesticides, of which 71.1% 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	895,340	836,979	812,669	100.0	100.0	100.0	-6.5	-2.9
By using fertilizer								
Not use fertilizer	155,890	78,367	102,937	17.4	9.4	12.7	-49.7	31.4
Use fertilizer	739,450	758,612	709,732	82.6	90.6	87.3	2.6	-6.4
Inorganic	466,649	522,245	432,193	52.1	62.4	53.2	11.9	-17.2
Organic	34,340	25,259	41,324	3.9	3.0	5.1	-26.4	63.6
Inorganic and organic	238,461	211,108	236,215	26.6	25.2	29.0	-11.5	11.9
By using pesticide								
Not use pesticide	281,504	148,033	203,429	31.4	17.7	25.0	-47.4	37.4
Use pesticide ^{1/}	613,836	688,946	609,240	68.6	82.3	75.0	12.2	-11.6
Chemical			578,023			71.1		
Organic			43,206			5.3		
Natural-enemies			10,489			1.3		
Others			45,797			5.6		
2. Area treated inorganic fertilizer (rai)	17,801,559	21,095,685	21,273,604				18.5	0.8
3. Quantity used inorganic fertilizer (1,000 kg.)	937,333	1,178,574	1,219,848				25.7	3.5
Average per rai (kg.)	52.6	55.9	57.3				6.3	2.5

^{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 67.4% of holders were male and only 32.6% were female. However, the proportion of female holders increased 12.3% from 1998. Most of them (87.3%) in the age group of 35 years and over. Out of this, 71.4% in the age group 35 - 64 years and 15.9% in the age group 65 years and over, which the proportion of the holders in this group increased by 3.3% 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)	933,502	851,024	901,440	100.0	100.0	100.0	-8.8	5.9
By sex								
Male	739,985	677,864	607,355	79.3	79.7	67.4	-8.4	-10.4
Female	193,517	173,160	294,085	20.7	20.3	32.6	-10.5	69.8
By age group								
Under 25 years	12,705	3,987	7,319	1.4	0.5	0.8	-68.6	83.6
25 – 34 years	132,620	91,013	107,612	14.2	10.7	11.9	-31.4	18.2
35 – 44 years	243,960	214,641	219,998	26.1	25.2	24.4	-12.0	2.5
45 – 54 years	229,748	241,663	248,902	24.6	28.4	27.6	5.2	3.0
55 – 64 years	197,203	192,289	174,668	21.1	22.6	19.4	-2.5	0.0
65 years and over	117,266	107,431	142,941	12.6	12.6	15.9	-8.4	33.1

There were 3.2 million holder's household members or 16.5% of total population in the Central Region, of which 50.6% were male and 49.4% were female. The average number of members was 3.6 persons. It showed a gradual decrease from 4.0 and 3.9 persons in 1993 and 1998 respectively. The dependency ratio^{1/} was 41.8%. 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 30.3% while member 65 years and over were the smallest with 9.0%.

Regarding the activity status of holder's household members aged 10 years and over, it was found that 73.8% engaged in agricultural work on the holding, among these 38.1% engaged in agricultural work only on the holding and 35.7% engaged both in agricultural work on the holding and other works. While 9.3% 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 54.0, 50.3 to 38.1% 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)	3,723,675	3,342,279	3,211,177	100.0	100.0	100.0	-10.2	-3.9
Average per household	4.0	3.9	3.6				-2.5	-7.7
By sex								
Male	1,808,768	1,645,620	1,626,368	48.6	49.2	50.6	-9.0	-1.2
Female	1,914,907	1,696,659	1,584,809	51.4	50.8	49.4	-11.4	-6.6
By age group								
Under 25 years	1,513,082	1,278,580	972,805	40.6	38.2	30.3	-15.5	-23.9
25 – 34 years	642,011	517,022	611,312	17.2	15.5	19.0	-19.5	18.2
35 – 44 years	573,872	533,861	552,045	15.4	16.0	17.2	-7.0	3.4
45 – 54 years	429,505	448,974	477,080	11.5	13.4	14.9	4.5	6.3
55 – 64 years	337,020	333,617	309,716	9.1	10.0	9.6	-1.0	-7.2
65 years and over	228,185	230,225	288,219	6.2	6.9	9.0	0.9	25.2
2. Number of holder's household members 10 years of age and over	3,082,382	2,752,102	2,929,741	100.0	100.0	100.0	-10.7	6.5
By activity status								
Economically active	2,757,597	2,259,380	2,433,892	89.5	82.1	83.1	-18.1	7.7
Engaged in agricultural work on the holding only	1,665,693	1,383,480	1,114,844	54.0	50.3	38.1	-16.9	-19.4
Engaged in agricultural work on the holding and other works	864,457	685,804	1,046,643	28.1	24.9	35.7	-20.7	52.6
Mainly engaged in agricultural work on the holding	510,971	361,135	595,177	16.6	13.1	20.3	-29.3	64.8
Mainly engaged in agricultural work on other holdings	70,667	40,813	109,586	2.3	1.5	3.7	-42.2	168.5
Mainly engaged in other works	282,819	283,856	341,880	9.2	10.3	11.7	0.4	20.4
Not engaged in agricultural work on the holding	227,447	190,096	272,405	7.4	6.9	9.3	-16.4	43.3
Mainly engaged in agricultural work on other holdings	9,484	3,741	27,819	0.3	0.1	0.9	-60.6	643.6
Mainly engaged in other works	217,963	186,355	244,586	7.1	6.8	8.4	-14.5	31.2
Not economically active	324,785	492,722	495,849	10.5	17.9	16.9	51.7	0.6

6. Income and Debt of Holder's Household

There were 26.4% of holders who had household income from agriculture only, while 73.6% 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 29.6% have income from agricultural product in 20,001 - 50,000 baht, followed by income in 50,001 - 100,000 and 100,001 baht and over with 20.6 and 19.8% 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)	933,296	851,883	901,451	100.0	100.0	100.0	-8.7	5.8
By source of household income								
Agriculture only	433,751	403,087	238,131	46.5	47.3	26.4	-7.1	-40.9
Agriculture and other sources	499,545	448,796	663,320	53.5	52.7	73.6	-10.2	47.8
Mainly from agriculture	273,433	243,036	373,386	29.3	28.5	41.4	-11.1	53.6
Mainly from being agricultural worker	28,873	19,406	31,957	3.1	2.3	3.5	-32.8	64.7
Mainly from other sources	142,606	160,476	176,348	15.3	18.8	19.6	12.5	9.9
Equally from agriculture and other sources	54,633	25,878	81,629	5.8	3.1	9.1	-52.6	215.4
By income from agricultural product^{1/}								
Not having agricultural product	24,164	15,026	25,336	2.6	1.8	2.8	-37.8	68.6
Having agricultural product (baht)	909,132	836,857	876,115	97.4	98.2	97.2	-7.9	4.7
Under 5,001	61,606	28,748	49,317	6.6	3.4	5.5	-53.3	71.6
5,001 - 10,000	150,320	70,261	74,800	16.1	8.2	8.3	-53.2	6.5
10,001 - 20,000	201,794	118,981	120,697	21.6	14.0	13.4	-41.0	1.4
20,001 - 50,000	280,703	266,378	267,007	30.1	31.3	29.6	-5.1	0.2
50,001 - 100,000	133,398	198,106	185,713	14.3	23.2	20.6	48.5	-6.3
100,001 and over	81,311	154,383	178,581	8.7	18.1	19.8	89.9	15.7

^{1/} Value of agricultural product

According to debt of household, there were 51.5% of the holders being in debt for agriculture. The amount of debt for agriculture of the Central Region was 56,095 million baht, which increased by 22.5% (10,302 million baht) from 1998. The average per household in debt was 120,894 baht. Most of the holders being in debt (51.2%) borrowed from Bank for agriculture and agricultural cooperative. It should be notice that there were 7.8% 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)	933,290	851,883	901,451	100.0	100.0	100.0	-8.7	5.8
By being in debt for agriculture								
Not being in debt	524,065	433,482	437,449	56.2	50.9	48.5	-17.3	0.9
Being in debt	409,225	418,401	464,002	43.8	49.1	51.5	2.2	10.9
2. Amount of debt for agriculture (million baht)	33,116	45,793	56,095	100.0	100.0	100.0	38.3	22.5
By source of loan								
Bank for agriculture and agricultural cooperative	13,429	25,914	28,722	40.6	56.6	51.2	93.0	10.8
Other banks / Financial institute	10,611	9,021	10,150	32.0	19.7	18.1	-15.0	12.5
Cooperative / Farmer's group	2,480	3,532	5,489	7.5	7.7	9.8	42.4	55.4
Village and city fund ^{1/}			4,352			7.8		
Other government agencies ^{2/}		148	405		0.3	0.7		173.6
Unorganized market	6,596	7,178	6,977	19.9	15.7	12.4	8.8	-2.8
Middleman	1,374	698	1,285	4.1	1.5	2.3	-49.2	84.1
Money lender	2,222	2,347	2,265	6.7	5.2	4.0	5.6	-3.5
Relative / Neighbour / Others	3,000	4,133	3,427	9.1	9.0	6.1	37.8	-17.1
Average per household in debt (baht)	80,924	109,448	120,894				35.2	10.5
Average per total households (baht)	35,483	53,755	62,227				51.5	15.8

^{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 Central Region, there were 54.3% of the total holdings employed agricultural workers, of which most of them employed workers on an occasional basis. The data show that only 4.0% of the total holdings employed permanent agricultural workers with 154,808 persons, among these 7.6% 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	933,959	851,883	902,709	100.0	100.0	100.0	-8.8	6.0
Not employ agricultural workers	416,942	258,209	412,929	44.6	30.3	45.7	-38.1	59.9
Employ agricultural workers	517,017	593,674	489,780	55.4	69.7	54.3	14.8	-17.5
Permanent workers	12,036	8,212	15,438	1.3	1.0	1.7	-31.8	88.0
Occasional workers	485,680	570,483	453,999	52.0	67.0	50.3	17.5	-20.4
Permanent and occasional workers	19,301	14,979	20,343	2.1	1.7	2.3	-22.4	35.8
2. Number of permanent workers	171,890	85,616	154,808	100.0	100.0	100.0	-50.2	80.8
By sex								
Male	91,909	51,260	89,928	53.5	59.9	58.1	-44.2	75.4
Female	79,981	34,356	64,880	46.5	40.1	41.9	-57.0	88.8
By source of workers ^{1/}								
Thai			143,036			92.4		
Foreigner			11,772			7.6		

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