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FOOD ADMINISTRATION IN TAIWAN



TAIWAN, CHINA

AUGUST, 1953

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Compiled by

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Rural Economics Division

(Bernhardt M. Jensen, Chief)

TABLE OF CONTENTS

Foreword

I.	Introduction	1
II.	Food Administration during Japanese Occupation	2—8
	A. Fundamental Policy.....	2
	B. Food Administration Organizations	2
	C. Rice Control.....	3
	D. Control over Other Foodstuffs	6
III.	Government Food Policy and Food Administration Organizations after Taiwan's Restoration	8—12
	A. Food Policy	8
	B. Food Administration Organizations.....	10
IV.	Control of Food Merchants.....	13—22
	A. Registration of Food Merchants.....	13
	B. Food Merchants' Association	16
	C. Direction and Supervision of Food Merchants' Activities.....	16
	D. Punishment to Offenders of Food Control Measures.....	18
V.	Control of Food Prices.....	22—42
	A. Factors Affecting Food Prices.....	22
	B. Investigation of Rice Price and Farm Price Reporting.....	25
	C. Measures for Maintaining Stable Food Prices.....	27
	1. Measures for Maintaining Adequate Rice Production and Supply.....	28
	2. Measures for Orderly Marketing and Market Operation.....	32
	3. Consumer's Programs.....	39
VI.	Surveys of Rice Production and Rice Production Cost.....	43—50
	A. Survey of Rice Production	43
	B. Survey of Rice Production Cost	46

VII. The Collection of Rice	50—74
A. Collection of Rural Land Tax and Surtaxes in Kind and Compulsory Purchase of Rice from Landowners according to Land Size.....	51
B. Government Purchase of Surplus Paddy from Landowners of Larger than Medium Sized Land Holdings.....	54
C. Bartering Rice from Farmers for Fertilizer	56
D. Bartering Rice for Cotton Cloth.....	60
E. Rent from Public Land.....	66
F. Sale of Public Land.....	66
G. Repayment of Rice Production Loan.....	67
H. Collection and Payment of Rice under the Land-to- the-Tiller Program.....	69
I. Other Means.....	71
J. Rice Collected by the Government since Taiwan's Restoration.....	71
VIII. The Distribution of Food.....	75—88
A. Domestic Distribution Channels.....	75
1. Ration of Rice by the Government.....	75
2. Operation of Domestic Food Market.....	81
B. Government-Controlled Food Export.....	84

FOREWORD

This study has been compiled to present in brief form the salient facts regarding operation of the food collection and distribution program of Taiwan, centered in the Provincial Food Bureau. An attempt has been made to limit discussion to factual material and to avoid controversial issues, and criticism has for the most part been avoided. It is our intention to prepare for later publication a second paper, which leaning heavily on this first paper for factual data, will critically evaluate the present program and suggest measures for its improvement.

Preparation of this study has extended over some time. It was originally scheduled for release early in 1953, but the swiftness with which events in the local rice world moved in the Spring of that year made it seem advisable to postpone publication. As the rice crisis in the spring of 1953 is discussed in two other reports ("Rice in the Economy of Taiwan" published by FOA/MSM/C and a restricted bulletin, "Rice Crises in Spring 1953, Taiwan" as a supplement to this Economic Digest.), no special mention is made of this problem in this report.

This study, originally begun late in 1952 by Mr. S. M. Yeh, has like so many other of our publication projects, developed into a group effort. Intra-division discussion of the first drafts led to more detailed research and analysis and a more complete presentation. Dr. S. C. Hsieh offered many suggestions concerning economic problems involved, and finally assumed joint responsibility with Mr. Yeh for the final draft. Mr. T. S. Kuo was responsible throughout the study for the editing of the report and also compilation work. Thus while the present version is primarily the work of Messrs. Yeh, Hsieh and Kuo it admittedly reflects the criticism and advice of other staff members.

We here express our gratitude to the Provincial Food Bureau which furnished a large measure of the raw data on which this report is based.

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FOOD ADMINISTRATION IN TAIWAN

I. Introduction

The term "Food" properly includes all kinds of foodstuffs that are of nutritional value to human beings. The term, however, has a much narrower meaning to Asians as their food consumption habits are comparatively simple and the level of their food consumption is low. As in some other areas in the Orient the basic foods in Taiwan are rice, wheat flour and sweet potato, supplemented with edible oil and vegetables. Although protective foods like meats, fish, milk and fruits are also taken, they are not considered daily necessities by the majority and the quantities consumed are small. As Taiwan's food administration work is centered on rice, wheat flour and sweet potato, so this report deals mainly with these basic foods.

The food administration system in Taiwan stems from that laid down by the Japanese during their occupation. The Japanese administration was designed primarily for the benefit of the homeland. Following Taiwan's Restoration to China, great modifications have been made to make this system less stringent and more acceptable to the people. But because Taiwan is now the stronghold of Free China which is engaged in a life-and-death struggle with the communists, various food control measures are still imposed on the island. According to the Taiwan Provincial Food Bureau, the main emphasis of food administration work is laid on the increase of food production and on the regulation of food supply and demand by controlling large quantity of rice in the hands of the government. Its principal purpose is to produce enough food primarily for meeting domestic consumption and urgent need and secondarily for export.

The food administration problem is a quite complicated one, which calls for constant study and examination. Besides, there are several special factors related closely to the food problem in Taiwan, namely, the high pressure of

rapid growth of population, the limitation in increase of rice production, the impending invasion of Mainland China, the possibility of being attacked by the communists, and the heavy burden in both economic and financial aspects. All these would make the food problem more complicated and difficult.

The purpose of this paper is to present some major aspects of food administration work in Taiwan both during Japanese occupation and after the Restoration to China.

II. Food Administration during Japanese Occupation

A. Fundamental Policy :

Based on the fundamental policy of "industrial Japan and agricultural Taiwan", the Japanese during their occupation of Taiwan directed their main efforts to the development of agriculture on the island with special emphasis on the production of rice, the purpose of which was to get as much rice as possible for Japan to meet her shortage. Food administration was under strict control: production, processing, transportation, consumption and export of rice were all under the close supervision of the Japanese Government-General.

B. Food Administration Organizations :

Before 1939 there was no special organization exclusively to take charge of food administration. Rice control then was a part of the functions of the Industrial Department of the Government-General. Due to the increasing importance of the food problem as a result of the intensified Sino-Japanese War, a Committee on Export of Rice was established under the Government-General in May 1939 to undertake strict control over rice export. In July of the same year, a Rice Bureau, the first such organization to be established in Taiwan, was set up to take over the functions of rice control from the Industrial Department. Its main office was in Taipei and it had branch offices in all rice producing and collecting areas. The food control was tightened following the extension of World War II to the Pacific area at the end of 1941 and the scope of the Bureau was enlarged to include restrictions on the movement, purchase and sale of other main foodstuffs and processed products.

The Rice Bureau changed its title to Food Bureau in 1942, when its functions were enlarged and its organization strengthened. It grew to a staff of 7,343 persons in that year. Following a general movement to simplify governmental organizations in the later stage of the war, the Food Bureau in December 1943 again changed its title to Food Division and was put under the Department of Agriculture and Commerce of the Government-General. Its functions and the number of its branch offices, however, remained unchanged.

After 1939, food control was exercised largely through two organizations: the Food Corporation and the Rice Collection Cooperatives. The former, which was a semi-official enterprise and had branch offices throughout the island, was empowered by the Government-General to handle the processing (from brown to white) and domestic distribution of food. The latter in which participated all local rice mills associations, food merchants' guilds and farmers' associations, were entrusted to undertake the compulsory purchase of paddy for the government from all rice producers and landowners on the island, the storage of collected stock, the processing of rice (from paddy to brown) and the shipment of brown rice from warehouses to the branch offices of Food Corporation.

C. Rice Control:

The control over rice was especially stringent after the attack of Pearl Harbor in December 1941, as rice was the principal food of the islanders as well as of the Japanese. The emphases of control measures were directed mainly to rice export, rice collection and distribution, and to investigations on rice production and production cost.

1. Rice Export:

Prior to the promulgation of the Rice Export Act passed by the Japanese 74th Diet in 1939, rice export from Taiwan was undertaken by Japanese importers with no restriction by the government. After the promulgation of that Act, export became a government monopoly and no merchants were allowed to take part in it. The Government-General entrusted the Rice Collection Cooperatives in various localities to collect the rice required for

export. The government then shipped and delivered the exported rice to the Japanese Ministries of Agriculture and Forestry, of Army and of Navy, which worked out respective distribution plans in Japan to meet civilian and military requirements.

2. Rice Collection and Distribution:

To get complete control over rice collection and distribution on the island, the Japanese Government-General promulgated a set of measures in 1940 which are summarized as follows:

a. Collection:

The Rice Collection Cooperatives were empowered to purchase all merchantable paddy in their respective regions and to mill such paddy into brown rice for the disposal of the government. Beginning from the first rice crop in 1941, all landowners and farm families were allowed to keep only the amounts of paddy needed for their household consumption and rice seed, and were required to sell all that was left—the merchantable paddy—to the Rice Collection Cooperative at an official price. The Government-General was thus in complete control of all merchantable rice on the island and the rice merchants were left with no business of their own but to mill rice for the government and to sell rice allocated by it for distribution to the general populace.

b. Distribution:

The amount of rice for distribution in each township was worked out according to actual requirement following a spot investigation. The rice was distributed by the Food Corporation and was sold at a uniform price set by the government. It was also directed that the milling rate of brown into polished rice should not be less than 93 per cent for Ponlai variety and 94 per cent for Tsailai variety and that subsequent broken rice was not allowed for private consumption or transaction but should be sold to the Rice Collection Cooperative. The islanders then were allocated on the average only 8.4 to 10 kilograms of brown rice per month, an amount far from sufficient to meet their demands.

c. Price :

When the island-wide rice collection and distribution program was first launched, the prices of paddy and brown rice were set by the Rice Collection Cooperatives according to their respective local conditions. Later on, the Government-General established uniform prices for both paddy and brown rice and applied them to all purchases from farm families throughout the island. These official prices were quite low, taking into consideration the currency inflation at that time and their disparity with prices of general commodities. Worse still, these prices were very seldom adjusted. Hence, the compulsory purchases of rice represented another form of squeezing by the colonial government and meant great loss to the rural families. Although a subsidy of ¥2.00 was granted for every Japanese picul of paddy (100 kg.) purchased from the second rice crop in 1941, the loss to farm families was hardly compensated by it.

3. Investigation on Rice Production and Production Cost :

The Government-General conducted the following investigations on rice production and production cost, the results of which were used for reference in the formulation of rice policy :

a. Investigation on Rice Production Cost :

Based on the Outlines of Investigation Made by the Committee on Investigation of Rice Production Cost in Japan, a production cost investigation was conducted twice a year, one for each rice crop, beginning in 1934. At first, the investigation covered only the production costs of Ponlai, Chailai and round glutinous rice and the total number of samples selected was 600, distributed among various localities according to their respective percentage of rice production. Beginning in 1939, the production cost of oval glutinous rice was included in the investigation and the number of samples increased to 1,000.

b. Investigation on Production Costs of Competing Crops :

To compare the relative costs and returns of crops competing with rice,

economic surveys were also conducted by the Government-General beginning in 1939. It selected 500 samples in various prefectures in 1939 for carrying out economic surveys on sugarcane, banana and sweet potato. In the following year the economic surveys were extended to include jute, cassava, peanut and sesame, and the number of samples was increased to 600.

c. Investigation on Rice Production :

The investigation on rice yield was started from the second rice crop in 1937 which included a pre-harvest estimate and an estimate on actual yield during harvest time for each rice crop. The Farmers' Associations usually made preliminary estimates on rice yield based on the amount of rice seeds they distributed. Two months after the seedsowing a second estimate on rice yield was made by inspecting the growing conditions of rice crop and by counting the number of stalks and heads. When the time came for harvest, the inspectors of Farmers' Associations would consult the village chiefs and farmers in selecting separate pieces of paddy land classified as good, medium and poor in each township and in estimating their respective yields. It was based on these estimates that the yields from other paddy lands in the township were ascertained and that the amounts of paddy to be sold by farm families to the Rice Collection Cooperatives were determined.

D. Control over Other Foodstuffs :

To support the war efforts of Japan, the colonial government during the World War II extended its control to other important foodstuffs as well. Various control measures were promulgated to restrict the transportation and distribution of wheat, wheat flour, starch, beans, and other miscellaneous food stuffs, which may be summed up as follows :

1. Wheat and Wheat Flour :

All wheat produced by farm families throughout the island was required to be sold to the government through the Farmers' Associations, which in turn resold the wheat collected to the Taiwan Wheat Flour Manufacturing Cooperative for making wheat flour. The importation of wheat was all

handled by the Taiwan Wheat Distribution Cooperative which allocated a part of the imported wheat to the Taiwan Wheat Flour Manufacturing Cooperative for making wheat flour and a part to prefectural governments for distribution to local sauce manufacturing plants and confectionaries.

The wheat flour produced by the Taiwan Wheat Flour Manufacturing Cooperative was for a very large part distributed through the government. Only a fraction of it was sold to private concerns for making sauce, noodles and confections with permission from the government.

2. Sweet Potato and Sweet Potato Chips :

If farm families had a surplus of sweet potato after meeting their own household and fodder requirements, they were required to report to the Farmers' Association concerned which arranged sales to the Rice Collection Cooperative. The sweet potato chips produced by them likewise had to be sold to the Taiwan Agricultural Products Corporation through the agency of the Association for distribution to various industrial plants.

3. Starch and Beans :

All starch foodstuffs needed by local plants for the making of starch was bought through the Farmers' Association with permission from the prefectural government concerned. In turn, the starch made by these plants was sold to the Starch Distribution Cooperative, which distributed the locally produced as well as imported starch to the Monopoly Bureau and private industries according to government approved quota.

The purchase of beans and other miscellaneous cereals was undertaken by the Taiwan Agricultural Products Corporation through the Farmers' Association. Their distribution to retailers was made through various prefectural governments.

4. Miscellaneous Foodstuffs :

Placed also under strict control of the government were sauce, miso, edible oil, imported canned food and confections. The purchase or importation of

raw materials for their manufacture was subject to government approval, while the manufactured goods were required to be sold to government-designated cooperatives for distribution.

III. Government Food Policy and Food Administration Organization after Taiwan's Restoration

A. Food Policy :

Taiwan was restored to China following Japan's unconditional surrender in August 1945. The food organizations on the island were taken over by the Chinese Government in November of the same year. To fulfill the long expectations of the islanders, the Chinese Government abolished all food measures left by the Japanese that aimed at exploiting the people. Instead, a less stringent food policy emerged, formulated according to existing Chinese laws modified to fit special conditions on the island.

There are two broad phases in the governmental food policy: production and distribution. According to the Taiwan Provincial Food Bureau, the four important aims of the rice distribution policy of the government are: (1) to collect enough rice to meet military and civilian requirements during the national emergency, (2) to ration rice to armed personnel and their immediate family members, public servants of all levels and their immediate family members, students, miners and destitute persons, (3) to maintain a comparatively stable rice price throughout the year, and (4) to export as much rice as possible, after considering domestic and emergency needs, to obtain foreign exchange to help the local economy. While the government retains broad controls over the distribution of rice on the island, considerable freedom has been allowed to food merchants for its movement and transaction.

Controls over production must be considered for two periods: the first from 1946 through 1950 and the second from 1951 to the present. In the first period, the chief purpose of governmental policy was to achieve self-sufficiency in rice production to meet increasing requirements; in the second, to resume rice export after further increase of rice production on the island.

During the Japanese occupation Taiwan produced a surplus of rice for export (see Table I). The peak year of production was 1938 when 1,402,414 metric tons of rice were produced. But during the years of the World War II, rice production on the island was sharply reduced because the import of chemical fertilizer was cut off by Allied blockade, irrigation facilities were destroyed by Allied bombing and there was a serious shortage of farm labor owing to military conscription. In 1945, the year when Taiwan was restored to China, only 638,828 metric tons of rice were produced. Consequently, there was a grave shortage of rice and the shortage was even more aggravated by the influx of people from the Mainland.

Largely due to the strenuous efforts of the government and farmers and partly due to the assistance of U. S. Aid organizations, rice production on the island has been increased year after year, so that in 1950, 1,421,486 metric tons of rice were produced, even surpassing the Japanese record in 1938. Rice production was further increased to 1,484,792 metric tons in 1951, to 1,570,115 metric tons in 1952, and the production goal for 1953 was set at 1,650,000 metric tons. Rice export in the Food Year 1951 amounted to more than 100,000 metric tons.^{1/} Up to the end of June 1953, the actual rice export for the Food Year 1952 was about 15 per cent less than the planned figure (See Chapter VIII, Section B). The planned exports for the food years 1953 and 1954 have been set at 208,000 and 223,000 metric tons respectively. It is doubtful that these export goals will be reached.

The government has also directed efforts to increase the production of sweet potato and wheat. In 1947, the production of sweet potato surpassed the Japanese highest record, while in 1950 that of wheat was treble the highest production figure during Japanese occupation. The following table shows the production of rice, sweet potato and wheat in the years after Taiwan's Restoration in comparison with their highest production figures during Japanese occupation :

^{1/} The Food Year begins July 1 of the current year and ends June 30 of the next year.

Table I. Production of Rice, Sweet Potato
and Wheat in Taiwan, 1946-1952

Unit: Metric ton

Year	Rice (brown)		Sweet Potato		Wheat	
	Amount	Index	Amount	Index	Amount	Index
Year of peak production during Japanese occupation ^{1/}	1,402,414	100.0	1,769,985	100.0	6,559	100.0
1946	894,021	63.7	1,330,506	75.2	1,315	20.0
1947	999,012	71.2	1,782,798	100.7	4,271	65.1
1948	1,068,421	76.2	2,002,864	113.2	6,465	98.6
1949	1,214,523	86.6	2,166,048	122.4	10,051	153.2
1950	1,421,486	101.4	2,200,833	124.3	19,100	291.2
1951	1,484,792	105.9	2,021,719	114.2	15,165	231.2
1952	1,570,115	112.0	2,090,463	118.1	16,604	253.1

Source: Data from the Provincial Department of Agriculture and Forestry.

Note: ^{1/} Rice production, 1938; sweet potato production, 1937; wheat production, 1941.

B. Food Administration Organizations:

The Provincial Food Bureau is the highest ranking organization of food administration in Taiwan. It is under direct jurisdiction of the Taiwan Provincial Government, but its work is supervised by the Ministry of Finance (formerly by the ex-Ministry of Food) of the Central Government. According to the Organizational Rules of the Bureau and subsequent administrative orders of the Provincial Government, the functions of the Bureau are as follows:

1. To handle food collection and storage
2. To handle food distribution
3. To register and control food merchants

4. To deal with cases violating food control measures of the government
5. To handle food export
6. To investigate and report food prices and crop conditions
7. To handle transportation and distribution of fertilizer
8. To handle transportation and distribution of table salt for domestic consumption
9. To promote and supervise hog-raising enterprises
10. To handle all other things related to food administration

The Bureau has a Director and a Deputy Director. Under them are a Secretariat, the Office of Accounting and Statistics, the Office of Foodstuffs and three Divisions. The First Division concerns itself chiefly with administrative work and financing; the Second Division with barter programs, storage, processing, transportation, domestic distribution and export; and the Third Division with collection of rural land tax in kind, registration and control of food merchants, and supervision over food markets. The Bureau proper has a staff of 230, including supervisors, inspectors and specialists. The provincial government is planning to add one more Deputy Director and one more Division in the Bureau's organization for strengthening its work, but its total staff will remain unchanged.

Under the Bureau, there are the Fertilizer Sales & Transportation Department, District Food Offices and Branch Food Offices. The former, which has a staff of 134 and is established in Taipei, is charged with the transportation and distribution of chemical fertilizer both produced locally and imported under MSA aid program and by government, while the two latter, established in important hsien, cities and townships, handle the work of food administration in the various localities. There are altogether seven district food offices and ten branch food offices in the province, the distribution of which is as follows :

Table II. Distribution of District Food Offices
and Branch Food Offices in Taiwan

Name	Locality	Area under jurisdiction	Branch food offices	Total No. of staff
Taipei District Food Office	Taipei	Taipei City, Taipei Hsien, Keelung City, Ilan Hsien, Yangmingshan Administration	Keelung Branch Food Office, Yilan Branch Food Office	144
Taichung District Food Office	Taichung	Taichung City, Taichung Hsien, Changhua Hsien, Nantou Hsien	Nantou Branch Food Office, Yuanlin Branch Food Office	141
Tainan District Food Office	Tainan	Tainan City, Tainan Hsien, Yunlin Hsien, Chiayi Hsien	Touliu Branch Food Office, Chiayi Branch Food Office	141
Kaohsiung District Food Office	Kaohsiung	Kaohsiung City, Kaohsiung Hsien, Pingtung Hsien, Penghu Hsien	Pingtung Branch Food Office, Tungkong Branch Food Office	141
Hsinchu District Food Office	Hsinchu	Hsinchu Hsien, Taoyuan Hsien, Miaoli Hsien	Taoyuan Branch Food Office, Miaoli Branch Food Office	143
Taitung District Food Office	Taitung	Taitung Hsien	—	77
Hualien District Food Office	Hwalien	Hwalien Hsien	—	77

On the prefectural (hsien) level, the Division or Section of Agriculture and Forestry of the hsien or city government is entrusted by the Food Bureau to carry out the food administration work. Its activities are now chiefly confined to the registration of food merchants, supervision of food markets, and assistance to the district food office and branch food offices in their handling of food operations. The police organizations in the hsien or city and the township have also the duty of assisting the food offices to prevent smuggling, hoarding and unauthorized purchasing of food outside of the food district.

IV. Control of Food Merchants

A. Registration of Food Merchants :

According to the Revised Rules Governing the Registration of Food Merchants in Taiwan of June 1950 still in effect, persons who wish to engage in the transaction, transportation, processing or storage of foodstuffs, are required to apply for a Food Business Permit from and to register with the local government, in addition to a general business permit required of all merchants in common. The same registration and application are required of farmers' associations and cooperatives which conduct business on foodstuffs. The only exceptions are :

1. Food peddlers
2. Persons who sell their self-produced foodstuffs
3. Persons or organizations with food warehouses for their own exclusive use and who collect no rent therefrom
4. Persons or organizations with food processing equipment for their own exclusive use, neither collecting fees for processing nor selling processed products

The amounts of capital and other conditions required of food merchants as stipulated in these Rules are as follows :

1. A minimum capital equivalent to the value of 20 shih piculs of polished rice, medium grade, for a food retailer or jobber (1 shih picul = 1 hectoliter = 2.838 US bushels)
2. A minimum capital equivalent to the value of 40 shih piculs of polished rice, medium grade, for a food wholesaler or shipper
3. A broker must possess properties equivalent to the value of 20 shih piculs of polished rice, medium grade, and be so certified by his local township office.
4. A warehouse operator must possess a warehousing capacity of at least 200 shih piculs

5. A processing mill owner must possess adequate processing equipment

The minimum amounts of capital in terms of New Taiwan Dollars required of different kinds of food merchants are worked out by the Food Bureau and adjusted once or twice a year. The latest adjustment was made in January 1953, which regulates that the minimum amounts of capital required of a food retailer or jobber, a food wholesaler or shipper, and a broker are NT\$ 3,500, NT\$ 7,500 and NT\$ 3,500 respectively.

The registration procedures are regulated as follows :

1. In the case of a firm or store, the applicant must fill out an application form and three copies of a registration form and send them to the local government for approval. But in case of a corporation, the applicant must send also the certificate issued by the Ministry of Economic Affairs, its organizational rules, business statement, and lists of its directors, supervisors and staffs. The procedures for food warehouse registration are separately stipulated in the Agricultural Warehouse Act.

2. After receiving the application with other attachments, the local government must make a recommendation and within five days send two copies of the registration form to the Provincial Food Bureau for approval.

3. When the application is approved, a Food Business Permit is issued by the Ministry of Finance through the Food Bureau.

4. If a food merchant is going to suspend or close his business, he must report to the local government ten days in advance and request the withdrawal of his Food Business Permit. If he changes the form of his business, he must apply for a change of registration ten days in advance. If he transfers his business to another person, he and the person involved must jointly apply for a change of registration and request the issuance of a new business permit ten days in advance. In all these cases the local government must make public announcement within ten days after it receives the application, and report to the Food Bureau for reference.

5. The Food Bureau must report every month the disposition of registration cases, attached with one copy of registration forms submitted by food merchants, to the Ministry of Finance for reference.

6. The application and registration forms are given free by the local government, but costs of the Food Business Permit must be paid by the applicant. At present charges for one such permit are NT\$ 10.

Since the amounts of capital and other conditions required of food merchants are easily complied with, there are numerous food merchants at present. The following table shows the number of registered food merchants at the end of 1952 :

Table III. Number of Registered Food Merchants
in Taiwan, December, 1952 ^{1/}

Prefecture	Wholesaler & shipper	Retailer & jobber	Ware- housing	Proces- sing	Broker	Total
Taipei City	464	413	—	139	13	1029
Keelung City	197	174	3	67	—	441
Iilan Hsien	83	100	—	257	3	443
Taipei Hsien	143	444	1	289	—	877
Yangmingshan Administration	10	56	—	32	—	98
Taoyuan Hsien	82	85	—	194	—	361
Hsinchu Hsien	139	81	1	216	—	437
Miaoli Hsien	56	24	4	242	—	326
Taichung City	76	20	1	104	2	203
Taichung Hsien	69	116	2	280	6	473
Changhua Hsien	187	141	—	317	—	645
Nantou Hsien	26	122	—	190	1	339
Tainan City	144	5	—	86	9	244
Yunlin Hsien	150	79	—	231	—	460
Chiayi Hsien	93	124	—	247	3	467
Tainan Hsien	232	116	—	336	—	684
Kaohsiung City	240	94	—	91	3	428
Kaohsiung Hsien	89	29	—	276	—	394
Pingtung Hsien	117	17	—	189	9	332
Taitung Hsien	38	6	—	56	—	100
Hwalien Hsien	109	46	—	83	—	238
Penghu Hsien	71	11	—	14	—	96
Total	2815	2303	12	3936	49	9115

Source: Provincial Food Bureau

Note: ^{1/} The table includes FAs of all levels that have obtained Food Business Permit from the Bureau.

B. Food Merchants' Association :

According to the stipulation of these Rules, a food merchants' association must be formed when there are more than three food firms or stores in a locality. All registered food merchants except FAs and cooperatives must join the local association, or have their registration cancelled by the government.

Food merchants may form and enter different associations according to the kind of business they operate. There are two kinds of such associations in Taiwan: The Rice Merchants' Association and Miscellaneous Grain Merchants' Association. If a food merchant conducts business in rice as well as other grains, he is required to be a member of both associations. Each of the two associations has nine directors and three supervisors, all elected from its members in a plenary session which, under normal conditions, is held once a year.

In addition, the rice merchants' associations of various prefectures have also formed a Union of Rice Merchants' Associations in Taiwan with its headquarters established in Taipei. Each prefectural rice merchants' association may send 2 representatives to join the Union. But if it has more than 100 members, one more representative may be sent for every additional 100 members. The Union has 25 directors and 7 supervisors, elected from members in its plenary session which is held twice a year. The chief functions of the Union are to seek coordination among member associations and to safeguard their interests and development.

All these associations are organized without capital, as they do no business themselves. But membership fees are collected from their members to cover operational expenses.

C. Direction and Supervision of Food Merchants' Activities :

The activities of food merchants are directed and supervised, according to the Rules, by local prefectural government which is assisted by the district food office and the police bureau. The prefectural government has the responsibility to see that administrative orders of the government are enforced on the food merchants through their associations and that all governmental

measures are strictly observed by them in conducting their business.

Among other things, the revised Rules Governing the Registration of Food Merchants and separate administrative orders of the Provincial Government have stipulated the following :

1. Every food merchant must keep accounts daily of the amounts of foodstuffs transacted and cash received, and report on his business transactions once every month to the prefectural government through his association. The prefectural government must dispatch its personnel from time to time to check the accounts.

2. No food merchant shall be allowed to conduct any business other than stated in the registration.

3. No food merchant shall undertake hoarding, or speculation, or manipulation of the market, or transfer his business to another person without the approval of the government.

4. No food merchant shall hide or refuse to sell his rice stock. For every shipment he brought in, he shall sell it out within ten days after arrival, and if he cannot sell it all within the period, he shall report to the district food office and the latter shall arrange for him to sell the remaining quantity to local consumption organizations. The same shall apply to his rice stored in his own warehouse or other warehouses.

5. When a food merchant purchases rice from farmers or other food merchants, he shall ship his rice immediately to his firm. If he cannot do so because of transportation or other difficulties, he shall store the rice only in a private warehouse or in the warehouse of a local cooperative or Farmers' Association that has been registered with the government.

These stipulations are rather severe and violators are subject to administrative or legal prosecution. But before 1953, the rules were seldom strictly enforced by local governments. In January 1953, price of rice in the Province began to rise steadily. The rice quotation on January 31 was increased by as much as 10% compared with that on January 1. Hence, the Provincial Food Bureau mobilized in February 1953 all the staffs of local food offices strictly to enforce the above measures in collaboration with local courts and

police organizations. Through the local Rice Merchants' Associations, uniform journal and reporting forms were distributed to rice merchants at cost prices and the rice merchants were asked to keep detailed accounts of their business and to submit business reports every ten days to the food offices. Spot-investigations were made by the food offices to check the validity of these reports, to find out cases violating the control measures, and to direct rice merchants how to handle their business legally. The police organizations also sent their men now and then to make spot checks. Thus, many cases of hoarding, hiding rice stock and false reporting were uncovered and reported to the District Procurator's Office for judicial investigation.

D. Punishment to Offenders of Food Control Measures :

The punishment to offenders of food control measures in Taiwan, as in other provinces on the Mainland, has been based on the Regulations Governing Punishment of Food Offenders. These regulations were promulgated by the Central Government in November 1948, but were revised by the Legislative Yuan on November 29, 1952 to fit the special conditions on the island. The term "food" as referred to in these regulations includes paddy, rice (brown and polished), wheat, wheat flour, and such other grains as may be specially announced by the Central Government. If any provincial government wants to include any grain other than the above mentioned items for control, it must get the approval from the Central Government. Any government organization or individual can report cases of such violations to the District Procurator's Office for investigation and referral, when merited, to the District Court. Punishment of those found guilty as food offenders shall be imposed by the District Court.

Severe punishment (which legally may go as far as death) will be imposed on persons who engage in food hoarding. Any one of the following cases may be considered as an act of hoarding :

1. Persons other than registered food merchants who purchase foodstuffs for resale to make profit
2. Food merchants who refuse to sell their stock or fail to sell their stock within the time prescribed by the government

3. Landowners or farmers who refuse or fail to sell their surplus rice within the time prescribed by the government

The punishment varies with the quantities of foodstuffs involved in the case, the details of which are as follows :

1. For cases involving 5,000 shih piculs of paddy or 3,000 shih piculs of wheat or more, death or life imprisonment or at least ten years imprisonment

2. For cases involving 3,000-5,000 shih piculs of paddy or 1,800-3,000 shih piculs of wheat, life imprisonment or at least seven years imprisonment

3. For cases involving 1,000-3,000 shih piculs of paddy or 600-1,800 shih piculs of wheat, three to seven years imprisonment

4. For cases involving 500-1,000 shih piculs of paddy or 300-600 shih piculs of wheat, one to three years imprisonment

5. For cases involving 200 - 500 shih piculs of paddy or 100 - 300 shih piculs of wheat, six months to one year imprisonment

6. For cases involving less than 200 shih piculs of paddy or 100 shih piculs of wheat, detention under custody or a fine of less than 1,000 silver dollars^{1/}

The paddy or wheat involved in cases 1-5 shall be confiscated after court judgment is passed, but punishment provided for case 6 need not be imposed if the offence is considered not serious. For cases involving rice or wheat flour, the conversion rates of paddy to rice and of wheat to wheat flour are 2 to 1. The conversion rates of other grains to paddy shall be specially announced if the government wants to include them in the control.

According to existing regulations, each household is allowed only to store or keep the quantity of food that will be enough for three months consumption. Public and private institutions are all allowed only to store food for two

^{1/} Following the failure of the "Gold Yuan" currency in the spring of 1949, a "Silver Yuan" note was introduced as the national currency, which is payable in silver dollar on the ratio of one to one. Accordingly, the fine stipulated in all laws and acts was revised in terms of silver dollar in 1946. The official rate of silver dollar to NT\$ was announced by the Central Government in 1950 to be 1 to 3.

months consumption. The amount of food allowed for each family member or worker per month is 21 kilograms in terms of paddy or 15 kilograms in terms of polished rice, regardless of age or sex. (This is in contrast to the ration of 23.7 kg of polished rice for each military and civil service personnel.) If the government discovers that any institution or household has stored more than is allowed, the surplus amount shall be confiscated.

Besides hoarding, any one of the following offences shall also be subject to punishment :

1. Speculation on the food market
2. Purchase of green crop of rice or wheat
3. Loaning food with heavy interest^{1/}
4. Extending loans with food as security, except those made by financial, agricultural or administrative organizations for the benefit of farmers with previous approval of the government
5. Extending loans with repayment made in food, except those made by financial, agricultural or administrative organizations for the benefit of farmers with previous approval of the government
6. Violations against government's restrictions on purchase and transportation of food outside the food district and between various food districts
7. Violations against government's restrictions on the storage of food, the milling of brown rice to white rice, and the use of food for fodder and wine fermentation
8. Food merchants who fail to keep detailed accounts of daily transactions or fail to report on business conditions once every month to the local government
9. Landowners or farmers who fail to report to, or register with, the

^{1/} Private loans may be made in terms of food (rice) provided the interest charged against such loans is not heavy. According to the Civil Law, the annual interest of any loans should not exceed 20% of the capital. Therefore, loaning food with an annual interest over 20% of the capital is considered illegal and subject to punishment.

local government about their surplus food.

For cases 1 - 5, the offender shall be punished with at most three years imprisonment, or detention under custody, and may at the same time be fined with the equivalent of the value of food involved. Under these cases, any contract entered into shall also be considered invalid. A fine equivalent to the value of food involved shall be imposed for case 6, and for case 7, the punishment shall be a fine of less than 500 silver dollars in addition to a possible confiscation of the food involved. A fine equivalent to one half of the value of the food involved shall be imposed for both cases of 8 and 9.

According to the regulations, the punishments for the cases 1 - 5 will not be in effect unless they are announced by the respective provincial food administration authorities. In Taiwan the Food Bureau has only announced the illegality of purchase of green crop of rice or wheat. Therefore, the other four cases are not in effect in Taiwan at present. The public and private banks have been ordered by the Provincial Government to extend no loans with food as security. But in rural areas, such loans and loaning food with heavy interest are prevalent. Besides, there is still some malpractice of purchasing green crop of rice. The restriction on milling rate and use of rice for fodder are also not strictly observed by most rice merchants and families. Causes for this failure are due mainly to the local food habits of eating highly milled rice and the impracticability of prohibition of using rice as fodder and the apathetic attitude of the local governments toward this measure. However, from the legal standpoint, the practices of purchasing green crops, over-milling of rice and feeding stock with rice are still prohibited by the law and subject to the punishment as stated in the previous paragraph. The offenders should be punished if their violations are reported to the local Procurator's Office by the government organizations or any other person.

If any public servant is found to have taken advantage of his power and facility to help others violate food control measures or to violate them himself, he shall be punished severely according to the Regulations Governing the Punishment to Avaricious Officials.

Furthermore, shipment of food from Taiwan is strictly prohibited, unless with government authorization. If any food smuggler is caught, he shall be

dealt with according to the National Mobilization Law.

V. Control of Food Prices

A. Factors Affecting Food Prices

Value is a measure of the exchangeability of one unit of goods in terms of units of another goods. Price is value expressed in terms of units of money. We may say that price is determined by the forces of supply and demand; yet such a statement is too general to have real significance. Conditions which determine the levels of supply of and demand for a given commodity include the psychological preferences of buyers and sellers, the status and fluidity of their financial positions, the degree of substitution of other commodities, the general level economic activity, the volume of saving and lending, and financial and governmental policies, to mention some of the more important. Factors which influence buyers in the market can be grouped under "Demand", while conditions which influence sellers can be grouped under "Supply". While we need not delve deeply into economic and price theories, the concepts of Price Elasticity and Substitution Effect are essential to an understanding of food price problems.

Price elasticity is a measurement of the relationship between the change in quantity taken by consumers as the result of a change in price. If a relatively small change in price results in a great change in quantity taken by the consumers, we have an "elastic" demand. If a small increase in supply follows a large increase in price, we have an "inelastic" supply. Under conditions of stable employment and national income, most agricultural products are found to have a relatively inelastic demand. Market supplies of goods at any particular time are obtained either from existing stocks on hand and/or from new production. In the short run, the limits on physical supply are such things as the amount of goods in stock, the capacity of farms to expand output rapidly, and capacity of the transportation and marketing systems to deliver the goods to the points of ultimate consumption. In a longer period the expansibility of supply depends on the possibility of the expansion of the capacity of farms through increased plantings or yields. In

general, it may be said that the shorter the time period, the more nearly rigid or inelastic is the supply.

The substitution effect is a measure of the effect on demand (and hence indirectly on price) of changes in consumption pattern as prices of particular commodities change relative to the prices of substitution goods. If, for example, the price of rice increases greatly while the price of sweet potato increases less than proportionally, demand for rice will decline and for sweet potato will increase and a shift of consumption from rice to sweet potato will occur.

In Taiwan the principal factors affecting food supplies are production during the year, food exports and imports, stocks carried over from previous years, possible increase of food production in coming crops, and the elasticity of supply of food products. Food production during the year is, of course, the basic and most direct factor affecting food prices on the market. The major items of staple food produced in Taiwan are rice, sweet potato, wheat and millet, of which rice and sweet potato are the most important. The normal seasonal price pattern of rice is always high from January to June and usually low from July to December, due primarily to the seasonal harvest and supply of rice on the market. When the first rice crop is a bumper one, the rice price usually goes down to a relatively low seasonal level in the months of June, July and August. Otherwise, if the first crop is a poor one, the rice price will be maintained at a relatively high seasonal level. Similarly, the actual production of sweet potato and wheat during the year will also affect their respective prices. Furthermore, since all these food items are mutually substitutable, the production of one kind of food will definitely affect the prices of other kinds of food.

Taiwan is self-sufficient in rice and other main foodstuffs except wheat and since the Restoration a large quantity of wheat has been imported every year for the milling of wheat flour (See Chapter VIII) The export of sweet potato and other miscellaneous foodstuffs is banned at present in Taiwan, but limited quantities of rice are exported to earn foreign exchange (See Table XVII). As the export of a large quantity of food would increase food prices in the domestic market, the government has been cautious with

respect to rice exports. Due primarily to the limitation of the supply of land and inflexibility of growing seasons, the aggregate supply of food is highly inelastic and seasonal; this usually results in a distinct seasonality in food price levels. The stabilization of food prices in Taiwan during recent years has been the result chiefly of government efforts to regulate the rice supply in the off-season and to maintain a relatively strong rice price after its harvest.

On the demand side, the important factors affecting food prices in Taiwan are total population and its composition, per capita consumption of food, the level of income of people, consumer's habits and preferences, the substitution of food items and the elasticity of demand for food. The total demand for food in Taiwan is increasing as a result of population increase year after year. All the other factors are relatively constant in the short period. As human consumption of food requires an orderly supply throughout the year and the aggregate demand for all food items is inelastic, not only low prices but uniformity of prices and the orderly marketing of food and warehousing operation are essential to the best interests of the people.

Another important factor affecting food prices is the change of the value of money in circulation. As price is expressed in terms of units of money, the change of money value will certainly have a direct effect on the price even without changes in the supply and demand conditions of the commodity. Generalizing, two factors affect the value of money: one is the amount of money in circulation including bank credit, and the other the velocity of money in circulation. These two factors affect directly the value of money and thereby the food prices. During the period between November 1948 and May 1949 when there was heavy inflation of the Old Taiwan Currency, food prices in Taiwan were extremely high and would change from day to day. The situation has been somewhat improved since the monetary reform in June 1949, but the general wholesale price index in Taipei City still increased to 593 in June 1953 using June 1949 as the base, and therefore, the value of the New Taiwan dollar was still depreciated to a level of about 17 percent of its value at the time of the reform. However, the group index of food in June 1953 was about 480 increasing

at a lesser extent as compared with the general index.

B. Investigation of Rice Price and Farm Price Reporting^{1/}

The Provincial Food Bureau has since January 1946 undertaken a daily investigation of rice prices in important districts throughout the province so that control measures may be undertaken when necessary. In 1947 PFB initiated a reporting system to collect farm price data which are purported to show changes in the purchasing power to farmers, the degree of balance between prices received and paid by farmers, and the general economic conditions in rural districts. These data are to serve for reference in the formulation of price policy.

1. Investigation of Rice Prices

In the initial stage, rice prices were reported from 18 localities in the province. The investigation has now been extended to 62 localities, including all important rice-producing and rice consuming centers. The items under investigation total 16, namely, the retail price (1 kg.) of Ponlai polished rice, Chailai polished rice, polished round glutinous rice and polished oval glutinous rice; the wholesale price (60 kg.) of Ponlai polished rice, Chailai polished rice, polished round glutinous rice and polished oval glutinous rice; the wholesale price (60 kg.) of Ponlai brown rice, Chailai brown rice, brown round glutinous rice and brown oval glutinous rice; and the wholesale price (60 kg.) of Ponlai paddy, Chailai paddy, round glutinous paddy and oval glutinous paddy.^{2/} In places where there are district or branch food offices, these prices are collected twice a day (morning and afternoon) from local rice mills and stores by the offices which report the daily average price. Every afternoon telephone reports are made to the Food Bureau, in addition to the written report made once in every five days. In places where there are no district or branch food offices, the

^{1/} See Farm Price Reporting in Taiwan: JCRR Economic Digest Series No. 1.

^{2/} Paddy means rough rice with husk on the grain; brown rice is the term used for rice hulled but not polished; polished rice results from brown rice with outside brown bran milled off.

investigation is undertaken by price reporters of the Bureau stationed in various townships, who send a written report only once every five days. Normally, these rice price reports are filed by the Food Bureau for reference. But if there is unusual change of rice price, the Bureau will "devise remedial action" and instruct various food offices through telephone to carry it out.

2. Farm Price Reporting

The reporting of farm prices of crops other than rice was started by the Food Bureau in 1947 and was later extended in June 1949 to cover 28 townships and to include 10 items of agricultural products, 8 items of animal products, 10 items of essential commodities for farm production, and 8 items of daily necessities. Following the revision made by the Provincial Government of the price reporting schedules in November 1951, the items reported have further been increased to 59 and the townships to 44. Of the 59 items, there are 20 of agricultural products, 10 of animal products, 13 of production goods, and 16 of consumption goods.

The investigating and reporting of farm prices are undertaken by price reporters of the Food Bureau. There are two types of price reporting schedules in use. Type A schedules (completed every 5th, 10th, 15th, 20th, 25th and the last day of the month) are used to report prices of farm products, while type B schedules (completed every 5th, 15th and 25th) are used to report prices of goods purchased by farmers. In compiling monthly average prices, however, only the average prices of the 5th, 15th and 25th of both schedules are adopted. The price data reported on the 10th, 20th and the last day of the month for farm products are kept for the reference of the Food Bureau, as the seasonal variations of prices of farm products are usually greater than those of goods purchased by farmers.

The Food Bureau has issued a "Farm Price Investigation Book" to each of the price reporters for use in recording. After the reporters check, tabulate and compile the average of the prices recorded in the book, they then complete the price reporting schedules (Type A for farm products and type B for goods purchased by farmers). The schedules are in triplicate: the first sheet is kept by the reporter for reference, the second submitted

to the principal officer of his food district, and the third sent to the Office of Accounting and Statistics of the Food Bureau for compilation.

The Food Bureau will ask the reporter concerned to make another investigation or give an explanation if there is any question about the reported prices. When necessary, the Bureau may either ask the principal officer of the food district concerned or dispatch its own officer to make a check on the spot.

Based on these price reports, the Food Bureau has compiled three kinds of indexes: the group index, sub-index, and overall index, all using 1937 as the base period. Weights for these indexes are determined according to the production value of respective items in case of farm products, and estimated percentages of respective items in the total consumption expenditures of farmers in case of goods purchased by farmers.

Ever since 1947, the Food Bureau has compiled regularly a ten day price index. It also compiles a monthly index and from time to time makes statistical analysis on time series to show the secular trend, seasonal variations, cyclical fluctuations and correlations of different kinds of index, so as to indicate more clearly the actual economic conditions in rural districts.

C. Measures for Maintaining Stable Food Prices

With regard to food prices, the attention of the government has been centered mainly on rice and wheat flour. Control of the wheat flour price is comparatively simple, because it is exercised through the control of its imports. On the other hand, measures for the control of rice price are necessarily more complex, since rice is the most vital necessity to the Chinese, and is frequently subject to hoarding. Consequently, measures taken by the government are largely aimed at the stabilization of rice price.

For maintaining stable rice price, it is quite essential to have adequate production and supply, orderly market operation, and programs for consumers.

1. Measures for Maintaining Adequate Rice Production and Supply

As production and supply are the principal factors affecting rice price, the best way to stabilize the rice price is to maintain adequate rice production and supply for supplying the market on time. The government has initiated many programs to increase rice production and has provided various incentives to rice farmers to stimulate their interest in rice growing. Irrigation programs undertaken by the governmental agencies with the support of JCRR have been gradually expanded to bring more rice acreage into cultivation for increasing production. Allocation of chemical fertilizer to rice farmers is considered an important measure of the government to maintain and increase the production of rice. Incentives are designed to encourage farmers to put as much of the arable land as possible under rice cultivation and to give better care and management on rice fields for increasing the unit yield. Of the programs and means adopted and used for such purpose, the following are the more important :

a. Repair and Construction of Irrigation Systems

The plantation of rice needs ample supply of water. In view of the uneven distribution of rainfall in different parts of the island, the existence of wet and dry seasons, and the practice of double cropping system, adequate irrigation facilities are required to maintain and increase rice production.

As part of the irrigation system on the island was destroyed or severely damaged by Allied bombing during World War II, the irrigated area in Taiwan totalled about 500,000 hectares at the end of Japanese occupation. Since Taiwan's Restoration to China, the total irrigated area has increased to about 540,000 hectares as of June, 1953 through the joint efforts of the government, people and United States Aid Organizations in repairing damaged reservoirs and canals and constructing new irrigation facilities. It is evident that these efforts have contributed greatly to the increase of rice area and production in recent years.

b. Supply of Chemical Fertilizers

On account of poor soil in most parts of the island, sufficient application

of chemical fertilizers is considered the basic requirement in increasing rice production. Every year since 1946, the government, with the help of U.S. aid, has supplied a large quantity of chemical fertilizers to rice farmers in barter for rice. Besides, the government with the assistance of JCRR has also made efforts to see that fertilizers are delivered to farmers for timely application and that there is a proper proportion of the three essential elements: nitrogen, phosphorous and potassium as required for rice production. However, the total amount of chemical fertilizers for rice in 1952 was only 361,623 MT as compared with 389,334 MT used for rice in 1938, the peak year of rice production during Japanese occupation. Therefore, the per hectare application of fertilizer for rice in 1952 was only 74 percent of that in 1938, while the yield per hectare of brown rice was only 89 percent. The record breaking rice production in 1952 was due more to the increase of rice acreage than to increases in use of fertilizer.

c. Control of Rice Diseases and Insects

Due to the sub-tropical climate on the island, many plant diseases and insect pests have been prevalent and have caused great damage to the crops. According to a recent estimate made by JCRR specialists, the loss of rice alone attributable to diseases and pests each year runs as high as 15 percent of the total annual production.

During the Japanese occupation, pest control was considered a responsibility of the government, as pesticides and equipment were given free to the farmers. The pesticides were imported and controlled by the Japanese Government-General. Even locally produced derris was processed in Japan and then imported. Hence, there was nothing the farmers themselves needed do but look for assistance from the government. Under this circumstance, the control work undertaken by the Government-General was naturally small in scope. Besides, the kinds of pesticides used at that time were usually not very effective.

Through the technical and financial assistance of JCRR, the Provincial Government has in recent years made real progress in controlling the important plant diseases and pests on the island. Many pesticides are now

made available locally at low cost and numerous demonstrations have been held to teach farmers how to apply them effectively. The important rice diseases and pests, such as rice borers, blast, hispa, leaf hopper, leaf roller and saltwater millipede, can now all be controlled, and the loss of rice crop caused by these diseases and pests is greatly reduced. The effective control work, therefore, is considered also a factor for the increase of rice production.

d. Extension of Rice Production Loan

The government has extended the so-called Rice Production Loan to farmers since the first crop of 1951. The loan is made in cash and repaid in terms of paddy. According to the official announcement, this loan system was designed for dual purposes: to ease the financial burden on farmers in an effort to increase rice production, and to acquire more rice for the government to meet its requirements for ration, export, stabilization operations and other purposes. While the loan was officially designated as a rice production loan, in operation it has been of more general character. The time of lending generally has been too late to have any effect upon production; there might, indeed, be more reasons to designate this system "Rice Harvest Loans" or just "General Purpose Loan" for rice farmers. For example, the loan for the first crop of 1951 should have been made in the period of January to April to warrant calling it a production loan; but actually it was extended in the period of May 12 to October 20, 1951. Some improvement in timing has been made since the second crop of 1952 as the loans for that crop and for the first crop of 1953 were extended beginning August and January respectively.

Although the time of lending has been too late for production and the total amount of these loans is considered not sufficient to meet production requirements, they have at least provided to rice farmers limited revolving funds to meet their needs and have checked to some extent the green sales of rice crops by the farmers. Green sales of rice crops were rather common in rural areas before 1951. Such sales usually take place one or two months before the harvest, as most farmers then are in need of money to meet urgent requirements. Because the green sale is usually made only in cases of severe financial emergency, the buyer can usually conclude the sale at a

very low price. The extension of the rice production loan, even though its planning and administration leave something to be desired, has provided a source of ready cash to farmers to ease their financial difficulties for the period of lending.

e. Implementation of the 37.5% Rent Limitation Program

Land reform in Taiwan began with the introduction of the 37.5% rent limitation program in 1949. Under this program, the rental rate on leased farm land was limited to a maximum of 37.5% of the total annual main crop yield.^{1/} As a result of the reform, not only is the customary amount of rent reduced and the tenants thus directly and substantially benefited, but also the increased product from the land resulting from the tenants' extra efforts (such as the increasing use of fertilizers, improvement in farming practice, etc.) is fully enjoyed by the tenants themselves, because the base for rent calculation is fixed and not subject to change. In other words, the 37.5% rent limitation program sets up a new fixed standard for the division of the farm income between landlord and tenant.

Since the implementation of this program, the tenants have also been protected against eviction and compulsory termination of leases. Since the landlord is given no chance arbitrarily or capriciously to evict the tenant or to terminate the lease, the tenants' right to use the land during his tenure is adequately protected. To put it in another way: the 37.5% rent limitation program has drawn a clear-cut line between the right of land ownership and the right of land use. The former belongs to the landlord and the latter to the tenant. As a result of the reduction of the amount of rent and the protection of tenure, the tenants' interest in increasing rice production is greatly enhanced. Therefore, the implementation of 37.5% rent limitation can be considered as one of the incentives to rice farmers in increasing rice production in recent years.

^{1/} The total annual yield does not represent the actual annual yield on the farm; it is a standard amount fixed by the local Rent Reduction Committee according to the grade of land at the time of lease. As long as the lease remains in force, this standard amount is not subject to change.

2. Measures for Orderly Marketing and Market Operation

While the rice crop is highly seasonal, the demand for rice is normally uniform throughout the year. To avoid over-supply soon after harvesting as well as any shortage in the off-season months, regulation of rice supply and demand is of vital importance both for producers and consumers. Orderly marketing does not necessarily mean to market the same amount of products to the market each month; rather it means to adjust the amount of supply in relation to demand from time to time.

As the double rice cropping system exists on the island, the seasonal variations of rice supply and price are considerably smaller in Taiwan than those in countries with only one rice crop a year. The first rice crop is commonly harvested from mid-May to late July and the second rice crop from late-September to mid-December. Consequently the rice supply is usually abundant from the latter part of May through January or February and becomes scarce from early March to mid-May.

The government has taken many measures to insure the orderly marketing of rice throughout the year, especially in the off seasons. These measures are summarized as follows:

a. Establishment of Food Districts

In August 1946 the Food Bureau divided the province into eight food districts, namely, Taipei, Taichung, Tainan, Kaohsiung, Hsinchu, Hualien, Taitung and Penghu. Later, the Taitung and Hualien food districts were annexed into an Eastern Taiwan food district, and Penghu hsien was put under the Kaohsiung food district, so there are now altogether six food districts. According to the present regulation, transportation of foodstuffs within a food district is entirely free. But when more than 30 kilograms of rice are transported from one food district to another, a certificate from the local food office in the importing district (or when 15 or more metric tons of rice are involved, from the Food Bureau) is required. In screening the application for such a certificate, the local food office usually takes into consideration the current situation of supply and demand of rice in both

food districts concerned. This certificate is issued in four copies: the first copy is kept by the food office in the importing district which issues it, the second sent to the district or branch food office of exporting food district, the third to the hsien or city government of the exporting district and the fourth to the purchaser. The fourth copy must later be returned to the food office which issued it with the signature of the purchaser.

The food district system has caused some inconvenience in the assembling and transportation of foodstuffs. However, by exercising this restriction, the Bureau is able to exercise its judgement by restricting the number of rice merchants permitted to buy rice in a given food district as well as the timing and quantity of rice purchases and thus prevent unreasonably heavy buying in the same district. Therefore, the existing food district system does make some contribution to the orderly marketing of rice and provides a more controlled distribution of food in the province.

The restriction of transportation between different food districts is applied at present only to rice. There is virtually no restriction on inland transportation of wheat, wheat flour, beans, sweet potato, cassava, and their processed products within the province. But to prevent smuggling, a certificate is still required if they are transported by sea.

b. Compulsory Sale of Surplus Rice

To cope with the shortage in rice supply in off-seasons, the Food Bureau has enforced a compulsory sale of surplus rice since 1946. The regulations governing the compulsory sale were worked out in accordance with the Regulations Governing the Punishment of Food Offenders. They were revised several times and the latest revision was made in January 1953.

According to the current Regulations, farmers and landowners who have "surplus" rice are required to sell it to the market in installments within three to four months before the harvest of the first rice crop. Those who refuse to sell are subject to punishment stipulated in the Regulations Governing the Punishment of Food Offenders. The amount of "surplus" rice to be sold by each family is equal to the total stock including land

rent in kind to be collected, less the amount for land tax in kind, land surtax, defense tax, government purchase of surplus paddy, spot-bartering for fertilizer and others, seed requirement, home consumption and repayment of rice production loan. The seed requirement is calculated at 60kg. of paddy per hectare for each crop, while the calculation of the other items is explained in the latter part of this Chapter and in Chapter VI. The deadline and the minimum amount to be sold for each installment were announced on January 28, 1953 as follows:

Table IV Deadline and Minimum Amount to Be Sold for Each Installment by Rice Holders, by Districts

Food District	Feb. 15	Feb. 28	March 15	March 31	Apr. 15	Apr. 30	May 15	May 31
Taipei	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Hsinchu	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Hwalien	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
Taichung	1/7	1/7	1/7	1/7	1/7	1/7	1/7	
Tainan	1/7	1/7	1/7	1/7	1/7	1/7	1/7	
Taitung	1/7	1/7	1/7	1/7	1/7	1/7	1/7	
Kaohsiung	1/6	1/6	1/6	1/6	1/6	1/6		

In the Spring of 1953 all the local food offices mobilized their staffs to enforce this compulsory sale program in every township in collaboration with the respective township office. While this should be considered as a desperation move rather than a normal routine, the program has been of considerable help to the orderly marketing of rice during off-season. However, this measure may be expected to be enforced when the rice situation is considered serious.

c. Market Stabilization Purchases and Sales

In principle, a successful market stabilization program should be able to affect the market demand for or supply of a given commodity. For

price support and market stabilization purchases, a special appropriation of fund should be made to finance the program and to show the public that the government is ready to buy a given amount of supply at the support price. For sales required for market stabilization or to enforce price ceilings, enough stock should be held constantly by the government to cope with the market demand and to show the public that the government is ready to sell to satisfy a given amount of demand at the ceiling price. The announced government intention to buy or to sell coupled with well-publicized statements regarding the availability of appropriated funds or adequacy of stock on hand will in turn affect the market psychology of sellers and buyers which is an important stabilizing factor on market and price.

In order to stabilize the rice price, the Food Bureau has initiated and undertaken a market stabilization program through the sale or purchase of rice during the off-season and after harvest.

In May 1951, the government announced a support price of NT\$ 42 per 60 kgs of paddy for the 1st crop of 1951 to protect farmers from a too low rice price after the harvest. If the market price fell lower than the support price, the farmers might sell their paddy to the various food offices at the support price. This is the only instance of support price for rice. The support level, which was slightly lower than the market price in the month of announcement, represented the minimum price of paddy which the Food Bureau intended to support after harvest. The government appropriated no special fund for this purpose but instructed the Food Bureau to use its revolving fund when necessary to finance the purchase. This system just grew haphazardly without definite statement beforehand as to the amount of stock to be purchased, special appropriation requirement and other details.

The government usually acts promptly by selling its rice to check the price increase when there is a considerable increase in rice price on the market. The decision rests with the Food Bureau, but the work is actually handled by its district or branch food offices in cooperation with the local governments. There are two types of rice sales undertaken by the Food

Bureau: one is to sell rice at wholesale to food merchants and one to the general populace, using the food merchants and cooperatives as agents, according to the number of members in each household. These food merchants and cooperatives are rewarded with the margin between wholesale and retail prices as their profit, but they are not allowed to sell their own rice at the same time, unless they sell it at the price fixed for government rice. The price of government rice is usually set at about 95 percent of the market price on the previous day.^{1/} The price is set jointly by the district food office and the local government following an investigation; this action is reported to the Food Bureau for reference. The food merchants and cooperatives handling the sale of government rice are required to make a daily report to the district food office and local government, listing the names of purchasers and amounts of rice sold each day.

The sale of government rice is usually started in Taipei City and then extended to Keelung, Taichung, Tainan and Kaohsiung cities which are also big rice consumption centers. Sometimes, the sale may even cover a number of densely populated townships.

During the last two and half years, the Food Bureau sold rice eight times to check the upward trend of rice prices. The periods, kinds of sales and areas covered by these stabilization sales are listed below :

^{1/} The quality of rice for stabilization sales is usually of lower grade or slightly inferior to the comparable grade of unrationed rice or a little undermilled, and buying of such rice always causes inconvenience to the consumers as the buyers must line up and wait for several hours to buy their rationed rice.

Table V. Periods, Kinds and Areas Covered by Stabilization
Sales of Government Rice, January 1951-June 1953

Period	Kind of Sale	Area Covered
Jan.-Feb. 1951	Rice ration according to size of families	Taipei, Keelung, Taichung, Tainan, Kaohsiung
Dec. 1951-Mar. 1952	-Ditto-	Taipei, Keelung
Jan.-April 1952	-Ditto-	Taichung, Tainan, Kaohsiung, Hsinchu, Pingtung, Hwalien and other densely populated townships where the hsien governments are situated.
March-June 1952	Rice sold to rice merchants	Taipei, Keelung, Taichung, Tainan, Kaohsiung
July 1952-Feb. 1953	-Ditto-	Taipei, Keelung, Taichung, Tainan, Kaohsiung, Hsinchu, Pingtung, Hwalien and other densely populated townships where the hsien governments are situated.
Feb.-March 1953	Rice ration according to size of families	-Ditto-
April 1953	-Ditto-	Taipei
May-June 1953	-Ditto-	Taipei, Taichung, Keelung, Tainan, Kaohsiung.

Source: Provincial Food Bureau.

Note: 93% milled rice is often used for stabilization sales.

According to available statistics, the amount of government rice used for stabilization sales varied year to year. The following table is compiled to show the picture :

Table VI. Amount of Government Rice Used for Stabilization Sales, Food Year 1950-1952

Food Year	Amount (Brown/MT)
1950	
July-Dec. 1950	8552
Jan.-June, 1951	520
Total	9072
1951	
July-Dec. 1951	4518
Jan.-June, 1952	52996
Total	57514
1952	
July-Dec. 1952	34,458
Jan.-June, 1953	33,995
Total	68,453

Source: Provincial Food Bureau.

It is the opinion of the Food Bureau that sufficient rice is produced in the Province to meet all domestic needs. If there is a considerable change in rice price in the market, it is chiefly due to the seasonal variation of rice price or to the temporary disturbance of the equilibrium between rice supply and demand in the consumption centers or to both. The Food Bureau, therefore, feels that the soaring price would be checked to some extent by rice dumping in the large cities and that as soon as the new rice crop is harvested, rice price will be normal again. The Bureau, however, did not earmark any definite amount of rice in its food budget

for the stabilization sales until 1952, and even then the amount earmarked was much smaller than the quantity sold for stabilization purposes in the previous year.

The Food Bureau was successful in checking the upward trend of rice prices by carrying out stabilization sales in 1950 and 1951, since the rice prices during off-season periods in those years were inherently quite stable due to many favorable factors. The picture, however, began to change in 1952. The Bureau originally budgeted 42,340 MT of rice for stabilization sales in the food year, but this quantity turned out to be insufficient to hold prices in check. In spite of the fact that 68,453 MT of brown rice were sold in Food Year 1952, rice prices still moved upward even after the harvesting of the first crop. The failure of Food Bureau sales program, even on this greatly increased scale, to check the continued increase in prices indicates that dumping sales are not necessarily an effective measure for stabilizing price, unless very great quantities are available for sale. It may be questioned whether the government can afford to hold as idle stocks or to sell a sufficient quantity for effective control of the market. Experience shows that the stabilization program has been effective only in controlling very minor fluctuation in price, the program was not effective in combating a major price reaction induced by long undervaluation of rice compared to other farm products.

3. Consumer's Programs

Consumer's educational programs, designed to help the stabilization of food prices from the demand side, are also important as they affect the consumption pattern of, and demand for, food in general and in particular. Up to the end of June, 1953, the following consumer's programs have been undertaken or enforced by the Food Bureau and other agencies concerned.

a. Restrictions on Storing Rice for Home Consumption

Every family stores some rice for home consumption but the amount varies from family to family and from time to time for the same family. If most families store more rice than normal requirements, it will result

in an increased demand in the market. The increased storage of rice will produce smaller changes in prices during the months soon after harvest, as the rice supply is usually abundant at that period; but in the off-season, an increase in storage is likely to accelerate the disequilibrium of supply and demand for rice, resulting in a greater increase in rice price. It is, therefore, important to educate or restrict the consumers and producers not to store more rice than normally required for home consumption in off-seasons. It has been clearly stipulated in the Regulations Governing the Punishment of Food Offenders that each household is allowed only to buy and store the quantity of rice necessary for three months consumption and that public and private institutions are allowed only to store the amount of rice required for two months consumption. According to the announcement of the Food Bureau, the amount of food allowed for each household member per month is 15 kilograms in terms of polished rice, regardless of age or sex. If the government discovers any institution or household has stored more than is allowed, the excess amount shall be confiscated. This can be considered as a consumer program for the stabilization of food prices.

b. Milling Rates

The people in Taiwan prefer to consume highly polished rice. The milling rate from brown to white varies from 88 to 93 percent in various cities and hsien. The lower the milling percent (i. e. the higher the milling rate), the lower the nutrient content. The B vitamins in rice are undoubtedly depleted through high milling and this practice is commonly considered to be one of the major factors for physical weakness of the people in most rice-eating areas. Furthermore, a smaller amount of polished rice will be obtained from higher milling rate. If rice is milled at 93-94 percent instead of 88-93 percent we shall obtain more polished rice for human consumption. By so doing, over 40,000 metric tons of rice might have been saved from the existing milling practice for the Food Year 1952.

The Food Bureau did carry out an educational program to advise people to mill Ponlai brown rice at 93 percent and Chailai brown rice at

94 percent. It also forbids rice mills to mill brown rice over 93-94 percent for either military or civilian consumption. However, its efforts have not been very successful, because of the inherent resistance of the people to change their dietary habit of consuming over-polished rice. The milling restrictions, though meritorious, have never been enforced.

c. Substitution of Sweet Potato and Wheat Flour for Rice

Rice and sweet potato are both high in energy value. Taiwan used to produce annually more than 2 million metric tons of sweet potatoes of which only about 25 percent was used for human consumption, according to the estimate made by Food & Fertilizer Division of JCRR. The sweet potato is a common substitute for rice, largely on the ground of economy. In limited quantities it probably does not result in a serious reduction in the quality of diet.^{1/} It may in fact add some small amount of vitamins not present in rice. But in larger quantities, sweet potatoes are less satisfactory food. An all-rice diet is very much better than an all-sweet-potato diet.

In the last two years, the Food Bureau, JCRR and the military authorities undertook jointly a sweet potato feeding experiment in some selected army camps. The results indicated that inclusion of a small percentage, say 10 percent of dark colored fresh sweet potatoes to the diet, was as good, or even better, for human health than the pure rice diet. It is being suggested to include sweet potatoes in the daily diet of all the people including the armed forces.

In May and June 1953 the Food Bureau rationed sweet potatoes together with rice in stabilization sales. If households wanted to buy the government rice, they had to purchase at the same time an equal quantity of sweet potatoes.

^{1/} Because of its lower protein content, too great a percentage of sweet potato in the diet may be detrimental to growth and health. There is also a general reluctance to eat sweet potato, particularly in quantity, based both on taste preference, and to some extent on the feeling that the potato is "poor man's food".

Wheat flour is another good basic food to substitute for rice. From the nutritional point of view, nutrient contents of wheat flour are a little higher than those of rice and much higher than those of sweet potato. The consumption of wheat flour in Taiwan is increasing because people from North China like to eat wheat flour and a considerable number of service-men also consume some wheat flour as a substitute for rice. With limited wheat production, Taiwan used to import wheat from Australia, Canada and the United States. As current international wheat price to be delivered to Taiwan is less than 60% of rice price and wheat is readily available, it is advisable for Taiwan to export rice in exchange for importing wheat or wheat flour. With JCRR encouragement, some increase in wheat production has occurred, but the quantity raised locally is still a minor factor in the supply of flour needs.

Generally speaking, this program of rice substitutes has not been as successful as expected, due to the inertia of food habits of the people, the difficulties in handling and storing sweet potato for home consumption, and largely to absence of a strong persuasive policy of the government. Most people dislike the sweet potato especially the city dwellers. Unless the difference between the prices of rice and sweet potato is attractive enough to induce people to substitute some sweet potato for rice in their daily diet, the program of substituting sweet potato for rice will be ineffective. The substitution of wheat flour for rice is more easily accomplished since flour appeals to the taste of more people and problems of handling and storage are simpler. As most of the rural farm families in Taiwan lack ovens for baking and do not know how to prepare wheat flour for food, it is necessary to provide baking facilities^{1/} to them and an educational program is also required to teach them to make bread, cake, noodle and others under the wheat-flour-substitution-for-rice program.

^{1/} The bakeries or baking facilities be established or provided collectively to rural people on village basis.

VI. Surveys of Rice Production and Rice Production Cost

The Japanese, during their occupation of the island, conducted surveys on rice production and rice production cost every year. The results of these surveys served as basic data for the formulation of food policy. These surveys were interrupted for one year after Taiwan's Restoration, but were resumed in 1947. In April 1948, the Provincial Government proclaimed a set of rules governing the conducting of these surveys, the details of which are described as follows:

A. Survey of Rice Production

1. General Regulations

a. The survey of rice production is conducted twice a year: the first survey covers all rice harvested by August 15, and the second covers rice harvested after August 15.

b. Approximately 300 townships throughout the province are covered by this survey. The village or Li is used as the unit in the survey.

c. The four types of paddy rice investigated are Ponlai, Chailai, round glutinous and oval glutinous. The two types of upland rice investigated are glutinous and non-glutinous. Their area and yield are tabulated separately. The units used during investigation are Chia and Taiwan catty, but later they are converted into hectare and kilogram.

d. The survey is undertaken by the staffs of the Reconstruction Section^{1/} of the various township offices. A subsidy from the Food Bureau is granted according to the area of rice fields in the townships, to cover a part of their travelling and per diem expenses.

2. Investigation of Rice Area

a. For the investigation of rice area, reference is first made to the

^{1/} The Reconstruction Section of the Township Office is in charge of the functions regarding the extension works on agriculture, animal husbandry, fishery and forestry, food administration, communications, civil construction works, and registration of merchants.

land maps and land registers which were made by the Japanese and copies of which were made available to hsien or city governments and township offices. The Land Division and District Land offices under each hsien or city government have undertaken land registration work since Taiwan's Restoration, and any changes in land use and ownership have been registered. Hence, these land maps and registers are important references in the determination of rice area. Insufficient copies of land maps and registers, however, have been available to permit the use of these references by township Reconstruction Section officials.

b. As chemical fertilizer is allocated on the basis of area, a check-reference is also made to farmers' applications for fertilizer. The allocation of fertilizer is handled by the Farmers' Associations, but the township offices may use their allocation data for reference.

c. In addition, a spot survey is conducted by the Reconstruction Section officials in cooperation with the village chiefs, agricultural unit chiefs, and experienced farmers. After due consideration is given to land records, fertilizer allocation data and opinion of these people, township officials estimate the area planted to rice.

d. The schedule used by township officials for rice area reporting is prepared in four copies: the first is kept for reference, the second sent to the hsien or city government, and the other two to the Food Bureau.

The report made for the first survey should be mailed by township officials before the end of April and the report of the second survey before September 15, except in the Kaohsiung area where the report for the first survey should be sent out one month earlier.

After the hsien or city government collects the schedules from all the townships in the hsien or city, a report for the whole hsien or city is made. The schedule used by the hsien or city government is prepared in three copies: one is kept for reference, and two are sent to the Food Bureau. The report for the first survey should be sent out before May 10, while that for the second before September 25, except in the Kaohsiung area, where the report for the first survey should be sent out one month earlier.

3. Investigation of Rice Yield

a. The investigation of rice yield is conducted four times a year, two times for each rice crop. The first investigation is made at the time of heading, and the second at the time of harvest.

b. At the time of heading, the reconstruction section officials are sent out by the township chief to inspect the growing conditions of the rice crop and forecast the rice yield. The rice fields are classified into grades of good, fair and poor according to growing conditions, fertilizer application, irrigation facilities and the degree of damage done by pests. Township officials listen to the opinion of farmers, agricultural unit chiefs and village chiefs but use their own judgement in making the forecast.

c. At the time of harvest, the reconstruction section officials again visit the farmers, village chiefs and agricultural unit chiefs to hear their opinions on the actual yield of the rice crop. Field checks on the yield are made by hand-stopping the culms from individual hills of rice or by tsubo sampling of the three grades of good, fair and poor. Of the two methods the former is much more common.

d. Schedules used by the township offices in reporting rice yield are made in four copies: the first is kept for reference, the second sent to the hsien or city government, and the other two to the Food Bureau. The forecast of the first rice crop should be sent out by the township officials before June 15, while the estimate of yield for the first rice crop before August 20 (one month earlier for Kaohsiung area), the forecast of the second rice crop before October 20, and the estimate of actual yield for the second rice crop before January 5 of the next year. The actual rice yield reported is in kilograms of paddy per chia. (1 chia = 0.96992 hectare).

The schedule used by the hsien or city government in reporting rice yield is prepared in three copies: one is kept for reference and two sent to the Food Bureau. The time limits set for these reports are June 25, August 31 (one month earlier for Kaohsiung area), October 31 and January 15 of the next year.

e. The reported rice yield is usually somewhat higher than the

estimated yield. But, even the former probably errs on the conservative side. Farmers in all countries tend to understate their production. Fear of tax collector is universal; rarely, if ever, are there reasons for farmers to report optimistically.

4. Statistical Compilation and Tabulation

Based on the decision of the Provincial Government, the survey on rice production is handled entirely by the Food Bureau, but one of the two reporting copies submitted by the hsien and city governments to the Food Bureau is sent to the Provincial Department of Agriculture and Forestry for reference. Having received the reports from all hsien and cities of the province, the Food Bureau converts the planting area from chia into hectare by multiplying 0.96992 and the rice yield from paddy into brown rice by multiplying 0.775 for ponlai and round glutinous varieties and 0.755 for chailai and other varieties. Then the Bureau goes further to compile statistics on rice production for each crop for the whole province. These statistics are published after they are cleared by the Provincial Bureau of Accounting and Statistics.

B. Survey on Rice Production Cost

1. General Regulations

a. The survey on rice production cost is conducted twice a year, once for each rice crop. It covers all production costs involved from the time when the land is plowed through the harvest.

b. Except those townships in mountainous areas and those which produce a very small quantity of rice, all townships are covered by this survey. For the first rice crop of 1952, for instance, the survey was carried out in 252 townships.

c. This survey is handled by the Agriculture and Forestry Division of the hsien or city government, but the investigation is carried out by the price reporters of the Food Bureau stationed in various hsien, cities and townships.

2. Items for Investigation

a. Seed Expenses

The price of self-supplied seed is calculated at the price of paddy at the farm. If the seed is purchased from outside, all incidental expenses incurred are included.

b. Fertilizer Expenses

If the fertilizer is purchased, all incidental expenses incurred shall be included. If it is self-supplied and there is a market price at the time when it is used, the calculation is based on the market price. But if there is no market price at that time, the calculation is based on material and labor expenses involved. If the fertilizer is bartered with paddy, the expenses are calculated at the market price of paddy at the time of delivery. If the fertilizer is loaned and returned later with paddy, the expenses are calculated at the market price of paddy at the time when it is returned.

c. Labor Expenses

Whether the labor is self-supplied or hired, the calculation is based on the actual local daily wage at the time, including boarding charges. Man labor and woman labor are separated in the calculation. The wage standards for both man and woman labor vary in different seasons and in different localities.

d. Animal Labor Expenses

Whether the animal labor is self-supplied or hired, the expenses are calculated according to local actual daily rent at the time, including estimated feed expenses.

e. Material Expenses

This item includes materials for seed selection, insect disease control, windbreaks for seedling beds and instruments and machinery. If the materials are purchased, the expenses are calculated according to their market prices. But if there are no market prices for them, the calculation is based on estimated expenses, including material expenses and charges for labor.

f. Farm House Expenses

This item includes the depreciation or rent and repairing expenses of farmer's dwelling house, compost, livestock shed drying ground, foundation land and warehouse which have direct relation with production. The calculation is aimed at obtaining the exact share borne in each crop season.

g. Farm Implement Expenses

This item includes all expenses paid for various implements used in production. Their expenses are calculated according to the following methods:

(1) In case of large-sized implements, the share of expense is calculated for each rice crop. If the implements are borrowed, the current rental charge is calculated.

(2) In case of small-sized implements which are newly purchased or repaired, the share of the cost is calculated for each rice crop.

h. Taxes

This item includes all the yearly payment for land tax, household tax, fees for the Hydraulic Association and Farmers' Association, and other local dues. The share of total tax is calculated against each rice crop.

i. Interest on Land Capital

The interest on land capital for self-cultivated paddy field is calculated in terms of farm rent for tenanted land of the same grade and in the same locality, and the interest on deposits with reference to the interest rate for fixed time deposits at the local farmers' association. All taxes are deducted from the total farm rent and the interest, and of the resultant costs the share of charge is calculated for each rice crop.

j. Farm Rent

The calculation of farm rent is based on the amount of paddy actually paid by the tenant. If he has paid a deposit to the landowner, interest calculated at the interest rate for fixed time deposits at the local farmers'

association is added. Then, the share of farm rent and interest is calculated for each rice crop.

k. Income from By-Products

The income from straw and rice waste is calculated at the market prices at the time when they are sold.

l. Quantity of Harvest

The actual quantity of dried unhulled cleaned rice is determined.

3. Methods of Investigation

a. The survey on rice production cost is carried out in each hsien and city as unit. The total number of samples is 800 for each rice crop. The distribution of samples in various hsien and cities is made according to their rice area and rice output.

b. Different samples are selected for different varieties of rice crops. The hsien and city governments are required to base their selection of farmers to be investigated on an appropriate distribution of samples between owner-cultivators and tenant farmers. The farmers selected must have all the following qualifications:

(1) Grow rice as their major crop and plant the common rice varieties.

(2) Paddy land is of medium grade.

(2) Cultivate a medium-sized area of paddy land.

c. The income from by-products (2k above) is deducted from the total cost of items (2a-j), and the remainder is divided by the total yield to find out the cost of rice production per hundred kilograms. If the total cost of items (2a-j) is compared with the total of items (2k) and (2l), a balance sheet may be prepared.

d. The farmers chosen for the survey are issued a printed journal for use in recording each crop.

e. Sample farmers are requested to keep detailed accounts on the printed journal whenever any outlay for rice production is made. Price reporters stationed in various hsien and cities visit the sample farmers now and then to supervise the recording of rice production costs. The Food Bureau and the Provincial Bureau of Accounting & Statistics also despatch inspectors to all the hsien and cities to make spot-check on the survey at least once for each rice crop.

4. Statistical Compilation and Tabulation

After the harvest or, in some cases, immediately before the harvest of each rice crop, the price reporters of the Food Bureau collect these journals from the sample farmers and check the data recorded therein. They transfer the data to investigation books and schedules and submit them to the hsien or city government. After the latter compiles the statistics for the hsien or city, it sends them to the Food Bureau. Generally, the statistics for the first rice crop are sent to the Bureau about June 10, and those for the second rice crop about December 10.

The Food Bureau will ask the hsien or city government concerned to make another investigation or give an explanation if there is any question about the reported cost. When necessary, the Bureau may dispatch its own officer to make a check on the spot. It then compiles statistics on the average production costs of 100 kg. of Ponlai and Chailai brown rice for the whole province for submission to the Provincial Government. These statistics are sent to the Provincial Provisional Congress for reference in the determination of rice collection price for each rice crop after they are approved by the Governor's Council. The survey results are for the reference of the government and are not announced to the public.

VII. The Collection of Rice

The rice which the government requires for its rice distribution is obtained from a variety of sources. The collection devices which have commonly been used are: A. Collection of rural land tax and surtaxes in

kind and compulsory purchase of rice from land-owners according to land size, B. Compulsory purchase of rice from landowners of larger than medium-sized land holdings, C. Bartering rice from farmers for fertilizer, D. Bartering rice from farmers for cotton cloth, E. Lease of public land, of which the rent is paid in kind, F. Sale of public land to tenants, of which the sales price is paid in yearly instalments of rice, G. Extension of rice production loans which are repaid by farmers with rice, and H. Other minor means. Condensed details of these collections follow:

A. Collection of Rural Land Tax and Surtaxes in Kind and Compulsory Purchase of Rice from Landowners according to Land Size

Following the practice on the Mainland, the rural land tax in Taiwan has been collected in kind, but for rural land other than paddy fields, it may be paid in cash in terms of paddy according to an official purchasing price.^{1/} The rural land tax is levied according to the tax units of land grades recorded in the land registration book. For every Japanese yen of tax imposed during Japanese occupation, 8.85 kilograms of paddy are now collected.

Landowners in Taiwan are also required to pay (1) the land surtax for prefectural public servants and (2) the defense surtax. Each of these two taxes is based on 30 percent of the land tax. The former was levied from the first crop of 1947, following the decision of the government to ration rice to public servants of all levels, while the latter from the first crop of 1950, following the military withdrawal from the Chushan Islands in the early part of that year.

In addition, owners of paddy land are also required to sell to the government under a compulsory purchase program, 12 kilograms of paddy per tax unit (Japanese Yen) at the official price.

The rural land tax is collected in equal semi-annual instalments. The collections generally start August 1 and December 1, with the exception of Kaohsiung area where the first collection starts July 1, since the harvest

^{1/} See Rural Land Taxation in Taiwan: JCRR Economic Digest Series No. 2.

time of the first rice crop there is about one month earlier than in other areas. The land surtaxes are collected and the compulsory purchase of paddy is made at the same time as the rural land tax is levied. Generally, a month's time is allowed for the landowners to make their payments. A fine will be imposed if their payments are overdue. The land taxes and compulsory purchase are calculated with the following formulas:

1. Rural land tax = tax unit (yen) \times area (chia) \times 8.85kg. (paddy)
2. Land surtax for prefectural public servants or defense surtax = tax unit (yen) \times area (chia) \times 2.655kg. (paddy)
3. Compulsory purchase = tax unit (yen) \times area (chia) \times 12kg. (paddy)

The official purchasing price of paddy is decided jointly by the Provincial Government and the Provincial Provisional Congress with consideration of rice production costs and general commodity prices at the time of decision. The purchasing prices established since the first crop of 1947 are listed in the following table:

Table VII. Official Purchasing Prices of Paddy since 1947

Unit: Dollar/Kilogram

Year	Crop	Official Purchasing Price ^{1/}
1947	1st	27.50
	2nd	34.50
1948	1st	61.70
	2nd	367.00
1949	1st	0.22
	2nd	0.26
1950	1st	0.52
	2nd	0.60
1951	1st	0.70
	2nd	0.80
1952	1st	0.92
	2nd	1.05
1953	1st	1.46

Source of data: Provincial Food Bureau

Note: ^{1/} Currency: Old Taiwan Dollars in 1947 and 1948, New Taiwan Dollars since 1949. Conversion rate: NT\$ 1 = T\$40,000, established in the monetary reform of June 15, 1949.

According to the regulation of the government,^{1/} rural land tax and surtaxes may be waived in whole or in part, if the land falls into one or more of the following classifications:

1. Public land used for the benefit of the general public and from which no land rent has been collected.
2. Private land expropriated by the government.
3. Land owned by private schools, private research organizations and private relief organizations that have been established with the approval of the government, have been under successful operation for more than five years, and whose land was not used for the purpose of reaping profit.
4. Land used for private-owned railways and highways.
5. Land owned by private agricultural and forestry experimental stations established for more than ten years, or by public hospitals established for more than five years, which were used for non-profit purposes.
6. Land on which the crops are attacked and damaged by insect pests, flood, drought, typhoon or other natural calamities.

With regard to the standards of paddy set for rural land tax payments, it is stipulated that:^{2/}

1. The paddy must be clean and fresh. The grain must be full and must not show signs of having been infested with insect pests.
2. Foreign materials contained in the paddy must not exceed 0.5 per cent.
3. The moisture content of the paddy must not exceed 13 per cent.
4. The unit weight of paddy shall be checked against a certain volume measurement. The total weight of six Tai Tou (1.08 hectoliter) of paddy must not be less than 57.6 kilograms.

^{1/} Regulations governing the Exemption of Land Tax, revised and promulgated by the Executive Yuan in April 1945.

^{2/} Rules Governing the Receipt of Rural Land Taxation and Rent for Public Land in Kind, promulgated by the Office of Governor of Taiwan in July 1946.

5. The paddy must be either pure Ponlai or pure Chailai.^{1/}

The above standards apply not only to the paddy paid for rural land taxes, but also to the paddy purchased and bartered by the government. But in case there is flood, drought, typhoon, pest or other natural calamities in the area, the standards may be lowered according to decree of actual damage or loss.

There are three kinds of organizations with their branches and offices involved in rural land taxation: the Provincial Land Bureau, the Provincial Department of Finance and the Provincial Food Bureau. The Land Bureau and its local land offices provide basic information on cadastre upon which tax levy is based; the Department of Finance and its local tax collection offices take care of the collection of rural land tax and receive the tax paid in cash; and the Food Bureau and its local food offices are responsible for the receipt of the tax paid in kind and its storage. Generally speaking, the collection of rural land tax and surtaxes in kind and through compulsory purchase of rice from landowners seems successful, as the actual collection in the last three food years (1950/51—1952/53) reached about 97 per cent of the total taxable amount. The good foundation laid by the Japanese and further improvements made by the Provincial Government both contributed much to this achievement. It is especially praiseworthy that the people in Taiwan, with very rare exceptions, have made good records in paying their taxes regularly.

B. Government Purchase of Surplus Paddy from Landowners of Larger than Medium Sized Land Holdings

This purchase has been made by the government beginning with the first rice crop of 1947 and is confined only to those landowners who pay more than 1,500 kilograms of paddy for rural land tax alone in one year. The purchase is made on a progressive scale as follows:

^{1/} For the collection of rice from resources other than rural land tax three more kilograms are added for every 100 kilograms in case of payment in Chailai paddy.

Amount of Paddy Paid for Rural Land Tax	Percentage of Surplus Paddy to Be Purchased
1,500- 5,000 kg.	40
5,000-10,000 kg.	45
10,000-20,000 kg.	50
20,000-30,000 kg.	55
30,000 kg. upwards	60

The amount of surplus paddy is worked out after deducting from the rent collection the payments in paddy for rural land tax, surtaxes and compulsory purchase, and the amount for household consumption calculated at 21 kilograms of paddy equivalent to 15 kg. of polished rice per capita per month. The rent collection is calculated at 8.9 times the amount of paddy paid for rural land tax.

The purchase is made twice a year at the official price, and the dates for the purchase are announced by the Provincial Government. Such qualified landowners are required to sell the regulated amount of surplus paddy within the prescribed time to the district office of the Food Bureau, failing which they will be considered as food hoarders in violation of the National Mobilization Law and may be punished by the law court. But in case there is flood, drought, pest, typhoon or other natural calamity, the amount of surplus paddy to be purchased will be decreased according to factual requirements.^{1/}

In spite of the heavy purchasing rate in the schedule, the amount of paddy collected by the government from this source is quite small and has decreased from year to year. The amount collected from the purchase was 7,650 metric tons in 1950-51, dropped to 4,933 metric tons in 1951-52, and further decreased to 3,295 metric tons in 1952-53 (all weights in brown rice). The reasons are that large landowners are few in Taiwan and that the few formerly large landowners have divided their land among relatives

^{1/} Rules Governing the Purchase of Foodstuffs, revised and promulgated by the Provincial Government of Taiwan in March 1953.

to escape from the purchase of their land by the government under the Land to the Tillers Program.^{1/} Objections regarding the total amount of surplus rice to be purchased are regularly raised by large landowners, and the settlement is usually a compromise. Therefore, the actual collection of this purchase has fallen far below the planned amounts. For example, the amounts actually purchased for 1950/51, 1951/52, and 1952/53 were only 67 per cent, 43 per cent, and 29 per cent of the planned amounts respectively. If the land limitation program of the government (under which no landowners will be allowed to keep more than three chia of paddy fields of medium grade) is carried out in 1953 as scheduled, there will no longer be any landowners who will pay more than 1,500 kilograms of paddy for rural land tax, and this purchase of surplus paddy from landowners will no longer exist.

C. Bartering Rice from Farmers for Fertilizers

Since Taiwan's Restoration, the Provincial Government has devoted great attention to the procurement of fertilizer, as fertilizer is one of the most essential factor in increased crop production on the island. A Fertilizer Transportation and Marketing Committee in charge of the procurement, importation and transportation of fertilizer for rice and other crops except sugarcane was established in December 1946 under direct jurisdiction of the Provincial Government. At that time, the Provincial Food Bureau was responsible only for the collection of paddy bartered with fertilizers distributed by the committee through FAs. To concentrate responsibility for the various phases of the fertilizer program, however, the Committee was abolished in June 1949 and the Fertilizer Sales & Transportation Department was created under the Food Bureau. Fertilizers for sugarcane, however, are procured, shipped and distributed by Taiwan Sugar Corporation.

The bartering of rice for fertilizer was started with the second rice crop of 1948 and has constituted one of the most important measures for

^{1/} The Land-to-the-Tiller Act, promulgated by the President of the Republic of China on January 26, 1953.

collecting rice from farmers. The barter which is made on the basis of area, is handled by the district and branch offices of the Food Bureau, while the actual distribution is undertaken by the farmers' associations at township level.

As the rate of fertilizer application is especially high in Taiwan and local production of chemical fertilizer is far from being sufficient to meet the demand, large imports have been made every year. While only 63,527 metric tons of fertilizer were used in the period of 1946-47, 232,243 metric tons were used in 1950, 280,002 metric tons in 1951 and 361,263 metric tons in 1952. Taiwan produced a total of 148,500 metric tons of chemical fertilizers in 1952. The balance was met partly by MSA financed imports and partly through imports, financed by the Provincial Government. The sources of total chemical fertilizer supply in Taiwan 1949-1952 follow:

Table VIII. Sources of Total Chemical Fertilizer Supply in Taiwan
1949-1952. Unit: MT

Year	Local Production		MSA Financed Imports		Chinese Government Financed Imports		Total	
	Quantity	%	Quantity	%	Quantity	%	Quantity	%
1949	45,800	28.97	41,200	26.06	71,100	44.97	158,100	100
1950	58,700	17.94	157,800	48.21	110,800	33.85	327,300	100
1951	110,400	32.31	151,100	44.22	80,200	23.47	341,700	100
1952	148,500	25.89	330,900	57.69	94,200	16.42	573,600	100

Source: Calculated from data furnished by the Food & Fertilizer Division, JCRR

The exchange ratios between rice and different kinds of fertilizer were worked out by the Bureau in consultation with JCRR and are adjusted from time to time. Substantial adjustments in the exchange ratios were first made for the first crop of 1950 and again for the second crop of that year, due primarily to the drop of fertilizer prices in the world market. Although the fertilizer prices in the world market continued to decrease, no further adjustments were made as of the first crop of 1953, except in the

exchange ratio between potassium chloride and rice. Nor have adjustments been made to reflect the increased price of paddy. The exchange ratios are shown in details in the following table:

Table IX. Ratios of Exchange between Paddy and Fertilizers
(Kg. of Ponlai Paddy required in exchange for 1 kg. of various fertilizers)

Type of Fertilizer	Kg. Paddy Required in Exchange									
	Food year ^{1/} / 1948		Food year ^{1/} / 1949		Food year ^{1/} / 1950		Food year ^{1/} / 1951		Food year ^{1/} / 1952	
	2nd crop	1st crop	2nd crop	1st crop	2nd crop	1st crop	2nd crop	1st crop	2nd crop	1st crop
Ammonium Sulfate	1.5	1.5	1.5	1.2	1.0	1.0	1.0	1.0	1.0	1.0
Calcium Superphosphate	—	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Calcium Cyanamide	—	—	—	—	1.0	0.9	0.9	0.9	0.9	0.9
Ammonium Nitrate	2.0	2.0	2.0	1.6	1.4	1.4	1.4	1.4	1.4	1.4
Potassium Chloride	—	—	—	—	—	1.5	1.5	1.5	1.5	1.0
Fused Phosphate	—	—	—	—	—	—	—	0.4	0.4	0.4
Calcium Ammonitrate	—	—	—	—	—	—	—	1.0	1.0	1.0
Ammoniated Superphosphate	—	—	—	—	0.65	0.65	0.65	0.65	0.65	0.65
Ammonium Phosphate	1.9	1.9	1.8	1.5	1.3	1.3	1.3	1.3	1.3	1.3
Mixed Fertilizer	—	—	—	—	—	1.0	1.0	1.0	1.0	1.0

Source: Compiled by RED, based on data furnished by PFB.

Note: ^{1/} The Food Bureau keeps its barter accounts on "Food Year" basis. The food year covers two half calendar years. The 1952 Food Year, for instance, covers the period from July-December 1952 to January-June 1953.

Prior to the second crop of 1951 the farmers were required to deliver their paddy in exchange for fertilizer according to the above exchange ratios. They might apply for fertilizer on a loan basis with a guarantor acceptable to the local farmers' association, in case they did not grow rice in the previous crop or their previous rice crop had been damaged by

insect pests, flood, drought, typhoon, or other natural calamities to the extent of over 50% of the crop production, or in case they cultivated less than 1 hectare of paddy land. Beginning from the second crop of 1951, however, they were given the free choice between spot barter and a loan to be repaid in paddy within two weeks after the harvest, plus a flat interest of 3 per cent for the loaning period. Under the optional plan very few farmers chose spot barter, and the Provincial Food Bureau has pointed out that the timing of the government collection program has been delayed thereby which was claimed by the PFB as one of the important factors for food shortage and rice price crisis in the late Spring of 1953. From the second crop of 1948 to the first crop of 1951, about 50 per cent of the fertilizer was allocated on direct barter basis. The percentage dropped to 35 for the second crop of 1951 because of the adoption of the free choice system, and further decreased to only 11 for the whole year of 1952. However, the collections for the total year and for each crop in 1952 were higher than for any previous like-crop period, except for the second crop of 1950.

In any event, the concerned authorities have decided that, beginning from June 1953, at least 30 per cent of the fertilizer distributed must be on spot barter basis. The following schedule of the minimum amounts of paddy required for spot barter per hectare of rice land for different food districts of the province has been announced by the Provincial Government to be administered by the PFB through the local farmers' associations.

Table X. Minimum Amounts of Paddy Required for Spot Barter per Hectare of Rice Land

Food district	Kg. of paddy
Taichung	160
Tainan	140
Kaohsiung	140
Hsinchu	140
Taipei	140
Eastern Taiwan	110

All farmers applying for fertilizer are required to deliver at least the amounts of paddy according to the above schedule for spot barter; the balance of the total bartered paddy per hectare may be contracted on loan basis. Exceptions can be made only to farmers who did not grow rice in the last crop or who, if they did, suffered damage to the extent of over 40% of the crop production, or for other reasons duly certified by the local farmers' association. Those farmers may get their fertilizer entirely on loan basis if so requested.

The repayment-record of fertilizer loans by farmers has been quite satisfactory. Of a total loan of 605,000 metric tons of Ponlai paddy converted from the fertilizers allocated on loan basis from the second crop of 1948 to the second crop of 1952, over 590,000 metric tons were repaid as of the end of 1952.

D. Bartering Rice for Cotton Cloth

As cotton cloth is one of the major necessities of the rural people, the government initiated a program of bartering rice for cotton cloth beginning with the first rice crop of 1950. The cotton cloth is obtained from the local textile factories as well as through the importation of low-priced textiles. The procurement of cotton cloth was entrusted to the Central Trust of China by the Food Bureau; FOA/MSA-CM has also provided smaller amounts. Actual distribution through barter has been undertaken by the Farmers' Associations at township level.

Only rice farmers are qualified to barter this cotton cloth. The amount of cotton cloth allocated to each farm family is based on the area of the family's rice plantings and the standards for allocations per family from July 1952 to June 1953 were as follows :

Below 1 hectare: Ten yards per rice crop season

1.01-2 hectares: Fifteen yards per rice crop season

Above 2 hectares: Twenty yards per rice crop season

It was intended that the exchange ratios between rice and different kinds of cotton cloth would reflect their respective market prices at the time

when they were bartered. The prices of cotton cloth are set at 80 per cent of their wholesale prices in the respective food districts, and the price of paddy is calculated at the wholesale price of Ponlai paddy in the same districts. If the same brands of cloth are not sold in the wholesale market, the prices of comparable brands will be adopted after due adjustment is made. The Food Bureau announces the exchange ratios once a month, based on the ten-day reports submitted by its price reporters from various districts. If no great changes in prices are reported, the exchange ratios of the previous month will remain effective. For the period from January 11 to July 20, 1953, for instance, the exchange ratios were as follows:

1 yard of white sheeting:	2.74 kg. of paddy
1 yard of dyed sheeting:	3.21 kg. of paddy
1 yard of white drills:	3.47 kg. of paddy
1 yard of American stamped poplin:	6.53 kg. of paddy

The comparison of prices paid by farmers in paddy converted into money value and cost prices of these cotton cloths are shown in the following table:

Table XI. Comparison of Cash Equivalent Cost of Cloth Bartered for Rice with Actual Cost of Cloth Delivered to Local Farmers' Associations

Jan.-June 1953

Kind	(1) Barter ratio kg/paddy per yd. of cloth	(2) Average Ponlai paddy NT\$/kg		(3) Cash equivalent cost of bartered cloth, per yd (1) × (2)		(4) Average cost of cloth delivered to local FAs, per yd. NT\$	(5) Excess of cash equivalent of bartered rice over cash cost of cloth (3) — (4)	
		Jan.-Feb.	March-June	Jan.-Feb.	March-June		Jan.-Feb.	March-June
		White sheeting	2.74	1.81	2.41		4.96	6.60
Dyed sheeting	3.21	1.81	2.41	5.81	7.74	5.10	+ 0.71	+ 2.64
White drills	3.47	—	2.41	—	8.36	5.52	—	+ 2.84
American stamped poplin	6.53	—	2.41	—	15.74	10.37	—	+ 5.37

Notes: 1. Compiled from data furnished by the Food Bureau.

2. White drills and American stamped poplin were distributed beginning March, 1953.

3. The barter ratio is worked out by setting the average prices of cotton cloth at 80% of their wholesale prices and calculating the average price of paddy at the wholesale price of Ponlai variety. If the same brands of cloth are not sold in the wholesale market, the prices of comparable brands will be adopted after due adjustment is made.

4. The above barter ratio was effective from January 11-July 20, 1953.

The above table indicates that in January and February 1953, the cloth price paid by farmers was slightly higher than the respective cost price to PFB, and that the difference became much greater in the period of March-June 1953. Exchange ratios that seemed unattractive economically in the first two months became increasingly unrealistic in the latter months. As farmers usually barter cotton cloth only in the two or three months following harvest and as in the off-seasons, farmers' rice stocks typically are at such low levels that no surplus for barter exists, the Food Bureau was reluctant to adjust the barter ratio to cope with the drastic change of rice price in the off-seasons. Therefore, the unfavorable effect of the unrealistic exchange ratios in the latter four months was actually less significant than the table suggests because few farmers actually bartered their rice for cloth at such prices.

The total procurement of different kinds of cotton cloth in 1950, 1951 and 1952 were 51,611, 79,130, and 200,000 bolts of 40 yards respectively. The amount of cotton cloth actually distributed for bartering rice in the food year 1950-51 was 51,992 bolts and that in the food year 1951-52 was 90,650 bolts. While the projected amount for 1952-53 was set at 360,000 bolts, only 27,839 bolts were actually bartered for rice as of March 31, 1953. The farmers' failure to barter rice for cotton cloth was due to the following reasons: (1) the cotton cloth distributed by the government was of limited variety and sometimes its quality was changed due to long storage, (2) the amount of cloth for allocation per family was not enough to meet farmers' actual requirements, (3) as local production of cotton cloth has been much increased and there have been large imports of printed cloths from Japan, the prices of cotton cloths are reduced generally on the market, (4) the Food Bureau failed to adjust the exchange ratios to make them realistic, (5) the Central Trust is allocating cotton cloth to farmers' associations for cash sale at prices a little higher than those charged by PFB, but the cloth is of more varieties, and FAs themselves are also purchasing cloth through the Central Trust to sell to farmers for cash, (6) farmers now can afford to pay higher prices for the kinds of cloth to their liking, as their financial condition has been improved by the land rent reduction program and higher rice prices, and (7) most farmers in Spring 1953 intended to hold their

paddy for a better price as rice price was increasing.

The Food Bureau has indicated that it intends to procure a wider variety of cotton cloth for distribution in the 2nd half of 1953 and that the exchange ratios and the standards for allocation will be also revised so as to make them more realistic. The proposed revisions are told as follows:

The standards for allocation: (per family)

Below 1 hectare: 40 yards (the maximum limit) for each kind of cotton cloth for each crop season

Above 1 hectare: 80 yards (the maximum limit) for each kind of cotton cloth for each crop season

The exchange ratios:

1 yard of white sheeting	1.69
1 yard of dyed sheeting	1.87
1 yard of white drill	1.90
1 yard of American stamped poplin	4.18
1 yard of stamped cotton cloth	2.20

As of the end of March 1953, the Food Bureau had a stock of about 160,000 bolts left over from the previous year. A much wider variety of cotton cloth could also be obtained by PFB through the Central Trust and the MSA, beginning in the fall of 1953. There are ample stocks of new supplies as a source of the needed cotton cloth for this barter program. Under the revisions scheduled to be inaugurated in the last half of 1953, farmers will find the program attractive because of the reduced ratios and the falling rice price in the fall of 1953. The following table is computed to show the picture in July 1953.

Table XII. Comparison of Cash Equivalent Cost of Cloth Bartered for Rice with Actual Cash Cost of Cloth Delivered to Local Farmers' Associations

July 1953

Kind	(1) Barter ratio kg/ paddy per yd. of cloth	(2) Average Ponlai paddy price NT\$/kg.	(3) Cash equivalent cost of bartered cloth per yd. NT\$ (1) × (2)	(4) Average cost of cloth delivered to local FAs per yd. NT\$	(5) Excess of cash equivalent of bartered rice over cash cost of cloth NT\$ (3) - (4)
White sheeting	1.69	2.38	4.02	4.35	-0.32
Dyed sheeting	1.87	2.38	4.45	5.10	-0.65
White drills	1.90	2.38	4.52	5.52	-1.00
American stamped poplin	4.18	2.38	9.95	10.37	-0.42
Stamped cotton cloth	2.20	2.38	5.24	5.29	-0.05

Source: Compiled from the data furnished by the Food Bureau

E. Rent from Public Land

The lease of public land in Taiwan is undertaken by the Provincial Land Bureau and the Land Division of Hsien/City Government while the rent is collected by the Food Bureau and its district and branch offices. The rent is set uniformly at one fourth of the annual main products from the land,^{1/} but for lands from which no rice is produced, the rent may be paid in cash instead of paddy. The rent to be paid in paddy is collected twice a year. Unless otherwise provided in the contract, 60 per cent of the rent must be paid in the first instalment and the remaining 40 per cent in the second. The dates for collection are announced by the hsien or city government and reported to the Land Bureau, Food Bureau and Provincial Department of Finance for reference. In case of poor harvest due to pests or natural calamity, the rent may be waived in whole or in part according to factual requirements. Rents from public land will decrease, as the government started selling the public land to tenants in 1948 under a program that was the forerunner of the Land-to-the-Tiller Program.

F. Sale of Public Land

To help the tenants become owner-farmers the government has since the first crop of 1948 allocated public land for sale to tenant farmers. The sale has been handled by the Provincial Land Bureau, but the sale proceeds to be paid in kind are collected by the Food Bureau.

The price of public land in terms of physical products is set uniformly at 2.5 times of the annual main crops from the land. The standard annual yields for different grades of land in different areas were worked out by the Provincial Land Bureau in the spring of 1949 for the execution of land rent reduction program. The price is to be paid at equal annual instalments over a period of ten years. The price of paddy land must be paid in

^{1/} The lease of public land started in the beginning of the Restoration of this Province in 1945. At that time, the 37.5% Rent Reduction Program had not been enforced yet. The government decided to set the rent uniformly at one fourth of the annual main products from the land for the purpose of setting a demonstration on land rent reduction and benefiting the tenant farmers.

paddy, while that of dry land must be paid in cash in terms of sweet potato converted to cash at its market price. In case of a poor crop due to pests or natural calamity, the payment for the year may be postponed in whole or in part until the final payment of the land price is made.

Except in Penghu Hsien where the annual payment is made in a lump sum, the instalments of land price are collected twice a year throughout the province.

Under the Land-To-Tiller Program started in 1953, more public land will be sold to tenant farmers. The sale of public land will reduce the rent collection but increase the collection of sale proceeds from the public land. As the rent of public land and annual instalment of sale proceeds are both set at 25 per cent of the annual main crops there will be no effect on government rice collection program within a period of ten years. However, the rice collection from public land will disappear after that period.

G. Repayment of Rice Production Loan

As explained in Chapter V, the Provincial Government has since the first crop of 1951 introduced and extended the so-called "Rice Production Loan" to rice farmers. These loans, which are repaid by farmers with paddy, are allocated by the Food Bureau, but actual transactions are handled by various district food offices and farmers' associations.

As noted previously in Chapter V, these loans in essence are not strictly rice production loans, or even rice loans; they should be considered as loans to rice farmers for general needs. Indeed, though it is called a "loan" program, it might be better termed a pre-purchase program, devised to provide a source of rice income to the government.

The loans are allocated on the basis of rice area, the ratios of which are adjusted from time to time. For the first crop of 1953, for instance, the amount of loans extended to rice farmers ranged from NT\$ 100 to NT\$ 1,600, which were determined according to the following standards:

Rice Area	Amount of Loan
Below 0.3 ha.	NT\$ 100 - 200
0.3 - 0.49 ha.	100 - 300

0.50 - 0.79 ha.	100 - 400
0.80 - 0.99 ha.	100 - 600
1.00 - 1.49 ha.	100 - 800
1.50 - 1.99 ha.	100 - 1000
2.00 - 2.49 ha.	100 - 1200
2.50 - 2.99 ha.	100 - 1400
Over 3 ha.	100 - 1600

The loans for the first crop are to be repaid by farmers before the end of September and those for the second crop before the end of January of the following year. A daily interest of 0.05 per cent is applied from the day of issuance to the day of repayment. If farmers fail to repay the loans within the prescribed time, an extra daily interest of 0.2 per cent is charged for the time overdue.

The price of paddy for repayment of loans is calculated respectively at the average market wholesale price of Ponlai paddy between June 21 and July 10 for the first crop and between December 1 and December 20 for the second crop in the central and northern areas. For the southern area, however, the price is calculated at the average market wholesale price of Ponlai paddy between June 11 and June 30 for the first crop and between November 21 and December 10 for the second crop. The areas are classified as follows:

- Southern area: Including Kaohsiung City, Kaohsiung Hsien, Pingtung Hsien, Tainan City, Tainan Hsien, Chiayi Hsien, Yunlin Hsien, Taitung Hsien.
- Central area: Including Taichung City, Taichung Hsien, Changhua Hsien, Nantou Hsien.
- Northern area: Including Hsinchu Hsien, Taoyuan Hsien, Miaoli Hsien, Taipei City, Taipei Hsien, Keelung City, Yangmingshan Administration, Ilan Hsien, Hwalien Hsien.

The planned and actual rice production loans made in 1951-1953 are as follows:

Table XIII. Planned and Actual "Rice Production Loans", 1951-1953

NT\$

Calendar Year	Planned	Actual	% of Actual Loan Made to Planned
1951 1st crop	30,000,000	30,057,835 ^{1/}	100.19
2nd crop	30,000,000	27,473,820 ^{2/}	91.58
1952 1st crop	40,000,000 ^{3/}		
2nd crop	50,000,000	6,280,715 ^{4/}	12.56
1953 1st crop	60,000,000	34,991,110 ^{5/}	58.32

Source: Compiled by RED, JCRR from data furnished by the PFB.

Notes: ^{1/} Amount extended, period May 21 to Oct. 20, 1951

^{2/} Amount extended, period Oct. 21, 1951 to July 31, 1952

^{3/} This amount was officially allocated but due to the extension to July 31, 1952 of the loaning period of the 2nd crop loan of 1951, the money was not actually used.

^{4/} Amount extended, period August 1 to Dec. 31, 1952

^{5/} Amount extended, period January 1 to May 31, 1953

Of the NT\$ 50,000,000 allocated for the second crop of 1952, only NT\$ 6,280,715, or about 13 per cent was actually extended in the period as specified. The failure was due primarily to (1) the amount allowed to individual farmers was not sufficient to meet their requirement, (2) the loan was extended too late for farmers to make full use of it, (3) the time allowed for repayment was too short, and (4) farmers wanted to keep their paddy for a better price.

H. Collection and Payment of Rice under the Land-To-The-Tiller Program

According to the Land-to-the-Tiller Act, the purchase price of land from landowners for resale to tenant farmers is set at 250 per cent of the total main crop yield. The tenants who have received the allocated land are required to pay the purchase price within a period of ten years in 20 semi-annual equal instalments including an interest of 4 per cent per annum beginning July 1953. It is also stipulated in the Act that the payment

should be made in paddy for paddy fields and in cash for dry land. The purchase price is paid to the landowner 70 per cent in land bonds in kind and 30 per cent in governmental enterprise stockshares.

The total amount of land purchased through this program is estimated to be about 162,000 chia. The Provincial Land Bureau is in charge of the whole program, and the Land Bank and Food Bureau are entrusted to handle the issuance of land bonds and the receipt and payment of purchase price in kind, respectively. For the first year (July 1953-June 1954), the Food Bureau estimates that about 140,000 MT of paddy or 106,680 MT of brown rice equivalent would be collected through the program. Of the total, about 32,000 MT of brown rice would go to the government which would be of some help to the collection programs of the government.

In the meantime, the government would have more floating stock on hand because the paddy going to the landowners would not be drawn out immediately after government receipt. According to the Act, the payment of rice to landowners by the government would begin September for the first half (1st crop) and January for the second half of the previous year (2nd crop). Landowners may draw out their paddy at any time within a period of six months after starting dates. After the deadline for each instalment they can only get their purchase price in cash which is computed in accordance with official purchasing price of paddy for the respective crop. Of course, they would like to draw paddy instead of cash as the official purchasing price is always lower than the current market price. However, they may probably hold their paddy within the stipulated period in the government's warehouses for a better disposal and arrangement. It seems reasonable to forecast that floating stock of the government would be increased by handling the collection and payment in kind of the purchase price of land under the Land-to-the-Tiller Program. It seems also possible for the government to take advantage of this opportunity in arranging its overall collection and distribution programs and to meet its emergency need when necessary.

I. Other Means

In addition to the above, the government has also adopted at one time or another other means to collect rice from farmers, such as the bartering of rice for beancake and bean meal, bicycles, ox-carts and threshers, free purchase of paddy by the government and repayment of loans in kind under the Help-Tenant-Become-Owner Project.^{1/} Beancake was bartered for rice from the first crop of 1948, when the Farmers' Bank of China was entrusted by the Ex-Ministry of Food to ship beancake from Mainland China to Taiwan for the barter. Following the fall of the Mainland to the communists in 1949, however, the shipment of beancake was cut off and the barter program was interrupted. For the last two years, the beancakes needed on the island have been provided through MSA financing, but they were sold to farmers for cash. The threshers have been used for bartering rice since the first crop of 1950.

The free purchase program of the government was designed primarily not for the collection of rice, but for safeguarding the minimum rice price to farmers. The government announced a support price of NT\$ 42 per 60 kg. of paddy for the first crop of 1951 and authorized the Food Bureau to purchase any amount of paddy the farmers were willing to sell at the support price. Actually, this purchase would be made only when the market price of paddy fell below the support price. The Bureau purchased only 4,641 metric tons of brown rice in the first crop of 1951 and 43 metric tons in the second crop of that year. Although the provision has not been rescinded it is of no current significance due to the marked increase in the level of rice prices.

J. Rice Collected by the Government since Taiwan's Restoration

Following the increase of rice production and fertilizer application in

^{1/} The Help-Tenant-Become-Owner Project—not to be confused with the Land-to-the-Tiller Program—is an old land reform project which was handled by the Land Bank in 1949 for one year only. A total of NT\$1,000,000 was lent to 539 farmers to purchase about 500 chia of land for helping them to become owner farmers. This loan should be repaid in kind in instalment twice a year from 1950 to 1954.

recent years, the total amount of rice collected by the government through the above means has also been increased from year to year, both absolutely and proportionally. The details are shown in the following tables:

Table XIV. Total Amount of Rice Collected by Government in Each Year since Taiwan's Restoration

Unit: Brown rice/metric ton

Food year	Amount of rice collected	Annual rice production	Percentage of rice collected to annual production
1946/47	43,255	894,021	4.84
1947/48	144,425	999,012	14.46
1948/49	201,541	1,068,421	18.86
1949/50	261,710	1,214,523	21.55
1950/51	387,717	1,421,486	27.28
1951/52	393,083	1,484,792	26.47
1952/53	457,812	1,570,115	29.16

Source: Provincial Food Bureau

Table XV. Amounts of Rice Collected by the Government under Different Programs since Taiwan's Restoration

Unit: Brown rice/Metric ton

Item	1946/47		1947/48		1948/49		1949/50		1950/51		1951/52		1952/53	
	Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%
Total	43,255	100	144,425	100	201,541	100	261,710	100	387,713	100	393,083	100	457,812	100
Land tax, & surtaxes, & compulsory purchase	35,186	81.4	117,677	81.3	109,973	54.5	119,074	45.6	133,742	34.5	129,677	32.99	128,550	28.08
Purchase of surplus rice from landowners	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rent from public land	4,316	10.0	7,790	5.4	8,411	4.2	9,953	3.6	11,711	3.0	12,668	3.22	6,582	1.44
Sale proceeds from public land	—	—	—	—	1,572	0.8	1,210	0.5	1,872	0.5	4,641	1.18	8,890	1.94
Bartering with fertilizer	—	—	30	0.1	66,656	33.1	111,171	42.6	212,862	54.8	182,251	46.36	256,098	55.94
Bartering with cotton cloth	—	—	—	—	—	—	—	—	11,537	3.0	10,017	2.55	3,313	0.72
Repayment of rice production loan	—	—	—	—	—	—	—	—	—	—	33,880	8.63	19,851	4.34
Others	3,753	8.6	228	0.2	3,616	1.8	12,493	4.7	8,365	2.2	15,010	3.81	31,233	6.82

Source: Provincial Food Bureau

Note: The item "Others" includes bartering of rice for bean cake, bean meal, bicycles, ox-carts and threshers, free purchase, repayment of loan in kind under the help-tenant-become-owner program, etc.

The existing overall collection program of the Food Bureau was formed bit by bit through a number of years and cannot, therefore, be expected to be a unified and systematic one. Some items are merely taxes and some are made by barter. Besides, there are minor collections made by means other than taxation and barter. By the order of importance, the fertilizer barter and the rural land tax including surtaxes and compulsory purchase are no doubt the most outstanding, the repayment of rice production loan and the rent and proceeds from public land come next, and the collections from other means are negligible.

The planned collection of the Food Bureau for the food years 1950, 1951 and 1952 were 380,716 MT, 461,578 MT and 522,062 MT (all in brown rice) respectively. The actual collection compared with the planned collection was 101.84 per cent for the Food Year 1950, 85.16 per cent for the Food Year 1951 and 87.69 per cent for the Food Year 1952. The shortage of rice collected in the latter two years were due mainly to the failure to achieve the scheduled goals of the barter programs of fertilizer and cotton cloth and of the rice-production loan program. The collection of rural land tax in kind including surtaxes and compulsory purchase in past years was generally successful.

A basic criticism might be that the program, which is after all designed primarily to collect rice, has become inextricably involved with a number of other projects, such as fertilizer distribution and the collection of taxes. There is a real advantage in segregating the aims of the government so that they do not become confused; the aims of the various parts of the present rice collection program are not always compatible. It may, for example, be an advantage to the government to sell fertilizer at a profit (as it does) but in the interest of greater rice production and consequent easier rice collections, it is important to push early fertilizer deliveries. A separation of programs might make it easier to keep fundamental purposes clearly in mind. There is much to be said in favor of a program which aims only at collection, leaving the other functions presently incorporated in the collection programs to be handled separately.

VIII. The Distribution of Food

The problems of food distribution in Taiwan may be considered in two phases: domestic distribution and export of surplus food. Domestic distribution (including imported food) operates through two channels: the ration of rice by the government and the operation of domestic food market. The export of surplus food is strictly controlled by the government through PFB with the Central Trust of China as its sole agent.

A. Domestic Distribution Channels

I. Ration of Rice by the Government

The government has rationed rice to armed forces and prisoners in Taiwan since the Restoration, to students since February 1947, and to the immediate family members of officers in the armed forces, public servants of all levels and their immediate family members, miners and poor people since September 1947. The methods of rationing and the amounts of rice being rationed vary among the different classifications of people.

There are about 1,780,000 people on the island who receive rice rations, or something less than one fifth of the total population. (Estimates of the population vary.) Of the rice produced every year a considerable portion has been used for the ration. The production of rice in 1952, for instance, was 1,570,115 metric tons, of which 278,318 metric tons, or 17.75 per cent, were used for rations. Details are shown in the following table:

Table XVI. Rice Rationed in FY 1952

Unit: Metric ton/brown rice

Item	Amount	% of 1952 rice production
Armed forces	154,179	9.82
Family members of officers of armed forces	21,295	1.36
Public servants of all levels, including their family members	67,811	4.32
Police	908	0.06
Miners	3,090	0.20
Poor people	27,738	1.77
Students	2,126	0.14
Prisoners	1,171	0.08
Total	278,318	17.75

Source: Provincial Food Bureau

a. Armed Forces and Their Immediate Family Members

All rice needed by the armed forces is provided by the government. In the years 1946-1949, the rice rationed to armed forces was allocated from the portion of rice collected from rural land tax earmarked for the Central Government. Since 1950, however, the rural land tax has become entirely a local tax^{1/} and it has become necessary for the Central Government to make payment for such rice to the Provincial Government. The Ministries of National Defense and of Finance estimate the total amount of rice needed for all armed forces each year; funds to cover this quantity of rice are put in the national budget for approval by the Executive Yuan. The Ministry of Finance then instructs the Provincial Food Bureau to make monthly allocations according to the quota in the national budget and the Bureau works out the details on rice delivery with the Headquarters of Combined Services.

^{1/} See Rural Land Taxation in Taiwan, JCRR Economic Digest Series No. 2.

A price of rice for the armed forces was calculated for the last two years on the cost prices of chemical fertilizers according to their barter ratios to rice, plus processing, transportation and other sub-charges. The Food Bureau has recommended that in calculating the rice price for the armed forces in 1953, consideration should be given to the cost prices of cloth, threshers (both items of government barter) and production loans used for barter. As of June 1953, this proposal had not been approved by the government.

The price of rice for armed forces for the second half of 1952 was NT\$ 1,909.69 per metric ton, computed as follows:

1) Formula for calculating price of rice for armed forces

Price of rice for armed forces = "cost price of brown rice" + processing expense + transportation expense + other sub-charges — income from by-products.

2) Formula for calculating "cost price of brown rice"

"Cost price of brown rice" = weighted average cost price of chemical fertilizers + weighted average barter ratio + conversion rate of paddy into brown rice.

Using data applicable to the second crop of 1952, the "cost price of brown rice" was NT\$ 1,168.21 + 0.847 + 77% = NT\$ 1,791.21 (per MT)^{1/}

Formula for Calculating Price of Rice for Armed Forces

"Cost price of brown rice"	1,791.21
Processing expense	14.17
Storage charge	1.43
Fire insurance	8.34
Transportation	34.14

^{1/} The average wholesale price of brown rice ex-warehouse in Taipei for 2nd half of 1952 was NT\$ 1,939.50

Railway station charges	1.30
Packing	25.50
Interest	2.29
Operation cost	18.78
Loss during storage and transportation	9.49
Others	9.53
	1,916.18
Income from by-products	— 6.49
Price of rice for armed forces	NT\$ 1,909.69 (per MT)

Payment for such rice is supposed to be made to the Food Bureau by the Provincial Department of Finance for the Central Government at the end of each month from the portion of revenue that goes to the Central Government. But the Central Government has so far refused to pay the price claimed by the Food Bureau, and has agreed only to pay that price used in calculating the funds required to cover the costs for military rice in the national budget, which is much lower than that requested by the Bureau. For instance, the rice price for the second half of 1952 according to the calculation of the Food Bureau should be NT\$ 1,909.69 per metric ton, while that provided in the national budget was only NT\$ 1,070 per metric ton, a figure based on the official purchasing price of paddy^{1/} for the second rice crop of 1951 and adopted without change as the price of rice for armed forces in the national budget ever since. There is no solution yet for this price problem, although suggestions have been made that the difference between these two prices be recovered by PFB from its profits gained from rice exports.

^{1/} The official price of paddy is approved by the Taiwan Provincial Provisional Congress upon recommendation by the Taiwan Provincial Government. It is applicable to compulsory purchases of paddy in satisfaction of land taxes in kind assessed on all landowners, as well as the special compulsory purchases enforced against the landowners of larger than medium sized land holdings. See Chapter VIII.

At present, each member of the armed personnel is being rationed daily 27 shih tael of brown rice (equivalent to 843.75 gm. or 29.76 oz). But those who prefer wheat flour, may exchange their rice for wheat flour at the ratio of 1 to 1 with the Central Trust of China through the Headquarters of Combined Services. From the standpoint of generally recognized caloric requirement, the existing daily rice ration for each member of the armed personnel is more than the amount of rice actually needed by a man of comparable physique and energy requirements. This "over-rationing" is maintained to offset in part the pitifully low pay of service men and in part the inadequate supplementary food ration ordinarily provided. It is customary for military units to sell some of their rice to provide money to buy other foods.

With regard to the ration of supplementary foods, each person in the armed forces is provided monthly with 1.87 kg. of soybean, 0.5 kg. of salted fish, 0.375 kg. of pork, 0.56 kg. of edible oil, and 0.5 kg. of table salt. These rations are all handled by the Headquarters of Combined Services, but with the exception of table salt which is rationed by the Food Bureau, the other necessities are procured by the Headquarters from various sources. The soybean is obtained from CUSA through US aid. Theoretically, the Headquarters or the Ministry of Finance should pay for the soybean and deposit the payment to a special counterpart account in the Bank of Taiwan. But such payments have not been made because no such funds are provided in the national budget. With respect to the rest, the Headquarters makes payments according to their wholesale market prices to government organizations or merchants.

The members of the immediate family of officers in the armed forces are also provided with rice, edible oil and table salt. No such provision is made for enlisted men. Each family member above 11 years of age receives every month 14 kg. of brown rice, 0.625 kg. of edible oil and 0.5 kg. of table salt, each of the age between 5 to 10 receives 10 kg. of brown rice, 0.312 kg. of edible oil and 0.25 kg. of table salt, and each of the age below 5 receives 5 kg. of brown rice, 0.312 kg. of edible oil and 0.25 kg. of table salt. These rations are also handled by the Headquarters of Combined Services.

The price of rice for family members of officers in the armed forces is calculated at the official purchasing price of paddy, plus processing, transportation and other sub-charges. The price was NT\$ 1.39 per kilogram of brown rice for the second half of 1952 and NT\$ 1.58 per kilogram for the first half of 1953. The Headquarters of Combined Services makes the payment to the Food Bureau once every two or three months.

b. Public Servants and Members of their Immediate Family

For public servants of all levels and members of their immediate family rice, edible oil and table salt are also rationed without charge by the government. The quantities of rice, edible oil and table salt rationed to each public servant and family member are respectively the same as those rationed to armed personnel and members of their family. The excessive amount of rice rationed to government employees is considered partial compensation for their low salaries.

For employees of the Central Government, the ration is handled by a Committee on Rationing Daily Necessities to Public Servants of the Central Government; for employees of the Provincial Government, prefectural governments and township offices, the ration is handled by corresponding organizations of the province, hsien, city and townships. The price of rice for these rations is also calculated at the official purchasing price of paddy, plus processing, transportation and other sub-charges. With the exception of rice rations to public servants of the township offices (for which advance payments are required by the Food Bureau), all rations to other public servants and members of their immediate family are paid respectively by the Committee on Rationing Daily Necessities to Public Servants of the Central Government, the Provincial Department of Finance, and hsien and city governments at the end of each month.

c. Poor People, Miners and Students

The term "poor people" refers commonly to those who are destitute. Laborers without regular income, the salt laborers and fishermen are also included in this category. These poor people are rationed each with 1.25 kg.

of brown rice every week, the price of which is the official purchasing price of paddy, plus processing, transportation and other sub-charges. This price is usually 30-40 per cent lower than the market price. In 1952, a total of 614,113 poor people, including 112,587 fishermen and 16,245 salt laborers, were rationed with government rice.

Miners are rationed each with 18 kg. of brown rice, while students who get full scholarship and half-scholarship from the government are each rationed respectively with 18 kg. and 9.6 kg. of brown rice every month. The price of rice is also the official purchasing price of paddy, plus processing, transportation and other sub-charges.

The rationing of rice to these people is made all on cash basis. Their applications for, and distribution of government rice are made through and handled by the local governments concerned, the local fishermen's and miners' associations, and schools respectively.

In addition to the people mentioned above, those who work in relief and training organizations as well as newspaper men and prisoners can also apply for government rice through appropriate channels. But because the amounts of rice rationed under these categories are insignificant, they are not described in detail.

2. Operation of Domestic Food Market

The rice rationing programs of the government reach nearly 20 per cent of the population, but privately operated food markets in almost every township in Taiwan are the main sources of food supply to the general populace. Food merchants are allowed freedom in the transaction, transportation and processing of food, provided they observe all the current food regulations and measures of the government. But no food exchange is allowed to be established at present, to prevent any possible domination of the food market through dealings in futures by food merchants.

a. Rice

Rice markets in Taiwan vary somewhat depending on whether they are located in rice-surplus areas (i.e. the cities of Changhua, Pingtung and

Chiayi and the townships of Taoyuan, Yuanlin, Tienchung, Toulu and Tounau or in rice-deficit areas (i. e. the cities of Taipei, Keelung, Tainan, Kaohsiung and Hwalien). As Taiwan farmers seldom sell their paddy directly to the rice markets, the food merchants in the rice-surplus areas usually go to the country and purchase paddy from farmers. Food merchants in the rice-deficit areas normally purchase rice from food merchants in the surplus areas, in addition to some direct purchase from local farmers. The price of rice is determined by negotiation among the leading food merchants, with reference to current supply and demand conditions and the market price of rice on the previous day. The farm price of paddy is affected principally by the farmers' intention to sell and the derived demand for paddy of food merchants. Usually, the market rice price in the province is affected greatly by the yield of the first rice crop in the Kaohsiung area in June and July, as the harvest of the first crop there is about one month earlier than in other areas. It is also affected by the yield of the intermediate rice crop in the Tainan area in September and October as well as the yield of second rice crop in Taichung area in November and December, as the former is the only area which grows the intermediate rice crop and the latter produces the largest percentage of rice in the second crop.

As rice mills are scattered in each city and township, and as a number of retail rice stores are also equipped with milling facilities, it is quite convenient for consumers to make their daily purchases or to mill their paddy or brown rice into polished rice for home consumption. The paddy is normally hulled into brown rice in the rice-surplus areas before shipment and the brown rice is milled mostly in urban areas for retail sale. The milling rate from brown to polished rice varies from 93% to 88%,^{1/} and most people prefer the highly milled rice. The margin between wholesale and retail prices of rice is generally about 3 per cent of the wholesale price. As the value of milled by-products (mainly rice bran) is usually greater than the milling expenses, the profit margin of rice merchants is therefore increased.

^{1/} The legal requirements of 93-94 per cent milling is not enforced.

b. Wheat and Wheat Flour

Technically speaking, the Provincial Food Bureau is in charge of the administration of all basic foodstuffs in the province including wheat and wheat flour. In practice, however, the flour market and flour price are now controlled to a great extent by the MSA/CUSA Subcommittee on Sundry Commodities, as a great majority of the flour supplies come from the MSA-financed imports. Nevertheless, the registration and control of flour mills and merchants are still the functions of the Food Bureau. The flour mills are also required to register with the Provincial Department of Reconstruction.

There are altogether 2 public and 24 private wheat flour mills on the island, the combined monthly production capacity of which is about 8,000 metric tons as of the end of June 1953. The largest is the Keelung Wheat Flour Manufacturing Mill of the Taiwan Agricultural and Forestry Development Corporation, which produces daily about 80-100 metric tons of wheat flour. The milling capacity of these mills is increasing and more new wheat flour mills are under construction.

The current total annual requirement of wheat flour in Taiwan is about 120,000—140,000 metric tons, of which 72,000—82,000 metric tons are for civilian consumption and 48,000-58,000 metric tons for the consumption of armed forces. The production of wheat in the province is insignificant when compared with its demand. Only 16,604 metric tons of wheat were produced in the crop year of 1952-53 and of this about 30 per cent was used as fodder. Hence, large imports of wheat or wheat flour must be made every year to meet the requirements.

The deficiency is met in larger part by MSA financed imports of wheat and wheat flour, while the government also allocates considerable amounts of its own foreign exchange for such imports. According to the statistics of the Inspectorate General of Customs in 1951 the MSA financed the importation of 21,913 metric tons of wheat and 33,939 metric tons of wheat flour, while private flour merchants imported 14,290 metric tons of wheat flour from the government allocated foreign exchange. In 1952, the MSA financed the importation of 32,173 metric tons of wheat flour the Corporation imported

6,532 metric tons of wheat and the Central Trust and private flour merchants imported 42,875 metric tons of wheat flour. In the first half of 1953, the MSA financed the importation of 17,531 metric tons of wheat flour and 33,956 metric tons of wheat, and the Central Trust and private flour merchants imported 15,938 metric tons of wheat flour.

The processing of MSA-financed wheat and the distribution of the wheat flour produced therefrom are handled by the MSA/CUSA Sub-Committee on Sundry Commodities through the Taiwan Agricultural and Forestry Development Corporation and private contracted flour mills. About 50 percent of the processed flour are allocated to local food merchants' guilds, grocers' guilds, bakers' guilds and noodle makers' guilds, while the remaining are sold by the contracted mills to flour dealers and direct consumers. Ceiling prices for wholesale and retail of this flour are set by the Sub-Committee for the whole Island, but direct consumers can hardly buy flour at the fixed price and the retail price in the market is usually about 10 percent higher than the ceiling price, as there has been excessive demand for flour over its supply in the domestic market.

The private wheat flour importers, who are all located in Taipei and Keelung (cities), are in most cases flour wholesalers. Their profit margin is about 10 per cent of the cost of imports, but it usually takes two months or more for them to perform all necessary import procedures and resale. Although no restriction is imposed on the price of their private flour, they cannot raise it much as the market is dominated by the MSA financed flour.

The consumption of wheat flour in the province has been increasing in recent years as a large number of wheat-eating people have come to Taiwan from Mainland China. The Taiwan-born Chinese are also beginning to consume more wheat flour since they have acquired some knowledge of the preparation of wheat flour for food from mainlanders.

B. Government-Controlled Food Export

Benefitting from the advantages of abundant rainfall, favorable weather, and availabilities of irrigation and imported fertilizers, Taiwan traditionally has produced more than enough rice for its domestic consumption. According

to data compiled by the former Japanese Government-General, in the period of 1931-44 the highest annual rice export from Taiwan was 721,539 metric tons, while the lowest was still 168,822 metric tons.

Owing to the adverse effect of war on agriculture, however, rice production on the island was sharply reduced in 1945 when the Chinese Government took over. During the period from January 1946 to October 1950, only small quantities of rice were exported annually to the Mainland to meet military requirements. Moreover, to meet the demand of an increasing population here following the military withdrawal from Hainan and Chushan Islands 51,300 metric tons of rice were imported from Hongkong and Thailand in March-May 1950. The export of rice to Japan and other countries was resumed on a small scale in the early part of 1951 after bumper harvests of the first and second rice crops in the previous year. As rice production on the island increased each year, the rice export was also increased. The following table shows the quantities of rice exported in the years since Taiwan's Restoration:

Table XVII. Rice Export from Taiwan 1946-1952

Unit: Brown rice/Metric ton

Food Year	Rice Export	Rice Import	Net Export
1946	2,128	150	1,978
1947	42,979	—	42,979
1948	32,143	—	32,143
1949	38,020	63,621	—25,601
1950	77,132	1,150	75,982
1951	69,934	—	69,934
1952	110,045	—	110,045

Note: Data are from the Provincial Food Bureau. Rice exports during 1946—1949 to the Mainland were for military consumption. Rice exports during 1950—1952 were to Japan, South Korea, Indonesia and the Ryukyus.

In 1952 the government budget was framed on the assumption that 160,000 metric tons of rice would be exported in the Food Year 1952. The actual rice production in 1952 (1,570,115 MT/brown rice) was about 30,000 metric tons short of the production goal (1,600,000 MT/brown rice), and the Food Bureau on its own initiative declared that the planned figure for rice export would be reduced to 130,000 metric tons. (This reduced figure never received formal approval from the Central or Provincial Governments.) As of the end of the Food Year 1952 (end of June 1953), only 110,045 MT of brown rice were exported. This is 69 per cent of the original planned figure or 85 per cent of PFB's reduced figure. (The factors responsible for the failure of rice exports to reach the budget goal are discussed in Chapter VII.) Nevertheless, the rice export in the Food Year 1952 did obtain for the government more than US\$20,000,000 in foreign exchange which contributed greatly to the economy of the island.

The prospect of rice export from Taiwan depends largely on (1) the potentials of increases in rice production through increasing intensity of cultivation and expansion of acreage; (2) population increase of the island as a factor affecting domestic requirement of and demand for rice; (3) the possibility of substitution of cheaper foods for rice and (4) the demand for and price of rice in the international market. It is generally agreed that the hope of increased production depends primarily on increased yields, since any significant expansion of acreage is not economically feasible. The total area under rice in 1952 was 785,730 hectares for two crops with an actual area of about 460,000 hectares of paddy field. Although it is not impossible to extend in time the area by another 50,000-60,000 hectares, this can be done only at high cost through development of extensive irrigation facilities. By the application of additional fertilizer, the improvement of farm practices and the introduction of better varieties, it appears possible that present yield (1998 kg. of brown rice per hectare for one crop) may be still further increased.

Recently, the government has set in its Four Year Production Program

1/ The highest rice yield per hectare for one crop during the Japanese occupation was 2,242kg. in 1938.

1,650,000 MT and 1,760,000 MT as the production goals of rice for the first two years beginning 1953. JCRR rice experts estimate that rice production in Taiwan can be possibly increased to 1,810,000 MT in 1955 and 1,850,000 MT in 1956. If no great innovation and improvement in farm practices and varieties occur, rice production in Taiwan will probably reach a maximum about 1956 or 1957. The possibility for further increase should not at this time be given optimistic consideration.

The growth of population in recent years has been very rapid due to the high natural rate of increase (net 3-3.5% per year) and the considerable number of immigrants. It seems unlikely that the current high natural rate of increase in population could be long maintained; nevertheless at least in the coming five to ten years, the population seems destined to increase at a higher rate than will rice production. Thus, population growth must be considered as a factor unfavorable to increasing rice exports in the future.

The aggregate effect of substitution of cheaper foods for rice, mainly wheat flour, corn, barley and sweet potato, is expected to be favorable for releasing rice for export market. Wheat, corn and barley are considered as good substitutes for rice both from economic and nutrition standpoints. Sweet potato is one of the most commonly used substitutes for rice, but it should not be substituted extensively for rice in human diet because of its low protein content and difficulties in handling and storage. It is advisable to persuade people to have more varieties of basic food in their daily diet. If the government would undertake an active program to (1) educate the people in the need for greater consumption of grains other than rice, and in the best techniques of preparation, (2) import wheat or wheat flour, corn and barley, and (3) provide price incentives to induce their consumption, undoubtedly there would be a significantly large substitution of cheaper foods for rice, thus releasing rice for export.

With respect to future prospects in the international rice market, it would be foolhardy to make firm forecast; yet there are reasons to believe that the demand for and price of rice both may follow a slightly downward trend over the next few years, despite continued population increases. In

most rice-consuming countries, governments are actively promoting more efficient rice production, and are encouraging the substitution of cheaper grain and other starchy foods for the high priced rice. However, in the near future there should be no serious effect on the export of Taiwan rice to Japan because: (1) the amount for such export is rather small as compared with the total rice import in Japan; (2) the Japanese usually favor Taiwan Ponlai rice and pay a premium price for it and there has been a close tie between Taiwan rice and Japanese market; (3) the proceeds are paid in barter credit instead of free dollars.

The export and import of rice are all handled by the Food Bureau with the Central Trust of China as its agent. Although there is surplus production of sweet potato and starch in Taiwan, their export is banned by the government at the grounds that they are vital raw materials for industrial production and could be used as substitutes of rice in time of emergency.

Taking all of the above-mentioned economic factors into consideration, it is felt that the possibility of increasing rice export from Taiwan in the coming few years is limited. There is presently enough rice in Taiwan even though the current rice consumption standard is rather high. Rice exports will be largely dependent on government policy. If the government should revise its food policy so as to induce people to consume more cereals and starchy foods other than rice, include some wheat flour or sweet potatoes (or corn or barley) in its ration programs, and stop the practice of stabilization sales, it seems possible that more rice may be available for export.

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