



# Chapter 1

## Introduction

### 1.1 Introduction

Maize is one of a major economic crop in Thailand; the planted area of maize is 6.606 million rai in the year 2006/2007. The estimated yield is 3.886 million ton and estimated yield per rai is 588 kg./rai. The major production source of maize in Thailand is in Petchaboon, Nakornratchasima, Lopburi, Nakornsawan, Tak, Chiangrai, Leoi, Sakaew, Utaithani and Pitsanulok. The estimated farm value of maize is the second biggest in Thailand by 19,000 million Baht from farming value of rice. Most of maize production will be used domestically in the food processing industry and exporting. Competitive market for maize is in U.S.A., China, France, Argentina, Brazil, Hungary and Germany.

The planting area of maize was not stable in some area because of the decreasing of farming price and the increasing of production cost. Therefore, there is a research from both public and private sectors developed the variety of maize in order to gain more yield per rai. It is very important to conduct crop cutting survey and estimate for yield per rai in each year. The result will apply for the plan and policy making for the highly effective of production and marketing plan of maize in the near future.

In the past, there were many conflicts on data accuracy of yield per rai between organizations. The problem occurred by the different sources of information and survey method conducted by each organization. Therefore, OAE with the cooperation of JICA ASEAD Project applied the crop cutting survey method on yield per rai that expect to help increasing more reliability of data rather than other survey methods.

## 1.2 Working Plan

Planning period of maize crop cutting survey is on 12 August – 31 October 2006, in total of 20 provinces.

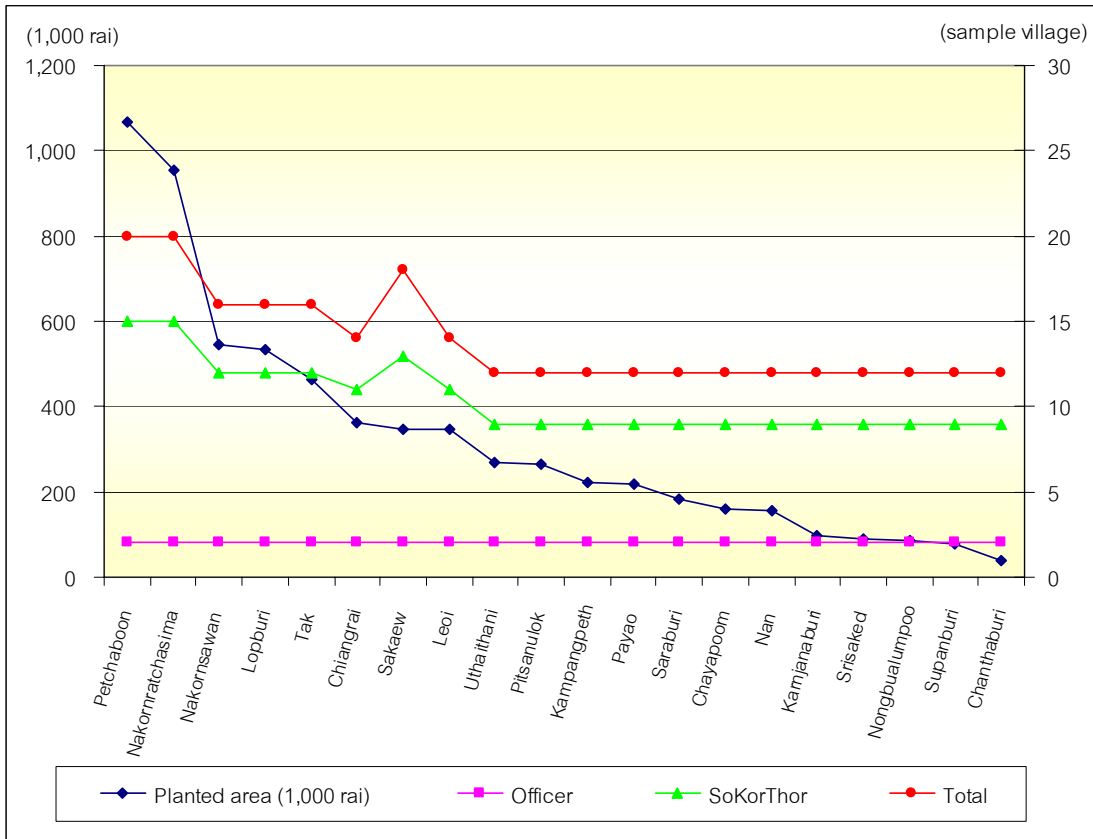
Table 1: Working plan of maize crop cutting survey, Crop year 2006/2007

Activities	2006																			
	July				August				September				October				November			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Planning	1		15																	
2. Preparation of technical data			16	31																
3. Randomly select sample village			20	31																
4. Crop cutting training (Officers & SKT)						16		7												
5. Field survey operation						12														31
6. Follow up for the survey result from SoKorThor									1											7
7. Input data through web data system (RDAE)										12										15
8. Analyze and summary of data													1							25
9. Survey report																				28

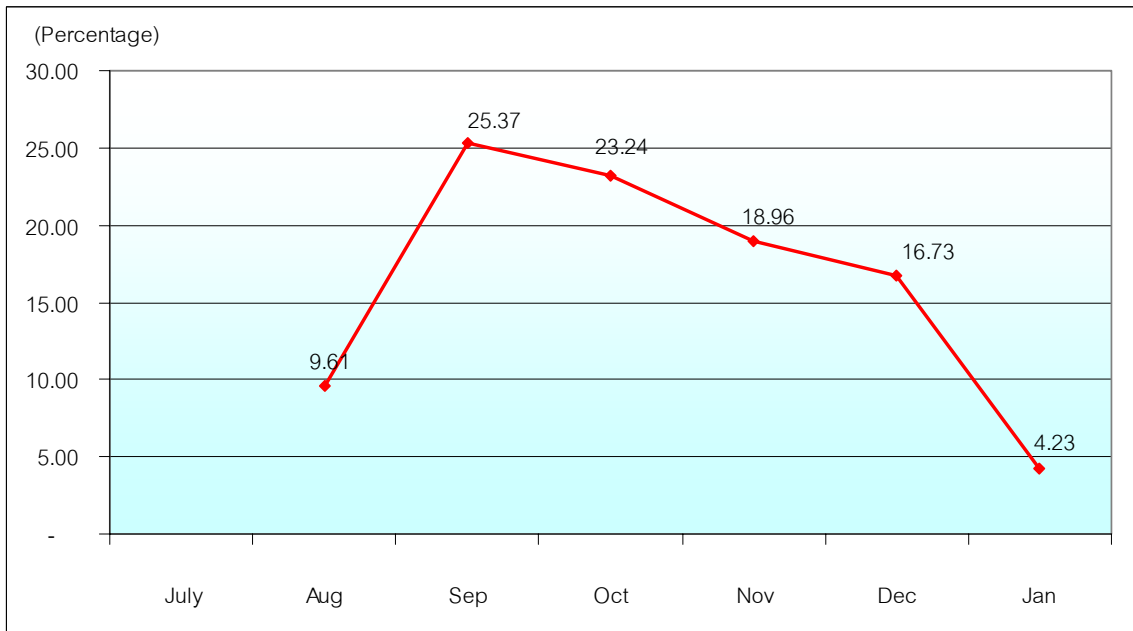
The procedures of crop cutting survey are total of 4 procedures as follows: Crop cutting survey, Moisture Survey, Gleaning Survey and Dyke Survey.

Table 2: Target province, No. of sample village and No. of sample household on Maize crop cutting survey, Crop Year 2006/2007

ROAE	Province	Planted area (rai)	Crop cutting yield per rai						Harvest loss survey		Dyke survey	
			ROAE Officer		SoKorThor		Total		ROAE Officer		ROAE Officer	
			No. of sample village	No. of sample household	No. of sample village	No. of sample household	No. of sample village	No. of sample household	No. of sample village	No. of sample household	No. of sample village	No. of sample household
1	Chiangrai	344,120	2	6	13	39	15	45	2	2	2	2
	Payao	224,670	2	6	10	30	12	36	2	2	2	2
	Nan	155,273	2	6	10	30	12	36	2	2	2	2
	Total	724,063	6	18	33	99	39	117	6	6	6	6
2	Pitsanulok	253,010	2	6	10	30	12	36	2	2	2	2
	Tak	477,438	2	6	13	39	15	45	2	2	2	2
	Kampangpeth	211,133	2	6	10	30	12	36	2	2	2	2
	Petchaboon	1,020,604	2	6	18	54	20	60	2	2	2	2
	Nakornsawan	522,035	2	6	13	39	15	45	2	2	2	2
	Uthaitхани	260,339	2	6	10	30	12	36	2	2	2	2
Total	2,744,559	12	36	74	222	86	258	12	12	12	12	
3	Leoi	291,397	2	6	13	39	15	45	2	2	2	2
	Nongbualumpoo	68,907	2	6	10	30	12	36	2	2	2	2
	Total	360,304	4	12	23	69	27	81	4	4	4	4
4	Chaiyapoom	140,080	2	6	10	30	12	36	2	2	2	2
	Total	140,080	2	6	10	30	12	36	2	2	2	2
5	Nakornratchasin	854,867	2	6	15	45	17	51	2	2	2	2
	Sisaked	80,500	2	6	10	30	12	36	2	2	2	2
	Total	935,367	4	12	25	75	29	87	4	4	4	4
6	Sakaew	285,385	2	6	15	45	17	51	2	2	2	2
	Chantaburi	38,570	2	6	10	30	12	36	2	2	2	2
	Total	323,955	4	12	25	75	29	87	4	4	4	4
7	Lopburi	519,081	2	6	18	54	20	60	2	2	2	2
	Saraburi	172,644	2	6	13	39	15	45	2	2	2	2
	Karnjanaburi	94,146	2	6	10	30	12	36	2	2	2	2
	Supanburi	73,731	2	6	10	30	12	36	2	2	2	2
	Total	859,602	8	24	51	153	59	177	8	8	8	8
Total in country		6,087,930	40	120	241	723	281	843	40	40	40	40

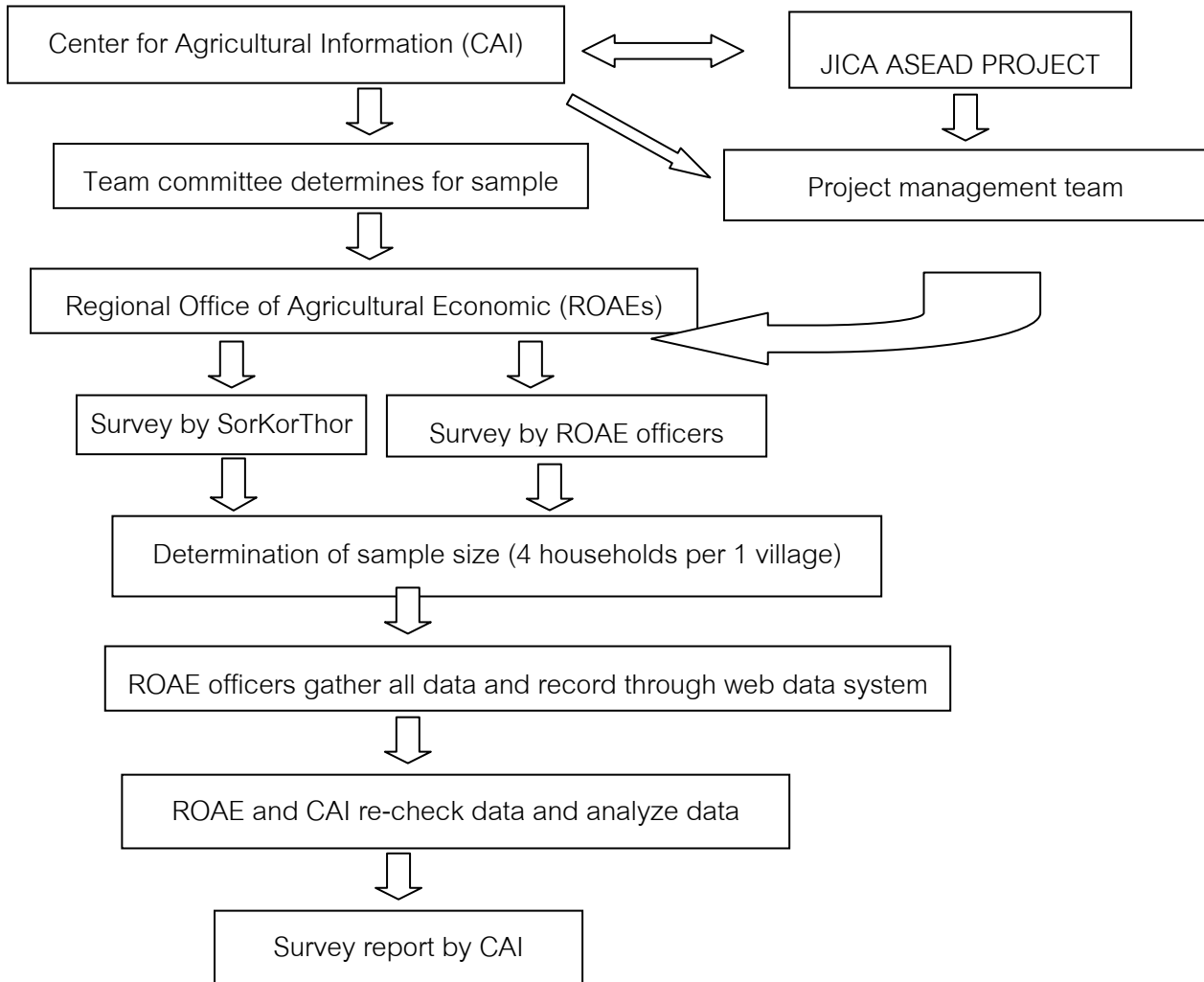


Picture 1: Target province, No. of sample village and No. of sample household on Maize crop cutting survey, Crop Year 2006/2007



Picture 2: Percentage of monthly harvesting of maize production

### 1.3 Relevant parties



Picture 3: Relevant parties and concerning people

## 1.4 Survey methods

### 1.4.1 Sampling method

1) **Primary sample:** Use the same sample village as previous year operated by ROAEs.

2) **Secondary sample:** Randomly select maize household, it is responsible by ROAE Officers or SorKorThor, start by listing of total household in the sample village and then random for 3 sample households per 1 sample village.

### 1.4.2 Sample size and sample field operation

1) Determine 3 sample household per 1 village

2) Use 30 paces method (walk along the field edge) for randomly select 2 survey spots per 1 household.

3) Measurement for planting density by measuring of width of the planted row (3 planted rows, 2 spaces)

4) Counting of plant, pod in the length of 3 meter

5) Weighing of production seeds

6) Testing for moisture of production seeds immediately

## 1.5 Survey operation by Local Agricultural Economist (SorKorThor)

### 1.5.1 Selection process of SorKorThor

Qualification of SoKorThor is knowledgeable, able to operate crop cutting with accuracy and have experiences in related field.

### 1.5.2 Roles and responsibility of SoKorThor

- 1) Attend the crop cutting survey training organized by OAE
- 2) Study survey manual and prepare for the survey
- 3) Listing of household's name who planted soybean in the village (Form 1)
- 4) Random of sample household by using the "Random Table" (Form 2)
- 5) Contact sample household and clearly explain the objective of crop cutting survey. Interview for the information according to the survey form.
- 6) Select sample field by using random table (Table 3 & 4)
- 7) During the harvesting season, contact sample household and ask for the cooperation
- 8) Checking accuracy
- 9) Collect soybean production in the production bag and keep all documents for submitting to ROAE Officers according to the appointment

### 1.5.3 Attend the training

The training is helpful for SoKorThor in order to be skillful and have confident to conduct crop cutting. Contents of the training are as follows:

- 1) Survey procedures
- 2) Definition, questionnaire, survey form and data recording
- 3) Field survey practicing