

REPORT  
ON  
THE FEASIBILITY STUDY PHASE I ON  
THE COMPREHENSIVE STORAGE FACILITIES  
DEVELOPMENT PROJECT  
IN  
THE KINGDOM OF THAILAND

VOLUME II  
(APPENDIX)

September 1984

JAPAN INTERNATIONAL COOPERATION AGENCY



No.

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APPENDIX A

SCOPE OF WORK





MINUTES OF THE MEETING

ON SCOPE OF WORK

FOR THE FEASIBILITY STUDY PHASE 1

ON THE COMPREHENSIVE STORAGE FACILITIES DEVELOPMENT PROJECT

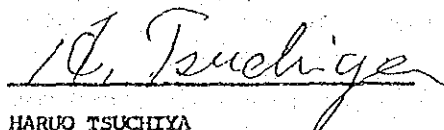
IN THE KINGDOM OF THAILAND

The Preliminary Survey Team on the Feasibility Study Phase 1 on the Comprehensive Storage Facilities Development Project headed by Mr. HARUO TSUCHIYA, Director of Agricultural Forestry & Fisheries Planning and Survey Dept., Japan International Cooperation Agency and Public Warehouse Organization discussed and exchanged their views concerning the draft of Scope of Work prepared by the Preliminary Survey Team.

Both sides agreed the Scope of Work and it was also agreed that PWO would make necessary arrangement with the concerned agencies mentioned in the Scope of Work in order to facilitate the implementation of the Study.

December 22, 1983.

Bangkok, Thailand

  
HARUO TSUCHIYA

Leader Of Preliminary Survey Team  
Japan International Cooperation  
Agency

  
SAVARAJ SACHCHAMARGA

Managing Director  
Public Warehouse Organization  
Ministry Of Commerce

SCOPE OF WORK

FOR

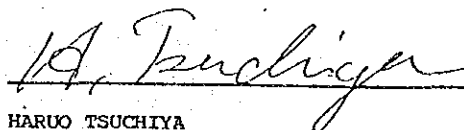
THE FEASIBILITY STUDY PHASE I

ON

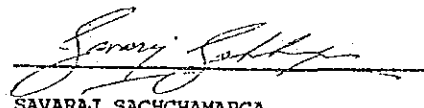
THE COMPREHENSIVE STORAGE FACILITIES DEVELOPMENT PROJECT

IN

THE KINGDOM OF THAILAND



HARUO TSUCHIYA  
Leader of Preliminary Survey Team  
Japan International Cooperation  
Agency



SAVARAJ SACHCHAMARGA  
Managing Director  
Public Warehouse Organization  
Ministry of Commerce

## I. INTRODUCTION

In response to the request of the Government of Thailand (hereinafter referred to as "GOT"), the Government of Japan has decided to conduct the Phase I of the Feasibility Study on the Comprehensive Storage Facilities Development Project (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

The Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of technical cooperation programs of the Government of Japan, will undertake the Study, in close cooperation with the authorities of Thailand.

The Public Warehouse Organization (hereinafter referred to as "PWO") shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

The present document constitutes the implementing arrangements between JICA and PWO.

This scope of work covers the terms for the phase I study. The scope of work for the phase II study will be discussed between both governments based on the results of the phase I study and concluded after an agreement is reached by the both parties.

## II. OBJECTIVE OF THE STUDY

The Study aims at analyzing general conditions concerning storage facilities of agricultural produce in Thailand and identifying problems therein, so that the study results can be referred to as a basis for indicating the direction of the phase II study.

## III. OUTLINE OF THE STUDY

The Study will be conducted focusing on the role and function of PWO as well as such agencies concerned as the Department of Cooperatives Promotion (CPD), the Agricultural Cooperation Federation of Thailand (ACFT) the Marketing Organization for Farmers (MOF), the Bank for Agriculture and Agricultural Cooperatives (BAAC) and major non-governmental organizations which are concerned with marketing of commercial agricultural produce. The study area covers whole Thailand centering upon Bangkok. However, the extent of data collection will be limited to the provincial level.

The Study is composed of field survey in Thailand and home office work in Japan as follows.

## 1. Field Survey

Based on discussions with the agencies concerned, the study team will conduct data collection and survey on the marketing condition to agricultural produce. Study items are summarized as follows:

- (1) Policy on Agriculture Development
  - 1) Promotion of agriculture production and agro-based industry
  - 2) Price control of agricultural products and other supporting systems for farmers
- (2) Progress of ongoing development plans
  - 1) Production increase by region
  - 2) Marketing facilities
  - 3) Enhancement of agricultural supporting activities
  - 4) Improvement of transportation system
- (3) Agro-Economy
  - 1) Socio-agro-economic condition by region
  - 2) Agricultural production by region
  - 3) Trend of export of agricultural products
  - 4) Markets and price of agricultural products
- (4) Marketing System for Agricultural Products
  - 1) Role and function of PWO
  - 2) Role and function of government agencies concerned
  - 3) Role and function of non-governmental organizations and their relationship with government agencies
  - 4) Marketing mechanism of each kind of agricultural commodities by region
  - 5) Scale of facilities managed by marketing organizations and historical record on their handling
  - 6) Condition of agro-based industry by region and marketing route of raw materials and processed goods
  - 7) Activities of farmer's organizations including marketing cooperatives and producer's association
  - 8) Agriculture credit system

## 2. Home Office Work

Based on the results of the field survey in Thailand, study will be conducted in Japan on the following items:

- (1) Identification and analysis of problems in production, storage and Marketing system of crops
- (2) Analysis on role and function to be borne by PWO and other government agencies

- (3) Analysis on the role and function to be borne by private organizations and their relationship with government organizations
- (4) Identification of alternative plans for the solution of problems in agricultural produce marketing system and recommendation of approaches to their implementation
- (5) Identification of scale and scope of a development plan of storage facilities to be implemented by PWO
- (6) Recommendation on further steps to be taken, including approaches to the phase II study.

#### IV. WORK SCHEDULE

The Study work will be proceeded according to the tentative work schedule attached.

#### V. REPORTS

The Study team will prepare and submit the following reports in English to GOT.

- (1) Plan of Operation  
Thirty (30) copies at the commencement of the Study
- (2) Progress Report  
Thirty (30) copies at the end of the field survey
- (3) Draft Final Report  
Fifty (50) copies within one (1) month after the end of the home office work. GOT is requested to provide its comments on the Draft Final Report within one (1) month after the submission of the Draft Final Report.
- (4) Final Report  
Fifty (50) copies within two (2) months after receiving comments on the Draft Final Report from GOT.

#### VI. UNDERTAKINGS OF THE GOVERNMENT OF THAILAND

In accordance with the Agreement on Technical Cooperation between the Government of Japan and the Government of Thailand, the latter shall accord privileges, immunities and other benefits to the Japanese team.

- (1) To facilitate smooth conduct of the study, the Government of the Thailand will take necessary measures
  - 1) To provide the safety of the Japanese study team.
  - 2) To permit the members of the Japanese study team to enter, leave and sojourn in the Kingdom of Thailand for the duration of their assignment therein, and exempt them from alien registration requirements and consular fees.

- 3) To exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into the Kingdom of Thailand for the conduct of the Study.
  - 4) To exempt the members of the Japanese study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Japanese study team for their services in connection with the implementation of the Study.
  - 5) To provide the necessary facilities to the Japanese study team for the remittances as well as utilization of funds introduced into the Kingdom of Thailand from Japan in connection with the implementation of the Study.
  - 6) To secure permission for entry into private properties or restricted area for the conduct of the Study.
  - 7) To secure permission to take all data and documents related to the Study including photographs out of the Kingdom of Thailand to Japan by the Japanese study team.
- (2) The Government of Thailand shall bear claims, if any arises, against the members of the Japanese study team resulting from, occurring in the course of, or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or wilful misconduct on the part of the members of the Japanese study team.
- (3) FWO shall act as counterpart agency to the Japanese study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.
- (4) FWO shall, at its own expense, provide the Japanese study team with the following, in cooperation with other agencies concerned, if necessary.
- 1) available data and information related to the Study
  - 2) counterpart personnel
  - 3) suitable office with necessary equipment and furniture

#### VII. UNDERTAKINGS OF THE GOVERNMENT OF JAPAN

The Government of Japan shall, in accordance with the relevant laws and regulations in force in Japan, take the following necessary measures to conduct the cooperation:

- (1) To dispatch, \_\_\_\_\_ at its own expenses, \_\_\_\_\_ the study team in accordance with the attached tentative work schedule, and
- (2) To receive, \_\_\_\_\_ at its own expenses, \_\_\_\_\_ Thai counterpart personnel connected with the Study for technical training in Japan in accordance with the normal procedures under the Colombo Plan Technical Cooperation Scheme.

VIII. JICA and FWO will consult with each other in respect of any matter that is not agreed upon in this document and may arise from or in connection with the Study.

Tentative work schedule (PHASE 1)

Month	1	2	3	4	5	6	7	8	9
Item									
Field Survey	[Bar chart showing activity from month 1 to 2]								
Home Office Work			[Bar chart showing activity from month 3 to 4]						
Submission of Report	△ P.O.	△ P.R.			△ D.F.R.			△ F.R.	

Remarks:

P.O.; Plan of Operation

P.R.; Progress Report

D.F.R.; Draft Final Report

F.R.; Final Report



APPENDIX B

RECORD OF THE DISCUSSION DIALOGUE



RECORD OF THE DISCUSSION DIALOGUE

Discussion dialogue between the Minister of Commerce and the Japanese Study Team on the Comprehensive Storage Facilities Development Project, held on the occasion of the courtesy visit paid to the Minister of Commerce on February 24, 1984.

ATTENDANTS

Ministry of Commerce Delegation

- |                             |   |
|-----------------------------|---|
| 1. H.E. Kosol Krairiksh     | Minister of Commerce  |
| 2. H.E. Prayoon Chindasilpa | Deputy Minister of Commerce                                   |
| 3. Mr. Chuti Krairiksh      | Personal Secretary to H.E. Kosol Krairiksh<br>and Interpreter |

Japanese Delegation

- |                          |                          |
|--------------------------|--------------------------|
| 1. Mr. Kaichiro Aida     | Team Leader              |
| 2. Mr. Heijiro Yoshihara | Sub-Leader, Agro Economy |
| 3. Mr. Makoto Yamada     | Marketing                |
| 4. Mr. Isamu Yamazaki    | Machinery and Facilities |

Public Warehouse Organization (PWO) Delegation

- |                             |                          |
|-----------------------------|--------------------------|
| 1. Dr. Savaraj Sachchamarga | Managing Director of PWO |
| 2. Dr. Prachak Charoen      | Adviser to the PWO       |
- .....

The meeting convened at : 11:30 a.m.

The Minister: We are pleased to welcome you and your colleagues, the representatives from Japan. I have learned from the Managing Director of PWO that you would provide assistance to Thailand by means of improving the storage facilities and building more proper warehouses. I, in the capacity as the Chairman of the Board of Directors of PWO and the Minister of Commerce would like to take this opportunity to give you some ideas and background about PWO.

PWO was established principally for the purpose of assisting farmers to sell their products at reasonable prices and is in fact the only state organization under the Ministry of Commerce which is carrying out this task. During the past 3 years, the Government had spent a great amount of money in a programme to buy paddy from farmers in order to stabilize the price. Under this programme, rice is bought at a high price to help farmers, and resold at a lower price. This has created a heavy burden on the part of the Government. Now, the Government of Thailand realizes that for a country like Thailand the policy has to be flexible, and sees the importance to review such policy whenever necessary in order to utilize the limited funds at the most efficient level. However, assistance to farmers through the price stabilization programme is found to be necessary. In my personal opinion, the assistance from Japan in building warehouses in various places throughout the country will greatly help to stabilize the price of our agricultural products. We hope to have proper and sufficient number of these warehouses to enable us to intervene into the market at least 10% of the total marketable surplus of agricultural products.

As regards the rumours pertaining to the dissolution of PWO, I should like to reassure you all that they have

no ground and are absolutely untrue. These rumours were spread and created as the political weapon in order to damage the Ministry of Commerce. It is essential for the Ministry of Commerce to maintain and strengthen PWO to accomplish its task.

Mr. Aida:

Our purpose here today is to pay Your Excellency a courtesy visit. We are presently conducting a feasibility study on a Comprehensive Storage Facilities Development Project as requested by the Royal Thai Government to the Japanese Government. Since our arrival, we have had several meetings with PWO's Managing Director, Dr. Savaraj and other officials. We have studied and learned many things from the documents and data obtained from various sources. From discussions and studies about PWO's roles and functions, we understand that it has many difficulties in carrying out its activities. In our opinion, the Thai Government should consider a long-term policy for stabilizing rice price for the benefit of farmers and eventually raising their standard of living.

The Minister:

The policy has to be flexible for a poor country like Thailand due to lack of funds and financial resources. It is, in my opinion, quite impossible to make any profit for PWO under such circumstances. We started the operation of this programme from zero. Total funding source came from commercial banks in the form of loans for which interest had to be paid. Furthermore, due to the limited time we had in order to commence the operation, PWO was forced to rent warehouses throughout the country from the private sector at the high price because of the insufficient numbers of its own warehousing facilities. Moreover, rice stored in these rented warehouses were found to deteriorate faster than normal because of the improper condition.

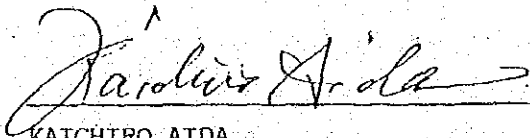
Mr. Aida:

From our studies, we think that PWO should have more

up-to-standard warehouses, equipment as well as facilities. The Japanese Government, in my opinion, would be willing to support this project. However, further studies would have to be made together with the relevant data and information. We are pleased to meet Your Excellency today and to have an opportunity to hear your opinion on this subject.

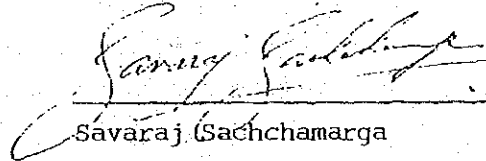
The Minister: Thank you. I should like to add that we had a trade deficit of 80,000 million Baht last year, 52% out of this is with Japan. I will meet with the Vice President of JETRO this afternoon to discuss the trade imbalance problem which may not result in a fruitful solution. However, the realization of this project will be very important to both Thailand and Japan for the mutual understanding and relationship of our two countries.

Discussion closed at 11:45 a.m.



KAICHIRO AIDA

Leader of the Japanese Study Team  
Japan International Cooperation Agency



Savaraj (Sachchamarga)

Managing Director  
Public Warehouse Organization  
Ministry of Commerce

APPENDIX C

LIST OF MAIN PERSONS INTERVIEWED





List of Main Persons Interviewed

I. Marketing Organization for Farmers, on March 6, 1984

1. Mr. Pramud Buranasiri                      Managing Director
2. Mrs. Saengtawan Sinthuvanik            Chief of Trade Dept.
3. Mrs. Chantratip Kasemsuwan            Assts. Chief of Policy and  
Planning Division
4. Mr. Vichai Jirathiyut                    Chief of Storage and Transportation  
Warehouse and Silo Division

II. Co-operative Promotion Division, on March 7, 1984

1. Mr. Chern Bamnengwong                  Director-General
2. Mrs. Chanthawan Saadpak                Chief, Foreign Relations Section,  
Technical Division
3. Mr. Damrong Panpranot                  Chief, Credit Supervision  
Sub-Division, Agricultural  
Co-operative Division

III. Bank for Agriculture and Agricultural Cooperatives, on March 8, 1984

1. Mr. Pittayapol Nattaradol                Chief Manager of Planning Division
2. Mr. Bunthoon Vaithanomsat              Asst. Chief Manager of Planning Division
3. Mr. Thiraphong Tangthirasunan        Planning Officer

IV. Agricultural Co-operatives Federation of Thailand, on March 9, 1984

1. Mr. Pramote Savigamin                    General Manager

2. Mr. Charan Kungsisana nā Ayuttaya Rice Department Adviser
3. Mr. Peerapong Vannacharoen Warehouse and Wharf Department  
Manager
4. Mr. Danujchat Tawinprawat Chief of Statistics and  
Correspondence

APPENDIX D

LIST OF THE FIELD RECONNAISSANCE



List of the field Reconnaissance

(1/3)

<u>Date</u>	<u>Name of Warehouse</u>	<u>Location</u>	<u>Possession</u>
Feb. 27 (Mon)	Bukkalo Warehouse	Bangkok	PWO
	Ratburana Warehouse	Bangkok	PWO
	Nontaburi Warehouse	Bangkrasoh, Nonthaburi	PWO
Feb. 28 (Tue)	Tap Kwang Warehouse	Saraburi	PWO
	Pak Chong Warehouse	Nakhon Ratchasima	PWO
	Peter Cremer Warehouse	Nakhon Ratchasima	Private
	Kong Chai Sanguan Rice Mill Co., Ltd.	Nakhon Ratchasima	Private
	Cho Ho Warehouse	Nakhon Ratchasima	Private
Feb. 29 (Wed)	Bua Yai Warehouse	Nakhon Ratchasima	PWO
	Ban Pai Warehouse	Khon Kaen	PWO
	Udon Liang Hong Tai Partnership	Udon Thani	Private
Mar. 1 (Thu)	Sahaso Thonvit Co., Ltd.	Yasothon	Private
	Laem Thong Ubol Rice Mill Partnership	Ubon Ratchathani	Private
Mar. 2 (Fri)	Surin Wattana Co., Ltd.	Surin	Private
	Farmer's Godown	Utumporn Pisai, Si Sa Ket	Private
Mar. 3 (Sat)	Continental Overseas Co., Ltd.	Tha Rua, Ayuttaya	Private

List of the Field Reconnaissance

(2/3)

<u>Date</u>	<u>Name of Warehouse</u>	<u>Location</u>	<u>Possession</u>
Mar. 7 (Wed)	Mah Boon Krong Rice Mill P.R. Inter Trade Co., Ltd.	Pathum Thani Tha Rua, Ayuttaya	Private Private
Mar. 8 (Thu)	Capital Rice Co., Ltd. Capital Silo & Drying Co., Ltd. Siam Flour Trading Co., Ltd. Wat Mahawong Warehouse Co., Ltd. Thai Sugar Terminal Co., Ltd.	Bangkok (Choa Phraya River) Bangkok (Choa Phraya River) Bangkok (Choa Phraya River) Bangkok (Choa Phraya River) Bangkok (Choa Phraya River)	Private Private Private Private Private
Mar. 13 (Tue)	Nontaburi Warehouse	Bangkrasoh, Nonthaburi	PWO
Mar. 15 (Thu)	Thai Rice Mill Kasem Supanburi Supun Sinhan Rice Mill Ngarm Jaroen Panich	Suphan Buri Suphan Buri Suphan Buri	Private Private Private
Mar. 16 (Fri)	Metro Company Limited	Bangkok	Private
Mar. 18 (Sun)	Thathong Port Udon Thayakij Rice Mill Surat Thani Railway Station	Surat Thani Surat Thani Punpin, Surat Thani	Surat Thani City Private Private

List of the field Reconnaissance

(3/3)

<u>Date</u>	<u>Name of Warehouse</u>	<u>Location</u>	<u>Possession</u>
Mar.22 (Thu)	Thai Cotton Enterprise Co., Ltd. Kitporn Co., Ltd. Phitsanulok Kaset Thai Co., Ltd.	Phitsanulok Phitsanulok Phitsanulok	Private Private Private
Mar.23 (Fri)	Yongsitthiroj Co., Ltd. Proposed Site	Uttaradit Lampang	Private Ministry of Finance
Mar.24 (Sat)	Vichit Ongvisit Co., Ltd. N.S. Cooperation Rice Mill	Nakhon Sawan Nakhon Sawan	Private Private
Mar.25 (Sun)	Chutchai warehouse A Ekachai warehouse Proposed Site Proposed Site	Nakhon Sawan Nakhon Sawan Nakhon Sawan Nokhon Sawan	Private Private Private Private





APPENDIX E

COLLECTED DATA AND INFORMATIONS



List of Main Data, Statistics and Information

(1/5)

<u>No.</u>	<u>Title</u>
------------	--------------

Office of Agricultural Economics, Ministry of Agriculture & Co-operatives

1. Agricultural Statistics in Brief, Crop Year 1980/1981
2. Agricultural Statistics of Thailand. Crop Year 1982/1983
3. Statistic Records for Price of Agricultural Produce, Year 1982
  - Farm - Gate Price
  - Wholesale Price in Local Market
  - Wholesale Price in Bangkok Market
  - Price of Some Major Agricultural Products in Foreign Market
4. Income and Expense of Farmers in Crop Year 1980/81, In and Out Irrigated Zone, Paper No. 11, Feb. 1983
5. Income and Expense of Farmers in Crop Year 1980/81, Agricultural Economic Zone, Provincial Level, Paper No. 10

Agricultural Extension Department, Ministry of Agricultural & Co-operatives

6. Statistical Record of Field Crops Cultivation, Crop Year 1981/82
7. Statistical Record of Vegetable Crops Cultivation, Crop Year 1981/82
8. Statistical Record of Vegetable Crops Cultivation, Crop Year 1982/83

No.

Title

(2/5)

Co-operatives Promotion Department, Ministry of Agricultural & Co-operatives

9. Co-operatives in Thailand, 1979

Bank of Thailand

10. Location of Agricultural Warehouses of Commercial Bank's Clients in Central Region, Feb. 1980
11. Godown, Barn and Silo for Agricultural Produce in Northern Region, Jun, 1978
12. Survey Report of Agricultural Warehouse in Northeastern Region, Oct. 1980
13. Survey Report of Godown and Barn in Southern Region, Oct. 1979

National Economic & Social Development Board (NESDB)

14. The Fifth National Economic and Social Development Plan, 1982 - 1986
15. Agricultural Census Report, Thailand, 1978
  - Whole Kingdom
  - Central Region
  - Northern Region
  - Northeastern Region
  - Southern RegionTotal 5 Books
16. Agricultural Census Report, Thailand, 1978, by Province, Total 45 books.
17. Report of the 1980 Industrial Census Whole Kingdom
18. Report of the 1980 Industrial Census, Bangkok Metropolitan, Nonthaburi, Pathum Thani, and Samut Prakan
19. Statistical Yearbook, Thailand, No. 32 1976 - 1980

Public Warehouse Organization, Ministry of Commerce

20. Measure of Rice Stabilization Programme on Paddy of Government, Crop Year 1982/83  
"How does it effect to price of white rice?", Dec. 1979.

Others

21. Agricultural Marketing and Pricing in Thailand, by Annar Siam Walla, Thammasart University, March 1981
22. Annual Report of Bank for Agriculture and Agricultural Co-operatives in 1981. (Total 3 books)
23. Production credit and Marketing Linkage Programme for Rice of Agricultural Cooperatives in Thailand,  
From Cooperative Promotion Dept. ( CPD )
24. Bangkok Bank monthly review
25. Manual for Farmers for Temporary Storage and Pawning Paddy with the PWO and BAAC.

No.

(4/5)

26. Rice Transportation Rate  
- By Truck Express Transportation Organization (C.T.O)  
- By Barge E.T.O.  
- By Train State Railway of Thailand  
Standard of Rice Board of Trade of Thailand  
27. Rental Rate and Standard Details of Warehouse PWO  
28. rented by PWO  
29. PWO's Order No 828/2524 (Bag Handling Rate) PWO  
30. Shovel Loader (Standard Price) Office of Budgeting  
31. Climatological Data of Thailand (1951-1980) Meteorological Department  
32. Boring Data at Chao Phraya River PWO. (Map at Bangkrasor, Nonthaburi)  
33. Harmonic Data Harbour Department  
34. Construction Cost's Data Office of Budgeting

<u>No.</u>	<u>Title</u>
1.	Thailand : Economic Condition in 1983 and Outlook for 1984 Department of Economic Research, Bangkok of Thailand.
2.	Royal Decree Establishing Public Warehouse Organization B.E. 2198 (1955) Foreign Law Division, Office of the Juridical Council, 1982
3.	Brief Information on the PWO, 1984, including item as following. <ul style="list-style-type: none"><li>- Location of Regions and Provinces of Thailand</li><li>- PWO Organization Chart</li><li>- Objective, Role, Activities, Organization and Staff of PWO.</li><li>- Details of Central and Regional Warehouse of PWO.</li><li>- Operations of PWO in past 6 years</li><li>- System and Channel of Goods Purchase of PWO's own business</li><li>- Operations of PWO under the Government's Paddy Price Stabilization Programme</li><li>- System and Channel of Rice Purchase of PWO under the Government's Paddy Price Stabilization Programme</li><li>- Milled Rice Balance Sheet</li><li>- Maize Balance Sheet</li><li>- Milled Rice Market Share Of PWO</li><li>- Maize Market Share of PWO</li><li>- Administrative of PWO's Manpowers (1978-83)</li><li>- Manpower Structure of PWO Classify by Sex and Executive Rankings 1983</li><li>- Academic Qualifications Structure of PWO's Manpower (1978-83)</li><li>- Type of PWO's Manpower (1978-83)</li><li>- Rent of Warehouse 1980/81 - 1982/83</li></ul>





## APPENDIX F

### THE PUBLIC WAREHOUSE ORGANIZATION

<u>No.</u>		<u>Page</u>
1.	Royal Decree of the PWO	1
2.	The PWO's Existing Warehouses, 1984	11
3.	Operational Data of the PWO	15
4.	Administrative of the PWO's Manpower	23

The data and information compiled in this Appendix were presented by PWO to the Study Team for analysis and discussion.



1. Royal Decree of the PWO

พระราชกฤษฎีกาจัดตั้งองค์การคลังสินค้า

พ.ศ. ๒๔๙๕

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ROYAL DECREE  
ESTABLISHING PUBLIC WAREHOUSE ORGANIZATION  
B.R. 2498 (1955)

กองกฎหมายต่างประเทศ  
สำนักงานคณะกรรมการกฤษฎีกา

๒๕๒๕

Foreign Law Division  
Office of the Juridical Council

1982

ROYAL DECREE  
ESTABLISHING PUBLIC WAREHOUSE ORGANIZATION  
B.E. 2498 (1955) <sup>(1)</sup>

HRUMIEOL ADULYADEJ, REX.,

Given on the 14th Day of April B.E. 2498;  
Being the 10th Year of the Present Reign.

His Majesty King Bhunibol Adulyadej is graciously pleased  
to proclaim that:

Whereas it is expedient to establish Public Warehouse  
Organization;

By virtue of section 95 of the Constitution of the Kingdom  
of Thailand B.E. 2475 as amended in B.E. 2495 and section 3 of the Act  
on Establishment of Government Organizations B.E. 2496, the King hereby  
issues the Royal Decree as follows:

Section 1. This Royal Decree is called the "Royal Decree  
Establishing Public Warehouse Organization, B.E. 2498".

Section 2. This Royal Decree shall come into force as from  
the day following the date of its publication in the Government Gazette. <sup>(2)</sup>

Section 3. In this Royal Decree,

"Organization" means the Public Warehouse Organization;

"official" means a person working for the Organization and  
working in whatever position which is subordinate to the Director;

"Director" means the Director of the Organization;

"Board" means the Board of the Organization;

"Minister" means the Minister having charge and control of  
the execution of this Royal Decree.

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(1) As last amended by the Royal Decree Establishing Public Warehouse  
Organization (No. 4), B.E. 2520 (1977)

(2) Published in the Government Gazette Vol. 72, Part 29, dated 19th  
April B.E. 2498 (1955)

Section 4. There shall be established an organization called the "Public Warehouse Organization".

Section 5. The Organization shall have its head office in Changwat Phra Nakhon and may establish branches or agents within or outside the Kingdom.

Section 6. The Organization shall have the objectives of carrying out activities concerning rice, agricultural produce and other products in order to ensure that their quantity, quality and prices are appropriate and that the supply is sufficient to meet the demand of the State and the public.

Section 7. In order to carry out the objectives as stated in section 6, the power of the Organization shall also include the power:

(1) to have ownership, possess land and other properties, have various rights, construct, buy, sell, hire, let, hire-purchase, borrow, lend, pledge, accept pledge, mortgage, accept mortgage, procure, dispose of, exchange, transfer, and accept transfer, by any means, land, other properties, or rights within or outside the Kingdom and receive money or property donated thereto, and carry out works in connection with the implements, service or any property;

(2) to produce, trade, receive on consignment, store, collect and transport rice, agricultural produce and other products;

(3) to engage in the warehouse business and in industry concerning rice, agricultural produce and other products;

(4)<sup>(3)</sup> to participate in a joint venture with others for the benefit of the activities of the Organization as well as to become a partner with limited liability in a limited partnership or a shareholder in a limited company or any juristic person subject to the approval of the Council of Ministers;

(5) to borrow money; but prior approval of the Council of Ministers is required if the amount exceeds three million Baht;

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(3) As amended by section 3 of the Royal Decree Establishing Public Warehouse Organization (NO. 3), B.E. 2518 (1975) and published in the Government Gazette Vol. 92, Part 243, dated 30th November B.E. 2518 (1975)

(6) to lend money with surety or securities;

(7) to establish rice barns, rice mills, warehouses and retail shops;

(8) to carry out other activities to promote production including trade in rice, agricultural produce and other products of Thai people, both within and outside the Kingdom.

Section 8. The Ministry of Economic Affairs shall, prior to the effective date of this Royal Decree, transfer all the properties, assets, rights, liabilities, and business of the Warehouse Division, Department of Internal Trade, the Ministry of Economic Affairs as well as all the officials under the Warehouse Division to the Organization which is established under this Royal Decree.

Section 9. The capital of the Organization shall be fixed at one hundred and twenty-five million Baht. The Government shall pay ten million Baht as its initial capital and pay additional amounts from time to time as the Government deems appropriate.

Section 10. Reserves of the Organization shall consist of the ordinary reserve for contingency, reserve for repayment of debts, and other reserves for specific purposes as the Board deems appropriate.

Section 11. Income of the Organization accrued from the operations of its activities during a year may be used for various expenditures of the Organization.

Section 12. The annual income after deducting the costs, various expenditures under section 11 and other appropriate charges shall be the net profit for the year, which may be allocated as reserves under section 10, other money under section 20, contribution to the aid fund for the Director and officials under section 27, and capital investment as approved by the Council of Ministers. The remainder shall be remitted as State revenue.

If the income is insufficient to meet the said expenditures excluding the reserves under section 10 and the Organization is unable to obtain money from other sources, the Government shall provide the Organization with the necessary fund.

(4)  
Section 13. The Minister has the power and duty to exercise general supervision of the activities of the Organization and shall, for this purpose, have the power to summon the Chairman, Vice-Chairman, members of the Board, Director, agents of the Organization or any person working for the Organization to give facts or opinion or submit a report.

(5)  
Section 14. Matters which must be submitted to the Council of Ministers under this Royal Decree shall be submitted by the Board to the Minister for further submission to the Council of Ministers.

(6)  
Section 15. There shall be a Board to administer the activities of the Organization composed of a Chairman, Vice-Chairman and not less than four nor more than eight other members, one of whom must be a representative of the Ministry of Finance.

The Director shall be ex-officio member of the Board and Secretary.

The Council of Ministers shall appoint the Chairman, Vice-Chairman and other members including the representative of the Ministry of Finance.

(7)  
Section 16. A person under any of the following prohibitions shall not be appointed Chairman, Vice-Chairman or member of the Board:

(1) having direct or indirect interest in a contract with the Organization or in any activity performed for the Organization, unless he is a partner with limited liability in a limited partnership or a shareholder in a limited company which engages in such business;

(2) being an official;

(3) not being a person of Thai nationality.

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(4) An amended by section 3 of the Royal Decree Establishing Public Warehouse Organization (No. 4), B.E. 2520 (1977), and published in the Government Gazette Vol. 94, Part 9, dated 27th January B.E. 2520 (1977)

(5) As amended by section 3 of the Royal Decree Establishing Public Warehouse Organization (No. 3), B.E. 2518 (1975), *ibid.*

(6) As amended by section 4 of the Royal Decree Establishing Public Warehouse Organization (No. 4), B.E. 2520 (1977), *ibid.*

(7) As amended by section 6 of the Royal Decree Establishing Public Warehouse Organization (No. 3), B.E. 2518 (1975), *ibid.*

Section 17. The Board shall have the power and duty to lay down policy and exercise general supervision over the activities of the Organization and shall also have the power and duties as follows:

- (1) to conduct activities under section 6 and section 7;
- (2) to issue regulations on the conduct of works;
- (3) to issue regulations on recruitment, appointment, removal, salary scale promotion and reduction, cut of salaries, and disciplinary measures for officials as well as to prescribe positions, scales of salaries, wages and other remuneration for officials;
- (4) to prescribe rates of interest, charges, fees for services and other business charges;
- (5) to prescribe rates and interest on contributions to the provident fund for the Director and officials and to issue rules on disbursement of such provident fund.

If the regulations on the conduct of works issued by the Board contain any restriction on the power of the Director to execute a juristic act, the Minister shall have such restriction published in the Government Gazette.

(8)

Section 18. The members of the Board appointed by the Council of Ministers shall hold office for a term of two years and may be reappointed.

(9)

Section 19. In addition to vacating office at the end of term under section 18, the members of the Board appointed by the Council of Ministers vacate their office upon:

- (1) death;
- (2) resignation;
- (3) being removed by the Council of Ministers;
- (4) being disqualified under section 16.

In the case where a member of the Board appointed by the Council of Ministers vacates office prior to the end of term or in the case where the Council of Ministers appoints additional member during the term of members already appointed, the new appointee shall hold office for the remaining term of the members already appointed.

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(8) & (9) As amended by section 7, *ibid.*



Section 20. The Council of Ministers shall prescribe remuneration for the Chairman, Vice-Chairman and members of the Board.

The Chairman, Vice-Chairman, members of the Board, Director and officials may receive gratuities, bonuses in accordance with the rules prescribed by the Council of Ministers.

Section 21. The Minister shall have the power to appoint and remove the Director subject to the approval of the Council of Ministers.

The Director shall receive such salaries as determined by the Board.

Section 22. A person who has direct or indirect interest in a contract with the Organization or in any activity performed for the Organization unless he is a partner with limited liability in a limited partnership or a shareholder in a limited company which engages in such business shall not be Director.

Section 23. The Director shall have the power and duty to manage and conduct the activities of the Organization in accordance with the policy and regulations laid down by the Board and shall be the superior official of all officials.

The Director shall be responsible to the Board for the management and conduct of the activities of the Organization.

Section 24. The Director shall also have the following power; namely

(1) to recruit, appoint, remove, promote or reduce scale of salaries, cut salaries, as well as impose disciplinary punishment on officials in accordance with the regulations issued by the Board; however, if the official concerned holds the position of Deputy Director, adviser, expert, or departmental chief responsible directly to the Director, a prior approval of the Board shall be required therefor;

(2) to issue rules for the conduct of the activities of the Organization which are not contrary to or inconsistent with the policy and regulations issued by the Board.

Section 25. When the Director is unable to perform his duties for whatever reason, the Deputy Director, if any, shall become acting Director; if there is no Deputy Director, the Director shall appoint a Deputy Director. If the Director has not appointed one or is unable to do so, the Board shall appoint an acting Director.

The acting Director shall have the same power and duties as the Director except the power and duties as a member of the Board and shall perform activities within the work plan specified by the Director.

Section 26. In respect of external relations, the Director shall be the representative of the Organization and, for this purpose, may delegate his authority to any person to act on his behalf subject to the regulations on delegation of power issued by the Board.

In the case where there is a regulation which has been published in the Government Gazette under section 17 last paragraph prescribing that any juristic act can only be performed by the Director with prior approval of the Board, such juristic act when performed by the Director without the said approval shall not bind the Organization unless it is ratified by the Board.

Section 27. The Organization shall provide an aid fund for the welfare of the Director and officials in the case of retirement, accident, illness or in other causes deserving aids.

The establishment of the aid fund under the preceding paragraph, categories of recipients, and rules for granting aids as well as the management of the aid fund shall be in accordance with the regulations issued by the Board.

The regulations under the preceding paragraph shall be submitted to the Council of Ministers and shall come into force upon the approval of the Council of Ministers.

Section 28. The Organization shall open a deposit account with the Ministry of Finance, the Bank of Thailand and any other banks according to the rules issued by the Board and approved by the Council of Ministers.

Section 29. The Organization shall set up and maintain an appropriate accounting system in accordance with the categories of the main work, subject to an internal audit at regular intervals and shall have books of accounts in which the following particulars shall be entered:

- (1) receipts and expenditures;
- (2) assets and liabilities;

which shall represent the actual and appropriate conditions of works in accordance with their categories, together with the particulars which are the sources of such entries.

Section 30. Every year the Office of the Audit Council shall audit the accounts and finance of the Organization.

Section 31. The auditor has the power to examine all books of accounts, documents and evidences of the Organization and shall, for this purpose, have the power to interrogate the Chairman, Vice-Chairman, members of the Board, Director and any persons working for the Organization.

Section 32. The auditor shall submit an auditing report showing the statement and explanation concerning the audit as well as the proper keeping of books of accounts by the Organization, which shall include the statement as to

- (1) whether and to what extent the audited balance-sheet and accounts are correct and correspond to the books of accounts;
- (2) whether and to what extent the audited balance-sheet and accounts show the actual and appropriate working of the Organization in accordance with the statement, explanation and knowledge of the auditor.

Section 33. The auditor shall submit an auditing report to the Council of Ministers within one hundred and twenty days from the last day of the accounting year of the Organization.

Section 34. The Director shall submit to the Board an annual report of the preceding year showing the balance-sheet, working account, and profit and loss account certified by the auditor within one hundred and fifty days from the last day of the accounting year of the Organization.

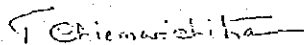
Section 35. The Board shall submit to the Minister an annual report showing the achievement of the Organization in the preceding year together with the explanation on the policy of the Board.

Section 36. The Minister of Economic Affairs shall have charge and control of the execution of this Royal Decree.

Countersigned by:

Field Marshal P. Pibulsongkram  
Prime Minister

Certified correct translation



(Taksapol Chienwichitra)  
Office of the Juridical Council

2. The PWO's Existing Warehouses, 1984

(Central)

Name of Warehouses	Location	Average Height (Metres)	Area (Square Metres)	Working Capacity (Metric tons)
1. <u>Warehouse I</u>	Bukkalo Thonburi	8	14,650	51,270
- Unit 1			2,400	8,400
- Unit 2			2,400	8,400
- Unit 3			2,400	8,400
- Unit 4			7,450	26,070
2. <u>Warehouse II</u>	Rejburana Thonburi	7	16,700	58,450
- Unit 1			7,200	25,200
- Unit 2			5,000	17,500
- Unit 3			4,500	15,750
3. <u>Warehouse III</u>	Bangkrasor Nonthaburi	4.5	6,192	21,670
- Unit 1			576	2,015
- Unit 2			576	2,015
- Unit 3			840	2,940
- Unit 4			840	2,940
- Unit 5			840	2,940
- Unit 6			840	2,940
- Unit 7			840	2,940
- Unit 8			840	2,940
Grand Total			37,542	131,390

Note 1 Metric tons = 10 bags of milled rice



The PWO's Existing Warehouses, 1984  
(Regional)

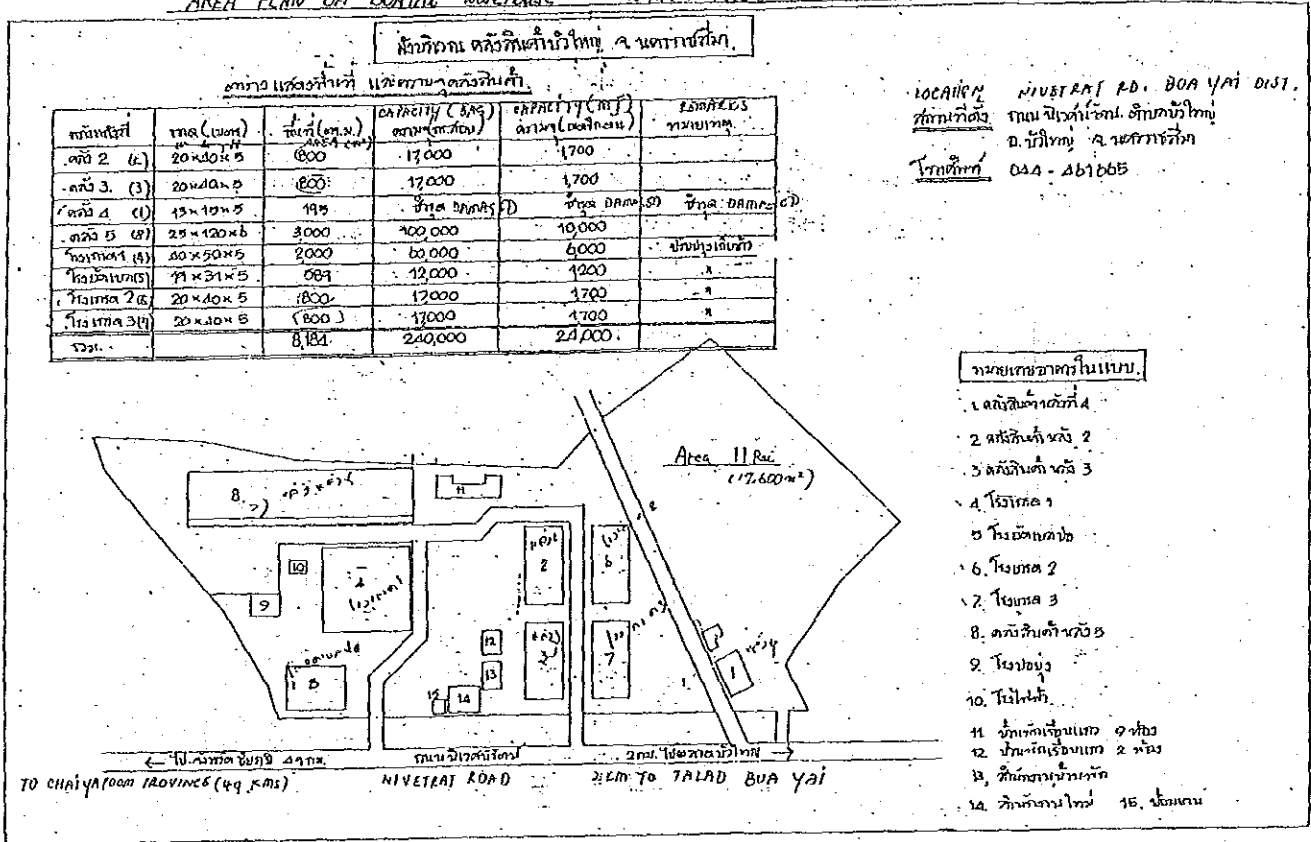
Name of Warehouses	Location	Average Height (metres)	Area (Square Metres)	Working Capacity (Metric tons)	Note
1. Sareburi Warehouse	- Phapuddebaht	2.0	160	250	Small and Damaged(Unused)
	- Tub-Kwang	2.0	160	250	Small and Damaged(Unused)
	- Pakchong	2.0	160	250	Small and Damaged(Unused)
2. Nekorn-Ratchasima Warehouse	- Bueyai	6.0	3,000	▲ 10,000	
- Unit 1	- Bueyai	-	800	1,700	
- Unit 2	- Bueyai	-	800	1,700	
3. Khon-Kaen Warehouse	- Banpai	6.0	3,000	▲ 10,000	
- Unit 1	- Banpai	5.0	200	500	
- Unit 2	- Banpai	5.0	200	500	
- Unit 3	- Banpai	5.0	200	500	
- Unit 4	- Banpai	5.0	200	500	
- Unit 5	- Banpai	5.0	200	500	
- Unit 6	- Banpai	5.0	200	500	
4. Sukhothai Warehouse	- Sawan Khaloke	-	100	250	
- Unit 1	- Sawan Khaloke	-	1,000	3,000	
- Unit 2					
Total			9,700	29,150	

▲ Spaces are suitable for storing milled rice.

Note \* 1 Metric tons = 10 Sacks of milled rice  
Source Business Planning and Policy Division, PWO.

BUA YAI Warehouse

AREA PLAN OF BUA YAI Warehouse NAKHON RAJASIMA PROVINCE



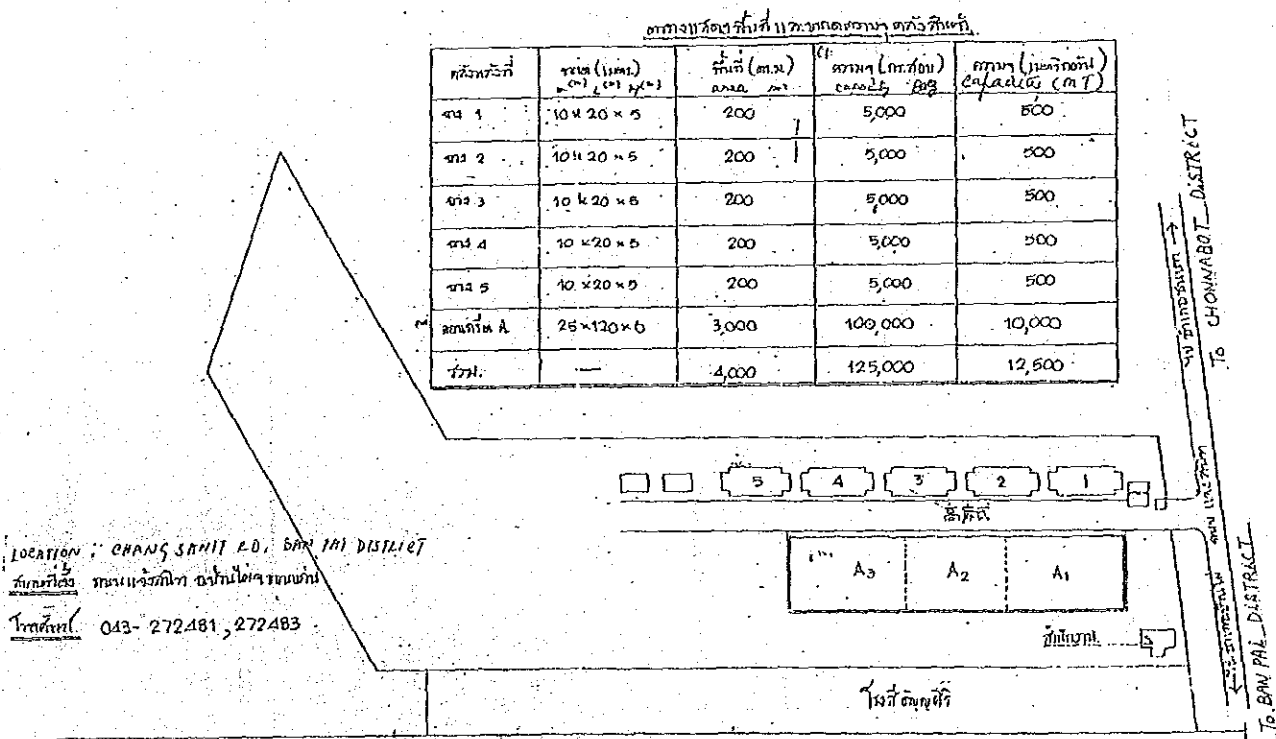
Ban Pai Warehouse

Construction year 1964

AREA PLAN OF REGIONAL WAREHOUSE

แผนผังบริเวณ อาคารสินค้าภาค อุดรธานี และขอนแก่น

BAN PAI District, KHAN KHEN Province





3. Operational Data of the PWO

Operation of PWO in the past 5 years

Table 1

Commodity of P.O	Quantity Unit	1978		1979		1980		1981		1982		1983	
		Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1. Maize	1,000 tons	567.3	1,158.8	501.9	1,107.1	562.6	1,784.9	665.9	1,903.9	382.8	1,122.2	172.3	651.9
		367.6	1,281.8	536.9	1,880.7	593.8	1,863.7	355.4	1,762.4	348.3	1,390.8	195.0	783.2
2. Exported Rice	1,000 tons	63.9	256.5	16.7	69.7	54.7	251.0			63.7	277.4	11.8	62.3
		61.6	262.5	16.7	72.5	54.7	253.0			63.7	341.6	48.5	241.02
3. Maize	1,000 tons	8.4	16.3	8.9	19.9	4.2	10.9	2.1	7.1	21.0	75.2	15.0	60.9
		8.4	14.8	8.9	18.3	4.1	11.9	1.8	6.4	21.5	78	16.4	45.2
4. Jute	1,000 tons	3.9	18.8	1.0	3.6	6.5	32.8	5.8	31.5				
		0.03	0.06	4.5	21.7	4.2	26.1	3.1	14.0	4.5	30.9		
5. White Sugar	1,000 tons					101.5	710.2	6.9	80.1	0.05	0.6		
						100.6	702.0	3.8	37.1	6.6	63.6	0.4	2.6
6. Exchange Sugar	1,000 tons							90.2	582.1				
								136.9	1,827.3				
7. Consumer Goods													
			12.6		24.3		95.1				21.5		
			16.6		25.5		96.9				23.5		
8. Bean	tons			123.1	0.6								
				123.1	0.8								
9. Potato Seed	tons	15.0	0.24	33	0.55	116	2.19	80.0	1.32	7.0	0.9	107.2	1.1
		15.0	0.27	22	0.59	116	0.26	73.0	1.47	64.5	1.3	99.8	1.9
10. Dry Coconut	tons												
												11.0	0.083
11. Black Pepper	tons											11.0	0.08
												276.2	6.9
12. Garlic	tons												
												366.8	16.18
												281.2	13.12
Total			1,463.24		1,737.75		2,887.09		2,606.02		1,497.8		825.67
			1,876.03		1,960.09		2,954.16		1,648.67		1,929.8		1,103.36

Table 2 System and Channel of Goods Purchase of ZWO's Own Business

Description	Buying System			Distribution		Price
	Source of Buying	Means of buying	Price	Channel of Distribution	Means of Distribution	
1. Rice for domestic consumption	- Exporter's rice reserved as government policy - Rice traders - Rice traders	- Ministry of Commerce fixed price and types of rice bidding - fixed price - bidding - fixed price	- Ministry of Commerce fixed the price - Market price (wholesale)	- Small store under Government support, Government official, Province Company and low income people Foreign Government	- retailing - wholesaling	lower than market price
2. Exported rice	- Rice traders	- price investigation - buying at farm gate	" "	Foreign Government	G to C contract with quota allocated by DFT	DFT. fixed price
3. Maize	- Regional traders	- price investigation	"	overseas market	quota allocated by DFT	"
4. Kenaf	- Farmers and traders	- buying at farm gate	- Farm gate price	Jute Mill Factory	Wholesaling	Market
5. Sugar	- Sugar Factory	- price investigation	Market price	Same Channel of Rice Sale	Wholesaling and Retailing	Government fixed price
6. Exchange Sugar	- Overseas	- Approved by the Government to exchange brown sugar for refined sugar from overseas company	-	Same Channel of Rice Sale	-	Government fixed price
7. Consumer Goods	- Factories and Companies	- investigated price and concluded buying at large quantity to get price reduction - buying at farm gate where market price was low	- Market price less reduction - Ministry of Commerce fixed price	Same Channel of Rice Sale	Retailing Wholesaling	Lower the market price
8. Bean	- farmers	- buying at farm gate where market price was low	- Ministry of Commerce fixed price	General traders	Bidding	
9. Potato seed	- Netherlands and Australia	- price investigation	Market price	Farmers in Northern area	Through province Company	FWO fixed price
10. Dried coconut	- Farmers	- buying at farm gate where market	- Ministry of Commerce fixed price	Extraction Vegetable Oil Factory	Directly contact factors	Price Agreement
11. Black pepper	- Farmers	- buying at farm gate where market	"	General traders	Bidding	Highest bid price
12. Garlic	- Imported	- price investigation	- Market Price	Traders and general people	- Retailing - Wholesaling - Preserved food Organization	Lower than Market Price

Source: Burmese Planning and Policy Division

Operation of PWO under the Government's Paddy Price Stabilization Programme

Quantity : Million Bags  
Value : Million Bahts

Table 3

Items	1981		1982		1983	
	Quantity	Value	Quantity	Value	Quantity	Value
Carry Over Stock	-	-	7.7	-	7.4	-
Purchase	11.6	6,734	13.3	7,476	5.5	3,161
Domestic Sale	2.2	1,468	8.8	4,300	4.4	1,794
Export	1.7	1,104	4.8	2,879	5.3	2,571
Balance	7.7	-	7.4	-	3.2	-

Source : Business Planning and Policy Division, PWO.

System and Channel of Rice Purchase of PWO under the Government's Paddy Price

Stabilization Programme

Quantity : Million Bags  
Value : Million Bahts

Table 4

Purchasing System	Purchasing Channel	1981		1982		1983	
		Quantity	Value	Quantity	Value	Quantity	Value
1. Bidding	- Rice Trader, Miller, Exporter and Farmer's Institution	9.80	5,729	10.8	5,906	1.1	603
	- Farmer's - Institution	-	-	-	-	2.9	1,661
	- AFCT & ARD.	0.91	569	1.6	1,096	1.5	896
	- Farmer's Institution	0.89	136	0.9	476	-	-
<b>Total</b>		<b>11.6</b>	<b>6,734</b>	<b>13.3</b>	<b>7,478</b>	<b>5.5</b>	<b>3,160</b>

Source : Business Planning and Policy Division, PWO.

Milled Rice Balance Sheet

Table 5

Unit : 1,000 Metric Tons

	1981	1982	1983	1984
Total Supply	19,069	20,004	18,782	19,104
Beginning Stock	1,569	2,004	1,482	704
Production <sup>1/</sup>	17,500	18,000	17,300	18,400
Distribution	17,065	18,522	18,078	18,372
Domestic Consumption <sup>2/</sup>	10,725	10,942	11,155	11,357
Export <sup>3/</sup>	4,665	5,822	5,077	5,077
Seed, Wastes and other uses	1,675	1,758	1,846	1,938
End Stock	2,004	1,482	704	732
<sup>1/</sup> Paddy Production	17,500	18,000	17,300	18,400
First crop t-1/t	15,500	15,800	15,000	15,900
Second crop t	2,000	2,200	2,300	2,500
<sup>2/</sup> Paddy Consumption				
Population (mil)	47.88	48.85	49.80	50.70
Per capita paddy consumption	224	224	224	224
(kg/head/year)				
<sup>3/</sup> Milled Rice Export (1,000MT)	3,032	3,784	3,300	3,300
<sup>4/</sup> Rice/Paddy ratio = 0.65				

Maize Balance Sheet

Unit : 1,000 Metric Tons

Table 6

	1981	1982	1983	1984
Total Supply	4,307	3,405	4,029	4,149
Beginning Stock	307	55	129	49
Production	4,000	3,350	3,900	4,100
Distribution	4,252	3,276	3,980	4,055
Domestic Consumption	1,000	1,050	1,150	1,200
Seed, Waste and other uses	52	64	50	55
Export (Jul-Jun)	3,200	2,162	2,780	2,800
Ending Stock	55	129	49	94
<u>1/ Export</u>				
Jan-Jun	886	1,512	843	1,323
Jul-Dec	1,688	1,319	1,457	1,537
Jan-Dec	2,574	2,831	2,300	2,860
Jul-Jun	3,200	2,162	2,780	2,800

Milled Rice Market Share of PWO

Table 7

Unit : 1,000 metric tons

	1981	1982	1983	1984
Domestic Consumption	10,725	10,942	11,155	11,357
Surplus Export	4,665	5,822	5,077	5,077
Ending Stock	2,004	1,482	704	732
1. Total Supply in market	17,394	18,246	16,936	17,166
2. Total purchase by PWO	1,824	1,772	739	300
- PWO Business	665	446	184	300
- Under government policy	1,159	1,326	555	-
Market share (percentage)	10	9	4	1.7

Remark 1. Data from Table 5

2. Business Planning and Policy Div, PWO

Maize Market Share of PWO

Table 8

Unit : 1,000 metric tons

	1981	1982	1983	1984
Domestic Consumption	1,000	1,050	1,150	1,200
Surplus Export	3,200	2,162	2,780	2,800
Ending Stock	55	129	49	94
1. Total Supply in market	4,255	3,341	3,979	4,094
2. Total purchase by PWO	2.1	21	10	
Market Share (percentage)	-	0.6	0.3	

Remark 1. Data from Table 6

2. Business Planning and Policy Div., PWO.

Rent of Warehouse

Table 9

Unit of Warehouse Capacity : Metric tons

<u>Locations</u>	<u>1980/81</u>	<u>1981/82</u>	<u>1982/83</u>
Bangkok Area	271,633	415,215	416,119
Northern Region	161,270	142,532	84,109
Northeastern Region	352,157	775,226	145,765
Central Plains Region	330,158	797,003	236,237
Southern Region	25,470	11,500	-
<b>Total</b>	<b><u>1,140,688</u></b>	<b><u>2,240,476</u></b>	<b><u>882,230</u></b>



4. Administrative of the PWO's Manpower

Administrative of PWO's Manpower (1978 - 83)

Unit : Person

Order	Administrative Rankings	1978	1979	1980	1981	1982	1983
1.	Top Executive	7	7	8	10	10	9
2.	Senior Executive	50	50	53	57	61	64
3.	Junior Executive	160	169	169	173	175	178
4.	PC. 3 and Lower	259	300	587	675	692	574
Total		476	517	817	915	938	825

Note Top Executive : Managing Director, Deputy Managing Director, Assistant Managing Director and Head of Department

Senior Executive : Chief of Division, Assistant Division Chief and PC.6 or higher

Junior Executive : PC. 4 - Pc. 5

Manpower Structure of PWO classify by sex and executive rankings

Unit : Person

Total  
9

	Male	Female	Total
Department Chief and higher (Top Executive)	7	2	9
P.C. 6 - Division Chief (Senior Executive)	27	37	64
P.C. 4 - 5 (Junior Executive)	79	99	178
P.C. 3 and lower	292	282	574
	825		

Academic Qualifications Structure of PWO's Manpower (1978 - 83)

Unit : Person

Educational Levels	1978	1979	1980	1981	1982	1983
B.S. and Higher	91	95	140	157	164	170
Associate B.S. & Higher Vocational	46	46	51	51	51	51
Vocational	192	198	260	274	374	229
High School & Lower	153	184	366	433	349	375
Total	476	517	817	915	938	825

Type of PWO's Manpower (1978 - 83)

Unit : Person

Type of Manpower	1978	1979	1980	1981	1982	1983
Temporary	29	9	242	239	232	51
Permanent	447	502	575	676	706	774
Total	476	517	817	915	938	825

Public Warehouse Organization  
Details of Administrator in New Organization

Position	Sex	Year Employed	Present Position Since	Degree Received	Faculty	University	Major Subject
1. Managing Director	Male	1983	1984	Ph.D	Economic	Texas A&M(USA)	Economics
2. Deputy Managing Director	"	1962	"	B.A.	Account	Thammasart	Account
3. Assistant Managing Director	"	1957	"	B.A.	Account, Law	"	Account, Laws
4. Office of Managing Director Chief	-	-	-	M.A.	Economic	The American (USA)	Computers
5. Research & Planning Division Chief	Male	1982	"	M.A.	Politic	MIDA	Politics
5.1 Plan & Project Section Chief	Female	1982	"	B.A.	Politic	Chulalongkorn	Politics
5.2 System Development Section Chief	"	1976	"	B.A.	Literature	Silpakorn	Literature
5.3 Statistic & Evaluation Section Chief	"	1974	"	B.A.	Literature	Thammasart	English
5.4 Market & Price Analysis Section Chief	Male	1982	"	M.A.	Economic	MIDA	Economics
6. Budget Division Chief	Female	1971	"	B.A.	Account	Thammasart	Accounts
6.1 Budget Analysis & Arrangement Section Chief	"	1975	"	B.A.	Account	Thammasart	Accounts
6.2 Budget Control Section Chief	"	1979	"	B.A.	Business Admin.	Ramkamheang	Finances
7. Public Relations Section Chief	"	1975	"	B.A.	Law	Chulalongkorn	Laws
8. Computer Section Chief	Male	1982	"	M.A.	Statistic	MIDA	Operating Research
9. Legal Advisor	"	-	-	-	-	-	-
10. Legal Section Chief	Female	1975	"	B.A.	Law	Thammasart	Laws

Public Warehouse Organization

Details of Administrator in New Organization

Position	Sex	Year Employed	Present Position Since	Degree Received	Faculty	University	Major Subject
11. Internal Audit & Division Chief	Female	1975	1984	B.A.	Economic	Thammasart	Economics
11.1 Finance & Account Audit Section Chief	"	1975	"	B.A.	Business Admin	"	Money & Banking
11.2 Management Audit Section Chief	Male	1979	"	B.A.	Art	Chiang-Mai	Economics
12. Administration Department Chief	"	1971	"	Certificate	Business	Assumption School	-
13. Administrative Division Chief	Female	1971	"	B.A.	Law	Thammasart	Laws
13.1 Correspondance Section Chief	"	1975	"	B.A.	Law	"	Laws
13.2 Personnel Section Chief	Male	1975	"	B.A.	Law	"	Laws
13.3 Training & Development Section Chief	"	1982	"	B.A.	Politic	NIDA	Politics
14. Finance Division Chief	Female	1971	"	B.A.	Business	Thammasart	Money & Banking
14.1 Cash Receive Section Chief	"	1975	"	B.A.	Business	"	Money & Banking
14.2 Cash Payment Section Chief	"	1955	"	Certificate	-	Saint Frank School	-
14.3 Finance Admin. & Document Inspection Section Chief	"	1977	"	B.A.	Business Admin	Ramakheang	Accounts
15. Accounting Division Chief	"	1971	"	B.A.	Business	Thammasart	Accounts
15.1 Account Section Chief	"	1975	"	B.A.	"	"	"
15.2 Debt Follow-up Section Chief	"	1974	"	B.A.	Business Admin	College of Commerce	Accounts
15.3 Accounting System Chief	"	1975	"	B.A.	Business	Thammasart	Accounts

Public Warehouse Organization

Details of Administrator in New Organization

Position	Sex	Year Employed	Present Position Since	Degree Received	Faculty	University	Major Subject
16. Supplies Division Chief	Male	1971	1984	B.A.	Business	Thammasart	Account
16.1 Procurement Section Chief	Female	1975	"	B.A.	Law	"	Laws
16.2 Control Section Chief	"	1975	"	B.A.	Law	"	Laws
16.3 Machine & Vehicle Section Chief	Male	1968	"	Certificate	-	Pattuvan Machanic School	-
16.4 Office Repair & Maintenance Section Chief	"	1958	"	"	-	Bangkok Technic School	-
17. Trade Department Chief	"	1982	"	M.A.	Politic	U.S.A.	International
18. Purchasing Division Chief	Female	1955	"	Certificate	-	Sokhsa Naree School	-
18.1 Agriculture Product Section Chief	"	1975	"	B.A.	Business	Thammasart	Money & Banking
18.2 Consumer Product Purchasing Section Chief	"	1975	"	B.A.	Economic	College of Commerce	Money & Banking
19. Sale Division Chief	"	1971	"	B.A.	Economic	Thammasart	Economics
19.1 Sale Section 1 Chief	"	1973	"	B.A.	Business Admin.	College of Business	Personnel Admin.
19.2 Sale Section 2 Chief	"	1970	"	Certificate	-	Thonburi Commerce	Accounts
19.3 Sale Section 3 Chief	"	1964	"	"	-	Tream Udon Soraka	-
19.4 Sale Section 4 Chief	"	1977	"	B.A.	Business	Thammasart	Money & Banking

## Public Warehouse Organization

## Details of Administrator in New Organization

Position	Sex	Year Employed	Present Position Since	Degree Received	Faculty	University	Major Subject
19.5 Sale Section 5 Chief	Female	1974	1984	B.A.	Art	Thammasart	Statistics
19.6 Sale Section 6 Chief	"	1975	"	Certificate	Business Admin.	College of Commerce Thonburi	"
19.7 Sale Section 7 Chief	"	1955	"	Certificate	"	Benjarasutit School	"
19.8 Sale Section 8 Chief	"	1974	"	B.A.	Economic	Thammasart	Money & Banking
19.9 Sale Section 9 Chief	"	1955	"	Certificate	"	Sattree Wat Rakung School	"
19.10 Sale Section 10 Chief	"	1976	"	"	"	Tangtrongjit Commerce	Account
19.11 Sale Section 11 Chief	"	1961	"	"	"	Santirajbomrung School	"
19.12 Sale Section 12 Chief	"		"				
19.13 Sale Coordinate Section Chief	"	1980	"	B.A.	Science	Kasetart	Economics
20. Sale at Home Unit Chief	Male	1977	"	B.A.	Law	Thammasart	Laws
21. Ambulatory Sale Unit Chief	"	1977	"	B.A.	Economic	"	Economics
22. Department Store Unit Chief	"	1971	"	Certificate	"	Sirisart School	"
23. Foreign Trade Division Chief	Female	1983	"	B.A.	Art	Thammasart	English
23.1 Administrative Section Chief	"	1975	"	B.A.	Business	"	Money & Banking
23.2 Marketing Section Chief	Male	1975	"	B.A.?	"	"	General Admin.
24. Warehouse Department Chief	"	-	-	-	-	-	-

Public Warehouse Organization  
Details of Administrator in New Organization

Position	Sex	Year Employed	Present Position Since	Degree Received	Faculty	University	Major Subject
25. Warehouse Management Division Chief	Male	1981	1984	M.A.	Politic	Brigham Young (USA)	General Admin.
25.1 Public Warehouse Section Chief	"	1977	"	B.A.	-	Srinakari Virod	Education
25.2 Stock Control Section Chief	Female	1975	"	B.A.	Business	Thammasart	Account
26. Central Warehouse Division Chief	Male	1964	"	B.A.	Law	"	Laws
26.1 Administrative Section Chief	Female	1955	"	Certificate	-	Karnshang Satriee Phanaborn Tai, School	-
26.2 Warehouse 1 Chief (Thonburi)	Male	1975	"	B.A.	Economic	Thammasart	Money & Banking
26.3 Warehouse 2 Chief (Rajburana)	"	1982	"	B.A.	Law	"	Laws
26.4 Warehouse 3 Chief (Nonthaburi)	"	1974	"	B.A.	Science	Kasettsart	Agriculture
27. Regional Warehouse Division Chief	"	1971	"	B.A.	Law	Thammasart	Laws
27.1 Administrative Section Chief	Female	1975	"	B.A.	Law	"	Laws
27.2 BanPai Warehouse Chief	Male	1971	"	Certificate	-	Bomrunvit School	-
27.3 BuaYai Warehouse Chief	"	1957	"	"	-	Wat Mahavara School	-
27.4 Sawanklelok Warehouse	"	1971	"	B.A.	-	Takushoka (Tokyo)	International Trade



APPENDIX G

THE AGRICULTURAL COOPERATIVE  
FEDERATION OF THAILAND, LTD.

The data and information compiled in this Appendix were presented by ACFT to the Study Team for analysis and discussion.



The Agricultural Cooperative Federation of Thailand, Ltd.

Name and Address

The Agricultural Cooperative Federation of Thailand, Ltd. (ACFT)  
97 Rajdamri Road, Bangkok 5 Thailand  
Tel. 2518151-3  
Cable Address: "FEDERATION" Bangkok

Background

The Agricultural Cooperative Federation of Thailand, Ltd. (ACFT) periodically developed from the WHOLESALE COOPERATIVE SOCIETY OF THAILAND LTD. (CWST) which was originated and organized by support of the Government for the purpose of supplying consumers' goods to the local cooperative stores.

On 22nd August 1969, (B.E. 2512) CWST's by-law was amended and registered as the COOPERATIVE MARKETING AND PURCHASING FEDERATION OF THAILAND LTD. (CMFP) in order to expand its business activity of selling consumers' goods to collecting agricultural products from member cooperatives for export and arranging import of farm requirements for them.

On 1st October 1975 (B.E. 2518) CMFP's by-law was amended and registered as the AGRICULTURAL COOPERATIVE FEDERATION OF THAILAND LTD., exclusively for the apex agricultural cooperative institution of the national level.

Membership of the Agricultural Cooperative Federation of Thailand Ltd., comprises both primary agricultural cooperative societies at the District level, and provincial agricultural cooperative federations at the Provincial level. Members of ACFT must hold at least one share in ACFT's capital, with each share worth the equivalent of Baht 500.

As of 23 Sept., 1983, 265 Agricultural Cooperative Societies are members of ACFT and share capital amounts to Baht 8.7 million.

Products, Services

Since organizing the Federation under the name of The Agricultural Cooperative Federation of Thailand Ltd, the main products of ACFT are Maize, Rice, Fertilizer Pesticides and others. For services of ACFT are Printing and ACFT owns Sile and Warehouse which renders services for storing Maize, Fertilizer to cooperative societies as well as general public.

Ownership/Major Shareholders

In February 1970, ACFT joined with the National Federation of Agricultural Cooperative Associations of Japan to establish the T.J.C. Chemical Company Ltd., according to the Agreement reached at the Thailand and Japan Joint Committee meeting on promotion of Cooperative trade.

ACFT owns 51 percent of the share capital while the remaining 49 percent is owned by the Japanese Federation.

Financial Data

Share Capital	8,114,500.00
Asset	1,102,421,309.65
Operating Fund	1,104,000,000.00

Affiliates

T.J.C. Chemical Company Ltd.

Main Objective of ACFT

To assist member cooperatives' operations by establishing an efficient system of collection and sale of members' agricultural products and including the timely provision of quality, reasonably-priced agricultural inputs, to member cooperatives.

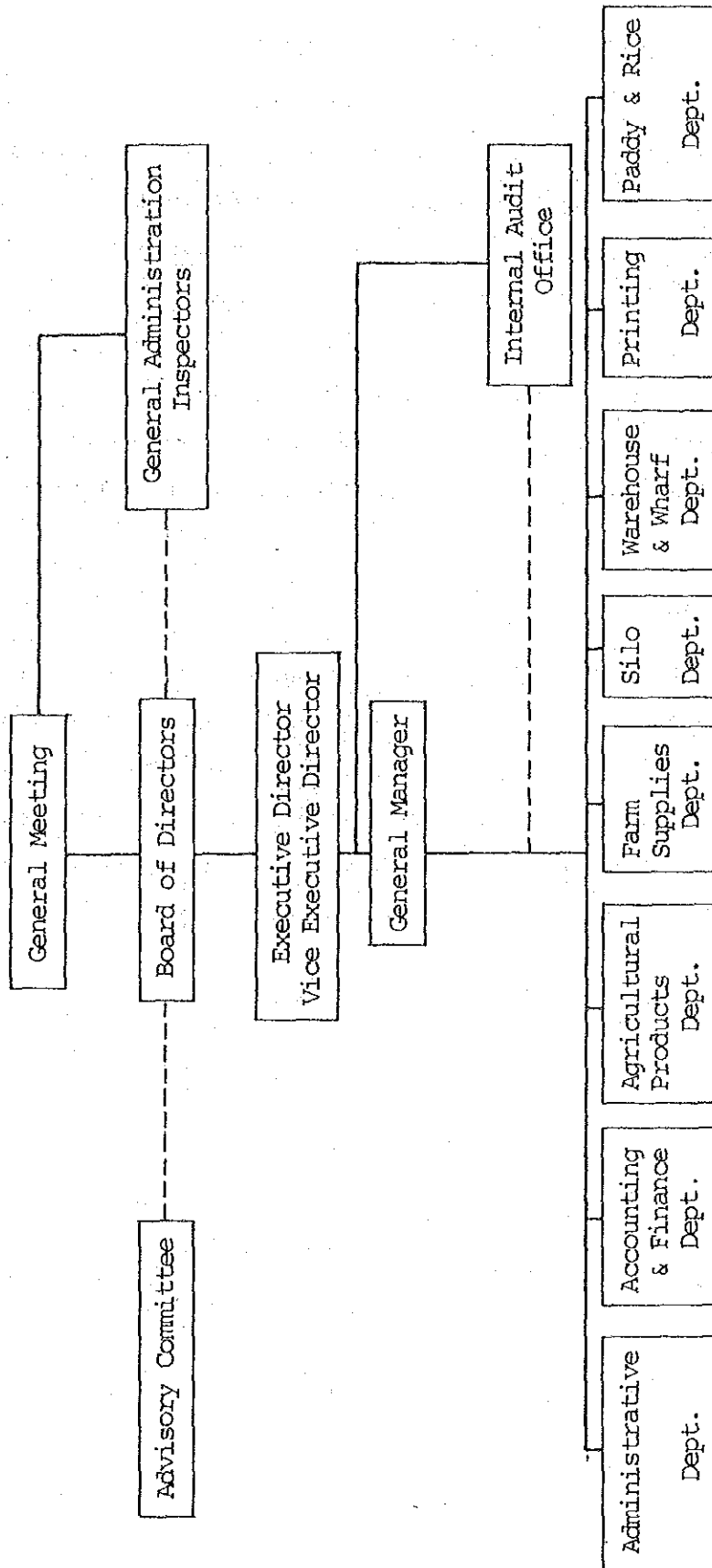
Present Situation of Agricultural Cooperative Marketing

The present situation of Agricultural Cooperative Marketing is a linking system between the National Federation of Agricultural Cooperatives Federation of Thailand, Limited (ACFT) and its member societies both the Provincial Federations and District level cooperatives. Apart from ACFT, there are two other Agricultural Cooperatives at national level, they are, Federation of Pig Raising Co-operatives and Sugar-cane Growers Cooperatives Federation. It seems that none of them works smoothly, the main reason is negligence of member participation.

1983/1984

The Agricultural Cooperative Federation of Thailand, Limited

Organization Chart



MAIN ACTIVITIES ON MARKETING OF ACFT

At present the main activities on marketing of ACFT are rice and maize. For other commodities such as beans, groundnut, salt etc., ACFT will take action on buying from farmers through member cooperatives upon requesting from the members to give them better price when the market price is low, particularly at the beginning of harvesting season.

The ACFT is exporting rice, maize, on behalf of its members and is presently looking into the possibilities of diversifying its exports to include other products. Exports are undertaken to Co-operatives and others in Japan, Singapore, Philippines, Republic of Korea and some countries in the Middle East.

MAIZE

The ACFT collected maize from member cooperatives for selling to the animal feed industry and exporting to various countries. Most of the maize products are used for animal feed stuff. The total maize production in 1980 - 1981 which is 3,150,000 tons has been allocated by the government as follow :- 1,200,000 tons for animal feed industry, 100,000 tons for maize seeds and the rest of 1,850,000 tons for exporting.

Maize Exports to Various Countries in 1979 - 81

Countries	1979/80	(July 80 - Feb 81) 1980/81
Japan	309,886	2,426
Taiwan	69,638	200,069
China	78,302	114,890
Singapore	282,037	216,166
Malaysia	192,461	187,448
Hong Kong	154,840	101,999
Saudi Arabia	95,090	82,315
Iraq	146,370	-
Kuwait	26,927	82,225
Angola	22,000	52,386
Nigeria	25,876	1,000
Philippines		26,533
Russia	78,852	227,911
Indonesia	30,740	5,893
The United Arab of Amiret	-	13,193
Iraq	-	76,500
Syria	-	23,314
Others	35,956	19,711
Total	1,548,969	1,433,977

THE AGRICULTURAL COOPERATIVE MOVEMENT

The agricultural cooperative movement in Thailand has a long history of more than 60 years, and various kinds of assistances have been extended for the movement by the Government during this period. Since 1968, it could be possible for societies to organize multi-purpose agricultural cooperatives, through amalgamations, with new functions of marketing and supply business. But these multi-purpose societies have found difficulties in fulfilling their functions due to shortages of necessary funds and personal resources for business activities. It is only 9 percent of farmers are affiliated with cooperative societies in the national average. The main reason for this low ratio of the cooperative membership will be found in "insufficient services of cooperative businesses" rather than in "farmers" limited intentions of cooperation". Even though most farmers want to be members of societies cooperative societies can not have good conditions for meeting their wishes.

However, Present Situation of agricultural cooperative movement, although the agricultural cooperatives could be considered as the best organized farmers' institution, they represent only 15% of the total farm population, and have still played a limited role in serving the government's policy in agricultural development. The shortcomings of agricultural cooperative movement are summarized as follows:

- 1) Workness in manpower in term of both members and personnel of cooperatives at all levels.
- 2) Lack of sufficient working funds which impeded the success of many improvement project for agricultural cooperatives.
- 3) Lack of marketing and processing facilities.
- 4) The system and management of cooperatives are not efficient enough.

Therefore, any plan to counter the problem of rural poverty should emphasize marketing business, encouraging the farmers to establish their own organization to conduct a comprehensive system of agricultural business. All problem related to agricultural cooperatives farmer associations and their management have to be eliminated as well.



THE SIGNIFICANT DEVELOPMENT OF CO-OPERATIVE 1980 - 1983

The significant development of co-operative during 1980 - 1983 could be summarized as follows:

Agricultural Co-operatives

1. Production Credit and Marketing Linkage Programme for Rice:

Agricultural co-operative entered new era of co-operative marketing system in 1981, when the co-operative were included in the government's price support programme for paddy, and Co-operative Promotion Department (CPD) in an attempt to create the efficient marketing system within the co-operative movement, started in implementation of the Production Credit and Marketing Linkage Programme for Rice. According to this programme since 1980/1981 and 1981/1982 which cooperative were taken as its instrument the result of the operation was very efficiency for Co-operative movement through the Cooperative members therefore, in 1982/1983 the Agricultural Cooperative Federation of Thailand, Ltd. cooperate with Co-operative Promotion Department have fixed the plan for collecting paddy amount to 570,000 M/T. Under this programme, the National Level, Agricultural Cooperative Federation of Thailand, Ltd. together with 25 provincial co-operative federation and 443 primary agricultural co-operatives, with their facilities of 44 rice mills and 643 paddy storages have participated in the programme.

The Production Credit and Marketing Linkage Programme for Rice is implemented within a co-operative system, aiming an strengthening the co-operative bargaining power as well as reducing marketing costs so as to enable co-operatives to compete with private traders.

The operation of the new programme is governed by the following arrangement:

1. The Cooperatives Promotions Department, the authorized body to implement the programme, set up an Agricultural Cooperatives Rice Marketing Promotion Center which operates and controls the activities of the movement such as the capital used, paddy collecting, grading, storing, transport, processing and distribution. After a few years or as soon as the programme gains a headway, the ACFT will take over the responsibilities gradually.

2. The Bank for Agriculture and Agricultural Cooperatives (BAAC) and the Cooperatives Promotion Department (CPD) are the main sources of funds to finance the primary societies for paddy collection.
3. The collected paddy is purchased by the Public Warehouse Organization (FWO), a government corporate body under the Ministry of Commerce. The ACFT and the FWO have agreed on the standard or grade of rice, quantities and prices at which the latter buys the commodity.
4. The primary societies are only authorized to collect and grade paddy. The farmer members who deliver the paddy receive the way bill from their societies and collect the proceeds themselves from the Bank. The societies deliver the paddy (with a bill of delivery) to the nearest rice mill of any primary societies or provincial cooperatives federation. Copies of the deliver bills are sent to the Agricultural Cooperatives Rice Marketing Promotion Center.
5. The rice mill of the provincial federation will undertake only the processing of paddy and deliver the milled rice to the FWO warehouse or to the ACFT warehouse without purchasing or/and selling. The ACFT is responsible for the whole movement as follows: It does not purchase paddy or rice from any where as it is only distributor of rice; it enters into an agreement with the FWO and offers to make delivery contract; it collects the proceeds from the buyer and deposite or credits the same to the BAAC or CPD for clearing of loans borrowed for paddy purchasing.

Target and Value of Rice collected under the Production Credit and Marketing Linkage Programme for Rice in 1982/83

Item	Total	Value	Average Price Baht/mt.
<u>Non-Glutinous</u>			
<u>Paddy</u>			
100 %	23,820	80,988,000	3,400
5 %	68,000	224,400,000	3,300
10 %	87,150	278,880,000	3,200
15 %	140,220	434,682,000	3,100
25 %	190,100	569,300,000	3,000
<u>Glutinous Paddy</u>			
Long grain 10 %	17,100	51,300,000	3,000
Short grain 10 %	43,610	122,108,000	2,800
Total	570,000	1,761,658,000	

For Cooperatives' Corn Production and Marketing Service In Production Year 1983/84

1. Principles and Reasons

The operation of agricultural cooperatives is to implement the members' needs to complete the cycle, which is the provision of production credits, and the storage of the members' crop or distribution is till within a limited scope and lacks systematic coordination, thus giving rise to the operational inefficiency of the cooperatives system. The causes of major operational obstacles may be summarized as follows:

- 1) The Problems in Loan Credits
- 2) Product Distribution Problems

Therefore, in the management of the cooperatives' corn business, there should be coordinated production credits and cooperative corn marketing services, through which the cooperative members, who receive production loan credits, whether they be agricultural supplies, equipments, funds or services, may deliver the corn, after the harvest season, to the cooperatives for loan repayments.

2. Targets of the Operation

- 2.1 Regarding loan objective during 1982/1983 production year, in the total area of 144 corn raising cooperatives, AC issued out to short term loans for production to its members to the amount of 290 million baht by stipulating that the members must pay back in corn to the amount of 40,000 tons valued at 100 million baht, 34% of which can be recovered from the members.
- 2.2 The marketing objective stipulated that the cooperatives are to collect corn produced in production year 1983/1984 to the amount of 40,000 tons valued at 100 million baht.

3. Funds Used in Collection

Corn collection in this program will require funds borrowed from ACFT by AC for loaning out to its members by stipulating that the members are

to pay back their debts entirely in corn. And an additional circulating fund will be used to pay back BAAC on behalf of AC during the period when corn has not yet been harvested.

4. Cooperatives in the Programme and Cooperatives' Corn Marketing Facilities.

- 1 Agricultural Cooperatives Federation of Thailand Limited.
- 2 25 Provincial Agricultural Cooperatives.
- 3 Agricultural Cooperatives (including Settlement Cooperatives).
- 4 Total of 127 silos:

Capacity 500 kwians	=	93	silos
" 300 "	=	20	"
" 200 "	=	2	"
" 100 "	=	1	"
" 750 "	=	1	"
" 50 "	=	1	"
" 1,000 "	=	1	"
" 3,000 "	=	1	"

Total 127 silos, with capacity of 59,750 kwains and one ACFT silo of 30,000 tons capacity.

5. Benefits derived from the project.

- 1 AC and CPF will not be bound to deplete their funds in their effort to collect the maize.
- 2 The Cooperative's members will be able to obtain the final-end-market-prices for their produce.
- 3 AC will be able to keep a growing share of good debts.
- 4 Incentive for a systematic and organized cooperation is established.
- 5 Cooperative profiteering and black market are eliminated.
- 6 Overall administrative cost is reduced.

---

AC = Agricultural Cooperatives  
CPF = Provincial Cooperative Federations

Number of mills and warehouses  
of Agricultural Cooperative movement

1. Agricultural Cooperative Federation of Thailand (ACFT)
  - Silo maize 30000 tons, paddy 25000 tons
  - Warehouses paddy 35000 tons, fertilizer 17000 tons
  
2. Agricultural Cooperative Federation at Provincial level
  - 43 mills, power capacity 1988 tons/24 hrs.
  - Covering, storage capacity 24120 tons
  
3. Agricultural Cooperative at primary level
  - 585 warehouses, storage capacity 277575 tons
  - 82 multi-purpose warehouses, storage capacity 28800 tons

1. Project title : Co-operative Production Credit and Marketing Linkage Project
2. Requesting agency : Co-operatives Promotion Department
3. Proposed source of assistant :
4. Background information and justification :

Local agricultural co-operatives have formed themselves into provincial federations and national federation in order to strengthen their activities for the benefit of their members. However, it is presently shown that their operations in rice marketing do not link together in a systematical way. This is because these co-operatives run the businesses only for their own interests by making profit as much as they can, which led to high cost of production and they can not compete with private merchants. The government has realized this situation and planned to improve the operation system of these co-operatives by setting up this project in order to solve the mentioned problems.

5. Details of the project :

5.1 Programme goal : To enable co-operatives or co-operative in each level to work in a linking system in order to reduce the cost of production and be able to compete with the private merchants.

5.2 Project objective : To improve the activities and business management of co-operatives of all level for the benefit of their members.

- 5.3 Conditions expected at completion of project :

- Members will obtain a reasonable price of rice sold.
- Co-operatives will perform their functions with the co-operative ideals.

- 5.4 Duration of the project : 3 years (1982 - 1984)

5.5 Project work plan and activities :

- Local agricultural co-operatives will be functioned as paddy collectors only.
- Rice mills of local agricultural co-operatives and provincial co-operative federations will work for processing rice of their members.
- The Agricultural Co-operative Federation of Thailand will act as a distributor by receiving rice from the provincial co-operative federations.



## APPENDIX H

### THE MARKETING ORGANIZATION FOR FARMERS

The data and information compiled in this Appendix were presented by MOF to the Study Team for analysis and discussion.



BRIEF INFORMATION

MARKETING ORGANIZATION FOR FARMERS

( M.O.F. )

MINISTRY OF AGRICULTURE AND COOPERATIVES

THE GOVERNMENT OF THAILAND

BANGKOK

APRIL, 2525 (1982)

### Administration and Organization

The Marketing Organization for Farmers (MOF) established under the Decree on Establishment of MOF, P.E. 2517 (1974). The major objectives of MOF are as follows: -

1. To establish the market as a center for selling and purchasing of agricultural products at a parity price for farmers.
2. To keep up the price of the agricultural products.
3. To assemble agricultural products including domestic industrial commodities from the farmers in disposing or processing for disposing both within and outside the Kingdom of Thailand.
4. To provide farmers' agricultural products, in-put, supplies, equipment or necessary consumer goods.

MOF carries out the operations through agricultural co-operatives, farmer groups and directly to individual farmers who are not members of agricultural co-operatives or farmer groups.

### Capital

The authorized capital of MOF is one billion baht (US\$ 50 million), of which 50 million baht has been made initial capital investment by the government.

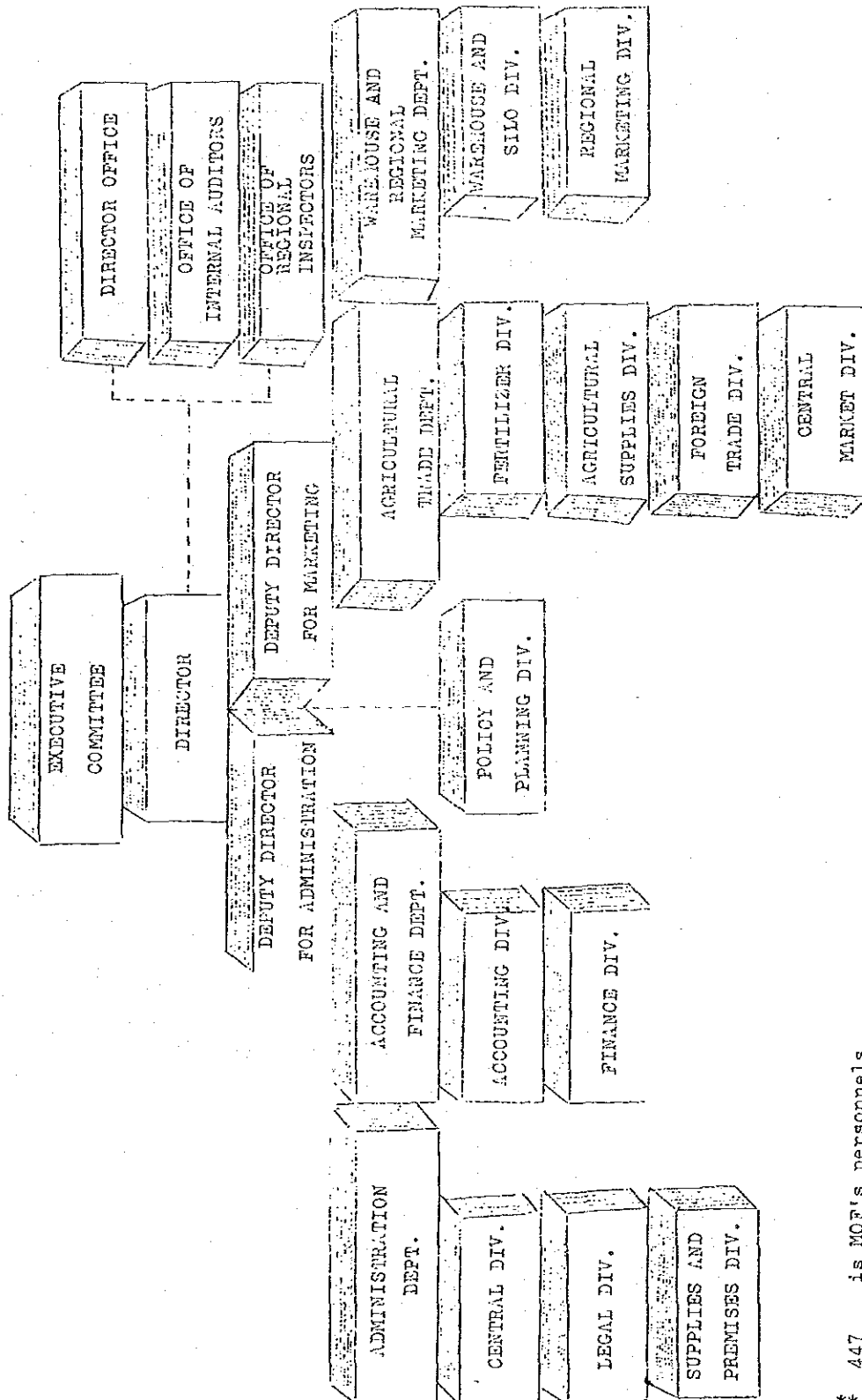
### Executive Committee

Because MOF is a government enterprise, its Executive Committee, which meets monthly for policy making, general control and supervise the activities of MOF, is appointed by the Cabinet, consisting of Minister of the Ministry of Agriculture and Co-operatives being the Chairman, the Under Secretary of the Ministry of Agriculture and Co-operatives being Vice-Chairman and other competent representatives from the agencies concerned. Director is the member and the secretary of the Committee.

### Director

Director (and also Deputy Director) appointed by the Committee, is responsible to the Committee in management and operation of MOF. The organization chart of MOF, is set forth on the following page.

ORGANIZATION CHART  
MARKETING ORGANIZATION FOR FARMERS



\*\* 447 is MCF's personnels  
( March, 1982 )

MOF Operation

Organization's achievements continued to follow up its project, from commencing date of operation since December, 1974 for major crops so far.

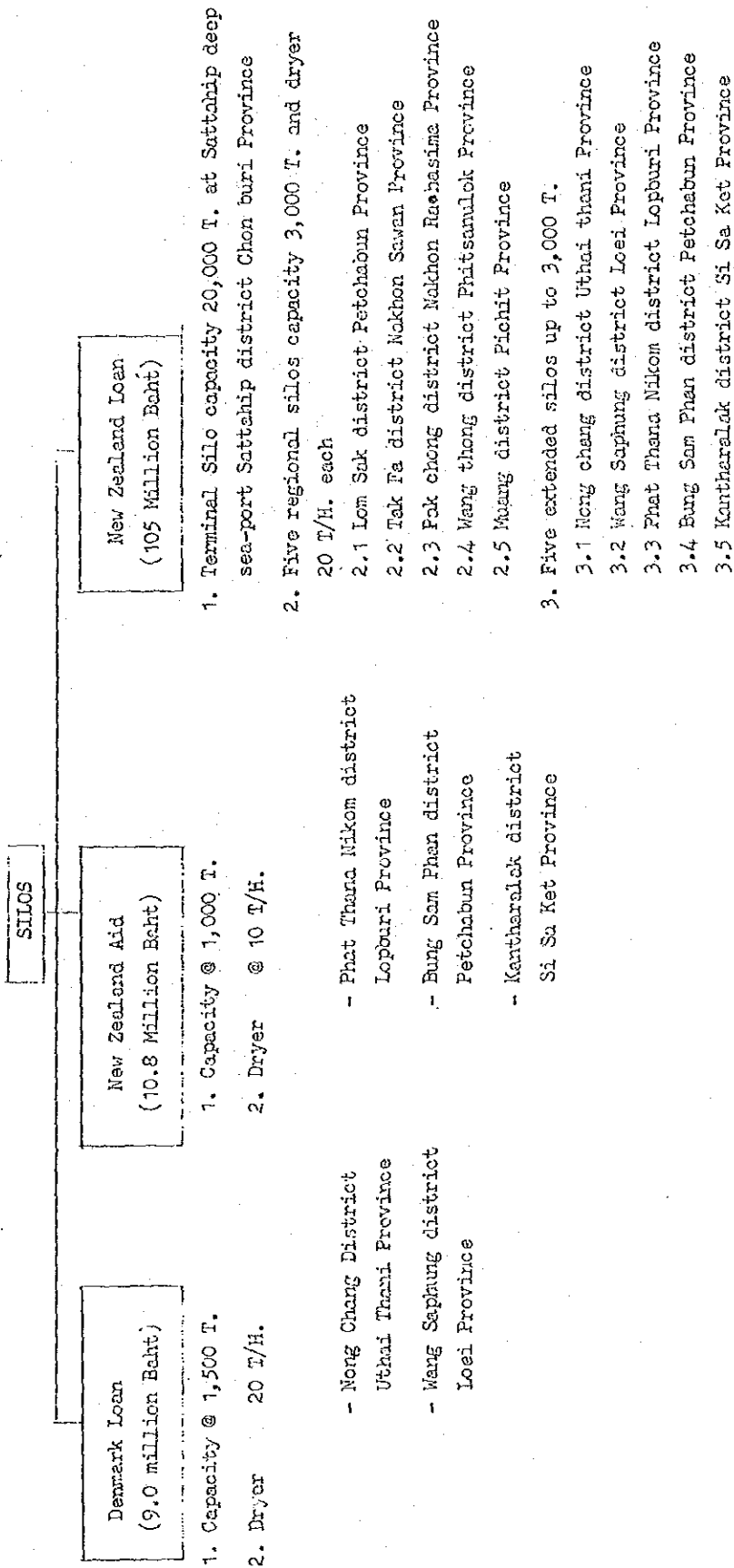
Paddy Purchases

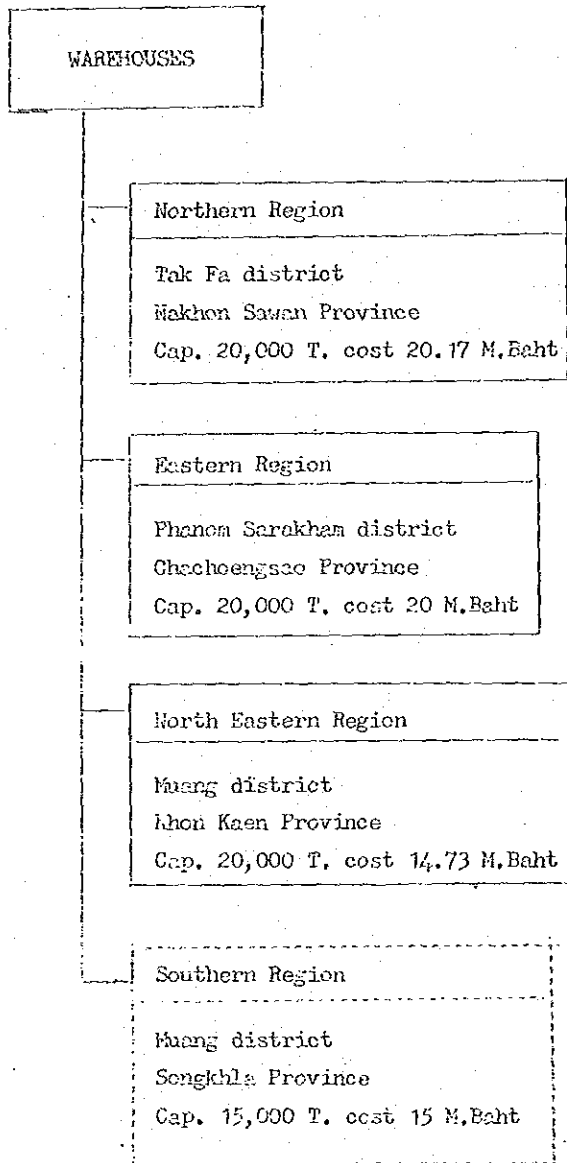
In accordance with the government's policy in helping farmers to get good selling price for paddy. MOF was assigned to purchase paddy from farmers, farmers groups and farmer institutions in order to support its price to the regulate level, to refinance from buying MOF's fertilizer on credit and to intervene in the rice market, set by the Cabinet. MOF has purchased paddy in the amount itemized as follow:

crop year	amount (in metric ton)	value (baht)
First annual crop of 1974/75 paddy	88,031.6	216,178,428.49
Second annual crop of 1975 paddy	161,399.4	430,323,326.22
First annual crop of 1975/76 paddy	35,763.3	83,898,849.25
Second annual crop of 1976 paddy	1,189.8	2,427,549.75
First annual crop of 1976/77 paddy	15,418.1	25,826,543.33
First annual crop of 1977/78 paddy	781.8	1,848,594.60
Second annual crop of 1978 paddy	3,184.1	7,942,053.82
First annual crop of 1976/79 paddy	168,921.9	384,915,933.95
Second annual crop of 1979 paddy	17,821.1	39,222,201.10
First annual crop of 1979/80 paddy	1,084,054.3	3,091,170,519.47

By the end of Mar' 82, MOF sent out its buying units to the North and North-Eastern areas to purchase first annual crop of 1981/82 paddy for a total of 140,020.1 tons of paddy worth 472.72 million baht by the loan from Farmer's Aid Funds for 750 million baht to help stabilize its fluctuated price.

The organization also exported its rice surplus to a number of countries through the assistance of Foreign Trade Dept., Ministry of Commerce, provided rice market at the government level. MOF has exported the following items:







Black Matpe Bean Purchases in 1979/80

MOF bought a total of 526.77 tons of black matpe bean from the 1979/80 crop from the farmers in several provinces amounting to 2,897,226.75 baht.

Chemical Fertilizer Distribution

During its operation course, MOF's distribution of chemical fertilizer under various projects and supplied seed and Rhizobium Sp. to help the farmers in improvement and expansion their agricultural products as the following details:

1. Total chemical fertilizer distributed by MCF to help farmers at parity price. Since 1975, MOF was assigned to supply chemical fertilizer to the growers annually in accordance with fertilizer price subsidy for farmers, referring to the government policy on cost reduction toward rice and sugar-cane cultivation at a moderate price. Consequently, MOF had purchased through local tenders and direct negotiation with foreign suppliers under this category and reach the following outcomes-

Crop year	Rice fertilizer	Sugar-cane fertilizer	Fruit fertilizer	Total
1975/76	112,500	37,500	-	150,000
1976/77	32,752	-	-	32,752
1977/78	53,000	4,700	-	57,700
1978/79	125,000	17,000	-	142,000
1979/80	163,521	5,400	2,000	170,921
1980/81	255,713	10,000	-	265,713
1981/82	149,349	-	-	149,349

As part of chemical fertilizer distribution in 1982, MOF and Romania signed an agreement for a barter arrangement, where MOF maize would be exchanged for 30,958 tons of Romania NP fertilizer. In addition, Japan is providing 47,100 tons of fertilizer for distribution during the second rice crop planting season.

2. Sales of Seed and Rhizobium Sp. - provided from Agricultural Technical Department and from Agricultural Extension Department, Ministry of Agriculture and Co-operatives. MOF sold a total of both subjects as in the followings:

year	amount (ton)	value (baht)
1977	47.7	574,576.92
1978	673.3	4,587,147.35
1979	686.2	3,712,521.09
1980	1,862.1	12,554,442.10
1981	5,251.4	51,667,193.00

3. Since 1975, MOF was assigned to supply pesticide for the growers and for government sectors as follows:

year	amount (ton)	value (baht)
1975	361.39	21,346,574.-
1976	54.44	2,136,121.-
1977	3,528.02	16,550,768.-
1978	1,305.88	23,699,623.-
1979	3,601.50	61,081,483.-
1980	2,838.84	39,843,108.-
1981 (Oct'80-Jun'81)	589.11	24,772,974.-

MOF is also cooperating with the Central Security Div., Ministry of Defense, as producer to promote quality for disposing animal feeding since 1978 in accordance with market demand at reasonable prices to the farmers.

All activities performed by MOF under government policy, internal prices are fixed by Government whereas external prices are dictated by the Ministry of Commerce.

Following its successful operations during the past five years, MOF decided to proceed with its following projects:

1. Opening of the Agricultural Central Market

In order to enable the farmers to sell their agricultural products at a reasonable price without having to go through the middlemen, the organization on July '77 opened the first agricultural central market at Paholyotin Terminal, which include 4 barns with a holding capacity of 2,500 tons each.

Apart from the market, MOF itself also opened up its supermarket at the same site to sell commodities at low price. MOF's sales during 1975-1981 period are as follows:

year	value (baht)
1978	9,170,820.75
1979	15,558,517.50
1980	28,995,352.50
1981	25,976,026.25
1982 (As of Mar'82)	10,749,839.25

## 2. Regional and Terminal Silo

Construction activities were focused on grain improvement and facilities, involving agricultural products purchased yearly. More attention was given on the construction of 10 regional silos and one terminal silo.

The New Zealand Government had contributed a total of US\$ 540,000 for 3 silos of 1,000 tons each and equipped with a 10-ton-an-hour dryer for storage of maize. Meanwhile, MOF also requested a long term loan for an amount of KR 2,640,000 from the Government of Denmark for a purchase of 2 silos of 1,500 tons each.

Another long term loan from the New Zealand Government for construction of Port Terminal Silo Project, 5 regional grain drying and storage plants with capacity of 3,000 tons each and 5 storage extensions for 3 New Zealand and 2 Danish plants for an amount of NZ\$ 5,753,266

The design of mechanical equipment and the storage facilities projected are to be completed in 1983.

## 3. Construction of Regional Warehouse

MOF is planning to build more warehouses to make its networks extended to cover all regions throughout the country to facilitate its up-country operation. In an effort to store chemical fertilizer and paddy bought from the farmers later to be converted into rice, MOF is implementing its project to construct 4 warehouses in Northern, North-Eastern, Central Plain and Southern with a holding capacity of 10,000 tons each as the same capacity at Chachoengsao province where opened for operation since the late 1981.

## 4. Sing Thai Farms Ltd.

One of MOF's important projects is the establishment

of joint stock company with a Singaporean company. Through the company, MOF is able to operate on livestock raising (swine) in Thailand and also export a total of 300,000 tons of maize to Singapore yearly.

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Policy and Planning Division

April, 1982

crop year	amount of export (in metric ton)	value (baht)
1975	22,342.6	101,023,667.27
1976	16,333.6	78,069,024.51
1977	19,176.8	69,774,685.17
1978	5,256.3	20,113,120.49
1979	1,617.1	6,754,774.41
total export	65,231.3	274,735,271.85

Maize Purchases

Since the beginning of 1975 to the end of Feb' 82, the organization acquired a total of tons of maize purchased from local farmers. They were estimated at 149,846,275.72 baht

year	amount (in metric ton)	value (baht)
1975/76	6,612.2	15,208,064.60
1976/77	5,603.3	10,367,369.52
1977/78	18,363.4	29,661,580.14
1978/79	5,747.5	11,297,884.10
1979/80	31,427.7	71,172,408.91
1980/81	2,408.1	7,095,676.45
1981/82 (As of Mar'82)	1,817.8	4,543,290.00

Of the maize bought by the organization were resold in the local market and abroad.

Cotton Purchases

Domestic cotton price since 1975, hit a very low mark in several provinces, by virtue of this, the government assigned MOF to act as a purchaser of cotton in order to support its price at a level regulated by the Cabinet. MOF has performed this task as follows:

crop year	weight (ton)	value (baht)
1974/75	2,955.1	22,345,368.15
1977/78	4,763.5	42,205,851.53
1978/79	2,958.3	36,541,124.67
1979/80	10,499.5	131,693,332.42
1981/82 (As of Mar'82)	7,590.4	81,309,441.45

Additional Data on M.O.F.'s Activities

Table 1 - Purchases and sales of Maize, Cotton, Chemical Fertilizer, Seed and Rhizobium Sp., Pesticides, Machines and tools and Central Market.

Amount - ton

Value ₦ million baht

Year	Maize		Cotton		Chemical Fertilizer for rice		Seed and Rhizobium Sp.		Pesticides		Machines and tools		Central Market	
	Amount	Value	Amount	Value	Amount	Value	Amount	Purchases	Sale	Sale	Purchases	Sale	Sale	Sale
1981/82	1,817.8	4.54	8,839.4	94.48			84.3 34,615 packages	1.49	1.80	56.15				
1982/83	59,166.8	146.97	-	-	112,780.5	486.96	0.14	0.15	0.16	22.35	7.45	7.78	11.37	
1983/84 (as of Feb. 84)	-	-			6,446.8	27.07				16.59			5.47	

Table 2 - Paddy and Rice

Amount - ton

Value - million baht

Crop Year	Purchases		Milling of procured paddy	Domestic Sales of paddy	Rice Export	Stock
	Amount	Value				
1980/1981	-	-	-	-	-	-
1981	-	-	-	-	-	-
1981/1982	179,724	606.02	-	-	-	-
1982	88,478	258.31	284,797.760	470.023	73,963	-
Collecting paddy for fertilizer-debt	21,294	75.55	-	-	-	-
1982/1983	510,414	1,600.11	510,414	2,860	358,883	10,759
1983	83,268	264.52	83,268	-	-	-
Southern Provinces Purchase	2,860	8.40	-	-	-	-
Collecting paddy for fertilizer-debt	17,842.039	56.98	17,842.039	-	-	-





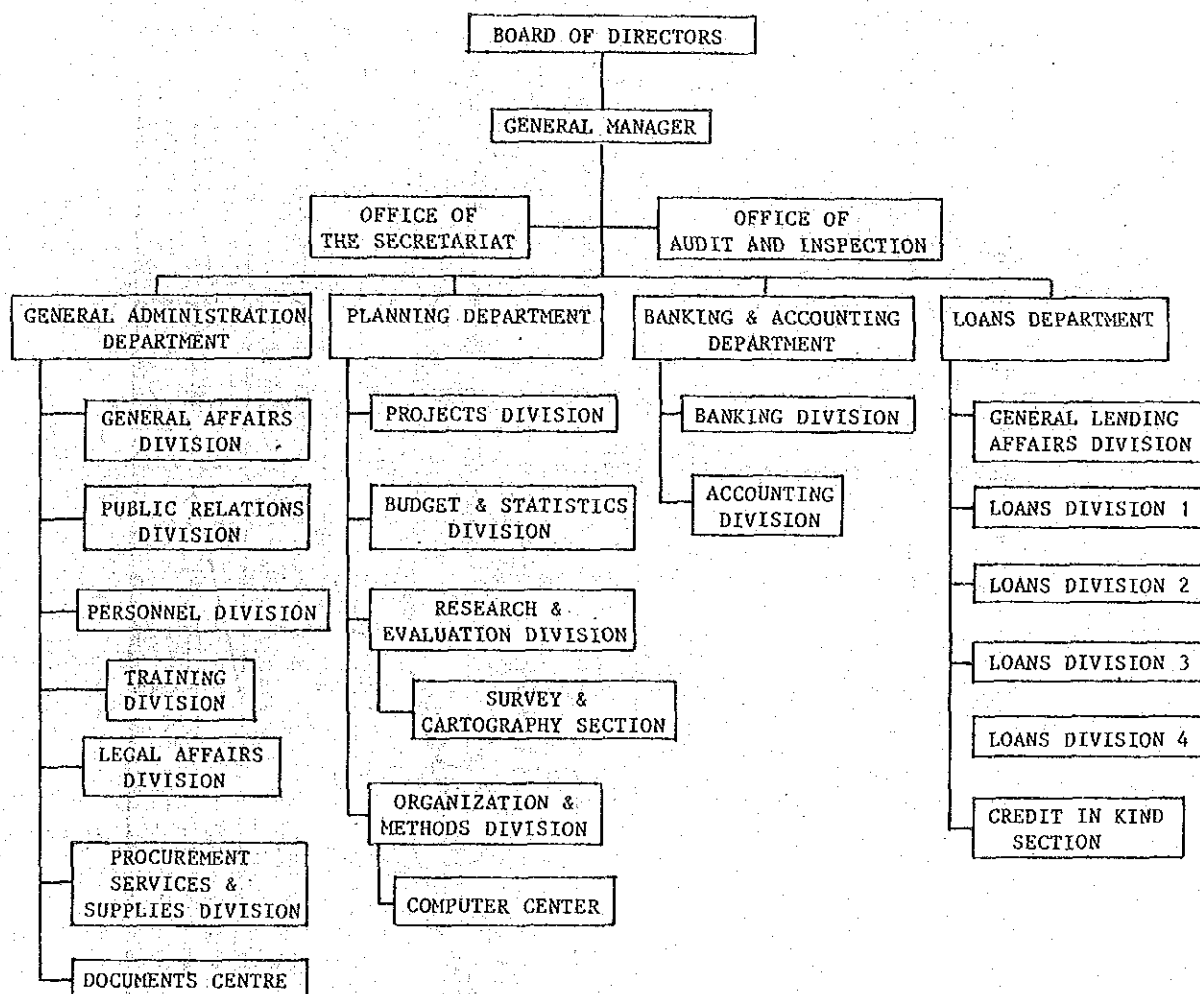
APPENDIX I

THE BANK FOR AGRICULTURE  
AND AGRICULTURAL COOPERATIVES

The data and information compiled in this Appendix were presented by BAAC to the Study Team for analysis and discussion.



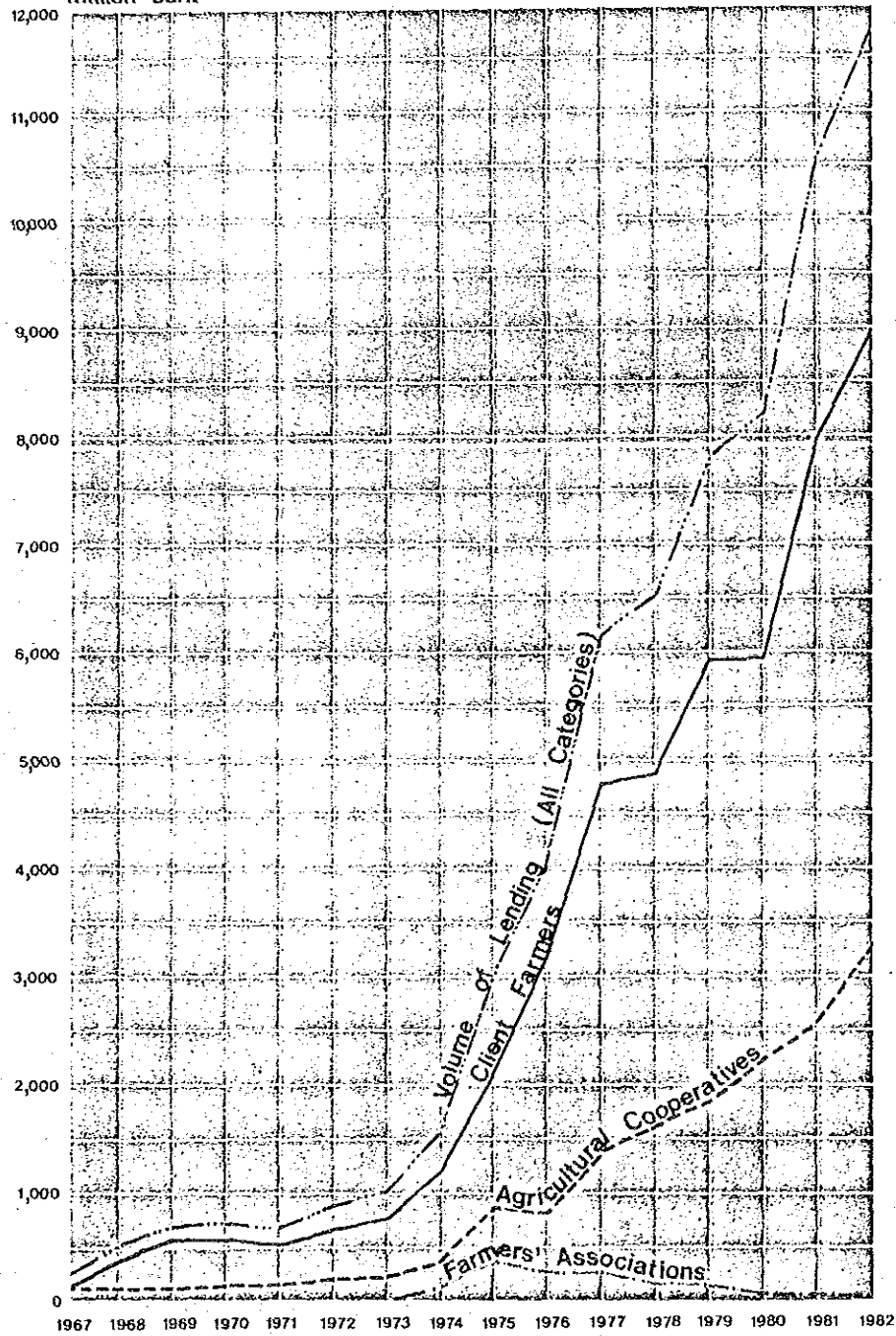
BANK FOR AGRICULTURE AND AGRICULTURAL COOPERATIVES  
ORGANIZATION CHART (HEAD OFFICE)



### Bank for Agriculture and Agricultural Cooperatives

Volume of Lending During Fiscal Years 1967 - 1982

million baht



BAAC Loan to Farmers' Cooperative Institutions  
for Construction the Rice Mills and Warehouses

Items	Provincial or Changwad Level						Local or Amphoe Level					
	Rice Mill			Warehouse			Rice Mill			Warehouse		
	No. of Coops.	Capacity (tons/day)	Amount ('000Baht)	No. of Coops.	Capacity (tons)	Amount ('000Baht)	No. of Coops.	Capacity (tons/day)	Amount ('000Baht)	No. of Coops.	Capacity (tons)	Amount ('000Baht)
<u>Agricultural Cooperatives</u>												
Northern	5	290	11,650.00	2	3,000	679.50	1	20	330.00	117	55,400	18,455.00
North-Eastern	3	140	3,495.00	2	1,500	550.00	2	40	630.00	117	55,700	19,416.25
Central+Eastern	4	250	9,740.00	4	2,500	860.00	1	20	330.00	78	40,400	13,095.00
Southern+Western	-	-	-	-	-	-	2	60	1,050.00	60	24,800	8,304.10
Total	12	680	24,885.00	8	7,000	2,089.50	6	140	2,340.00	372*	176,300	59,270.35
<u>Farmers' Associations</u>												
Northern	-	-	-	-	-	-	1	20	500.00	-	-	-
North - Eastern	-	-	-	-	-	-	-	-	-	-	-	-
Central + Eastern	-	-	-	-	-	-	-	-	-	-	-	-
Southern + Western	-	-	-	-	-	-	1	40	940.00	-	-	-
Total	-	-	-	-	-	-	2	60	1,440.00	-	-	-
Grand Total	12	680	24,885.00	8	7,000	2,089.50	8	200	3,780.00	372	176,300	59,270.35

\* 200 tons warehouse capacity has 12 coops.  
 300 " " 53 "  
 500 " " 307 "

BAAC Loan to Agricultural Co-operatives  
For Production Credit and Marketing Linkage Programme of Rice

Items	1980/81			1981/82			1982/83		
	No. of Coops.	Tons	Amount ('000Baht)	No. of Coops.	Tons	Amount ('000Baht)	No. of Coops.	Tons	Amount ('000 Baht)
<u>Provincial or Changwad level</u>	-	-	-	-	-	-	-	-	-
<u>Local or Amphoe level</u>									
- Northern	61	42,623	134,356.34	114	96,195	152,384.74	103	54,914	41,704.73
- North-Eastern	64	40,010	108,592.05	127	54,644	101,445.59	105	20,351	18,716.88
- Central + Eastern	25	9,555	28,101.60	69	62,135	111,799.50	79	64,513	57,324.72
- Southern + Western	5	1,453	5,592.62	33	20,372	36,800.35	38	16,303	16,022.24
Total	167	93,641	276,642.61	343	233,346	402,430.18	327	156,081	133,768.57

BAAC Loan to Client Farmers  
for Accepting paddy and pledging the warehouse receipts

Branch	1981/82			1982/83		
	No. of Clients	Tons	Loan Amount (Baht)	No. of Clients	Tons	Loan Amount (Baht)
<u>Northern</u>						
1. Nakhon Sawan	-	-	-	12	242,368	553,100
<u>North-Eastern</u>						
-						
<u>Central+ Eastern</u>						
1. Ang-thong	-	-	-	3	13,048	32,000
2. Prachinburi	-	-	-	35	723,362	1,742,100
<u>Southern+Western</u>						
1. Chumphon	18	28,000	72,800	-	-	-
2. Nakhon Si Thammarat	44	310,065	806,168	-	-	-
3. Suphanburi	9	73,000	183,382	-	-	-
<b>Total</b>	<b>71</b>	<b>411,065</b>	<b>1,062,350</b>	<b>50</b>	<b>978,778</b>	<b>2,327,200</b>

- In 1981/82 BAAC Loan Target in 5 Branches are Chumphon, Nakhon Si Thammarat Songkhla, Phattalung and Suphanburi;
- In 1982/83 BAAC Loan Target in 12 Branches are Chiang Rai, Nakhon Sawan, Khon Kaen, Udorn Thani, Ubon Ratchathani, Surin, Suphanburi, Ratchaburi, Phra Nakhon Si Ayuthaya, Angthong, Saraburi and Prachinburi;
- In 1983/84 BAAC Loan Target in 2 Branches are Khon Kaen and Nakhonratchasima about 30,000 tons.





APPENDIX J

PRICE OF PADDY BY GOVERNMENT

(1965/66 - 1983/84)



Price of Paddy by Government  
(1965/66 - 1983/84)

Baht/MT

Paddy which converted to the milled rice	65/66	66/67	67/68	68/69	69/70	70/71	71/72	72/73	73/74	74/75	75/76	76/77	77/78	78/79	79/80	80/81	81/82	82/83	83/84
White rice 100% A	1,100	1,100	1,200	1,300	1,300	1,300	1,125	-	-	2,800	2,650	2,250	2,400	2,700	3,400	3,800	4,050	3,600	3,600
" B	1,050	1,050	1,100	1,200	1,200	1,200	1,075	-	-	2,800	2,600	2,250	2,300	2,600	3,300	3,700	3,950	3,500	3,500
" C	1,000	1,000	1,050	1,150	1,150	1,150	1,025	-	-	2,800	2,500	2,250	2,200	2,500	3,200	3,600	3,850	3,400	3,400
White rice 5%	950	950	1,000	1,100	1,100	1,100	975	-	-	2,700	2,500	2,100	2,100	2,400	3,100	3,500	3,750	3,300	3,300
" 10%	900	900	950	1,050	1,050	1,050	925	-	-	2,600	2,400	2,050	2,000	2,300	3,000	3,400	3,650	3,200	3,200
" 15%	900	900	950	1,050	1,050	1,050	925	-	-	2,500	2,350	2,000	2,000	2,300	3,000	3,300	3,550	3,100	3,100
White rice 20-25%	850	850	900	1,000	1,000	1,000	875	-	-	2,400	2,300	1,900	1,900	2,200	2,900	3,200	3,450	3,000	3,000
Glutinous rice 10% long	900	900	950	1,050	1,050	850	-	-	-	2,300	2,300	1,670	1,800	2,100	2,800	3,200	3,300	2,900	2,900
" short	850	850	900	1,000	1,000	800	725	-	-	2,200	-	-	-	-	-	3,100	3,100	2,800	2,800
" 15% short	-	-	-	-	-	-	725	-	-	2,100	2,150	1,650	1,700	-	-	-	-	-	-
" 20-25%	-	-	-	-	-	-	675	-	-	-	-	-	-	-	-	-	-	-	-
Parboiled rice 20-25%	-	-	-	-	-	-	-	-	-	2,300	-	-	-	-	-	-	-	-	-

Source: Ministry of Agriculture & Cooperative, Bank of Thailand



APPENDIX K

WAREHOUSE, GODOWN, BARN AND  
SILO DEVELOPMENT OF THAILAND



TRANSLATION OF RESEARCH DATA COMPILED BY PWO ON WAREHOUSES, GODOWNS AND SILOS DEVELOPMENT IN THAILAND WHICH BANK OF THAILAND AND BOARD OF INVESTMENT HAD SURVEYED IN 1978/79

.....

Warehouse, Godown Barn and Silo Development of Thailand

The Government's Economy and Social Development Plan No. 5 BE 2525-2529 (1982-1986) had concluded that the development of the country based on the agricultural society. 25% of gross domestic production came from agricultural products and income from agriculture is still at the highest important level. 15.6 millions or about 76% of labours are employed in this.

At present 60% of the country income comes from export of agricultural products.

The tendency of agricultural development in the past 20 years appeared to have been expanded at a rather high rate, averaged by 5% per annum when compared to the world expansion rate of agricultural products which was only 2.5-2.8% per annum. Therefore, Thailand is the only Asian Country which maintained agricultural status and had food surplus for export for continuing 20 years. The export of agricultural products had helped build up economy stability of the country through out the past period. However, there were problems which caused farmers not to have income and living standard they should have. The first major problem is the marketing structure. Prices of agricultural products are unreasonable to the farmers because these prices are fixed by wholesale market in Bangkok and have to go through middleman who have faster and better knowledge in prices and market movement. As a result, farmers have very little bargaining power. The buying and selling through cooperative or farmer groups has been very slowly developed, therefore farmers and manufacturers have to trade through middlemen in many district levels. The Government had intervened the market which helped increase prices of agricultural products for both local and export, wholesale, retail and farmgate prices. So far, market intervention had not been much carried out whilst there was an expansion of private market and investment on

agriculture. Modern method of agricultural industry had rapidly expanded. This had partly increased manufacturing efficiency to well correspond with marketing.

However, private sector and Government are jointly responsible and have influence on prices of agricultural products. Besides frequent disputes between these two sectors, they also lack of coordination. Many problems incurred from the Government's intervention measure such as cheap price policy for domestic consumers does not correspond with the policy for raising up prices of agricultural products for farmers etc. Major problems which are to be improve under the Development Planning No. 5 are:-

- Govt's role and measure in the export intervention created cost price burden to exporters which in turn affected price suppression to farmers.

- Classification for grade and standard of agricultural products was inefficient due to limited numbers of central markets and bidding through cooperative system had not yet well developed.

- Trading at district level still lack of basic facilities such as warehouses, godowns, barns and silos including transportation, therefore, farmers have to depend on middleman. Moreover the merchants are monopoly in marketing information and prices. As a result, farmers have little chances to bargain.

- Government's market intervention such as price stabilization, price guarantee at district level could not be efficiently carried out due to limited amount of fund and personnel. Private trader have very much progressed in dealing business and obliged farmers by sales contract.

The Business Policy Division of PWO has observed that all country's Economic Development Planning have given importance in developing the basic facilities such as warehouses, godowns, barns and silos for storing agricultural products at the begining of harvest season in order to enable



farmers more bargaining power in selling their crops to middleman. However, in general practice, it appeared that the development on this basic facility was limitedly carried out by both Government and private sector. The Business Policy Division of PWO had collected details of warehouses from the researched data of Bank of Thailand 1978/1979 and the researched data of the Board of Investment.

1. Central Region

The total capacity of storage space is 8,830,347 metric tons in 24 provinces including Bangkok; 2,026,847 m/t for storing rice and paddy, 1,252,740 m/t for storing maize, 720,510 m/t for cassava and 25,060 m/t for other types of field crops. Apart from this another 4,804,190 m/t belongs to private traders who had received BOI's promotion.

(1) Storage for Rice

The total capacity of 2,026,847 m/t of rice storage can be separated into ownership and provincial as follows:

i) Private Owned Storage for Rice in Bangkok

The total capacity is 826,732 m/t as per following details

Type of Trader	Number	metric tons
1. Godown Owners	30	2,020
2. Wholesalers	90	279,513
3. Exporters	84	545,199
Total	204	826,732

ii) Storage Facilities of Private Traders and Millers in Central Region

There are 724 rice storage with the total capacity of 1,007,995 metric tons in central provinces belonging to private traders and millers. 319 godowns with the capacity of 278,595 metric tons belong to private traders and 405 godown at the capacity of 729,400 belong to millers.

Number and Capacity of Rice Storage Owned by Private  
Traders and Millers in Central Provinces 1979

Province	Private Traders		Millers		Total	
	No.	tons	No.	tons	No.	tons
1. Suphan Buri	26	29,650	60	175,560	86	205,210
2. Sara Buri	16	8,810	54	155,000	70	163,810
3. Chachoengsao	67	38,210	44	77,560	111	115,770
4. Ayuttaya	21	29,210	43	48,070	64	77,280
5. Nonthaburi	1	50,000	13	9,600	14	59,600
6. Lopburi	53	27,380	22	30,070	75	57,450
7. Nakhon Pathom	6	5,100	29	49,670	35	54,770
8. Prachin Buri	15	14,350	21	38,140	36	52,490
9. Samut Sakhon	7	2,940	5	35,300	12	38,240
10. Sinburi	15	5,700	17	27,450	32	33,150
11. Nakhon Nayok	10	3,100	23	28,500	35	31,600
12. Chainat	24	10,660	16	18,420	40	29,080
13. Ratchaburi	14	13,535	16	14,000	30	27,535
14. Petchburi	13	19,200	3	2,800	16	22,000
15. Chonburi	10	8,550	3	950	13	9,500
16. Pathum Thani	-	-	11	8,910	11	8,910
17. Samut Prakarn	4	4,500	6	2,000	10	6,500
18. Chanthaburi	8	6,060	-	-	8	6,060
19. Angthong	7	1,390	11	2,100	18	3,490
20. Prachub	-	-	2	2,800	2	2,800
21. Karnchanaburi	-	-	4	2,200	4	2,200
22. Rayong	1	100	1	200	2	300
23. Samut Songkharm	1	150	1	100	2	250
<b>Total</b>	<b>319</b>	<b>278,595</b>	<b>405</b>	<b>729,400</b>	<b>724</b>	<b>1,007,995</b>

## iii) Co-operatives's Storage for Paddy at District Level

There are 163 paddy storage belonging to Agricultural Co-operatives at the provincial level. The total capacity is 81,000 metric tons;

Capacities of Paddy Storage and Longklum (Open houses) Owned by  
Co-operatives at District Level in Central Region

Province	No. of storage	Storage's cap.	Total metric tons
1. Bangkok	1	500	500
2. Ayuttaya	19	10,500	10,500
3. Nonthaburi	2	2,000	2,000
4. Lopburi	13	6,500	6,500
5. Pathumthanik	20	9,800	9,800
6. Chachoengsao	13	6,500	6,500
7. Chonburi	1	500	500
8. Rayong	1	500	500
9. Chanthaburi	1	500	500
10. Prachinburi	10	5,000	5,000
11. Angthong	10	5,000	5,000
12. Ratchaburi	9	3,900	3,900
13. Suphab Buri	11	5,800	5,800
14. Sumut Sakhon	1	5,000	5,000
15. Nakhon Pathom	3	1,300	1,300
16. Karnchanaburi	1	500	500
17. Petchburi	7	3,100	3,100
18. Nakhon Nayok	8	4,000	4,000
19. Chainat	14	6,800	6,800
20. Singburi	17	7,300	7,300
21. Sumut Prakarn	1	500	500
<b>Total</b>	<b>163</b>	<b>80,000</b>	<b>81,000</b>

vi) Storage for Paddy Owned by ACFT at Provincial Level

Total storage capacity of paddy in central provinces owned by ACFT is 14,100 metric tons. 6,500 metric tons is the capacity of paddy storage and 7,600 metric tons is the capacity of longklum (open houses).

Capacity of Paddy Storage and Longklum (Open Houses)  
Owned by ACFT at Provincial Level in Central Region

Province	Capacity of storage	Capacity of open house	Total
1. Ayuttaya	500 m/t	3,000 m/t	3,500 m/t
2. Lopburi	1,000 "	300 "	1,300 "
3. Sara Buri	500 "	1,500 "	2,000 "
4. Chachoengsao	1,000 "	500 "	1,500 "
5. Nakhon Nayok	1,000 "	1,000 "	2,000 "
6. Singburi	1,000 "	-	1,000 "
7. Chainat	500 "	300 "	800 "
8. Angthong	500 "	-	500 "
9. Suphan Buri	500 "	1,000 "	1,500 "
Total capacity	6,500 m/t	7,600 m/t	14,100 m/t

v) Storage of PWO

PWO has warehouses at the total capacity of 79,400 metric tons in the Central Region as follows:

Capacity of PWO's Warehouses

Province	Capacity	Total
<u>In Central Region</u>		
1. Central Warehouse 1 (Thonburi)		78,200
Unit 1	14,400	
Unit 2	14,400	
Unit 3	14,400	
Unit 4	35,000	
2. The Long Moh Warehouse		500
3. Pathumwan Warehouse		700
Total		79,400

## iv) Storage Owned by the National Security Command

The National Security Command has storage with the total capacity of 17,620 metric tons as per details below:

Storage of National Security Command

Type of Work	Capacity	Type of Stored Crop
1. Dept. of Live-Stock Development (Chachoengsao Province)	17,020 m/t	
2. Animal Husbandry Division (Karnchana Buri Province)	600 m/t	paddy and maize
Total	17,620 m/t	

(2) Storage for Maize

The total capacity of godowns and silo for maize in central provinces is 1,253,740 metric tons as per following details:

i) Private Merchants' Storage for Maize

174 maize storage in 11 provinces of Central Region owned by private merchants. The total is 1,252,740 metric tons.

Number and capacity of Maize Storage in Central Provinces  
Owned by Private Merchants in 1979

Province	No.	Capacity (tons)	Remarks
1. Ayuttaya	7	449,900	
2. Samut Prakarn	4	340,850	
3. Lopburi	99	297,900	
4. Saraburi	33	108,370	
5. Prachin Buri	12	21,000	
6. Chachoengsao	2	15,020	
7. Petchburi	6	7,850	
8. Chantha Buri	6	6,600	
9. Suphan Buri	3	2,650	
10. Prachub Kirikhan	1	2,000	
11. Nakhon Pathom	1	600	
Total	174	1,252,740	

ii) MOF's Storage of Maize

MOF has a maize silo at the capacity of 1,000 metric tons in Lopburi province.

(3) Storage of Cassava Owned by Private Merchants

There are 191 cassava godowns in 12 central province owned by private merchants. The storage capacity is 720,510 metric tons.

Number and Capacity of Cassava Storage in Central Provinces  
Owned by Private Merchants

Province	No.	Capacity (tons)	Remarks
1. Chachoengsao	40	257,100	
2. Chonburi	20	248,500	
3. Rayong	49	66,050	
4. Prachin Buri	39	65,250	
5. Ayuttaya	1	30,000	
6. Karnchana Buri	12	25,050	
7. Rajcha Buri	13	14,800	
8. Suphan Buri	10	4,520	
9. Chainat	1	4,000	
10. Prachum Kiri Khan	1	4,000	
12. Trad	3	720	
13. Chanta Buri	2	320	
Total	191	720,510	

(4) Storage of Field Crops Owned by Private Merchants

There are 26 storage at the capacity of 25,060 metric tons owned by private merchants situated in the following provinces:



Number and Capacity of Storage for Field Crop in Central Province  
Owned by Private Merchants in 1979

Province	No.	Capacity (tons)	Remarks
1. Karnchana Buri	13	17,100	
2. Nakhon Pathom	1	5,000	
3. Petchaburi	2	950	
4. Chonburi	2	600	
5. Prachinburi	1	500	
6. Lopburi	2	500	
7. Saraburi	1	150	
8. Chainat	2	150	
9. Prachub Kiri Khan	1	60	
10. Suphan Buri	1	50	
Total	26	25,060	

(5) Warehouses and Silos in Central Region Owned by Private Traders  
Under the Board of Investment's Promotion (BOI)

The total capacity is 4,804,190 metric tons. 1,738,190 metric tons of this are warehouses and 3,066,000 metric tons are silos.

Province	No. of Warehouses Under BOI's Promotion	Warehouse's Capacity	Silo's Capacity	Total
1. Bangkok	1	630,000	-	630,000
2. Sumut Prakarn	10	516,320	2,150,000	2,666,320
3. Ayuttaya	3	147,870	152,000	299,870
4. Pathum Thani	2	-	744,000	744,000
5. Chonburi	1	360,000	-	360,000
6. Prachin Buri	1	-	20,000	20,000
7. Nakhon Sawan	1	84,000	-	84,000
Total	19	1,738,190	3,066,000	4,804,190

2. Northern Region

The total storage capacity for rice and other agricultural crops in the Northern Region provinces is 1,304,521 metric tons. This belongs to private traders, Agricultural Cooperative Federation of Thailand, National Security Command, MOF and PWO as follows:

## (1) Storage for Rice

577,059 metric tons is the total storage capacity in the Northern region as follows:

## i) Storage Owned by Private Merchants in Northern Region

Private merchants in Northern Region provinces have a total storage capacity of 531,009 metric tons as per following details:

<u>Province</u>	<u>Capacity (metric tons)</u>
1. Uthai Thani	7,550
2. Nakhon Sawan	158,014
3. Pichit	107,860
4. Khampaengpetch	13,220
5. Tak	5,100
6. Sukhothai	13,055
7. Phitsanulok	24,300
8. Petchabun	16,330
9. Utradith	14,620
10. Lampang	14,850
11. Chiang Mai	22,050
12. Payao	47,850
13. Chiang Rai	<u>86,210</u>
Total	531,009

ii) Storage Owned by ACFT

Storage capacity of paddy barns owned by ACFT in the Northern Regions as follows:

<u>Province</u>	<u>Capacity (metric tons)</u>
1. Nakhon Sawan	7,500
2. Khampaengpetch	2,500
3. Tak	1,800
4. Sukhothai	7,600
5. Pithsanulok	6,500
6. Utraradith	5,000
7. Phrae	1,500
8. Lampoon	500
9. Lampang	4,300
10. Chiang Mai	4,300
11. Chiang Rai	4,950
12. Pichit	<u>3,700</u>
Total	45,850

iii) Storage of Rice Owned by the National Security Command in Northern Region

The national Security Command owns paddy storage with the total 200 metric tons as follows:

<u>Type of Work</u>	<u>Storage Capacity</u>
1. Chomthong Agricultural Project (Chiang Mai)	100 metric tons
2. Mobile Development Unit (Chiang Mai)	100 metric tons

(2) Storage for Maize and Beans in the Northern Region

There is storage for maize and beans with the total storage capacity of 27,250 metric tons as follows:

i) Storage for Maize of ACFT

ACFT has barns with the capacity of 21,500 metric tons for storing maize as follows:

<u>Province</u>	<u>Capacity</u>
1. Uthai Thani	7,500 metric tons
2. Petchabun	7,500 " "
3. Payao	4,500 " "
4. Chiang Rai	2,000 " "
Total	21,500 metric tons

ii) Storage for Maize of Market for Farmers (MOF)

MOF has 2,500 metric tons capacity of maize silos in the Northern Region, 1,500 metric tons in Uthai Thani and 1,000 metric tons in Petchabun.

iii) Storage for Maize of PWO

PWO has warehouses for maize and pulses with the capacity of 3,250 metric tons in Sukhothai Province.

(3) Storage for Other Types of Field Crops

In the Northern Region provinces, private traders and ACFT have barns for storing field crops with the total capacity of 699,212 metric tons as follows:

i) Storage Owned by Private Traders

Private traders own a total storage capacity of 683,112 metric tons as follows:

<u>Province</u>	<u>Capacity</u>
1. Uthai Thani	14,280 metric tons
2. Nakhon Sawan	196,540 " "
3. Pichit	47,800 " "
4. Kamphaeng Phet	59,100 " "
5. Tak	7,660 " "
6. Sukhothai	66,420 " "
7. Phitsanulok	29,500 " "
8. Petchabun	108,870 " "
9. Uttradit	34,780 " "
10. Lampang	20,407 " "
11. Chiang Mai	38,130 " "
12. Payao	300 " "
13. Chiang Rai	19,850 " "
Total	683,112 metric tons

ii) Store Place for Field Crops Owned by ACFT

In the Northern Region, ACFT has barns for storing field crops with the capacity of 16,100 metric tons as follows:

<u>Province</u>	<u>Capacity</u>
1. Nakhon Sawan	500 metric tons
2. Uttradit	1,100 " "
3. Phrae	1,100 " "
4. Nan	3,000 " "
5. Lamphun	1,400 " "
6. Lampang	5,400 " "
7. Chiang Mai	3,300 " "
8. Mae Hong Son	300 " "
Total	16,100 metric tons

Apart from this there is a private trader's silo with the capacity of 1,000 metric tons under the promotion of the Board of Investment in Lamphun province.

### 3. Northeast Region

In this region private traders, ACFT, cooperative groups, the National Security Command, MOF and PWO own a total storage capacity of 4,248,980 tons as per following details:

#### (1) Storage for Rice

A total storage capacity for rice and paddy in the Northeast Regions is 1,299,099 metric tons. Below is the details of types and ownership.

#### i) Private Traders' Storage

In the Northeast Region, private traders own storage for rice and paddy with the total capacity of 1,161,021 metric tons as follows:

<u>Province</u>	<u>Capacity</u>
1. Chaiyaphum	36,480 metric tons
2. Nakhon Phanom	39,860 " "
3. Kalasin	13,265 " "
4. Nakhon Ratchasima	130,272 " "
5. Maha Sarakham	10,390 " "
6. Buri Ram	137,840 " "
7. Khon Kaen	248,305 " "
8. Nong Khai	29,000 " "
9. Loei	3,700 " "
10. Sakhon Nakhon	57,000 " "
11. Roi Et	45,500 " "
12. Yasothorn	31,350 " "
13. Ubon Ratchatani	93,127 " "
14. Si Sa Ket	141,892 " "
15. Surin	79,835 " "
16. Udon Thani	63,205 " "
<b>Total</b>	<b>1,161,021 metric tons</b>

ii) Storage for Paddy of ACFT in Northeast Region

ACFT has a total capacity of 86,310 metric tons of storage for paddy as follows:

<u>Province</u>	<u>Capacity</u>
1. Yasothon	2,500 metric tons
2. Ubon Thani	9,200 " "
3. Surin	5,300 " "
4. Buri Ram	6,100 " "
5. Nakhon Ratchasima	13,100 " "
6. Udon Thani	5,800 " "
7. Nakhon Phanom	7,760 " "
8. Loei	1,000 " "
9. Kalasin	2,700 " "
10. Maha Sarakham	5,000 " "
11. Khon Kaen	7,900 " "
12. Sakhon Nakhon	4,100 " "
13. Roi Et	3,900 " "
14. Nong Kai	3,000 " "
15. Si Sa Ket	4,400 " "
16. Chaiyaphum	3,650 " "
Total	86,310 metric tons

iii) ACFT's Storage for Rice

In the Northeast Region, ACFT has a total capacity of 9,600 metric tons of storage for storing rice as follows:

<u>Province</u>	<u>Capacity</u>
1. Nakhon Ratchasima	3,000 metric tons
2. Buri Ram	2,000 " "
3. Ubon Ratcha Thani	1,000 " "
4. Surin	3,000 " "
5. Khon Kaen	600 " "
Total	9,600 metric tons

vi) Storage for Rice Owned by Farmer Group

Farmer group owns a total storage capacity of 167.5 metric tons of rice in the Northeast Region as follows;

<u>Province</u>	<u>Capacity</u>
1. Kalasin	40 metric tons
2. Buri Ram	72.5 " "
3. Si Sa Ket	5 " "
4. Kakhon Nakhon	50 " "
Total	167.5 metric tons

v) Storage for Paddy Owned by the Office of Accelerated Rural Development

OARD has storage for paddy with a total capacity of 17,000 metric tons in the Northeast Region as follows:

<u>Province</u>	<u>Capacity</u>
1. Kalasin	200 metric tons
2. Nakhon Phanom	1,800 " "
3. Roi Et	800 " "
4. Sakhon Nakhon	9,200 " "
5. Nong Khai	1,400 " "
6. Udon Thani	2,600 " "
7. Ubon Ratcha Thani	1,000 " "
Total	17,000 metric tons

iv) PWO's Storage in Northeast Region Province

In this region PWO has warehouses with the total capacity of 25,000 metric tons for storing rice as follows:

<u>Province</u>	<u>Capacity</u>
1. Nakhon Ratchasima	15,000 metric tons
2. Khon Kaen	10,000 " "
Total	25,000 metric tons



(2) Storage for Cassava, Kenaf and Maize

There is storage with the total capacity of 2,277,073 metric tons for storing cassava, kenaf and maize as follows:

i) Private Traders' Storage

In the Northeast Region, private traders own storage with the total capacity of 2,256,958 metric tons for cassava, kenaf and maize as per below details:

<u>Province</u>	<u>Capacity</u>
1. Kalasin	25,500 metric tons
2. Khon Kaen	756,615 " "
3. Chaiyaphum	65,265 " "
4. Nakhon Phanom	30,950 " "
5. Nakhon Ratchasima	415,685 " "
6. Buri Ram	619,080 " "
7. Maha Sarakham	9,720 " "
8. Yasothon	23,550 " "
9. Roi Et	15,950 " "
10. Loi	15,403 " "
11. Si Sa Ket	29,920 " "
12. Sakhon Nakhon	23,410 " "
13. Surin	22,300 " "
14. Nong Khai	37,400 " "
15. Udon Thani	134,860 " "
16. Ubon Ratchathani	31,350 " "
Total	2,256,958 metric tons

ii) ACFT's Storage for Cassava, Kenaf and Maize

ACFT has storage for these products with the total capacity of 4,300 metrics as follows:

<u>Province</u>	<u>Capacity</u>
1. Chaiyaphum	300 metric tons
2. Nakhon Phanom	1,000 " "
3. Nakhon Ratchasima	1,500 " "
4. Loei	1,500 " "
Total	4,300 metric tons

iii) Storage for Maize Owned by Farmer Groups

Farmer Groups in the Northeast Region own maize storage with the total storage capacity of 15 metric tons in Ratchasima province.

vi) Storage for Maize Owned by the National Security Command

The National Security Command has maize storage with the total capacity of 100 metric tons in Ubon Ratcha Thani province.

v) MOF's Storage

MOF has maize silos with the total capacity of 5,500 metric tons as follows:

<u>Province</u>	<u>Capacity</u>
1. Si Se Ket	1,000 metric tons
2. Loei	1,500 " "
3. Nakhon Ratchasima	3,000 " "
Total	5,500 metric tons

vi) PWO's Kenaf Warehouse

PWO has storage with the capacity of 10,200 metric tons for storing kenaf in Nakhon Ratchasima province.

(3) Storage for Field Crops and Other Purposes

In Northeast, a total capacity of storage for field crops and other purposes is 415,758 metric tons as per below details.

<u>Province</u>	<u>Capacity</u>
1. Kalasin	5,749 metric tons
2. Khon Kaen	74,130 " "
3. Chaiyaphum	32,250 " "
4. Nakhon Phanom	17,250 " "
5. Nakhon Ratchasima	44,777 " "
6. Buri Rum	33,035 " "
7. Maha Sarakham	200 " "
8. Yasothorn	1,580 " "
9. Roi Et	7,316 " "
10. Loei	34,850 " "
11. Si Sa Ket	79,120 " "
12. Sakhon Nakhon	13,200 " "
13. Surin	13,350 " "
14. Nong Khai	21,720 " "
15. Udon Thani	22,010 " "
16. Ubon Ratchatani	15,271 " "
Total	415,758 metric tons

i) Storage for Field Crops of ACFT

ACFT has a total storage capacity of 1,700 metric for storing field crops and for other purposes.

<u>Province</u>	<u>Capacity</u>
1. Nakhon Phanom	200 metric tons
2. Nakhon Ratchasima	1,000 " "
3. Loei	500 " "
Total	1,700 metric tons

ii) ACFT's Storage

ACFT in the Northeast Region, has a total capacity of 750 metric tons for storing field crops and other as follows:

<u>Province</u>	<u>Capacity</u>
1. Nakhon Ratchasima	600 metric tons
2. Buri Ram	150 " "
Total	750 metric tons

iii) Storage of the Office of the Accelerated Rural Development

The Office of the Accelerated Rural Development has a total storage capacity of 300 metric tons in Loei Province of the Northeast Region.

vi) PWO's Storage

PWO has a total capacity of 300 metric tons for storing field crops and others in Nakhon Ratchasima province.

Apart from this, private traders under the promotion of the Board of Investment have warehouses for storing field crops and others in Nakhon Ratchasima province with the total capacity of 72,438 metric tons.

4. Southern

In Southern Region, private traders have a total storage capacity of 72,438 metric tons for agricultural products as follows:

(1) Storage for Rice

In the Southern Region, private traders own rice and paddy storage with the total capacity of 23,793 metric tons as follows:

<u>Province</u>	<u>Capacity</u>
1. Surat Thani	4,838 metric tons
2. Nakhon Sithammarat	1,725 " "
3. Pattalung	4,830 " "
4. Songkla	9,190 " "
5. Yala	2,720 " "
6. Ranong	190 " "
7. Phuket	300 " "
Total	23,793 metric tons

(2) Storage for Natural Rubber

Storage in the Southern Region province for storing natural rubber have a total capacity of 34,800 metric tons as follows:

<u>Province</u>	<u>Capacity</u>
1. Songkla	23,200 metric tons
2. Pattani	7,200 " "
3. Yala	300 " "
4. Phuket	300 " "
5. Krabi	1,500 " "
6. Trang	1,800 " "
7. Satun	500 " "
Total	34,800 metric tons

(3) Storage for Dried Coconut and Others

A total capacity of storage of dried coconut and others in Southern Region is 13,845 metric tons as follows:

<u>Province</u>	<u>Capacity</u>
1. Chumphorn	3,200 metric tons
2. Suraj Thani	6,990 " "
3. Nakhon Si Thammaraj	270 " "
4. Songkla	1,485 " "
5. Pattani	100 " "
6. Narathiwat	1,500 " "
7. Phuket	300 " "
Total	13,845 metric tons

APPENDIX L

THE PWO'S CLASSIFICATION FOR WAREHOUSE





(1) Classification of Warehouse and Rental Rate by PWO

Items	Grade A	Grade B	Grade C	Grade D	Remarks
Floor	Reinforced concrete	Concrete	Asphalt	Others	
Wall	Concrete	Concrete block and wood	<ul style="list-style-type: none"> <li>◦ Covered with plastic or husk</li> <li>◦ Galvanized iron sheet</li> <li>◦ Block and G.I. sheet</li> <li>◦ Concrete and G.I. sheet (good condition)</li> </ul>		
Structure	Steel	Steel and wood	Wood		
Column	Steel or concrete	Concrete and wood	Wood		
Roof	Asbestos slate	Asbestos slate or G.I. sheet	G.I. sheet (good condition)		
Others	<ul style="list-style-type: none"> <li>◦ With office and living house</li> <li>◦ With opened window with net</li> <li>◦ Located along river</li> <li>◦ By better road</li> <li>◦ With telephone</li> <li>◦ With fence</li> </ul>	<ul style="list-style-type: none"> <li>◦ With office and living house</li> <li>◦ With opened window with net</li> <li>◦ With enough parking area</li> <li>◦ With telephone</li> </ul>	<ul style="list-style-type: none"> <li>◦ No office and living house</li> <li>◦ No window with net</li> </ul>		
Rental fee (bag/month)	Less than 2.50₱	Less than 2.00₱	Less than 1.5₱	Less than 1.00₱	Rental rate subject to change
Required capacity	More than 50,000 bags	More than 30,000 bags	More than 20,000 bags	More than 10,000 bags	

(2) Average Warehouse Rental Rate by Region of Thailand

(In year 1980/81, 81/82, 82/83)

Unit: Bht/Sack (100 kgs)

<u>Region</u>	<u>Grade A</u>	<u>Grade B</u>	<u>Grade C</u>	<u>Grade D</u>
1. Central Plain	1.48-2.22	-	-	-
2. Central	0.90-1.15	0.85-0.95	0.75-0.85	lower than 0.75
3. Northern	0.90-1.00	0.80-0.90	0.75-0.80	" " 0.75
4. Northeastern	0.90-1.00	0.85-0.95	0.70-0.85	" " 0.70
5. Southern	1.00-1.50	0.90-1.00	0.80-0.90	-

Source: Public Warehouse Organization