

According to a survey by the Bank of Japan, the retail price index based on July, 1937, stood at 152.9 in November, 1941, representing an increase of 1.5 per cent compared with December, 1940, in contrast with a 151.2 or an increase of 8.6 in December, 1940 compared with the corresponding month in 1939 at 139.4. The retail price index in November, 1940, however, was a gain of 65.8 per cent compared with the average index for 1936, preceding the outbreak of the China Affair. The average index for November, 1941 also represented a rise of 1.0 per cent of the whole-year average of 1940, a noticeable decline compared

with a gain of 16.2 per cent in 1940, 11.9 per cent in 1939 and 14.6 per cent in 1938.

Classified by articles, the retail price index of miscellaneous items in November, 1941 recorded a gain of 3.8 per cent compared with December, 1940, while personal effects increased by 2.8 per cent. Fuel and light rose by 0.7 per cent. It is noteworthy that foodstuffs, which gained by 18.1 per cent in 1940 recorded a reactionary fall of 1.4 per cent compared with 1940 during the first 11 months of 1941. Relative figures follow:

#### RETAIL PRICE INDICES IN 1938-41

(July 1937=100)

Terms	Total Average	Foodstuffs	Labor Class		Miscellaneous
			Light & Fuel	Personal Effects	
1938 Average	115.8	112.2	127.0	125.0	113.5
1939 Average	129.7	127.2	130.6	141.3	127.0
1940 Average	150.6	150.3	138.1	162.6	148.0
1941-January	150.5	146.0	143.8	160.3	152.6
June	153.2	146.5	144.8	168.7	156.6
November	152.9	145.5	144.8	167.9	157.8

(See also the "Price Trend in Japan" elsewhere in this chapter, where price indices based on December 1929 are given.)

The increasing rate of the living cost index in 1941 was far wider-margined than the gain of the retail prices. The living-cost index compiled by the Cabinet Bureau of Statistics continued to advance. The living-cost index of the labor class in July, 1941 registered a 2.6 per cent increase compared with December in the preceding year, while the living-cost index of the salaried class

gained by 2.5 per cent in the corresponding period. With July, 1941 as the peak, the living-cost indices started to tend downward, and yet the January-November average index for the labor class represented a gain of 2.5 per cent and that of the salaried class 2.3 per cent compared with the annual average of 1940.

#### LIVING-COST INDICES 1938-1941

(July 1937=100)

Terms	Salaried Class	Average	Food & Drinks	Labor Class		Miscellaneous Expenses
				Housing	Light & Fuel	
1938 Average	109.5	110.1	110.3	103.0	123.1	104.4
1939 Average	119.9	121.2	123.3	107.3	150.6	106.9
1940 Average	140.8	143.4	152.8	115.3	185.9	116.7
1941-January	142.6	144.8	150.2	118.1	195.1	120.1
June	144.8	147.8	154.0	119.5	201.5	120.8
November	144.4	144.4	150.8	120.0	208.5	120.6

#### 3. Capital Promotion in 1941

Cases of capital promotion during 1941 numbered 1,976 aggregating ¥5,365,863,000, according to a survey by the Bank

of Japan. The 1941 figures showed an increase of 240 or 14.0 per cent in number and ¥896,000,000 or 20.0 per cent in value as compared with the correspond-

ing figures in 1940, thus reflecting the smooth progress of the productivity expansion program under the wartime situation.

New establishments, increases of capital as well as flotations of debentures expanded without exception during 1941. Particularly, the increase was noteworthy with new establishments and debenture issues, the former gaining by 48.5 per cent and the latter rising by 31.6 per cent as compared with 1940. Fresh capital promoted during 1941 was divided into 24 per cent in the form of new

establishments, 44.5 per cent in the form of capital increases and 31.5 per cent in the form of debenture issues.

The monthly capital promotion during 1941 ranged between ¥200,000,000 and ¥500,000,000 with the exception of November when it reached the year's high of ¥1,189,000,000, representing 22.2 per cent of the total value of capital promoted during 1941. The November increase was principally due to the capital increases made during that month to the amount of ¥920,000,000 including ¥752,000,000 in power and gas industries.

#### CAPITAL PROMOTION DURING 1941

(Value in ¥1,000)

Items	1940		1941		1941 Increase over 1940	
	Number	Value	Number	Value	Number	Value
New Establishments	1,344	865,060	1,580	1,285,514	236	420,454
Capital Increase	339	2,316,933	293	2,385,399	*46	68,466
Debentures	53	1,287,500	103	1,694,950	50	407,450
Total	1,736	4,469,493	1,967	5,365,863	240	896,370

Note: The mark "\*" denotes decrease.

#### CAPITAL PROMOTION IN 1941 CLASSIFIED BY MONTH

(Value in ¥1,000)

Months	New Establishments	Capital Increase	Debenture Issues	Total
January	41,522	193,184	85,000	319,706
February	66,720	90,390	155,500	312,610
March	89,216	346,200	138,300	573,716
April	135,364	74,017	160,800	370,181
May	137,969	185,386	113,000	436,355
June	37,147	235,755	90,000	362,992
July	129,475	45,925	258,000	433,400
August	226,166	37,120	103,500	366,786
September	39,010	26,389	135,000	200,399
October	22,442	920,657	246,350	1,189,449
November	22,800	25,653	138,500	186,953
December	119,277	22,500	71,000	212,777
1941 Total	1,285,514	2,385,399	1,694,940	5,365,863
1940 Total	865,060	2,316,933	1,287,500	4,469,493
1939 Total	2,824,463	1,384,140	1,384,140	5,308,405

Wartime industries such as manufacturing industries as well as power and gas accounted for the large part of the capital promotion during 1941. Particularly noteworthy was the expansion of capital in metals and machinery. On the other hand, transportation and com-

munications were subjected to a drastic recession due principally to the difficulties attending the progress of shipbuilding activities because of the scarcity of supply of raw materials and labor. Details follow:



## 1941 CAPITAL PROMOTION CLASSIFIED BY INDUSTRY

(Value in ¥1,000)

Items	1940			1941			1941 comp. with 1940		
	No.	Value	% of Value in Total	No.	Value	% of Value in Total	No.	Value	% of Value in Total
Financing	13	77,611	1.7%	9	4,759	0.1%	- 4	- 72,852	-
Mining	76	379,686	8.5%	57	319,936	5.9%	- 19	- 59,750	-
Mfg. Industries	806	1,715,507	38.4%	860	2,247,882	41.9%	+ 54	+ 532,375	+ 30.5%
Metals	141	367,385	8.2%	111	918,171	17.1%	- 30	+ 550,786	+ 149.7%
Machinery	207	576,451	12.9%	228	604,688	11.2%	+ 21	+ 28,237	+ 4.9%
Chemical	139	593,011	13.3%	193	494,136	9.2%	+ 54	- 98,875	- 16.5%
Gas & Power	21	365,980	8.2%	31	1,141,409	21.3%	+ 10	+ 775,429	+ 212.0%
Agriculture, Forestry & Fishery	24	10,411	0.2%	34	53,125	1.0%	+ 10	+ 42,714	+ 409.7%
Transportation & Communications	152	1,007,812	22.5%	197	459,640	8.6%	+ 45	- 548,172	- 54.4%
Commerce	535	388,091	8.7%	653	590,704	11.0%	+ 118	+ 202,613	+ 52.2%
Miscellaneous	109	524,095	11.8%	135	548,408	10.2%	+ 26	+ 24,313	+ 4.6%
Total	1,736	4,469,493	100.0%	1,970	5,365,863	100.0%	+ 234	+ 896,370	+ 20.0%

Note: (+) indicates increase; (-) decrease.

## 4. Production and Distribution

**Production Situation and Production Increase Measures.** Due to the increasing strain in the international situation, particularly since the Anglo-American freezing of Japanese assets, Japan's dependence on third countries became extremely difficult. Under the circumstances, the construction of a high-tensioned defense State by the total mobilization of the nation's strength has become a matter of absolute necessity. In order to cope with the situation, the production increase of important materials and commodities has become increasingly imperative. Despite various handicaps due to the difficulty to obtain raw materials particularly through imports, the production increase in 1941 made a remarkable progress in wartime industries with special emphasis on the heavy industries.

In August, 1941, the Government drafted the materials mobilization plan for the second quarter of 1941, aimed at the speedy strengthening of armaments, stabilization of the self-sufficiency structure within the East Asia Co-Prosperity Sphere, maintenance of the production of iron and steel and coal, guaranteeing of the minimum supply of living necessities of the nation, and harmonization between the materials mobilization plan and the marine transportation plan. The 1941 productivity expansion plan which was drafted shortly after called

for drastic revision of the old production increase schemes by attaching priority to the self-sufficiency of important defense materials and the maintenance of the supply power in the materials mobilization plan. The plan also placed stress on the acceleration of the development of cardinal defense resources, the nationalization of important machinery and tools and the promotion of the transportation capacity.

Major ordinances which were either newly promulgated or revised as measures for strengthening production during 1941 included the revised Japan Iron Manufacturing Company Law, revised Machinery and Tools Production Control Law and the new Major Machinery Production Law in the heavy industries, the new Imperial Fuel Company Law, revised Artificial Oil Production Law, revised Imperial Fuel Industry Company Law and revised Japan Power Generation and Transmission Law in the fuel industry. In the agricultural department, the Sericultural Industry Control Law, Farmland Development Law, Lumber Control Law and Rice Emergency Treatment Law were revised during 1941. In order to cope with the new labor situation, the National Labor Registration Law was enacted. Important measures devised in the financial field include the revision of the Extraordinary Industrial Funds Adjustment Law, the special bank laws pertaining to the Industrial Bank of Japan, Agri-

cultural and Industrial Bank and Hokkaido Colonization Bank as well as the Postal Savings Law and the Mutual Credit Associations Law. In the second half of 1941, the Government approved a special appropriation totalling ¥122,000,000 from the National Treasury for the encouragement of the coal production increase.

The enactment of the Industrial Equipment Corporation Law aimed at utilizing idle and non-working industrial facilities, increase of the rice production increase encouragement subsidy, expansion of the issue limit of the Government Rice Note and increase of the subsidy for maintenance of the supply of fertilizers also were emergency measures taken by the Government in 1941 for increasing productivity.

**Agricultural Production and Foodstuff Measures** The domestic production of rice in 1941 by the second forecast was estimated at 55,462,000 koku, representing a decrease of 5,410,000 koku compared with the actual crop in the preceding year. The wheat and barley crop in 1941 totalled 23,921,000 koku, dropping by 2,908,000 koku compared with 1940. With the domestic production of rice and wheat coming far behind the 1941 production increase goal, the rice production and rice-stocks brought forward to 1942 in Chosen and Taiwan combined increased by 4,000,000 koku, respectively.

The cocoon production in 1941 totalled 68,203,000 kwan or a decrease of 22.1 per cent compared with the preceding year, an inevitable result of the suspension of raw silk exports.

With the object of guaranteeing the necessary supply of foodstuffs under the wartime situation, and thereby stabilizing the national living, the Government, in September, 1941, decided upon the emergency foodstuff measure consisting of three cardinal items, namely: consumption restrictions, maintenance of the supply of protein and fat and storage of foodstuffs for emergency use. The proposed measure also called for the increase of production in 1942 by 6,000,000 koku for wheat, 33,000,000 kwan for sweet potatoes and 20,450,000 kwan for vegetables.

The Farmland Development Law enacted by the Government in 1941 for the purpose of increasing agricultural production provided for the expansion of farmland areas and the grant of a special subsidy for those cultivating new farm-

land or improving the existing one.

The Government also enacted the Agricultural Production Control Ordinance, on the basis of the provisions of the National General Mobilization Law, for exercising control over labor, agricultural implements as well as livestock working on farmland necessary for carrying out agricultural production plans drafted by agricultural associations. Thus, by the expansion of the State control system for farm products and the enactment of the production control ordinance, the Government placed agricultural production in this country under complete State control.

**Distribution Control and Completion of Distribution System** In view of the increasing necessity for controlling consumption and distribution in order to adjust the supply and demand of commodities and increase in productivity, the Government greatly intensified control over distribution during 1941. For this purpose distribution control regulations were either newly enacted or revised for charcoal for gas generation, raw materials for export articles, paper, molasses, paper-mulberry, edgeworthia corymbosa, old five-gallon tin, glass waste, raw fish and shell-fish, medical articles, manganese, hardened oils, scrap iron, sulphur, wheat and barley, tanning materials, meat, miso, soy, bittern, bittern salt, bromine, etc. Remarkable progress made in the distribution control of daily necessities was particularly noteworthy in 1941. The ticket ration system was also adopted for wheat flour, beer, sake, cooking oil, etc., during 1941.

The Ministry of Agriculture and Forestry carried out a drastic reform of the Central Wholesale Market by abolishing all jobbers and introducing the registration system for the sale of fish and shell-fish. Thus, many measures were taken or studied for smoothing the distribution of daily necessities. The Government also attempted to organize all wholesalers and retailers throughout the country into wholesalers' or retailers' guilds. For this purpose, the Government, through the Ministry of Commerce and Industry, instructed the prefectural governors to draft suitable plans benefiting the peculiar conditions of different prefectures for organizing such guilds.

To cope with the increase of the unemployed which is likely to result from such a reorganization of retailers and wholesalers, the Government strengthen-



ed the functions of the National Vocational Guidance Office, the National Labor Training Camp, the National Welfare Bank, etc.

#### 5. Industrial Reorganization and Industrial Management

For the purpose of completing the wartime structure, all available materials, industrial funds, labor and equipments have been mobilized efficiently for the utmost attainment of the national totality power on the basis of various wartime plans drafted by the Government. This inevitably necessitated the execution of comprehensive and well-linked industrial plans centering round the reorganization of different industries. The situation consequently caused the advent of a new rationalization movement. To cope with the new requirements, different industrial control associations were established one after another on the basis of the leadership principle during 1941. Naturally, the adjustment and merger of industrial enterprises, reorganization of smaller and medium-sized enterprises and utilization of idle and non-working facilities became important problems.

**Establishment of Industrial Control Associations** Ever since the Government's decision on the economic new structure plan, the need of the establishment of industrial control associations had been eagerly urged in various circles. With the Major Industrial Organizations Ordinance legalizing the creation of industrial control associations promulgated on August 30, 1941, the sentiment for the creation of such industrial control associations became particularly active. According to the provisions of the ordinance, the proposed industrial control associations are required to engage in public undertakings as the pivot of wartime operations of planned economy. The activities of the industrial associations, as provided by the ordinance, included: participation in all Government plans affecting industrial production and distribution, control and guidance regarding production and distribution in industries concerned, adjustment and stabilization of the respective industries, promotion of efficiency and improvement of industrial facilities, etc. For this purpose, the proposed industrial associations are invested by the Government with certain extensive authorities on the basis of the so-called priority principle.

On October 30, the Government, through a Cabinet Ordinance, specified the industries to be affected by the Major Industrial Organizations Ordinance which include iron and steel, coal, motors, electric appliances, rolling stock, precision machines, automobiles, cement, mineral products, non-ferrous alloys, foreign trade and shipbuilding. On the basis of this ordinance, the Government ordered the creation of the industrial control association in the iron and steel industry on October 30, mineral products on November 20, electric appliances on November 29, cement on December 2 and motors on December 4.

**Industrial Adjustment and Merger of Smaller and Medium-sized Industries** To attain the highest efficiency of industrial facilities as well as raw materials and labor, the rational organization of industries became indispensable. This naturally lead to the adjustment and merger of various industrial enterprises, particularly in textile circles.

Parallel with the increasing importance of the construction of a high-tensioned defense State under the mounting strain of the international situation, the concentration of productive facilities, raw materials, labor and funds on important and highly-efficient industries grew more imperative, and stronger control came to be exercised over smaller and medium-sized industries. In connection with the reorganization of the smaller and medium-sized industries, the Ministry of Commerce and Industry on August 23, 1941, announced a special plan, and specified about 11,000 sub-contract factories on November 27.

**Utilization of Idle and Non-Working Facilities** As a measure to make the best use of idle and non-working industrial facilities, the Ministry of Commerce and Industry submitted to the 77th session of the Imperial Diet the Industrial Equipment Corporation Bill. The bill, which was approved at the session, provided for the creation of the Industrial Equipment Corporation, capitalized at ¥200,000,000, which engages in the purchase or sale of idle or non-working industrial facilities and also mediates for the utilization. It also authorized to issue Industrial Equipment debentures to the extent of five times the amount of paid-up capital.

#### 6. Supply-Demand of Labor

**Adjustment of Labor Supply and Demand** Due to the progress of the war-

time situation, the demand for labor became increasingly active. To cope with the situation, the Government enforced the National General Mobilization Law for properly adjusting the supply and demand of labor and adequately distributing labor.

On March 7, 1941, the Government promulgated the National Labor Registration Law in order to prevent the movement of labor through the distribution of "labor certificates" to 3,000,000 workers throughout the country. Thus, the optional movement of laborers from one factory to another in pursuit of higher wages became no longer possible.

In an attempt to further adjust the supply and demand of labor under the wartime situation, the Labor Adjustment Ordinance was promulgated on December 5, 1941, effective January 10, 1942. The Ordinance provided for the mobilization of the people behind the gun for munitions or productivity expansion industries or other wartime industries in order to stir up the progress of defense production.

**Strengthened Control Over Wages** The Ministry of Welfare decided on a special wage-scale plan on the basis of a reply submitted in response to the ministerial inquiry by the Central Wage Commission. The plan fixed the maximum and minimum wages of different classes of laborers and also provided for the elevation of wages of efficient workers within the limit of the maximum average hourly wages in order that the wage control might not interfere with the efficiency of laborers. The control over wages, coupled with the labor registration system, apparently served to completely check the unnecessary move-

ment of labor.

**National Universal Labor System** In view of the urgent necessity of stabilizing the universal labor system as a means for coping with the strain of the international situation, particularly for adjusting the supply-demand of labor and having it manifest the maximum efficiency, the Cabinet Planning Board and the Ministry of Welfare, after close investigation, decided upon a eight-point labor plan, namely: 1) enhancement of patriotic spirit of labor, 2) adjustment of distribution of labor, 3) acceleration of vocational shift-over, 4) expansion of labor registration system, 5) strengthening of labor control, 6) systematization of labor service, 7) replenishment of housing for labor class, 8) cooperation of civil bodies with the Government. Simultaneously, the President of the Cabinet Planning Board issued a statement stressing the absolute necessity of mobilizing every one of the members of the Japanese nation for patriotic labor services under the wartime situation.

On September 12, 1941, the National General Mobilization Council, on the basis of the provisions of Article 5 of the mobilization law, approved the National Patriotic Labor Ordinance, which was promulgated on November 22 and took effect as from December 1. By the provisions of the foregoing ordinance, men over 14 years and under 40 years and unmarried women over 14 years and under 25 years were legally required to cooperate with the Government in general mobilization activities. For this purpose, about 13,000,000 people of Japan, including males from 16 to 40 years and females from 16 to 25 years, were registered.

#### GENERAL EMPLOYMENT SITUATION

(May 1941)

Industries	a) Persons wanting workers	b) Persons wanting employment	c) Persons acquiring employment	a) against	c) against	c) against	c) against
				b)	b)	a)	a) in Jan., 1941
Agriculture	20,290	4,311	4,053	21.2%	94.0%	20.0%	32.2%
Fisheries	47,230	20,085	16,785	42.5%	83.6%	35.5%	10.2%
Mining	26,002	5,682	5,242	21.9%	92.3%	20.2%	18.7%
Industry	335,378	145,507	89,235	43.4%	61.3%	26.6%	25.4%
Commerce	24,469	12,673	4,991	51.8%	39.4%	20.4%	21.2%
Transportation	19,030	12,120	5,063	63.7%	41.8%	26.6%	24.1%
Free Labor	35,112	21,238	8,246	60.5%	38.8%	23.5%	41.4%
Household Assistance	8,039	4,664	2,132	58.0%	45.7%	26.5%	16.3%
Total	515,559	326,280	135,747	63.9%	60.0%	26.8%	24.2%

Note: Survey by Employment Journal (Shokugyo Jihō).



### 7. Foreign Trade and Exchange

**Trade Situation and Trade Policy** Japan's foreign trade, which had suffered considerable setback due to the strengthened ban on imports from Japan by the United States, the scarcity of bottoms and other trade obstacles, made a spasmodic improvement in the first half of 1941 because of the increase of exports of textile goods to the South-Seas regions as well as Near East. The complete suspension of the Siberian route, the one and only trade route left for Japan's exports to Europe following the outbreak of the German-Soviet War in the latter part of June and the freezing of Japanese assets by the United States, Britain, Canada and the Netherlands Indies on July 26, however, served to completely cut Japan from trade with the United States, the Philippines, the Netherlands Indies and Near East. Thus, Japan's foreign trade in the second half of 1941 was confined only to a few Central and South American countries such as Chile, Argentina and Peru, in addition to Thailand and French Indo-China. The importance of the South and Central American market also dwindled because of its geographical conditions and Anglo-American maneuvers. All those surrounding circumstances forced Japan's foreign trade to be swiftly reorganized within the Greater East Asia Co-Prosperity Sphere. At the same time, Japan's trade policy shifted its stress from the promotion of exports and the acquisition of foreign currencies to the balancing of the supply and demand of materials and commodities within the yen-bloc with the third-country trade as supplementary.

Important trade agreements concluded during 1941 included the Japan-French Indo-China Economic Agreement on May 6, the Japan-Soviet Agreement of Trade and Payment on June 11 and the Japan-Thailand 10,000,000-Baht Loan concluded on August 2. Particularly important was the Japan-French Indo-China Economic Agreement which was extremely extensive in scale, providing for the domicile, navigation, customs tariff and trade between the two contracting countries.

Despite great efforts on the part of Japan, the Japanese-Netherlands Indies negotiations ended in rupture in June, 1941. From then the anti-Japanese attitude of the Netherlands Indies became increasingly outspoken, culminating, on July 27, in the notification re-

garding the suspension of the Japan-Netherlands Indies monetary agreement, which had been in operation since the early part of 1941.

Under the circumstances, the interchange of materials and commodities among Japan, Manchoukuo, China, Thailand and French Indo-China became increasingly important. Particular stress was placed on trade among Japan, Manchoukuo and China, with annual plans drafted previously every year for those three countries. For four days starting October 7, 1941, the Japan-Manchoukuo-China Trade Liaison Conference was held at the Cabinet Planning Board to discuss the reorganization of the trade system, expansion of the list of commodities subjected to trade adjustment, adjustment of trade between the yen bloc and the third countries and adjustment of prices of articles exported to China from Japan.

The adjustment and merger of the small-scale and medium-sized trades continued in full swing since 1940, especially since the suspension of trade with third countries in the latter part of 1941. Close on the heels of the establishment of the Japan Trade Promotion Company and the Classified Commodities Purchasing Companies at the end of 1940, export promotion companies and import control companies, trade associations and federations of such associations, all trading with French Indo-China, Thailand, Burma, the Philippines, the Netherlands Indies, etc., organized the Southern Regions Trade Association on April 17. On July 12, the Government revised the South Seas Trade Adjustment Ordinance and authorized the foregoing association to serve as an exclusive export-import adjustment organ.

Parallel with the strengthening of Government compensations for losses resulting from the adjustment of exports, for the purpose, the Government on July 7, 1941, revised the Regulations for Enforcement of the Trade Control Ordinance and extended the limit of compensation from ¥20,000,000 to ¥70,000,000. It may be said that the State control structure of foreign trade was nearly consummated during 1941.

**Foreign Exchange** The increasing strains of the international situation, which served as a propelling force of the State control over foreign trade, also proved an important factor to stir up the State control over foreign exchange, inseparably related to foreign trade. The

revised Foreign Exchange Control Law approved at the 76th session of the Imperial Diet in the spring of 1941 indicated the first step toward the State control over the maintenance and utilization of Japanese property and assets overseas and the settlement of foreign accounts for smoothing economic operations with foreign countries. On June 1, 1941, the Government adopted a measure to concentrate sterling bills of exchange to the Yokohama Specie Bank for stabilizing sterling bill transactions and utilizing them on a planned basis. To compensate against losses caused thereby, the Government decided to appropriate ¥500,000,000. Effective July 1, 1941, the Government further extended the scope of application of the "concentration" system to all third-country bills totalling 21, exclusive of the Ruble and the Yen-linked currencies. Again on July 7, the Government extended the scope of application of the Europe-bound Exchange Bill Purchasing Licensing System to South and North America as well as the Philippines. Thus, all export bills with the exception of those bound for the Soviet Union and the Yen bloc were placed under State control.

Since the start of 1941, the Government made strenuous efforts to dispense with dependence on the U.S. Dollar in order to cope with the mounting strains of the international situation, particularly the aggravation of the American attitude toward Japan. For this purpose, efforts were directed toward the expansion of the exchange settlement system with the Yen-linked currencies as the pivot. The mutual liquidation agreement of the Yen and the Piastre concluded on the basis of the Japan-French Indo-China Economic Agreement on May 6, 1941, was the culmination of such efforts, and indicated the future policy of exchange settlement by Japan. The freezing of Japanese assets by Britain, the United States, Canada, and the Netherlands Indies in the latter part of July and the retaliatory application of the Foreigners' Transactions Control Regulations based on the Foreign Exchange Control Law and the consequent suspension of exchange relations with the countries linked with the Dollar and Sterling added a fresh impetus to Japan's efforts toward the stabilization of the exchange settlement structure within the East Asia Co-Prosperity Sphere.

With the Japan-Netherlands Indies

Monetary Agreement suspended by the freezing of Japanese assets by the Netherlands Indies, Japan, on August 2, 1941, concluded a contract with Thailand for a loan of 10,000,000 Bahts in order to avoid the possible effects of the freezing action.

On December 29, 1941, the Ministry of Finance fixed the exchange rates of the Yen against the foreign currencies, effective January 1, 1942, as follows:

Countries	Foreign Currencies	Yen Exchange Rate
Fr. Indo-China	100 Piastres	¥ 97.6
Thailand	100 Bahts	¥155.7
Germany	100 Marks	¥170.5
Italy	100 Liras	¥ 22.35
France	100 Francs	¥ 9.3
Switzerland	100 Francs	¥ 98.9
Sweden	100 Kronas	¥101.5
Portuguese	100 Escudos	¥ 17.3
Argentina	100 Pesos	¥101.8
Brazil	100 Milreis	¥ 21.8
Chile	100 Pesos	¥ 13.75
Peru	100 Sols	¥ 65.5

Meanwhile, the exchange rates of the Yen and Baht were brought to a par in April, 1942, by virtue of the Yen-Baht Parity Agreement concluded between Japan and Thailand.

### 8. Traffic and Transportation

**Strengthened Control Over Land Transportation** Since the outbreak of the China Affair, the volume of passenger and freight traffic has continued to sharply increase. This tendency became particularly conspicuous in 1941 due to the drop of the automotive transportation capacity because of the strengthened restrictions over gasoline consumption as well as the shift of marine transportation to land transportation because of the increasing shortage of bottoms.

In order to cope with the situation, the Government decided to strengthen control over transportation on the basis of well-planned diagrams. For the purpose, the National General Mobilization Council on September 12, 1941, deliberated upon and approved the revision of the Land Transportation Control Ordinance which had been enacted in February, 1940. The revision aimed at attaining four cardinal objectives, namely: 1) To strengthen control over transportation in order to attain efficient transportation through the adoption of the priority principle, 2) To utilize existing transportation facilities, 3) To adjust



and merge land transportation enterprises, and 4) To compensate losses caused by the transfer of enterprises or facilities. The revised ordinance, which affected private railways as well as bus and truck transportation enterprises, was promulgated and put into effect on November 20, 1941.

For the dual purpose of increasing the national revenue and absorbing the floating purchasing power, the Ministry of Railways projected a general increase of passenger fares in the latter part of 1941. This plan was approved by the Price Determination Council at the close of October and by the Freight Rates Council in November for enforcement in the early part of 1942.

**Increasing Stringency of Bottoms and Progress of Shipping Control** The demand for the construction of a high-tensioned defense State inevitably necessitated the communication with the continent while the progress of the European war caused the increasing stringency of bottoms in the world. In order to cope with the situation, the Central Shipping Control Association was created in November, 1941, as the executive organ of freight transportation plans. Thus, the wartime structure of Japan's shipping industry was consummated and the transportation efficiency was greatly improved.

Since the conclusion of the Italo-German-Japanese Tripartite Alliance, Britain and the United States and other anti-Axis countries resorted to various measures to check Japan's commerce and trade. As a result, ocean-going routes of Japan's merchant ships were completely suspended. On the other hand, the volume of transportation of important materials such as iron ore, coal, rice, etc., sharply increased, and an extreme scarcity of bottoms came to prevail in coastal waters. The proper change of the shipping routes of regular liners and tramp ships, adjustment of overlapped routes, mobilization of mechanized and sailing vessels, and other measures to utilize the existing facilities were adopted by the Government and the construction of new ships was greatly accelerated. Special types of ships were designed by the experts of the Ministry of Communications to increase the shipbuilding efficiency. On August 19, 1941,

the Government decided upon a special plan for State shipping control in order to stabilize the wartime structure of the national shipping industry as a means for speedily expanding the supply of bottoms. The plan called for the exclusive control of the State over shipping, members of the crew and shipbuilding so that the well-balanced mobilization of those three items might well cope with the wartime requirements. Thus, Japan's shipping control jumped the original autonomous control by the shipping industrialists to the exclusive State control through the medium of the semi-governmental control based on the control over the allotment of bottoms.

By virtue of the foregoing control plan, shipowners were to receive certain fixed charterages from a strongly-powered control organ to be established as a special juridical person in accordance with the provisions of Article 18 of the National General Mobilization Law while the shipping companies were to receive certain fixed commissions from that juridical person for their navigation operations which they execute by the consignment of the juridical person. As a result, the shipping industry as a profit-making enterprise for transporting the international commodities, stabilizing commercial rights and acquiring foreign currencies has come to lose its initial functions.

In order to take charge of the general supervision of shipping activities under the new control system, the Ministry of Communications created the Board of Maritime Affairs by elevating the status of the Shipping Control Bureau on December 19 with Vice-Admiral Kiyoshi Hara as first President.

**Unification of Traffic Facilities** In view of the absolute necessity of unifying the land, sea and air traffic policies in Japan, Manchoukuo and China as a means of stabilizing the East Asia Co-prosperity Sphere and constructing a high-tensioned defense State, a fundamental traffic policy was drafted and approved at a Cabinet meeting on February 14, 1941. For the same purpose, the portfolios of Communications and Railways were held concurrently by the same State Minister in the 2nd and 3rd Konoe Cabinet as well as in the Tojo Cabinet which succeeded the 3rd Konoe Cabinet.

## CHAPTER XI

### FOREIGN TRADE



# NOMURA GOMEI KAISHA

Osaka, Nippon

Capital Paid-up - - - - - Yen 20,000,000

**THE NOMURA BANK, LIMITED**

Capital . . . . . Yen 20,000,000 Reserve Funds . . . . . Yen 10,000,000

Head Office: Osaka, Nippon Branches: Osaka, Tokyo, Nagoya, etc.

**THE NOMURA SECURITIES CO., LIMITED**

Capital . . . . . Yen 10,000,000

Head Office: Osaka, Nippon Branches: Tokyo, Nagoya, Kyoto, etc.

**THE NOMURA TRUST COMPANY, LIMITED**

Capital . . . . . Yen 10,000,000

Head Office: Osaka, Nippon Branches: Tokyo, Nagoya, etc.

**NOMURA LIFE INSURANCE CO., LIMITED**

Capital . . . . . Yen 2,000,000

Head Office: Tokyo, Nippon Branches: Osaka, Kyoto, Nagoya, etc.

**NOMURA SHOKUSAN BOEKI KAISHA LTD.**

Capital . . . . . Yen 10,000,000 Head Office: Osaka, Nippon

Branches: Tokyo, Heijo, Tientsin, Singapore, New York, etc.

**N. V. Nomura Oost-Indische Cultuur Maatschappij**

(NOMURA EAST INDIES DEVELOPMENT CO., LTD.)

Capital . . . . . F 5,000,000 Head Office: Bandjermasin, Dutch Borneo

**NOMURA & COMPANY, (S. S.) LIMITED**

Capital Paid-up . . . . . S. \$1,000,000 Head Office: Singapore

**COMPANIA AGRICOLA NOMURA LIMITED**

Capital Paid-up . . . . . 2,000:000 Head Office: Estado Do Parana, Brazil

**THE CHOYA SHIRTS MFG. CO., LIMITED**

Capital Paid-up . . . . . Yen 500,000

Head Office: Osaka, Nippon Branches: Tokyo, Shanghai

**NOMURA SHOE COMPANY, LIMITED**

Capital Paid-up . . . . . Yen 1,000,000

Head Office: Tokyo, Nippon Branches: Osaka, Fongtien

**NOUVELLE CALEDONIE MINING CO., LIMITED**

Mines: French New Caledonia

Capital . . . . . Yen 5,000,000 Head Office: Tokyo

**NOMURA MINING COMPANY, LIMITED**

Mines: Hokkaido

Capital Paid-up . . . . . Yen 10,000,000 Head Office: Tokyo

**Nomura Securities Co., Limited of Manchoukuo**

Capital . . . . . Yen 1,000,000

Head Office: Fengtien Branches: Dairen, Hainking

**LA SOCIETE LE FUEL**

Capital . . . . . F. 5,000,000 Head Office & Mill: French New Caledonia

**NOMURA STEEL PRODUCTS CO., LIMITED**

Capital . . . . . Yen 2,500,000

Head Office: Tokyo Works: Ichikawa, Furubashi, (Chiba Pref.)

**NITTO SEIKO COMPANY, LIMITED**

Capital . . . . . Yen 1,500,000 Head Office: Osaka Works: Hiroshima

**MUKDEN METALLIC INDUSTRY CO., LTD.**

Capital . . . . . Yen 300,000 Head Office & Works: Mukden

## CHAPTER XI FOREIGN TRADE

Japan's foreign trade for the last 70 years can be divided into five periods, the first, before the Sino-Japanese War; the second, after the Sino-Japanese War to the outbreak of the Russo-Japanese War; the third, after the Russo-Japanese War to the outbreak of the World War; the fourth, the period following the World War and the fifth, the period after 1937. (For further historical explanations see the Japan Year Book, 1937, pp. 409, 410).

### Foreign Trade of Japan in 1939

**General Trend of Foreign Trade**  
Japan's foreign trade in 1939 increased greatly despite the many and various economic control measures taken by the Government. The total trade volume of the Japanese Empire, inclusive of the colonial trade with foreign countries, increased by 23.1 per cent over 1938 and amounted to ¥7,060,000,000, thus almost nearing the 1937 mark of ¥7,270,000,000, which is a remarkable advance after the depression of 1938.

Exports in 1939 aggregated ¥3,930,000,000, far exceeding the total of the preceding year and establishing a new record in the history of Japan's foreign trade, while imports gained by 10.2 per cent over 1938 to ¥3,127,000,000, thus almost nearing the 1937 level. The trade balance thus improved from an export excess of ¥60,000,000 in 1938 to one of ¥805,000,000. This striking improvement in the trade balance was certainly an abnormal phenomenon for Japan, where ordinarily an import excess is the rule, and where trade has been placed under various control measures since the outbreak of the China Affair, but it has to be reorganised that the success was largely attributable to a notable expansion of the Empire's exports to the yen bloc, which might be termed quasi-domestic trade.

The extent of this trade with the yen bloc is well testified to by the fact that the balance of Japan's trade with the bloc in 1939 recorded an export excess of ¥1,060,000,000 while the trade with third countries resulted in an import excess amounting to ¥406,000,000, though

trade with third countries did make a noteworthy advance, rising by 20.1 per cent in the case of exports and 6.5 per cent in that of imports; the import excess dwindled by ¥168,000,000. Since the outbreak of the China Affair, import control has been steadily strengthened, with the object of improving the balance of international accounts and facilitating imports of munition materials. Consequently, imports of non-urgent and non-necessary materials as well as raw materials for the manufacture of export articles have been strictly controlled, though the Government has made great efforts for a smooth distribution of supplies for the manufacture of export goods as a positive means of promoting exports and fostering import capacity, but restraints resulting from various control measures have been inevitable.

It should be noted, however, that the remarkable expansion of the trade volume of the Empire in the face of the various handicaps of wartime control certainly emphasizes the strength of Japan's national economy. As long as Japan has to depend on third countries for the supply of her principal raw materials, however, the export promotion policy should be emphasized from the standpoint of maintaining the balance of accounts in trade with third countries. The urgent necessity of developing Continental resources is also being keenly appreciated in this connection.

**Japan's Trade with the Yen Bloc and Third Countries**  
Japan's trade with the yen bloc, that is, with Manchoukuo, the Kwantung Leased Territory and China, in 1939, amounted to ¥1,747,000,000 in exports and ¥683,000,000 in imports, the former gaining by ¥581,000,000 and the latter by ¥119,000,000 over the 1938 figures. The export trade with Manchoukuo expanded parallel with the progress of resources development operations in that State and the resultant increase in the demand for productive and consumption materials. The progress of construction and pacification activities in China served to re-



markedly raise the demand in that territory for Japanese goods. The advance of Japan's imports from the yen bloc was a result of a steady increase in the arrivals of beans and bean-cake from Manchoukuo and raw cotton, wool and coal from China.

The trade with third countries in 1939 was divided into ¥1,829,000,000 in exports and ¥2,235,000,000 in imports, the increase over the preceding year amounting to ¥305,000,000 in the former and ¥136,000,000 in the latter. The import excess in trade with third countries declined from ¥575,000,000 in 1938 to ¥406,000,000 in 1939. This noteworthy expansion of Japan's exports to third countries was partly attributable to an increase in international purchasing power due to worldwide prosperity accompanying the progress of national-defense industrial operations in leading countries after the second half of 1938 and the return of a business boom in the United States, and partly to the sharp gain in export prices caused by a sudden and noticeable rise in the demand for materials in different countries after the outbreak of the European hostilities. Various export promotion measures adopted by the Government also played an important part.

Among major import articles, imports of wheat, wool, sugar and 'others' dwindled sharply on account of import restrictions. On the other hand, imports of raw materials for producing export articles, such as raw cotton, as well as materials needed for productivity expansion operations rose markedly.

**Changes in Organization of Trade**  
As long as import restrictions aim at facilitating imports of munition materials and commodities for emergency requirements within the country's limited importing capacity, it is quite natural that priority should be given to importations of these wartime materials. On the other hand, the stabilization of the domestic supply of raw materials for manufacturing export articles has become an important problem from the standpoint of accelerating and promoting exports as the basis of increasing import capacity. In this connection, the Government has endeavored to cope with the situation by adopting the link system, which deserves special mention for the part it has played in the remarkable results of the trade of 1939.

Japan's imports in 1939 increased in general, except in wholly manufactured articles. The increasing rate of imports of 'manufactures for further use in manufacturing' was the most remarkable. It is also noteworthy that imports of raw materials, which account for more than 48 per cent of the total import trade, rose by 9.1 per cent over 1938. Of those raw materials, imports of raw cotton, heavy oil, iron ore, etc., and hides and leathers, grouped under the list of 'manufactures for further use in manufacturing,' made notable gains. Machinery and tools, included among wholly manufactured goods, also rose conspicuously. This tendency clearly reflects the progress of the productivity expansion measure and the export promotion plan in operation. At the same time, the increase of imports of peas and beans in the foodstuffs group, and coal and oil-cake in the raw materials group, is noted to be indicative of the progress of the Continental resources development activities.

A general advance marked exports in 1939. The increasing rate was specially noteworthy with exports of raw materials and foodstuffs. The ¥40,000,000 gain in the exports of aquatic products and the ¥39,000,000 rise in tinned and bottled foodstuffs were largely attributable to the outbreak of the European War. On the other hand, wheat flour, which had gained in exports in 1938 over 1937, receded both in quantity and value because of the Government control over shipments to the yen bloc in 1939. The biggest gain in exports in the raw materials group was in lumber, due to the increase of shipments to the yen bloc. Exports of other raw materials, however, were generally depressed. Exports of partly manufactured goods rose both in volume and value, principally because of the increase in raw silk, cotton yarns and other fibrous materials. The remarkable expansion in raw silk exports reflects the business boom in the United States, and the phenomenal rise in raw silk export prices.

Exports of wholly manufactured goods, accounting for nearly 60 per cent of the total exports of the nation, recorded an advance amounting to nearly ¥370,000,000. Of these, papers, iron manufactures, machinery and tools, principally catering for the yen bloc, sharply advanced, the increase in these three items alone aggregating more

than ¥100,000,000 or nearly one-third of the total increase of the exports of wholly manufactured goods. Of fibrous industrial manufactures, artificial silk tissues increased most, exports gained both to the yen bloc and to third countries. Exports of cotton tissues slightly fell back as a result of the Government's control over shipments to the yen bloc, but the fact that they dropped by only ¥290,000 clearly shows that exports to third countries made a striking increase, this being attributable partly to various export promotion measures adopted by the Government, including the link system, though this served to reduce the unit export prices of yarns and grey tissues as cotton merchants hastened to make speedy sales in order to quickly get supplies of raw cotton under the link. The quantity of cotton tissues exported last year increased by as much as 200,000,000 square yards while the value made a slight decline; since the outbreak of hostilities in Europe, however, export prices have taken an upward turn again.

**Progress of Export Promotion Measures**  
Since the spring of 1939, the promotion of the export trade as a means of increasing imports of munition materials has become an important item of the wartime trade policy. Originally, export promotion measures were confined largely to a limited field of trade activities, such as for stabilizing the supply of raw materials for manufacturing export goods or for smooth trade financing. As the margin of commodity prices in Japan and in overseas markets steadily widened, however, it became difficult even to prevent the steady decline of exports through the stabilization of raw material supplies. Export promotion, then, came to be studied and discussed as a link in national economic policy, and the price policy has to be examined not only as a means of stabilizing the national living but also from the viewpoint of export trade promotion.

(1) Stabilization of Supply of Raw Materials for Manufacturing Export Goods:

(a) Commodity-classified link system:  
This system recognizes imports of raw materials against the exports concerned, mostly fibrous materials and certain miscellaneous goods. Great improvements have been made in the system since it was originally introduced, but various marked defects still exist

as, for instance and as mentioned above, in the case of cotton tissues linked with raw cotton.

(b) Special link system:

This link system, in operation since January 10, 1939, as a substitute for the composite link system, has been applied to 24 items, including beer. This system differs from the commodity-classified link system in that it permits the importation of raw materials necessary for manufacturing or finishing the certain export products concerned in advance of their actual exportations. The basis of the special link system is the value of the export products and import raw materials, whereas the commodity-classified link system is based on the quantity of manufactured products to be exported and raw materials to be imported. The term of obligatory exportation of the products manufactured from imported raw materials is fixed at from six months to one year. Because of various technical difficulties involved in the application of the special link system, the number of articles to which the system is now applied, namely, 24 items, is not likely to be increased.

(c) With the object of further facilitating and stabilizing the supply of raw materials for manufacturing export goods, the Government has given special consideration to raw materials technically difficult to subject to the link system. In this connection, companies specializing in the distribution of raw materials for manufacturing export articles have been established in eight principal cities, including Tokyo, their task being to accelerate the supply and distribution of raw materials to small-sized and medium-sized manufacturers. At present, 34 export articles are handled by these companies, which are control companies financed by public corporations to the extent of about 50 per cent. A steady expansion is predicted for them in the future.

(d) The foreign exchange fund was established by the Government under the charge of the Ministry of Commerce and Industry in July 1938, the object of the fund being to find the necessary finance for the purchase of raw materials to be used in the manufacture of export products. The conditions for getting loans from this fund were loosened on February 3, 1939, to enable small-sized and medium-sized industrialists specializing in the production of export articles to get easier access



to raw materials. As from that day, the interest rate on loans from the fund was reduced from 2.5 per cent to 2.0 per cent, and the loan term was extended from four months to six months.

#### (2) Trade Financing Operations:

Major trade financing measures adopted during 1939 were the revision of the system for compensating losses on export advances, the revision of the regulations for enforcing the Export Compensation Law, and the adoption of a system for compensating losses on advances to manufacturers of export goods. The system for compensating losses on export advance has been in operation since August 1938, and was revised to cope with the new developments of the trade situation on March 13, in 1939. The revision expanded the scope of those qualified for utilizing the fund.

#### (3) Adjustment of Exports to Yen Bloc:

In the second half of 1939, the Government decided to restrict exports to the yen bloc for the reason that sales to yen-bloc markets were little effective for acquiring foreign currencies. The Government had already taken various measures for restricting exports thence, but the restrictions were further strengthened parallel with the enactment of an ordinance fixing prices at the September 18 level, the Government enforcing an ordinance for adjusting exports to Manchoukuo, Kwantung and China as from September 25, 1939. Despite such governmental efforts, however, shipments of Japanese goods to yen-bloc markets steadily increased. In this connection, experts consider it necessary to strengthen restrictions over the consumption of Japanese products in the yen bloc parallel with the similar measures in operation in Japan.

**Major Trade Problems in 1939** Parallel with the increasing strains of the international political situation and strengthened trade control measures adopted by foreign countries, the adjustment of trade relations with foreign powers has become further necessary. Toward the end of March 1939, the Anglo-Indian Trade Agreement was concluded favorably toward the British side, at least in so far as cotton tissues were concerned. Because Japanese cotton fabrics compete with British cotton tissues on the Indian market, close attention is being paid to the progress of the third Anglo-Japanese com-

mercial negotiations now under way. The third Japanese-Australian Commercial Agreement was concluded on June 27, 1939. That agreement provided that Japan was to import two-thirds of her total annual imports of wool from Australia and to export to Australia cotton and artificial silk tissues to an amount not exceeding 51,250,000 square yards. The application of the intermediate tariff to Japanese cotton and artificial silk tissues imported by Australia was also provided for in the agreement. Following the outbreak of the European War, the Commonwealth Government of Australia promulgated a wool export control ordinance, but has agreed to license shipments of wool to Japan amounting to about 300,000 bales annually. In the early part of the second half of 1939, a Japanese-German Commercial Agreement was concluded to increase the dependency of the two contracting parties on each other for supplies of principal goods. This agreement, however, was nullified in fact as a result of the outbreak of the second European War.

On July 26, 1939, the United States Government suddenly notified the Japanese Government its intention to abrogate the American-Japanese Treaty of Commerce and Navigation, concluded in 1911. As the reason, the Washington Government stated that the trade relations between the two countries had undergone a substantial change since its conclusion and that the provisions of the treaty had come to require new consideration. The abrogation was given at a six-month notice. In those six months no positive step was taken by either of the two countries for concluding a new treaty to replace the old, and the treaty lapsed on January 25, 1940. In its notification, the United States Government stated that the abrogation of the treaty became necessary to allow it to cope with new developments and protect and promote American rights and interests. At the same time, it may be taken that the step was taken as a political gesture on the part of the Washington Government to the American public, for, in view of the extremely favorable balance to the U.S. of trade with Japan, it is quite plain that the abrogation hardly aimed at adjusting trade relations with Japan. Political developments in the United States as well as in the Far East will prove a deciding factor in future com-

mercial dealings between Japan and the United States.

**European War and Japan's Foreign Trade** In view of the fact that the phenomenal expansion of Japan's export trade at the time of the first World War came in the third year of hostilities and that the present European War, expected to be more or less prolonged, is still in its initial stage, it would be difficult to predict the possible extent of the influence of the present war on Japan's foreign trade. The time is not sufficiently ripe for the advent of a wartime trade boom in this country. The general trend of the export trade during the last five months of last year (the five months directly following the outbreak of the war), however, serves to give an inkling of the situation. In the last half of 1939, while shipments to the belligerents in Europe fell off sharply, a noteworthy increase was noted in exports to British India, the Dutch East Indies, Australia, the United States, Central and South America, etc., different factors accounted for the rise. For example, the increase in exports to the United States was largely attributable to the price advance of raw silk.

In this connection, close attention should be paid to the rise in unit export prices of major export items in the latter half of the year. In December, exports of raw silk totalled 3,569,100 kin or 25 per cent less in quantity than in the corresponding month of 1938, but amounted to ¥70,357,697 in value, or 75 per cent more than in the same month of the previous year. The unit export price rose 133.7 per cent in that one year. The rise in unit prices of the major export items in the last five months of 1939 is shown by Table B, and reflects the general upward tendency of prices in the international market. Figures in that table show that unit export prices of tinned or bottled foodstuffs at the end of 1939 rose by 79.4 per cent over a year ago, and those of raw silk jumped by as much as 133.7 per cent, those of cotton and rayon tissues, some of Japan's most important export items, also gained markedly. Thus, it is noted that the expansion of Japan's exports after the outbreak of the European War, principally to the non-belligerent countries, failed to make any noteworthy quantitative increase, but was mostly attributable to the gain in unit export prices.

### FOREIGN TRADE OF THE EMPIRE

(Unit: ¥1,000)

Year	Exports	Imports	Excess of Imports
1930	1,518,574	1,680,314	161,740
1931	1,179,212	1,319,406	140,193
1932	1,457,296	1,524,521	67,206
1933	1,932,069	2,017,504	85,435
1934	2,258,081	2,400,495	142,414
1935	2,603,152	2,617,910	14,758
1936	2,797,599	2,927,975	130,377
1937	3,318,820	3,954,726	635,905
1938	2,896,770	2,836,334 (Exp. exc.)	60,436
1939	3,932,926	3,127,460 (Exp. exc.)	805,466
1940	3,972,400	3,709,035 (Exp. exc.)	263,365

### YEARLY COMPARISON OF THE VALUE OF EXPORTS AND IMPORTS

Japan Proper and Karafuto

(In ¥1,000)

Year	Exports	Imports	Total	Excess of Imports over Exports
1900	204,429	287,261	491,691	82,831
1901	252,349	255,816	508,166	3,467
1902	258,303	271,731	530,034	13,428
1903	289,502	317,135	606,637	27,633
1904	319,260	371,360	690,621	52,099



Year	Exports	Imports	Total	Excess of Imports over Exports
1905	321,533	488,538	810,071	167,004
1906	423,754	418,784	842,539	4,970
				(Export exc.)
1907	432,412	494,467	926,880	62,054
1908	378,245	436,257	814,503	58,011
1909	413,112	394,198	807,311	18,913
				(Export exc.)
1910	458,428	464,233	922,662	5,804
1911	447,433	513,805	961,239	66,371
1912	526,981	618,992	1,145,974	92,010
1913	632,460	729,431	1,361,891	96,971
1914	591,101	595,735	1,186,837	4,634
1915	703,306	532,449	1,240,756	175,857
				(Export exc.)
1916	1,127,468	756,427	1,883,896	371,040
				(Export exc.)
1917	1,603,005	1,035,811	2,638,816	567,139
				(Export exc.)
1918	1,962,100	1,668,143	3,630,244	293,956
				(Export exc.)
1919	2,098,872	2,173,459	4,272,332	74,587
1920	1,948,394	2,336,174	4,284,569	387,780
1921	1,252,837	1,814,154	2,866,992	361,317
1922	1,637,451	1,890,308	3,527,760	252,856
1923	1,447,750	1,982,230	3,429,981	534,479
1924	1,807,034	2,453,402	4,260,437	646,367
1925	2,305,589	2,572,657	4,878,247	267,068
1926	2,004,727	2,377,484	4,422,212	332,756
1927	1,992,317	2,179,153	4,171,471	186,836
1928	1,971,955	2,196,314	4,168,270	224,359
1929	2,148,618	2,216,240	4,364,858	67,621
1930	1,469,852	1,546,070	3,015,923	76,218
1931	1,146,981	1,235,675	2,382,656	88,693
1932	1,409,992	1,431,461	2,841,453	21,469
1933	1,861,045	1,917,219	3,778,266	56,174
1934	2,171,924	2,282,601	4,454,526	110,677
1935	2,499,072	2,472,235	4,971,307	26,837
				(Export exc.)
1936	2,692,976	2,763,681	5,456,657	70,705
1937	3,175,418	3,783,177	6,958,595	607,759
1938	2,689,677	2,663,440	5,353,117	26,237
				(Export exc.)
1939	3,576,370	2,917,666	6,494,036	658,704
				(Export exc.)

RATE OF TRADE EXPANSION OF JAPAN PROPER AND  
KARAFUTO IN THE PAST 5 YEARS

	Export Amount in ¥1,000	Rate of Increase as compared with the Previous Year	Imports Amount in ¥1,000	Rate of Increase as Compared with the Previous Year	Excess of Imports(—)or Exports(+)
1935	2,499,073	15%	2,472,236	9%	(+) 26,837
1936	2,692,976	7.5	2,763,681	11.8	(—) 70,705
1937	3,175,418	17.9	3,783,177	36.9	(—) 607,759
1938	2,689,677	(—)15.3	2,663,440	(—)29.5	(+) 26,237
1939	3,576,370	32.2	2,917,666	9.5	(+) 658,704

RATIO OF EXPORTS CLASSIFIED BY CONTINENTS

Japan Proper and Karafuto

(In ¥1,000)

Continents	1938		1939		Ratio to Exports of 1938
	Value	Ratio to Total Exports	Value	Ratio to Total Exports	
Asia	1,664,625	61.8%	2,320,265	64.8%	139.3%
Europe	261,037	9.7	238,256	6.6	91.2
North America	440,404	16.3	658,730	18.4	149.5
Central America	29,415	1.0	43,657	1.2	148.4
South America	60,151	2.2	67,111	1.8	111.4
Africa	137,336	5.1	152,909	4.2	111.3
Oceania	96,610	3.5	95,443	2.6	98.7
Total	2,689,677	100.0	3,576,370	100.0	132.5

RATIO OF IMPORTS CLASSIFIED BY CONTINENTS

Japan Proper and Karafuto

(In ¥1,000)

Continents	1938		1939		Ratio to Imports of 1938
	Value	Ratio to Total Imports	Value	Ratio to Total Imports	
Asia	1,023,585	38.4%	1,181,001	40.4%	114.4
Europe	376,269	14.1	309,935	10.6	82.3
North America	1,006,565	37.7	1,128,415	38.6	112.1
Central America	7,314	0.2	3,481	0.1	47.5
South America	91,235	3.4	115,730	3.9	126.8
Africa	60,621	2.2	92,788	3.1	153.0
Oceania	97,850	3.6	86,317	2.9	88.1
Total	2,663,440	100.0	2,917,666	100.0	109.5

EXPORTS AND IMPORTS OF JAPAN PROPER AND KARAFUTO BY  
GROUPS OF COMMODITIES

(In ¥1,000)

Group Number	Merchandise of Exports	1937	1938	1939
I	Plants and animals	4,226	4,131	6,231
II	Grains, flours, starches & seeds	45,963	74,735	78,989
III	Beverages, comestibles & tobacco	203,159	226,842	360,983
IV	Skins, hairs, bones, horns, teeth, tusks, shells etc. & manufactures thereof	21,979	13,405	13,167
V	Oils, fats, waxes & manufactures thereof	75,391	52,330	88,264
VI	Drugs, chemicals, medicines compounds or preparations thereof & explosives	70,149	73,652	107,502
VII	Dyes, pigments, coatings & filling matters	20,531	21,315	37,060
VIII	Yarns, threads, twines, cordages & materials thereof	598,346	474,630	694,867
IX	Tissues & manufactures thereof	1,000,019	731,240	808,151
X	Clothing & accessories thereof	229,912	145,012	168,466
XI	Papers, pulp & paper manufactures	60,389	80,937	120,104
XII	Minerals & manufactures thereof	23,949	24,564	33,534
XIII	Potteries & glass	87,544	66,363	75,679
XIV	Ores & metals	125,422	121,004	139,031
XV	Metal manufactures	98,813	100,113	147,826
XVI	Clocks, watches, scientific instruments, firearms, vessels, vehicles & machinery	227,699	267,237	370,323



		1937	1938	1939
XVII	Miscellaneous articles	203,676	170,778	264,051
	Mail-matters	34,375	30,231	50,047
	Re-exported goods	43,877	11,157	12,097
Group				
Number	Merchandise of Imports	1937	1938	1939
I	Plants & animals	3,194	1,647	2,038
II	Grains, flours, starches & seeds	208,981	177,191	212,446
III	Beverages, comestibles & tobacco	85,115	50,768	50,647
IV	Skins, hairs, bones, horns, teeth, tusks, shells, etc. & manufactures thereof	69,734	39,827	47,869
V	Oils, fats, waxes & manufactures thereof	297,878	326,934	262,518
VI	Drugs, chemicals, medicines compounds or preparations thereof & explosives	251,841	181,768	170,578
VII	Dyes, pigments, coatings & filling matters	30,580	9,351	9,961
VIII	Yarns, threads, twines, cordages & materials thereof	1,208,359	571,657	592,307
IX	Tissues & manufactures thereof	17,341	5,632	2,564
X	Clothing & accessories thereof	1,515	319	175
XI	Pulp for paper making, papers, paper manufactures, books & pictures	14,259	48,364	60,249
XII	Minerals & manufactures thereof	126,020	121,137	162,027
XIII	Potteries, glass, & glass manufactures	4,739	4,240	3,633
XIV	Ores & metals	901,131	661,895	848,500
XV	Metal manufactures	12,019	8,430	5,175
XVI	Clocks, watches, scientific instruments, firearms, vehicles, vessels & machinery	243,292	313,362	288,212
XVII	Miscellaneous articles	160,904	123,595	178,524
	Mail-matters	11,274	5,885	7,195
	Hand-baggages of travellers	1,134	494	886
	Re-imported goods	6,857	11,047	12,326

QUANTITY AND VALUE OF EXPORTS AND IMPORTS IN 1939  
COMPARED WITH 1938

Japan Proper and Karafuto

EXPORTS

(Value in ¥1,000)

Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
Comestibles		300,214		431,958		131,744
(1) Crude		49,199		105,268		56,069
Rice & paddy	100 kin	138,599	335,504	5,825	196,905	3,560
Beans & peas	"	646,939	565,190	8,417	-81,749	1,445
Marine products	"	1,119,680	1,940,074	61,867	820,394	39,936
Others		18,031	29,159		11,128	
(2) Manufactured		251,015	326,690		76,675	
Wheat flour	100 kin	4,758,869	60,715	3,449,266	54,190	-1,309,603
Tea	"	280,002	12,063	391,166	23,461	111,164
Refined sugar	"	2,267,853	23,654	1,860,848	28,676	-407,005
Comestibles in tin and bottle	"	2,526,234	92,819	3,037,301	132,037	511,067
(Tin included)						
Others		61,764		88,326		26,562
Materials						
(1) Raw		105,185		183,382		78,197
Insecticide	100 kin	77,032	6,103	63,723	7,149	-13,309
Coal	Long ton	746,481	10,147	669,131	9,665	-77,350
Wood		46,887		128,157		81,270
Others		42,047		38,410		-3,638

Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
(2) Manufactured		672,232		948,882		276,650
Vegetable oil	100 kin	388,188	682,178	18,946	293,990	10,370
Raw silk	"	477,471	364,124	386,029	506,844	-91,442
Cotton yarns	"	315,795	39,355	626,249	71,094	310,454
Rayon yarns	"	166,606	17,888	277,760	29,349	111,154
Copper	"	113,456	8,636	142,651	10,122	29,195
Brass	"	18,741	1,812	11,822	1,089	-6,919
Others	"	231,849		311,438		79,593
Manufactured goods		1,569,597		1,939,305		369,708
Silk tissues	1,000 sq. yd.	90,652	49,357	59,666	47,395	-30,986
Rayon tissues	"	337,122	115,762	309,971	137,360	-27,151
Cotton tissues	"	2,518,081	404,240	2,445,538	403,948	264,728
Woollen tissues	"	28,071	46,845	26,001	51,821	-1,970
Knitted goods	1,000 doz.	14,379	40,818	13,796	40,237	-583
Hats, caps & bonnets	"	2,154	11,092	2,196	14,326	42
Buttons	1,000 gross	23,260	9,730	27,902	11,700	4,642
Paper	100 kin	2,483,851	52,127	3,171,316	77,945	687,465
Cement	"	8,190,634	6,411	11,642,755	11,548	3,452,221
Potteries		40,477		48,624		8,147
Glass & manufactures		25,886		27,055		1,169
Iron manufactures		52,231		76,256		24,025
Gum tire	100 kin	78,902	7,799	107,984	9,545	29,082
Machines		156,475		209,340		52,865
Toys		24,991		22,019		-2,972
Others		525,361		750,186		224,825
Miscellaneous articles		31,292		60,718		29,426
Total of Japanese produce & manufactures		2,678,520		3,564,245		885,725
Re-exported articles		11,157		12,096		939
Grand total of exports		2,689,677		3,576,341		886,664

IMPORTS

Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
Foodstuffs		199,246		230,729		31,483
(1) Crude produce		157,444		183,782		26,338
Rice & paddy	100 kin	378,275	2,808	729,441	6,288	351,166
Wheat	"	1,104,416	9,557	539,116	4,091	-565,300
Beans & peas	"	13,884,618	102,076	13,727,013	123,576	-157,605
Others		43,003		49,827		6,824
(2) Products		41,802		46,947		5,145
Sugar	100 kin	639,858	5,241	13,690	140	-626,168
Fresh beef	"	120,211	4,414	107,227	4,163	-12,984
Others		32,147		42,644		10,497
Materials		1,295,659		1,414,089		118,430
Oil yielding materials	100 kin	3,167,080	28,790	2,672,233	31,998	-404,847
Crude rubber	"	784,372	51,374	717,202	57,491	-67,170
Sulphate of ammonium	"	4,930,390	31,710	1,372,313	8,240	-3,558,077
Phosphorite	"	9,402,824	19,281	13,049,847	25,410	3,647,023
Oil cake	"	11,264,409	60,112	15,508,103	103,957	4,243,694
Raw cotton	"	9,378,454	436,835	10,093,418	462,008	714,964
Hemp & other						
Wool	"	881,889	94,426	801,688	72,590	-80,201
vegetable fiber	"	1,261,597	27,306	1,411,347	38,209	149,750



Articles	1938		1939		Increase or Decrease	
	Quantity	Value	Quantity	Value	Quantity	Value
Coal	Long ton 3,682,531	67,217	3,794,710	78,361	112,179	11,144
Wood		28,178		32,325		4,147
Wheat bran	100 kin 2,115,583	8,932	1,752,476	8,412	-363,107	-520
Others		441,498		495,088		53,590
Manufactures for materials		702,009		859,903		157,894
Hides & skins	100 kin 489,384	27,826	507,469	30,574	18,085	2,748
Synthetic-color	" 4,216	2,838	5,751	3,445	1,535	607
Pulp	" 2,386,181	41,059	2,834,434	56,538	448,753	15,479
Others		630,286		769,346		139,060
Wholly manufactured articles		447,904		390,655		-57,249
Printing paper	100 kin 55,266	718	263	8	-55,003	-710
Machines		236,354		249,870		13,516
Others		210,832		140,777		-70,055
Miscellaneous articles		7,473		9,993		2,520
Total of foreign produce & manufactures		2,652,291		2,905,369		253,078
Re-imported articles		11,046		12,325		1,279
Grand total of imports		2,663,337		2,917,694		254,357

Note:—Figures may slightly differ from those in other tables, because this table is compiled by the Finance Ministry, while figures in other tables are based on the report of the Trade Bureau, Ministry of Commerce and Industry.  
(100 kin=One picul)

#### VALUE OF CHIEF COMMODITIES EXPORTED TO VARIOUS COUNTRIES

##### Japan Proper and Karafuto

(In ¥1,000)

	1937	1938	1939		1937	1938	1939
Raw silk	407,118	864,124	506,845	U.S.A.	22,139	2,407	10,162
U.S.A.	325,225	297,882	437,611	Chile	7,951	4,289	8,772
Great Britain	31,430	26,175	36,920	Aden	8,891	6,285	8,550
France	26,111	24,631	16,180	Anglo-Egyptian			
Australia	8,132	6,461	9,381	Sudan	12,108	10,162	7,505
Switzerland	433	177	1,375	Burma	—	6,313	6,991
British India	8,460	1,520	581	Philippine Is.	12,057	1,963	5,955
Italy	269	351	214	Egypt	10,509	3,346	5,811
Cotton tissues	573,065	404,240	403,946	Straits			
Yen Bloc	96,470	79,308	20,672	Settlements	12,231	5,053	5,451
China	11,296	23,911	10,908	Venezuela	5,401	2,694	4,554
Kwantung L.T.	29,426	17,388	5,216	Honduras	2,222	1,344	3,603
Manchoukuo	55,748	35,009	4,548	Ceylon	2,641	3,621	3,578
Third Countries	476,595	324,932	383,274	Sweden	3,286	2,717	3,537
British India	63,041	67,876	62,364	Dominica	4,050	1,865	3,251
Dutch E. Indies	85,704	39,485	53,156	Argentina	29,196	13,130	3,177
Iran	2,231	4,160	17,574	Germany	4,048	3,115	3,012
Kenya Uganda & Tanganyika	23,003	15,882	16,686	Mozambique	3,919	2,784	3,003
Iraq	10,875	9,796	15,487	Arabia	3,273	3,863	2,981
Australia	13,528	15,070	15,118	New Zealand	3,044	2,493	2,721
French Morocco	10,821	13,788	14,799	Ecuador	1,901	504	2,523
Thailand	16,089	14,905	14,163	Uruguay	4,833	2,028	2,160
Syria	10,614	9,840	11,784	Palestine	2,690	3,045	1,881
Union of South Africa	10,214	7,124	10,646	Porto Rico	1,929	102	1,814
Hongkong	9,346	4,587	10,527	Belgium & Luxemburg	2,269	917	1,799
				Peru	1,347	1,331	1,741

	1937	1938	1939		1937	1938	1939
Norway	1,567	1,149	1,545	Kwantung L.T.	11,903	11,529	11,384
Panama	1,243	968	1,490	China	3,823	9,508	3,936
Costa Rica	1,896	1,380	1,251	Third Countries	30,556	14,156	18,095
Great Britain	4,776	2,677	1,147	British India	9,884	3,460	2,512
Machines and accessories	109,881	156,475	209,206	Egypt	4,671	1,458	2,084
Yen Bloc	85,570	142,116	201,894	Cement	6,836	6,411	11,549
Kwantung L.T.	46,584	75,807	101,015	Yen Bloc	437	2,440	8,031
Manchoukuo	14,835	30,384	63,896	Kwantung L.T.	286	904	3,341
China	24,152	35,925	36,982	Manchoukuo	13	625	2,757
Third countries	24,311	14,359	7,312	China	128	911	1,923
British India	6,443	5,794	3,305	Third Countries	6,399	3,971	3,528
Dutch E. Indies	2,113	1,038	889	Dutch E. Indies	1,046	1,150	1,044
Philippine Is	1,073	817	373	Straits Settlements	877	352	528
Brazil	436	270	270	Kenya, Uganda & Tanganyika	277	149	150
Rayon tissues	154,860	115,762	137,359	Philippine Is.	102	658	146
Yen Bloc	19,519	44,155	52,002	Potteries & porcelains	53,971	40,477	48,624
Kwantung L.T.	15,612	20,243	25,304	Yen Bloc	5,721	10,916	17,687
Manchoukuo	2,574	17,029	22,954	Manchoukuo	2,222	3,821	6,516
China	1,334	6,883	3,745	Kwantung L.T.	2,353	4,643	5,597
Third Countries	135,341	71,607	81,356	China	1,146	2,453	5,574
British India	32,466	11,627	19,581	Third Countries	48,251	29,560	30,936
Australia	16,667	17,303	18,375	U.S.A.	19,460	8,696	11,115
Dutch E. Indies	11,490	7,202	9,411	Dutch E. Indies	3,109	2,714	2,992
Union of South Africa	7,168	3,475	4,255	British India	2,240	2,580	2,553
New Zealand	4,821	3,318	3,487	Australia	2,599	2,915	2,264
Straits Settlements	3,632	2,207	2,690	Union of South Africa	1,259	1,009	1,318
Hongkong	7,673	2,150	2,598	Canada	1,038	1,235	1,230
U.S.A.	1,515	624	1,621	Brazil	1,036	576	916
Thailand	3,522	1,569	1,392	Philippine Is.	1,431	628	620
Canada	997	911	807	Great Britain	1,171	888	613
Philippine Is.	5,500	2,096	694	Straits Settlements	1,174	307	516
Uruguay	3,653	1,217	684	Holland	542	607	514
Kenya, Uganda & Tanganyika	1,295	543	672	Cotton yarns	54,906	39,355	71,090
Mozambique	1,360	510	647	Yen Bloc	10,782	4,226	10,671
Great Britain	1,537	1,034	586	Manchoukuo	8,334	3,232	6,671
France	205	98	169	Kwantung L.T.	1,423	368	3,999
Germany	398	153	165	China	1,025	626	1
Holland	248	180	107	Third Countries	44,124	35,129	60,419
Aquatic products	21,916	21,931	81,935	British India	19,846	20,502	28,959
Yen Bloc	11,398	16,760	50,806	Dutch E. Indies	13,790	7,419	14,094
Kwantung L.T.	7,402	9,230	26,294	Hong Kong	3,625	716	5,010
China	3,418	6,552	19,260	Philippine Is.	1,761	1,134	1,247
Manchoukuo	578	978	5,332	Thailand	543	269	790
Third Countries	10,518	5,171	11,023	Australia	235	372	410
U.S.A.	3,972	3,370	9,025	Iron manufactures	54,116	52,231	76,253
Hawaii	802	710	764	Yen Bloc	20,545	39,556	61,915
Philippine Is.	697	314	193	Kwantung L.T.	12,590	22,786	32,027
Hong Kong	2,016	134	177	Manchoukuo	5,288	10,413	19,135
Wheat flour	30,746	60,715	54,228	China	2,668	6,357	10,753
Yen Bloc	29,478	60,712	54,227	Third Countries	33,571	12,675	14,337
Kwantung L.T.	11,869	21,901	24,510	Dutch E. Indies	7,774	2,857	4,976
Manchoukuo	2,590	15,748	23,293	British India	6,221	2,728	3,585
China	15,249	23,063	6,424	Philippine Is.	2,262	651	457
Third Countries	1,268	3	1	Thailand	1,534	561	451
Woolen tissues	50,082	46,845	51,821	Straits Settlements	2,027	279	390
Yen Bloc	19,526	32,688	33,720				
Manchoukuo	3,800	11,651	18,406				



	1937	1938	1939		1937	1938	1939
Union of South Africa	845	364	376	Kwantung L.T.	2,839	4,049	4,914
Kenya, Uganda & Tanganyika	877	190	196	China	68	655	2,012
Australia	493	337	195	Third Countries	68,986	43,154	34,114
Mozambique	516	388	160	Great Britain	9,518	9,023	7,541
Hong Kong	657	105	158	U.S.A.	11,531	8,282	7,413
Papers	38,708	52,127	77,946	British India	13,838	7,896	5,416
Yen Bloc	26,685	44,400	69,815	France	1,673	1,515	2,716
China	6,940	16,149	27,663	Egypt	3,158	1,772	1,704
Kwantung L.T.	13,814	19,393	26,024	Australia	2,664	1,023	1,457
Manchoukuo	5,931	8,857	16,128	Germany	1,464	1,449	1,078
Third Countries	12,023	7,727	8,131	Union of South Africa	3,531	1,454	1,069
U.S.A.	1,773	1,497	1,797	Straits Settlements	4,597	1,122	656
British India	1,613	1,123	1,333	Dutch E. Indies	1,148	627	383
Dutch E. Indies	1,830	808	1,241	New Zealand	410	400	364
Australia	1,176	787	861	Holland	390	369	328
Thailand	921	572	547	Belgium	349	360	314
Hong Kong	1,777	718	535	Hong Kong	701	330	258
Great Britain	802	541	454	Argentina	1,882	620	207
Germany	372	529	294	Canada	222	174	188
Philippine Is.	404	328	208	Knitted goods	60,713	40,818	40,237
Straits Settlements	564	101	125	Yen Bloc	5,588	6,339	5,209
Timber	35,412	46,887	128,647	Manchoukuo	3,363	3,441	3,469
Yen Bloc	10,609	33,306	114,951	Kwantung L.T.	2,018	2,332	1,563
Kwantung L.T.	6,122	15,168	45,699	China	207	566	177
China	2,951	13,839	42,935	Third Countries	55,124	34,479	35,027
Manchoukuo	1,536	4,299	26,317	Dutch E. Indies	7,602	6,086	6,349
Third Countries	24,803	13,580	13,696	Philippine Is.	5,015	4,024	3,732
Great Britain	11,141	4,962	4,728	Union of South Africa	3,180	2,579	3,172
British India	1,533	1,242	1,382	Great Britain	5,967	3,203	2,748
Dutch E. Indies	1,687	1,636	949	U.S.A.	6,849	1,462	2,001
Holland	660	418	639	British India	4,560	2,366	1,732
Union of South Africa	1,169	534	462	Mozambique	1,083	969	1,030
Australia	383	355	254	Kenya, Uganda & Tanganyika	1,026	713	912
U.S.A.	622	159	230	Straits Settlements	1,401	695	627
Hong Kong	472	44	113	Egypt	1,030	272	178
Belgium	781	333	111	Australia	140	175	144
Straits Settlements	626	206	104	Hong Kong	426	82	118
Comestibles in tin and bottle	86,905	92,819	132,009	Rayon yarns	44,803	17,888	29,348
Yen Bloc	5,959	19,573	37,597	Yen Bloc	5,956	8,159	4,901
Kwantung L.T.	3,902	7,228	14,962	China	4,629	7,487	4,370
China	854	9,865	11,755	Kwantung L.T.	1,328	672	531
Manchoukuo	1,202	2,480	10,880	Third Countries	38,847	9,729	24,447
Third Countries	80,946	73,246	94,412	British India	23,154	4,550	14,163
Great Britain	29,122	30,832	40,991	Mexico	6,018	1,150	2,069
U.S.A.	21,940	12,212	31,991	Australia	518	550	1,201
Belgium	3,903	2,337	3,080	Refined sugar	18,577	23,654	28,677
Australia	2,489	2,464	2,534	Yen Bloc	17,783	23,650	28,677
France	2,722	1,675	1,732	China	8,298	7,309	15,446
Holland	1,635	1,072	1,661	Kwantung L.T.	7,770	13,081	9,371
Hawaii	1,755	1,747	1,643	Manchoukuo	1,715	3,259	3,860
Germany	673	495	338	Third Countries	794	4	—
Hong Kong	173	169	124	Glass & mfrs.	33,572	25,886	27,055
Silk tissues	72,286	49,352	47,397	Yen Bloc	3,711	5,470	7,822
Yen Bloc	3,300	6,198	13,283	China	1,161	2,015	2,935
Manchoukuo	393	1,494	6,356	Manchoukuo	1,370	1,820	2,518
				Kwantung L.T.	1,180	1,635	2,369

	1937	1938	1939		1937	1938	1939
Third Countries	29,861	20,416	19,233	Canada	666	383	390
British India	7,215	5,492	4,991	Australia	565	345	291
Dutch E. Indies	3,436	2,967	2,473	Straits Settlements	597	57	113
U.S.A.	4,543	1,857	2,471	Soap	5,531	7,837	17,413
Australia	1,412	1,367	880	Yen Bloc	3,727	7,302	16,989
Philippine Is.	1,991	1,130	732	Manchoukuo	2,141	3,713	7,924
Union of South Africa	1,070	663	687	China	432	1,500	5,169
Great Britain	890	963	445	Kwantung L.T.	1,154	2,090	3,896
Straits Settlements	1,337	260	412	Third Countries	1,804	535	424
Thailand	763	279	373	Straits Settlements	317	96	122
Mozambique	287	208	252	Vegetable oils	23,662	8,572	17,254
French Indo-China	234	120	147	Yen Bloc	543	936	278
New Zealand	446	462	112	Kwantung L.T.	310	431	278
Canea, Uganda & Tanganyika	258	129	102	China	159	411	—
Tea	23,181	12,063	23,463	Manchoukuo	74	94	—
Yen Bloc	478	1,356	2,716	Third Countries	23,119	7,636	16,976
Kwantung L.T.	313	489	2,716	U.S.A.	18,956	5,638	9,679
Manchoukuo	143	391	—	Germany	966	376	670
China	22	476	—	Great Britain	639	219	610
Third Countries	22,703	10,707	20,747	Hats and caps	26,337	11,092	14,327
U.S.A.	7,750	4,316	7,742	Yen Bloc	3,730	2,593	5,466
Canada	1,226	641	1,375	Manchoukuo	1,192	973	2,785
British India	862	599	322	Kwantung L.T.	655	820	1,350
Hawaii	62	74	101	China	1,884	801	1,331
Toys	42,295	24,991	22,020	Third Countries	22,607	8,498	8,860
Yen Bloc	1,200	1,322	1,784	U.S.A.	8,479	3,081	4,421
Manchoukuo	436	671	872	British India	1,736	536	643
Kwantung L.T.	426	351	464	Dutch E. Indies	693	397	419
China	339	270	449	Union of South Africa	768	401	396
Third Countries	41,095	23,668	20,236	Great Britain	1,603	429	345
U.S.A.	16,521	6,093	7,068	Australia	311	221	217
Great Britain	7,036	5,504	2,979	Mozambique	263	142	143
Australia	2,276	2,187	1,738	Clothing and accessories	15,535	10,167	11,707
British India	2,787	1,715	1,402	Yen Bloc	641	698	1,151
Canada	1,669	1,202	897	Manchoukuo	212	254	660
Dutch E. Indies	1,132	500	804	China	106	121	482
Holland	844	879	755	Kwantung L.T.	321	323	—
Union of South Africa	1,067	638	600	Third Countries	14,894	9,469	10,556
Brazil	378	331	432	U.S.A.	3,132	1,369	3,369
Philippine Is.	567	314	320	British India	4,048	3,515	2,566
Straits Settlements	631	135	214	Great Britain	827	762	529
Belgium	440	289	204	Australia	558	460	490
Egypt	366	178	182	Buttons	13,737	9,730	11,701
Argentina	562	406	104	Yen Bloc	864	1,107	1,503
New Zealand	551	434	103	China	318	380	801
Lamps & accessories	21,950	14,748	17,745	Manchoukuo	393	507	525
Yen Bloc	3,028	5,753	8,596	Kwantung L.T.	153	220	178
Kwantung L.T.	1,916	2,949	4,018	Third Countries	12,873	8,622	10,197
China	520	1,613	2,546	Great Britain	3,047	1,837	1,930
Manchoukuo	592	1,191	2,032	Holland	710	522	936
Third Countries	18,922	8,995	9,149	British India	1,432	808	826
U.S.A.	4,238	1,737	3,167	U.S.A.	575	343	739
Dutch E. Indies	1,801	811	1,028	Australia	669	516	723
British India	1,584	718	864	Dutch E. Indies	653	482	514
Great Britain	2,895	1,453	662	Argentina	620	506	469
				Belgium	680	445	413
				Germany	353	457	350



## FOREIGN TRADE

	1937	1938	1939		1937	1938	1939
Canada	116	133	189	Yen Bloc	1,275	3,568	3,716
Brazil	271	96	118	Manchoukuo	821	2,547	2,731
Cotton towels	8,935	6,961	9,835	Kwantung L.T.	235	957	930
Yen Bloc	709	894	667	China	219	64	58
Kwantung L.T.	321	357	687	Third Countries	6,817	2,753	4,012
Manchoukuo	344	442	—	Thailand	951	502	745
China	44	95	—	Dutch E. Indies	356	270	273
Third Countries	8,226	6,067	9,168	Philippine Is.	251	95	158
Union of South Africa	872	985	1,273	Canea, Uganda & Tanganyika	391	163	135
Australia	904	861	957	British India	1,610	40	126
Thailand	311	409	469	Insecticide	7,693	6,103	7,149
Dutch E. Indies	593	288	362	U.S.A.	6,879	5,275	6,247
Straits Settlements	387	100	152	Great Britain	57	80	189
Hong Kong	221	40	100	Camphor	4,774	3,723	5,868
Coal	9,927	10,147	9,665	U.S.A.	1,490	1,040	1,989
Yen Bloc	363	2,610	5,417	British India	1,447	1,405	1,923
China	290	2,514	5,417	France	269	252	244
Manchoukuo	72	96	0	Great Britain	116	45	223
Third Countries	9,564	7,537	4,248	Australia	154	135	157
Hong-Kong	3,564	3,216	2,013	Rice & paddy	2,306	2,265	5,826
Straits Settlements	3,388	1,948	1,690	Yen Bloc	601	936	1,764
French Indo-China	80	235	250	Kwantung L.T.	282	453	1,764
Rubber tyres	12,983	7,799	9,562	China	156	285	—
Yen Bloc	6,632	5,427	5,648	Manchoukuo	163	198	—
Kwantung L.T.	3,449	2,853	2,649	Third Countries	1,705	1,329	4,062
Manchoukuo	1,052	1,323	2,021	Canada	694	736	617
China	2,132	1,251	978	Hawaii	797	368	423
Third Countries	6,351	2,372	3,913	U.S.A.	89	102	205
British India	1,099	767	1,172	Fish and whale oils	15,414	7,027	5,802
Dutch E. Indies	1,503	403	489	Yen Bloc	844	663	479
Beer	5,886	10,019	8,602	China	248	43	314
Yen Bloc	3,232	8,204	6,608	Kwantung L.T.	562	578	165
China	944	6,034	5,148	Manchoukuo	34	42	—
Kwantung L.T.	1,980	1,646	1,096	Third Countries	14,570	6,364	5,323
Manchoukuo	308	525	384	U.S.A.	1,456	1,886	2,998
Third Countries	2,454	1,815	1,994	Great Britain	1,531	1,116	771
British India	753	639	787	Germany	6,314	1,857	272
Hawaii	397	380	320	Australia	254	141	139
Dutch E. Indies	126	62	119	Plaits for hat making	7,876	5,901	5,660
Beans	9,330	6,972	8,419	U.S.A.	4,780	3,640	3,743
Germany	1,700	1,808	3,150	France	643	679	335
Great Britain	4,739	2,706	2,797	Great Britain	526	402	135
Isinglass	6,761	6,201	8,144	Belgium	95	96	119
Yen Bloc	420	645	1,278	Menthol	6,116	4,381	5,313
Kwantung L.T.	216	264	626	U.S.A.	3,276	2,688	2,650
China	145	185	485	British India	656	387	981
Manchoukuo	59	196	167	Great Britain	161	218	351
Third Countries	6,341	5,556	6,866	Germany	479	289	235
U.S.A.	1,236	1,152	1,536	France	544	373	152
Great Britain	898	574	1,297	Canada	95	65	105
Germany	1,060	1,201	1,123	Brushes	6,916	4,078	5,167
France	875	601	628	Yen Bloc	499	813	1,410
Australia	188	295	444	China	119	200	723
Dutch E. Indies	533	285	417	Manchoukuo	232	412	687
Straits Settlements	286	104	130	Kwantung L.T.	148	201	—
Cotton Blankets	8,092	6,321	7,731	Third Countries	6,418	3,265	3,757
				U.S.A.	2,715	830	1,028
				Great Britain	731	497	347

## CHIEF COMMODITIES IMPORTED

	1937	1938	1939		1937	1938	1939
Holland	243	207	281	Umbrellas	3,714	1,463	1,675
Dutch E. Indies	244	228	277	Yen Bloc	168	247	415
British India	327	192	274	Manchoukuo	51	102	260
Matches	2,103	3,304	4,616	Kwantung L.T.	95	129	126
Yen Bloc	432	2,691	3,065	China	22	16	29
China	9	2,053	2,484	Third Countries	3,546	1,216	1,260
Kwantung L.T.	423	638	630	Union of South Africa	233	131	192
Third Countries	1,671	613	1,551	Waste cotton and silk	6,238	2,897	1,132
Hong Kong	574	64	186	Italy	1,567	735	116
Silk handkerchief	5,638	2,738	2,940	Yellow copper	5,899	1,812	1,089
British India	834	359	744	Yen Bloc	2,343	1,652	749
U.S.A.	1,704	667	664	Kwantung L.T.	666	1,222	439
Great Britain	899	569	403	China	1,513	83	159
Canada	148	101	143	Manchoukuo	164	346	150
Peppermint oil	2,975	2,168	2,584	Third Countries	3,556	160	340
Germany	1,133	981	963	British India	1,365	142	302
Great Britain	297	131	713				
France	876	808	461				

## VALUE OF CHIEF COMMODITIES IMPORTED FROM VARIOUS COUNTRIES

Japan Proper and Karafuto							
(In ¥1,000)							
	1937	1938	1939		1937	1938	1939
Cotton & ginned cotton	851,163	436,835	462,007	Union of South Africa	82,763	4,266	1,599
Yen Bloc	23,648	71,792	46,810	Argentina	17,713	5,946	686
China	23,610	71,790	46,809	Great Britain	1,073	677	618
Manchoukuo	38	2	1	India rubber & gutta percha	99,218	51,374	57,490
Third Countries	827,515	365,043	415,197	Straits Settlements	41,566	25,184	18,999
U.S.A.	306,388	166,414	146,640	Dutch E. Indies	2,775	12,080	16,178
British India	363,635	113,331	120,997	French Indo-China	8,371	1,364	405
Egypt	58,759	27,529	37,093	Pulp for rayon	116,720	42,132	56,537
Kenya, Uganda & Tanganyika	21,529	5,218	19,144	U.S.A.	49,181	15,111	18,767
Dutch E. Indies	1,173	452	359	Norway	17,072	5,400	9,387
Beans	92,547	102,176	123,976	Finland	9,497	3,339	5,776
Yen Bloc	88,777	101,744	122,956	Sweden	26,993	6,276	4,191
Manchoukuo	84,708	98,641	119,829	Canada	12,619	5,046	2,034
China	3,635	2,184	2,515	Hemp, jute & Manila hemp	40,985	27,306	38,266
Kwantung L.T.	435	918	612	Yen Bloc	6,400	8,703	20,502
Third Countries	3,770	432	620	Manchoukuo	1,273	5,587	11,363
Dutch E. Indies	220	53	116	China	5,127	3,116	9,139
British India	3,234	72	105	Third Countries	34,594	18,602	17,764
Coal	59,224	67,217	78,364	Philippine Is.	23,224	11,887	10,550
Yen Bloc	46,297	55,059	64,963	British India	8,344	3,768	5,766
China	16,279	26,877	48,553	Dutch E. Indies	1,279	399	264
Manchoukuo	29,958	27,951	16,393	Lumber	64,817	28,178	32,326
Kwantung L.T.	60	231	16	Yen Bloc	1,486	1,590	1,381
Third Countries	12,927	12,159	13,400	Manchoukuo	660	1,294	783
French Indo-China	12,832	12,108	13,306	China	826	289	598
Wool	298,407	94,426	72,590	Kwantung L.T.	1	8	—
Yen Bloc	908	5,809	12,802	Third Countries	63,331	26,588	30,944
China	382	3,327	11,163	Philippine Is.	11,260	6,695	10,366
Manchoukuo	527	2,478	1,639	U.S.A.	30,077	9,770	9,448
Third Countries	297,498	88,617	59,788	Canada	11,517	3,803	5,171
Australia	118,196	64,882	51,428				
New Zealand	42,822	8,272	4,351				



	1937	1938	1939
British Borneo	3,197	1,980	2,159
Dutch E. Indies	2,477	2,282	1,793
Thailand	3,102	1,236	1,083
Seeds for oil making	43,612	28,790	31,982
Yen Bloc	33,306	24,065	27,832
Manchoukuo	19,206	17,069	25,469
China	14,093	6,963	2,249
Kwantung L.T.	7	33	113
Third Countries	10,506	4,725	4,150
British India	2,459	161	1,256
Dutch E. Indies	5,062	2,208	1,208
Hides & skins	44,571	27,826	30,573
Yen Bloc	11,307	4,672	13,497
China	10,070	3,083	13,249
Manchoukuo	1,039	1,564	240
Third Countries	33,265	23,154	17,077
U.S.A.	9,396	10,954	8,668
Australia	5,023	1,265	2,316
Argentina	5,871	6,883	1,877
France	835	378	349
Phosphorite	30,810	19,281	25,412
U.S.A.	7,760	4,725	7,370
Egypt	10,022	5,879	5,966
Straits Settlements	4,186	4,148	3,965
Oil cakes	45,310	60,112	104,639
Yen Bloc	42,675	59,958	104,639
Manchoukuo	29,662	49,946	83,686
Kwantung L.T.	6,870	8,056	15,359
China	6,143	1,957	5,594
Third Countries	2,635	154	0
Wheat bran	10,653	8,932	8,412
Yen Bloc	10,653	8,932	8,412
China	4,038	2,033	4,204
Manchoukuo	6,004	6,678	4,046
Kwantung L.T.	610	221	162
Sulphate of ammonium, crude	20,191	31,710	8,240
Yen Bloc	9,272	13,139	8,122
Kwantung L.T.	7,315	12,298	7,438
Manchoukuo	1,957	841	684
Third Countries	10,919	18,571	118
Great Britain	171	—	118
Rice & paddy	4,033	2,808	6,286
Yen Bloc	0	—	2,974
China	0	—	2,974
Third Countries	4,033	2,808	3,312
Thailand	3,757	2,800	3,189
British India	68	2	124
Meats	6,878	4,414	4,162
Yen Bloc	4,738	2,428	3,225
China	3,958	1,654	2,889
Manchoukuo	379	472	216
Kwantung L.T.	400	303	120
Third Countries	2,140	1,985	937
Wheat	29,604	9,557	4,090
Yen Bloc	2,139	2,633	2,603
China	178	442	2,601
Manchoukuo	1,961	2,191	2
Third Countries	27,465	6,924	1,487

	1937	1938	1939
Australia	15,623	4,008	230
Synthetic colors	16,928	2,838	3,507
Germany	12,313	1,711	1,872
Sweden	2,227	477	694
U.S.A.	1,932	355	538
France	418	261	353
Nitrate of soda, crude	3,630	2,558	2,865
Chile	3,032	2,272	2,554
U.S.A.	438	18	310
Caustic soda, soda ash and natural soda	6,534	1,973	2,246
Yen Bloc	186	210	673
China	177	0	486
Manchoukuo	9	210	187
Third Countries	6,348	1,763	1,573
Electric motors & transformers	1,841	2,766	2,184
U.S.A.	980	1,869	1,764
Germany	694	715	253
Sweden	125	59	106
Leather	7,520	1,875	1,695
U.S.A.	1,061	175	142
British India	3,436	1,088	136
Watches & parts	5,645	2,893	562
Switzerland	4,319	2,448	517
Sugar	18,806	5,241	140
Dutch E. Indies	17,724	5,189	132
Fats	1,949	431	117
Australia	1,147	301	117
Woollen tissues	9,292	2,724	63
Italy	12	26	44
Great Britain	8,971	2,613	3
Cotton tissues	793	236	48
Yen Bloc	2	0	44
China	2	0	44
Third Countries	791	236	4
Great Britain	624	177	3
Printing paper	9,171	718	8
Germany	282	87	4
Canada	6,658	360	—
Norway	657	173	—

#### Important Foreign Trade Countries

Great Britain Early in the Meiji Era Great Britain, China, the United States and France were the most important countries for Japan's export trade. In the import trade Great Britain, China, France and the United States were the principal countries, in that order. With a rapid gain in the export of raw silk in 1879, the importance of export countries was changed to the United States, China, France and Great Britain. As a result of the development of the so-called new order in East Asia in recent years, the largest buyers of Japanese goods in 1939 came to be the United

States, Manchoukuo, China, British India, Netherlands East Indies and Great Britain in the order named. A change came over the precedence in import countries in 1893 and British India became the largest exporting country to Japan, being followed by Great Britain, the United States and China in that order. This was due to the rapid growth of the Japanese spinning industry, for which Indian cotton was needed. But in 1939 British India became the fourth, biggest sellers being the United States, Manchoukuo, China, British India, Germany and Canada in the order named. Great Britain occupies the 16th place. When British India is included, however, she stands next to the U.S.A. both in buying Japanese commodities and in selling her goods to Japan among third Powers.

The U.S.A. America's economic condition and her financial and tariff policy have a direct bearing on Japan's export trade and domestic economy, for Japan's trade with the United States is far in excess of that with any other country. The close Japan-American trade relations trace back to the visit of Commodore Matthew Perry to Japan in the 6th year of Kaéi, 1853. In the early stage the trade volume was less than that of Great Britain and France, but in 1879 Japan's exports to that country gained to more than ¥10,000,000, and America became Japan's largest customer, a position she has since retained. In 1904 Japan's exports to America reached the ¥100,000,000 mark; in 1915 they amounted to ¥204,000,000, in 1919 to ¥828,000,000, and the record amount was ¥1,006,000,000 in 1925. In the following year the amount went off to ¥860,000,000, but this, as compared with the exports of ¥4,000,000 in 1874, was an increase by 215 times and was 40 per cent of Japan's total trade volume. Raw silk, silk textiles, refined tea, straw-braid, fancy mats and porcelain have been the principal exports from the very beginning. Imports from America increased in consonance with exports. In 1874 the value of imports was just over ¥1,000,000, but by 1905 this had advanced to ¥100,000,000, and in 1920 the amount set an all-time record of ¥873,000,000. The 1926 figure of ¥680,000,000 was 680 times the 1874 trade volume and was 26 per cent of Japan's total import value of that year. Imports from America consist of raw cotton, kerosene oil, wheat, machin-

ery and iron. The most unique feature of the Japan-American trade in the past 68 years was that the trade balance was mostly in favor of Japan up to 1931. But a change came in 1932 and since that year the trade relations have shown a continuous unfavorable balance to Japan. In 1939 the total volume of Japan-American trade comprised 25.3 per cent of the total of Japan's foreign trade in that year.

China It is only natural that Japan, with its close proximity to China, should look to that country with its population of 400,000,000 persons and rich in natural resources as a market for its products and manufactures as well as for supplies of materials for its industries. The friction between this uncontrollable demand of Japan and the growing racial consciousness of the Chinese, however, brought about various political differences, and finally led to the Sino-Japanese War of 1894, the Manchurian Incident of 1931 and the Shanghai Affair of 1932. Boycotts of Japanese goods have been frequent.

Notwithstanding these political obstacles, the trade between the two countries steadily progressed and in 1925 the trade total reached the record amount of ¥701,000,000 including ¥486,000,000 in exports and ¥215,000,000 in imports, as viewed from the Japanese side. China thus became the second largest market for Japanese goods, the development of China as an important market for Japanese goods, as achieved by that time, may be illustrated by the following table:

#### CHINA'S SHARE IN JAPAN'S FOREIGN TRADE

	Proportion of Exports to China to Total Exports	Proportion of Imports from China to Total Imports
1894	8.0	9.9
1908	16.0	11.7
1912	21.8	8.9
1916	17.1	14.4
1921	22.9	11.9
1926	20.6	10.1

A strong anti-Japanese sentiment began to sweep China about this time and trade began to fall off until it reached its climax after the northern expedition of the Nationalist armies in 1930. An illustration of these changes may be obtained from the following table:—



	Exports to China	Imports from China
	(In yen)	
1926	421,861,000	239,410,000
1927	334,183,000	226,034,000
1928	373,141,000	234,556,000
1929	346,852,000	209,975,000
1930	260,825,000	161,666,000
1931	143,876,000	103,749,000

Even in 1930 when the northern expedition ended in success for the Nanking Government and the movement of the Chinese for their racial resuscitation was at its zenith, Asia still held an important position as a market for Japan's principal manufactures, chiefly cotton goods, consuming 42.6 per cent of Japan's total exports of this kind. In this consumption, China and the Kwantung Leased Territory and Hong Kong shared 24.7 per cent. Furthermore, almost all the remainder consumed in other parts of Asia was handled by Chinese traders.

The Manchurian Incident, 1931, enabled Japan to get the lion's share in the foreign trade of Manchoukuo, about 71 per cent in the imports of the new State during 1935 and 51 per cent in the exports during the same year, but on the other hand, combined with the Shanghai Affair, it intensified the anti-Japanese movement in China. Increases

in China's tariffs on Japanese goods were also effected in rapid succession, thus dealing a great blow to Japan's trade with China and at the same time furnishing a chance for the United States, Great Britain and Germany to recover their commercial influence of former years in that country. But the trade relation is improving, since 1936 with the increase of Japanese influence in that country as a consequence of the China Affair. In 1939 it regained a normal status, indicating a rapid progress of the new order in East Asia.

TRADE WITH CHINA AFTER THE  
MANCHURIAN INCIDENT  
(In ¥1,000)

	Export	Import	Balance
1932	129,478	77,175	52,303
1933	108,253	113,357	5,104*
1934	117,062	119,573	2,511*
1935	148,788	138,817	14,971
1936	159,690	154,837	4,853
1937	179,251	143,636	35,615
1938	312,900	164,611	148,289
1939	455,479	215,662	239,817

Note: The figures with asterisk under the heading of "Balance" denote excess of import while others denote excess of export.

For details see the chapter on China.

AMOUNT OF EXPORTS TO VARIOUS COUNTRIES

(In ¥1,000)

	1935	1936	1937	1938	1939
Yen Bloc	575,102	657,715	791,259	1,156,540	1,747,103
Kwantung L.T.	300,269	347,165	395,916	536,317	755,943
Manchoukuo	126,045	150,859	216,092	316,322	535,681
China	148,788	159,691	179,251	312,900	455,479
Third Countries			2,384,159	1,524,137	1,829,267
U.S.A.	535,515	594,251	639,428	425,123	641,509
British India	275,637	259,108	299,367	188,040	210,995
Dutch East Indies	143,041	129,495	200,051	104,045	137,802
Great Britain	119,458	147,309	168,297	134,988	132,085
Australia	74,793	68,783	72,080	69,388	72,101
Union of South Africa	32,769	41,534	53,749	35,291	46,802
Hong Kong	49,731	58,445	49,650	16,754	30,578
Thailand	40,258	43,028	49,382	39,269	26,024
France	42,467	43,475	47,208	36,814	25,934
Germany	26,766	35,054	43,261	33,015	24,991
Philippine Islands	48,058	51,840	60,348	32,599	24,744
Iraq	22,073	19,019	23,644	17,052	24,344
Kenya, Uganda and Tanganyika	25,083	30,602	40,122	22,504	22,874
Burma	—	—	—	16,302	21,555
French Morocco	18,813	20,512	18,283	18,727	20,593
Straits Settlements	48,536	59,770	67,433	20,696	20,426

	1935	1936	1937	1938	1939
Iran	—	—	2,630	4,632	19,324
Canada	7,977	14,553	20,036	15,244	17,202
Syria	12,559	13,078	19,250	12,539	15,987
Egypt	53,800	40,907	32,772	13,997	15,666
Brazil	5,925	8,840	17,305	10,388	15,609
Ceylon	11,887	13,840	18,656	14,620	14,544
Chile	6,647	7,426	10,742	6,129	14,010
New Zealand	11,304	16,740	19,358	14,808	12,277
Holland	—	—	18,440	11,474	11,706
Mozambique	10,752	10,860	16,055	9,830	10,665
Belgium and Luxemburg	15,393	16,230	20,650	10,151	10,476
Aden	13,208	13,851	14,177	8,534	10,002
Sweden	6,784	8,821	11,545	8,277	9,314
Anglo-Egyptian Sudan	13,034	11,915	15,811	11,895	8,923
Hawaii	7,242	9,299	11,155	9,774	8,627
Belgian Congo	1,720	7,649	16,474	6,927	8,593
Argentina	28,603	22,712	42,481	19,607	8,152
Panama	6,150	9,546	10,248	6,227	8,103
Venezuela	3,565	7,814	9,139	5,480	7,984
Mexico	5,464	7,190	14,622	5,317	7,940
Curacao	—	—	5,527	5,425	7,624
Peru	6,961	6,256	6,344	5,760	6,084
Italy	6,988	4,468	7,111	3,256	5,719
Honduras	—	—	3,203	1,783	4,916
Norway	4,482	6,172	8,901	4,561	4,845
Dominica	—	—	5,602	2,325	3,945
Uruguay	5,676	7,891	10,106	3,988	3,771
Arabia	—	—	4,827	4,979	3,748
Palestina	8,400	5,377	5,745	3,087	3,514
Paraguay	—	—	4,665	1,837	3,454
Switzerland	—	—	2,149	1,200	3,197
Ecuador	—	—	—	1,023	3,171
Nigeria	4,737	7,011	14,683	4,084	2,955
Cameroons	—	—	5,662	1,637	2,837
Bolivia	—	—	2,550	3,874	2,492
Costa Rica	—	—	2,911	2,134	2,054
Gold Coast	—	—	6,766	2,121	2,026
Porto Rico	—	—	2,534	363	2,018
British Malay	—	—	3,866	2,181	2,004
French Indo-China	4,020	—	4,624	3,182	1,981
Barren Islands	—	—	1,897	1,812	1,954
Trinidad and Tobago	—	—	1,684	1,362	1,731
Denmark	1,359	—	1,899	1,361	1,711
French Africa	—	—	—	1,387	1,619
Finland	—	—	6,001	3,684	1,585
Gibraltar	—	—	2,257	1,842	1,488
Cuba	5,047	—	2,016	1,347	1,370
Portugal	1,062	—	1,519	1,225	1,252
Dutch Gulana	—	—	904	1,131	1,244
Jamaica	—	—	1,675	920	1,177
Eritrea	—	—	6	1,402	1,105
Angola	—	—	1,985	1,027	1,060
Marta	—	—	1,490	1,463	1,056
Rhodesia	—	—	697	641	994
British Borneo	—	—	1,041	950	959
New Gulana	—	—	1,321	700	936



## AMOUNT OF IMPORTS FROM VARIOUS COUNTRIES

(In ¥1,000)

	1935	1936	1937	1938	1939
Yen Bloc	350,339	394,253	437,905	564,206	682,973
Manchoukuo	191,005	205,587	249,071	339,271	405,561
China	133,817	154,838	143,636	164,612	215,652
Kwantung L.T.	25,517	33,848	45,198	60,323	61,750
Third Countries			3,345,272	2,099,234	2,234,693
U.S.A.	809,644	847,490	1,269,842	915,300	1,002,384
British India	305,646	372,009	449,486	172,231	182,263
Germany	120,817	115,500	176,363	171,170	141,003
Canada	52,531	73,179	104,892	91,260	126,022
Brazil	4,006	47,352	62,810	46,174	74,662
Dutch East Indies	78,186	113,546	153,450	88,249	71,629
Australia			165,252	82,875	71,026
British Malaya	28,495	39,125	47,795	46,801	69,006
Egypt	51,304	45,737	74,118	36,315	50,312
Philippine Islands	23,948	36,266	45,194	35,630	49,117
Straits Settlements	40,647	41,174	67,796	54,167	46,833
French Indo-China	15,011	20,155	27,012	20,301	26,651
Sweden	23,074	23,109	49,277	24,069	26,277
Great Britain	82,160	72,942	105,772	63,157	24,426
Norway	19,940	17,853	24,033	15,719	21,869
Kenya, Uganda and Tanganyika	2,955	29,865	24,155	6,020	19,609
Belgium and Luxemburg	24,562	16,019	41,059	15,441	19,028
Switzerland	13,455	14,000	19,239	30,198	16,656
Austria	4,409	4,263	9,104	10,271	13,309
Burma	—	—	—	8,185	15,065
France	19,798	19,898	27,885	13,506	14,264
Argentina	16,370	29,989	42,018	24,356	11,860
British Borneo	—	—	18,776	13,832	11,354
Chile	4,472	9,953	14,719	11,152	10,230
Union of South Africa	4,762	22,561	88,852	7,807	8,249
Italy	5,831	3,766	4,416	5,843	7,062
Peru	11,414	13,000	6,277	1,975	6,956
Iran	—	—	1,589	369	6,587
Finland	5,053	6,576	9,643	3,472	5,828
Thailand	5,458	8,753	13,571	4,951	5,536
New Zealand	6,363	21,973	48,633	10,210	5,396
Ceylon	—	—	4,077	2,297	4,194
Eritrea	—	—	1,879	2,270	3,995
Ecuador	—	—	1,725	539	3,938
Society Islands	3,279	3,444	3,239	859	3,809
Iraq	1,258	2,882	9,028	6,114	3,691
Uruguay	4,494	9,528	33,926	4,158	3,396
Spain	4,548	2,147	2,432	614	2,890
New Caledonia	—	—	947	952	2,883
Anglo-Egyptian Sudan	—	—	5,858	435	2,780
Gilbert and Ellis	—	—	3,053	1,981	2,746
Italian Somaliland	2,357	2,879	2,608	3,216	2,341
Denmark	—	—	1,449	1,232	2,339
Aden	—	—	1,357	547	2,292
Paraguay	—	—	163	17	2,218
Greece	—	—	603	1,096	2,106
Turkey	—	—	2,818	3,712	2,018
Bolivia	—	—	—	425	1,968

## FOREIGN TRADE DURING THE FIRST HALF OF 1940

According to the report of the Finance Ministry the export trade for the first half of this year aggregated ¥2,018,980,000 and imports ¥1,856,729,000, with a favorable balance of ¥162,251,000. The figures indicate a gain of ¥403,446,000 or 25 per cent and ¥266,577,000 or 17 per cent in comparison with the corresponding period of 1939. The favorable balance is more than six times the corresponding figure for a year ago, showing an amazing improvement.

Marked advance was witnessed in exports to the yen-bloc area despite various stumbling blocks, including limitation on export to these areas applied to various kinds of goods. Exports of lumber, rayon yarns, pottery and machinery continued to quicken its upward pace. As to the outgoing shipments to

the non-yen bloc area, considerable briskness was made in cotton textiles, raw silk, silk textiles, woolen textiles, canned or bottled provisions, and rayon yarns.

According to the foreign trade experts, however, the jumping export business is interpreted as being attributable to the advanced prices.

Gain in quantity are far the less remarkable. Shipments of raw silk, for instance, suffered a drastic reduction of 31 per cent from a year ago, but made an appreciable increase of 16 per cent in value. The tendency is being solely attributed to the fact that the raw silk prices have been kept in the neighborhood of ¥1,736 in 1940 as against ¥1,032 per picul in 1939, a striking advance of 67 per cent.

## VALUE OF FOREIGN TRADE OF THE EMPIRE DURING THE FIRST HALF OF 1940

(Including trade of overseas territories)

(In ¥1,000)

	Exports	Imports	Excess of Exports
Jan.-June, 1940	2,018,980	1,856,729	162,250
Increase over the same term of the previous year	403,450	266,577	25,372

## VALUE OF FOREIGN TRADE OF JAPAN PROPER AND KARAFUTO

(In the same period)

(In ¥1,000)

	Total from January to June	Amount	Increase as Compared with the Same Term of the Previous Year
			Percentage
Exports	1,862,258	407,853	28
Imports	1,712,730	234,350	16
Excess of Imports (—) or Exports (+)	(+) 149,528	(-) 23,975	

## EXPORTS OF CHIEF COMMODITIES

(Japan Proper and Karafuto)

(In ¥1,000)

	1940, from January to June	Amount	Increase or Decrease as compared with the Previous Year
			Percentage
Cotton tissues	200,988	18,006	9
Raw silk: Value	193,618	26,997	16



## FOREIGN TRADE

	1940, from January to June	Increase or Decrease as compared with the Previous Year	
		Amount (—) 5,007,300 kin	Percentage (—) 31
Quantity	11,149,500kin		
Rayon tissues	66,318	4,169	7
Machineries	122,213	20,166	20
Comestibles in tin and bottle	42,061	88	1
Silk tissues	21,716	2,291	12
Knitted goods	19,917	1,301	6
Woollen tissues	21,728	(—) 8,271	(—) 23
Potteries and porcelains	31,172	11,455	58
Cotton yarns	26,264	(—) 4,201	(—) 14
Toys	9,198	(—) 138	(—) 1
Rayon yarns	32,810	21,399	188
Lumber	72,319	27,704	62
Others	1,002,956	285,025	40
Total	1,863,189	407,784	28

## FOREIGN TRADE OF THE EMPIRE IN 1940

According to the report of the Finance Ministry, exports to Manchoukuo, the Kwantung Leased Territory and China during the twelve months of 1940 showed an appreciable increase over 1939, while those to other countries also more or less increased. Because of the second European war and other reasons, exports to Europe and Africa were behind in 1939. Exports to North and

Central America were, on the whole, on a par with 1939, but shipments to South America and the South Sea regions showed a striking increase. Exports valued at 3,972 million yen, increased one per cent and imports valued at 3,709 million yen increased 19 per cent over 1939, leaving an export excess of 263 million yen, as divided into each month as follows:

## MONTHLY TRADE DURING 1940

(Unit: ¥1,000)

Month	Exports	Imports	Total	Excess of Imports(—) or Exports(+)
January	236,425	279,754	516,179	— 43,329
February	314,409	331,847	646,257	— 17,438
March	368,080	379,847	747,927	— 11,767
April	352,743	296,812	649,556	+ 55,931
May	403,801	300,601	704,402	+103,201
June	344,655	287,586	612,240	+ 77,070
July	359,169	281,943	641,112	+ 77,226
August	317,226	286,386	603,612	+ 30,840
September	277,203	281,614	558,817	— 4,412
October	316,567	314,734	631,301	+ 1,833
November	330,580	308,128	638,708	+ 22,452
December	351,546	379,784	736,000	— 26,000
Total (as adjusted for the year)	3,972,400	3,709,035	7,681,436	+263,365

As regards the 1941 foreign trade, see Chapter X, Commerce and Industry, Development and Tendency of the National Economy in 1941-42, "7. Foreign Trade and Exchange."

## CHAPTER XII

# INSURANCE



The  
**T O K I O**  
**MARINE & FIRE INSURANCE CO., LTD.**  
 FOUNDED 1879

Marine, Transport, Fire, Automobile, Accident,  
 Burglary, Plate Glass, Aviation,  
 Flood and Storm

CAPITAL ..... ¥ 75,000,000  
 PAID-UP ..... ¥ 55,000,000

President:  
**S. SUZUKI**

HEAD OFFICE:  
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CHAPTER XII  
 INSURANCE

General Survey

**Marine Insurance Comes First** In Japan, as in most maritime countries, marine insurance preceded life insurance, but the margin of time separating the two was much narrower in Japan, for there was a difference of two years only. Following the Restoration in 1868, the feudal lords or daimyo were dispossessed of their domains, but the Meiji Government undertook to compensate them for the lands confiscated. The condition of Government finance, however, did not permit of the payment of large sums of cash to the daimyo and pension bonds were issued to them instead. Hachisuka, Ikeda, Daté and other powerful and rich lords searched for an outlet for their energies and surplus funds and, deciding on insurance, advanced a plan to form a marine and fire insurance business after the British system. A company was incorporated in Tokyo in January 1879, with Eijichi Shibusawa as the person most intimately concerned with the consummation of the plan, and Yataro Iwasaki, the founder of the Mitsubishi interest, as his able lieutenant. The initial capital was ¥650,000. Marquis Hachisuka was president and Shibusawa and Iwasaki advisers.

**Life Insurance Follows** The late Tai-  
 zo Abé was the originator of life insurance in Japan. Two years after the introduction of marine insurance he founded the Meiji Life Insurance Com-

pany in September 1881, with a capital of ¥150,000. The promoters of this company were mostly graduates of the Keio Gijyuku (present Keio University). In 1888 the Tokoku Life Insurance Company was founded, and the Nippon Life Insurance Company was incorporated in Osaka in the following year. Zen-jiro Yasuda was the founder of the Meiji Fire Insurance Company, the first of the kind in Japan.

**The Present Status** The home insurance business at present consists of 13 kinds, namely, life, life annuities, military conscription, accident, marine, fire including forest fire, transportation, automobile, burglary, glass, fidelity, engine and boiler and air insurance. Conscription insurance is interesting as it cannot be considered as pure insurance. The idea is to provide relief to the parents of young men who are called up to serve their time in the army. The insurance is taken out at any time from birth to 15 years of age, then, when the boy is conscripted at 20 years of age, the sum contracted for is paid to his parents. In case the boy is not called upon to serve his time in the army the premium only is repaid, and the assured persons who are enrolled in the army and participate in the forfeited and accrued interest of those not called up together with that of those who have died before being conscripted. It is 40 years since the business was first commenced and four companies engage in it.

INSURANCE COMPANIES

(Compiled by the Ministry of Commerce and Industry)

Business Year	Number of Concerns	Paid-up Capital and Funds	Liability Reserves at End of Year	Contracts in Force at End of Year	
				No.	Amount
		(In ¥1,000 and 1,000 contracts)			
1931-32	91	122,170	1,637,178	22,693	27,649,633
1932-33	89	122,570	1,831,610	23,123	29,427,346
1933-34	84	150,925	1,985,929	25,443	33,108,786
1934-35	84	151,275	2,350,077	26,480	34,902,161
1935-36	83	150,273	2,442,402	28,599	37,480,869
1936-37	81	149,335	2,788,621	30,882	39,877,588
1937-38	81	149,735	3,093,085	31,917	43,170,731
1938-39	80	144,435	3,504,383	37,792	50,124,438
1939-40	79	348,860	4,530,132	41,855	55,378,774



## INSURANCE

## INSURANCE COMPANIES BY KINDS

1934-1939

(Amount in yen)

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund	
			Authorized	Paid-up	Liability & Current	Others
<b>Accident:</b>						
	1934-35				1,045,697	61,589,100
	1935-36				1,167,232	65,156,500
	1936-37				1,289,332	71,707,000
	1937-38				1,397,569	83,300,100
	1938-39				1,506,235	90,782,437
<b>Fire:</b>						
	1934-35				116,393,087	76,173,940
	1935-36				121,867,964	80,393,011
	1936-37				130,542,194	87,911,669
	1937-38				139,004,327	95,814,154
	1938-39				147,934,234	103,105,120
<b>Marine:</b>						
	1934-35				80,132,896	72,028,475
	1935-36				82,256,323	75,960,050
	1936-37				87,131,618	82,933,553
	1937-38				95,933,136	90,448,180
	1938-39				106,272,740	97,209,143
<b>Transportation:</b>						
	1934-35				2,176,179	71,174,239
	1935-36				2,207,836	75,006,785
	1936-37				2,403,721	82,177,828
	1937-38				2,707,573	89,365,455
	1938-39				2,970,210	95,770,918
<b>Fidelity:</b>						
	1934-35				93,000	18,514,800
	1935-36				94,000	23,568,500
	1936-37				112,400	25,159,000
	1937-38				137,800	26,431,100
	1938-39				138,000	27,228,200
<b>Engine &amp; Boiler:</b>						
	1934-35	1934-35	51	329,900,000	128,762,500	44,096
	1935-36					63,560
	1936-37					53,363
	1937-38					65,662
	1938-39					68,655
						71,960
						72,055
						80,187
						76,605
<b>Automobile:</b>						
	1934-35	1935-36	49	323,500,000	126,110,000	2,530,498
	1935-36	1936-37	48	323,000,000	126,772,500	53,494,800
	1936-37					3,002,076
	1937-38					57,226,800
	1938-39					3,195,539
						60,919,500
						3,434,369
						72,220,900
						4,621,379
						84,554,737
<b>Burglary:</b>						
	1934-35	1937-38	48	323,000,000	126,772,500	242,784
	1935-36	1938-39	47	322,400,000	126,622,500	42,291,000
	1936-37					259,932
	1937-38					44,906,000
	1938-39					265,598
						48,691,000
						261,799
						58,542,000
						248,237
						62,990,500
<b>Glass:</b>						
	1934-35					62,398
	1935-36					34,385,000
	1936-37					57,091
	1937-38					36,590,000
	1938-39					72,185
						39,560,000
						72,805
						43,160,000
						72,571
						46,445,000

## BUSINESS CONDITIONS

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund	
			Authorized	Paid-up	Liability & Current	Others
<b>Air:</b>						
	1937-38				106,500	28,786,000
	1938-39				1,082,288	89,296,661
<b>Life:</b>						
	1934-35	1934-35	33	45,800,000	22,512,500	1,798,822,750
	1935-36	1935-36	33	45,750,000	22,462,500	2,004,828,537
	1936-37	1936-37	34	45,700,000	22,412,500	2,255,641,100
	1937-38	1937-38	33	46,050,000	22,962,500	2,480,308,044
	1938-39	1938-39	33	37,150,000	17,812,500	2,795,566,245
<b>Conscription:</b>						
	1934-35					201,530,031
	1935-36					6,126,596
	1936-37					226,582,775
	1937-38					7,748,113
	1938-39					307,867,211
						9,374,577
						369,609,679
						11,781,641
						443,855,622
						66,849,158
<b>Life Annuity:</b>						
	1934-35					14,551
	1935-36					—
	1936-37					25,511
	1937-38					—
	1938-39					34,194
						—
						39,157
						—
						35,413
						—
Kind of Insurance	Business Year	Conditions of Business Earnings				
		Premiums	Interest	Others	Total	
<b>Accident:</b>						
	1934-35	855,662	—	49,505	905,167	
	1935-36	1,043,317	—	76,915	1,120,232	
	1936-37	1,038,688	—	51,050	1,089,738	
	1937-38	1,041,747	—	90,040	1,131,787	
	1938-39	1,197,365	—	77,074	1,274,439	
<b>Fire:</b>						
	1934-35	96,531,623	7,967,747	21,660,574	126,168,944	
	1935-36	100,063,769	8,036,951	22,484,902	130,585,622	
	1936-37	101,790,013	8,288,298	22,747,727	132,826,038	
	1937-38	108,963,127	8,776,802	24,226,522	141,966,451	
	1938-39	123,052,916	9,500,810	29,600,711	162,154,437	
<b>Marine:</b>						
	1934-35	33,155,472	15,100,000	9,193,843	57,449,315	
	1935-36	34,768,345	16,186,182	7,484,636	58,439,163	
	1936-37	36,865,247	17,048,146	7,099,840	61,013,233	
	1937-38	45,628,323	17,961,332	6,292,636	69,882,291	
	1938-39	55,599,075	23,537,924	8,513,881	87,650,880	
<b>Transportation:</b>						
	1934-35	1,170,622	—	41,704	1,212,326	
	1935-36	1,303,614	—	41,368	1,344,982	
	1936-37	1,412,688	484	24,791	1,437,963	
	1937-38	1,561,817	527	37,505	1,599,849	
	1938-39	2,052,159	591	44,627	2,097,377	
<b>Fidelity:</b>						
	1934-35	86,218	—	4,592	90,810	
	1935-36	99,712	—	4,162	103,874	
	1936-37	106,875	—	5,778	112,653	
	1937-38	119,186	—	6,175	125,361	
	1938-39	119,420	—	5,519	124,939	



## INSURANCE

## INSURANCE COMPANIES BY KINDS

1934-1939

(Amount in yen)

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund	
			Authorized	Paid-up	Liability & Current	Others
<b>Accident:</b>						
	1934-35				1,045,697	61,589,100
	1935-36				1,167,232	65,156,500
	1936-37				1,289,332	71,707,000
	1937-38				1,397,569	83,300,100
	1938-39				1,506,235	90,782,437
<b>Fire:</b>						
	1934-35				116,393,087	76,173,940
	1935-36				121,867,964	80,393,011
	1936-37				130,542,194	87,911,669
	1937-38				139,004,327	95,814,154
	1938-39				147,934,234	103,105,120
<b>Marine:</b>						
	1934-35				80,132,896	72,028,475
	1935-36				82,256,323	75,960,050
	1936-37				87,131,618	82,933,553
	1937-38				95,933,136	90,448,180
	1938-39				106,272,740	97,209,143
<b>Transportation:</b>						
	1934-35				2,178,179	71,174,239
	1935-36				2,207,836	75,006,785
	1936-37				2,403,721	82,177,828
	1937-38				2,707,573	89,365,455
	1938-39				2,970,210	95,770,918
<b>Fidelity:</b>						
	1934-35				93,000	18,514,800
	1935-36				94,000	23,568,500
	1936-37				112,400	25,159,000
	1937-38				137,800	26,431,100
	1938-39				138,000	27,228,200
<b>Engine &amp; Boiler:</b>						
	1934-35	1934-35	51	329,900,000	128,762,500	44,096
	1935-36					53,363
	1936-37					65,662
	1937-38					71,960
	1938-39					80,187
<b>Automobile:</b>						
	1934-35	1935-36	49	323,500,000	126,110,000	2,530,498
	1935-36	1936-37	48	323,000,000	126,772,500	3,002,076
	1936-37					3,195,539
	1937-38					3,434,369
	1938-39					4,621,379
<b>Burglary:</b>						
	1934-35	1937-38	48	323,000,000	126,772,500	242,784
	1935-36	1938-39	47	322,400,000	126,622,500	259,932
	1936-37					265,598
	1937-38					261,799
	1938-39					248,237
<b>Glass:</b>						
	1934-35				62,398	34,385,000
	1935-36				57,091	36,590,000
	1936-37				72,185	39,560,000
	1937-38				72,805	43,160,000
	1938-39				72,571	46,445,000

## BUSINESS CONDITIONS

Kind of Insurance	Business Year	Number of Companies	Capital or Fund		Reserve Fund	
			Authorized	Paid-up	Liability & Current	Others
<b>Air:</b>						
	1937-38				106,500	28,786,000
	1938-39				1,082,288	89,296,661
<b>Life:</b>						
	1934-35	1934-35	33	45,800,000	22,512,500	1,798,822,750
	1935-36	1935-36	33	45,750,000	22,462,500	2,004,828,537
	1936-37	1936-37	34	45,700,000	22,412,500	2,255,641,100
	1937-38	1937-38	33	46,050,000	22,962,500	2,480,308,044
	1938-39	1938-39	33	37,150,000	17,812,500	2,795,566,245
<b>Conscription:</b>						
	1934-35				201,530,031	6,126,596
	1935-36				226,582,775	7,748,113
	1936-37				307,867,211	9,374,577
	1937-38				369,609,679	11,781,641
	1938-39				443,855,622	66,849,158
<b>Life Annuity:</b>						
	1934-35				14,551	—
	1935-36				25,511	—
	1936-37				34,194	—
	1937-38				39,157	—
	1938-39				35,413	—

Kind of Insurance	Business Year	Conditions of Business Earnings			Total
		Premiums	Interest	Others	
<b>Accident:</b>					
	1934-35	855,662	—	49,505	905,167
	1935-36	1,043,317	—	76,915	1,120,232
	1936-37	1,038,688	—	51,050	1,089,738
	1937-38	1,041,747	—	90,040	1,131,787
	1938-39	1,197,365	—	77,074	1,274,439
<b>Fire:</b>					
	1934-35	96,531,623	7,967,747	21,669,574	126,168,944
	1935-36	100,063,769	8,036,951	22,484,902	130,585,622
	1936-37	101,790,013	8,288,298	22,747,727	132,826,038
	1937-38	108,963,127	8,776,802	24,226,522	141,966,451
	1938-39	123,052,916	9,500,810	29,600,711	162,154,437
<b>Marine:</b>					
	1934-35	33,155,472	15,100,000	9,193,843	57,449,315
	1935-36	34,768,345	16,186,182	7,484,636	58,439,163
	1936-37	36,865,247	17,048,146	7,099,840	61,013,233
	1937-38	45,628,323	17,961,332	6,292,636	69,882,291
	1938-39	55,599,075	23,537,924	8,513,881	87,650,880
<b>Transportation:</b>					
	1934-35	1,170,622	—	41,704	1,212,326
	1935-36	1,303,614	—	41,368	1,344,982
	1936-37	1,412,688	484	24,791	1,437,963
	1937-38	1,561,817	527	37,505	1,599,849
	1938-39	2,052,159	591	44,627	2,097,377
<b>Fidelity:</b>					
	1934-35	86,218	—	4,592	90,810
	1935-36	99,712	—	4,162	103,874
	1936-37	106,875	—	5,778	112,653
	1937-38	119,186	—	6,175	125,361
	1938-39	119,420	—	5,519	124,939



INSURANCE

Kind of Insurance	Business Year	Conditions of Business Earnings			Total
		Premiums	Interest	Others	
<b>Engine &amp; Boiler:</b>					
	1934-35	88,116	10,107	10,680	108,903
	1935-36	99,458	10,952	8,480	118,890
	1936-37	114,608	13,506	42,654	170,768
	1937-38	125,768	11,865	14,039	151,672
	1938-39	141,619	11,303	6,607	159,529
<b>Automobile:</b>					
	1934-35	1,984,624	5,791	24,221	2,014,636
	1935-36	2,675,503	60	35,198	2,710,761
	1936-37	3,030,928	—	35,416	3,066,344
	1937-38	3,446,369	—	38,084	3,484,453
	1938-39	3,408,756	—	56,205	3,464,961
<b>Burglary:</b>					
	1934-35	60,119	—	3,031	63,150
	1935-36	73,219	—	1,303	74,522
	1936-37	65,215	—	2,149	67,364
	1937-38	46,088	—	2,412	48,500
	1938-39	54,984	—	1,876	56,860
<b>Glass:</b>					
	1934-35	11,825	—	877	12,702
	1935-36	12,925	—	1,371	14,296
	1936-37	11,295	—	1,480	12,775
	1937-38	15,906	—	2,058	17,964
	1938-39	18,580	—	2,701	21,281
<b>Air:</b>					
	1937-38	10,250	—	58	10,308
	1938-39	303,643	—	2,313	305,956
<b>Life:</b>					
	1934-35	419,803,582	101,842,188	31,067,876	553,713,646
	1935-36	449,716,033	110,642,695	27,523,541	587,864,269
	1936-37	519,508,056	120,886,258	40,677,759	681,072,073
	1937-38	594,410,101	136,185,764	39,875,260	770,471,125
	1938-39	700,901,524	151,816,801	40,186,330	892,904,655
<b>Conscription:</b>					
	1934-35	30,471,839	12,283,255	8,145,974	50,851,068
	1935-36	34,503,310	14,379,890	7,205,263	56,088,463
	1936-37	41,712,449	15,772,258	6,229,088	63,713,795
	1937-38	49,779,269	18,399,985	6,831,729	75,010,983
	1938-39	22,594,861	22,594,861	11,188,418	56,378,140
<b>Life Annuity:</b>					
	1934-35	14,140	—	—	14,140
	1935-36	13,626	—	—	13,626
	1936-37	12,646	—	—	12,646
	1937-38	9,173	—	—	9,173
	1938-39	5,000	—	—	5,000

Kind of Insurance	Business Year	Conditions of Business Expenses			Total
		Claims Paid	Payment by Contract Other than Claims	Business Expenses	
<b>Accident:</b>					
	1934-35	547,659	80,880	337,063	1,030,061
	1935-36	613,722	28,527	391,090	1,062,513
	1936-37	596,722	76,218	370,327	1,066,051
	1937-38	566,156	53,599	371,145	1,028,821
	1938-39	577,623	38,423	411,936	1,035,981

BUSINESS CONDITIONS

Kind of Insurance	Business Year	Conditions of Business Expenses			Total
		Claims Paid	Payment by Contract Other than Claims	Business Expenses	
<b>Fire:</b>					
	1934-35	41,534,912	11,834,873	57,592,514	116,824,624
	1935-36	32,184,327	13,709,218	61,210,976	113,103,957
	1936-37	30,073,003	14,276,932	63,721,188	114,405,665
	1937-38	25,944,771	15,592,563	69,082,276	118,045,590
	1938-39	30,441,257	16,821,796	78,896,218	137,588,051
<b>Marine:</b>					
	1934-35	24,243,554	2,360,659	7,497,025	39,697,384
	1935-36	23,137,480	2,676,831	8,497,886	40,153,378
	1936-37	20,402,964	2,538,977	8,852,945	38,826,493
	1937-38	21,576,081	3,785,595	10,241,525	46,877,867
	1938-39	30,367,256	2,948,279	12,774,359	64,270,139
<b>Transportation:</b>					
	1934-35	336,789	118,777	241,623	705,761
	1935-36	254,156	121,637	279,620	660,371
	1936-37	180,859	142,133	303,106	657,928
	1937-38	254,329	165,385	331,166	760,773
	1938-39	351,733	220,547	444,291	1,038,830
<b>Fidelity:</b>					
	1934-35	21,600	976	26,256	48,960
	1935-36	28,382	1,100	29,601	59,256
	1936-37	25,091	4,837	34,583	64,705
	1937-38	15,062	8,053	38,750	62,442
	1938-39	21,529	9,113	37,306	69,156
<b>Engine &amp; Boiler:</b>					
	1934-35	—	390	80,905	87,015
	1935-36	—	735	84,428	92,609
	1936-37	525	530	90,057	134,072
	1937-38	1,550	1,174	100,193	121,029
	1938-39	557	2,259	109,224	122,384
<b>Automobile:</b>					
	1934-35	877,095	293,041	554,454	1,745,341
	1935-36	983,425	393,349	781,127	2,216,959
	1936-37	1,076,888	473,007	876,753	2,477,153
	1937-38	1,376,661	551,583	1,007,451	2,949,089
	1938-39	1,376,803	535,651	1,057,832	2,989,337
<b>Burglary:</b>					
	1934-35	18,176	1,299	24,185	43,829
	1935-36	29,814	2,737	28,952	63,138
	1936-37	17,988	4,721	23,579	49,620
	1937-38	14,007	11,938	14,862	41,400
	1938-39	17,320	4,954	19,371	42,168
<b>Glass:</b>					
	1934-35	5,139	561	2,929	8,644
	1935-36	5,111	929	4,076	10,156
	1936-37	6,430	493	3,441	10,403
	1937-38	6,217	1,611	4,584	12,434
	1938-39	7,986	2,072	5,242	15,328
<b>Air:</b>					
	1937-38	21,901	31	1,109	23,243
	1938-39	174,972	1,243	18,642	204,001
<b>Life:</b>					
	1934-35	139,890,791	91,552,425	96,970,690	356,324,141
	1935-36	143,817,994	68,480,705	102,427,574	345,393,471
	1936-37	167,531,843	71,344,489	108,933,815	386,528,675
	1937-38	192,705,499	75,855,960	122,001,416	430,775,700
	1938-39	243,313,700	80,860,924	136,431,903	521,182,129



INSURANCE

Kind of Insurance	Business Year	Conditions of Business Earnings			Total
		Premiums	Interest	Others	
<b>Engine &amp; Boiler:</b>					
	1934-35	88,116	10,107	10,680	108,903
	1935-36	99,458	10,952	8,480	118,890
	1936-37	114,608	13,506	42,654	170,768
	1937-38	125,768	11,865	14,039	151,672
	1938-39	141,619	11,303	6,607	159,529
<b>Automobile:</b>					
	1934-35	1,984,624	5,791	24,221	2,014,636
	1935-36	2,675,503	60	35,198	2,710,761
	1936-37	3,030,928	—	35,416	3,066,344
	1937-38	3,446,369	—	38,084	3,484,453
	1938-39	3,408,756	—	56,205	3,464,961
<b>Burglary:</b>					
	1934-35	60,119	—	3,031	63,150
	1935-36	73,219	—	1,303	74,522
	1936-37	65,215	—	2,149	67,364
	1937-38	46,088	—	2,412	48,500
	1938-39	54,984	—	1,876	56,860
<b>Glass:</b>					
	1934-35	11,825	—	877	12,702
	1935-36	12,925	—	1,371	14,296
	1936-37	11,295	—	1,480	12,775
	1937-38	15,906	—	2,058	17,964
	1938-39	18,580	—	2,701	21,281
<b>Air:</b>					
	1937-38	10,250	—	58	10,308
	1938-39	303,643	—	2,313	305,956
<b>Life:</b>					
	1934-35	419,803,582	101,842,188	31,067,876	553,713,646
	1935-36	449,716,033	110,642,695	27,523,541	587,864,269
	1936-37	519,508,056	120,886,258	40,677,759	681,072,073
	1937-38	594,410,101	136,185,764	39,875,260	770,471,125
	1938-39	700,901,524	151,816,801	40,186,330	892,904,655
<b>Conscription:</b>					
	1934-35	30,471,839	12,283,255	8,145,974	50,851,068
	1935-36	34,503,310	14,379,890	7,205,263	56,088,463
	1936-37	41,712,449	15,772,258	6,229,088	63,713,795
	1937-38	49,779,269	18,399,985	6,831,729	75,010,983
	1938-39	22,594,861	22,594,861	11,188,418	56,378,140
<b>Life Annuity:</b>					
	1934-35	14,140	—	—	14,140
	1935-36	13,626	—	—	13,626
	1936-37	12,646	—	—	12,646
	1937-38	9,173	—	—	9,173
	1938-39	5,000	—	—	5,000

Kind of Insurance	Business Year	Conditions of Business Expenses			Total
		Claims Paid	Payment by Contract Other than Claims	Business Expenses	
<b>Accident:</b>					
	1934-35	547,659	80,880	337,063	1,030,061
	1935-36	613,722	28,527	391,090	1,062,513
	1936-37	596,722	76,218	370,327	1,066,051
	1937-38	566,156	53,599	371,145	1,028,821
	1938-39	577,623	38,423	411,936	1,035,981

BUSINESS CONDITIONS

Kind of Insurance	Business Year	Conditions of Business Expenses			Total
		Claims Paid	Payment by Contract Other than Claims	Business Expenses	
<b>Fire:</b>					
	1934-35	41,534,912	11,834,873	57,592,514	116,824,624
	1935-36	32,184,327	13,709,218	61,210,976	113,103,957
	1936-37	30,073,073	14,276,932	63,721,188	114,405,665
	1937-38	25,944,771	15,592,563	69,082,276	118,045,590
	1938-39	30,441,257	16,821,796	78,896,218	137,588,951
<b>Marine:</b>					
	1934-35	24,243,554	2,360,659	7,497,025	39,697,384
	1935-36	23,137,480	2,676,831	8,497,886	40,153,378
	1936-37	20,402,964	2,538,977	8,852,945	38,826,493
	1937-38	21,576,081	3,785,595	10,241,525	46,677,867
	1938-39	30,367,256	2,948,279	12,774,359	64,279,139
<b>Transportation:</b>					
	1934-35	336,789	118,777	241,623	705,761
	1935-36	254,156	121,637	279,620	660,371
	1936-37	180,859	142,133	303,106	657,928
	1937-38	254,329	165,385	331,166	760,773
	1938-39	351,733	220,547	444,291	1,038,830
<b>Fidelity:</b>					
	1934-35	21,600	976	26,256	48,060
	1935-36	28,382	1,100	29,601	59,256
	1936-37	25,091	4,837	34,583	64,705
	1937-38	15,062	8,053	38,750	62,442
	1938-39	21,529	9,113	37,306	68,156
<b>Engine &amp; Boiler:</b>					
	1934-35	—	390	80,905	87,015
	1935-36	—	735	84,428	92,609
	1936-37	525	530	90,057	134,072
	1937-38	1,550	1,174	100,193	121,029
	1938-39	557	2,259	109,224	122,384
<b>Automobile:</b>					
	1934-35	877,095	293,041	554,454	1,745,341
	1935-36	983,425	393,349	781,127	2,216,959
	1936-37	1,076,888	473,007	876,753	2,477,153
	1937-38	1,376,661	551,583	1,007,451	2,949,089
	1938-39	1,376,803	535,651	1,057,832	2,989,337
<b>Burglary:</b>					
	1934-35	18,176	1,299	24,185	43,829
	1935-36	29,814	2,737	28,952	63,138
	1936-37	17,988	4,721	23,579	49,620
	1937-38	14,007	11,938	14,862	41,400
	1938-39	17,320	4,954	19,371	42,168
<b>Glass:</b>					
	1934-35	5,139	561	2,929	8,644
	1935-36	5,111	929	4,076	10,156
	1936-37	6,430	493	3,441	10,403
	1937-38	6,217	1,611	4,584	12,434
	1938-39	7,986	2,072	5,242	15,328
<b>Air:</b>					
	1937-38	21,901	31	1,109	23,243
	1938-39	174,972	1,243	18,642	204,001
<b>Life:</b>					
	1934-35	139,890,791	91,552,425	96,970,690	356,324,141
	1935-36	143,817,994	68,480,705	102,427,574	345,393,471
	1936-37	167,531,843	71,344,489	108,933,815	386,528,675
	1937-38	192,705,499	75,855,960	122,001,416	430,775,700
	1938-39	243,313,700	80,860,924	136,431,903	521,182,129



## INSURANCE

Kind of Insurance Description:	Business Year	Claims Total	Payment by		Business Others	Total
			Contract	Other Expenses		
	1934-35	2,283,129	6,684,205	13,547,886	5,028,983	27,544,203
	1935-36	2,802,208	7,024,635	13,409,799	6,985,700	30,221,712
	1936-37	4,058,583	7,826,972	15,945,841	4,515,734	32,347,130
	1937-38	4,262,315	7,700,177	17,713,749	6,426,046	36,102,287
	1938-39	6,482,120	7,838,941	22,340,422	14,874,626	51,536,109
Life Annuity:						
	1934-35	1,432	28	—	—	1,460
	1935-36	3,480	—	—	—	3,480
	1936-37	4,476	—	—	—	4,476
	1937-38	6,391	—	—	—	6,391
	1938-39	5,309	—	—	—	5,309
Conditions of Business						
Kind of Insurance Description:	Business Year	New Contracts		Contracts in Force at the End of Business Year		
		Number	Amount	Number	Amount	
Accident:						
	1934-35	186,198	204,813,000	174,057	160,728,000	
	1935-36	178,675	243,433,000	162,173	182,989,000	
	1936-37	165,477	263,794,000	134,696	179,284,000	
	1937-38	141,686	276,290,000	119,073	194,971,000	
	1938-39	161,587	306,490,000	133,745	217,008,000	
Fire:						
	1934-35	20,856,048	28,678,717,000	17,064,927	21,321,758,000	
	1935-36	21,314,830	29,742,490,000	18,023,182	22,223,679,000	
	1936-37	21,301,471	30,041,467,000	18,305,746	22,286,504,000	
	1937-38	21,378,750	31,860,709,000	18,042,103	22,790,755,000	
	1938-39	25,580,648	35,067,513,000	21,831,149	26,054,153,000	
Marine:						
	1934-35	5,983,524	9,676,112,000	975,081	2,056,947,000	
	1935-36	6,470,590	10,543,046,000	1,088,088	2,079,711,000	
	1936-37	6,838,623	10,906,507,000	1,270,885	2,387,322,000	
	1937-38	6,793,531	13,326,855,000	1,284,529	2,865,262,000	
	1938-39	7,182,396	14,434,316,000	1,599,168	3,447,604,000	
Transportation:						
	1934-35	1,921,886	6,067,066,000	96,020	295,399,000	
	1935-36	2,068,014	6,688,453,000	99,010	347,746,000	
	1936-37	2,228,642	7,506,516,000	119,224	438,599,000	
	1937-38	2,484,973	7,774,507,000	116,442	476,016,000	
	1938-39	3,571,411	9,104,245,000	99,853	586,365,000	
Fidelity:						
	1934-35	4,123	6,734,000	3,883	6,124,000	
	1935-36	4,416	7,385,000	4,285	7,126,000	
	1936-37	4,323	8,545,000	4,125	7,855,000	
	1937-38	4,671	9,404,000	4,371	8,478,000	
	1938-39	5,054	10,912,000	4,775	8,620,000	
Engine & Boiler						
	1934-35	1,302	4,455,000	1,288	4,313,000	
	1935-36	1,534	4,770,000	1,502	4,713,000	
	1936-37	1,848	5,643,000	1,786	5,353,000	
	1937-38	2,091	6,135,000	2,060	6,064,000	
	1938-39	2,576	7,883,000	2,307	7,011,000	
Automobile:						
	1934-35	100,792	95,712,000	60,474	63,088,000	
	1935-36	271,115	128,996,000	184,896	85,428,000	
	1936-37	164,382	142,758,000	120,243	98,440,000	
	1937-38	179,741	153,713,000	138,996	110,464,000	
	1938-39	201,062	165,408,000	151,846	122,226,000	

## BUSINESS CONDITIONS

Kind of Insurance	Business Year	New Contracts		Contracts in Force at the End of Business Year	
		Number	Amount	Number	Amount
Burglary:					
	1934-35	4,596	12,100,000	3,829	9,537,000
	1935-36	5,588	15,793,000	4,852	13,518,000
	1936-37	7,421	22,580,000	6,412	19,262,000
	1937-38	3,546	9,572,000	2,761	6,348,000
	1938-39	4,982	12,078,000	3,869	8,654,000
Glass:					
	1934-35	397	199,000	391	192,000
	1935-36	471	236,000	443	219,000
	1936-37	509	225,000	472	213,000
	1937-38	546	750,000	501	280,000
	1938-39	574	353,000	538	330,000
Air:					
	1937-38	25	328,000	15	253,000
	1938-39	1,863	15,516,000	1,579	11,451,000
Life:					
	1934-35	1,286,437	2,144,302,000	6,702,346	10,049,122,000
	1935-36	1,429,087	2,443,231,000	7,486,937	11,495,614,000
	1936-37	1,627,357	2,800,491,000	9,170,139	13,247,858,000
	1937-38	1,802,630	3,169,452,000	10,232,485	15,309,734,000
	1938-39	2,209,986	3,893,526,000	11,669,164	17,977,765,000
Conscription:					
	1934-35	317,963	249,392,000	1,398,454	934,593,000
	1935-36	311,961	233,551,000	1,544,160	1,040,126,000
	1936-37	346,947	262,159,000	1,749,053	1,207,198,000
	1937-38	381,495	300,690,000	1,974,551	1,397,038,000
	1938-39	500,589	426,377,000	2,294,454	1,683,246,000
Life Annuity:					
	1934-35	4	1,663	5	2,095
	1935-36	5	1,385	10	3,480
	1936-37	2	1,661	12	5,141
	1937-38	4	811	14	5,068
	1938-39	1	593	14	5,309

Note: Business year covers the period from April 1 to March 31 of the following year. Most companies have several kinds of insurance and accordingly capital is not given here separately.

## INVESTMENTS OF INSURANCE COMPANIES

(The Insurance Year Book by the Ministry of Commerce and Industry)

(Amount in ¥1,000)

Year	Advances							Other	Total
	Num-ber of Com-panies	Mort-gages on Real Estate	Mort-gages on Factories, etc.	Mort-gages on Vessels	Loans on Securi-ties	Loans on Compa-nies' Policies	Loans to Public Bodies		
1934-35	84	77,377	76,675	10,900	105,885	242,695	54,676	4,180	572,386
1935-36	82	70,819	83,037	10,162	112,583	257,602	109,071	7,338	650,602
1936-37	81	66,838	84,331	11,092	109,876	280,644	131,262	4,667	688,710
1937-38	81	69,714	83,703	14,641	155,124	307,969	156,621	4,008	791,781
1938-39	80	66,072	75,267	12,581	157,139	322,825	168,747	11,878	814,509
1939-40	80	58,512	72,194	9,263	226,241	323,685	164,253	18,699	872,639
1940-41	79	52,706	88,401	8,708	267,414	319,316	213,137	33,929	983,611
1942(Mar.)	—	44,102	128,290	—	368,788	324,728	244,221	64,973	1,175,104



## INSURANCE

	Government Bonds	Local Government Bonds	Securities			Total	Deposits with Banks	Grand Total Including Advances & Others
			Debentures	Shares	Foreign Bonds, etc.			
1934-35	177,674	101,904	564,989	594,279	49,529	1,488,375	340,372	2,401,133
1935-36	218,694	87,537	600,732	696,931	53,850	1,657,744	360,320	2,668,666
1936-37	238,291	88,375	667,748	887,565	56,412	1,938,391	350,743	2,977,844
1937-38	293,412	79,564	676,828	1,081,530	86,381	2,217,714	321,780	3,331,275
1938-39	405,521	83,492	718,410	1,273,622	53,479	2,534,524	347,053	3,349,033
1939-40	611,209	78,160	780,418	1,453,209	140,643	3,063,638	382,178	4,318,455
1940-41	1,046,541	78,484	876,245	1,664,422	257,680	3,923,372	419,259	5,326,242
1942 (Mar.)	1,315,214	69,936	1,600,910	964,706	270,428	4,221,194	172,184	6,090,044

Note: Figures for 1939-40 and 1940-41 are estimates.

## INSURANCE BUSINESS

## New Business Written During the Year

At the End of	Life	Conscription	Casualty	Fire	Marine	Transportation	Others*
1937	349,737	55,425	33,893	7,746,191	3,532,487	1,093,733	41,866
1938	512,925	81,081	45,013	9,996,096	4,464,901	1,565,840	51,056
1939	685,351	134,035	47,666	12,421,785	6,213,820	1,987,563	51,069
1940	767,891	173,070	122,899	15,694,789	5,557,970	2,137,883	69,867
1941 (Oct.)	839,737	35,523	45,601	18,327,303	5,268,320	2,291,882	53,232

## Amounts in Force at the End of the Year

(In ¥1,000)

At the End of	Life	Conscription	Casualty	Fire	Marine	Transportation	Others*
1937	15,441,914	1,397,038	241,533	38,611,781	5,912,559	547,418	156,346
1938	18,172,905	1,683,246	277,325	44,428,090	7,228,090	758,988	187,970
1939	22,322,400	2,173,276	303,207	58,548,390	8,774,306	1,352,633	241,416
1940	27,759,293	2,950,837	347,577	90,300,675	10,645,566	1,553,912	393,605
1941 (Oct.)	32,142,860	3,593,316	580,937	116,019,990	11,969,271	1,844,156	339,398

## New Business Written During the Year

## Amounts in Force at the End of the Year (In ¥1,000)

At the End of	New Business Written During the Year		Amounts in Force at the End of the Year (In ¥1,000)	
	Postal Life	Postal Annuity	Postal Life	Postal Annuity
1939	1,698,786	11,541	6,759,548	44,302
1940	2,592,157	20,855	9,065,614	63,999
1941	2,688,701	39,540	11,413,323	102,010
1942 (April)	474,757	4,209	11,848,444	106,028

Note: Compiled by Bureau of Post Office Life Insurance, Ministry of Communications, Tokyo, for postal insurances, and by Bureau of Insurance, Ministry of Commerce and Industry, Tokyo, for other insurances. Figures includes Japan proper and Saghalien. (\*) Including credit, boiler, automobile, theft and window glass insurances.

## IMPORTANT INSURANCE COMPANIES

	Est'd.		Est'd.
Aikoku Life	1896	Nippon Marine	1896
Asahi Marine and Fire	1932	Nissan Fire and Marine	1911
Chiyoda Fire	1913	Nomura Life	1895
Chiyoda Life	1904	Osaka Marine and Fire	1883
Dai-ichi Conscription	1898	Sumitomo Life	1907
Dai-ichi Life	1902	Taihei Fire and Marine	1919
Fukoku Conscription	1923	Taisho Marine and Fire	1918
Katakura Life	1921	Teikoku Fire	1912
Kobe Marine and Fire	1907	Teikoku Life	1888
Meiji Fire	1891	Teikoku Marine and Fire	1893
Meiji Life	1893	Tokyo Fire	1887
Mitsui Life	1914	Tokyo Marine and Fire	1878
Nikka Life	1914	Tokyo Movables Fire	1917
Nippon Conscription	1911	Toyo Fire	1920
Nippon Fire	1892	Yasuda Life	1894
Nippon Kyoritsu Fire	1910	Yokohama Fire and Marine	1897
Nippon Life	1889		

## Post Office Life Insurance and Annuities

Post Office Life Insurance With a view to promoting the welfare of the middle and lower classes of the community, the Post Office Life Insurance Law (Law No. 42) and the Post Office Life Insurance Special Account Law (Law No. 43) were promulgated on July 8, 1916, the former being put into effect on October 1 and the latter on August 20 of the same year. The main features of the life insurance schemes may be summarized as follows:

1. This insurance is the work of the Government and is to be dealt with at the post offices.

2. The amount of insurance for a person will be from ¥50 up to ¥700.

3. The insured need not be subjected to any physical examination.

4. If the insured die within one and a half years from the conclusion of the insurance contract by some causes other than the calamities or the infectious diseases specified in law, a portion of the amount insured will not be paid.

5. This insurance is divided into Whole Life, Endowment and Infantile. Endowment policies are divided into four kinds of the terms of 15 years, 20 years, 30 years and 40 years. Infantile policies are, at present, either 15 years or 20 years endowment.

6. The age of a person to be newly

insured must be between 1 and 60 years.

7. The Mortality Table constituting a basis for the computation of premium was compiled by adding 20% to the Male Mortality-Rates of the Japanese Population Table No. 2 published in 1912 by the Government Statistics Bureau. The rate of interest assumed is 3½% per annum.

8. The premiums are to be paid monthly. Reduced premiums are prescribed for the cases in which monthly premiums are paid in a lump sum in advance.

9. The period within which premiums should be paid is fixed at one month, and two months' grace is allowed.

10. Within one year after the lapse of the policy, it may be revived.

11. When, after the conclusion of the contract, the insured either loses one or both of his limbs or becomes blind of both eyes, future premiums need not be paid.

Whenever a policy has been in force for a period of thirty years and the insured person has reached the age of 70, the policy holder concerned may propose to have his future premiums paid up.

12. When, after the lapse of five years from the conclusion of the contract, the payment of the insured sum or the repayment of the paid-in premium is made, the beneficiary shall receive an additional sum as a dividend.



13. A loan may, on the application of the policy-holder, be granted within the limits of the amount which is to be paid back on the cancellation of the insurance contract, provided, however, that such loan shall not exceed 50/100 of the amount of insurance.

14. In order to maintain and promote the health of the insured, 240 Health Consultation Stations have been established so far in pursuance of the Health Consultation Service Regulation, 1922, in the principal cities.

15. Beneficiaries or policy-holders are required to ask the judgment of the Post Office Life Insurance Committee of Inquiry prior to legal action against the Government for their contracts.

**Post Office Life Annuities.** While the history of the Post Office Life Annuities may be traced to as far back as 1897, the authorities concerned thought it wise to introduce Post Office Life Insurance first and see how this would work. In 1926, changed social conditions and with the maturing of the first Post Office Life Insurance Endowment Policies gave favorable indications that the Annuity business would be successful, and a bill was introduced into and approved by the Diet in March.

It came into operation as from October 1 of the same year. The Post Office Life Annuity Law as amended (Law No. 47) which provided for several new kinds of annuities was put into effect as from September 1, 1939.

The main features of the system may be summarized as follows:—

1. The annuity business is to be administered by the same system as that of the Post Office Life Insurance.

2. The Annuities that may be purchased are divided into:

- (1) Immediate Life Annuities.
- (2) Immediate Life Annuities with Guaranteed Number of Payments.
- (3) Deferred Life Annuities.
- (4) Deferred Life Annuities with Guaranteed Number of Payments.
- (5) Temporary Annuities.
- (6) Group Annuities.

3. Immediate Life Annuities may be purchased either with or without provision for return of the purchase money. Deferred Life Annuities and Deferred

Life Annuities with Guaranteed Number of Payments not yet in commencement of payment and Temporary Annuities are with, and Immediate Life Annuities with Guaranteed Number of Payments without, refund of the purchase money.

4. The Guaranteed Number of Payments in the case of Deferred Life Annuities is 20, and that of Immediate Annuities is 30 if the annuitant is under the age of forty, 20 if under the age of 65, and 15 if over the age of 60.

5. If not less than ten employees of a corporation, a factory, etc. constituting not less than 70% of all eligible employees (or not less than 70% of all members of a group or class determined by conditions pertaining to the employment) enter into a contract of Deferred Life Annuities with Guaranteed Number of Payments, premiums in respect of which are payable at such amount and time as they please (convenient premium payment plan), premium abatement of not more than 10% is granted to the purchasers.

6. The ages of persons entitled to become annuitants under this system must fall, in the case of Immediate Life Annuities, between 40 and 60 inclusive, in the case of Immediate Life Annuities with Guaranteed Number of Payments between 20 and 75 (purchasers under the age of 40 are limited to widows and disabled persons), in the case of Deferred Life Annuities and Deferred Life Annuities with Guaranteed Number of Payments between 12 and 60, and in the case of Temporary Annuities between 1 and 18.

7. The premium rates are calculated on the mortality rates worked out by deducting 20 per cent for males and 30 per cent for females from the general mortality rate (in the case of Temporary Annuities 20 per cent from the male mortality rate) of the Japanese population.

The rate of interest allowed in the calculation of the value of annuities under the instalment payment plan is 1.5 per cent and under the single payment plan, such rate shall be determined, from time to time, by the Minister of Welfare upon the basis of the current market price of public bonds. The rate is fixed at 3.7 per cent for the present.

The reserves to be maintained against policies are worked out by the net premium method.

8. The maximum annuity that can be purchased on the life of any one person is ¥2,400 and the minimum is ¥100 under the instalment premium plan and in the case of Temporary Annuities or ¥30 under the single premium plan and convenient premium payment plan.

9. Premiums are payable in a single sum, by instalments or under the convenient payment plan; in the case of instalments the premium may be paid yearly, half yearly, quarterly (excluding Temporary Annuities) or monthly (Temporary Annuities only). All premiums are payable either at any post office designated by the purchaser or at his residence to the collector.

10. In the case of Immediate Annuities, payment of annuity will begin on the date of premium payment and will continue until the death of the annuitant. In the case of Deferred Annuities, payment of annuity will begin on the date of the annuitant's attaining the age of 50, 55, 60 or 65 and will continue until the death of the annuitant. In the case of Annuities with Guaranteed Number of Payments, the deceased family (annuitant in succession) receives the annuity of the same amount for the unexpired period of guaranteed payments. And finally, in the case of Temporary Annuities, payment of annuity will commence on the date of their attaining the age of 12, 15, 17 or 20 and will continue for five or ten years, as the case may be, provided that they are alive.

11. Annuitants may, subject to certain conditions, claim a change in their contracts, if applied for before commencement of annuity payment.

12. Should events stipulated as a reason for return of the purchase money actually occur, such return is to be made according to prescribed conditions.

13. Should the annuitant die as the result of war or similar incidence within a certain specified period of time, special refundment of the purchase money along with the ordinary one shall be made to the beneficiary.

14. Provided a contract reserves the right for the purchaser, the annuitant or the annuitant in succession to claim refund of premiums paid, such person may avail himself of a cash loan of not more than a certain proportion of the premiums paid, provided that the sum is not less than ¥50 per contract, or, if the proceeds are to be applied to the payment of the premium, a sum equal to one year's premiums.

15. Purchasers, annuitants, annuitants in succession or persons entitled to receive the amount to be refunded are requested, before bringing a civil action against the Government in respect of their contracts, to submit their cases before the Post Office Life Insurance Committee of Inquiry.

16. A special account is established for the management of this business.

#### POST OFFICE LIFE INSURANCE

Compiled by the Bureau of the Post Office Life Insurance,  
the Ministry of Welfare

(Amount in yen)

#### New Contracts

Financial Year	Number	Premiums	Sums Insured
1931-32	2,800,819	2,453,427	388,633,808
1932-33	2,883,356	2,412,635	371,027,797
1933-34	3,096,872	2,647,667	417,989,686
1934-35	3,150,881	2,827,243	453,306,719
1935-36	2,939,911	2,777,355	479,154,048
1936-37	3,189,259	3,051,579	597,497,484
1937-38	3,597,328	3,554,071	748,573,890
1938-39	5,312,185	5,568,217	1,308,939,689
1939-40	6,417,250	6,872,800	1,698,786,332



Financial Year	Revivals		Sums Insured		Death		Sums Insured	
	Number	Premiums	Number	Premiums	Number	Premiums	Number	Premiums
1931-32	166,531	129,941	22,318,260	200,888	168,270	27,915,317	200,888	168,270
1932-33	177,317	139,218	23,617,173	213,314	178,651	29,538,679	213,314	178,651
1933-34	114,736	93,291	15,618,305	238,634	201,421	33,086,754	238,634	201,421
1934-35	78,796	65,403	10,842,614	257,899	216,506	35,608,107	257,899	216,506
1935-36	61,723	52,211	8,583,431	288,684	243,699	40,123,337	288,684	243,699
1936-37	58,028	51,028	8,472,011	298,928	254,410	42,604,374	298,928	254,410
1937-38	46,616	41,383	7,073,416	349,208	299,826	51,925,011	349,208	299,826
1938-39	45,906	41,157	7,311,452	403,787	353,499	63,651,022	403,787	353,499
1939-40	54,177	50,169	9,566,722	494,974	444,589	85,639,703	494,974	444,589

Financial Year	Number	Expirations Premiums	Sums Insured	Surrenders, Lapses and from Other Causes		
				Number	Premiums	Sums Insured
1931-32	55,502	43,466	4,487,420	1,544,375	1,362,097	221,778,654
1932-33	113,022	105,125	10,719,540	1,344,635	1,174,803	194,729,177
1933-34	133,608	144,528	14,808,962	964,807	869,665	144,322,939
1934-35	202,282	249,120	25,283,853	804,643	762,455	129,779,382
1935-36	283,968	313,664	31,894,568	685,812	692,000	120,202,203
1936-37	329,062	318,499	33,960,055	620,786	639,997	118,416,447
1937-38	353,632	315,919	35,201,978	505,104	549,325	106,538,529
1938-39	404,546	398,053	44,627,626	466,086	494,354	103,145,936
1939-40	389,479	403,665	47,693,500	513,175	546,434	123,118,126

Financial Year	Number	Net Increase Premiums	Sums Insured	Contracts in Force at the End of Financial Year		
				Number	Premiums	Sums Insured
1931-32	1,166,785	1,009,535	161,770,677	16,793,485	13,632,759	2,253,136,387
1932-33	1,389,702	1,093,274	159,657,594	18,183,187	14,726,033	2,412,793,951
1933-34	1,874,499	1,525,281	241,389,396	20,057,686	16,251,314	2,654,183,347
1934-35	1,964,853	1,664,565	273,477,991	22,022,539	17,915,879	2,927,661,338
1935-36	1,743,170	1,580,197	295,517,371	23,765,709	19,496,076	3,223,178,709
1936-37	1,999,434	1,889,701	410,988,619	25,765,143	21,385,777	3,634,167,328
1937-38	2,436,000	2,430,385	561,931,788	28,201,142	23,816,167	4,196,083,346
1938-39	4,083,672	4,363,437	1,104,826,557	32,284,114	28,184,593	5,300,960,730
1939-40	5,073,799	5,528,280	1,451,901,726	37,357,913	33,712,873	6,752,862,456

Note: According to the report of the P.O.L.I. Office the number of contracts in force on July 11, 1942, reached 50,000,000, while sums insured passed over the mark of 10,000 million yen. The premiums amounted to 2,184 million yen at the end of June 1942.

### POST OFFICE LIFE ANNUITIES

Compiled by the Bureau of the Post Office Life Insurance,  
the Ministry of Welfare

(Amount in yen)

Financial Year	Kind of Annuities	New Contracts		Deaths			
		No.	Premiums	No.	Premiums		
1935-36:	Immediate Annuities	5,868	5,435,903	383,765	851	788,337	71,509
	Deferred Annuities under the Single Premium Plan	15,467	4,179,067	864,840	1,414	217,169	73,493
	Deferred Annuities under the Instalment Premium Plan	18,364	962,777	2,491,939	710	27,488	86,496

Financial Year	Kind of Annuities	Surrenders		Cancellation of Contracts by Statutes			
		No.	Premiums	No.	Premiums		
1936-37:	Immediate Annuities	8,644	9,202,862	627,763	917	957,483	82,572
	Deferred Annuities under the Single Premium Plan	17,939	6,694,375	1,243,077	1,424	208,922	68,343
	Deferred Annuities under the Instalment Premium Plan	18,948	1,199,319	2,682,482	756	33,354	97,018
1937-38:	Immediate Annuities	7,711	6,797,075	448,230	1,213	1,184,345	102,935
	Deferred Annuities under the Single Premium Plan	15,298	5,088,666	839,190	1,643	283,899	86,038
	Deferred Annuities under the Instalment Premium Plan	12,785	836,174	1,762,548	1,023	40,962	123,833
1938-39:	Immediate Annuities	10,415	8,999,196	586,526	1,305	1,253,708	103,105
	Deferred Annuities under the Single Premium Plan	17,848	6,733,862	1,081,840	1,990	345,845	101,700
	Deferred Annuities under the Instalment Premium Plan	10,714	839,297	1,544,548	1,075	39,473	127,617
1939-40:	Immediate Annuities	8,584	8,768,082	582,657	1,682	1,656,677	137,263
	Immediate Annuities with Guaranteed Number of Payments	2,788	5,892,986	350,970	—	—	—
	Deferred Annuities under the Single Premium Plan	12,862	6,481,000	993,780	1,980	372,099	102,076
	Deferred Annuities with Guaranteed Number of Payments under the Single Premium Plan	3,584	3,584,735	434,090	3	1,337	180
	Deferred Annuities under the Instalment Premium Plan	6,614	603,033	987,286	1,165	57,534	141,647
	Deferred Annuities with Guaranteed Number of Payments under the Instalment Premium Plan	2,934	352,003	457,439	4	751	500
	Deferred Annuities with Guaranteed Number of Payments under the Convenient Premium Payment Plan	1,284	*45,075	*4,604	1	143	12
			247,437	27,372			
	Group Annuities	16,160	*66,943	*9,657	5	104	15
			447,583	57,958			
	Temporary Annuities under the Single Premium Plan	15,078	8,472,901	2,170,514	19	6,678	2,060
	Temporary Annuities under the Instalment Premium Plan	42,085	2,640,630	5,478,998	87	4,233	10,344
1935-36:	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	1,630	266,116	81,672	—	—	—
	Deferred Annuities under the Instalment Premium Plan	5,246	175,965	617,640	2,727	53,671	335,142
1936-37:	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	1,430	214,907	60,388	—	—	—



Financial Year	Kind of Annuities	Surrenders			Cancellation of Contracts by Statutes		
		No.	Pre-miums	Amt. of Annuities	No.	Pre-miums	Amt. of Annuities
1937-38:	Deferred Annuities under the Instalment Premium Plan	4,814	157,546	531,296	2,375	70,777	291,746
	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	1,072	232,837	54,717	—	—	—
1938-39:	Deferred Annuities under the Instalment Premium Plan	3,591	116,415	373,215	1,846	58,785	228,159
	Immediate Annuities	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	973	212,551	45,242	—	—	—
1939-40:	Deferred Annuities under the Instalment Premium Plan	2,833	88,317	287,254	1,364	49,428	171,162
	Immediate Annuities	—	—	—	—	—	—
	Immediate Annuities with Guaranteed Number of Payments	—	—	—	—	—	—
	Deferred Annuities under the Single Premium Plan	816	267,616	83,489	—	—	—
	Deferred Annuities with Guaranteed Number of Payments under the Single Premium Plan	6	2,896	350	—	—	—
	Deferred Annuities under the Instalment Premium Plan	2,453	72,670	244,425	1,540	59,354	192,077
	Deferred Annuities with Guaranteed Number of Payments under the Instalment Premium Plan	12	1,009	1,960	7	525	910
	Deferred Annuities with Guaranteed Number of Payments under the Convenient Premium Payment Plan	2	78	10	—	—	—
	Group Annuities	9	48	8	—	—	—
	Temporary Annuities under the Single Premium Plan	5	1,868	600	—	—	—
Temporary Annuities under the Instalment Premium Plan	42	2,727	6,169	122	6,563	15,195	
Financial Year	Kind of Annuities	Increase (+) or Decrease (—) from other Causes			Contracts in Force at the End of the Financial Year		
		No.	Pre-miums	Amt. of Annuities	No.	Pre-miums	Amt. of Annuities
1935-36:		(In yen)					
	Immediate Annuities	+159	+117,048	+8,430	33,649	37,467,109	2,870,204
	Deferred Annuities under the Single Premium Plan	—88	—148,081	—21,859	187,986	30,432,578	10,197,216
1936-37:	Deferred Annuities under the Instalment Premium Plan	—104	—222,721	—489,983	113,678	4,563,176	14,400,998
	Immediate Annuities	+214	+158,711	+11,446	41,590	45,871,199	3,426,841

Financial Year	Kind of Annuities	Increase (+) or Decrease (—) from other Causes			Contracts in Force at the End of the Financial Year		
		No.	Pre-miums	Amt. of Annuities	No.	Pre-miums	Amt. of Annuities
1937-38:	Deferred Annuities under the Single Premium Plan	—123	—152,189	—23,784	202,947	36,550,934	11,287,778
	Deferred Annuities under the Instalment Premium Plan	—138	—191,429	—462,428	124,543	5,299,320	15,700,872
	Immediate Annuities	+248	+233,075	+16,462	48,336	51,717,005	3,788,598
1938-39:	Deferred Annuities under the Single Premium Plan	—124	—216,153	—32,094	215,398	40,906,265	11,953,159
	Deferred Annuities under the Instalment Premium Plan	—144	—221,230	—457,541	130,732	5,676,556	16,280,552
	Immediate Annuities	+196	+75,763	+2,578	57,642	59,538,532	4,274,597
1939-40:	Deferred Annuities under the Single Premium Plan	—140	—212,991	—29,570	230,143	46,868,740	12,858,498
	Deferred Annuities under the Instalment Premium Plan	—152	—208,164	—404,368	136,022	6,130,471	16,834,680
	Immediate Annuities	+227	+200,987	+14,143	64,771	66,850,925	4,734,133
1935-36:	Immediate Annuities with Guaranteed Number of Payments	+33	+17,886	+527	2,821	5,910,872	351,497
	Deferred Annuities under the Single Premium Plan	—173	—215,403	—29,558	240,036	52,494,621	13,667,150
	Deferred Annuities with Guaranteed Number of Payments under the Single Premium Plan	+2	+1,339	+76	3,577	3,581,841	433,636
	Deferred Annuities under the Instalment Premium Plan	—129	—174,960	—293,901	137,349	6,368,986	16,949,915
	Deferred Annuities with Guaranteed Number of Payment under the Instalment Premium Plan	+1	+13	+100	2,912	349,731	454,169
	Deferred Annuities with Guaranteed Number of Payments under the Convenient Premium Payment Plan	—2	—1,547	—92	1,279	290,744	31,861
	Group Annuities	—	+1	+1	16,146	514,375	67,592
	Temporary Annuities under the Single Premium Plan	—	+2,767	—232	15,054	8,467,122	2,167,622
	Temporary Annuities under the Instalment Premium Plan	—4	—619	—1,252	41,830	2,626,487	5,446,038

Note: 1. \* The figures indicate the amount of the second and subsequent premiums paid in and the amount of bought thereby. 2. Premiums under the Instalment Premium Plan indicate the amount of yearly payment.



## Loans and Investments of the P.O.L.I. Fund in 1940

	(In ¥1,000)	At the End of March 1940	At the End of Dec. 1940
Public advances		385,961	391,845
Advance against the insurance policies		143,373	138,635
Investments in Government bonds		394,593	481,920
Investments in local government bonds		675,817	764,314
Deposits at the Deposit Bureau		2,334	5,000
Short term investments		38,967	58,000
Cash on hand		4,348	27,012
Grand total including others		1,645,392	1,877,504

## State Health Insurance

On March 31, 1936, the number of laborers holding policies in the State Health Insurance was 3,043,934, an increase of 717,240 as compared with the previous year. Of the total, 3,026,650 were compulsorily insured; the number of contracts under Government control was 2,096,657 as against 947,277 of contracts under the control of 370 health insurance associations.

In 1936-37, the amount paid out to the

beneficiaries reached ¥45,882,742 for 10,848,429 cases.

## State Live-Stock Insurance

The live-stock insurance business is making steady progress. In March 1930 there were only 6 societies engaged in the live-stock insurance business, and only 1,304 head were insured for an aggregate amount of ¥127,622. The amount increased to ¥27,423,891 in March 1935, to ¥54,918,408 in March 1939 and to ¥70,420,558 in March 1940.



## CHAPTER XIII

# AGRICULTURE

TAIWAN ZETU KAISWA LTD.





# PURE CANE SUGAR

Raw and Refined—  
Fuji Brand Cube and Granulated

ESTABLISHED ..... 1900

CAPITAL ..... Yen 64,200,000

**TAIWAN SEITO KAISHA, LTD.**  
(TAIWAN SUGAR MFG. CO., LTD.)

HEAD OFFICE: Heito, Formosa, Japan

TOKYO OFFICE: Yuraku Bldg., Marunouchi, Tokyo

## CHAPTER XIII

### AGRICULTURE

#### Farm Households and Arable Lands

**Farm Households** Number of farm households totalled 5,491,838 at the end of 1939, which is 40% of the total number of households in Japan proper. Comparison with that of the previous year indicates a decrease of 67,049 or 1.2 per cent.

As classified into those engaged wholly or in part in agriculture, the figure consists of 3,685,637 of the former, and 1,806,201 of the latter.

Farm households cultivating their own lands numbered 1,699,526; the number of tenant-farmers and households cultivating their own lands together with those leased being 1,460,953 and 2,331,359 respectively.

Classified by size of area cultivated, farm-households cultivating less than 0.50 cho numbered 1,853,610, a decrease of 16,142 from the previous year, those between 0.50 and 0.99 cho, 1,799,840, a decrease of 8,911, between 0.99 and 1.99 cho 1,325,805, a decrease of 3,411, and those over 1.99 cho, 512,583, a decrease of 1,178.

**Owners of Arable-lands** The number of owners of arable-lands totalled 5,081,874 at the end of 1939 decreasing from that of the previous year by 7,414. When classified according to area owned, those who own less than 0.50 cho

number 2,440,427, and those owning from 0.50 cho to under 0.99 cho number 1,329,483. In this way the greater the areas, the less number of owners, and so those owning 50 cho and over are only 3,034 (or 0.059 per cent) in number. In the light of the tendency during the previous 10 years general increase was traceable in the total number, but it turned to decrease in 1938, while by reference to the tendency of number fluctuation according to area owned, those under 3 cho are pursuing a steady upward course, those owning more than 3 cho showing the reverse trend.

**Area of Arable-lands** Area of arable-lands at the end of 1939 was computed at 6,078,720 cho, occupying 15% of the total area of Japan proper. This figure consists of 3,209,199 cho (53%) of rice-fields and 2,869,529 cho (47%) of up-land-farms. Comparison of these figures with those of the previous year indicates an increase of 945 (0.02%) in the former and a decrease of 499 cho (0.01%) in the latter.

Classified into those cultivated by owners of lands and those by tenant-farmers, area cultivated by the former was 3,297,345 cho (54%), an increase of 49,044 cho (1.4%), the latter being 2,781,383, cho (45%), a decrease of 48,598 cho (1.7%),

#### FARM HOUSEHOLDS AND ARABLE LANDS IN JAPAN PROPER

(Compiled by the Ministry of Agriculture and Forestry)

Year (At the Year End)	FARM HOUSEHOLDS				
	1935	1936	1937	1938	1939
Total	5,610,607	5,597,465	5,574,879	5,519,480	5,491,838
Households principally engaged in agriculture	4,164,035	4,176,422	4,180,672	3,704,316	3,685,637
Households partly engaged in agriculture	1,446,572	1,421,043	1,394,207	1,815,164	1,806,201
Classified by the mode of tenure of the lands					
Households cultivating their own lands	1,732,086	1,731,139	1,733,997	1,695,884	1,699,526
Tenant-farmers	1,518,181	1,517,701	1,500,994	1,462,276	1,460,953



Year (At the Year End)	1935	1936	1937	1938	1939
Household cultivating their own lands together with leased land	2,360,340	2,348,625	2,339,888	2,361,320	2,331,359
Classified by the size of agricultural area under operation					
Under 0.5 cho	1,908,642	1,896,357	1,884,575	1,869,752	1,853,610
0.50 cho—0.99 cho	1,919,073	1,914,018	1,905,425	1,806,751	1,799,840
0.99 " —1.99 "	1,254,817	1,262,106	1,262,814	1,329,216	1,325,805
1.99 " —2.99 "	322,583	320,615	318,182	314,004	314,405
2.99 " —4.99 "	127,920	126,540	125,539	133,302	122,065
4.99 cho and over	77,572	77,829	78,344	67,455	76,113

Excluding owners of arable-lands not engaged in cultivation.

## OWNERS OF ARABLE-LANDS

Year (At the Year End)	1935	1936	1937	1938	1939
Total	5,147,412	5,150,220	5,141,968	5,089,348	5,081,874
Under 0.50 cho	2,555,398	2,556,630	2,550,259	2,475,141	2,440,427
0.50 cho—0.99 "	1,304,482	1,305,400	1,304,924	1,307,577	1,329,483
0.99 " —2.99 "	905,956	909,933	909,035	927,548	937,408
2.99 " —4.99 "	221,245	218,851	219,346	221,994	220,884
4.99 " —9.99 "	111,128	110,549	109,799	109,973	107,848
9.99 " —49.99 "	45,788	45,580	45,353	43,914	42,790
49.99 cho and over	3,415	3,277	3,252	3,201	3,034

## ARABLE LANDS

(In cho)

Year (At the Year End)	1935	1936	1937	1938	1939
Total	6,058,753	6,085,887	6,098,435	6,078,282	6,078,728
Cultivated by owners of the lands	3,220,465	3,253,720	3,266,045	3,248,301	3,297,345
Cultivated by tenant-farmers	2,838,288	2,832,167	2,832,389	2,829,981	2,781,383
Rice-fields	3,219,326	3,217,686	3,217,929	3,208,254	3,209,199
Cultivated by owners of the lands	1,517,113	1,526,760	1,538,051	1,527,149	1,547,855
Cultivated by tenant-farmers	1,702,213	1,690,926	1,679,877	1,681,105	1,661,344
Upland-farms	2,839,427	2,868,201	2,880,506	2,870,028	2,869,529
Cultivated by owners of the lands	1,703,352	1,726,960	1,727,994	1,721,152	1,749,489
Cultivated by tenant-farmers	1,136,075	1,141,242	1,152,512	1,148,875	1,120,039

## Rise in Land Value

In the past, a survey by the Industrial Bank was perhaps the one and only authentic source of information regarding selling and purchasing prices of farmland. Quite recently, however, the Ministry of Agriculture and Forestry made a minute survey of not only farmlands but also residential lands as well as plains. This survey, of which the result was recently announced by the ministry, consisted of a compilation of all statistical figures of land actually sold or purchased throughout the country during 1939. For the reason that this survey was the first attempt of the kind made by the Ministry of Agriculture and Forestry, a yearly comparison

cannot be made. To make up for this defect, the following table showing the fluctuations of prices of farmland since 1932 as surveyed by the Industrial Bank of Japan is given with a comparison made between the prices surveyed by the bank and also by the ministry in 1939:

## FLUCTUATIONS OF PRICES OF FARMLAND

(In yen per tan)

Year	Ordinary Paddy Field (Ta)	Ordinary Farm (Hatake)
1932	386	234
1933	387	234
1934	398	240

Year	Ordinary Paddy Field (Ta)	Ordinary Farm (Hatake)
1935	415	247
1936	435	249
1937	470	278
1938	519	304
1939	576	343
*1939	592	161
1940	687	422

\* Survey by Ministry of Agriculture and Forestry: Others according to the Industrial Bank of Japan. (Figures for end of March).

A wide disparity in the average prices of ordinary farms (Hatake) as noted between the figures given by the Ministry of Agriculture and Forestry and those by the Industrial Bank of Japan in 1939 in the foregoing table was due to the exceptionally low prices of farms in Hokkaido. In compiling the statistics, the Ministry took into account 70 per cent of the farm prices in Hokkaido whereas the bank referred to only 30 per cent of the prices of Hokkaido transactions. A wide difference in prices is also noted between prefectures because the productivity power as well as other special features such as farm rent and leases and similar profits from land have an important bearing on land prices in different prefectures. One of the principal features of the ministerial survey is the classification of sellers and purchasers according to classes to which they belong. In this respect, it is noted that the transfer and distribution of farmland are largely from landowners to independent farmers or independent tenants.

## Value of Production

The total value of production by 5,491,838 farm-households in 1939 amounted to ¥6,847,808,862 (¥1,263 per household) including farms products, minor industries, live stock, cocoons, raw silk and forestry production. (For details of the last three items see following chapters.)

## PRODUCTION BY FARMERS IN 1939

(In yen)

Rice	2,874,323,357
Barley and wheat	604,184,104
Vegetables	391,593,699
Fruits	156,459,188
Sweet potatoes	141,999,759
Other agricultural products	541,609,266
Live-stock production	380,303,480

Cocoons	882,946,776
Wood and bamboo	874,371,233
Total	6,847,808,862

**Farm Products in 1940** The domestic production of agricultural products during 1940 totalled ¥6,315,467,000, not including the value of wood and bamboo, representing an increase of ¥265,645,000 or 4.4 per cent as compared with the 1939 production and ¥3,968,532,000 or 168 per cent as compared with the production in 1930, according to a survey by the Ministry of Agriculture and Forestry. The 1940 production was also a sharp gain of ¥2,346,000,000 or 59 per cent as compared with the production in 1937 when the China Affair broke out, the ministerial survey revealed, thus indicating a remarkable progress of Japan's farm production as well as the sharp gain in the prices of farm products. While an increase in the quantity of production was noted in some agricultural products, the advance in the prices of agricultural products due principally to the increase of general commodity prices was the principal factor in zooming up the total value of agricultural production in Japan in the recent few years. The 1940 production of rice, the most important of farm products, totalled ¥2,554,000,000, representing a drop of ¥320,000,000 as compared with the 1939 output solely because of the poor rice crop. The 1940 rice production was also a decline of 8.2 per cent in quantity as compared with the 1937 crop but a gain of ¥482,000,000 or 23.3 per cent as compared with the same year. The production of cocoons in 1940 aggregated ¥862,455,000, receding both in quantity and value from 1939, but increasing by 1.8 per cent in quantity and twice as much in value as compared with the 1937 figures. The production of wheat, barley and rye during 1940 gained by 79 per cent as compared with 1937, due solely to the increased production since the outbreak of the China Affair. The 1940 production of fruits, tea and milk was more than doubled as compared with the 1937 output while a noteworthy gain was also noted in 1940 over 1937 in the production of wheat, barley, rye, food-stuff farm products, vegetables and flowers, straw products, meat, eggs, honey and beeswax. Thus, it is noted that the production of the majority of farm products, with the lone exception of rice, has been nearly doubled since the outbreak of the China Affair in 1937.



The ratio of the total value of rice production against the combined value of farm production receded from 52.2 per cent in 1937 to 40.4 per cent. Details follow:

Farm Products	—1940— Ratio in Total
Rice	2,553,564 40.4%
Wheat, Barley, Rye	725,738 11.5%
Foodstuff Agricultural Products	479,207 7.6%
Fruits	245,008 3.9%
Vegetables, Flowers	506,526 8.0%
Farm Products Used as Industrial Materials or Ornament	264,222 4.2%

Farm Products	—1940— Ratio in Total
Tea	71,870 1.1%
Straw Products	110,182 1.8%
Cocoons	862,455 13.7%
Meat	220,490 3.5%
Milk	78,472 1.2%
Eggs	195,215 3.1%
Honey and Beeswax	2,518 0.0%
Total	6,315,467 100.0%

## Rice Statistics

Supply and Demand of Rice The supply and demand of rice in Japan proper for the past 10 years were as follows:

## SUPPLY

(In koku)

Rice Year	Brought over from the Previous Year	Production of the Year Before	Imports including those from Territories	Total
1930	7,027,557	59,557,694	8,602,411	75,187,662
1931	5,719,241	66,875,535	11,521,639	84,116,415
1932	9,140,247	55,215,263	11,603,648	75,959,158
1933	8,907,430	60,390,098	12,747,714	82,045,242
1934	9,007,598	70,829,117	14,251,095	94,087,810
1935	16,430,872	51,840,182	13,020,173	81,291,227
1936	9,936,142	57,456,976	14,204,449	81,597,567
1937	8,006,500	67,339,699	11,879,389	87,225,588
1938	7,511,728	66,319,764	15,271,388	89,102,880
1939	8,493,300	65,869,092	9,780,412	84,142,804

## DEMAND

	Exports including those to Territories	Carried forward to Next Year	Consumption	Total Population in Japan Proper	Per Capita Consumption
1930	558,367	5,719,241	68,910,054	64,051,000	1.076
1931	1,997,925	9,140,247	72,978,243	64,993,000	1.123
1932	677,652	8,907,430	66,374,076	65,904,000	1.007
1933	623,747	9,007,598	72,413,897	66,920,000	1.082
1934	936,785	16,430,872	76,720,153	68,805,000	1.131
1935	802,257	9,936,142	70,552,828	69,757,000	1.026
1936	557,048	8,006,500	73,034,019	70,763,000	1.047
1937	647,642	7,511,728	79,066,218	71,787,000	1.117
1938	587,185	8,493,300	80,022,395	72,827,000	1.115
1939	761,511	4,061,353	79,319,940	72,827,000	1.089

The rice year begins with November and ends with October of the following year, and hence the production of the year 1930 represents the crop in the autumn of 1929.

## RICE CONDITIONS IN CHOSEN

Year	Production in the Previous Year	Exports to Japan Proper (In 1,000 koku)	Consumption
1931	19,183	8,409	10,537
1932	15,875	7,569	8,392
1933	16,346	7,972	8,508
1934	18,192	9,425	8,710
1935	16,554	8,856	8,134
1936	17,884	9,460	8,508
1937	19,410	7,161	12,579
1938	26,797	10,702	15,787
1939	24,139	6,051	17,047

## RICE CONDITIONS IN TAIWAN

Year	Production in the Previous Year	Exports to Japan Proper (In 1,000 koku)	Consumption
1931	7,516	2,656	4,874
1932	8,072	3,338	4,676
1933	8,666	4,118	4,782
1934	9,088	5,045	4,270
1935	9,122	4,491	4,201
1936	9,558	4,787	4,634
1937	9,233	4,841	4,590
1938	9,816	4,800	4,832
1939	8,962	4,001	5,003

## UTILIZATION OF RICE

According to Purposes, in Japan Proper (From November 1, 1937 to October 31, 1938)

	Amount used	Percentage
Used for Seeding	844	1.05
The table	69,679	87.07
Saké brewery	3,874	4.84
Making "mochi" (rice cake)	3,754	4.69
Making Japanese sauce etc.	554	0.69
Making Japanese confectionaries and jelly	1,032	1.29
Paste	58	0.07
Others	227	0.28
Total	80,022	100.00

## Rice in 1940

Price of Rice The standard price for 1941, or for rice cropped in 1940, was fixed at ¥39.00 minimum and ¥43.00 maximum per koku of unhulled rice in December 1940. In consonance with the rise of prices in general.

The standard prices for the years fixed according to Articles 2 and 3 of

the detailed regulation anent the Rice Control Law of 1933 have been as follows:

STANDARD PRICES OF RICE  
(In yen, Per koku, Unhulled Rice)

Date of Announcement	Standard Price Minimum	Standard Price Maximum
Nov. 1, 1933	22.70	30.50
Dec. 19, ..	23.30	30.50
Dec. 21, 1934	24.30	31.50
Dec. 21, 1935	24.80	33.20
Dec. 21, 1936	24.90	33.90
Dec. 23, 1937	27.30	35.40
Dec. 22, 1938	29.90	35.40
Aug. 26, 1939	..	43.00
Nov. 6, ..	32.50	43.00
Dec. 23, 1940	39.00	43.00

Rice Crop in 1941 Rice crop in 1941 reached 55,000,000 koku according to an announcement made by the Agriculture and Forestry Ministry. Compared with crop obtained in the previous year this showed a decrease of 5,800,000 koku or 10.5 per cent and in comparison with the average for the preceding five years it meant a decrease of 10,800,000 koku or 19.6 per cent. Farm area covered with rice plants involved 3,178,220 chobu and the national average of crop per tan or 1/10 chobu amounted to 1.915 koku, a koku being equivalent of 5.11902 U.S. bushels.

Precipitation was wanting around the time for transplanting young rice shoots and water was insufficient, thus either delaying the transplanting work or entirely making it impossible. In July, however, the weather was generally favorable for the growth of the plant, excepting Hokkaido and a part of the north-eastern districts of the Main Land. The low temperature in the beginning of August hindered the proper growth of the plant to a certain degree.

The comparison of the last 6 years is as follows:

RICE CROP IN 1936-1941  
in Japan Proper

	Area Planted in cho	Rice Crop in koku
1936	3,206,963.0	67,339,699
1937	3,217,051.5	66,319,764
1938	3,220,729.0	65,869,092
1939	3,192,703.0	68,964,468
1940	3,178,220.2	60,874,252
Average for 1936-1940	3,203,133	65,873,455
1941	3,183,000	55,087,000



VALUE OF CEREAL PRODUCTION IN JAPAN PROPER  
(Area in cho, Value in yen)

	1936	1937	1938	1939
Total Area	5,682,713	5,095,489	5,116,801	5,074,467
Total Production (Value)	2,226,310,331	2,500,520,303	2,615,554,064	3,528,621,083
Rice Area	3,206,963	3,217,051	3,220,729	3,192,703
Rice Production	1,865,268,551	2,071,889,318	2,172,706,376	2,874,323,357
Wheat Area	688,959	724,602	725,101	745,552
Wheat Production	173,215,048	210,937,714	202,001,262	317,056,062
Oats Area	125,557	122,594	137,371	123,871
Oats Production	12,600,640	17,224,780	22,477,540	19,810,411
Barley Area	340,773	330,182	357,609	353,890
Barley Production	60,871,161	75,185,874	87,037,171	118,954,001
Rye Area	439,570	429,494	414,812	409,577
Rye Production	84,165,931	100,130,993	93,676,993	148,523,679
Other cereals Area	280,891	271,566	263,177	248,894
Other cereals Production	30,189,000	34,151,624	33,654,722	50,153,513

Other Farm Productions

**Leguminous Plants** Area of leguminous plants in 1939 was 583,123 cho and the production was value at ¥167,950,279. During the past decade the area planted has been pursuing a slow downward movement. Soya-beans and azuki (red) beans are predominant both in area and production. The area of plantation and the amount of production of these two articles in 1939 were as follows:

	(In cho)	(In koku)	(In yen)
Soya-beans	329,674	2,700,402	51,119,383
Azuki beans	97,392	701,048	29,770,625

**Tuber and Root Crops** Area cultivated with tuber and root crops in 1939 was 648,902 cho and the value realized from their production was ¥381,596,506 and both showed an increase as compared with preceding years. From the standpoint of area and production, sweet potatoes, 'daikon' (giant radish), satoimo and potatoes are predominant.

	(In cho)	(In kan)	(In yen)
Sweet potatoes	277,827	933,140,458	141,999,759
Daikon	109,446	662,300,067	69,081,274
Potatoes	161,558	492,816,846	50,967,490

**Industrial Crops** Area cultivated with industrial crops in 1939 amounted to 307,736 cho and the production was valued at ¥239,953,525.

Chief products are summarized below:

Tobacco	22,807,820 kan	¥85,837,932
Sugar cane	2,186,012,924 kin	17,071,057
Rapeseed	1,002,296 koku	25,002,028
Rushes	19,443,483 kan	22,923,032
Insecticide flowers	2,553,261 kan	18,340,191
Arum	15,733,471 kan	15,625,536

**Vegetables** Area under vegetables in 1939 was 221,392 cho and the value of the production was estimated at ¥189,983,431.

Chief products are given below:

	(In kan)	(In yen)
Water-melons	110,425,029	27,310,815
Tsukena	201,644,951	31,759,792
Egg-plants	113,771,386	24,814,567
Cucumbers	74,529,004	17,003,790
Negi(onion)	66,948,672	19,547,746
Pumpkins	83,098,868	15,484,575
Tomatoes	40,534,278	10,079,494

**Fruits** The production of fruits in 1939 was valued at ¥156,460,000, having increased by ¥41,356,629 as against the figure of the previous year.

Predominant are the following:

	(In kan)	(In yen)
Mandarin oranges	123,572,000	44,106,000
Persimmons	70,906,000	20,232,000
Japanese pears	44,203,000	19,849,000
Apples	55,925,000	32,247,000
Grapes	15,860,000	9,243,000

Tea Tea grown in 1939 was 15,325,273 kan in quantity and ¥46,665,475 in value. Review of the past decade indicates an unbroken rise in production as a whole, while fluctuations in values of production have been brought about by falling-off prices.

**Livestock and Poultry (1) Horses.** Horses at the end of 1936 numbered 1,431,920, consisting of 816,599 female and 615,321 male. Foals and horses died to the number of 127,316 and 27,218 respectively. The increase in number during the past decade has been very slow, often tending towards decline.

(2) Cattle. Cattle at the end of 1939 numbered 1,967,214 (female, 1,495,234, male, 471,980). Cattle died numbered 18,034. The tendency of the past ten years was a steadily increasing one.

(3) Swine. Number of swine at the end of 1939 totalled 1,069,732. During the year, swine died or killed numbered 175,352. The raising of swine has been showing a sharp advance during the past decade, the number at the beginning of the decade being nearly doubled by the close of the same period.

(4) Sheep and Goats. Sheep and goats at the end of 1939 numbered 149,003 and 286,702 respectively, the former increasing as compared with the previous year, and the tendency during the past ten years has been towards increase.

Generally speaking, the raising of sheep and goats is still on quite a small scale in spite of this marked progress.

(5) Fowls. The total number of fowls at the end of 1939 was 49,980,385 (valued at ¥54,774,472). During the past ten years the number has increased by 100 per cent.

**Livestock Products (1) Milk.** The quantity of milk obtained in 1939 amounted to 1,922,312 koku valued at ¥58,956,134. The number of cows milked was 122,911 at the year end.

(2) Meat and Animals Slaughtered. The number of slaughter-houses at the end of 1939 was 708 and number of animals slaughtered and the quantity of meat obtained were as follows:

Number of Animals Slaughtered	
Horses	44,707
Cattle	373,781
Calves	33,808
Swine	1,311,553
Sheep	3,439
Goats	39,149
Total	1,806,437

Quantity of Meat Obtained	
Horses	1,727,217 kan
Cattle	19,538,485
Calves	345,039
Swine	18,296,049
Sheep	17,190
Goats	92,729
Total	40,016,545

(3) Dairy and Meat Products. Dairy production in 1939 amounted to 62,432,435 kin valued at ¥39,986,778. Meat products totalled 7,155,878 kin valued at ¥6,577,476.

(4) Eggs. Number of eggs obtained during the year ending June 1939 was as follows:

July 1938—June 1939		
	Number	Value
Fowls'	3,488,971,416	¥144,344,919
Ducks'	15,692,607	623,401

Tea Industry

Although the tea trade has become greatly depressed because of the aggravation of the world situation, tea occupied an important position in Japan's export articles prior to the outbreak of the China Incident. With raw silk, it was an important item of export to the United States.

Naturally, the reorganization of the domestic tea industry began to draw attention with the increasing strain in the relations between Japan and the United States as in the case of raw silk. Unlike the raw silk industry, however, no attempt has been made by tea producers to take necessary steps to cope with the new situation, principally because of the comparatively large domestic consumption of tea. More than 60 per cent of the domestic production of tea has been consumed in Japan, thus presenting a striking contrast with raw silk which depended on exports for about 90 per cent of the production.

Even after the outbreak of the China Affair, the exports of tea continued upward, amounting to 6,550,000 kwan in 1937, 6,260,000 kwan in 1939 and 3,170,000 kwan in the first nine months of 1940, although the increase was accounted for by shipments to the yen bloc countries which failed to yield any foreign currency. To cope with the situation, the curtailment of production has been advocated by the authorities concerned. Relative figures follow:



## TEA PLANTATIONS IN JAPAN

(In Chobu)

Year	Tea Gardens	Total including Others
1930	26,482	38,088
1931	26,875	38,109
1932	27,251	38,352
1933	27,496	38,486
1934	27,887	38,880
1935	28,437	39,320
1936	28,944	39,707
1937	29,430	40,126
1938	29,637	40,134
1939	29,908	40,384
1940	30,368	41,022

(Source: Statistics of the Ministry of Agriculture &amp; Forestry)

## TEA PLANTATIONS IN JAPAN BY PREFECTURES

(In Chobu)

Prefectures	1939	1940
Shizuoka	16,419	16,978
Kagoshima	3,119	3,235
Kyoto	1,517	1,520
Kumamoto	1,517	1,507
Miye	1,484	1,469
Miyazaki	1,293	1,368
Saitama	1,355	1,333
Fukuoka	1,183	1,271
Ibaraki	1,149	1,128
Others	11,347	11,213
Total	40,384	41,022

(Source: Statistics of the Ministry of Agriculture &amp; Forestry)

## AVERAGE PRICES OF TEA

(In Yen per Kwan)

Year	Bolled Tea (Sencha)	Coarse Tea (Bancha)	Refined			Average
			Green Tea (Gyokuro)	Black Tea (Kocha)	Others	
1936	2.458	0.936	9.212	2.256	6.487	2.212
1937	2.661	1.013	9.546	2.483	5.006	2.390
1938	2.250	0.926	8.778	1.606	2.787	2.002
1939	3.414	1.341	12.786	3.284	3.357	3.045
1940	5.124	2.430	16.085	5.119	4.884	4.628

Source: Statistics of the Ministry of Agriculture &amp; Forestry.

## TEA PRODUCTION BY VARIETIES

(Quantity in 1,000 Kwan; Value in ¥1,000)

Year	Tea Producers	Gyokuro		Sencha	
		Quantity	Value	Quantity	Value
1936	1,129,324	79.8	735.1	9,389.2	23,078.1
1937	1,124,406	82.9	759.1	10,238.5	27,246.8
1938	1,109,715	74.2	649.4	10,664.8	23,999.0
1939	1,093,691	77.7	992.9	10,123.5	37,977.6
1940	1,074,149	73.8	1,187.1	10,970.6	56,211.3

Year	Bancha		Black Tea		Total	
	Quantity	Value	Quantity	Value	Quantity (Including Others)	Value
1936	2,463.7	2,305.2	795.7	1,795.2	12,784.9	28,280.1
1937	2,712.5	2,746.8	1,235.9	3,068.6	14,376.8	34,356.5
1938	2,822.0	2,613.0	773.8	1,242.7	14,591.3	29,218.9
1939	3,027.8	4,051.3	514.3	1,689.4	15,325.3	46,665.5
1940	3,185.0	7,939.7	779.9	3,992.3	15,528.6	71,870.2

Source: Statistics of the Ministry of Agriculture and Forestry.

## JAPAN'S TEA EXPORTS 1930-40

(Quantity in 1,000 Kwan; Value in ¥1,000)

Year	Green Tea		Black Tea		Others		Total	
	Quant.	Value	Quant.	Value	Quant.	Value	Quant.	Value
1930	2,399.7	8,243.4	—	—	57.6	114.1	2,457.3	8,387.4
1931	2,931.2	8,045.4	—	—	142.3	185.3	3,073.5	8,232.7
1932	3,414.9	7,987.3	—	—	175.4	185.8	3,572.4	8,173.0
1933	3,454.3	8,250.6	—	—	111.8	199.0	3,566.1	8,449.6
1934	3,787.5	8,497.4	—	—	355.3	1,059.8	3,842.8	9,557.1
1935	3,782.2	9,180.0	600.5	2,002.3	118.9	238.4	4,501.6	11,420.6
1936	3,255.2	9,459.8	974.7	3,347.4	148.5	322.8	4,378.4	13,129.9
1937	4,656.6	17,032.0	1,718.8	5,755.3	179.8	393.2	6,555.2	23,180.8
1938	3,243.1	9,135.2	834.5	2,245.0	402.4	683.1	4,480.0	12,063.2
1939	4,305.5	17,693.4	1,024.7	3,761.0	929.9	2,008.7	6,260.1	23,463.1
1940	2,218.9	13,105.2	272.0	1,888.1	679.3	2,708.6	3,170.2	17,701.9

Note: 1940 figures for the first nine months, January to September.

## JAPAN'S EXPORTS OF TEA BY COUNTRIES

(Quantity in 1,000 Kwan; Value in ¥1,000)

Countries	1936		1937		1938		1939	
	Quant.	Value	Quant.	Value	Quant.	Value	Quant.	Value
Kwantung L.T.	103.2	242.3	139.0	313.2	222.8	489.3	762.1	2,715.8
Br. India	193.5	587.7	218.2	862.0	246.7	599.4	72.1	322.0
Soviet Russia	—	—	603.0	1,867.9	—	—	—	—
U.S.A.	1,771.9	5,548.7	2,027.6	7,750.2	1,474.4	4,315.5	1,781.4	7,741.6
Canada	383.8	1,097.0	398.6	1,226.2	234.0	640.8	316.0	1,375.1
Hawaii	15.5	47.9	14.8	62.1	17.1	73.7	18.4	100.7
Others	1,911.3	5,606.4	3,153.9	11,099.2	2,285.1	5,944.5	3,310.1	11,207.9
Total	4,378.4	13,129.9	6,555.2	23,180.8	4,480.0	12,063.2	6,260.1	23,463.1

Source: Statistics of the Ministry of Agriculture &amp; Forestry.

## Live-Stock Breeding in Japan

The index number of cattle being raised in Japan at the close of 1940 stood at 136 on the basis of 1931 while the index of milk cows was placed at 163 on the same basis. The number of pigs recorded a drastic decrease last year due principally to the large number of

animals which were slaughtered or fell dead.

The number of sheep at the end of last year increased by seven times and a half as compared with 1931 due to the Government encouragement of sheep breeding. Goats gained almost at the safe rate as cattle, although the number fell in 1938 and 1939. Figures follow:

## NUMBER OF LIVE-STOCK IN JAPAN

(In 1,000 Head)

At end of	Cattle				
	Total	Milk Cows	Pigs	Sheep	Goats
1931	1,512.4	78.2	947.2	24.5	218.9
1932	1,529.3	80.5	926.0	26.9	229.0
1933	1,559.8	86.9	913.5	30.5	236.0
1934	1,614.8	94.2	980.7	36.0	253.8
1935	1,684.5	100.3	1,063.1	47.3	277.9
1936	1,770.9	105.1	1,109.7	61.0	292.2
1937	1,825.8	109.4	1,088.2	89.8	293.3
1938	1,894.3	115.8	1,140.5	114.0	281.7
1939	1,967.2	122.9	1,069.7	149.0	286.7
1940	2,060.9	127.2	766.2	184.4	300.4



## NUMBER OF HOUSES RAISING CATTLE OR PIGS

(In 1,000 Houses)

At end of	Houses Raising Cattle			Houses Raising Pigs		
	Numbering			Numbering		
	1	2-4	Over 5	1	2-4	Over 5
1931	1,065.3	147.9	10.0	304.3	159.4	23.0
1932	1,071.1	151.6	10.4	318.2	154.6	20.5
1933	1,081.3	158.0	10.9	325.7	153.9	19.1
1934	1,099.3	173.0	11.1	342.7	168.4	20.5
1935	1,120.6	192.1	11.8	365.7	184.9	22.5
1936	1,154.4	210.8	12.8	385.4	191.3	23.4
1937	1,186.6	221.4	12.7	378.8	187.4	22.5
1938	1,229.3	231.8	13.0	382.9	196.3	24.7
1939	1,279.4	238.6	13.3	377.9	221.7	22.5
1940	1,358.2	245.0	13.0	317.3	120.7	15.2

According to the latest report, the number of live-stock butchered during 1940 totalled 1,669,300 head, exclusive of horses. Due to the fixation of official prices which apply to six leading cities, there has been a tendency for the inflow of slaughtered animals into cities in the vicinity of butchering centers with the result that the supply of meat has become extremely unbalanced. With the

Japan Meat Merchants' Central Federation having fixed the allotment of butchered animals to respective prefectures under the supervision of the Ministry of Agriculture and Forestry, however, the supply and demand of meat is expected to be harmoniously balanced in the near future. The number of live-stock slaughtered follows:

## NUMBER OF LIVE-STOCK SLAUGHTERED

(In 1,000 Head)

Year	Number of Butcheries	Cattle							Meat* Supplied
		Cattle	Calf	Horses	Pigs	Sheep	Goats	Total	
1931	629	292.1	27.9	76.9	695.4	1.1	27.7	1,121.1	25,572
1932	665	331.6	29.2	80.4	986.7	1.1	28.7	1,457.7	31,631
1933	679	326.2	30.3	92.4	983.2	1.5	34.6	1,468.4	31,064
1934	696	297.0	28.7	89.8	974.1	1.4	42.6	1,433.6	30,223
1935	701	299.9	31.2	89.4	1,044.1	1.4	48.3	1,514.4	36,914
1936	734	300.6	33.7	95.4	1,239.6	1.4	50.4	1,721.0	35,676
1937	733	348.7	40.5	72.2	1,272.5	2.6	53.0	1,789.4	37,839
1938	716	365.6	35.0	40.8	1,218.0	3.1	45.8	1,708.3	36,933
1939	708	373.8	33.8	44.7	1,311.5	3.4	39.1	1,806.4	40,017
1940†	—	423.5	31.7	—	1,192.9	3.2	6.9	1,669.3	38,446

Note: \* In 1,000 kwan; † 1941 total and meat exclusive of horses.

## Honey and Bees-Wax

At the end of 1940, there were 47,464 houses raising honey-bees in Japan, representing an increase of 674 houses or 8.4 per cent as compared with the corresponding period in the preceding year, apparently due to the recent shortage of sugar and the advance in prices of honey-bees.

The domestic production of honey in

1940 amounted to 83,800 kwan valued at ¥2,416,000, or a gain of 102,000 kwan or 13.8 per cent in quantity and ¥729,000 or 43.2 per cent in value as compared with the preceding year. The production of bees-wax in 1940 increased by 10,000 kwan or 36.8 per cent in quantity and by ¥100,000 or 54.9 per cent in value as compared with 1940, thus contributing greatly to the economic life of the agricultural community. Details follow:

## NUMBER OF HOUSES RAISING HONEY-BEES

Houses Keeping

Years	Less Than 10 Boxes	10-50 Boxes	More than 50 Boxes	Total
1930	37,957	1,679	297	39,933
1931	41,896	2,096	392	44,384
1932	44,269	2,312	414	44,995
1933	45,613	2,380	400	48,393
1934	47,986	2,609	444	51,039
1935	48,826	2,541	424	51,791
1936	46,319	2,340	213	49,072
1937	45,173	2,390	437	48,000
1938	43,278	2,148	407	45,833
1939	41,386	1,999	405	43,790
1940	44,418	2,530	516	47,464

## NUMBER OF BOXES OF HONEY BEES BY ORIGIN

Years	Domestic Species	Foreign Species	Total
1930	74,496	92,885	167,381
1931	82,097	104,266	186,363
1932	82,394	114,178	196,572
1933	82,174	114,669	196,843
1934	85,796	123,464	209,260
1935	85,545	124,872	210,417
1936	81,226	119,994	201,220
1937	84,234	119,795	204,029
1938	76,310	113,386	189,696
1939	74,090	109,191	183,281
1940	85,620	138,439	224,113

## PRODUCTION OF HONEY AND BEES-WAX

Years	Honey		Bees-Wax		Total Yen
	Kwan	Yen	Kwan	Yen	
1930	496,470	908,389	6,319	33,293	941,682
1931	532,292	881,465	6,612	32,574	914,039
1932	590,014	948,788	6,407	29,781	978,569
1933	634,069	1,028,173	6,247	38,583	1,056,756
1934	699,337	1,121,836	6,984	31,220	1,153,056
1935	688,677	1,112,245	7,684	34,374	1,146,619
1936	670,081	1,149,354	6,720	31,389	1,180,743
1937	753,078	1,287,675	6,810	25,493	1,323,168
1938	708,100	1,292,172	6,744	41,333	1,333,505
1939	736,183	1,686,903	7,836	65,919	1,752,822
1940	837,804	2,416,211	10,723	102,078	2,518,289

## Pomiculture in 1940

The production of fruits is subject to a sharp change in a greater degree than other farm products for the reason that fruit-trees are extremely sensitive to weather conditions. Fruit-trees themselves have a very peculiar characteristic of bearing a smaller number of fruits every other year. Thus, it is noted that the production of fruits drops almost without exception every other year. However, the fruit production in 1940 recorded a considerable gain due to a remarkable increase in the number of fruit-trees despite the fact that the preceding year had seen a very good crop.

The 1940 production of fruits in Japan

totalled ¥245,000,000, representing an increase of ¥88,500,000 or 56.6 per cent compared with the 1939 production, or 2.6 times as much as the 1938 production preceding the outbreak of the China Affair.

Of the total 1940 production of fruits, mandarin oranges accounted for ¥71,000,000 or 29 per cent, gaining by ¥27,000,000 or 61 per cent compared with the preceding year. Apples, persimmons and Japanese pears followed in that order. Those four fruits accounted for 77 per cent of the total fruit production in Japan during 1940. Plums, as military foodstuff, also increased greatly in 1940, the production in that year topping



¥10,000,000.

Quantitatively, the 1940 production of fruits aggregated 382,000,000 kwan or 6.4 per cent more than the production in 1939.

The total area of orchards as at the end of 1940 aggregated 156,000 chobu, rising by 7.6 per cent as compared with the close of the preceding year. Relative figures follow:

## DOMESTIC PRODUCTION OF FRUITS BY YEAR

Years	Number of Fruit Trees	Fruit Production	Value of Production
	—1,000 trees—	—1,000 kwan—	—¥1,000—
1931	72,241	254,610	61,261
1932	74,135	299,719	64,244
1933	76,405	300,655	74,292
1934	76,497	291,414	69,644
1935	80,989	347,030	77,566
1936	82,782	298,253	81,812
1937	84,398	340,769	92,115
1938	84,750	338,372	115,103
1939	87,112	375,893	156,459
1940	91,379	382,072	245,608

## NUMBER OF FRUIT-TREES IN JAPAN

(In 1,000 Trees)

Fruits	1937	1938	1939	1940
Plums	5,716	5,853	5,960	5,984
Peaches	5,091	4,976	4,991	4,843
Cherries	430	430	428	410
Loquats	2,222	2,207	2,279	2,268
Japanese Pears	8,233	7,961	8,059	7,908
Foreign Pears	301	309	335	410
Apples	4,247	4,421	4,553	4,932
Persimmons	17,923	18,033	18,302	18,276
Grapes	6,163	5,888	5,651	5,319
Mandarine Oranges	26,547	26,955	28,506	33,199
Navel Oranges	1,671	1,742	1,708	1,703
Chinese Citrons	3,574	3,619	3,926	3,657
Other Oranges	2,280	2,350	2,414	2,470
Total	84,398	84,750	87,112	91,379

## PRODUCTION OF FRUITS IN JAPAN

(In 1,000 Kwan)

Fruits	1937	1938	1939	1940
Plums	*343	*429	*422	*442
Peaches	12,354	12,412	12,382	13,151
Cherries	1,284	1,325	1,306	1,391
Loquats	5,595	5,636	5,215	6,017
Japanese Pears	42,743	43,269	44,203	44,414
Foreign Pears	1,082	1,114	1,237	1,700
Apples	41,572	49,226	55,945	59,957
Persimmons	61,528	66,297	70,906	74,332
Grapes	18,412	16,049	15,860	16,838
Mandarine Oranges	117,019	93,239	123,572	114,604
Navel Oranges	5,046	5,533	5,212	5,629
Chinese Citrons	17,131	22,798	19,073	21,713
Other Oranges	5,795	6,452	6,223	6,840
Total	**340,769	**338,372	**375,893	**382,072

Note: \* Plums given in 1,000 koku. Converted into kwan at the rate of 1 koku for 35 kwan, the plum production amounted to 12,021,000 kwan in 1937, 15,022,000 kwan in 1938, 14,759,000 kwan in 1939 and 15,486,000 kwan in 1940. \*\* Total includes plum production in 1,000 kwan.

## PRODUCTION OF FRUITS IN JAPAN

(In ¥1,000)

Fruits	1937	1938	1939	1940
Plums	5,258	6,725	8,302	10,772
Peaches	4,014	4,483	6,741	9,469
Cherries	908	1,120	1,352	1,792
Loquats	2,817	2,747	3,746	5,673
Japanese Pears	11,778	14,671	19,849	27,605
Foreign Pears	490	571	775	1,402
Apples	14,884	22,396	32,247	56,659
Persimmons	13,093	15,180	20,232	31,167
Grapes	6,480	6,618	9,243	14,071
Mandarine Oranges	25,367	32,891	44,106	71,155
Navel Oranges	2,170	2,452	2,684	3,773
Chinese Citrons	3,521	3,697	5,185	8,588
Other Oranges	1,345	1,551	1,995	2,823
Total	92,115	115,103	156,459	245,008

## Village Societies

**Agricultural Associations** Agricultural associations are organized by local administrative bodies for the improvement of the agricultural industry. In 1939 there were 11,049 city, town and village agricultural associations, 547 county agricultural associations, 47 prefectural agricultural associations and 1 Imperial Agricultural Association in Japan proper. The Imperial Agricultural Association (Teikoku Nō Kai) is the central organ or the federation of 47 prefectural associations. The membership consisted of 8,426,173 farmers. The total expenditure of these associations amounted to ¥39,957,100.

**Cooperative Societies** The cooperative societies of this country have developed from the older credit societies.

The business of granting credits still forms the most important of the activities of the cooperative societies. There are at present about 15,000 of these societies throughout the country, which have a total membership of over 6,000,000. Of these institutions 13,700 are loan societies which are mostly located in agricultural villages, accommodating their members with industrial and economic funds and accepting deposits from their members and public organizations.

Of the 13,700 loan societies more than 749 are engaged only in supplying loans to members; but their number is gradually decreasing because the Government is, in line with a five-year cooperative expansion program, encouraging them to function as trading, purchasing and utilization associations as well.

## VILLAGE COOPERATIVE SOCIETIES

Number of Cooperative Societies

(At the year end)

Societies	1934	1935	1936	1937	1938	1939
Credit	1,511	1,313	1,117	895	749	706
Trading	332	301	300	297	267	248
Purchasing	332	314	301	270	257	255
Utilization	306	298	286	243	238	237
Trading and purchasing	263	258	239	170	187	176
Trading and utilization	264	256	247	201	188	172
Purchasing and utilization	144	152	162	174	174	173
Trading, purchasing & utilization	496	518	492	412	479	475
Credit and trading	166	157	140	71	41	44
Credit and purchasing	1,056	760	504	219	136	113
Credit and utilization	96	82	84	75	49	57
Credit, trading and purchasing	2,361	1,952	1,560	988	797	648
Credit, trading and utilization	32	33	37	34	12	13
Credit, purchasing and utilization	248	204	160	101	83	76



¥10,000,000.

Quantitatively, the 1940 production of fruits aggregated 382,000,000 kwan or 6.4 per cent more than the production in 1939.

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## DOMESTIC PRODUCTION OF FRUITS BY YEAR

Years	Number of Fruit Trees	Fruit Production	Value of Production
	—1,000 trees—	—1,000 kwan—	—¥1,000—
1931	72,241	254,610	61,261
1932	74,135	299,719	64,244
1933	76,405	300,655	74,292
1934	76,497	291,414	69,644
1935	80,989	347,030	77,566
1936	82,782	298,253	81,812
1937	84,398	340,769	92,115
1938	84,750	338,372	115,103
1939	87,112	375,893	156,459
1940	91,379	382,072	245,608

## NUMBER OF FRUIT-TREES IN JAPAN

(In 1,000 Trees)

Fruits	1937	1938	1939	1940
Plums	5,716	5,853	5,960	5,984
Peaches	5,091	4,976	4,991	4,843
Cherries	430	430	428	410
Loquats	2,222	2,207	2,279	2,268
Japanese Pears	8,233	7,961	8,059	7,908
Foreign Pears	301	309	335	410
Apples	4,247	4,421	4,553	4,932
Persimmons	17,923	18,033	18,302	18,276
Grapes	6,163	5,888	5,651	5,319
Mandarine Oranges	26,547	26,955	28,506	33,199
Navel Oranges	1,671	1,742	1,708	1,703
Chinese Citrons	3,574	3,619	3,926	3,657
Other Oranges	2,280	2,350	2,414	2,470
Total	84,398	84,750	87,112	91,379

## PRODUCTION OF FRUITS IN JAPAN

(In 1,000 Kwan)

Fruits	1937	1938	1939	1940
Plums	*343	*429	*422	*442
Peaches	12,354	12,412	12,382	13,151
Cherries	1,284	1,325	1,306	1,391
Loquats	5,595	5,636	5,215	6,017
Japanese Pears	42,743	43,269	44,203	44,414
Foreign Pears	1,082	1,114	1,237	1,700
Apples	41,572	49,226	55,945	59,957
Persimmons	61,528	66,297	70,906	74,332
Grapes	18,412	16,049	15,860	16,838
Mandarine Oranges	117,019	93,239	123,572	114,604
Navel Oranges	5,046	5,533	5,212	5,629
Chinese Citrons	17,131	22,798	19,073	21,713
Other Oranges	5,795	6,452	6,223	6,840
Total	**340,769	**338,372	**375,893	**382,072

Note: \* Plums given in 1,000 koku. Converted into kwan at the rate of 1 koku for 35 kwan, the plum production amounted to 12,021,000 kwan in 1937, 15,022,000 kwan in 1938, 14,759,000 kwan in 1939 and 15,486,000 kwan in 1940. \*\* Total includes plum production in 1,000 kwan.

## PRODUCTION OF FRUITS IN JAPAN

(In ¥1,000)

Fruits	1937	1938	1939	1940
Plums	5,258	6,725	8,302	10,772
Peaches	4,014	4,483	6,741	9,469
Cherries	908	1,120	1,352	1,792
Loquats	2,817	2,747	3,746	5,673
Japanese Pears	11,778	14,671	19,849	27,605
Foreign Pears	490	571	775	1,402
Apples	14,884	22,396	32,247	56,659
Persimmons	13,093	15,180	20,232	31,167
Grapes	6,480	6,618	9,243	14,071
Mandarine Oranges	25,367	32,891	44,106	71,155
Navel Oranges	2,170	2,452	2,684	3,773
Chinese Citrons	3,521	3,697	5,185	8,588
Other Oranges	1,345	1,551	1,995	2,823
Total	92,115	115,103	156,459	245,008

## Village Societies

**Agricultural Associations** Agricultural associations are organized by local administrative bodies for the improvement of the agricultural industry. In 1939 there were 11,049 city, town and village agricultural associations, 547 county agricultural associations, 47 prefectural agricultural associations and 1 Imperial Agricultural Association in Japan proper. The Imperial Agricultural Association (Teikoku Nō Kai) is the central organ or the federation of 47 prefectural associations. The membership consisted of 8,426,173 farmers. The total expenditure of these associations amounted to ¥39,957,100.

**Cooperative Societies** The cooperative societies of this country have developed from the older credit societies.

The business of granting credits still forms the most important of the activities of the cooperative societies. There are at present about 15,000 of these societies throughout the country, which have a total membership of over 6,000,000. Of these institutions 13,700 are loan societies which are mostly located in agricultural villages, accommodating their members with industrial and economic funds and accepting deposits from their members and public organizations.

Of the 13,700 loan societies more than 749 are engaged only in supplying loans to members; but their number is gradually decreasing because the Government is, in line with a five-year cooperative expansion program, encouraging them to function as trading, purchasing and utilization associations as well.

## VILLAGE COOPERATIVE SOCIETIES

Number of Cooperative Societies  
(At the year end)

Societies	1934	1935	1936	1937	1938	1939
Credit	1,511	1,313	1,117	865	749	706
Trading	332	301	300	297	267	248
Purchasing	332	314	301	270	257	255
Utilization	306	298	286	243	238	237
Trading and purchasing	263	258	239	170	187	176
Trading and utilization	264	256	247	201	188	172
Purchasing and utilization	144	152	162	174	174	173
Trading, purchasing & utilization	496	518	492	412	479	475
Credit and trading	166	157	140	71	41	44
Credit and purchasing	1,056	760	504	219	136	113
Credit and utilization	96	82	84	75	49	57
Credit, trading and purchasing	2,361	1,952	1,560	988	797	648
Credit, trading and utilization	32	33	37	34	12	13
Credit, purchasing and utilization	248	204	100	101	83	76



Societies	1934	1935	1936	1937	1938	1939
Credit, trading, purchasing and utilization	7,206	8,430	9,831	10,362	11,671	11,839
Classified by the organization						
Limited liability	5,973	4,499	3,062	724	728	726
Unlimited liability	971	934	934	830	809	775
Guaranteed liability	7,871	9,595	11,464	12,958	13,791	13,731
Total	14,815	15,028	15,460	14,512	15,328	15,232

## Operation of Cooperative Societies

(At the end of March)

(Amount in yen)

	1935	1936	1937	1938	1939
Number of societies investigated	13,616	13,864	14,140	13,743	14,301
Number of members	5,505,897	5,795,139	6,127,425	6,206,426	6,766,470
Capital					
Amount authorized	326,037,985	334,570,344	342,183,330	343,469,974	363,314,907
Amount paid up	250,856,520	259,996,044	263,540,430	264,759,483	279,112,453
Reserve fund	137,492,777	146,392,752	151,546,260	155,014,265	162,125,180
Loans	271,246,314	255,782,695	249,324,576	237,905,282	209,444,190
Credit societies					
Number of societies investigated	11,812	12,094	12,437	12,153	12,762
Number of members	4,261,000	4,494,000	4,785,662	4,914,655	5,488,765
Deposits	1,268,021,000	1,378,319,000	1,514,897,044	1,747,779,533	2,208,342,551
Advances	1,014,445,000	1,033,334,000	1,047,878,130	1,061,119,319	1,062,931,993
Trading societies					
Number of societies investigated	10,293	11,057	11,859	11,892	12,699
Number of members	3,857,000	4,199,000	4,624,881	4,692,671	5,426,535
Total amount of sales (for the year)	313,210,000	376,746,000	478,316,112	598,880,028	746,536,186
Purchasing societies					
Number of societies investigated	11,155	11,664	12,116	12,053	12,917
Number of members	4,108,000	4,374,000	4,879,540	4,937,494	5,702,461
Total amount of purchases (for the year)	196,126,000	249,296,000	281,541,238	353,868,062	432,922,783
Utilization societies					
Number of societies investigated	8,213	9,300	10,484	11,043	12,002
Number of members	3,308,000	3,822,000	4,378,065	4,652,454	5,335,749
Total amount of charges for utilization (for the year)	8,054,000	9,465,000	10,948,498	12,540,116	15,444,121

**Village Cereal Warehouses** At the time of the great crop failure which resulted from the unseasonably cold weather in the Tohoku or North-Eastern District in 1934, the Imperial House granted a large sum of money, in November of that same year, for instituting

some permanent system of mutual relief and rehabilitation for the farmers in the district.

Accordingly the Government, in order to comply with the Imperial wishes, decided upon establishing and popularizing 'Go-Kura' or village warehouses

for storing cereals against emergencies in those parts. It distributed an aggregate sum of ¥1,636,800 for the 1934 and 1935 financial years to the prefectures in the district, where 1,209 old cereal warehouses were enlarged and renovated and as many as 4,921 new ones established.

A warehouse association has been

formed in each village and each farmer-member of the association is required to store his crop of any particular year by the end of December. The aim is to complete full stocks of cereals in about five years. There are many villages where special community farms for the purpose are cultivated either by members themselves or by tenants.

## NUMBER OF VILLAGE WAREHOUSES

	Total	Owners		Capacity	
		Public Bodies	Federation	For Cereals	For Cocoons
1934	6,834	6,724	110	23,540,000 (bales)	4,182,000 (kan)
1935	7,939	7,779	160	27,992,000	4,107,000
1936	8,513	8,304	209	30,430,000	4,541,000
1937	8,511	8,518	293	31,712,958	4,352,784
1938	9,313	8,943	370	33,512,943	4,534,446
1939	9,672	9,258	414	34,600,417	4,519,410

## AGRICULTURE IN 1941-42

**Agriculture and Foodstuff Problems**

The smooth supply of foodstuffs under a prolonged war situation is an indispensable factor for the buttressing of the national strength. In this sense, the decreased rice crop in the 1940-41 rice years, created an acute problem in the agricultural community, but as this was a problem arising out of the various inconsistencies in Japan's agricultural conditions under the weight of wartime economy, adequate measures began to be devised to improve the situation. They include measures for stabilizing the supply of cardinal foodstuffs by importing foreign rice and adopting a positive production increase policy of various foodstuffs. For this purpose, governmental functions concerned with foodstuffs under the competency of the Ministry of Commerce and Industry and the Ministry of Agriculture and Forestry were unified and steps were taken to supplement the short supply of labor in the agricultural community due to the mobilization of farmers for the front. The Farm Implements Distribution Company and the Japan Fertilizers Company were established during 1941 by the initiative of the Government in order to facilitate the supply of necessary commodities for agriculture. Regulations for control of the distribution of rice, wheat, wheat flour, rice bran, starches, soya beans and miscellaneous cereals were promulgated for increasing the supply of staple foodstuffs, while restrictions over consumption were exercised by the encouragement of mixed foods or

substitute foods.

**Production Increase Measures** In pursuance of the policy of increasing the foodstuff production as a positive measure for maintaining the supply of wartime foodstuffs, the Government at the start of 1941 decided on a ten-year plan for expanding arable land by 500,000 chobu (including 200,000 chobu of irrigated fields and 300,000 chobu of upland fields), and enacted the Farmland Development Law for the purpose. This law which took effect on May 1, 1941, provided for the creation of the Farmland Development Corporation and the Upland Development Corporation. Those two bodies immediately upon establishment started cultivating 82,000 chobu of farmland by utilization of water facilities and developing 140,000 chobu of upland districts in the Tohoku prefectures, respectively. The Government also promulgated the Farmland Control Ordinance in an endeavor to check reckless conversion of farmland into residential zones on February 1, 1941. Measures were also taken by the Government to guarantee the smooth supply of labor in the farming areas to cope with the expansion of farmland. For this purpose, the Agricultural Production Control Ordinance was promulgated on November 7 in order to secure the supply of fundamental labor in the agricultural community. The total area of farmland in Japan in 1940 dropped by 0.2 per cent compared with the preceding year as follows:



## FARMLAND IN JAPAN AT END OF 1940

(In 1,000 Chobu)

	Total Area	Farmland Expanded	Farmland Destroyed
Irrigated Fields	3,206 *(0.8%)	8 **(7.0)	13 **(16.6%)
Upland Fields	2,870 **(0.5%)	21 *(7.0)	21 *( 8.5%)
Total	6,077 *(0.2%)	30 *(3.3)	34 **(11.4%)

Note: \* Decrease compared with 1939 end.

\*\* Increase compared with 1939 end.

**Agricultural Organizations** The merger of agricultural bodies took a step forward when the Central Agricultural Cooperative Association was created by the suggestion of the Government on May 3, 1941, through the amalgamation of seven leading organizations, namely: Imperial Agricultural Society, Central Federation of Industrial Associations, All-Japan Federation of Cooperative Associations, Imperial Dairy Association, All-Japan Federation of Sericultural Associations, Central Chamber of Tea Associations and Central Bank of Industrial Associations. Simultaneously with the creation of this cooperative body, the Government projected the adjustment of various functions of the Ministry of Commerce and Industry and the Ministry of Agriculture and Forestry concerned with foodstuffs and established the Foodstuffs Control Bureau in the Ministry of Agriculture and Forestry. The Government also appointed the Minister of Agriculture and Forestry as Overseas Minister, concurrently, in order to facilitate the unification of foodstuff policies of the Central Government and colonial governments.

**Distribution Control** In view of the increasing necessity of controlling the distribution of farm products for the adequate maintenance of foodstuffs, the Government in 1941 positively strengthened the policy to control staple foodstuffs of the people. For this purpose, the Ministry of Agriculture and Forestry embarked upon the control of the supply and demand of rice, wheat and other principal cereals by the creation of the Foodstuffs Control Bureau on January 8, 1941. On February 6, the Government revised the Rice Supply-Demand Special Adjustment Accounts Law in order to expand the list of farm products to be purchased by the Government, thereby adding to the list soya beans, sweet potatoes, Irish potatoes, buckwheat, etc., to the originally-listed three items, namely: rice, wheat and wheat flour. The

Government also increased the amount of the Government purchasing fund by ¥1,400,000,000, and subjected to State control wheat, barley and rye sold by the farmers on May 17. New Wheat and Barley Distribution Control Regulations were promulgated on June 9 in order to distinctly classify distribution routes of wheat, barley and rye.

The adoption of the double-price system for rice decided upon on September 14, the grant of a Government subsidy for the maintenance of the production and acceleration of the supply of colonial rice and the adjustment of the prices of colonial rice approved by the Cabinet on October 3 were some of the important steps taken by the Government during 1941 to place rice under well-planned State control. The wartime foodstuffs storage plan approved by the Government on October 10 as an emergency measure for the absolute maintenance of the supply of foodstuffs was one of the most noteworthy Government steps taken to cope with wartime requirements.

The Government also took steps to restrict consumption of foodstuffs as a negative measure and for the purpose adopted the ticket ration system for the distribution of rice in six leading cities including Tokyo as from April 1, 1941.

**Results of Foodstuff Measures** Rice production in Japan proper during the 1940-41 rice year totalled 55,462,000 Koku (by the 2nd forecast by the Ministry of Agriculture and Forestry, representing a decline of 5,355,000 koku due principally to unfavorable weather conditions. On the contrary, the rice crop in Chosen, estimated at 24,510,000 Koku by the second forecast, and in Taiwan, estimated at 9,300,000, greatly eclipsed the production in the preceding rice-year. The rice stock in Japan proper at the close of November 1, 1941, stood at 8,390,000 koku, increasing by about 4,000,000 koku compared with the preceding year. Detailed figures follow:

## PRODUCTION OF PRINCIPAL CEREALS

(In 1,000 Koku)

Cereals	1937	1938	1939	1940	1941
Rice	66,320	65,869	68,964	60,818	*55,462
Barley	6,879	6,325	7,764	7,525	6,499
Rye	5,961	5,114	6,730	6,262	6,752
Wheat	9,996	8,972	12,113	13,114	10,670

Note: \* by 2nd forecast by Ministry of Agriculture &amp; Forestry.

## AREA OF FARMLAND PLANTED WITH PRINCIPAL CEREALS

(In 1,000 Chobu)

	1937	1938	1939	1940	1941
Rice	3,217	3,221	3,192	3,173	3,178
Barley	330	358	354	340	358
Rye	429	415	410	405	470
Wheat	725	725	726	841	826

## Rice in East Asia Co-prosperity Sphere

Rice production within the East Asia Co-prosperity Sphere, totalling 90,000,000 metric tons annually, accounts for 64 per cent of the world rice crop. Inclusive of the production in India, the total rice production in Asia aggregates 130,000,000 tons or 95 per cent of the world production.

Since, however, the supply sources and consumption centers of rice are confined to more or less the same areas, the movement of rice as an international commodity is not brisk in the world market. Naturally, Thailand, Burma and French Indo-China are the only countries exporting rice to other markets, the combined exports of those three countries averaging 5,000,000 metric tons yearly.

Within the co-prosperity sphere, China is the largest rice-producing country and is also a leading rice-importing nation, as her demand is larger than her supply. China's imports of rice during 1939 totalled 55,000,000 yuan corresponding to 4.1 per cent of the total imports of that country. In the following year, the total imports increased to 170,000,000 yuan or 8.5 per cent of China's total imports in 1940. Actual rice imports by China are believed to be larger than officially reported, as rice is one of the cardinal items of smuggling in that country.

Japan has been importing foreign rice since 1939 when the domestic rice crop was poor due to unfavorable weather conditions, imports in that year totalling 200,000 metric tons valued at ¥3,760,000. Malay Peninsula and the East Indies are the two other leading importers of rice

in the co-prosperity sphere.

Malaya usually imports rice to the amount of about 120 to 200 per cent of its production, principally from Burma and Thailand. With 1,328,000 hectares or 65.8 per cent of arable land in Malay devoted to rubber plantation, Malaya produces rice on only 305,000 hectares or 15.3 per cent of its arable land. With the supply of rubber within the co-prosperity sphere far exceeding the demand, however, the position of rubber in the industrial department of the co-prosperity sphere will be subjected to a drastic change and the rice production is likely to increase as long as self-sufficiency continues to be the guiding principle of the co-prosperity sphere. Rice imports among the East Indies are mostly from its outer colonies while Java including Madura is almost self-sufficient in rice. Java is the most highly civilized island among the East Indies, while the rest of the island are in various stages of primitive life. The extent of civilization in the East Indies is well shown by the density of population. In Java and Madura, the population density stands at 316 per 1 kilometer while it stands at 23 in Celebes, 18 in Sumatra and only 4 in Borneo.

The density of population in Java is the greatest in the world, eclipsing Japan's 190 per kilometer by 66 per cent. As the Javanese race has lived on rice for many thousands of years, the rice-planted area in Java is most highly developed. Java, inclusive of Madura, is only one-third of Japan in area, but the rice-planted area in Java is 25 per cent larger than that in Japan.

The Philippines usually import 80,000 to 90,000 metric tons of rice annually as arable land in the Philippines is largely



devoted to the plantation of sugar. With production of sugar exceeding consumption level within the East Asia Co-prosperity Sphere, arable land in the Philippines would have to be shifted from sugar to either rice or raw cotton. The Philippines would therefore tend to become self-sufficient in rice production. Burma, Thailand and French Indo-China are not widely planted with rice, but as the population in those countries is small

there is, always a sufficient quantity of surplus rice which can be exported to other areas.

The remarkable progress noted in intensive agriculture in Japan is demonstrated by the fact that the rice production per hectare in Japan amounts to nearly 4 metric tons while it scarcely exceeds 1.5 metric tons in other countries in the co-prosperity sphere. Relative figures follow:

#### RICE EXPORTS AND IMPORTS WITHIN GREATER EAST ASIA CO-PROSPERITY SPHERE

(In 1,000 Metric Tons)

	1936	1937	1938	1939
<b>1. Imports</b>				
Japan Proper	55.4	33.5	22.7	43.8
Chosen (1)	0.1	0.0	0.0	0.0
(2)	25.7	25.2	8.5	—
Taiwan (1)	0	0	0	0
(2)	0.9	0.9	2.0	—
Manchoukuo	107.1	73.4	57.9	—
China	310.4	345.8	406.1	320.2
Hongkong	431.1	509.2	492.6	442.4
French Indo-China	2.8	2.1	10.9	28.4
Philippines	91.6	74.0	9.4	83.6
British Malaya	731.2	727.6	831.9	877.5
British Borneo	55.7	51.5	55.9	57.4
Dutch East Indies	233.0	177.8	334.3	277.3
Java, Madura	8.6	8.6	22.5	33.6
Outer Territory	224.4	169.2	311.8	243.8
Burma	—	0.9	1.2	1.2
British India (3)	122.3	941.8	1,092.5	1,992.2
(4)	58.5	69.0	77.5	71.3
Ceylon	537.2	528.0	537.4	602.9

Note: (1) Imports from foreign countries. (2) Imports from Japan Proper. (3) By sea. (4) By land.

	1936	1937	1938	1939
<b>2. Exports</b>				
Japan Proper	10.4	9.8	8.3	20.1
Chosen (1)	6.1	5.5	45.7	99.6
(2)	1,200.5	1,054.2	1,176.4	—
Taiwan (1)	0.0	0.1	9.9	13.3
(2)	687.1	686.9	648.5	—
Manchoukuo	1.8	3.2	13.8	—
China	26.9	21.4	0.5	7.1
Hongkong	248.6	326.3	306.0	224.7
French Indo-China	1,585.4	1,363.4	942.0	1,497.9
Thailand	1,416.5	986.7	1,398.4	1,861.8
Philippines	0.5	2.1	0.3	0.1
British Malaya	185.4	141.2	206.0	168.6
British Borneo	0.1	0.1	0.0	0.0
Dutch East Indies	23.1	30.4	16.7	21.9
Java, Madura	12.0	19.0	8.4	12.2
Outer Territory	11.1	11.4	8.3	9.7
Burma	—	1,981.9	2,796.4	3,401.3
British India (3)	1,349.9	703.9	267.7	281.6
(4)	23.3	23.7	21.3	19.2
Ceylon	0	0	0	0

Note: (1) Exports to foreign countries. (2) Exports to Japan. (3) Exports by sea. (4) Exports by land.

#### RICE-PLANTED AREAS, RICE PRODUCTION AND PER-HECTARE PRODUCTION IN CO-PROSPERITY SPHERE

##### 1. Rice-Planted Areas (In 1,000 Hectares):

	1936-37	1937-38	1938-39	1939-40
Japan Proper	3,180	3,190	3,194	3,166
Chosen	1,589	1,626	1,646	1,225
Taiwan	682	658	625	—
Total	5,451	5,465	5,465	—
Manchoukuo	289	316	359	390
China	18,140	—	—	—
French Indo-China	5,644	5,580	6,012	—
—Annam	1,075	939	1,107	—
—Cambodia	684	779	785	—
—Cochin-China	2,164	2,151	2,308	2,321
—Laos	400	480	444	—
—Tonkin	1,321	1,231	1,368	1,392
Thailand	2,226	2,943	3,129	3,180
Philippines	2,061	1,912	—	—
British Malaya	299	294	305	—
British Borneo	274	275	—	—
(a) Dutch East Indies	3,867	3,960	4,011	—
—Irrigated Fields	3,476	3,571	3,636	—
—Upland Fields	391	389	375	—
Burma	4,900	5,095	5,072	4,864
(b) Co-prosperity Sphere				
Total	25,011	25,849	—	—
British India	29,256	29,849	29,519	29,275
Ceylon	340	320	320	—
(c) Asia Total	54,820	55,710	56,730	55,800
(c) World Total	58,450	59,390	60,480	59,600

Note: (a) Java and Madura alone; (b) Excluding China; (c) Including others.

##### 2. Rice Production (In 1,000 Metric Tons):

	1936-37	1937-38	1938-39	1939-40
Japan Proper	12,498	12,309	12,225	12,806
Chosen	3,631	5,013	5,480	2,664
Taiwan	1,774	1,714	1,822	1,688
Total	17,903	19,036	18,527	17,158
Manchoukuo	597	689	750	870
China	48,015	—	—	—
French Indo-China	6,316	6,039	7,133	—
—Annam	928	1,050	1,134	—
—Cambodia	524	779	796	—
—Cochin-China	3,050	2,519	2,853	2,635
—Laos	218	296	373	—
—Tonkin	1,596	1,604	1,977	1,956
Thailand	3,380	4,554	4,524	5,083
Philippines	2,396	2,279	—	—
British Malaya	502	470	536	—
British Borneo	165	188	—	—
(a) Dutch East Indies	5,917	6,257	6,137	—
—Irrigated Fields	5,585	5,900	5,780	—
—Upland Fields	331	358	537	—
Burma	7,196	6,973	8,169	7,107
(b) Co-prosperity Sphere				
Total	44,372	46,755	—	—
British India	42,737	40,737	36,337	38,532
Ceylon	—	—	300	—



## AGRICULTURE

	1936-37	1937-38	1938-39	1939-40
(c) Asia Total	87,450	88,050	85,050	85,000
(c) World Total	93,840	94,360	91,400	91,600

Note: (a) Java and Madura alone; (b) Excluding China;  
(c) Including others.

3. Per-Hectare Production (In Metric Tons)	1936-37	1937-38	1938-39	1939-40
Japan Proper	3.9	3.9	3.8	4.0
Chosen	2.3	3.1	2.7	2.2
Taiwan	2.6	2.6	2.9	—
Total	3.3	3.5	3.4	—
Manchoukuo	2.1	2.2	2.1	2.2
China	2.7	—	—	—
French Indo-China	1.1	1.1	1.2	—
—Annam	0.9	1.1	1.0	—
—Cambodia	0.8	1.0	1.0	—
—Cochin-China	1.4	1.2	1.2	1.1
—Laos	0.6	0.6	0.8	—
—Tonkin	1.2	1.3	1.4	1.4
Thailand	1.5	1.6	1.5	1.6
Philippines	1.2	1.2	—	—
British Malaya	1.7	1.6	1.8	—
British Borneo	0.8	0.8	—	—
(a) Dutch East Indies	1.5	1.6	1.5	—
—Irrigated Fields	1.6	1.7	1.6	—
—Upland Fields	0.9	0.9	1.0	—
Burma	1.5	1.4	1.6	1.5
(b) Co-prosperity Sphere				
Total	1.8	1.8	—	—
British India	1.5	1.4	1.2	1.3
Ceylon	—	—	0.9	—
(c) Asia Total	1.6	1.6	1.5	1.5
(c) World Total	1.6	1.6	1.5	1.5

Note: (a) Java and Madura alone; (b) Excluding China;  
(c) Including others.

## CHAPTER XIV

### SERICULTURE AND RAW SILK



*The Largest Raw Silk  
Reelers in The World*



*Raw Silk*

**PRODUCTION:**

All Grades and Sizes, Both White and Yellow,  
Sixty-Five Filatures in Japan, Chosen and China

**KATAKURA & CO., LTD.**

5-1-1, Kyobashi, Kyobashi-ku, Tokyo, Japan

Established in 1941

**NIPPON SANSHI TOSEI K.K.**

(Japan Sericulture & Raw Silk Industry Control Co., Ltd.)

Yuraku-cho, Kojimachi-ku, Tokyo, Japan

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**CAPITAL** ..... Yen 80,000,000.00

**Reserved Funds** ..... Yen 49,083,024.56

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**PRESIDENT:** GOSUKE IMAI.

**Vice-President:** SEIJI YOSHIDA.

**Managing Directors:** Takehiko Uyeda, Naoyoshi Tanaka,  
Hidetaro Yamazaki,  
Yonekichi Shirahase.

**Directors:** Yeitaro Okamoto, Shingo Tsuda,  
Yoshio Fukushima, Takashiro Arai,  
Houji Morikawa, Gikaku Wakao,  
Takeo Ito, Haruo Matsui,  
Hideshige Kashiwagi.

**Acting Auditor:** Kenji Matsuzaki.

**Auditors:** Tsunegoro Ikeshita,  
Otoji Tsunematsu, Masao Akiyama.





The Osaka Castle

Trade  Mark

ESTABLISHED: 1917

# GOSHO KABUSHIKI KAISHA

## Head Office:

Gosho Building, Nakanoshima, Osaka, Nippon

Cable Address:

"GOSHO OSAKA"

Codes Used:

All Kinds and Private

P. O. BOX

Osaka Central 35

## IMPORTS:

Cotton, Pulp and Miscellaneous Materials.

## EXPORTS:

Cotton, Rayon, Staple Fiber, Woolen Textiles and Yarns, and Sundries of All Kinds

## Branches and Agencies:

Batavia, Bombay, Calcutta, Canton, Dairen, Hankow, Hsinking, Hoten, Hongkong, Karachi, Keijo, Kobe, Rangoon, Semarang, Sourabaya, Shanghai, Tsinan, Tokio, Tientsin and Tsingtao.

## CHAPTER XIV

### SERICULTURE AND RAW SILK

#### History

Historical records show that the raising of silkworms has been practised in Japan for more than two thousand years. It is surmised that the industry was first introduced into the country from Korea or China, but for sometime it made but slow development, as the work was almost exclusively in the hands of the naturalized Koreans and Chinese. Following the introduction of Buddhism, and with the advance of civilization, the demand for silk gradually increased and the industry spread among Japanese farm households. After that, sericulture made steady growth until about 1,100 years ago, when, at the time of the Emperor Kammu, it made a sudden spurt and spread over half the Japan proper of those days, and in less than another century most of the remaining half of the country was engaged in silk production. Recent development made in the industry is outlined in the following table, showing the cocoon output for the past half a century.

Year	(In 1,000 kan)	Index Number
1880-1884	12,223	100
1930	106,469	871

1931	84,072	709
1932	89,530	732
1933	101,247	828
1934	87,199	713
1935	82,067	671
1936	82,892	675
1937	85,972	703
1938	75,256	615
1939	90,799	742
1940	87,546	716
1941	69,826	571

#### 1941 Cocoon Output in Japan Proper

The domestic production of cocoons during 1941 totalled 69,827,000, representing a sharp decline of 17,720,000 kwan or 20.2 per cent as compared with the 1940 production, according to a survey by the Ministry of Agriculture and Forestry. The ministerial survey revealed that the spring cocoons in 1941 receded by 14 per cent due principally to the frost damages as well as the adjustment of mulberry plantations. The further curtailment of the area of mulberry plantations and unfavorable weather conditions reduced the summer and autumn cocoons by 11 per cent, the ministerial report disclosed.

Details follow:

#### COCOON STATISTICS IN JAPAN

		1937-1941				
		1937	1938	1939	1940	1941
1.	Number of Cocoon Raising-Houses (1,000 Houses):					
	Spring Cocoons	1,678	1,533	1,492	1,479	—
	Summer-Autumn Cocoons	1,599	1,576	1,569	1,558	—
	Total	1,818	1,697	1,656	1,645	1,591
2.	Egg-Cards Gathered (Million Grams):					
	Spring Cocoons	66	59	59	55	50
	Summer-Autumn Cocoons	77	69	74	73	65
	Total	143	128	133	129	115
3.	Cocoon Production (Million Kwan):					
	Spring Cocoons	45.5	40.9	44.8	43.8	37.6
	Summer-Autumn Cocoons	40.5	34.4	43.8	43.8	32.2
	Total	86.0	75.2	87.5	87.5	69.8



## 4. Cocoon Production

(Million Yen):

Spring Cocoons	252.6	177.5	407.6	500.0	—
Summer-Autumn Cocoons	167.0	168.5	475.1	362.4	—
Total	419.6	346.0	882.7	862.5	—

## DOMESTIC PRODUCTION OF COCOONS BY PREFECTURES 1941

Prefectures	Egg-Cards Gathered (1,000 grams)	Cocoon Production (1,000 Kwan)		Total	Decrease Compared with 1940
		Spring	Summer-Autumn		
Hokkaido	14	5	0	5	3
Aomori	37	16	5	21	31
Iwate	896	461	178	641	435
Miyagi	1,394	320	571	891	691
Akita	197	78	44	122	70
Yamagata	3,053	791	1,086	1,877	550
Fukushima	4,377	842	1,729	2,571	1,813
Ibaragi	4,291	1,597	1,249	2,846	833
Tochigi	1,104	340	314	654	340
Gumma	11,689	3,410	2,689	6,099	1,653
Saitama	9,970	3,441	2,029	5,470	762
Chiba	2,463	898	621	1,520	503
Tokyo	2,099	683	648	1,151	382
Kanagawa	2,044	797	559	1,357	278
Niigata	2,135	770	526	1,296	264
Toyama	183	67	42	110	38
Ishikawa	431	179	111	200	89
Fukui	288	117	71	188	41
Yamanashi	8,276	2,838	2,136	4,974	620
Nagano	14,247	3,093	5,319	8,412	1,399
Gifu	4,583	1,748	1,147	2,896	660
Shizuoka	2,041	840	543	1,383	503
Aichi	7,248	2,307	1,958	4,266	163
Miye	3,617	1,448	944	2,392	640
Shiga	492	191	147	338	54
Kyoto	1,295	587	331	918	187
Osaka	18	9	4	14	4
Hyogo	1,455	730	273	1,003	140
Nara	676	216	213	420	136
Wakayama	652	272	186	458	127
Tottori	1,794	681	486	1,167	73
Shimane	1,720	657	464	1,120	64
Okayama	1,149	494	294	287	23
Hiroshima	740	317	183	500	16
Yamaguchi	299	116	77	193	31
Tokushima	2,468	858	571	1,429	300
Kagawa	508	173	136	309	30
Ehime	2,209	838	646	1,484	242
Kochi	1,691	604	502	1,106	271
Fukuoka	1,182	368	328	697	306
Saga	662	251	158	408	207
Nagasaki	847	294	226	521	133
Kumamoto	3,661	1,081	1,178	2,259	623
Oita	2,011	731	562	1,293	303
Miyazaki	1,274	451	418	869	233
Kagoshima	1,544	528	467	995	289
Okinawa	237	58	41	98	30
Total	115,262	37,595	32,231	69,827	17,720

## Sericulture in Chosen

Climatically, Chosen is suitable for sericulture. Moreover, it has an abundant supply of labor and sufficient land. Naturally, sericulture has become a very appropriate side-line of farmers in the peninsula. However, the method of raising cocoons in Chosen was very primitive in the past. As a result, the quality of cocoons raised in Chosen was inferior and the production was not large. Under the circumstances, the Chosen Government-General devoted itself to the improvement of sericulture in the peninsula through the establishment of exhaustive research and experimental organs and also enacted the Chosen Sericultural Ordinance in 1919. In 1925, the Government-General drafted a production increase plan calling for advancing the cocoon production in Chosen to 1,000,000 koku within a period of 15 years by means of various encouragement measures including the grant of a special Government subsidy for the ex-

pansion of mulberry fields.

As a result of all those encouragement measures, therefore, the total area of mulberry-planted fields in Chosen in 1938 increased to 79,000 Chobu, cocoon-raising houses to 817,400 houses and the cocoon production to 701,835 koku, respectively, compared with 76,000 houses and 14,000 koku, respectively, at the time of the establishment of the Government-General in Chosen.

Parallel with the increase of the cocoon production, the Government-General also encouraged the establishment of large-size cocoon drying plants by provincial agricultural associations through the grant of a Government subsidy during the period from 1927 to 1935. Under the circumstances, the number of cocoon-drying plants subsidized by the Government came to total 53 with a combined 24-hour drying capacity of 8,300 koku. The cocoon-raising houses in the peninsula since 1930 increased as follows:

## COCOON RAISING HOUSES 1930-1940

Years	Spring Cocoons	Summer-Autumn Cocoons	Ratio of Cocoon-Raising Houses Against Total Number of Farm Houses	
			Spring Cocoons	Summer-Autumn Cocoons
1930	720,813	352,255	25.1%	12.3%
1935	821,573	570,470	26.8%	18.8%
1936	826,109	585,221	27.0%	19.2%
1937	815,278	623,522	26.7%	20.4%
1938	817,476	632,466	26.8%	20.7%
1939	823,412	655,603	27.0%	20.8%
1940	841,132	658,494	—	—

Parallel with the rise of sericulture in Chosen, mechanical reeling has greatly increased side by side with the advance of treadle machines. As in 1938, there were 80 mechanized reeling mills and 350,421 other reeling mills in Chosen. The raw silk production by mechanized mills, principally shipped to Japan for exports totalled 2,876,428 kilograms while the production by other mills amounted to 768,593 kilograms in 1938.

To further rationalize the management of sericulture in Chosen through well-directed control and guidance, the Chosen Government-General in August 1935 enacted and promulgated the Chosen Sericultural Industrial Ordinance, which took effect from November 1 in the same year.

According to an announcement by the

Department of Agriculture and Forestry of the Chosen Government-General, the number of spring-cocoon raising houses and summer-autumn-cocoon raising houses in Chosen in 1940 increased by 2.2 per cent and 5.0 per cent, respectively, as compared with 1939. The same report also revealed that the production of spring egg-cards and summer-autumn egg-cards in 1940 gained by 3.0 per cent and 9.7 per cent, respectively, as compared with 1939, while the production of cocoons rose by 0.5 per cent and 32.0 per cent, respectively, compared with the preceding year. The 1940 production of spring cocoons was valued at ¥30,081,119 and that of summer-autumn cocoons ¥13,838,447, or reached a combined total of ¥43,919,566. Relative figures follows:



## COCOON PRODUCTION IN CHOSEN 1935-40

(In 1,000 kilograms)

Year	Spring Cocoons	Summer-Autumn Cocoons	Total	Mixed Varieties In Total	Percentage
1935	14,697	6,622	21,319	20,787	97.5%
1936	14,883	7,688	22,572	22,042	97.7%
1937	14,760	7,778	22,538	21,983	97.5%
1938	14,246	7,647	21,893	22,372	97.6%
1939	14,083	6,483	20,566	20,074	97.6%
1940	14,157	6,556	22,713	22,333	97.9%

## Raw Silk

Soon after the country's entry into foreign trade, the Tokugawa Shogunate put a restraint on the exportation of silk on the ground of its scarcity and of its being a prized national production. Notwithstanding such a restrictive policy raw silk exports from Yokohama increased by leaps and bounds, as enormous profits could be made by the exporters.

With the Restoration came the encouragement of home industries, the first among them to arrest the attention of the Government authorities being the silk industry, and ever since special efforts have been made toward developing this national industry. Unfettered financial help was extended to filatures in 1915, 1920, and again in 1930, and the Government has established facilities for the promotion of all phases of silk activities, schools, silk conditioning houses and various experimental stations.

The silk reeling and sericultural industry is represented by Nagano prefecture. Suwa is located in the central part of the prefecture and Okaya (Hirano Village) in Suwa district is the most thriving and largest silk reeling center. No other silk reeling district in the world can rival it, since Japan produces two-thirds of the world's entire silk production, and silk production in Nagano takes the foremost rank in Japan. Gumma prefecture is the next largest reeling center with Fukushima, Aichi, Saitama, Gifu and Kyoto following.

**Production and Exports** The production of raw silk of all kinds in 1939 amounted to 11,097,961 kan valued at ¥901,486,295, showing a decrease of

409,280 kan and an increase of ¥367,295,162 as compared with the previous year.

The number of silk filatures has kept falling for past 12 years, except 1930 and 1937. The Government was giving subsidy to filatures for encouragement of scrapping surplus basins in accordance with the silk reeling industry law, and the readjustment of medium-sized filatures made headway. But the total number of filatures in 1939 was 37,442, a decrease of 3,813 as compared with the previous year. The decrease was witnessed among small and medium-sized filatures as shown by the following table:

## FILATURES CLASSIFIED BY THE NUMBER OF BASINS OPERATED

Those operating	1938	1939	Comparison
Less than 10 Basins	39,435	35,648	(-) 3,787
10-49	816	828	(+) 12
50-99	398	387	(-) 11
100-299	451	425	(-) 26
300-499	103	94	(-) 9
500-999	49	54	(+) 6
1,000 and over	4	6	(+) 2

Of the total, filatures using machines numbered 1,813, re-reeling filatures 32,433, and duplon filatures 3,196.

The total number of operatives was 262,883, divided by sex, 19,937 males and 242,946 females, decreasing 14,123 in the total, 942 males and 13,181 females.

In spite of the decrease in the numbers of filatures, basins, operatives and quantity of the output the value increased which was ¥901,486,295. Production of silk waste also made an increase as shown in the following table.

## NUMBER OF FILATURES, BASINS AND OPERATIVES

(Silk Bureau, Ministry of Agriculture and Forestry)

Year	Establishments	Filature Worked by Machinery	Basins	Operatives
1935	45,703	2,708	297,657	347,513
1936	41,892	2,468	280,692	320,496
1937	43,422	1,892	256,115	295,148
1938	41,255	1,837	247,961	277,006
1939	37,442	1,813	239,013	262,883

## SILK PRODUCTION

(Silk Bureau, Ministry of Agriculture and Forestry)

Year	Total Output		White Silk		Yellow Silk	
	Volume (kan)	Value ¥	Volume (kan)	Value ¥	Volume (kan)	Value ¥
1935	11,662,048	500,052,421	9,154,361	399,560,673	2,507,687	100,491,748
1936	11,287,329	517,246,143	9,621,836	442,153,148	1,665,493	75,092,995
1937	11,166,553	527,320,631	9,648,493	458,437,242	1,518,060	68,883,389
1938	11,507,241	534,191,133	9,720,524	454,969,224	1,786,717	79,221,909
1939	11,097,961	901,486,295	10,214,217	830,296,764	883,744	71,189,531

## RAW SILK PRODUCTION AND DOMESTIC CONSUMPTION

(In 10 piculs)

Season	Production						
	Filature	White Other	Total	Filature	White Other	Total	Total
1939-40	62,607	5,918	68,525	5,019	211	5,230	73,755
1940-41	58,404	7,168	65,572	5,315	303	5,618	71,190
1941:							
July	4,534	891	5,425	455	38	493	5,918
August	4,676	667	5,343	467	27	494	5,837
September	4,538	713	5,296	608	24	632	5,928
October	4,644	755	5,399	273	17	290	5,689
November	4,133	710	4,840	235	20	255	5,094
December	3,780	664	4,444	197	15	212	4,656
Season	Consumption						
	Filature	White Other	Total	Filature	White Other	Total	Total
1939-40	32,306	5,683	37,989	2,056	354	2,410	40,399
1940-41	29,493	5,242	34,735	1,498	244	1,744	36,480
1941:							
July	3,394	493	3,887	166	18	184	4,071
August	3,733	512	3,245	168	28	196	3,441
September	3,003	530	3,533	199	49	248	3,781
October	3,205	546	3,751	—	281	281	4,032
November	3,419	550	3,969	237	54	291	4,129
December	3,344	517	3,861	20	48	268	4,129

## Price of Raw Silk

In January 1920, raw silk was quoted at ¥4,360 per bale of 16 kan, the highest price in the history of the country's silk business. At that time the volume of production was 360,000 bales, but

during the next 10 years production increased to 730,000 bales, but unfortunately the prices did not fall in inverse ratio. Had they done so, Japanese producers would have been happy, for in June 1932, the price fell below



one-tenth that of 1920, whereas the output had only doubled. In 1933 it regained a little, but in 1934 the price fell to its lowest, and it seemed to be showing an upward tendency from the following year. It went down again in 1938, regained upward tendency in

1939 ending with ¥2,068 in December. January 1940 was highest, but began to decline in the following months to end with ¥1,510 in December. The year average was 1,513, and, in 1941, it fell to ¥1,500, as tabulated below:

#### RAW SILK PRICE AT YOKOHAMA SPOT MARKET

(In yen)

(Standard quality; per picul, 133 lbs.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1926	1,942	1,860	1,711	1,503	1,519	1,576	1,002	1,557	1,601	1,532	1,466	1,441	1,585
1927	1,413	1,418	1,414	1,416	1,451	1,427	1,374	1,317	1,341	1,301	1,289	1,293	1,375
1928	1,311	1,357	1,356	1,348	1,326	1,251	1,247	1,282	1,312	1,375	1,362	1,370	1,321
1929	1,356	1,378	1,390	1,401	1,341	1,314	1,282	1,302	1,220	1,288	1,221	1,169	1,310
1930	1,174	1,169	1,165	1,139	1,100	795	705	708	648	574	581	562	775
1931	708	684	666	597	531	527	585	577	584	548	556	567	583
1932	672	653	617	534	473	469	530	803	938	891	914	928	702
1933	770	694	655	728	786	970	954	857	851	713	586	555	766
1934	583	643	570	538	523	494	474	463	465	510	550	598	537
1935	634	617	590	607	614	592	632	754	830	912	931	874	674
1936	916	764	749	746	691	681	738	771	734	771	803	871	775
1937	915	883	909	877	820	832	880	841	828	708	719	687	830
1938	683	707	713	700	701	702	797	762	778	827	808	817	750
1939	864	956	1,027	1,112	1,260	1,187	1,238	1,244	1,584	1,747	1,852	2,068	1,366
1940	2,133	1,688	1,636	1,471	1,518	1,466	1,361	1,350	1,371	1,417	1,360	1,350	1,510
1941	1,370	1,415	1,523	1,518	1,541	1,573	1,543	1,444	1,492	1,508	1,516	1,565	1,500

#### Silk Conditioning

The Japanese Government established a silk conditioning house in 1895 at Yokohama, with the object of facilitating raw silk transactions between buyer and seller by providing an organ for the strict examination of raw silk, and also of encouraging reelers to improve the quality of their product in the light of the results of the examination. In 1931 another one was established at Kobe, and these two silk conditioning houses are making all efforts for the maintenance and improvement of the quality of raw silk produced in the country.

#### The Yokohama Silk Conditioning House

The Silk Conditioning House was established in 1895 and began to operate on August 5, 1896. It was at first on quite a small scale, but was successively enlarged owing to the continual growth of the raw silk export trade.

Under the Law which went into effect on and after July 1, 1927, all transactions in raw silk for export were regulated to base on the conditioned weight of the silk determined by this Institution, and the classification tests were also enforced on and after January 1,

1932 as the compulsory test for export raw silk.

**Organization and Functions** The Yokohama Silk Conditioning House performs the following functions:

- All kinds of tests and inspections on raw silk.
- Studies and investigations regarding the test and storage of raw silk.
- Courses and lectures on the test and assortment of raw silk.
- Examination of apparatus and equipment pertaining to raw silk.
- Supervision of the warehouses for raw silk and silk piece goods attached to the Yokohama Silk Conditioning House.

There are three departments: the Conditioning Department; the Quality Department; and the Department of General Affairs. The Department of General Affairs is divided into two sections: the Section of General Affairs; and the Investigation Section.

The Conditioning Department carries out the necessary tests for determining the weight of raw silk, as well as studies relating thereto. These tests comprise tests for conditioned weight; tests for

net weight; tests for moisture and boil-off tests.

The Quality Department performs tests to determine the quality of raw silk, such as the classification test and other tests pertaining to the quality of raw silk.

The Department of General Affairs attends to business matters, investigations in general and the supervision of the warehouses.

#### Compulsory Tests for Export Raw Silk

First of all, the entire books (bundles of 30 skeins) of a lot\* are inspected carefully in a visual inspection room for making such sorting as to provide proper value as a lot of merchandise. Fifty sample skeins representing a lot are then taken out at random from the entire lot for performing mechanical tests classified into: major test (evenness tests, cleanness test and nestness test) and auxiliary test (winding test, size deviation test, maximum deviation test, tenacity and elongation tests, cohesion test and average size test), and then the entire lot is delivered to the Conditioning Department.

**Visual Inspection** The items of visual inspection are as follows:

**General Finish:** The condition of general finish of a lot and the presence and degree of defects arising from re-reeling, finishing packing and packing damage are inspected and the results are indicated by Excellent, Good, Fair, or Slightly Inferior.

**Uniformity of a lot:** The general condition of uniformity of a lot is inspected and the results are indicated by Excellent, Good, Fair, or Slightly Inferior.

**Nature:** The inspection of nature of raw silk is made on the shade and degree of shade of color, the kind and degree of lustre and the nature and smoothness of thread by hand.

**Skein Inspection** Skein inspection is to inspect the super major defects of the raw silk thread and also examine the existence and the degree of the number of the gum knots of the raw silk thread.

\* N.B. A lot usually consists of ten bales of raw silk and the weight of a bale (28 to 30 books make one bale) is about 60 kilos, or 132 pounds.

**Winding Test** The object of this test is to determine the number of breaks which occur in the raw silk thread in the winding operation. The first 20 sample skeins are wound from the outer surface of the skeins, the additional 20 skeins from the inner surface of the skeins and the remaining 10 skeins from the middle part of the skeins on to bobbins at a known speed as follows, and the number of breaks occurring one hour are counted.

#### Winding Speed

Size of thread under test

12 deniers or finer	110 meters per min.
13/17 deniers	140 " " "
18 deniers	" " "
or coarser	165 " " "

A denier is a unit of the size of raw silk and equals the weight of 5 centigrams in 450 meters in length.

**Size Deviation Test** This test is to determine the average size deviation by taking the sum of the differences between the 200 individual sizing skeins and the mean size and dividing this sum by the number of sizing skeins.

**Maximum Deviation Test** The object of this test is to determine the degree of spring size in 200 sizing skeins, 450 meters each.

The difference between the average size and average of four coarsest size, and also the difference between average size and average of four finest size shall be obtained. Both differences are compared and the larger one represents the result of Maximum deviation.

**Average Size Test** The average size test is to determine the average size of raw silk in conditioned weight. 200 sizing skeins 450 meters each are taken and placed all together in a conditioning oven, dried to constant weight, and then 11% of the dry weight is added to constant weight, this shall be the conditioned weight of these skeins, from which the average size in conditioned weight shall be obtained.

**Evenness Test** The evenness test is a visual test to determine the evenness of raw silk by comparing with the standard photograph. The raw silk is first wound in sections (called "panels") on to boards having a flat black surface, by means of the seriplane. 100 such panels are used for the test. The method of carrying out this test is as follows:



The panels are compared with the panels of standard photographs and a selection is made of the standard photograph which most nearly resembles the test panel in unevenness pattern. The record of this test is made on the average percentage of the 100 panels and also on the average percentage of the low panels to the extent of one quarter of the total number.

**Cleanness and Neatness Tests** These tests are visual tests to determine the kind and number of cleanness defects and the percentage of neatness defects by comparing with the standard photograph.

Cleanness defects are classified into:—Super major defects, major defects and minor defects and the degree of imperfection is determined (in the form of a penalty percentage) by counting the actual number of these defects on both sides of the seriplane board.

**Cohesion Test** The raw silk is composed of several cocoon filaments agglutinated with cocoon gum. The object of the cohesion test is to determine the degree of agglutination of the cocoon filament by means of the duplan cohesion tester. The test is made by rubbing the raw silk with the rubbing blade of this tester. The record is taken of the average number of strokes needed to separate each filament of the raw silk.

**Tenacity and Elongation Tests** Tenacity and elongation tests are performed on ten sample skeins of known size by means of the serigraph, and determine the value of tenacity and elongation of the silk at the breaking point. Tenacity is expressed in grams per denier, while elongation is expressed in percentage; and their averages for the ten samples represent the record of tenacity and elongation respectively.

**Gross Weight Weighing** This test is to ascertain at first the gross weight of a lot, after taking out 16 sample skeins and then the net weight is ascertained by deducting the tare therefrom.

**Conditioning Test** This test is performed as a basis of the transaction on weight and the method is as follows:

Out of each lot, 16 skeins are drawn at random, and separated into four

groups of 4 skeins each. Each of these groups is then placed separately in conditioning ovens and dried, and the degree of moisture of each is ascertained in percentages. The average of the four percentages obtained is deemed to be the average percentage of moisture content of the lot from which the 16 skeins were drawn.

This percentage of moisture is then deducted from the actual net weight of each bale of the lot (i.e. gross weight less tare) and the result shows the dry weight of each bale. The total dry weight of all the bales plus 11%, forms the conditioned weight of the entire lot.

**Sealing Bales** After the test has been completed, into each bale of the lot is inserted the identification ticket, and the Pass Tag is tied thereto and it is sealed with lead bearing the mark of the Yokohama Silk Conditioning House.

**Delivery of Certificate** The Certificates of Quality Test for Grading and Conditioning Test are delivered to the applicant after the test has been completed. The applicant or surveyer may also demand copies of the certificate.

**Optional Tests** The Conditioning House will carry out special tests including tests for moisture, net weight, boll-off, and quality in accordance with the items of test methods, or quantity of samples which may be specified by the applicant.

**Publication of Data and Statistics** A monthly bulletin is issued by the Silk Conditioning House giving data of the tests carried out. An annual review of the work accomplished by the Silk Conditioning House, together with data and statistics, is also published. In addition, special bulletins are published from time to time, giving the results of studies and investigations carried out by the Silk Conditioning House.

**Supervision of Warehouses** The warehouses attached to the Silk Conditioning House are leased to the Teikoku Sansi Soko Kabushiki Kaisha (Imperial Raw Silk Warehouse Company, Ltd.) which undertakes the storage of raw silk and silk goods under the supervision of the Silk Conditioning House.

## CHAPTER XV

# FISHERIES



# NICHIRO GYOGYO KAISHA LIMITED

TOKYO—HAKODATE

Head Office: Marunouchi Bldg., Tokyo  
Cable Address: "NICHIROGYO" TOKYO

**PACKERS OF**  
**'SUMMER SEAS' 'SALUTE' & 'THREE**  
**DIAMOND' CANNED SALMON**  
**'DAYBREAK' FANCY CANNED CRAB**  
**'DAYBREAK' AND 'SUMMER SEAS'**  
**FROZEN SALMON**  
**MILD-CURED SALMON & RED CAVIAR**

Foremost producers of excellent quality  
sea foods packed under most hygienic  
conditions using modern equipment and  
scientific methods

## CHAPTER XV

### FISHERIES

#### General

Japan Leads On account of her unique position as a maritime country Japan's fishing industry has naturally developed from of old until today Japan occupies the first position in the world in the output of aquatic products which amounted to ¥1,087,143,693 in 1939 as the following table shows. These products consist mainly of fish, shell-fish, seaweed, which are used as food, fish oils and animal fertilizers.

#### Value of Fishery Products in 1939

Classification	Value in yen
Coastal Fishery	378,431,439
Pelagic fishery, home	142,557,146
Pelagic fishery, colonial	2,976,801
Whaling	6,114,482
Trawling	9,676,397
Fishery in Russian waters	49,163,554
Floating canneries in Kamchatka	42,920,036
Aquiculture	43,025,843
Fish manufactures	391,048,310
Agar-agar	21,229,685
Total	1,087,143,693

Note: Figures for whaling do not include manufactures.

Of the total, 621 million yen was raised by catches in the waters surrounding Japan proper. Details are

given below in comparison with 1938 catches:

#### Catches in Japan Proper

Fishes	1938	1939
	(In yen)	
Costal fishing	179,907,511	262,026,084
Cultivated	12,976,755	18,328,279
Pelagic fishery (home)	71,863,990	141,887,673
Trawling	7,669,703	9,676,397
Total	272,417,599	431,918,433
Shell-fishes	16,267,512	25,626,456
Sea-weeds	23,697,451	39,476,394
Whales, crustaceans, Mollusca, etc.	86,485,133	124,154,253
Grand total	398,868,055	621,175,536

#### Persons Engaged in Fisheries

The fishery industry in Japan is now run on a modern industrial basis and especially pelagic fishing is developing rapidly. But by far the larger number of fishermen are still engaged in working in the old-fashioned way, generally on a small scale. In 1939, as many as 1,411,460 persons were engaged in all kinds of fishery industry, and of this number 1,117,638 were males and the rest females. Of the total number, 1,014,472 were fishermen, 139,537 were engaged in cultivation and 257,451 in the manufacture of aquatic products.

#### NUMBER OF PERSONS ENGAGED IN VARIOUS BRANCHES OF THE FISHERY INDUSTRY

Year	Total Number	Fishermen	Those engaged in Cultivation	Those engaged in Manufacture
1931	1,482,520	1,110,506	124,784	247,113
1932	1,499,040	1,106,850	141,394	250,796
1933	1,499,175	1,097,254	144,655	257,266
1934	1,521,916	1,103,346	151,007	269,563
1935	1,521,477	1,098,999	155,203	267,275
1936	1,534,432	1,102,502	154,627	277,303
1937	1,501,882	1,078,142	152,426	271,314
1938	1,442,713	1,035,878	144,135	262,700
1939	1,411,460	1,014,472	139,537	257,451

#### FISHERY EMPLOYERS AND EMPLOYEES

Year	Employers	Employees	Year	Employers	Employees
1931	634,699	847,821	1932	640,318	858,722
			1933	635,849	863,326
			1934	640,735	881,181
			1935	633,435	888,012



Year	Employers	Employees
1936	637,031	897,401
1937	619,227	882,655
1938	598,535	844,178
1939	588,481	822,979

**Fishing Boats and Vessels**

The total number of boats and vessels engaged in fishing at the end of 1939

was over 354,729, of which 283,090 were without engines, while 71,639 were with engines. The number of smaller boats, having capacity of less than 5 tons, is decreasing, while the number of vessels having engines has steadily increased. This shows an improvement in vessels and in the method of fishing.

Year	Total Number of Boats	Boats without Engines		Boats with Engines	
		Engines	Steam	Motor	
1931	360,690	318,443	185	42,062	
1932	360,686	315,217	244	45,225	
1933	363,473	314,434	250	48,789	
1934	364,582	311,553	87	52,942	
1935	366,019	308,541	96	57,382	
1936	366,267	304,098	106	62,063	
1937	364,260	297,961	97	66,202	
1938	356,482	288,327	194	67,951	
1939	354,729	283,090	123	71,516	

**FISHING BOATS AND VESSELS CLASSIFIED ACCORDING TO KINDS AND CAPACITIES**

(At the end of each year)

Kinds and tonnage of steamers	1935	1936	1937	1938	1939
Without engines	308,541	304,098	297,961	288,327	283,090
Under 5 tons	300,651	266,798	290,734	281,849	276,663
5-10 "	7,317	6,779	6,637	5,982	5,949
10-20 "	530	499	568	478	464
20 " and over	43	22	22	18	14
With engines	57,478	62,169	66,299	68,155	71,639
Steam engines	96	106	97	194	123
Under 50 tons	23	24	3	98	39
50-100 "	3	10	1	5	2
100 tons & over	70	72	93	91	82
Oil engines	57,382	62,063	66,202	67,961	71,516
Under 5 tons	40,658	44,774	48,105	50,111	53,767
5-10 "	6,841	6,999	7,198	7,568	7,449
10-20 "	7,154	7,454	7,804	7,346	7,195
20-50 "	2,108	2,117	2,295	2,105	2,348
50 tons & over	621	719	802	831	757

**Coastal Fishery**

Fish, shell-fish, etc. caught in 1939 amounted to ¥378,431,439, an increase of ¥129,536,702 or 34.2 per cent over the previous year, the major classification of which was as follows:

	Quantity (In kan)	Value (In yen)
Fish	465,245,791	26,026,084
Shellfish	30,177,110	16,148,801
Crustaceans and Mollusca	60,873,731	72,952,881
Seaweeds	103,659,570	27,303,673

The amount of catches in coastal waters since 1935 is shown in the following table. In 1930-32 while the value of catches showed a gradual decrease, catches were steadily increasing, showing thereby that the decrease in value was due to decline in price caused by the depression of those years, but after 1933 the prices steadily rose, specially in 1938 and 1939, while catches decreased with the decrease in the number of fishing boats and fishermen.

**YEARLY COMPARISON OF CATCHES IN COASTAL WATERS**

(Quantity in Kan, Value in Yen)

Year	Total		Fresh Fish	
	Quantity	Value	Quantity	Value
1935	737,448,945	180,801,517	514,455,650	134,671,748
1936	782,031,824	212,648,020	571,592,193	159,764,206
1937	726,729,060	219,649,403	494,484,899	162,844,491
1938	696,862,307	248,894,737	449,431,414	179,907,511
1939	659,956,202	378,431,439	465,245,791	26,026,084

Year	Shellfish		Crustaceans and Mollusca		Seaweeds	
	Quantity	Value	Quantity	Value	Quantity	Value
1935	54,542,403	11,697,023	36,310,162	25,259,631	132,140,730	10,173,115
1936	40,620,877	11,202,085	42,133,322	29,373,380	128,685,432	12,308,349
1937	37,643,983	10,451,464	40,874,838	31,426,069	153,725,340	14,927,379
1938	31,169,303	10,720,760	56,437,301	43,934,469	109,824,289	14,331,997
1939	30,177,110	16,148,801	60,873,731	72,952,881	103,659,570	27,303,673

Catches of the more important fishes in coastwise fishery since 1935 are shown in the following tables:

**CATCHES OF PRINCIPAL FISH BY KINDS**

(In yen)

Kind of Fresh Fish	1935	1936	1937	1938	1939
Herring	5,077,161	4,381,435	5,506,548	2,674,255	7,954,831
Sardine	28,257,527	40,958,138	37,894,420	42,363,336	62,978,354
Bonito	1,901,310	2,419,598	2,021,248	2,975,588	4,072,428
Mackerel	6,596,660	8,406,727	8,938,207	10,892,248	16,387,668
Tunny	6,163,318	7,165,228	6,358,456	6,174,578	14,667,783
Yellow-tail	9,671,911	11,531,400	10,382,532	10,863,685	11,667,460
Cod	4,822,484	5,730,153	4,625,894	6,967,037	9,416,575
Shark	718,055	868,545	1,457,089	1,273,104	1,662,558
Sea-bream, red	9,786,482	10,199,904	10,582,643	11,609,202	15,247,609
Sea-bream, black	2,158,534	2,221,157	2,303,840	2,470,995	3,506,497
Flat-fish	4,330,465	4,757,784	4,807,336	5,855,704	8,731,186
Cyblum	2,449,911	2,652,746	2,716,541	2,612,556	3,736,739
Horse-mackerel	4,877,411	5,781,491	5,595,356	6,651,406	9,368,224
Flying fish	958,228	769,983	918,834	1,084,929	1,408,388
Grey mullet	2,722,809	2,754,766	2,843,577	3,147,337	4,354,744
Konosirus	838,942	791,141	899,589	978,327	1,396,588
Dog-salmon	4,094,644	9,154,512	11,815,728	13,034,405	13,431,482
Trout	5,244,056	3,995,978	6,261,477	7,043,602	12,876,044
Japanese smelt	2,015,007	3,291,607	3,603,235	3,978,717	5,236,893
Eel	2,475,619	2,492,801	2,385,702	2,476,371	3,339,429

**VALUE OF VARIOUS KINDS OF SHELLFISH**

(In yen)

Kind of Shellfish	1935	1936	1937	1938	1939
Awabi <sup>1</sup>	2,843,778	3,286,546	2,515,305	2,403,951	3,556,571
Oyster	506,377	533,147	455,107	656,143	814,133
Clam	512,038	523,582	561,570	618,036	829,494
Saza <sup>2</sup>	506,423	576,911	610,912	642,591	862,969
Arca	362,709	387,496	231,155	204,657	339,603
Asari <sup>3</sup>	861,534	753,809	780,313	914,061	1,267,186

1 Sea ear, abalone. 2 Turbo cornutus. 3 Tapes philippinarum.



## VALUE OF CRUSTACEANS AND MOLLUSCA

(In yen)

Kind	1935	1936	1937	1938	1939
Cuttle-fish	7,734,479	12,029,826	11,542,717	19,826,508	39,927,755
Octopus	3,736,233	3,680,606	4,612,075	5,530,585	7,953,191
Prawn and shrimp	7,044,016	6,867,408	7,234,081	8,720,523	12,095,649
Spiny lobster	1,170,757	1,555,317	1,573,159	1,576,158	2,006,638
Crab	2,528,257	1,902,042	2,479,464	3,074,568	3,163,893
Bêche-de-mer	1,015,148	1,125,481	978,484	1,688,998	2,891,413

## VALUES OF VARIOUS KINDS OF SEAWEED

(In yen)

Kind	1935	1936	1937	1938	1939
Kombu <sup>1</sup>	4,195,723	4,389,327	6,219,462	5,427,481	11,266,364
Amanori <sup>2</sup>	488,832	551,769	742,647	578,795	908,822
Wakamé <sup>3</sup>	1,018,903	1,498,276	1,238,097	1,931,667	3,715,163
Tengusa <sup>4</sup>	1,961,102	2,894,132	3,322,113	3,250,137	6,449,776
Funori <sup>5</sup>	894,105	958,257	1,070,893	870,216	1,181,989

1 Laminaria. 2 Porphyra. 3 Undaria pinnatifida. 4 Gelidium corneum  
5 Gelopeltis furcata.

## Pelagic Fishery

Large-sized vessels with motors have increased greatly in number of late. There are over 10,000 vessels of over 10 tons, many of which are actively engaged in fishing at distances of up to 700 miles from Taiwan and Japan proper. The northern seas have been opened up by floating crab canneries, and mother vessels for the salmon and salmon trout fisheries. But there are still vast undeveloped areas in the Behring Sea, the Sea of Okhotsk, the Maritime province waters, the South Seas, the South China Sea, the Gulf of Thailand, and even in the Southern Pacific, so that the future for pelagic fishery for Japan is bright and of great importance to her. The following sections deal with different branches of

deep-sea fishing.

**In Home Waters** In 1939, the number of vessels engaged was 8,577, the number of men 110,093 and the amount of catches 209,204,180 kan of a value of ¥142,557,146, exclusive of catches in colonial waters. The vessels with engines numbered 8,416, while those without numbered only 161.

Catches of principal fish are as follows:

	In kan	In yen
Bonito	23,003,536	23,406,688
Tunny	13,691,179	21,888,220
Sea-bream	1,716,278	5,042,795
Flat-fish	11,645,966	11,271,005

The number and descriptions of vessels engaged in this fishing with their catches, since 1935, are given below:

## NUMBER AND CREWS OF VESSELS ENGAGED IN DEEP-SEA FISHING IN HOME WATERS

Year	Total Number of Vessels		Vessels without Engines		Vessels with Engines		Vessels with Engines		No. of crew
	No.	Tonnage	No. of crew	No. Tonnage	No. of crew	No. Tonnage	No. of crew		
1935	8,984	199,009	115,689	171	1,321	1,133	8,813	197,757	114,556
1936	9,885	215,026	125,775	240	1,940	1,391	9,645	213,086	124,384
1937	9,783	221,925	122,892	215	1,679	1,134	9,568	220,246	121,758
1938	8,836	211,968	113,148	167	1,370	1,297	8,669	210,598	111,851
1939	8,577	205,911	110,093	161	1,253	677	8,416	204,658	109,416

## VALUE OF DEEP-SEA FISH CAUGHT IN HOME WATERS

In Japan Proper

(In yen)

Kind of fish	1935	1936	1937	1938	1939
Sardine	5,771,642	7,779,621	6,977,247	5,551,388	12,323,813
Bonito	10,888,267	12,963,536	13,186,667	19,513,606	23,406,688
Mackerel	3,473,178	4,321,971	3,893,867	3,894,842	4,701,261
Tunny	10,245,932	11,071,390	12,340,259	15,440,201	21,888,220
Cod	3,515,581	6,192,670	6,693,544	6,075,643	8,407,993
Shark	2,946,156	4,210,800	4,685,984	5,119,640	6,564,853
Sea bream	5,269,449	5,530,996	4,324,556	6,162,146	5,042,795
Flat-fish	5,323,953	6,358,031	5,611,904	7,753,607	11,271,005
Cyblum	38,206	25,419	21,868	18,651	171,371
Skipper	1,237,222	1,713,738	1,746,899	2,334,206	2,645,530
Others	25,555,326	27,322,115	30,404,238	38,677,860	46,133,617
Total	74,261,912	87,483,287	89,887,033	110,541,850	142,557,146

In Chosen Waters

	1935	1936	1937	1938	1939
Number of boats	1,003	—	—	—	—
Total value of catches	¥4,020,884	¥3,063,063	¥3,196,234	¥3,444,469	¥3,159,080

In Taiwan Waters

	1935	1936	1937	1938	1939
Number of boats	15	15	124	26	38
Total value of catches	¥26,083	¥23,318	¥126,364	¥91,807	¥173,043

In Kwantung Waters

	1935	1936	1937	1938	1939
Number of boats	212	200	167	146	115
Total value of catches	¥922,330	¥978,000	¥531,289	¥636,312	¥806,706

In South Sea Mandated Islands

	1935	1936	1937	1938	1939
Number of boats	—	84	128	191	82
Total value of catches	—	¥1,830,800	¥3,349,518	¥2,340,287	¥1,997,052

**Norwegian Method Followed** Whaling is being carried out according to the Norwegian method. As this method requires quick movements the vessels used are small-sized ones of a capacity below 120 tons. In order to allow whales to breed and also to maintain order in the work the Government has made it a rule that whaling should be carried on only under permit. The Government furthermore restricts the number of vessels engaged in this work to 30 in seas other than the South or

North Pacific Ocean. It also orders vessels to operate from headquarters placed in 18 suitable places along the coast of Hokkaido, the North-Eastern Sea, South-Western Sea and the Japan Sea.

Japanese whaling is now extending to the Antarctic Ocean and the Japanese whalers made good catches there in recent years. The total value of catches reached ¥6,114,482 in 1939. Details follow:

## WHALES CAUGHT (Value in yen)

Whales caught	1935	1936	1937	1938	1939
In home waters					
Total	No. 1,598	1,641	1,814	1,790	2,153
	Value 2,466,962	2,577,692	3,307,426	3,872,804	5,067,775
Finback whale	No. 134	92	92	125	107
	Value 440,000	330,000	332,257	556,499	493,732
Blue whale	No. 21	3	7	5	10



## FISHERIES

		1935	1936	1937	1938	1939
Whales caught in home waters						
	Value	118,000	24,000	49,040	39,805	78,807
Sperm whale	No.	1,001	1,133	1,208	1,058	1,283
	Value	1,080,000	1,369,000	1,950,262	1,974,461	2,647,043
Humpback whale	No.	48	58	57	49	76
	Value	179,000	219,000	204,945	219,918	368,899
Sei whale	No.	392	351	445	551	677
	Value	641,000	616,000	839,946	1,069,499	1,479,269
Right whale	No.	2	4	5	2	—
	Value	8,856	19,517	20,976	12,622	—
In colonial waters						
Total	No.	173	173	236	189	145
	Value	647,434	754,322	894,680	1,118,083	1,046,727
Finback whale	No.	139	149	210	170	134
	Value	546,000	666,000	807,490	1,046,087	1,033,377
Blue whale	No.	—	—	5	—	—
	Value	—	—	28,413	—	—
Sperm whale	No.	4	2	5	—	—
	Value	4,547	3,619	14,781	—	—
Humpback whale	No.	30	21	16	18	10
	Value	97,000	83,000	43,996	71,083	41,904
Sei whale	No.	—	1	—	1	1
	Value	—	1,624	—	911	1,146

## ANTARCTIC WHALING

	Number of Mother Ships	Number of Men Engaged	Whales Caught	Whale Oil	Estimated Value (In yen)	
					Salted Meat	Total Including Others
1934	1	213	213	473,639	13,014	486,653
1935	1	343	639	2,180,149	42,466	2,262,615
1936	2	766	1,989	8,662,277	64,627	8,726,904
1937	4	1,796	5,565	13,843,381	322,251	14,455,780
1938	6	2,794	7,540	19,709,760	1,196,102	21,785,502

**Trawling** Trawling in Japan is modelled after that now being carried on in the North Sea. The steam vessels engaged are from 200-300 tons in size, some being fitted with Diesel engines. A permit must be obtained from the Government before commencing trawl fishing. At present the Government is restricting trawlers in the East and South China Seas, and the Yellow Sea to 70 vessels. 56 vessels make Shimonoséki their headquarters, while 8 work from Nagasaki, and 6 from Hakata. It also prohibits trawlers, by special regulations, from operating in the nearby seas

In order to keep the coastal water free from the devastation caused by the destruction of immature fish, etc. During the World War there was a fall in the catches by trawlers owing to the decrease in number of trawlers, but since 1921, the trawling business has again become active though the number of trawlers as mentioned above is restricted to 70. But, it was increased later and, in 1939, there were 59 vessels with 1,171 members of the crew. Catches by trawling in 1939 amounted to 9,709,846 kan, value ¥9,676,397.

## FISH CAUGHT BY TRAWLING

(Quantity in kan, value in yen)

Kind of Fish	1936	1937	1938	1939
Total quantity	13,886,917	13,390,415	10,072,302	9,709,846
Total value	6,831,152	7,951,200	7,669,703	9,669,703
Pagrus major				
Quantity	27,875	23,175	18,021	58,807
Value	51,219	50,575	25,057	147,974

## TRAWLING

Kind of Fish	1936	1937	1938	1939
<i>Sciæna japonica</i>				
Quantity	738,290	1,054,498	1,036,857	580,070
Value	722,941	937,817	1,080,034	845,964
<i>Sciæna schlegelii</i>				
Quantity	4,752,700	4,631,259	3,229,937	3,325,574
Value	1,853,836	2,069,856	1,989,200	2,670,586
Flat fish				
Quantity	881,154	662,830	458,535	448,249
Value	612,030	508,205	481,796	536,414
Shark				
Quantity	572,312	451,199	304,957	326,424
Value	177,936	157,958	135,830	182,085
Others				
Quantity	6,914,586	5,557,463	5,023,995	970,722
Value	3,413,190	4,226,789	3,957,768	5,286,680

## Fishery in Soviet Waters

Fishery in Russian or northern waters is an important right conceded to Japan in the Treaty of Portsmouth, signed at the conclusion of the Russo-Japanese War or 1904-05. In 1928, a new convention, under the conditions of the above Treaty was concluded for a period of eight years, after the expiration of which time the pact is to be renewed. The districts to be worked, extending from the Maritime Provinces to Kamchatka, are leased from the Soviet Union at annual auctions held at Vladivostok. (As to the disputes between Japan and Russia on the fishery question in recent years, see Chapter VI.)

In 1939 the number of fishing lots actually worked was 296, the number of steamers 118, and the number of fishermen and others engaged in the fishing 17,579. The amount of salmon, trout, and herrings caught in 1939, was 510,080 koku in total, and the crabs caught numbered 8,968,124. Good catches of salmon and trout are made every other year, while the quantity of crabs has a tendency to become larger in recent years. The amount of salmon, crab, etc. canned was 1,193,630 cases, valued at ¥27,910,574 in 1939. In the same year the amount of salmon and trout salted reached 257,104 koku. The following table shows the number of fishing districts leased, amount of fish caught, etc.

## NUMBER OF FISHERIES, FISHING VESSELS, FISHERMEN, AND PRODUCTS IN SOVIET WATERS

	1936	1937	1938	1939
Number of fisheries:				
Fisheries leased from U.S.S.R.	399	389	386	356
Fisheries worked for the year	376	355	328	296
Fishing vessels:				
Steamships, No.	152	141	131	118
Tonnage	361,000	331,734	309,884	307,496
Sailing-ships:				
Number	1	1	1	—
Tonnage	525	525	525	—
Fishermen	20,364	19,858	19,031	17,879
Total fish caught, koku	571,000	549,858	479,745	510,080
Dog salmon	338,000	176,750	169,859	122,332
Trout	165,000	298,869	221,873	323,287
Red salmon	67,000	71,106	86,661	63,012
King salmon	1,925	3,086	1,257	1,422
Herring guano	34	47	95	27
Crab, pieces	6,565,000	7,759,066	8,428,248	8,968,124
Fishery products prepared, yen	35,489,000	37,598,284	44,007,054	49,163,554
Salt cured (Total)				
Quantity, koku	376,000	555,432	258,011	257,104
Value, yen	13,099,000	11,697,618	11,667,313	16,192,436



## FISHERIES

	1936	1937	1938	1939
Salmon				
Quantity, koku	308,000	374,486	151,552	107,201
Value, yen	1,560,000	7,824,974	8,536,473	9,254,648
Trout				
Quantity, koku	68,856	180,946	106,459	149,903
Value, yen	1,560,278	3,872,644	3,130,840	6,937,788
Canned food (Total)				
Quantity, cases	1,147,243	1,155,407	1,287,946	1,193,630
Value, yen	20,198,000	23,234,699	29,010,838	27,910,574
Red salmon				
Quantity, cases	343,000	342,325	444,624	275,345
Value, yen	8,826,000	11,840,559	15,984,991	12,060,909
Salmon				
Quantity, cases	117,000	1,318	35,015	17,073
Value, yen	2,425,000	25,682	694,683	599,250
Trout				
Quantity, cases	637,000	733,055	728,328	822,710
Value, yen	6,338,000	7,084,403	7,886,191	11,355,015
Crab				
Quantity, cases	50,000	78,509	79,979	77,896
Value, yen	2,610,000	4,284,055	4,444,973	3,894,800
Others: Value, yen	2,192,000	2,665,967	3,328,903	5,060,544

Note: One koku=40 kan=330.69 lbs.

## FLOATING SALMON CANNERIES IN KAMCHATKA

Year	Mother Ships	Men Engaged	No. of Catches (In 1,000 pieces)	Value (In ¥1,000)				Total
				Canned	Salted	Frozen	Eggs	
1935	8	4,972	11,544	7,785	1,651	590	104	10,120
1936	6	3,478	8,796	7,409	1,760	455	67	9,681
1937	7	3,310	10,115	12,051	1,750	690	122	14,614
1938	7	3,529	9,829	10,448	3,631	—	169	14,249
1939	11	5,626	11,651	15,146	5,290	375	320	21,132

**Floating Crab Canneries** Fishing is carried on by vessels equipped with machinery for the purpose of canning the crabs on the vessels themselves. The first enterprise was made in 1921, and, in 1923, rules regulating the work of crab-manufacture vessels were issued by the Government, which also established districts where fishing was forbidden and made permits necessary before a vessel could set out to the fishery. Recently the rule has been re-

vised, the number of vessels on the western side of Kamchatka being restricted to 18 and the amount of canned crab to 320,000 cases.

Up to 1927, Japanese only were engaged in this fishing, but in 1928 two Soviet vessels came in, in 1929 another two entered and 1930 saw a further increase.

Canned crabs manufactured by this method since 1935 are as follows:

## FLOATING CRAB CANNERIES

	1935	1936	1937	1938	1939
Vessels in operation					
Number	9	9	9	8	7
Tonnage	34,112	36,737	36,749	28,750	24,805
Fishermen engaged	3,124	3,243	3,420	2,824	2,597
Crabs caught, pieces	11,332,000	13,948,000	14,913,197	18,536,465	14,229,875
Canned foods					
Quantity, cases	171,000	184,000	204,375	253,596	204,000
Value in yen	8,420,000	9,490,000	11,193,937	13,886,050	10,441,252

Note: A case contains 22.32 kg.

## AQUICULTURE

## Aquiculture

The conservation and cultivation of aquatic resources is very important to Japan as fish and other marine products constitute a great part of the staple diet of her people. Great care and study are being given to aquiculture in the country, the incubation and letting loose of salmon and trout and the cultivation of fish in shallow waters are being well looked after by the Government. From 1926 on, not only the incubation of salmon and trout, but also the transfer of crawfish, shad, etc., was tried several times with assistance obtained from the U.S.A. The aquicultural production for 1939 amounted to ¥43,025,-

843. The amount gained was ¥12,915,414 or 27.6 per cent over 1938. Of this total, production of carp amounted to ¥7,413,449; that of eels ¥9,229,911; that of oyster ¥3,290,000; that of sea weeds ¥12,172,721; and that of pearls ¥1,876,812. The principal fish, shell-fish and seaweed which are now being cultivated are carp, eel and tortoise in fresh water, and the seaweed laver in sea-water. The breeding is done in rice-fields, breeding ponds, reservoirs, marshes, etc.

The number of aquicultural establishments in 1939 was 141,342, the area covered 140,748,664 tsubo. Condition and results of the industry in recent years are given in full in the following tables:

## NO. OF ESTABLISHMENTS ENGAGED IN AQUICULTURE, AREA AND PRODUCTS

Year	No. of Establishments	Area (In tsubo)	Value of Products (In yen)
1935	161,779	157,761,107	25,534,550
1936	162,326	154,930,254	25,551,596
1937	159,038	149,314,974	28,974,262
1938	158,629	151,201,913	30,110,429
1939	141,342	140,748,664	43,025,843

## FISH, SHELL-FISH, ETC., RAISED THROUGH AQUICULTURE

	1936	1937	1938	1939
Carp:				
Ricefields				
Quantity kan	509,000	496,940	418,112	484,624
Value yen	683,000	705,948	684,606	1,114,179
Breeding-ponds				
Quantity kan	1,607,000	1,611,569	1,524,664	1,511,368
Value yen	2,203,000	2,345,091	2,550,778	3,681,377
Reservoirs, marshes, etc.				
Quantity kan	1,256,615	1,249,652	1,032,844	1,011,168
Value yen	1,629,000	1,973,268	1,819,806	2,617,893
Eel:				
Breeding-ponds				
Quantity kan	1,809,000	1,863,769	1,919,020	2,009,659
Value yen	4,931,000	5,018,502	6,549,175	9,137,658
Reservoirs, marshes, etc.				
Quantity kan	35,000	27,027	29,854	23,940
Value yen	82,000	73,818	87,678	92,253
Goldfish:				
Quantity kan	555,000	554,150	386,452	811,875
Value yen	581,000	667,446	530,741	635,960
Oyster:				
Quantity kan	15,741,000	14,949,475	12,145,345	11,034,760
Value yen	1,858,000	2,022,879	1,960,757	3,290,065
Asari:				
Quantity kan	11,359,000	16,459,681	13,804,741	14,689,131
Value yen	890,000	1,274,095	1,803,168	3,318,501
Pearl:				
No. of shells	7,072,000	10,857,953	10,883,512	10,482,024
Value yen	984,000	1,543,837	1,376,325	1,878,812



	1936	1937	1938	1939
Carp:				
Pearl shells:				
No.	36,216,000	29,790,061	24,938,320	56,374,201
Value yen	905,000	869,751	406,502	990,277
Amanori (Porphyra):				
Quantity kan	8,410,000	9,346,073	8,232,993	9,233,037
Value yen	8,566,000	9,987,805	9,365,454	12,172,721
Others:				
Value yen	2,239,917	2,491,822	2,975,439	4,096,147

#### Manufacture of Fishery Products

The supply of fish depends to a considerable extent on seasonal changes but demand is controlled by the tastes and customs of consumers, so that supply and demand are too often not well balanced. In order to adjust these difficulties satisfactorily, careful studies have been made regarding the storing and preserving of these products. Especially, as the problem of food has become a serious one lately, it is often argued that a portion of the fishes

which are now being turned into fertilizers and which amounted to 40% of the total yields, should be converted into food. Under these conditions Japan is paying very careful consideration to the manufacture of fishery products.

The total manufactured fishery products in 1939 was valued at ¥391,048,310, of which ¥55,744,195 was in fertilizers, ¥24,378,269 in fish oils, ¥1,114,510 in Glolopeltis dried, and the balance of ¥309,811,336 was the value of food products.

#### MANUFACTURED FISHERY PRODUCTS

(Units: Quantity in kan, value in ¥1,000)

Year	Total Value	Food Products		Fertilizers	
		Quantity	Value	Quantity	Value
1935	175,540	119,240,300	137,472	99,865,854	28,552
1936	215,861	132,637,000	156,144	120,298,000	37,474
1937	214,870	142,956,302	163,024	88,985,600	33,115
1938	241,883	164,363,368	199,096	68,050,231	28,990
1939	391,048	140,064,794	309,811	79,169,480	55,744

Year	Fish oils		Sukifunori*	
	Quantity	Value	Quantity	Value
1935	16,595,515	8,793	189,719	723
1936	30,079,000	21,527	190,000	716
1937	24,437,345	18,001	172,806	730
1938	20,428,790	13,138	139,071	658
1939	19,853,982	24,378	173,866	1,115

Note: Production of agar-agar is not included in the table.

\* Dried seaweed, *Glolopeltis furcata*.

**Products as Food** To the present the Japanese people have not paid much attention to the manufacture of fishery products, except "fushi," as articles of food, because fresh fish is available at almost any time and any place. But since there is a large consumption of such products among people of Western nations attention has been turned

to the preservation of fish with a view to export. The principal items preserved are "fushi" (fishmeat steamed and dried), fish dried, salted and dried, boiled and dried, smoked, salt-cured, canned, and Japanese isinglass. Production of each for the last few years is as follows:

#### VALUE OF FOOD PRODUCTS

(Unit ¥1,000)

Year	Fushi	Dried	Salted & Dried	Boiled & Dried	Smoked	Saltcured	Miscellaneous
1935	14,314	22,306	10,040	22,547	289	11,859	56,117
1936	17,525	27,264	10,527	23,469	402	14,559	62,398
1937	16,948	27,124	10,103	21,999	438	19,313	67,098
1938	17,251	36,103	13,027	28,744	614	30,073	73,282
1939	29,477	69,421	20,656	47,852	718	45,635	95,052

Agar-agar Kantén or agar-agar (or Japanese isinglass) is a gelatinous substance extracted from seaweed, especially from *Gelidium Amansil*, used for

food and industrial purposes, production of which is shown in the following table:

	1935	1936	1937	1938	1939
No. of establishments	463	512	520	528	623
Total production:					
Quantity, kan	665,000	680,000	708,203	687,731	718,362
Value, yen	6,390,315	9,712,497	10,122,783	11,142,642	21,229,685

**Fertilizers** Details of the production of fish fertilizers are given in the table below. As the table shows most fertilizers are made from herrings, sardines and bonito. Where transportation

facilities are not very good or where there is no satisfactory equipment for manufacturing them into food fishes are converted into fertilizers.

#### FISH FERTILIZERS

(Quantity in kan, value in ¥1,000)

Year	Total	Herring Sardine Fish Bone Sardine Dried						
		Quantity	Value	Cake	Cake	Cake	Dried	Herring
1935	99,865,854	28,552	1,679	18,157	945	1,194	1,688	4,836
1936	120,298,000	37,474	1,024	26,715	1,220	857	1,893	5,764
1937	88,925,600	33,115	973	21,545	1,688	359	1,370	7,178
1938	68,050,231	28,990	960	18,814	2,710	430	737	5,337
1939	79,169,480	55,744	3,740	35,409	3,330	1,803	1,853	4,709

**Fish Oils** Fish oils used for industrial purposes are sardine oil, herring oil, cod oil, whale oil and shark oil. Production in 1939 was 19,853,982 kan,

a decrease of 574,808 kan as compared with the previous year. The value amounted to ¥24,378,269, an increase of ¥11,239,401.

#### FISH OILS

(Value in yen)

Year	Total	Sardine	Herring	Cod	Whale	Shark	Others
1935	8,792,502	6,687,986	165,421	471,265	545,921	724,479	197,431
1936	21,527,114	16,112,027	361,868	1,006,645	2,371,291	1,026,241	649,042
1937	18,001,508	14,272,777	170,818	849,508	1,151,017	947,754	609,834
1938	13,138,868	9,700,667	372,628	641,250	892,373	1,063,795	468,155
1939	24,378,269	19,186,084	938,068	895,923	1,244,656	1,092,183	1,021,355

#### Organizations Connected with Fisheries

**Suisankai (Fishery Societies)** Suisankai is a public corporation, recognized

by the Suisankai Law of 1921, which has as its purpose the development of fishery. It is an organization covering a particular county or city and includes among its members, in addition to those



engaged in fishing, persons having rights to fish and those who manufacture, trade in, or store fishery products. A prefectural suisankai is organized by county and city suisankai of that particular prefecture, and at the head of prefectural suisankai and suisankai located abroad is the Teikoku (Imperial) Suisankai. The functions of suisankai include the encouragement of fishery, the improvement and extension of the manufacture of marine products, the development of fishing districts, protection of agriculture, etc. It also collects statistics, investigates markets, or engages in brokerage, etc. On the social side, the rescue of shipwrecked vessels, improvement of relations between employers and employees, employment agency work, mediation in labor troubles, etc., are looked after by the societies. And lectures on fishery subjects, exhibitions and fishery shows are held by them. The number of suisankai was 338, with a membership of 447,748 in 1938.

**Suisankumiai (Fishery Guilds)** There are two classes of suisankumiai. The first of these is a corporate judicial person, organized by fishermen or those who are engaged in the manufacture or sale of aquatic animals or plants in a particular district for the purpose of the encouragement and improvement of fishery, cultivation and propagation of aquatic products, etc. The number of suisankumiai is decreasing gradually. At one time there were as many as 220 or more of these Kumiai or guilds. At the end of 1938 there were 87, with a membership of 40,417 and an expenditure of ¥1,923,173. The Act for Suisankumiai in Foreign Waters promulgated in 1902, authorizes any Japanese engaged in fishery or in the manufacture or sale of aquatic products in foreign waters, either by permit or by treaty, to organize suisankumiai. At present Roryo Suisankumiai (Suisankumiai in Russian Waters) is the only one which belong to this class. This guild is formed by fishermen and those engaged in the manufacture and sale of aquatic products in the Maritime Province, Kamchatka, and Saghalien Island.

At the end of 1938, its members were 26 bodies. Its especially important task is to encourage amicable relations between the Japanese and Russian fishermen working in the same waters and thus ensure the smooth and effective working of the industry in those parts.

**Gyogyo-Kumiai (Fishermen's Societies)** Gyogyo-Kumiai is a judicial person recognized by the Fishery Law, and is organized by fishermen living in a particular district. It acquires fishery rights, etc., for member fishermen and takes any measures necessary to further or protect the common benefit of its members.

The principal object of gyogyo-kumiai is the acquisition of fishing rights, etc. This is quite natural in Japan for fishermen work with their village as unit and no fisherman can work independently. Therefore, fishing rights are mostly secured by gyogyo-kumiai, special privileges being given to the kumiai for securing them.

Though in the original Act, the object of gyogyo-kumiai was restricted to the acquisition of fishing rights etc, the Act was revised in 1910, whereby the kumiai had the obligation put on them of undertaking any proper measures that would redound to the mutual benefit of fishermen.

Gyogyo-Kumiai Rengokai are corporations of gyogyo-kumiai. Their principal functions are joint sales of fishery products, cultivation of fish and rescue of shipwrecked vessels. There were 3,983 societies with a membership of 613,266 in 1938.

**Dogyo-Kumiai or Related Associations** Dogyo means the same trade or profession, hence Dogyo-Kumiai are associations of those connected with the same trade. In relation to the fishery industry they are formed by those dealing in aquatic products, canned foods, salt, cultivation of fish, etc. In 1938 there were as many as 22 dogyo-kumiai connected with the fishing industry. There is also the Dal-Nippon Suisan Kai, which is incorporated for the purpose of the improvement and encouragement of fishery.

## CHAPTER XVI FORESTRY



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## CHAPTER XVI FORESTRY

### Introduction

Japan is one of the few countries of the world favored with extensive forests. The area of forests and fields in Japan including Chosen, Taiwan and Karafuto, was 45,299,105 hectares at the end of 1933 and was about 67% of the whole area of the country, which is 67,538,527 ha. It is about 3.8 times as large as her agricultural land.

Since Japan forms a long narrow chain stretching north and south from the northern extremity of the Kurile Islands to the southernmost point of Taiwan, and since her mild climate is very favorable for the growth of plants and trees, it is natural that there should be a thick growth of many varieties. There are as many as 1,500 kinds, of which principal forest trees alone number more than 100. In point of richness in variety, she occupies a high position even among countries which are favored with larger forest areas. While the amount of timber produced is valued at roughly ¥300,000,000 annually it is still far less than 10% of the value of the total staple products of the country and is not at present enough to fill domestic requirements. Every year it is necessary to import about 10,000,000 koku of lumber, equivalent in value to ¥100,000,000. Furthermore, forestry offers very limited labor opportunities. As compared with agriculture, which gives work to one-half of the total families in Japan, and fishing, which finds employment for 1,500,000 people, the number of persons engaged in forestry is small, being less than 720,000.

### Distribution and Character

Forests in Japan stand, roughly speaking, in four different zones: sub-tropical forest zone, evergreen broad leaved forest zone, the deciduous broad-leaved forest zone and coniferous forest zone.

**The Sub-tropical Forest Zone** This covers the whole of Taiwan, the southern half of the Ryukyu Islands, including the Yayeyama Islands, annual mean temperature in it being over 21° C. As

to the altitude, the zone varies from below 2,000 meters above sea level in the southern part of Taiwan to below 1,000 meters above sea level in the northern part of the same island. In this zone, hinroji, tsuga, (Arenga saccharifera) basho-banana and bamboo are found.

**The Evergreen Broad-leaved Zone** This comprises Shikoku, Kyushu, the northern part of the Ryukyu Islands and the southern part of Honshu (Main Island) (at 36° N. Lat. and Southwards), the annual mean temperature of this zone being 13°-21° C. As to the altitude, it is 854 meters on an average in Kyushu, 762.5 meters in Shikoku and 610 meters in the southern part of Honshu. Trees which grow in this zone are kusunoki (Cinnamomum camphora, Nees), oak, akamatsu (Pinus densiflora), white fir, tsuga (Tsuga sieboldi, Carr), etc.

**The Deciduous Broad-leaved Zone** This zone covers the northern part of Honshu, the southern part of Hokkaido and a greater part of Chosen, the annual mean temperature in this zone being from 6° C. to 13° C. As regards the altitude, it is from 976 meters to 1,372.5 meters in the northern part of Honshu and 457.5 meters in the southern part of Hokkaido. Trees which grow in this zone are cedar (the Japanese cypress), white fir, todo-matsu (Abies sachalinensis, mast), ezo-matsu (Picea ajanensis, Fisch), beech poplar, white birch, etc.

**The Coniferous Zone** This zone covers the northern half of Hokkaido, the group of the Kurile Islands and the Saghalien Island, the mean temperature of which is 8° C. to below zero. This zone starts at the height of 1,000 meters in Honshu and ends at the height of 2,592.5 meters in the same island, while it ends at the height of 1,067.5 meters in Hokkaido and 610-762.5 meters in Saghalien Island. Principal trees which grow in this zone are ezo-matsu and todo-matsu.

Forests in Kiso district extend over



mountain regions which range from 305 meters to 3,050 meters above the sea level along the course of the upper stream of the River Kiso. It covers 104,055 ha. in area and its growing stock amount to 28 million cu. m. Principal trees are the Japanese cypress, the swamp-cypress, sawara (*Chamae cypariss obtusa*, S. et Z), nezuko (*Thuja japonica*, maxim) and parasol-pines. They are old and are thickly grown. The reason that they are retained so well is due to the fact that during the feudal times, the cutting down of these trees was prohibited. Among these, the most magnificent trees are the Japanese cypresses which are about 100 years old. Most of them are 0.46 meter in diameter and 27.45 meters in height. Forests of sugi in Akita district are widely distributed along the Yanéshiro

(In Japan proper the investigation on the area of forests, bamboo-groves and wild lands (productive yet uncultivated) is carried at the year-end every third year.)

#### AREA OF FORESTS, BAMBOO-GROVES AND WILD LANDS IN JAPAN PROPER

Year (At the year end)	1930 (In hectares)	1933 (In hectares)	1936 (In chô)	1939 (In chô)
Grand total	23,011,218	23,645,731	24,186,376	24,079,801
Forested tracts	19,879,240	20,575,913	21,035,861	21,083,041
Coniferous	4,632,827	5,420,360	5,658,563	5,683,341
Broad-leaved	8,470,016	9,086,657	9,007,564	9,026,904
Mixed	6,148,369	5,454,838	5,758,616	5,770,844
Bamboo-groves	136,329	148,348	152,684	162,280
Miscellaneous	491,697	465,708	458,434	439,672
Bare tracts	3,131,977	3,069,817	3,150,515	2,996,760
Crown	1,432,649	1,413,885	1,380,087	1,334,601
National	7,638,263	7,657,609	7,712,934	7,650,205
Public	4,186,375	4,287,336	4,444,567	4,431,227
Temple and shrine	141,381	144,269	152,904	151,796
Private	9,612,550	10,142,631	10,495,885	10,511,971

Note: One hectare=2.47 acres. One chô=2.45 acres.

#### Stock of Growing Timber

Japan Proper To ascertain the amount of growing timber owned by the Imperial Household, Government, and public and private interests, careful investigations are made, the investigations

and Omono Rivers, and belong to the Government. The forests cover an area of about 43,000 ha. and hold stock of 16 million cu. m. The forests, where they are not mixed with other trees, are beautiful and magnificent to look upon. Most of the sugi in these forests are from 120 to 200 years old, and in a dense part the stands hold as much as 1,400 cu. m. per ha. Some of them are so large that their diameter reaches sometimes to 1.22 meters. The forests are noted for the abundance of timbers of a superior quality. Annual cutting from these forests amounts to 280,000 cu. m.

#### Area of Forests, etc.

According to the report of the Ministry of Agriculture and Forestry the area of forests in Japan proper was as follows:

in the case of public and private interests being carried out by each prefecture. The following statistics show the growing timber in Japan proper in 1933 classified according to ownership (Quantities in 1,000 cu. m. One cubic meter=35.3165 cubic feet.)

Kind	Public and Private					Total	%
	Crown	Government	Public	Temples and Shrines	Private		
Coniferous trees	32,452	139,948	71,172	7,333	327,510	578,415	46.0
Broad-leaved trees	14,121	323,431	83,503	5,000	252,823	678,878	54.6
Total	46,573	463,379	154,675	12,333	580,333	1,257,293	—
%	3.7%	36.6%	12.4%	0.7%	46.6%	—	—

Thus the total standing timber in Japan proper (Hokkaido excluded) is 1,257,293,000 cu. m., of which coniferous trees account for 578,415,000 cu. m.

and broad-leaved trees 678,878,000 cu. m. Other Parts The following table shows the number, ownership and type of trees in other parts of the country.

#### STANDING TIMBER IN HOKKAIDO, TAIWAN, CHOSEN AND KARAFUTO IN 1933

(Quantities 1,000 cu. meters)

Owners	Hokkaido			Karafuto		
	Coniferous Trees	Broad Leaved Trees	Total	Coniferous Trees	Broad Leaved Trees	Total
Crown	32,911	74,130	107,041	—	—	—
Government	165,705	212,599	378,304	165,951	22,905	188,856
Public	19,829	51,448	71,277	—	—	—
Shrines and temples	2	17	19	—	—	—
Private	2,899	28,994	31,893	—	—	—
Total	221,346	367,188	588,534	165,951	22,905	188,856

Owners	Taiwan			Chosen		
	Coniferous Trees	Broad Leaved Trees	Total	Coniferous Trees	Broad Leaved Trees	Total
Crown	—	—	—	—	—	—
Government	70,006	127,374	197,380	87,902	72,158	160,060
Public	68	297	365	4,316	2,095	6,411
Shrines and temples	—	—	—	2,413	1,472	3,885
Private	828	9,121	9,949	60,658	15,275	75,933
Total	70,902	136,792	207,694	155,289	91,000	246,289

The total stock of growing timber in the country classified according to ownership is as follows:

#### TOTAL STAND OF TIMBER IN JAPAN IN 1933

Owners	(1,000 cu. m.)		Grand Total
	Coniferous Trees	Broad Leaved Trees	
Crown	65,363	88,251	153,614
Government	629,512	758,467	1,387,979
Public	95,385	137,343	232,728
Shrines and temples	9,748	6,489	16,237
Private	391,895	306,213	698,108
Total	1,191,903	1,296,763	2,488,665

#### Afforestation

There is a great scope for the practice of afforestation in Japan because of the large wild areas, plains where there is only a thin growth of trees, and forests where there are many undesirable trees. However, since a great deal of timber is being cut, reforestation becomes more urgent every year.

Afforestation is divided into two classes, viz., natural and artificial. Natural afforestation is being carried out in only a small portion of the Crown and Government forests, while in most of the

public and private forests, conditions are such that no definite plans for natural afforestation have been made. However, as this is liable to cause forests to go to waste careful studies are being made to improve the situation.

In artificial afforestation Japan has had some good experience and artificial afforestation for the Imperial and Government forests is being carried out on a well-planned basis.

New Plantation Area newly planted in 1939 was 140,943.4 chô, and the number of trees planted was 408,770,186,



of which coniferous trees numbered 349,729,246 while broad-leaved trees numbered 46,411,703, exclusive of trees planted in the Crown area. The number of trees planted in the Crown-owned area in the same year was 12,629,237.

In addition to the above there were 59,596,290 trees supplementarily planted

in the forests in 1939, and bamboo-groves newly cultivated were 381.4 cho in area and 711,332 in the number of bamboos planted.

**Naturally Regenerated Area** of forests naturally regenerated in 1939 was 268,754.4 cho.

#### ARTIFICIAL AFFORESTATION

(Area in cho)

Year	1937	1938	1939
Area newly planted	118,065.4	125,308.2	140,943.4
Number of trees newly planted	340,557,533	367,484,980	408,770,186
Coniferous area	95,649.7	98,303.2	119,271.7
Number of trees	278,715,475	306,210,251	349,729,246
Broad-leaved area	18,200.9	17,152.9	17,411.5
Number of trees	50,417,523	47,797,102	46,411,703
Crown area	4,214.8	4,852.1	4,260.2
Number of trees	11,424,532	13,477,627	12,629,237

#### Production of Wood, Bamboo and Other Forest Products

The total value of forest products in 1939 is estimated at ¥755,680,000.

	1936	1937	1938	1939
Area cleared in cho	455,398	445,873.7	471,001.2	513,354.7
Total value in yen	194,840,000	254,991,282	356,178,315	582,501,875
Timber	136,933,000	189,038,543	279,358,666	451,513,977
Fuel wood	55,153,000	63,218,575	73,697,698	126,745,786
Bamboo	2,754,000	2,684,164	3,171,951	4,242,112

Note: Figures for fuel wood include those for the wood converted into charcoal. The actual amount of the value of fuel wood only is estimated at ¥38,322,502 so that the total value of forest products is estimated at the figures given above.

During the ten preceding years no marked fluctuation has been observed in movements of quantities of timber and fuel wood produced, while, on the other hand, their value has been showing annually more than moderate de-

creasing trend until 1934 when it turned to increase.

Value of other forest products in 1939 amounted to ¥291,869,358. Details follow:

Kind	1936	1937	1938	1939
Seeds of trees	44,710	56,022	87,737	514,447
Fruits (Chestnuts, Walnuts, etc.)	4,297,997	4,306,391	4,419,446	7,005,750
Barks	2,512,932	2,901,405	3,889,410	6,524,010
Loam grass	18,432,950	21,423,867	23,827,480	28,817,749
Fresh mushrooms (matsutaké)	4,394,132	4,891,987	4,250,791	4,884,896
Dried mushrooms (shittaké)	5,505,551	4,822,663	4,684,465	7,377,776
Bamboo sprouts	4,888,931	5,202,223	5,657,300	6,456,954
Horse-radish	1,744,885	1,658,627	1,593,629	1,786,918
Charcoal	101,796,857	131,460,169	161,477,762	227,104,455
Total including others	144,347,118	177,443,668	210,805,762	291,869,358

#### Protective Forests

Besides having a direct value through the produce they yield, forests have

a distinct indirect value through influence on climate, conservation of water supplies, prevention of erosion, etc.

and in order that the fullest use may be made of them the Government established a system of "protective forests." In the following instances, under the Forestry Act, the Government is authorized to decree that certain forests, etc., shall be considered as "protective forests":

(1) When it is necessary to protect against soil denudation.

(2) When it is necessary to protect against sand shifting.

(3) When it is necessary to protect against flood, wind and tide.

(4) When it is necessary to protect against avalanches and rolling stones.

(5) For conservation of water supply.

(6) For fishery purposes.

(7) For guiding navigators.

(8) For public health.

(9) For scenery.

The area of protective forests in 1936-39 was as follows:

#### PROTECTIVE FORESTS

Year	1936	1937	1938	1939
(At the year end)				
Total				
Number	433,180	443,013	450,587	459,850
Area	2,135,437.9	2,143,554.4	2,143,687.9	2,162,421.0
Against soil-denudation				
Number	265,965	273,760	280,955	289,125
Area	933,159.1	938,844.7	948,395.7	954,322.1
For feeding springs				
Number	67,092	66,508	66,724	66,166
Area	998,030.4	998,833.0	988,917.6	1,001,372.0
Against flood				
Number	15,711	15,700	15,340	15,438
Area	6,526.4	6,532.0	6,569.4	6,544.8
Against rolling stone				
Number	474	485	487	503
Area	684.0	697.7	700.8	699.9
Against avalanche				
Number	4,968	6,116	6,209	5,465
Area	6,715.1	7,408.3	7,752.7	7,689.4
Against wind				
Number	14,892	15,524	15,646	16,479
Area	77,284.8	77,900.5	76,319.9	78,079.3
Against dust				
Number	11,598	11,586	11,643	11,865
Area	14,079.6	14,153.2	14,000.3	14,169.7
Against tide				
Number	15,137	15,959	16,249	17,124
Area	9,270.1	9,171.4	9,236.7	9,271.4
For attracting fish				
Number	25,893	25,947	25,915	25,928
Area	51,159.0	51,694.2	51,867.0	51,829.0
Landmark for navigation				
Number	257	258	256	266
Area	1,277.0	1,274.2	1,262.9	1,277.3
For maintaining public health				
Number	153	153	153	150
Area	90.0	89.7	89.7	99.6
For scenic beauty				
Number	11,040	11,017	11,011	11,341
Area	37,161.4	36,955.5	38,575.8	37,066.5

Owners of protective forests, etc., cannot, according to the provisions of the Forestry Act, cut down the trees, take the forest products from them nor

utilize them for any purpose, unless with the approval of the authorities concerned. Protective forests are divided into two classes for administrative pur-



pose. In the first class are forests in which limits for cutting and utilization are fixed, while in the second are those, the cutting of which is absolutely prohibited. Any owner who has his forest included in the second class and suffers any loss by this inclusion will have the loss reimbursed by the Government.

#### Forestry Associations (Shinrin Kumiai)

Forestry associations are those judicial persons recognized by the Forestry Act of 1907, which are formed not for

profit but for safety of the country, conservation of water supplies, protection of forests, etc. The nature of their work is to allow members to plant, fell, carry, guard, or sell timber under unified control and rational management. Forestry associations are classified according to their objects into four classes, viz., foresters' associations, business associations, coolies' associations, and protection associations.

The number of forestry associations in 1939 was 2,500, and the area covered was 2,140,753 cho. The growth of forestry associations in recent years is shown in the following table:

#### FORESTRY CO-OPERATIVE SOCIETIES

(Area in cho)

Year (At the year end)	1935	1936	1937	1938	1939
Total					
Number of societies	2,083	2,235	2,373	2,450	2,500
Area operated by societies	1,642,146	1,793,768	1,922,002	1,988,735	2,140,753
Number of members	325,172	359,048	389,921	405,018	443,000

#### Forest Damage and Insurance

Forests are subject to damage by fire, wind, snow, etc., damage and loss by fire being especially great. As the forestry business requires an investment which covers a long period of years it is essential to insure, for if a forest is swept by fire, not only the capital invested, but also the care and labor of many years is instantly swept away. The table below shows both the amount of loss and the area damaged by fire, wind, etc., during the last few years. In order to encourage forestry work

At the end of	Policies	Area insured (In cho)	Amount insured (In yen)	Premiums received (In yen)
1937	5,543	53,582	6,137,517	36,040
1938	10,420	122,398	14,360,003	87,699
1939	39,976	178,202	20,012,378	130,874

Damages done to forests in 1939 reached ¥16,173,260.

#### Forest Administration

The central office of forestry administration in Japan at present is the Forestry Bureau in the Ministry of Agriculture and Forestry. Under this Bureau, there are six Forestry Administration Offices, 218 Forestry Administration Stations and 1,544 administrative districts.

some means to minimize the loss which arises from fire had to be devised. For many years forest insurance was looked for but it was not until 1920 that the Toho Fire Insurance Co., Ltd., ventured to take on this business. The Teikoku Fire Insurance Co., Ltd., and Tokyo Marine and Fire Insurance Co. Ltd., quickly followed.

But the State Forestry Fire Insurance Law was promulgated in 1936 and the Government commenced the forestry insurance business as from 1937. The conditions of the business are as follows:

In the office of the Forestry Bureau there is a Section of General Affairs, a Section of Forestry Business, and for the administration of privately owned forests there is a Public and Private Forests Section. For experimental work there are, under the direct supervision of the Minister of Agriculture and Forestry, Forestry Experimental Stations. Forestry Administration Offices are

located in Aomori, Akita, Tokyo, Osaka, Kochi, and Kumamoto cities, and are under the supervision of the Minister of Agriculture and Forestry. The work of each office is to plan the afforestation work of Government and public forests, to establish or eliminate Government forests, to start civil engineering work, to sell forests, etc. They also supervise the works of forest administration stations which are placed under them. In each office there is a Section of General Affairs, a Section of Forestry Planning, a Section of Afforestation and a Section of Utilization. Forest Administration Stations, which number 218 in all, are directly concerned with the management and protection of Government and public afforested forests.

In Hokkaido, the Forestry Section in the Development Bureau is the central administration office, and under it there are 19 forest administration offices. About 3,520,000 ha. of forests which are owned by the Government are administered by these 19 offices, the average area controlled by one office being about 185,000 hectares.

#### Forestry Education

**College Education** Forestry education in Japan began with the establishment of a forestry school at Nishigahara, Tokyo, in 1882, under the supervision of the Forestry Bureau. This school became the Tokyo Forestry School and by the University Ordinance of 1890 was incorporated as a branch of the Department of Agriculture of Tokyo Imperial University. Morioka and Kagoshima Higher Forestry Colleges were established in 1903 and 1904 respectively. The forestry education that was being carried on in Sapporo Agricultural College in Hokkaido, became a laboratory course when the college became a Department of Hokkaido Imperial University. During the World War, facilities for education were greatly extended, and Departments of Forestry were added to Kyoto and Kyushu Imperial Universities, while higher forestry colleges were established in Miyé, Utsunomiya, Gifu, Miyazaki, and Sulgen in Chosen and Taihoku in Taiwan.

**Practical Education** The first and second class forestry schools established and supervised by various prefectures give practical lessons in forestry. They

exist either as independent schools of forestry, or as a part of agricultural schools.

#### Forestry Experimentation

**Central Experimental Station** A plant experimental station was first established in Nishigahara, Tokyo, in 1878, to make investigations into the advantages of the cultivation of various plants, the growth of plants, the relation between the forests and climatic conditions of the country, etc. This station was abolished in 1922, but in 1890, the business of forestry experiments was taken up by the Forestry Administration Station of Tokyo. Later, in 1905, owing to the pressing need, plant nursery beds were established in Meguro, Tokyo. This nursery developed into a Forestry Experimental Station under supervision of the Forestry Bureau. In 1922, the station was detached from the Forestry Bureau and placed under the direct supervision of the Minister of Agriculture and Forestry. A subsidiary station was also established in the Ogasawara (Bonin) Islands for the purpose of experimenting with tropical plants.

In the Central Experimental Station there are departments of general affairs, afforestation, vegetable pathology, utilization of forestry products, chemistry, forestry work, and weather and climate. Since 1904 it has regularly issued bulletins on experiments and forest weather, besides occasional reports. The Station will, for payment, make analysis, carry out experiments and give advice and judgement on matters of forestry for the general public, if requested.

**Local Experimental Stations** Among the various prefectures Hokkaido is the only one which has a forestry experimental station. It was established in 1908 and for twenty-five years has contributed to the development of forestry in that island. The station makes experiments in afforestation, the utilization of forestry products and the protection of forests. In Kagoshima prefecture, a forestry research bureau was established in 1929. This bureau studies plant rearing, afforestation, etc. and is the only bureau which engages in experimental work in prefectures other than Hokkaido.

Forestry experimentation in Taiwan is undertaken by the Forestry Bureau



under the Central Research Station in the Government-General of Taiwan. It has experimental forests of 52,000 cho. In addition to experiments in afforestation, utilization, and nursery work, it studies the classification and distribution of plants grown in the island. It has two branch stations.

The forestry experimental station in Chosen was established in 1922. As the climatic conditions in Chosen are rather continental the kinds of plants, their distribution, and the nature of forests, etc., differ widely from those in Japan, so the results of the experiments made in the Central Experimental Station in Tokyo cannot be directly applied to the forests in Chosen. The station is comparatively new, but as part of a plan which is to be completed in fourteen years beginning 1925, investigations on the classification and distribution of plants, experiments in rearing and the planting of principal trees, experiments in the prevention of damage from noxious insects and fungi on young plants and forests, tests on lumber and methods of storings, etc., have already been made and reports on the results of the investigations and experiments have been published in the bulletins issued by the station. In the experiments on rearing young plants it has already succeeded in showing the way to quicken their growth, its experimental success in rearing the Korean pines being specially noteworthy.

In Saghalien Island an experimental station was established in 1929. Prior to that experiments were made on frigid zone plants by the Temporary Industrial Investigation Bureau in the Government Office of Saghalien Island in experimental forests near the towns of Toyohara and Horo.

#### Lumber Price

The American lumber market in 1939 and 1940 went down, because of the price control of the Government.

#### IMPORTS OF LUMBER (In ¥1,000)

Year	Ebony, Kwarin, etc.	Cedar, Pine, Fir from under 60 mm. thick to over 200 mm.			Kiri (paulow- nia)	Aspen	Other Wood	Total
		Teak	Pine and Fir (lofs and cants)	Cedar,				
1934	952	758	336	14,722	15,404	66	277	7,665
1935	967	1,347	16,533	20,230	83	304	9,945	49,775
1936	1,081	1,534		37,645	663	809	13,816	55,547
1937	815	2,852		41,640	821	727	17,962	64,817

January quotation was ¥20.13 per shakujime (about 1 cubic foot×12), but dropped to ¥19.37 in May and continued unchanged through the following months and 1940. The Saghalien timber was quoted at ¥1,130 per 100 koku (koku=1 cubic foot×10) in January 1939, ¥1,330 in October-December, with yearly average ¥1,283; during 1940 ¥1,330 persisted in January-August, and then it went up to ¥2,200 in September and continued unchanged through the following months, realising the yearly average of ¥1,620.

#### Supply and Demand of Lumber

The production of lumber is steadily increasing since 1930 as shown in the following table, supplying 90.8 per cent of the total demand in 1937.

#### PRODUCTION OF LUMBER

Japan Proper (In koku)	
1930	47,083,536
1931	48,861,826
1932	51,222,910
1933	56,296,382
1934	64,372,163
1935	65,650,465
1936	72,137,823
1937	79,426,961
1938	89,345,867
1939	109,840,413

(koku=1 cubic foot×10)

The quantity of import of lumber is on the decrease since 1932, although the value fluctuated according to different years. Imports from the United States have specially decreased in recent years to be replaced by those from the South Seas. On the contrary, exports are on the increase, nearly doubling the quantity exported in years prior to 1937.

The actual demand in Japan proper, therefore, remains almost unchanged in recent years, going up and down between 48,000,000 koku and 60,000,000 koku. The State control of building in these years may also be accounted for.

Year	Ebony, Kwarin, etc.	Teak	Cedar, Pine, Fir from under 60 mm. thick to over 200 mm.		Kiri (paulow- nia)	Aspen	Other Wood	Total
			Pine and Fir (lofs and cants)	Cedar,				
1938	198	1,405	13,181		289	608	12,497	28,178
1939	126	1,068	13,808		593	718	15,941	32,326

#### EXPORTS OF LUMBER (In ¥1,000)

Year	Bamboo	Railway Sleepers	Veneers	Shooks	Match Sticks	Wood Ings for Match Boxes	Shav- Woods, Sawn	Logs, etc.	Total
1935	472	689	4,397	5,012	88	282	7,520	5,192	10,468
1936	895	699	5,965	4,872	377	273	9,146	3,371	12,186
1937	853	467	9,002	7,113	388	298	13,536	4,346	17,529
1938	1,132	286	6,064	6,745	662	509	17,825	14,358	14,704
1939	1,359	3,674	12,499	8,265	794	893	65,866	36,012	26,764

Pulp In regard to the supply and demand of pulp see "Rayon and Staple Fibre" in Chapter XVIII and "Paper" in Chapter XXI.

#### FORESTRY IN 1941

Along the advance of international wars the demand for lumber has increased in recent years and that of 1940 became twice as large as 1931. But the general tendency in 1940-41 threatened a decrease of supply on account of the stoppage of imports of foreign lumber, fixing of official prices, shortage of labor, meager supply of material for production and difficulties in obtaining sufficient means of transportation, while demand was much greater than the previous year for lumber to be used in defense services, in mines, in the pulp manufacturing industry, in railways, and various engineering works on the continent. In order to cope with the situation the Government introduced the Lumber Control Law to the spring session of the Imperial Diet, and it was passed by the Diet and promulgated on May 30. Detailed regulations for the enforcement of the control law were issued on June 6 in the form of an official notice of the Vice-Minister of Agriculture and Forestry. On August 18 the Japan Lumber Company was organized under the law with a capital of ¥50,000,000, 4 per cent dividend guaranteed by the Government. The function of the new control company is to control the shipping in and out of lumber between Japan proper and overseas territories and countries, to adjust its distribution in the country, to supply necessary materials for increasing forestry production and to finance or invest in local lumber companies. On August 25 the Lumber Control Commit-

tee of the Forestry Bureau, the Ministry of Agriculture and Forestry fixed the standards of valuation of property held by the existing lumber companies and saw-mills to be amalgamated into the new company or local lumber companies. Local lumber companies were established according to different prefectures or forest districts, with the purpose of controlling the local lumber industry as the sub-organ of the central Japan Lumber Company. By the end of October there were born 23 such local lumber companies throughout the country as the result of painstaking efforts of competent authorities and cooperation of private owners of forests or old lumber companies and associations. The number will be increased in 1942 so that the entire country shall come under a complete control in the matter of production and supply of lumber.

Afforestation work was also put under the official control in 1941-42 with a heavy responsibility of felling 120 million koku (koku=about 1 cubic foot×10) of timber annually and of planting seedlings as much as possible for the future. The measures to be executed for attaining such gigantic purpose included the promotion of forestry associations, local federations of forestry associations and the establishment of the Japan Union of Forestry Associations, the cooperation of forest owners with the Government's policy for the control of lumber production and supply, a compulsory disposal of timber under Article 2 of the Lumber



Control Law, the new taxation on felling, and the formation of the Central Forestry Cooperation Council.

The huge demand for lumber calls for felling standing timber in large quantities and may cause an indiscriminate felling as a natural consequence. The promotion of forestry associations aims at preventing abuses which may arise in pursuit of profit regardless of devastating effect on forestry in general. The number of new forestry associations, which are organized by forest owners, reached over 1,300 by the end of October, and another 1,240 are going to be organized by the end of 1942. The principles of the organization of the Japan Union of Forestry Associations were published by the Ministry of Agriculture and Forestry on October 10. The fund of the Japan Union which amounts to 10 million yen is to be collected from among the local federations of forestry associations. The Union controls the production of timber by forestry associations and its supply to the local lumber companies or the Japan Lumber Company. In the period of free economy there arose difficulties in supply and demand relations and frictions between the forest owners and the lumber companies. The new control system provided by the Lumber Control Law enables the prefectural governors to ask forest owners, when necessary, to comply with the demand of lumber undertakings in order

to smooth the supply and demand relations.

The Central Forestry Cooperation Council was established on September 26. The duty of the Council is to effect cooperation between the Japan Union of Forestry Associations and the Japan Lumber Company, as well as presenting views or making suggestions to the authorities on matters relating to general forestry administration and control measures, representing the reasonable interests of the members of forestry associations.

Afforestation and maintenance of forests and wooded lands for preventing damages to be caused by elemental forces are carefully planned by the competent Ministry with an estimated expenditure amounting to 120 million yen to be expended in the coming 10 years.

There are many and various articles of forestry products other than timber, such as turpentine, paulownia oil, mushroom (*Armilaria edoides*), *Continellus shiitake*, galls, etc. The increased production of these products and control of their distribution are left for future study. In conclusion the year 1941-42 has marked an epoch in the history of the forestry industry in Japan as the year of shift from free, profiteering business to a controlled industry for the sake of the country which is to mobilize all resources to tide over the present emergency.

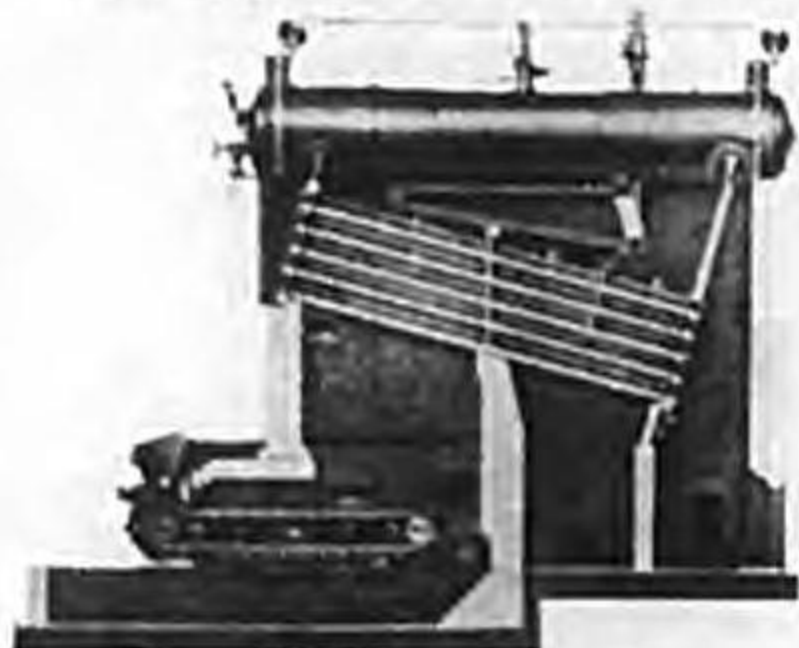
## CHAPTER XVII

### MINING



# YOKOYAMA'S Sectional Water Tube Boilers

**LT Type Water Tube Boiler**



Mounted with steam superheater and ND (Natural Draught) type stoker.

**CT Type Water Tube Boiler**



Equipped with steam superheater and FL (Forced Draught) type stoker.

**CTA Type Water Tube Boiler**



Showing installations of ordinary type steam superheater, economizer, air preheater and FH type stoker.

**Yokoyama's Patented Forger's Steel Staggered Header for Sectional water Tube Boilers**



Equal if not superior to imported ones, our Staggered Headers are the pride of our concern. Supplied currently in two types: one for low pressures up to 28 kgs per square centimeter, and the other for medium pressures up to 40 kgs per square centimeter. Made in any number of holes and types to order. The hand hole fittings are oval in shape and are so arranged as to close by internal pressure.

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## CHAPTER XVII

### MINING

#### History of the Industry

During the reign of the Emperor Kotoku (645 A.D.), a mineral deposit was discovered in the province of Iyo, present Ehime prefecture, and experts came over from Korea and China, to work the minerals extracted. Metals were being used for making coins, so mining received the encouragement of the rulers. During the time of the Emperor Shomu, (724-747 A.D.) mineral deposits were found in many places and the art of working them made considerable advance, a fact witnessed by the construction of the Great Buddha at Nara, a monument of the metal-working art of those days.

Later, during the time of the Ashikagas, mining made further development, especially in the field of gold, copper and sulphur. Influential lords who held sway in their own localities required metals to finance their army, and mines always proved good objects for fights. Mineral deposits obtained in this manner were well worked and the mining industry naturally developed.

In the time of the Tokugawas metallurgy further advanced. The government coined money which circulated all over the country and naturally the industry was well protected and carefully developed under its aegis. At this time Japan was known throughout the world as a country which abounded in gold and silver, and after the country was opened up to foreign trade the quantity of these precious metals exported was considerable, a business which provided a natural stimulus to gold and silver mining. The government also encouraged private enterprisers to engage in the industry, a result of which was the entry of the Sumitomos. The chief mineral deposits discovered during those times were:

Ashio Copper Mine	in Tochigi
Besshi "	in Ehime
Sado Gold Mines	in Sado Island
Miké Coal "	in Fukuoka
Karatsu "	in Saga

After the Meiji Restoration the indus-

try did not show much progress until after the Sino-Japanese War of 1884-1885, when the Government called in many mining experts from abroad and employed them in government operated mines, not only to improve, organize and work the mines more efficiently but also to teach the operating of them on a modern basis. The mines improved in this manner were sold to private companies, and the experts who were officials of the Government were transferred together with them, a factor which served to bring the mining industry of Japan to its present stage of development.

In all kinds of mineral products, the year 1935 witnessed considerable increases over the preceding years. This was caused by the enormous increase of overseas trade and the continued boom of munitions industries. The year 1936 far surpassed the productions of the preceding years, setting an all-time record. An upward price trend caused miners to produce more than ever before.

Speaking of gold, the 1937 output totalled 13,184 kilograms in contrast to 21,114 kilograms for 1936. Silver production, too, decreased and amounted to 154,391 kilograms against 298,793 kilograms for 1936. Copper was not exception to the rule. Its output totalled 48,823 metric tons against 78,114 metric tons for 1936. Coal production totalled 24,278,000 metric tons against 38,067,000 metric tons for 1936. Petroleum products for 1937 totalled 2,272,631 hectoliters for 1936. Production of sulphur totalled 140,502 metric tons, gaining over the 1936 figure of 175,314 metric tons. Production of lead was the largest known for recent years with a total of 5,521 metric tons against 8,021 metric tons for 1936. Demand for zinc became heavy with progress of munitions industry. Last year's produc-

Note:—Most of the items on mining are not made public since 1937, especially figures for outputs of minerals.



tion totalled 26,835 metric tons in contrast to 36,201 metric tons for the previous year. Tin decreased somewhat and totalled 949 metric tons for 1937 against 1,858 metric tons for 1936. Throughout these two years the constant measures of encouragement of the Government and heavy demand for munitions industry provided the background for the large production.

**Gold** Since 1932, the Government has enforced many policies concerning gold: the purchasing of gold at current market prices; the reduction of railway freight rates on gold ore; the reduction of fees for analysing gold ore at the Bureau for Supervising Mines; the subsidization of construction of gold refineries, and the guiding of operations of gold mines on minor scales. As a result, the production of gold has increased considerably. In Japan proper alone, in 1936, it amounted to more than 22 metric tons valued at ¥74,820,000, whereas in 1931 only a little over 12 metric tons of gold valued at ¥16,500,000 were produced. Production in the Japanese Empire, including Taiwan and Chosen, which was about 22 metric tons, valued at ¥26,840,000 in 1931, increased sharply to more than 41 metric tons worth ¥138,560,000 in 1936.

The Government promulgated the Gold Production Law which went into effect on August 28, 1937, with a view to increasing production of gold in an aggressive manner and to concentrating the precious metal in governmental hands so that it may be utilized in equilibrating international accounts. In conjunction with the execution of this law, the Government is encouraging gold production with a sum of approximately ¥22,580,000 to be spread over five years from the 1937 fiscal year.

For the promotion of gold mining industry, the Government also introduced the Law Concerning the Japan Gold Production Promotion Company, Limited, at the 73rd session of the Imperial Diet in 1938. Approved by the Diet, the law was promulgated on March 29, 1938. The company organized under this law is a special semi-governmental corporation whose functions are to facilitate supply of abundant funds for gold mining enterprises and also to undertake various promotional enterprises in connection with the industry, such as the refining of poor ores.

On May 2, 1938, the Government

raised its buying price of gold from the former level of ¥3.77 per fine gram to ¥3.85, the current level of the world gold market. On May 9, it abolished the gold buying commission which had hitherto been levied, and reduced by 50 per cent the rates of refining fees charged by the Mint on gold bullion to be sold to the Government, the rates of fees on certificates of the quality of gold bullion and those of fees on testing. At the same time, the buying commission on gold bullion in small lots below 50 grams was abolished.

The essential points of the Gold Production Law may be listed as follows:

1. Persons desiring to engage in the business of gold refining and of buying minerals containing gold are required to secure licences from the Government.

2. Persons who have acquired minerals containing gold or alluvial gold or any substance containing gold are required to refine them into gold bullion and to sell the latter to the Government, or to sell them to licensed gold refiners or buyers of minerals containing gold. When these buyers have refined the bullion, they are obliged to sell it to the Government. Thus, all newly refined gold is to be concentrated by the Government, irrespective of the channels through which it may be obtained.

3. Gold refiners are required to formulate their plans of operation in advance and to report them to the Government. Reports are also required concerning changes in plants. The Government is authorized to order alterations in the plans of the refiners.

4. Whenever it is deemed necessary for the augmentation of gold production, the Government may, on the recommendation of the Gold Commission, command gold refiners to expand or improve refining facilities and may give necessary instructions concerning such facilities.

5. Owners of mining rights and rights on alluvial minerals containing gold shall be treated in the same manner as gold refiners, with respect to business operations.

6. When it is deemed necessary for the public welfare, the Government may, on the recommendation of the Gold Commission, issue orders to persons who are engaged in gold mining, gold refining and buying of minerals containing gold.

7. The Government is authorized to demand reports from gold miners, gold refiners and persons engaged in the business of buying minerals containing gold concerning their business methods and assets, and may also investigate such matters. The Government may further issue supervisory orders regarding the accounting methods of the above persons or may take the necessary action.

8. When it is deemed necessary, the Government may, on the recommendation of the Gold Commission, issue orders regarding the price of gold, restrictions on the use of gold and other matters relating to the consumption of gold. This provision has been put into force through Ordinance No. 60 Concerning Regulations on Gold Consumption of the Department of Finance, promulgated on December 28, 1937.

9. Machinery, tools or other materials necessary in the business of gold miners or gold refiners, when imported with the approval of the Government, shall be exempted from import duties for a period of five years from the day on which the Gold Production Law went into effect.

10. The Government may give subsidies to gold miners or gold refiners within the limits of the amount fixed in the budget.

Measures for encouraging the production of gold are roughly as follows:

1. To give subsidies to those prospecting for gold mines.

2. Subsidization of construction of facilities for selecting and refining ore.

These measures are to be carried out to accordance with the provisions of the Gold Production Law. Procedures relating to these measures are provided for in Ordinance No. 22 Concerning Gold Production Encouragement Regulations of the Ministry of Commerce and Industry, promulgated on October 30, 1937. Other measures are:

1. To subsidize expenses covering institutions for training the field staffs of gold mining companies.

2. To survey mineral deposits in gold producing areas.

3. To hasten the disposal of applications for gold mining licences.

4. To lend machinery and tools for gold mining.

A summary of the prospectus of the Japan Gold Production Promotion Company, Limited, is as follows:

1. Organization of the company: This company is to be a special joint stock company organized under a special law.

2. Purpose of the company: To conduct operations necessary for the promotion of gold mining and refining.

3. Capital: ¥50,000,000, of which ¥25,000,000 is to be invested by the Government. The capital may be increased on the approval of the Government.

4. Officers: (a) The company shall have a president, vice-president, three or more directors and two or more auditors. (b) The president and vice-president shall be appointed by the Government; their term of office shall be four years. Directors shall be appointed by the Government from among the shareholders of the company; their term shall be three years. Auditors shall be elected from among the shareholders at a general meeting; their term shall be two years.

5. Business: (a) Financing of and investment in gold mining and refining enterprises and in enterprises for the manufacture of gold mining and refining machinery and tools. (b) Gold mining and refining. (c) Buying and selling of gold mining and refining machinery and tools, and other materials or equipment. (d) Buying and selling of minerals containing gold. (e) Survey and valuation of gold mines.

6. Debentures: (a) The company is authorized to issue debentures under the name of the Gold Production Debentures up to an amount five times the paid-up capital of the company. (b) The Government may guarantee the payment of the principal of and interest on such debentures.

7. Dividends: (a) The company shall not be required to pay dividends on the Government-owned shares until private shares have been satisfied to the extent of 4 per cent per annum. (b) In case the profits to be divided among shareholders reach a ratio exceeding 4 per cent per annum on private investments and the company intends to declare dividends at a higher rate, distribution of such excess profits may be made on the Government shares and private shares at a ratio of 1 to 5, until the company becomes able to declare dividends of equal rates on both kinds of shares.

8. Subsidization of dividends: When the amount of profits to be distributed among shareholders falls to reach the



rate of 4 per cent per annum on private investments, the Government shall subsidize the company with an amount covering the deficiency for the first year of its operation and for the subsequent five years. However, each subsidy cannot exceed the combined total of a sum equivalent to 4 per cent per annum on private investments and a sum of interest paid on Gold Production Promotion Debentures, with the exception of the first one.

9. Tax exemption: (a) The company shall be exempted from income tax and business profit tax for the first and the subsequent 10 business years. (b) No local taxes shall be levied on this company.

10. Subsidies: The Government may grant subsidies to the company principally for its enterprises relating to refining of poor ores.

11. Government supervision: (a) The Government is authorized to supervise the business of the company. The company is required to obtain approval from the Government regarding increase of capital, issuance of Gold Production Promotion Debentures, other borrowings, changes in the Articles of Corporation, disposition of profits, resolutions on amalgamation with other companies or dissolution, and business plans. (b) The company shall observe the Government's supervisory orders and orders necessary for the promotion of gold producing enterprises. (c) The Government shall appoint supervisors of the Nippon Gold Production Promotion Company in order to supervise the business of the company.

12. Regarding the organization of this company, the Government shall appoint an Organization Committee, which shall make all preparations and follow the necessary procedures.

The foregoing explanations apply to governmental policies in Japan proper. In Chosen, the Decree on Gold Production was promulgated by Imperial Ordinance No. 16 of September 7, 1937. This Decree is similar in substance to the Gold Production Law of Japan proper. In Taiwan, the Gold Production Law is to be enforced as in Japan proper in accordance with Imperial Ordinance No. 518 of September 25, 1937.

The Japan Gold Production Promotion Company intends to increase the production of gold throughout the Empire. It will conduct business in Chosen and Taiwan as well as in Japan proper.

**Silver** Affected by the bounds and leaps in the silver quotations in foreign markets and on account of the close relationship of silver with gold smelting the production of silver increased too, the 1935 production amounting to 259,004,834 grams, which advanced to 303,753,000 grams during 1936. Average silver price in 1937 in Tokyo was ¥48.42 per kilogram, ¥46.56 in 1938 and ¥47.40 in 1939.

**Tin** Only about one-fourth of the total demand is being met by home products. To be exact 1,218,000 kg. was produced at home in 1934 against the total home consumption of 5,280,000 kg., leaving a balance of 4,062,000 kg. to be imported and 20,000 kg. for exports.

Osaka Tin Refinery Guild was established in October 1933. The reproduced tin put out by the members of the guild became such an important factor that its manufacture came to be designated as one of the principal industries by the Government in November 1934. The sales of the product have been well regulated after the formation of the guild. Before the guild was organized the product contained a good deal of impurities and the production was only two or three hundred tons. As the time went on the technique of refining improved and the production in 1934 went up to five hundred tons. All the product is consumed in the domestic market, the legal maximum price in 1939 being ¥47.58 per 100 kilograms.

**Copper** Production of copper, unlike that of tin, lead, zinc, or aluminum, was comparatively large in Japan, occupying an important position among metal industries, especially in arms industry. Copper industry developed rather early in Japan. Its production in 1876 was less than 4,000 tons, but Japan was then known throughout the world as the second largest copper producing country, exporting one half of her product. But with the Great War as the turning point, her position as copper exporting country became less important, for new copper beds were discovered in Chile and Congo. Japan then came to occupy the fourth position in the production of copper, and has been compelled to become an importer, the quantity imported increasing every year.

Demanded as an indispensable requisite in the munition manufacturing

industries its brisk tone was maintained in 1934 as it had been in the previous year. The 1936 copper output in Japan established a record high with 77,973,000 metric tons in contrast to 69,829 metric tons for 1935. The copper market in Japan was long under the influence of New York and London markets. But since the second half of 1932, owing to the depression of the yen and the increased tariff, it began to regain an independent position from foreign influences. Copper prices in Japan for 1936 were unusually high affected by New York and London quotations. In 1939, the average market prices of electrolytic copper rose to ¥320.00 per 100 kg., a record high. The exports of copper reached 211,554 piculs valued at ¥15,105,000 for 1937, 113,456 piculs valued at ¥8,036,000 for 1938 and 142,651 piculs valued at ¥10,122,000 for 1939.

To meet the enhanced demand copper mines extended their equipments, the most important being the improvement of the furnace at Naoshima refinery of the Mitsubishi Mine, the extension of Saga refinery of the Nippon Mine, and opening of a new shaft at Ashio Mine of the Furukawa interests.

**Lead** The home production of lead barely satisfies 7% of the aggregate demand. In 1936 the total home production was 8,883 metric tons, and the import was 97,822 metric tons.

**Zinc** The origin and development of zinc mining in Japan is of comparatively recent date. In 1900, a Swiss clock firm, seeing bright prospects of developing the industry, purchased many zinc mines in the country and began exporting the metal. From this time the industry developed, the number of men engaged in mining increased,

and the exportation of zinc grew in proportion.

Along with the development of other industries there has been an advance in zinc smelting. With increased demand during the World War, production and exports increased, the quantity produced in 1917 reaching 54,700 metric tons, and smelting furnaces numbering 16. From the slump of 1920 and the depression which followed it, the industry received a heavy blow. Most of the furnaces were shut down, and only those in Miké, Takata, and Hiroshima were able to weather the storm. The last named has been especially successful in manufacturing sulphuric acid with the sulphur separated from zinc ores.

Zinc ores in Japan exist mainly in igneous and aqueous rocks. They seldom exist independently, sometimes being found mixed with lead ores. The principal ore which yields zinc is zinc sulphide, some of the best of which contains about 67% of zinc and 33% sulphur. Ordinary ores contain 40 to 55% of zinc and 24 to 28% of sulphur. The principal places of production are as follows:

Kamioka	Kozan in Gifu Prefecture
Budé	" " Niigata "
Ikuno	" " Hyogo "
Yasuda	" " Nagasaki "
Hosokura	" " Miyagi "
Kanayama	" " Wakayama "
Wanibuchi	" " Shimané "
Sasu	" " Nagasaki "
Ginya and Maden	Kozan in Helando, Chosen
Mimuné	Kozan in Kelando, Chosen.

The production, import, export, and consumption of zinc follow:

#### COAL, PETROLEUM AND IRON IN 1941

**Coal** The Government strengthened various production increase measures for accelerating the production of coal in 1941 by smoothing the supply of raw materials and labor, granting production subsidies and giving proper technical guidance to collieries. Special production increase drives were conducted for three months from January to March and two months from August to September with encouraging results. Immediately upon the outbreak of the war with Britain and the United States on December 8, the Government fixed the period

from December 15 to March, 1942 as a wartime coal production increase period with special emphasis placed on the production increase of high-grade coal such as coal for gas generation and coal for producing chemical manufactures. Positive production increase drives were carried out throughout the country during 1941 with a special subsidy of ¥23,000,000 for the production expansion and ¥5,600,000 for aid of newly-developed collieries. To exercise proper control over the distribution and consumption of coal, the Government, at



the close of March, decided upon a distribution plan for the first half of 1941 (April to September), and thereby fixed the amount of consumption by larger consumers based on priority distribution to iron mills, railways, power plants, ships, etc. On September 10, the Government announced control over the distribution to small-scale consumers, which was closely followed by the promulgation of Regulations for Adjustment of Coal Distribution at the close of September, involving the compulsory storage of coal by large consumers and strengthened control over distribution of coal to small-scale consumers. Those measures took effect as from October 1. The adjustment and merger of small-scale collieries and unified control over production and distribution as two indispensable measures for increasing the coal production on the basis of the positive operations of highly-efficient mines made a concrete progress during 1941. For this purpose, the Government drafted a plan for the creation of the Coal Industrial Control Association in the early part of July. The creation of the association was ordered by the Government at the close of October in accordance with the provisions of the Major Industrial Bodies Ordinance (effective September 1, 1941), and the association was inaugurated on November 26. The association, which is the exclusive control body of the production and distribution of coal in Japan, has the following four cardinal objectives, namely: 1) participation in Government's plans regarding the supply and demand of raw materials, funds and labor necessary for the production and distribution of coal, 2) drafting of the coal production plan and its execution, 3) maintenance and distribution of raw materials, funds and labor for coal industry, 4) drafting and execution of fundamental plans for the distribution of coal.

**Petroleum** Consumption restriction and distribution control of petroleum products, development and increased production of domestic oil fields, and increased production of artificial petroleum and substitute fuel became increasingly imperative during 1941 as measures for coping with the intensified restrictions imposed by the United States over the supply of oil products to Japan. Fresh impetus was added to those measures as Japan's imports of petroleum products were virtually suspended following the freezing of Japan-

ese assets by Britain, the United States, Canada and the Netherlands and the abrogation of the Japanese-Dutch Oil Agreement toward the close of July.

The Ministry of Railways completely suspended the run of gasoline-driven cars on all governmental lines from August 10 while the Ministry of Commerce and Industry restricted the consumption of gasoline by general passenger cars as after September and strengthened the consumption restrictions of kerosene and light oil by subjecting them to the ticket ration system which hitherto was applied only to gasoline and heavy oil, effective from October.

The rate of mixture of alcohol with gasoline for internal combustion engines, in operation since July, 1938, was raised by 20 per cent from September, and a subsidy for storage of petroleum was increased late in September. As a measure to cope with strengthened consumption restrictions, the Government encouraged the use of petroleum substitutes such as natural gas, charcoal, coalite, etc., and decided to give a special subsidy to those using facilities and equipments powered by substitute fuel.

The distribution of petroleum products was steadily perfected to cope with the strengthened restrictions over consumption.

For developing domestic oil fields, the Imperial Oil Company, a ¥100,000,000 concern totally financed by the Government, was inaugurated on August 29 in accordance with the provisions of the Imperial Oil Company Law approved at the 76th session of the Diet. The company started activities from September 1 as exclusive control organ in the oil industry. The company took the first concrete step toward the rationalization of domestic oil industry when it took over all oil-mining activities from the Japan Oil Company on December 6, 1941. The company was also planning the merger of the existing 21 oil companies in Japan into five major concerns (Japan Oil, Hayama Oil, Maruzen Oil, Mitsubishi Oil and Japan Mining) in order to attain the highest efficiency of oil producing facilities by full operation. In order to increase the production of artificial oil, the Government, at the 76th session of the Diet, revised the Artificial Oil Industrial Law and the Imperial Fuel Industrial Company Law, thereby giving priority allotment of materials and labor

and granting special subsidies to different oil plants amounting to about ¥1,200,000 in 1941. For this purpose, the Government also had all existing artificial oil manufacturing facilities as well as patents concentrated under the Imperial Fuel Industrial Company. Detailed preparations were also being made during 1941 for the creation of an exclusive body for exercising unified control over the production and distribution of petroleum products in Japan.

**Power** With the object of reorganizing the State control system of power in order to expand the power resources and rationalize the distribution and consumption of power, the Government on April 10 clarified its policy toward State control over power, which consisted in strengthening and expanding the functions of the Japan Power Transmission and Distribution Company and merging domestic power distribution companies into eight major blocs.

Consequently, the revised Japan Power Transmission and Distribution Law was enforced on April 25, simultaneously with the organization of the 76th session of the Diet. All hydroelectric facilities were immediately merged under the Japan Power Transmission and Distribution Company. The merger of power companies took the first concrete step when 69 specified power distribution companies throughout the country had a roundtable parley with representatives of the Government early in May to discuss ways and means of accelerating the merger. On August 30, the Power Distribution Control Ordinance was enforced in accordance with the provisions of the National General Mobilization Law. This was followed by a Government order for the establishment of power distribution companies for eight blocs specified by the Government.

State control over the transmission and distribution of power was adequately supplemented by proper restrictions over the consumption of power during 1941. In the early part of the year, the Government alleviated the consumption restrictions for wartime industries in operation since the fall of the preceding year on the basis of the priority principle.

In view of the possible advent of the dry season in winter, however, the Ministry of Communications on November 1 issued a special notice regarding consumption restrictions over power, effective December 1. Thus, due to the time-

ly distribution and consumption control measures adopted by the Government, the supply and demand of power during 1941 remained in satisfactory balance.

### Iron and Steel

An epochal change was made in the system and technical phase of Japan's iron and steel industry during 1941, climaxing in the organization of the Iron and Steel Industrial Control Association and the stabilization of the iron and steel self-supply structure. The former was the first fruit of the economic new structure policy of the Government while the latter meant the complete extrication of Japan from dependence on imported scrap iron.

The complete ban placed by the United States on exports of scrap iron to Japan in the fall of 1940 forced Japan's iron and steel industry to totally reorganize itself. It therefore became necessary to create a strong control organ to replace the Japan Iron and Steel Association (established in March, 1940) as a propelling force for the reorganization of the iron and steel industry. Under the circumstances, the Iron and Steel Control Association was created on April 26, 1941, by the initiative of the Ministry of Commerce and Industry, and the association started activities from May 1 with the colossal task of stabilizing the self-supply and self-sufficiency structure for iron and steel within the East Asia Co-prosperity Sphere through the well-controlled management of the iron and steel industry. This association was reorganized and made a fresh start on November 20 in accordance with the provisions of the Major Industrial Bodies Ordinance with a wider scope of activities based on the leadership principle.

Under the provisions of the revised Japan Iron Manufacturing Company Law approved by the 76th session of the Diet, the Japan Iron Manufacturing Company was authorized by the Government to issue debentures to an amount three times the extent of its paid-up capital. With its position thus phenomenally strengthened, the company took a pivotal part in the new Iron and Steel Industrial Control Association.

To cope with the American ban on exports of scrap iron to Japan, Japan's steel manufacturing technique underwent an epoch-making change, with the pig-scrap mixing rate changed from the ratio of 4 to 6 to 7 to 3. Under the circumstances, the domestic production



of pig iron was sharply increased during 1941, particularly since the completion of blast furnaces at the Pensifu Iron Works of the Showa Steel Company as well as the Amagasaki and Nakayama Steel Companies. Efforts were also made by the Government and industrialists for the increase of iron ore production in Japan, Manchoukuo and China in order to cope with the suspension of iron ore from Malaya and the Philippines due to the Anglo-American freezing of Japanese assets since July, 1941.

On September 30, 1941, the Japan Iron and Steel Raw Materials Control Company and the Nichimaru Iron and Steel Sales Company were merged into a new company named Iron and Steel Raw Materials Control Company as an exclusive control organ for the distribution of raw materials of iron and steel.

The Iron and Steel Sales Company emerged on December 10, 1941, by the merger of the Japan Steel Materials Sales Company, the 2nd Steel Materials Sales Company and the Japan Steel Tubes Sales Company to exercise unified control over the sales of iron and steel

products. Thus, the unified control system in the distribution of iron and steel raw materials as well as the sales of manufactured items was consummated under the exclusive supervision of the control association.

The Government continued the subsidy system for the iron and steel industry in 1941 without permitting the advance in prices of iron and steel products for the reason that iron and steel are basic commodities. In addition to the compensation system which had been adopted since 1940 to make up for the losses sustained by iron and steel companies by the sharp increase in the production cost due to the gain in the prices of raw materials such as scrap iron, pig iron, iron ore and coal as well as labor wages, the Government on August 12 decided to extend a new compensation fund totaling ¥27,000,000 for the second half of 1941 for aid of ordinary pig iron produced by the Japan Iron Manufacturing Company, Japan Steel Tube Company, Nakayama Steel Company, Kokura Steel Company, Kotobuki Steel Company and Amagasaki Steel Company.

## CHAPTER XVIII

### TEXTILE INDUSTRY



ESTABLISHED IN 1941



Trade Mark

*Boseki Kabusiki Kaisya*

Head Office:

15, Imabashi 1-chome, Higahsi-ku, Osaka

CAPITAL: ¥86,668,450

President: MASATO KATO

**YARNS & PIECE-GOODS**

**COTTON, RAYON AND STAPLE FIBRE**

CABLE ADDRESS:  
"DAIWABO OSAKA"

REFERENCES:  
The Yokohama Specie Bank



Torii

**NIPPON KE-ASA SHIFU  
YUSHUTSU KUMIAI**

(THE NIPPON WOOLLEN & HEMP GOODS  
EXPORTERS ASSOCIATION)

Honmachi-bashi, Higashi-ku,  
Osaka, Nippon

ALL INQUIRIES  
CAREFULLY HANDLED



# NIPPON MENSIFU YUSYUTU KUMIAI

(Japan Cotton Textile Exporters' Association)

Osaka Head Office: Nityome Honmachi, Osaka

Branches: Nagoya, Kobe, Tokyo & Yokohama

Foreign Branch: Bangkok

The principal object of this association is primarily to provide members with facilities in the promotion of their export trade to foreign countries of cotton piece-goods and yarn.

The new turn of events in the world has brought about fresh duties on the association. In the first place, the association has been authorized to carry on the export of cotton piece-goods and yarn for the two independent countries of French Indo-China and Thailand. For this purpose, the association has authorized some of its members to execute the business of the association in their own names in behalf of the association. Secondly, the association has decided to buy up all the stocks of the two commodities that are found in the open market. By order of the Department of Commerce and Industry of the Japanese Government, this association is the only institution authorized to stand between the Government and the shippers to carry out the export control of the two commodities named.

**This Association holds:** Members 719; Investments by Members ¥943,750; Reserve Funds ¥1,552,328

**President:** KOTA TUKADA

**Vice-President:** Keizo Hirano

**Managing Directors:** Kiyomatu Morita, Sigeru Kawa, Saburo Nakazima

**Directors:** Tozo Abe, Otozo Kawasaki, Tokutaro Ryoki, Motozoro Yosida, Sotaro Hayasi, Keitaro Ono, Koyata Yamamoto

**Auditors:** Itiro Hattori, Kasaburo Oasi, Torazi Kunugi, Kyuhichi Toyosima

Osaka, September 19, 1942

## CHAPTER XVIII

### THE TEXTILE INDUSTRY

The number of operatives, mills, etc. for almost all kinds of the textile industry in 1938 showed an increased over those of 1937, indicating that the indus-

try as a whole was very prosperous in that year. The following table shows these figures:

NUMBERS OF OPERATIVES, MILLS, ETC. IN TEXTILE INDUSTRY IN 1938 AS COMPARED WITH THOSE IN 1937

Kind of Industry	No. of Mills		No. of Mills using Motors		No. of Officials		No. of Technicians	
	1937	1938	1937	1938	1937	1938	1937	1938
Silk reeling	2,006	1,938	1,908	1,843	4,652	4,523	4,328	4,491
Spinning	782	817	773	814	4,428	4,921	3,485	3,608
Twisting	2,081	2,142	2,039	2,041	545	532	320	327
Weaving	16,034	15,871	15,125	15,024	7,303	7,720	4,472	4,628
Hosiery	1,960	2,043	1,650	1,732	1,113	1,205	627	636
Dyeing, refining, bleaching, assorting	3,680	3,636	2,701	2,721	4,170	4,251	2,561	2,544
Miscellaneous	1,590	1,645	1,432	1,475	1,193	1,127	589	625
Total	28,133	28,092	25,628	25,650	23,354	24,279	16,382	16,857

Kind of Industry	No. of Operatives				Others		Total Workers	
	Male		Female		1937	1938	1937	1938
Silk reeling	17,205	17,661	207,200	200,373	4,138	4,420	237,523	231,468
Spinning	34,360	31,007	229,353	209,554	8,974	8,960	280,600	258,050
Twisting	5,433	4,893	18,873	19,834	343	401	25,514	25,987
Weaving	64,989	59,702	315,300	310,805	5,536	5,890	397,500	388,743
Hosiery	10,029	8,733	20,477	18,369	403	376	32,649	29,319
Dyeing, refining, bleaching, assorting	50,725	52,529	15,687	16,043	2,304	2,365	85,447	77,732
Miscellaneous	8,614	8,830	24,265	27,450	639	508	35,250	29,710
Total	201,355	183,355	831,155	793,598	22,337	22,920	1,094,583	1,041,009

Note: Figures are for the factories where more than 5 operatives are employed. Source: The "Factory Statistics."

#### Fiber Industry in 1941-42

##### Change in Trade Policy and Direction of Fiber Industry

From the standpoint of Japan's trade policy, the control over the fiber industry had been strengthened and expanded with imported fiber as the pivot. As far as exports were concerned, however, the basis of the industrial control over fibers failed to extricate itself from the sphere of liberalistic economy until the outbreak of the European War. In this connection, the domestic consumption of

fiber materials and manufactures was restricted to the extent to which the imports of raw materials were restricted. On the other hand, exports of fiber materials and manufactures were encouraged in order to adjust the balance of international accounts. For this purpose, the export-import link system was adopted by the Government.

Various trade obstacles emanating from the outbreak of the war and the intensified economic pressure brought about by Britain, the United States and other hostile countries, particularly



since the conclusion of the Italo-German-Japanese Tripartite Alliance, however, speedily weakened the importance of the equalization of foreign currencies. As a result, Japan's trade policy was shifted from the exports to the imports.

Under the circumstances, the regulations for enforcement of the Trade Control Ordinance were revised and promulgated on July 7, 1941, and a system of adjusting exports to third countries was adopted.

The freezing of Japanese assets by Britain, the United States and their colonies as well as the Netherlands East Indies compelled Japan's trade policy to the principle of self-sufficiency within the East Asia Co-prosperity Sphere, thus putting an end to liberalism in trade.

Such an epochal change in trade greatly affected the fiber industry which had originally been dependent on the free trade principle, particularly since the outbreak of the China Affair and the consequent decline in the production of manufactures for the domestic market. Thus, the fiber industry was forced to reorganize itself so as to dispense with commercialism based on trade and to attain self-sufficiency in fiber resources within the East Asia Co-prosperity Sphere.

The shift of the fiber industry from international trade to the self-sufficiency within the co-prosperity sphere necessitated the adoption of planned production, rationalization of production processes, restriction of consumption and adjustment of distribution in order to cope with the restricted supply of raw materials. The situation thus caused a marked increase in the production of mixed manufactures by utilization of silk, staple fiber and rayon, hemp and other fibers as well as re-manufactured yarns. Under the circumstances, the

establishment of the exclusive fiber industrial control association to exercise unified control over the fiber industry became imperative.

**Rationalization Movement** With the production expansion of wartime industries having been carried out at the sacrifice of the so-called peace-time industries, and a drastic change in the trade situation having taken place due to the increasing tension in the international developments, the reduction in the amount of raw materials, labor and other materials to be distributed to the fiber industry became inevitable. On the other hand, the reduced production caused many production facilities to lie idle and out of operation.

Thus, the rationalization and reorganization of management in the fiber industry came to be urged on the basis of a merger movement sponsored by the Government. Consequently, the merger movement was under way since the fall of 1940. As a result, 76 cotton spinning and weaving enterprises were reduced to 14 industrial units, 37 woolen industrial firms were merged into eight concerns and 33 staple fiber companies were amalgamated into 10 blocs during 1941. The reorganization of the fiber industry has been still under way on a more extensive and drastic scale in order to cope with the requirements of the wartime situation.

Reorganization of the artificial silk and staple fiber industry lessened the number of the companies in the industry from 33 to 21 in 1941, and they were united into 5 blocs of the Daini Rayon, Shonan, Toka, Nippon Rayon and Asahi Benverg early in 1942. The aggregate daily productive capacity of the 21 companies is fixed at 1,230 metric tons of staple fiber and 742 metric tons of rayon.

#### BUSINESS CONDITIONS OF COTTON SPINNING COMPANIES IN JAPAN PROPER

(In ¥1,000)

	No. of Cos.	Paid-up Capital		Debentures Fixed & Debts		Net Assets	Rate of Profits	Rate of Profit	Rate of Dividend
		Capital	Reserves	Assets	Liabilities				
1936, 1st Half	68	454,640	278,307	179,832	665,027	33,016	1.45	1.14	
2nd Half	67	466,492	280,629	184,563	699,382	36,828	1.58	1.12	
1937, 1st Half	67	512,988	287,603	205,621	732,392	47,081	1.84	1.24	
2nd Half	72	571,011	294,390	218,290	777,060	50,649	1.77	1.20	
1938, 1st Half	70	604,629	302,505	214,863	792,225	49,196	1.62	1.23	
2nd Half	75	628,222	309,591	219,063	819,549	49,505	1.57	1.19	
1939, 1st Half	72	623,184	316,414	209,766	827,096	48,970	1.57	1.20	
2nd Half	72	645,334	323,285	249,534	878,580	55,887	1.16	1.25	
1940, 1st Half	72	660,141	336,139	247,390	887,798	61,158	1.08	1.23	

#### SPINNERS' CAPITAL AND EQUIPMENT

(In Japan Proper and Chosen)

At the end of June	No. of Cos.	Paid Cap. (000s)	Reserves (000s)	Mills	Ring Spindles	Looms
1936	75	455,640	278,307	285	10,989,900	98,000
1937	74	512,988	287,603	282	12,190,800	104,600
1938	76	604,629	302,525	290	12,776,200	114,300
1939	72	623,184	316,414	246	11,602,000	104,100
1940	72	660,141	336,139	254	11,666,800	104,200

Note: In 1923 and in the years following, all figures include spinners not members of the Japan Cotton Spinners' Association. It must be noted that the looms include only those which are owned by spinners, not embracing those in mills which have no spinning equipment.

Source: The report of the Japan Cotton Spinners' Association.

#### PRODUCTION, CONSUMPTION, IMPORTS AND EXPORTS OF COTTON YARNS SINCE 1933

(In bales)

Year	Domestic Output	Imports	Exports	Exported as Cotton Tissues	Domestic Consumption
1936	3,607,196	14,119	110,833	1,921,920	1,591,162
1937	4,010,576	10,877	128,908	1,890,690	1,949,981
1938	2,859,022	1,868	103,265	1,766,802	988,575
1939	2,673,063	800	208,750	1,762,210	702,903

(One bale = 3 piculs)

#### PRODUCTION OF COTTON YARNS IN JAPAN PROPER

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills (At the end of Year)	No. of Operatives	Production	
			Quantity (In metric ton)	Value (In ¥1,000)
1934	417	170,114	635,385	795,686
1935	443	168,800	646,756	806,346
1936	473	183,504	673,124	830,909
1937	599	183,354	721,904	1,044,077
1938	607	151,201	560,360	764,885

Source: The "Factory Statistics."

#### PRODUCTION OF COTTON TISSUES IN JAPAN PROPER

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills (At the end of Year)	No. of Looms	No. of Operatives	Value of Production
				(Unit: ¥1,000)
1934	51,130	376,704	224,645	816,361
1935	48,389	385,980	229,707	822,417
1936	46,915	392,941	239,881	883,341
1937	41,513	407,520	234,034	1,112,685
1938	33,828	386,841	209,247	888,221

Note: Figures include production by small factories which employ less than 5 persons, and differ from those given in the "Factory Statistics."



**SUPPLY AND DEMAND OF COTTON TISSUES  
IN JAPAN PROPER**

(Compiled by the Japan Cotton Spinners' Association)

Year	Total Production (Broad Weaves)	Production by Spinning Companies (In 1,000 yards)	Production in Weaving Districts	Consumption	
				Exports (In 1,000 sq. yards)	Home Consumption (In 1,000 yards)
1935	4,112,111	1,843,471	2,268,640	2,725,109	1,400,759
1936	3,973,479	1,799,033	1,780,972	2,709,885	1,269,692
1937	4,212,825	1,890,554	2,322,262	2,644,029	1,577,175
1938	3,101,028	1,611,794	1,639,379	2,180,810	920,218
1939	3,031,151	1,604,821	1,426,330	2,445,537	585,614

**Silk Textile Industry**

**Silk Weaving Districts** As early as the days of the Emperor Suinin, about 1,960 years ago, weaving was already carried on, on a fairly large scale, under encouragement of the Imperial Court. During the Yedo Age the weaving industry made marked development as one of the most important domestic industries. The Ryomo district, which is one of the chief weaving districts for silk textiles for domestic use, has been known as a very prosperous weaving center for centuries. This district is in Gumma and Tochigi prefectures and includes great weaving centers such as Ashikaga, Kiryu, Isézaki, Sano and Tatebayashi. The district may be likened to Paterson, New Jersey, U.S.A.

Another important weaving district is Fukui, followed by Kyoto, Ishikawa, Niigata and Tokyo in the order named. Among silk weaves of Japanese manufacture habutaé, taffeta, poplin, chiffon, pongee, fuji silk, crêpe, etc. are well known abroad. In addition to these, however, there are many varie-

ties, which are used by the Japanese at home, but these weaves are generally of narrow width, omeshi, ro, sha, melsen, nishijin, etc.

**The Industry in 1938** Continued prosperity featured the silk weaving industry in Japan in 1938, but exports decreased to ¥49,352,000 from ¥72,280,000 of 1937, largely owing to the state control of trade and the barriers set up by various foreign markets.

The number of mills was 65,229, a decrease of 323 as compared with the previous year, but that of looms increased by 12,078, indicating the increase of larger mills. The number of operatives increased by 1,064.

**Production of Silk Weaves** Owing to the increase in consumption at home production showed gains. Total production in 1938 was valued at ¥785,525,000, a gain of ¥54,078,000 or 7.4 per cent over the previous year. Production of silk textiles since 1931 follows:

**PRODUCTION OF SILK TEXTILES**

(Compiled by the Ministry of Commerce and Industry)

Year	1931	1932	1933	1934	1935	1936	1937	1938
No. of Mills	77,723	72,448	71,273	72,907	72,311	72,599	65,552	65,229
No. of Looms	232,443	245,689	260,377	301,721	334,845	369,319	379,213	391,292
No. of Operatives	213,285	224,561	236,997	267,345	290,912	310,359	294,292	304,932
<b>Broad Weaves</b>								
Crêpes and Kabe-ori								
Qt'y in 1,000 meters	34,646	45,812	85,385	124,950	179,348	231,376	284,122	236,395
Value in ¥1,000	27,964	33,546	66,105	73,721	62,973	91,974	109,141	92,639
Habutaé								
Qt'y in 1,000 meters	31,213	36,060	48,735	109,110	81,855	127,171	102,547	142,242
Value in ¥1,000	11,907	13,273	19,281	27,174	21,888	31,998	29,310	39,010

Year	1931	1932	1933	1934	1935	1935	1937	1938
<b>Pongee</b>								
Qt'y in 1,000 meters	33,071	32,550	35,636	37,109	22,807	15,258	19,062	25,818
Value in ¥1,000	9,655	11,164	12,699	10,790	6,838	4,634	6,532	8,282
<b>Fuji silk</b>								
Qt'y in 1,000 meters	51,551	56,619	65,945	59,439	50,866	41,517	43,464	35,540
Value in ¥1,000	24,851	28,896	33,216	31,155	27,804	22,718	22,764	19,876
<b>Satin</b>								
Qt'y in 1,000 meters	25,490	45,799	45,527	74,577	91,087	89,556	86,617	91,851
Value in ¥1,000	14,268	20,048	21,904	26,546	26,790	27,361	27,473	38,766
<b>Others &amp; total</b>								
Value in ¥1,000	137,251	175,640	235,902	273,097	283,420	311,842	366,581	358,774
<b>Narrow Weaves</b>								
<b>Omehi</b>								
Qt'y in 1,000 tan	1,783	2,102	1,493	1,783	2,095	2,529	3,744	3,623
Value in ¥1,000	22,577	21,195	15,809	17,398	19,975	17,945	19,640	22,503
<b>Crêpes and Kabé</b>								
Qt'y in 1,000 tan	10,659	9,611	10,979	15,199	17,865	19,321	16,467	16,226
Value in ¥1,000	67,670	60,982	69,207	93,761	101,236	100,246	84,600	108,552
<b>Habutaé, etc.</b>								
Qt'y in 1,000 tan	3,701	3,495	2,911	3,748	4,688	3,170	3,654	3,681
Value in ¥1,000	20,475	20,241	17,553	19,389	23,365	16,955	16,871	20,038
<b>Ro and Sha</b>								
Qt'y in 1,000 tan	1,347	2,139	1,894	2,717	2,567	3,175	3,372	2,256
Value in ¥1,000	8,352	12,231	11,319	12,868	12,367	13,279	13,180	10,025
<b>Melsen, etc.</b>								
Qt'y in 1,000 tan	13,526	12,601	12,117	12,735	11,205	10,639	11,889	12,885
Value in ¥1,000	57,017	48,132	46,096	49,641	44,907	42,525	48,278	63,472
<b>Others &amp; total</b>								
Value in ¥1,000	207,898	198,869	197,349	234,353	242,750	236,996	228,279	286,122
<b>Special Weaves</b>								
Value in ¥1,000	31,599	33,351	30,931	47,091	53,053	53,101	49,402	56,188
<b>Total of Silk Textiles</b>								
Value in ¥1,000	376,749	407,860	464,183	554,542	579,223	601,940	644,262	701,084
<b>Silk-Cotton Mixtures</b>								
Value in ¥1,000	30,107	31,159	36,912	46,328	53,709	61,192	77,185	84,441
<b>Grand total</b>								
Value in ¥1,000	406,857	439,019	501,095	600,870	632,933	663,133	721,447	785,525

Note: Figures given here show products by all mills, regardless of the size of mills or the number of operatives employed.

**Artificial Silk Demand** The demand for artificial silk, both for domestic consumption and for export, totalled 248,810,000 pounds last year, dwindling by 20 per cent from 1938. In 1938, the demand was divided into 40 per cent for export and 60 per cent for home use. Last year, however, the demand was almost equally divided, exports being slightly the heavier. Details follow:

**DOMESTIC DEMAND FOR ARTIFICIAL SILK**

(In 1,000 lbs.)

	1938	1939
Production of yarns	209,676	238,340
Imports of yarns	10	—

	1938	1939
Released from joint-stocks	11,094	—
Exports of yarns	21,985	36,742
Exports of tissues	60,663	56,269
Exports of yarns and tissues from Chosen	4,185	4,443
Exports of miscellaneous items	16,900	23,971
Export total	103,828	121,425
Stocks of yarns	*24,310	*1,296
Stocks of tissues	*3,720	*3,596
Domestic demand	144,982	118,558
Total demand	248,810	239,983
(*) down		
(Note: tissues converted into yarns at rate of 0.18 pound per 1 sq. yd.)		



**Staple Fiber Demand** The domestic supply of staple fiber last year totalled 259,640,000 pounds, down by about 30 per cent from the preceding year. Production for domestic consumption fell by about 20 per cent, while the output for export was more than twice as large as in 1938. The ratio of export items to total production in the staple fiber industry last year was far smaller than in the artificial silk industry. In the total production, export staple fiber accounted for only 10 per cent, tissues for 4 per cent and yarns for 4 per cent, making a total of only 18 per cent of the total domestic production, a situation far different from that in the artificial silk industry where more than one-half was exported. Relative figures follow:

#### SUPPLY-DEMAND OF STAPLE FIBER (In 1,000 lbs.)

	1938	1939
Staple fiber production	387,928	317,097
Exports	25,934	57,454
Staple fiber exports	289	32,843
Yarn exports	10,556	12,539
Tissue exports	15,089	12,072
Balance (For domestic use)	301,994	259,643

(Note: Tissues converted into yarn at rate of 0.25 pound per 1 sq. yd.)

#### SUPPLY AND DEMAND OF WOOD PULP FOR RAYON (Compiled by the Ministry of Agriculture and Forestry)

	(In metric tons)						
	Supply			Demand			Total
	Production	Imports	Total	Rayon	Staple Fiber	Cellophane	
1935	33,435	126,351	159,786	112,227	5,576	3,011	120,814
1936	55,209	169,368	224,577	152,263	29,410	4,299	185,972
1937	57,294	290,599	347,892	181,222	97,933	7,970	287,125
1938	103,353	114,112	217,465	—	—	—	321,852
1939 (Estimated)	160,000	141,799	301,799	—	—	—	—

#### IMPORTS OF PULP FOR FIBER BY ORIGIN (Compiled by the Ministry of Commerce and Industry)

From	Quantity (Unit: picul)			Value (Unit: ¥1,000)		
	1936	1937	1938	1936	1937	1938
U.S.A.	2,603,407	3,185,610	872,310	31,758	49,181	15,111
Sweden	952,184	2,060,596	420,803	9,735	26,993	6,276
Norway	944,566	1,025,406	307,269	14,621	17,071	5,400
Canada	469,888	879,390	284,278	4,150	12,619	5,046
Finland	524,417	639,770	211,921	6,401	9,497	3,339
Czechoslovakia	29,328	71,816	8,538	391	1,157	132
Total including others	5,528,532	7,901,727	2,386,181	67,107	116,720	41,059

Estimating that staple fiber accounted for 50 per cent of the yarns mixed with other fibers and that 95 per cent of the resultant products were actually consumed at home, the following figures may be obtained:

#### ESTIMATED CONSUMPTION OF STAPLE FIBER

	(In 1,000 lbs.)	
	1938	1939
Pure staple fiber yarns	307,778	191,067
Staple fiber yarns mixed with other fibers	124,549	58,422
Total	492,327	249,489

Thus, it is seen that the domestic consumption of staple fiber last year totalled 249,000,000 pounds, including 191,000,000 pounds used for manufacturing pure staple fiber yarns and 58,000,000 pounds used for mixing with other fibers, declining by about 50 per cent from the 1938 consumption of 492,000,000 pounds.

In a word, the rayon industry last year continued comparatively prosperous, while the staple fiber industry though belonging to the same artificial fibers family, suffered greatly.

#### Woollen Industry

Since 1937 the woollen industry in Japan has been placed under strict State control. On the one hand the imports of wool is restricted under the Foreign Exchange Control Law and on the other hand the manufacture of woollen goods for general domestic use is sacrificed in favor of those for military use and for exports.

Formerly serges and woollen cloth made in Japan were used mostly in this country in place of the imported ones, but now the manufacturers are producing them for export purposes.

At the end of 1938 compulsory curtailment was necessitated by virtue of an order for restricting the manufacture of woollen goods. According to orders issued in April and May 1939 the card system was introduced to regulate the supply of woollen yarns; now it is functioning properly. The outbreak of the second European war shed a hopeful light on the woollen industry in Japan, but the consumption in foreign countries has not yet shown the expected increase. On the other hand, unfavorable conditions appeared in this country because of the State restrictions and the shortage in the supply of labor and fuel to the factories.

The production of wool in Japan is insignificant and more than 90 per cent of the wool consumed in Japan was imported. However, in 1936 commercial friction between Japan and Australia slashed the volume of imports from that country at one-third, and imports from South Africa, South America and China have increased accordingly as shown in the following tables.

#### SUPPLY AND DEMAND OF WOOLLEN YARN (In 1,000 pounds)

	Production by Assocat-ed Co's.	Im-ports	Total	Ex-ports	Bal-ance
1931	77,586	9,530	87,136	698	86,438
1932	80,000	3,210	83,210	1,240	81,970
1933	101,361	1,638	102,999	3,168	99,831
1934	103,145	919	104,064	5,919	98,145
1935	112,775	1,088	113,863	5,319	108,544
1936	123,263	934	124,197	7,141	117,056
1937	125,072	570	125,642	7,402	118,240
1938	85,784	84	85,868	7,847	81,021
1939	147,181	0	147,181	8,417	138,765

Note: The balance represents domestic consumption.

#### IMPORTS OF RAW WOOL:

	Quantity in 1,000 lbs.		Value in ¥1,000	
	1936	1937	1936	1937
1930	115,999	73,919	73,919	73,919
1931	191,374	86,518	86,518	86,518
1932	206,858	88,321	88,321	88,321
1933	242,620	165,818	165,818	165,818
1934	184,379	187,667	187,667	187,667
1935	247,275	193,092	193,092	193,092

Note: (1) Including tops and goat and camel hair.

#### IMPORTS OF SHEEP'S WOOL BY ORIGIN (Compiled by the Ministry of Commerce and Industry)

From	Quantity (Unit: picul)			Value (Unit: ¥1,000)		
	1936	1937	1938	1936	1937	1938
Yen-bloc	5,953	65,498	202,859	905	5,909	12,802
China	2,984	44,000	185,452	382	3,327	11,163
Manchoukuo	2,969	21,458	17,407	527	2,478	1,639
Third countries	1,947,882	816,431	598,829	297,498	88,617	59,788
Australia	737,195	591,136	512,149	118,196	64,882	51,428
New Zealand	296,050	85,671	48,855	42,822	8,272	4,351
Union of South Africa	559,015	39,666	14,372	82,763	4,266	1,599
Argentina	126,548	55,265	8,169	17,713	5,946	686
Great Britain	6,252	3,716	4,179	1,073	677	618
Total including others	1,953,535	881,889	801,688	298,407	94,426	72,590



## WOOLLEN YARN AND TEXTILE MANUFACTURING FACILITIES

(At the end of the year)

	1933	1934	1935	1936	1937	1938
Number of woollen textile factories	1,178	1,226	1,421	1,528	1,648	1,650
Number of weaving machines	26,923	27,162	29,421	31,220	30,317	28,311
Number of operatives	41,311	44,347	47,142	50,046	49,890	47,288
Number of worsted spindles <sup>1</sup>	667,390	763,878	873,066	991,140	1,127,802	1,169,128
Number of weaving machines <sup>1</sup>	9,871	10,257	10,248	10,261	7,868	7,829
Number of woollen spindles <sup>1</sup>	88,403	91,272	97,917	119,048	121,114	134,687

Note: <sup>1</sup> Only member companies of the Woollen Industrial Association.

## PRODUCTION OF WOOLLEN TEXTILES

(Compiled by the Ministry of Commerce and Industry)

Year	Muslin		Flannel		Serge for Japanese Clothes	
	Quantity in meters	Value in yen	Quantity in meters	Value in yen	Quantity in meters	Value in yen
1936	99,935,993	47,077,830	2,511,902	2,955,476	22,922,705	23,297,322
1937	59,877,557	29,779,752	2,655,534	3,903,127	26,946,554	28,163,978
1938	26,303,788	15,868,154	2,721,379	5,116,903	27,795,949	28,380,897
1939	—	357,000	—	—	—	15,580,000
1940	—	305,000	—	—	—	1,967,000

Year	Serge for Foreign Clothes		Woollen Cloth		Blankets (including travelling rugs)	
	Quantity in meters	Value in yen	Quantity in meters	Value in yen	Quantity in meters	Value in yen
1936	63,840,711	180,491,190	15,306,305	43,541,494	2,803,726	10,912,860
1937	66,027,071	169,152,963	18,434,104	58,774,401	2,950,069	12,892,153
1938	56,528,115	162,895,714	21,079,679	78,018,254	2,663,553	13,654,940
1939	—	144,924,000	—	56,945,000	—	18,889,000
1940	—	100,805,000	—	76,301,000	—	5,486,000

Year	Carpets	Rugs	Plush and Velvet	Others	Total
	Value in yen	Value in yen	Value in yen	Value in yen	Value in yen
1936	381,474	230,903	1,416,589	29,521,825	339,657,053
1937	952,367	231,527	2,741,100	21,418,317	328,009,685
1938	670,359	260,958	3,049,401	39,592,129	347,507,709
1939	—	—	—	—	339,797,000
1940	—	—	—	—	266,476,000

Note: This table is revised according to the report of the Ministry of Commerce and Industry, the figures of which differ from those in the "Factory Statistics," because the former includes production by small factories where less than 5 persons are employed:

## EXPORTS OF WOOLLEN TEXTILES BY KIND

	1937	1938	1939	1937 1938 1939		
				Value in ¥1,000		
Muslin				41,229	35,367	40,588
Quantity in 1,000 sq. yards	1,573	1,122	1,117	Total including others		
Value in ¥1,000	1,024	749	661	Quantity in 1,000 sq. yards		
Cloth and Serge				35,058	28,071	—
Quantity in 1,000 sq. yards	28,212	20,812	20,034	Value in ¥1,000	50,082	46,845 51,821

## Hemp Industry

Since the outbreak of the China Affair, the Government has come to attach great importance to the hemp industry, and has placed hemp factories as well as the distribution of raw materials and finished products under military control. Naturally, the supply of hemp products for private consumption has fallen for short of the demand, while the value of hemp fiber for strengthening miscellaneous substitute fibers has been more strongly recognized than ever. It is accustomed to think of hemp as hard and stiff, hardly connecting it with the soft and charming touch of some linens, a way of thinking that has greatly influenced the flax industry of Japan, as proved by the excessive inclination of the military to turn to flax. Hemp is many and various in kinds. In addition to Oasa (commonly called hemp) and ramie, there is jute, from which Hessian cloths and gunny bags are manufactured; Manila hemp, for making fishing nets and other nets; flax, which serves as the principal material for the linen industry; Nanking hemp, imported from China and Maoran hemp, produced in New Zealand. In the early days of the Meiji era, the hemp industry was greatly neglected because of the remarkable advance of the cotton industry, and its progress was slow. Yet, at the time just preceding the outbreak of the China Affair, Japan was self-sufficient in flax and Oasa hemp, though dependent largely on China and India for the supply of jute. Manila hemp was completely supplied from the districts surrounding Manila. The manufacturers of Japan have found it advisable to produce thick yarns instead of fine ones, and have specialized mostly in this line for manufacturing export hemp materials and fishing-net yarns, besides finding a favorable market with the military and manufacturers of export goods. Ramie concerns, especially, have devoted themselves to the production of thicker yarns, and concentrated on export ramie materials and fishing-net yarns.

**Hemp Industry Under Wartime Situation** Hemp fiber, which was more or less neglected in the past, has, through the stringency of supply of other fibers, now come to the fore, especially in military quarters. Because of the suspension of imports of ramie materials from China and the supply of jute and

other hemp materials from other parts of the world since the outbreak of the European War, supplies have become very low, but domestic production is now being pushed to overcome any deficiency, and little worry is being felt by the industrialists concerned as there is also an abundant supply of hemp plants along the banks of the Yulu and other rivers and lakes in China, though at present, the available raw materials in China and Manchoukuo are under the control of the military, and are almost exclusively supplied to the Imperial Hemp Company and Nichiman (Japan-Manchoukuo) Flax Company. It is considered, however, that after the restoration of peace and order in those regions, unlimited supplies can be imported. The production of hemp is shown by the following tables:

## DOMESTIC PRODUCTION OF HEMP

(In 1,000 Kan)

Years	Japan Proper	Chosen	Taiwan	Total Production
1926	11,310	6,065	1,322	18,696
1927	4,891	5,867	1,282	12,040
1928	6,231	5,710	1,489	13,430
1929	7,114	5,544	1,314	13,973
1930	6,733	5,353	1,352	13,437
1931	6,859	5,444	1,283	13,587
1932	5,630	5,492	1,455	12,577
1933	6,706	5,484	1,635	15,825
1934	10,327	5,026	2,795	18,148
1935	9,597	5,291	3,649	18,537
1936	9,846	4,966	2,742	17,554
1937	9,840	5,666	2,840	17,409
1938	16,985	5,460	3,953	26,398

## PRODUCTION OF HEMP BY

KINDS IN 1938

(In 1,000 Kan)

	Japan Proper	Chosen	Taiwan	Total
Flax	13,680	1,084	—	14,764
Hemp	2,383	4,255	—	6,638
Jute	333	1	3,746	4,080
Ramie	589	89	207	885
Blue hemp	—	31	—	31
Total	16,985	5,460	3,953	26,398



## THE TEXTILE INDUSTRY

## HEMP INDUSTRIAL PLANTS, MACHINES AND OPERATIVES

1928-1938

Years	Plants	Machines	Operatives	Year	Plants	Machines	Operatives
1929	15,316	21,871	21,940	1934	12,062	18,413	18,679
1930	14,222	20,704	21,261	1935	10,926	17,854	19,313
1931	14,375	20,414	20,519	1936	10,880	17,315	18,371
1932	13,821	19,192	19,593	1937	9,352	17,055	19,091
1933	12,775	18,139	18,675	1938	8,229	17,382	18,006

## PRODUCTION OF HEMP TISSUES

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills	No. of Looms	No. of Operatives	Broad Weave	Narrow Weave	Others	Total
	(At the end of year)			(Unit: ¥1,000)			
1930	14,222	20,708	21,261	6,131	5,500	2,991	14,623
1931	14,375	20,414	20,519	6,118	5,363	1,954	13,436
1932	13,821	19,192	19,593	5,002	6,279	1,299	15,580
1933	12,775	18,139	18,679	7,550	5,728	2,197	15,477
1934	12,062	18,413	18,675	9,530	7,116	1,868	18,515
1935	10,926	17,854	19,313	10,686	7,052	2,481	20,220
1936	10,880	17,315	18,371	12,533	5,115	2,203	19,851
1937	9,352	17,055	19,091	18,567	5,116	3,295	26,978
1938	8,229	17,382	18,006	26,795	6,217	3,247	36,259

## Hosiery

In 1938, hosiery produced underwears, stockings, gloves, etc. to the amount of ¥118,891,464. The production

of underwears reached 7,242,068 dozens valued at ¥48,782,440; stockings 13,533,674 dozens valued at ¥29,395,601; gloves 6,392,539 dozens valued at ¥14,467,117.

## VALUE OF PRODUCTION BY HOSIERIES

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Mills	No. of Operatives	Value of Products
	(At the end of year)		(In ¥1,000)
1933	5,243	38,241	73,476
1934	5,553	41,658	85,632
1935	6,198	45,605	84,931
1936	6,250	46,947	91,551
1937	6,776	51,332	115,501
1938	6,437	49,039	118,891

## Dyeing and Bleaching

In 1938, bleaching houses earned ¥46,916,557. In the same year dyeing houses

earned ¥168,921,654, consisting of ¥78,976,280 for dyeing cloth, ¥77,000,063 for printing and ¥12,945,311 for dyeing miscellaneous articles.

## EARNINGS OF DYEING AND BLEACHING HOUSES

(Compiled by the Ministry of Commerce and Industry)

Year	No. of Bleaching Houses	No. of Operatives	Earnings	No. of Dyeing Houses	No. of Operatives	Earnings
	(At the end of year)		(In ¥1,000)	(At the end of year)		(In ¥1,000)
1933	521	6,350	19,336	11,659	57,674	105,193
1934	578	8,031	17,099	11,613	61,776	120,795
1935	632	8,114	19,822	11,570	65,986	134,107
1936	619	9,432	22,795	11,784	74,580	168,676
1937	571	9,496	24,545	11,778	75,757	168,934
1938	579	7,360	46,916	10,774	68,126	168,921

## CHAPTER XIX

## MACHINERY AND ENGINEERING



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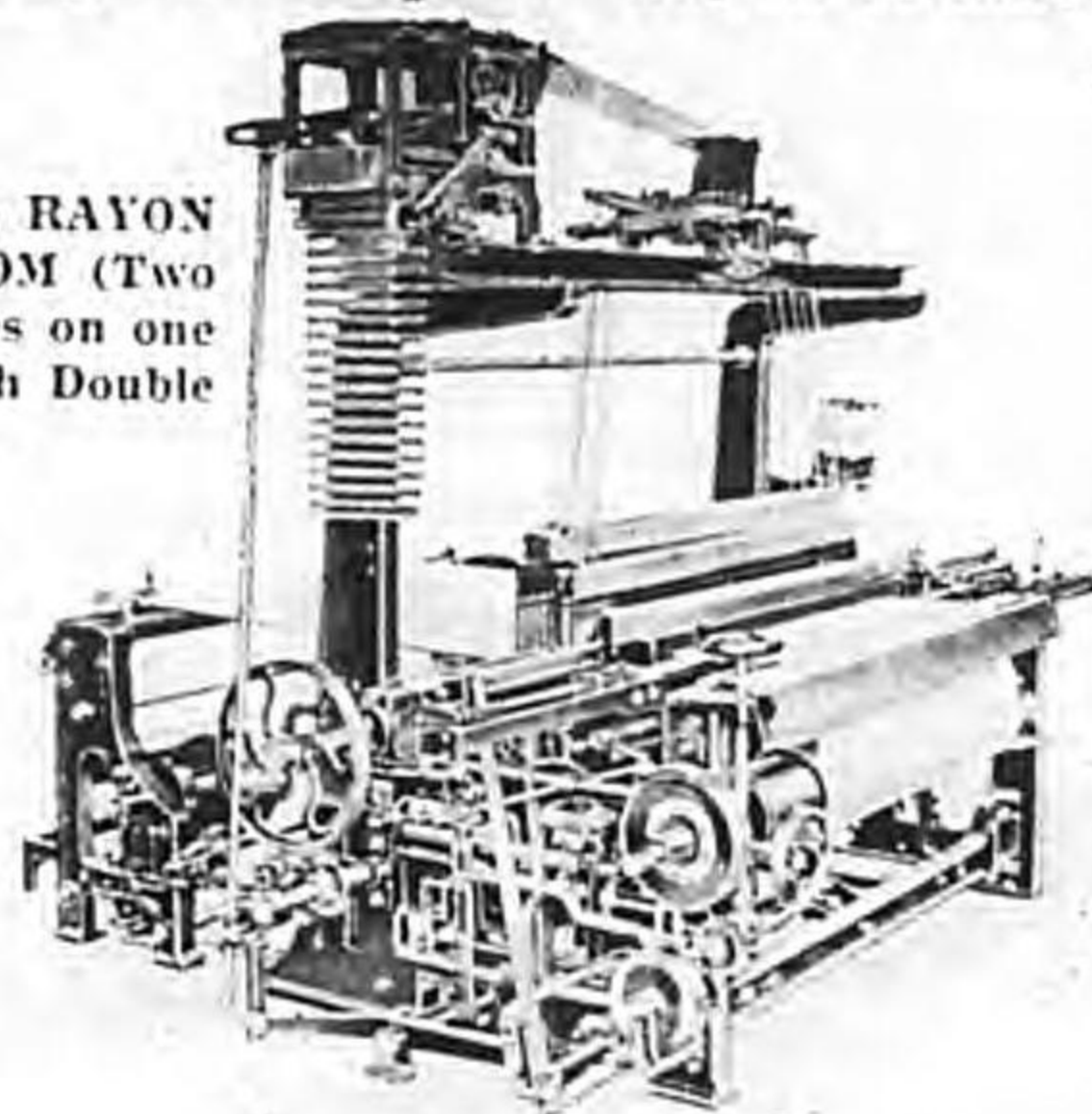
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## CHAPTER XIX

### MACHINERY AND ENGINEERING

#### Machinery

##### Introduction

The manufacture of machinery in Japan started after the Restoration. The progress at first was very slow, and it was only after the Russo-Japanese War of 1904-1905 that the public began to take any real interest in investments in this kind of industry. Improvement was gradually being made before the Great War, but with the outbreak of war the situation completely changed. Prior to the War Japan had to import large quantities of machinery, but during the War imports were stopped, and a great stimulus was thereby given to home production. During the war years Japan became able to supply not only most of her own needs, but also some of those of foreign countries. Factories for manufacturing arms and various kinds of machinery, as well as ship-building-yards, were established in many parts of the country, and these profited both financially and in the experience they acquired in skilled mechanical work of various kinds. The great boom in shipbuilding stimulated the establishment of many new works for turning out engines and other equipment for steamers, while the difficulty of obtaining imported machines for spinning, weaving, papermaking, etc., caused a rapid establishment of new works for their manufacture. This cutting off of imports also served to encourage the manufacture of motors, electrical machinery, automobiles and aeroplanes. With the great post-war slump, naval disarmament, general depression the world over, embargo on gold, high tariffs, and all the other ills from which industry suffered the machinery production industry was heavily hit. The outbreak of trouble in Manchuria in September 1931, and the military operations which followed, created a new demand for arms, while the reimposition of the gold embargo, and subsequent decline of the value of the yen served to revive the industry.

##### Recent Developments in the Machinery Industry

The first World War gave the initial impetus to Japan's machinery industry, but in company with other trades it saw a setback during the business depression of 1930-31. The Manchurian Incident and the present China Affair, however, proved fresh stimuli, and with the transition from light to heavy industry to meet the increasing military demand and productivity expansion drive the machinery industry has become the most important of all national industries. Japan's machinery industry is extremely wide-scaled, its products ranging from machine-tools, steam engines, Diesel engines, chemical industrial machinery, electric appliances, spinning machines and mining machinery to medical instruments and rolling stock, so that today, Japan manufactures almost all kinds of machines she needs at home, and exports a certain amount to foreign markets, principally to the yen bloc.

**Machinery and Tools in 1941** The machinery and tools industry in Japan was well in the course of reorganization during 1941. A special feature of Japan's machinery industry where large-scale industrial plants account for a large part of production while smaller-scale factories dominated in number has long been a cardinal cause for drastic reorganization in machinery circles.

Close on the heels of the clarification of the machinery and steel products industrial repletion policy toward the close of 1940, the Government, early in 1941, submitted to the 76th session of the Diet the Important Machinery Industrial Bill and the Machine Tools Industrial Bill. The two laws, promulgated in April and March, 1941, respectively, took effect as from November, 1941. The former law subjected the important machinery industries to a Government licensing system and provided for various special privileges for such industries including the exemption of taxes for specified machinery industries, use of specified



land, etc. The latter law carried the similar provisions as the former regarding the production of machine tools. Thus, the reorganization of the machinery and tools industry took a concrete step forward.

On October 30, the Government decided to suggest the creation of five machinery control associations, one for each industry, namely, manufacturing machinery, electric machinery and tools, precision machinery, automobiles, and rolling-stock. Decision was also reached

to establish control council as an exclusive control and liaison organ for the foregoing five machinery bodies. All those measures were taken in order to properly reorganize Japan's machinery industry through the well-controlled distribution of raw materials to more important industrial plants and the adjustment of small-scale plants for the purpose of stabilizing a self-sufficiency structure to cope with the suspension of imports.

#### GROWTH OF NUMBER OF OPERATIVES IN MACHINERY INDUSTRY

Years	(a) Total Number of Operatives in all Industries (Unit: 1,000)	(b) Number of Operatives in Machinery Industry	Ratio of (b) against (a) (Percentage)
1930	1,684	168	10.0
1931	1,662	158	9.5
1932	1,734	195	11.2
1933	1,901	249	13.1
1934	2,163	315	14.6
1935	2,369	367	15.5
1936	2,593	457	17.6
1937	2,937	602	20.5
1938	3,201	847	26.4
1939	3,766	1,126	29.9

#### INCREASE IN NUMBER OF MACHINERY FACTORIES

1929-1938

Years	(a) Total Number of Industrial Factories	(b) Number of Machinery Factories	Ratio of (b) against (a) (Percentage)
1930	62,234	5,604	9.0
1931	64,436	5,850	9.1
1932	67,318	6,738	10.0
1933	71,940	7,850	10.9
1934	80,311	9,181	11.4
1935	85,174	10,354	12.2
1936	90,602	11,766	13.0
1937	106,005	14,636	13.8
1938	112,329	17,576	15.6
1939	137,422	23,067	16.7

The recent expansion of investments in joint-stock companies, inclusive of limited partnerships, and the increase in the number of machinery companies is remarkable. At the end of 1939, the total amount of paid-up capital of the machinery companies aggregated ¥4,000,000,000. In the first half of 1939,

the number of machinery concerns was more than doubled and the total amount of paid-up capital increased four and a half times, compared with the second half of 1938. In that period, some 70 machinery firms expanded their capital. Production in the machinery industry also jumped in 1939, as shown below:

#### EXPANSION OF PRODUCTION IN MACHINERY INDUSTRY

1929-1938

(In millions of yen)

Years	(a) Total Industrial Production	(b) Production in Machinery Industry	Ratio of (b) against (a) (Percentage)
1930	5,963	695	11.7
1931	5,175	498	9.6
1932	5,982	599	10.0
1933	7,871	888	11.3
1934	9,390	1,159	12.3
1935	10,837	1,463	13.5
1936	12,258	2,716	14.0
1937	16,356	2,557	15.6
1938	19,487	3,801	19.5
1939	24,360	5,421	22.2

Note:—In regard to the minutes of the production in the machinery industry see pp. 476-482, the Japan Year Book, 1941-42.

#### NUMBER OF COMPANIES AND AMOUNT OF CAPITAL IN MACHINERY INDUSTRY

	General Machinery Industry	Elec- tric Ma- chinery	En- gines	Ship- building	Rolling Stock	Machine Tools	Metal Items	Total (including others)
No. of companies at end of 1939	1,468	595	94	88	198	616	1,564	4,683
Combined authorized capital at end of 1939 (a)	1,003	644	99	386	480	413	1,723	4,801
Combined paid-up capital at end of 1939 (a)	764	502	68	309	480	413	1,723	4,801
New companies established:								
2nd half, 1938	171	40	6	4	6	66	151	459
1st half, 1939	372	86	16	5	18	115	334	958
Increase	201	46	10	1	12	49	183	495
Authorized capital of newly-established companies:								
2nd half, '38 (b)	50,021	5,555	550	1,515	2,245	17,124	36,841	116,788
1st half, '39 (b)	123,951	14,676	1,985	792	32,518	98,906	303,954	381,591
Increase (b)	73,930	9,121	1,435	*723	30,273	81,782	267,103	464,803
Paid-up capital of newly-established companies:								
2nd half, '38 (b)	33,550	4,705	412	1,515	1,262	9,882	24,259	77,735
1st half, '39 (b)	87,765	10,511	1,755	433	19,806	61,445	167,836	351,937
Increase (b)	54,215	5,806	1,343	*1,082	18,544	51,563	143,577	274,202



	General Machinery Industry	Elec- tric Ma- chinery	En- gines	Ship- building	Rolling Stock	Machine Tools	Metal Items	Total (including others)
Capital expansion:								
Companies, 2nd half, 1938	69	19	4	3	12	15	93	216
Companies, 1st half, 1939	88	38	7	4	7	38	104	236
Increase	19	19	3	1	*5	23	11	70
Increase in capital authorized:								
2nd half, '38 (b)	72,692	14,433	4,695	3,607	26,375	19,228	86,099	231,880
1st half, '39 (b)	65,040	112,333	3,645	2,400	25,200	22,236	75,088	305,942
Increase (b)	*7,652	97,900	*1,050	*1,207	*1,175	3,008	*11,011	74,062
Increased capital paid-up:								
2nd half, '38 (b)	33,362	5,959	1,645	3,357	7,875	5,433	34,496	1,187
1st half, '39 (b)	33,858	34,633	3,645	1,325	7,075	9,732	35,855	126,123
Increase (b)	496	28,674	2,000	*2,032	*800	4,299	1,359	32,807
Shareholders' payments:								
Companies, 2nd half, 1938	65	35	10	8	12	14	72	220
Companies, 1st half, 1939	113	33	9	4	12	42	117	333
Increase	48	*2	*1	*4	—	28	45	113
Shareholders' payments:								
Amount, 2nd half, '38 (b)	19,445	19,801	3,790	4,557	14,432	16,988	56,294	136,268
Amount, 1st half, '39 (b)	47,349	11,994	6,815	17,072	18,550	9,233	78,999	190,148
Increase (b)	27,904	*7,807	3,055	12,515	4,118	*7,755	22,705	53,883

(a) In millions of yen. (Note: Survey by the Hypothec Bank of Japan).  
(b) In ¥1,000.

#### BUSINESS RESULTS OF MAJOR MACHINERY MANUFACTURING COMPANIES

(Compiled by the Industrial Bank of Japan)

	Number of Companies Investigated	Paid-up Capital (¥1,000)	Rate of Dividend (%)	Rate of Reserves (%)	Rate of Profit against Paid-up Capital (%)
1937:					
First half	105	378,328	8.8	44	17.3
Second half	135	483,253	9.3	41	17.7
1938:					
First half	157	601,255	8.6	45	17.5
Second half	174	707,290	8.7	45	18.2
1939:					
First half	191	858,274	8.5	48	18.7
Second half	191	1,032,252	8.6	51	19.8
1940:					
First half	191	1,195,146	8.2	50	19.0
Second half	205	1,400,510	8.4	49	18.7

#### Aircraft

**Introduction** Captain Tokugawa was the first pilot to fly a heavier than air machine in Japan. This was in 1910. The manufacture of aircraft was commenced in the Army and Navy arsenals and manufacture under licence was carried out by private companies. In this way the manufacture of aeroplanes was greatly encouraged and military and naval aircraft can now be satisfactorily manufactured in the country.

**History** Dr. Ichita Kishi, a physician constructed at his own expense various workshops in his own residence at Tsukiji, Tokyo, and, in 1914, with the help of several expert engineers, succeeded in constructing an aeroplane engine, the first to be manufactured in this country. A trial flight of the aeroplane using this engine was very successful, so he manufactured his second aeroplane in 1916. In 1917, Mr. Nakajima, a retired engineer captain of the Navy, manufactured various kinds of aeroplane with the help of Messrs. Mohel Ishikawa and Selbei Kawanishi. In 1920, the Aichi Tokai Denki Kaisha, Ltd. (Aichi Clock Electric Machinery Co., Ltd.) established an aeroplane department and in the same year turned out a seaplane. From that time this department has developed rapidly. In 1921, the Kawanishi Machine Company established an aeroplane factory in Hyogo, and started the manufacture of aeroplanes in 1923. Also, in 1921, the Mitsubishi Aircraft Co., Ltd., brought nine experts in aeroplane manufacturing from Great Britain and began to manufacture both aeroplanes and engines on a large scale. The Kawasaki Shipbuilding Co., Ltd., following in the steps of the Mitsubishi Aircraft Co., Ltd., began manufacturing aeroplanes in 1922.

During the period immediately after World War I American and Swiss accessories for airplane engines were mostly used in this country, but German accessories especially those of the Robert Bosch Company, later on took over the lead, and have greatly influenced further developments in this important line. During recent years the Japanese industries made great strides in the manufacture of accessories, and are supplying the majority of requirements in the airplane industry. A close relationship, however, continues to exist between the German accessory industries such as

Bosch, especially regarding airplane engines, and the activities of the Japanese industries.

**Present State of the Industry** The aircraft manufacturing industry has shown considerable activity in recent years. Aside from military requirements, manufacturers have received good orders from public bodies who have raised subscriptions to donate aeroplanes to the army and navy. Japanese manufactured civil planes have had many successes of late and orders have been coming in for these. Manufacturers of aircrafts at present are as follows:

#### MANUFACTURES OF AIRCRAFT

Year	Makers of Bodies and Motors	Makers of Balloons and Airships
1930	6	3
1931	7	2
1932	7	2
1933	8	2
1934	8	2
1935	8	2
1936	9	2

#### Automobile Manufacturing

**History** The first automobile to be manufactured in Japan was by the Tokyo Motor Car Works, under the management of Mr. S. Yoshida, in the year 1909, but until the present progress has been very slow. In 1910, several military motor cars were manufactured for the Army in the Osaka Arsenal, and in 1911, the Tokyo Automobile Factory commenced the manufacture of "DAT" cars.

The Tokyo Gas and Electric Co., Ltd., began to manufacture military automobiles "T.G.E." in 1916, and trucks in 1917. In 1918, the Military Automobile Subsidy Act was put into force and this company was the first to get a subsidy from the Army Ministry under the act. In 1920 the Tokyo Ishikawajima Shipbuilding Co., Ltd., began to manufacture passenger cars. Companies other than the above which are making automobiles are Hakuyosha, Ltd., and the Oriental Automobile Co.

Note: Conditions of aircraft and automobile industries since 1937 are not made public.



**Passenger Cars** The "Atsuta-go," modelled after the Nash and White, and from this year, the "Nissan" are the only passenger cars manufactured in Japan aside from the baby cars.

**Buses and Trucks** Bus and truck manufacturing is slightly better than passenger car making. The "Chiyo-da" manufactured by the Tokyo Gas and Electric Co., and the "Sumida" made by the Jidosha Kogyo Kaisha have long histories. These companies are also jointly making the "Isuzu," designed by the Ministry of Commerce and Industry. These three classes of buses and trucks are supplied to the market in considerable numbers. Kyodo Koku-sai Jidosha, which was established in 1933 by these two companies, is selling domestic trucks and buses of five classes. The Mitsubishi Heavy Industry Co., Ltd. is making the large-sized bus "Fuso-go" at its Kobe plant, the Kawasaki Sharyo Kaisha, Ltd. the truck and bus "Rokko."

**Baby Cars and Motor Cycles** Small motor cars are defined, in dimensions and power, by the "Regulations of Motor Cars" and include such small-sized cars as the "Datsun" car, rear cars, etc. Rear cars have made a marvellous development in Japan as a means of carrying small parcels. Their production totals 15,000 a year, for they are not

only in use throughout Japan but are exported to Manchoukuo, the South Sea Islands, etc. The sales of small-sized cars like the "Datsun," are rapidly increasing.

**Accessories and Parts** Accessories and parts of motor cars used in Japan were almost exclusively of American make before replacement of the embargo on gold in 1931. Owing to the low exchange rate which followed thereafter their importation became very difficult and domestic makes took their place. At present, there is no importation of any article for motor cars from America.

Regarding electric and Diesel-accessories for passenger cars, trucks, and combustion engines of all kinds, the products manufactured by the Robert Bosch Company in Germany, since the early twenties, are holding a unique place in this country. It is safe to say that the engineering advice rendered by Bosch experts, and the reputed reliability of Bosch products have resulted in their practically unanimous adoption by the Japanese truck and car-industries, be it in the form of imported original products, or in the form of exact copies by licensed and other Japanese Companies, especially since the tightening of the import control due to the new exchange laws of 1937.

#### PRODUCTION OF AUTOMOBILES AND MOTOR CYCLES

(Value in yen)

Year	Imported Parts Assembled		Others		Accessories and Parts		Total		Motor Cars	
	No.	Value	No.	Value	Value	Value	No.	Value	No.	Value
1930	20,596	34,903,822	1,254	3,826,252	4,493,958	43,024,032	793	413,808		
1931	19,935	32,099,506	971	2,576,231	6,535,494	41,211,231	1,451	826,320		
1932	13,853	28,869,297	710	4,748,608	6,095,992	39,703,897	2,113	1,619,279		
1933	14,373	37,690,059	1,657	9,493,251	10,960,059	58,143,369	4,613	3,651,570		
1934	29,889	75,955,529	2,770	15,671,197	22,736,076	114,362,802	7,750	6,029,280		
1935	27,021	69,928,985	5,307	22,908,967	28,234,962	121,072,914	8,845	7,342,114		

**Imports of Automobiles** In 1914 imports barely amounted to ¥500,000, but by 1929, they amounted to ¥30,000,000. Owing to the depression there was a drop to ¥20,000,000 in 1930, and to ¥14,-

000,000 in 1933. The figures then took an upward course, rising to ¥32,302,000 in 1934, ¥32,589,000 in 1935, ¥37,036,000 in 1936, and ¥30,682,000 in the first half of 1937.

#### IMPORTS OF AUTOMOBILES AND ACCESSORIES

(Value in yen)

Year	No. of Automobiles	Value	Value of Accessories	Total Value
1930	2,591	4,896,992	15,178,000	20,773,000
1931	1,887	3,378,000	12,951,000	16,329,000
1932	997	2,894,000	11,927,000	14,821,000
1933	491	1,864,392	12,517,753	14,382,145
1934	896	3,357,061	28,945,163	32,302,224
1935	943	3,302,241	29,387,106	32,589,347
1936	1,117	3,577,000	33,459,000	37,036,000
1937 (Jan.-July)	895	3,009,000	27,673,000	30,682,000

Note: Details of conditions of the industry and the trade in automobiles are not published since 1937.

#### Bicycle Manufacturing

**History** A bicycle was first introduced into Japan in 1881 by an Englishman. In 1889, an American brought a bicycle with him from America. In 1904, frames and other accessories were imported from Great Britain, and the making of bicycles at a lower cost became comparatively easy and bicycles became very popular.

Before 1913, accessories other than saddles, rims, and chains were being manufactured at home. Factories capable of manufacturing these latter articles on a large scale did not exist and it was impossible for small scale producers to compete against foreign products. From 1913 on, however, the demand for bicycles increased at great speed, and as the manufacturing of each of the above parts on a large scale became possible, bicycles came to be produced at a very low cost, though until the World War, those manufactured in Japan could not compete with European-made ones. During the War, the art of manufacturing advanced so much that domestic bicycles could well compete in both quality and price with imported ones, and not only were home demands satisfied, but the Japanese product was exported to China, Russia, India and other countries.

**Conditions Suitable for Bicycles** Conditions in this country are well suited to the use of this vehicle. The factors which have made for the increased demand are:

- (1) Individual wealth is comparatively small and the use of automobiles has not yet become universal.
- (2) Roads are mostly too narrow,

though greatly improved of late, to take automobiles.

(3) The making of bicycles, especially accessories like rims, is purely artisans' work, and is a type of work in which the Japanese manufacturers excel.

#### PRODUCTION OF BICYCLES IN JAPAN

(Value in yen)

Year	No. Produced	Value	Value of Accessories	
			Produced	Imported
1930	136,985	2,790,331	12,206,374	
1931	105,088	2,022,013	13,747,235	
1932	63,988	1,315,748	20,666,605	
1933	118,405	2,164,804	26,396,495	
1934	152,920	2,542,376	34,462,225	
1935	90,885	2,260,889	38,889,853	
1936	145,791	6,210,056	44,044,488	
1937	138,895	2,977,815	50,889,157	
1938	92,084	4,528,251	48,534,553	

The principal places of production are Tokyo, Osaka, Aichi, Hyogo, Gifu and Fukuoka prefectures.

Imports and exports of cycles and accessories since 1930 are as follows:

Year	Imports and Exports	
	Imports	Exports
	(In yen)	
1930	1,563,000	5,274,000
1931	1,153,000	7,119,000
1932	795,000	6,028,000
1933	610,000	12,114,000
1934	73,308	18,904,257
1935	85,545	17,436,446
1936	27,000	20,575,000
1937	—	23,451,000
1938	—	13,650,000
1939	—	18,063,000

Note:—Tyres are not included.



## SHIPBUILDING

## Introduction

The mercantile shipbuilding industry in Japan developed with the shipping business, while the development of warship building was mainly due to the urgent demands created by the Sino-Japanese and the Russo-Japanese Wars.

Owing to the construction of new vessels to be placed on subsidized lines, easy money and low interest rates, the shipbuilding industry which had been depressed since the close of the World War, revived and boomed temporarily in 1928. Tonnage output, which in 1919 amounted to as much as 674,000 tons, dropped to 53,000 tons in 1926. This was increased to 112,583 tons in 1928 and to 167,365 tons in 1929. However, as the improvement was brought about artificially and not by general improvements in economic conditions, the industry soon became dull again,

and was further depressed by the enforcement of the conditions of the London Disarmament Agreement. Naval orders to private shipbuilding companies were reduced by 30%, which together with the decreased orders from private transportation companies reduced the 1931 output to 84,004 tons and in 1932 to 58,763 tons.

Owing, however, to the subsidies granted by the Ministry of Communications since 1932 for the improvement of steamers, the shipbuilding industry has been fairly active. The subsidies were granted with an aim of constructing 200,000 tons of new steamers and closed at the end of March 1933. In addition to this, due to the low exchange rate, enquiries for steamers are forthcoming from Brazil, Thailand, Italy, France, Sweden, Soviet Russia, Manchoukuo, China, etc. (See Chapter XXVI, Sea Transportation.)

## PRODUCTION OF VESSELS

(Value in yen)

Year	Steel Vessels		Ships		Total Value	Fittings of Ships
	No.	Value	No.	Value		
1930	269	111,590,483	2,376	3,547,239	115,137,722	807,727
1931	245	34,991,786	1,840	3,184,897	38,176,683	638,378
1932	509	44,224,579	1,987	1,880,400	45,104,979	475,303
1933	335	37,208,750	2,558	2,767,288	38,976,038	316,170
1934	277	53,481,053	2,588	3,994,369	57,475,422	448,353
1935	328	81,875,746	2,234	4,875,522	86,751,268	836,511
1936	355	104,184,841	2,864	6,541,823	110,926,664	949,253
1937	581	208,820,307	4,578	16,503,625	225,323,932	2,472,764
1938	—	—	—	—	—	829,049

## NUMBER OF DOCKYARDS, EMPLOYING MORE THAN 5 PERSONS AND THOSE EMPLOYED

End of	Dockyards	Officials	Technicians	Operatives	Others	Total
1930	—	2,224	3,002	38,036	3,675	46,937
1931	—	2,053	2,805	33,439	1,207	39,514
1932	—	1,832	2,495	33,611	1,262	39,200
1933	360	2,069	2,677	39,068	1,878	45,692
1934	394	2,267	3,026	50,116	1,520	56,929
1935	395	2,302	3,416	53,918	1,692	61,328
1936	444	2,636	3,520	70,053	2,046	78,255
1937	559	3,874	5,019	89,736	2,532	101,161

Note: The publication of figures for most of the items has ceased.

## Trade in Machinery

## Imports of Machinery

Imports of machinery in 1939 totalled ¥288,212,000 against ¥313,362,000 for 1938.

Imports of machinery by Japan, excluding automobiles and their accessories, from 1919 to 1928, were some-

where between ¥100,000,000 and ¥140,000,000. There was a sharp reduction in 1930, and in 1931 the bottom was reached, but since then there has been a yearly increase, although the year 1939 showed a decrease by ¥25,000,000 from the previous year. (See Chapter XI.)

## IMPORTS OF MACHINERY

(In ¥1,000)

Articles	1934	1935	1936	1937	1938	1939
Watches, and parts thereof	2,684	4,021	3,742	5,645	2,893	562
Clocks, and parts thereof	191	170	299	338	192	66
Microscopes, etc.	230	279	301	394	156	168
Ammeters, voltmeters, etc.	64	60				
Wattmeters	63	74	2,711	3,263	1,694	2,129
Other meters	1,479	2,246				
Surgical or orthopaedic instruments	200	238	118	249	129	161
Surveying and drawing instruments	97	515	256	385	790	957
Registers, calculating machines, typewriters, etc.	1,020	1,247	2,001	2,012	150	—
Scientific instruments	1,003	1,529	1,265	2,698	1,414	3,008
Cameras, and parts thereof	1,418	2,582	3,949	6,392	1,209	427
Musical instruments	182	197	240	319	119	—
Telegraphic and telephonic instruments	1,468	1,513	1,292	1,939	3,478	1,787
Pire-arms	1,031	1,117	—	—	—	—
Railway carriages, and other vehicles	—	—	44,677	58,791	63,517	31,732
Bollers	4,090	6,109	3,930	5,286	5,560	3,476
Fuel economizers	393	732	329	166	462	754
Steam turbines	430	1,331	1,335	1,055	411	671
Internal combustion engines (weighing not more than 250 kg.)	3,253	343	—	—	—	—
Internal combustion engines (weighing not more than 2,500 kg.)	17,277	14,801	—	—	—	—
Internal combustion engines (others)	247	413	—	—	—	—
Water-turbines and Pelton wheels	150	90	15	8	163	—
Dynamos, motors, etc. (weighing not more than 100 kg.)	829	1,044				
Dynamos, motors, etc. (weighing not more than 5,000 kg.)	145	209				
Dynamos, motors, etc. (others)	248	1,003	1,805	1,841	2,766	2,089
Transformers	85	75				
Dynamos combined with motive machinery	2	6				
Cranes	12	7	—	14	397	226
Capstans and other winding machines	35	90	86	193	—	—
Gas compressors	1,742	1,053	1,815	2,318	2,522	942
Sewing machines and accessories	5,866	6,473	7,939	10,574	386	153
Pumps	999	711	760	1,257	1,947	1,987
Blowing machines	231	192	591	790	400	263
Hydraulic presses	54	1,480	31	146	445	3,598
Pneumatic tools and machines	638	557	634	789	433	391
Metal or wood-working machines	21,433	18,295	—	—	—	—
Spinning machines	6,394	4,612	2,278	3,103	1,635	—
Tissue-finishing machines	62	264				
Weaving looms	40	224	238	384	—	103



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(In ¥1,000)

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Telegraphic and telephonic instruments	1,468	1,513	1,292	1,939	3,478	1,787
Pire-arms	1,031	1,117	—	—	—	—
Railway carriages, and other vehicles	—	—	44,677	58,791	63,517	31,732
Bollers	4,090	6,109	3,930	5,286	5,560	3,476
Fuel economizers	393	732	329	166	462	754
Steam turbines	430	1,331	1,335	1,055	411	671
Internal combustion engines (weighing not more than 250 kg.)	3,253	343	—	—	—	—
Internal combustion engines (weighing not more than 2,500 kg.)	17,277	14,801	—	—	—	—
Internal combustion engines (others)	247	413	—	—	—	—
Water-turbines and Pelton wheels	150	90	15	8	163	—
Dynamos, motors, etc. (weighing not more than 100 kg.)	829	1,044				
Dynamos, motors, etc. (weighing not more than 5,000 kg.)	145	209	1,805	1,841	2,766	2,089
Dynamos, motors, etc. (others)	248	1,003				
Transformers	85	75				
Dynamos combined with motive machinery	2	6				
Cranes	12	7	—	14	397	226
Capstans and other winding machines	35	90	86	193	—	—
Gas compressors	1,742	1,053	1,815	2,318	2,522	942
Sewing machines and accessories	5,806	6,473	7,939	10,574	386	153
Pumps	999	711	760	1,257	1,947	1,987
Blowing machines	231	192	591	790	400	263
Hydraulic presses	54	1,480	31	146	445	3,598
Pneumatic tools and machines	638	587	634	789	433	391
Metal or wood-working machines	21,433	18,295	—	—	—	—
Spinning machines	6,394	4,612	2,278	3,103	1,635	—
Tissue-finishing machines	62	204				
Weaving looms	40	224	238	384	—	103



Articles	1934	1935	1936	1937	1938	1939
Knitting machines	1,773	1,645	410	709	234	—
Paper-making machine	—	616	284	418	1,325	—
Printing machines	224	502	400	754	331	—
Card clothing	—	3,869	1,911	2,309	441	157
Felt for paper making	—	1,250	1,340	1,547	838	587
Rolls and rollers	—	916	576	473	482	1,329
Milling-cutters, gear-cutters, etc.	—	417	434	757	844	1,733
Handicraft and agricultural machines	—	1,287	1,451	2,285	428	—
Total including others	—	—	153,087	242,235	313,358	288,212

Note: Figures for fire-arms, internal combustion engines and metal or wood working machines are not made public.

#### Exports of Machinery

In 1939 Japan witnessed the highest record in exports of machinery of her own making. The value of exports was ¥370,323,000. The future of Japan's machinery manufacturing depends upon the degree to which her exports expand, and especially upon the development of the market in Asiatic countries. The invasion of Japanese products into the Dutch East Indies, British

India and other foreign markets is a matter of future prospect. The exportation of Japanese made spinning and weaving machines is very promising. The Toyoda Automatic Weaving Machines are very much in demand wherever the spinning industry is prosperous. Diesel-engines to be fitted into fishing vessels are built in Japan and shipped to the Dutch East Indies. Japanese made machines exported during the last 4 years follow:

	1936	1937	1938	1939
	(In ¥1,000)			
Hanging clocks	1,584	2,083	1,333	2,064
Table clocks	1,916	2,442	1,096	679
Surgical instruments	2,516	3,390	3,330	3,757
Electric batteries	1,909	2,262	3,233	3,999
Meters	1,543	2,270	3,097	4,980
Physical and chemical instruments	1,204	2,553	1,488	2,341
Musical instruments	693	850	786	1,037
Telephonic instruments	5,562	6,663	10,043	11,502
Phonographs	4,491	5,225	5,384	6,029
Measuring instruments	1,239	2,104	1,570	2,073
Steam boilers	1,731	3,580	4,405	5,514
Motors and dynamos	15,963	15,773	26,613	34,764
Transformers				
Switch boards				
Other electrical machinery				
Pumps	1,952	2,917	5,246	7,895
Metal or wood working machinery	4,907	6,233	10,324	25,532
Spinning machinery	15,121	25,440	29,984	24,413
Weaving machines				
Printing machines	1,000	1,448	2,197	2,561
Locomotives	15,087	9,314	16,338	24,468
Railway carriages and other vehicles	58,810	61,478	57,148	100,793
Ships	8,165	23,148	16,756	13,211
Cranes	1,417	1,740	3,868	4,948
Internal combustion engines	4,058	4,685	4,995	5,755
Sewing machines	575	1,037	651	916
Total including others	174,541	227,699	267,237	370,323

## CHAPTER XX

### PUBLIC UTILITIES



## MACHINERY AND ENGINEERING

Articles	1934	1935	1936	1937	1938	1939
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Table clocks	1,916	2,442	1,096	679
Surgical instruments	2,516	3,390	3,330	3,757
Electric batteries	1,909	2,262	3,233	3,999
Meters	1,543	2,270	3,097	4,980
Physical and chemical instruments	1,204	2,553	1,486	2,341
Musical instruments	693	850	786	1,037
Telephonic instruments	5,562	6,663	10,043	11,502
Phonographs	4,491	5,225	5,384	6,029
Measuring instruments	1,239	2,104	1,570	2,073
Steam boilers	1,731	3,580	4,405	5,514
Motors and dynamos				
Transformers				
Switch boards	15,963	15,773	26,613	34,764
Other electrical machinery				
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Weaving machines				
Printing machines	1,000	1,448	2,197	2,561
Locomotives	15,087	9,314	16,338	24,468
Railway carriages and other vehicles	58,810	61,478	57,148	100,793
Ships	8,165	23,148	16,756	13,211
Cranes	1,417	1,740	3,868	4,948
Internal combustion engines	4,058	4,685	4,995	5,755
Sewing machines	575	1,037	651	916
Total including others	174,541	227,699	267,237	370,323

## CHAPTER XX

## PUBLIC UTILITIES



*Hot Water On Tap!*



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DEPENDABILITY,  
CHEAP OPERATION,  
GENERAL SATISFACTION  
IN UPKEEP

**TOKYO GAS CO., LTD.**  
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**BEER**

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**KIRIN BREWERY  
CO., LTD.**

Expert Office: Meijiya Building, Kyobashi,  
Tokyo

### IMITATION LEATHER

Leather Paper, Oil Cloth,  
Rubber Cloth, Hood Cloth

Used for:

Train and Motor Vehicle Seats or  
Window Blinds, Motorcar Hoods,  
Saddles of Bicycles, Coverings for  
Chairs, Gramophone Cases, Suit-  
cases, Handbags, Rain Coats,  
Albums, Book Covers, Slide-  
Leathers, etc., etc.

### Kyowa Leather Co., Ltd.

Head Office: 188, Terajima-cho  
4-chome, Mukojima-ku, Tokyo

Osaka Office: 37, Takami-cho  
1-chome, Nishi-Yodogawa-ku, Osaka

References: Sanwa Bank, Ltd.,  
Yasuda Bank, Ltd., Dai Ichi Ginko.  
Five Factories

Leading Makers of Leather  
Substitutes



TRADE MARKS  
REGISTERED



"SHELL" and "EMPIRE"

All kinds of Paper fastening Machine, Check Stamper,  
Steel Pins, Ink Eraser, Pens, Paper Clips and Connected  
Staples. Also general office supplies.

**GOMEIKAISHA  
SAWADA BUNKYU-DO**

GENERAL STATIONER  
MANUFACTURERS & EXPORTERS  
377, Nozato-cho, Nishiyodogawa-ku, Osaka, Japan



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# THE MITSUBISHI TRUST CO., LTD.

Capital..... ¥ 30,000,000.00  
Trust Funds (May 31st, 1942). ¥639,359,122.74

Chairman: Sobun Yamamuro  
Managing Director: Yohtaro Kurita

## DIRECTORS:

Baron Koyata Iwasaki, Hikoyata Iwasaki, Tetsujiro Shidachi,  
Takeo Kato, Ryohei Hayami, Takuzo Shirato

Head Office:  
Marunouchi 2-chome,  
Kojimachi-ku, Tokyo

Branches:  
Osaka, Nagoya, Fukuoka,  
Kyoto, Yokohama, Kobe

## CHAPTER XX

### PUBLIC UTILITIES

#### Electricity

Important items of the electric industry are not made public since October 1937.

But, at the end of October 1939, the number of companies engaged in the electric business was 618, consisting of 439 suppliers, 143 electric railways and 36 electric railways supplying electricity to others. Private electric plants numbered 10,765 at the end of 1937. The aggregate capital of the 618 companies was ¥5,892,121,824.

#### TOTAL VOLUME OF ELECTRIC POWER GENERATED FOR LIGHTING AND INDUSTRIAL PURPOSES

(In kw. h.)

Year	Total Volume (kw. h.)	Rate of Increase
1930	12,160,082,885	—
1931	11,892,215,264	—
1932	12,557,696,988	5.6
1933	16,961,724,058	35.1
1934	18,793,610,146	10.8
1935	21,548,700,173	14.7
1936	24,132,870,000	8.9
1937	26,582,570,000	—

#### ELECTRIC POWER CAPACITY FOR INDUSTRIAL PURPOSES

(In kw.)

End of	Hydro-electric	Thermal	Others and Total
1930	2,797,637	1,601,677	4,399,314
1931	3,056,936	1,599,588	4,656,524
1932	3,105,930	1,827,131	4,933,061
1933	3,168,705	1,912,037	5,080,742
1934	3,268,834	2,223,113	5,491,947
1935	3,407,997	2,638,572	6,046,569
1936	3,759,334	2,924,778	6,777,422
1937	3,978,000	3,297,000	7,277,000
1938 (Oct.)	—	—	7,529,673

#### GROWTH OF DEMAND FOR POWER FOR LIGHTING

End of	No. of Consumers	No. of Lamps
1930	11,352,372	36,839,607
1931	11,446,539	37,413,988
1932	11,530,440	38,048,413
1933	11,383,235	38,382,771
1934	11,715,694	40,532,219
1935	11,948,953	42,477,828
1936	12,176,098	44,405,699
1937	12,568,725	46,969,219
1938	12,872,071	49,351,160

#### ELECTRIC LIGHTING IN VARIOUS PREFECTURES AT THE END OF 1935

(Number of lights per 100 persons)

Prefecture	No.	Prefecture	No.	Prefecture	No.	Prefecture	No.
Tokyo	123.8	Yamanashi	36.4	Osaka	87.4	Hiroshima	61.9
Kanagawa	87.2	Aichi	70.6	Kyoto	125.6	Tottori	47.8
Saitama	43.4	Miyé	50.3	Hyogo	83.0	Shimané	50.0
Gumma	45.4	Gifu	54.3	Nara	64.7	Okayama	60.8
Chiba	40.6	Nagano	49.3	Shiga	57.0	Yamaguchi	55.8
Ibaraki	27.9	Fukui	75.4	Wakayama	59.4	Kagawa	50.6
Tochigi	35.7	Ishikawa	70.7	Tokushima	44.0	Ehime	47.2
Shizuoka	57.0	Toyama	58.5	Kochi	45.1	Kumamoto	51.2
Nagasaki	38.9	Miyazaki	39.7	Niigata	50.4	Yamagata	36.4
Fukuoka	57.4	Kagoshima	29.0	Fukushima	31.5	Akita	29.9
Oita	54.9	Okinawa	6.8	Iwaté	26.0	Hokkaido	37.7
Saga	48.0	Miyagi	40.2	Aomori	37.2	Average	61.3



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Single and Double Edged  
Superior in Quality  
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## POWER SUPPLYING COMPANIES

Year	Generating Water	Steam	Pur- chasing	Total
1933:				
Opened	345	56	417	818
Unopened	7	3	15	25
Total	352	59	433	843
1934:				
Opened	331	60	413	804
Unopened	11	3	12	26
Total	342	63	425	830
1935:				
Opened	319	59	410	788
Unopened	12	3	15	30
Total	331	62	425	818
1936:				
Opened	307	64	398	767
Unopened	13	7	14	34
Total	320	71	410	801
1938 (Oct.)				
Opened	—	—	—	829
Unopened	—	—	—	32
Total	—	—	—	861
1939 (Oct.)				
Opened	—	—	—	618
Unopened	—	—	—	23
Total	—	—	—	641

## CONSUMPTION OF ELECTRIC POWER BY INDUSTRIES

(Compiled by the Ministry of Communications)

(In 1,000 k.w. h.)

	1934	1935	1936	1937	1938
Fiber industry	1,424,818	1,689,579	1,802,421	2,638,405	2,244,899
Metal industry	1,200,700	1,666,182	2,219,902	2,796,626	4,350,978
Machin. & tool manufacturing	292,408	373,872	466,466	938,677	1,327,433
Chemical industry	4,044,205	5,051,275	5,895,349	7,143,505	7,747,379
Ceramic industry	557,993	745,254	822,819	1,048,449	1,077,842
Foodstuffs	74,819	99,171	122,051	419,919	471,006
Total including others	9,264,588	11,380,327	13,265,696	15,666,012	18,587,377

Note:—Consumption by the mining industry is not included in the figures for 1937 and 1938.

## Electricity in 1938 and 1939

The Nippon Has-so Den Kabushiki Kaisha (Japan Electric Power Generation and Transmission Company) The proposed plan of the new semi-Governmental electric company revealed by the Government on February 7, 1938 at the special committee of enquiry on the power control bill of the House of Representatives was as follows:

1. The company shall be capitalized at ¥880,000,000, of which ¥780,000,000 shall be obtained through conversion

## PROFITS OF ELECTRIC INDUSTRY

Year	Paid-up Capital	Profit	Rate of Profit against Paid-up Capital
(In Yen)			
1929	3,019,222,000	301,900,000	10.0
1930	3,180,810,000	255,800,000	8.0
1931	3,234,181,000	227,061,830	7.0
1932	3,326,834,000	195,887,000	5.9
1933	3,494,202,000	183,100,000	5.2
1934	3,956,686,518	205,005,470	5.2
1935	4,124,389,526	225,730,583	5.5
1936	4,296,018,000	289,414,000	6.8
1937	4,515,848,000	307,038,000	6.8
1938	4,602,616,000	323,386,000	7.0

According to the report of the Ministry of Commerce and Industry on the business conditions of 337 power supplying companies in 1938 the aggregate capital amounted to ¥3,168,957,885, reserve fund ¥224,456,595, net profit ¥202,823,832, dividend ¥178,293,972.

of the fixed assets and rights of the existing companies and equipment and the new equipment to be installed in the first 2 years of the establishment of the company. The remaining ¥100,000,000 shall be raised from among the general public.

2. The construction plan of the company includes the establishment of the following plants over a period of ten years: Hydraulic generating plants with a capacity for 3,200,000 kw.; Thermal generating plants with a capacity for 4,500,000 kw.; Transmission

lines 13,000 kw.; Transformer stations for 10,400,000 k.v.a. The expenses for the construction of the new plants and stations will amount to ¥1,890,000,000 during the 10 years after the establishment of the company in accordance with the 10-year program.

**Business Plan** When the 10-year program is complete the company will be able to supply electric power to the quantity of 7,300,000 kw. or over 45,000,000,000 kw.h. The income will be ¥520,640,000; the expenditure ¥446,990,000; net profit ¥79,650,000; dividend ¥60,200,000 (at 7 per cent); and reserves ¥19,450,000.

The capacity of generating and transmitting power will be as stated in the construction plan mentioned above in addition to 3,500,000 kw. of purchased electric power. The fixed assets of the company will be ¥2,670,000,000.

**Start of the New Company** The special commission for the valuation of the fixed assets and rights of the existing companies came, on December 14, 1938, to the conclusion that the total amount of their value for 33 electric companies reached ¥653,100,000, and decided on the capital of the new company as ¥753,100,000, adding to the above, another ¥100,000,000 which is to be obtained by flotation of shares. Of the 33 companies those companies which were valued at surpassing ¥10,000,000 were as follows:

Tokyo Electric Light Co.	¥136,700,000
Daido Electric Power	102,300,000
Nippon Electric	100,600,000
Kansai Kyodo Electric	57,800,000
Toho Electric Power	40,600,000
Utagawa Electric Power	35,800,000
Sanyo Central Electric	18,000,000
Kyushu Electric	17,000,000
Hiroshima Electric Power	16,500,000
Showa Electric Power	15,800,000
Yamaguchi Prefecture Electric	15,600,000
Chugoku Godo Electric	12,600,000

On April 1, 1939, the members of the Board of Directors were appointed and the arrangements with other companies involving the taking-over of staffs and employees and the transfer of assets and equipment were completed. The important contract in respect of the taking-over of electric power amounting to 2,200,000 kilowatts from fifty-two companies and of the supply of 3,400,000 kilowatts of electric power, to 70

companies has been executed smoothly. The company enjoys no privilege in the way of exemption from taxes but debentures it issues have the guarantee of the Government, so that the company will have no difficulties in matters of finance.

**Five-Year Plan** In concert with the four-year plan for the expansion of industrial production and the plan for the mobilization of material resources, the Ministry of Communications, which controls the Japan Electric Power Generation and Transmission Company, formulated a five-year plan for the generation and transmission of electric power with a view (a) to develop electric power resources preferentially for military requirements, (b) to economize on materials used in the development of electric power resources and (c) to coordinate the technical installations which are in existence to increase their combined value. The plan is to be executed by the Japan Electric Power Generation and Transmission Company under the control of the Ministry of Communications. According to the plan, preference has been given to the development of electric power resources in Northern Kyushu, and other developments have been limited to localities where the transmission wires are at hand and can be coordinated and utilized because of being already in use by the member companies of the Japan Electric Power Generation and Transmission Company.

Attention has been paid also toward a coordinated development of water power resources, not only to generate electric energy economically but also to enhance the standard of efficiency in electric power generation. The minimum power capacity of generation for a new coal-power plant has been decided to be 25,000 kilowatts. The capacity of the trunk transmission wires has been increased from 150,000 to more than 250,000 volts. It has been decided, also, to make the primary cost of generation and transmission the basis of reduced electric power rates without leaving any margin for profits. The new rates are to be decided by a committee specially organized.

**The First Program** The Japan Electric Power Generation and Transmission Company worked out a plan for generating electric power at seventeen sites scattered throughout the country. This



project, aiming at generating 450,000 kilowatts of electricity, was begun in 1939 and is expected to be completed in 1943. Moreover, the electric power companies, which have become members of the Japan Electric Power Generation and Transmission Company, have already started work on the construction of water power plants that will generate about 1,000,000 kilowatts when completed in 1942. In four years, therefore, the output of electric power will be increased by some 1,500,000 kilowatts. The annual increase in the output of electricity has averaged 300,000 kilowatts, but hereafter it will average 400,000 kilowatts every year until 1943, thus meeting the increased demand for electric power due to the expansion of industrial production.

The first program for electric power generation of the Japan Electric Power Generation and Transmission Company calls for the development of water power resources at the following seventeen sites: two sites on the Ishikari River and one on the Tokachi River in Hokkaido; one on the Aga River, three on the Tone River, one on the Oi River

and one on the Kuzuryu River in Central Japan; one on the Ota River, two on the Ezawa River and one on the Takatsu River in Western Japan; and one on the Watashigawa River in Shikoku and one on the Itsuse River in Kyushu.

**Shortage of Electric Power** In the latter half of 1939 and the early months of 1940, Japan greatly suffered from a shortage of electric power caused by the insufficient supply of coal for thermal generation and the scarcity of rainfall for hydro-electricity. Factories operated by electric power were required to shorten their working hours or to have extra holidays in order to save electric power by 10 to 45 per cent according to different branches of industry, while homes were urged to decrease the number of electric lamps. The factories in the Kansai district, including those in the great industrial city of Osaka, were miserably paralyzed, provoking a question in regard to the responsibility of the calamity to the Japan Electric Power Generation and Transmission Company and its supervising office, the Board of Electricity of the Communications Ministry.

#### Gas Industry

##### Introduction

When compared with the electric industry, the gas industry has been very slow in its development. The introduction of gas took place in 1885, when it was used in Yokohama for street lighting purposes. Later in the same

year Tokyo adopted it for the same purpose. The capital invested in 1885 was ¥54,000, and a slow but steady increase took place until 1925, when the invested capital stood at ¥276,373,000. After that year the industry made great strides as the following figures show:

#### CONDITIONS OF GAS PRODUCING COMPANIES

Year	Coal Consumed Metric Ton	Output Thou- sand Cubic Meters	Amount Supplied to Consumers Thou- sand Cubic Meters	No. of Con- sumers	No. of Lights & Burners	Byproducts	
						Coke (Unit: Metric Ton)	Coaltar (Unit: 1,000 Liters)
1934	1,461,000	1,046,639	741,787	1,906,409	4,242,215	971,242	75,923
1935	1,522,000	1,219,746	771,534	1,995,000	4,453,919	1,012,443	83,865
1936	1,614,000	858,965	810,095	2,112,000	5,771,537	1,068,968	86,204
1937	1,719,519	940,871	859,424	2,233,000	6,173,970	1,134,220	90,162
1938	2,172,765	1,104,531	976,030	2,333,203	—	1,460,855	112,245
1939	2,423,000	1,204,100	1,112,100	2,357,000	—	1,630,000	122,000

#### Business Results

(In ¥1,000)

End of March	No. of Companies	Paid-up Capital	Fixed Assets	Profit	Percentage of Profit against Fixed Capital	Dividend Rate
1934	102	419,096	584,323	53,029	9.1	7.8%
1935	104	440,210	585,996	60,295	13.6	7.6

End of March	No. of Companies	Paid-up Capital	Fixed Assets	Profit	Percentage of Profit against Fixed Capital	Dividend Rate
1936	106	458,196	591,637	70,302	11.9	7.8
1937	111	460,403	608,919	78,232	12.8	8.4
1938	116	332,100	402,211	54,035	13.4	8.4
1939	122	336,359	—	—	—	—

#### CONSUMPTION OF GAS BY INDUSTRIES

(Compiled by the Ministry of Commerce and Industry)

(In 1,000 cubic meters)

	1937	1938
Fiber Industry	24,092	27,528
Metal Industry	8,140,967	10,384,371
Machine and Tool Manufacturing	184,811	134,040
Chemical Industry	211,502	377,417
Ceramic Industry	775,434	714,588
Foodstuffs	13,515	14,223
Total including others	9,399,887	11,705,671

Note: Figures include those for gas produced by factories themselves. The number of gas motors in operation was 653 with 42,977 horse power in 1937, 649 with 46,217 horse power in 1938.

#### Gas Industry In 1939

Because the gas industry is a public enterprise in this country, the Government has adhered to a principle of one gas company for one city or town in the past. Under the circumstances, the gas industry in this country is more monopolistic in nature than all other industries including power. A steady progress of the gas industry has been noted during the past few years, particularly since the outbreak of the China Affair as a source of industrial fuel indispensable for munitions industries. Demand for gas as substitute fuel for heavy oil has gained greatly and is expected to further rise in the future. Toward the end of 1939, there were 118 gas companies in Japan in operation. In addition, four new gas companies are in the process of establishment, of which two are nearly ready to commence business. Gas supply zones extend over 150 cities, inclusive of all major towns and cities in Japan, catering to more than 2,357,000 consumers. The combined capital of gas companies, including those managing the power industry jointly, aggregates

approximately ¥472,000,000 (¥363,000,000 paid-up). The 1939 production of gas totalled 1,204,000,000 cubic meters and the total 1939 supply amounted to 1,112,000,000 cubic meters, thus eclipsing the 1938 production and supply, standing at 1,104,500,000 cubic meters and 976,000,000 cubic meters, respectively, by 9 per cent and 14 per cent. Notwithstanding the various handicaps such as strengthened control over various materials such as coal since the outbreak of the Affair and the gas consumption restriction imposed in the second half of 1939, it is noteworthy that the gas industry has made such noteworthy progress. This may be largely due to the rise of heavy industries. As indicated by Table 1, the consumption of gas in six major cities in 1939 averaged 467 cubic meters per house, while that in other cities averaged 513 cubic meters, showing an appreciable increase over the 1930 consumption of 6 major cities which averaged at 452 cubic meters and that of other cities at 340 cubic meters, the increase in the latter being particularly remarkable. This was attributable to the movement of industrial factories from bigger cities to smaller cities because of governmental restrictions over industrial zones in bigger cities. As a result, the demand for gas has come to be evenly distributed among smaller towns and cities as well as bigger cities.

With an average of 15 per cent restriction over general consumption of gas imposed and gas charges pegged despite the advance in prices of coal, however, the gas industry, as an industrial enterprise, has been subjected to a certain heavy blow in regard to profit situation. Nevertheless, the gas industry in 1939 achieved an unexpectedly favorable result chiefly because of a remarkable improvement in its revenues because of the gain in the market prices of its principal by-products such as coke, tar and benzol. The revenue of gas companies from those by-products accounted for nearly 30 per cent of the total revenue. The production of those by-products, has



project, aiming at generating 450,000 kilowatts of electricity, was begun in 1930 and is expected to be completed in 1943. Moreover, the electric power companies, which have become members of the Japan Electric Power Generation and Transmission Company, have already started work on the construction of water power plants that will generate about 1,000,000 kilowatts when completed in 1942. In four years, therefore, the output of electric power will be increased by some 1,500,000 kilowatts. The annual increase in the output of electricity has averaged 300,000 kilowatts, but hereafter it will average 400,000 kilowatts every year until 1943, thus meeting the increased demand for electric power due to the expansion of industrial production.

The first program for electric power generation of the Japan Electric Power Generation and Transmission Company calls for the development of water power resources at the following seventeen sites: two sites on the Ishikari River and one on the Tokachi River in Hokkaido; one on the Aga River, three on the Tone River, one on the Oi River

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(In ¥1,000)

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(Compiled by the Ministry of  
Commerce and Industry)  
(In 1,000 cubic meters)

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Note: Figures include those for gas produced by factories themselves. The number of gas motors in operation was 653 with 42,977 horse power in 1937, 649 with 46,217 horse power in 1938.

#### Gas Industry In 1939

Because the gas industry is a public enterprise in this country, the Government has adhered to a principle of one gas company for one city or town in the past. Under the circumstances, the gas industry in this country is more monopolistic in nature than all other industries including power. A steady progress of the gas industry has been noted during the past few years, particularly since the outbreak of the China Affair as a source of industrial fuel indispensable for munitions industries. Demand for gas as substitute fuel for heavy oil has gained greatly and is expected to further rise in the future. Toward the end of 1939, there were 118 gas companies in Japan in operation. In addition, four new gas companies are in the process of establishment, of which two are nearly ready to commence business. Gas supply zones extend over 150 cities, inclusive of all major towns and cities in Japan, catering to more than 2,357,000 consumers. The combined capital of gas companies, including those managing the power industry jointly, aggregates

approximately ¥472,000,000 (¥363,000,000 paid-up). The 1939 production of gas totalled 1,204,000,000 cubic meters and the total 1939 supply amounted to 1,112,000,000 cubic meters, thus eclipsing the 1938 production and supply, standing at 1,104,500,000 cubic meters and 976,000,000 cubic meters, respectively, by 9 per cent and 14 per cent. Notwithstanding the various handicaps such as strengthened control over various materials such as coal since the outbreak of the Affair and the gas consumption restriction imposed in the second half of 1939, it is noteworthy that the gas industry has made such noteworthy progress. This may be largely due to the rise of heavy industries. As indicated by Table 1, the consumption of gas in six major cities in 1939 averaged 467 cubic meters per house, while that in other cities averaged 513 cubic meters, showing an appreciable increase over the 1930 consumption of 6 major cities which averaged at 452 cubic meters and that of other cities at 340 cubic meters, the increase in the latter being particularly remarkable. This was attributable to the movement of industrial factories from bigger cities to smaller cities because of governmental restrictions over industrial zones in bigger cities. As a result, the demand for gas has come to be evenly distributed among smaller towns and cities as well as bigger cities. With an average of 15 per cent restriction over general consumption of gas imposed and gas charges pegged despite the advance in prices of coal, however, the gas industry, as an industrial enterprise, has been subjected to a certain heavy blow in regard to profit situation. Nevertheless, the gas industry in 1939 achieved an unexpectedly favorable result chiefly because of a remarkable improvement in its revenues because of the gain in the market prices of its principal by-products such as coke, tar and benzol. The revenue of gas companies from those by-products accounted for nearly 30 per cent of the total revenue. The production of those by-products, has



been on a steady increase every year. Coke production in 1939 amounted to 1,630,000 metric tons, gaining by 169,000 metric tons or 11.5 per cent over the 1938 outputs of 1,461,000 metric tons. Production of coal tar, an important material for organic chemical industry, in 1939 also totalled 122,000 kiloliters, gaining by 10,000 kiloliters or 8.9 per cent over 1938. Compared with the production in 1937, the 1939

production showed a gain of 496,000 metric tons or 43.7 per cent in coke and 32,000 kiloliters or 35.5 per cent in coal tar. Gas industrialists in Osaka and other principal districts have also started collecting benzol on an industrial scale since the outbreak of the Affair. Collection of benzol, an important munitions material, was more or less neglected in the past in this country.

TABLE 1. DISTRIBUTION OF GAS IN JAPAN

Years	Total Supply (1)	Consumers (2)	Average Per-day Consumption (3)	Average Per-house Consumption (4)
1930-A	588.9	1,296.1	1,613	452
B	111.3	320.9	305	340
1931-A	624.4	1,371.7	1,711	455
B	115.6	344.9	311	337
1932-A	597.4	1,436.3	1,637	415
B	115.3	348.9	316	330
1933-A	597.7	1,513.5	1,638	394
B	112.2	352.9	307	318
1934-A	623.7	1,548.2	1,709	402
B	118.1	358.2	324	329
1935-A	648.2	1,626.0	1,776	398
B	123.7	370.0	339	334
1936-A	677.8	1,723.0	1,857	393
B	132.2	388.6	358	340
1937-A	710.9	1,827.1	1,948	389
B	148.5	406.0	407	365
1938-A	828.4	2,028.6	2,269	408
B	147.7	304.6	405	486
1939-A	956.5	2,048.7	2,621	467
B	155.6	308.5	426	513

Note: A for six prefectures including six major cities.  
B for other prefectures and cities.  
(1) in 1,000,000 cubic meters.  
(2) in 1,000 houses.  
(3) in 1,000 cubic meters.  
(4) in cubic meters.

TABLE 2. GAS ENTERPRISES BY PREFECTURES (1939)

Prefectures	Gas Companies	Gas Tanks	Gas Supply (in 1,000 cubic meters)	Consuming Houses
Tokyo	3	17	524,402	1,042,577
Kyoto	2	7	44,634	123,407
Osaka	4	17	209,779	482,501
Kanagawa	7	17	42,045	95,627
Hyogo	6	20	68,484	198,261
Nagasaki	1	4	10,378	15,384
Niigata	7	11	11,034	15,348
Saitama	3	4	2,598	5,687
Gumma	3	4	1,664	4,652
Chiba	6	13	5,637	7,057
Ibaraki	2	4	2,013	2,516

Prefectures	Gas Companies	Gas Tanks	Gas Supply (in 1,000 cubic meters)	Consuming Houses
Tochigi	2	4	1,380	4,507
Nara	2	4	1,733	4,582
Miye	3	6	2,943	7,840
Aichi	5	12	67,118	106,332
Shizuoka	5	9	6,505	14,020
Yamanashi	1	4	1,214	4,836
Shiga	3	3	1,011	4,185
Gifu	2	4	2,656	4,746
Nagano	4	7	2,443	6,679
Miyagi	2	3	2,874	4,724
Fukushima	2	3	1,680	3,166
Iwate	1	1	257	722
Yamagata	2	4	685	1,525
Akita	2	2	117	2,578
Fukui	2	3	2,458	7,735
Ishikawa	2	4	3,459	11,091
Toyama	2	3	1,863	4,791
Tottori	2	2	1,614	2,459
Shimane	1	1	658	2,190
Okayama	4	6	6,617	23,201
Hiroshima	2	10	20,787	28,529
Yamaguchi	3	5	3,939	7,694
Wakayama	2	3	1,971	5,699
Tokushima	1	2	1,217	3,971
Kagawa	2	4	1,026	3,268
Ehime	3	5	3,374	5,245
Aichi	1	1	1,324	4,077
Fukuoka	4	14	32,413	43,133
Kumamoto	1	2	3,043	6,038
Oita	1	3	2,226	2,095
Saga	2	2	944	2,067
Miyazaki	3	2	1,684	4,368
Kagoshima	1	3	2,035	4,868
Hokkaido	4	11	9,648	21,366
Total	123	266	1,122,090	2,357,158

Note: Including four companies not operating as yet.

TABLE 3. GAS PRODUCTION BY KIND  
(In million cubic meters)

	1938	1939	Increase
Coal gas	1,008.6	1,137.9	49.3
Liquid gas	6.0	24.0	18.0
Mixed gas	4.6	34.3	29.7
Natural gas	5.3	7.2	1.9
Generator gas	—	0.7	0.7
Total	1,104.4	1,204.1	99.7

## Waterworks

Waterworks in Japan were for the first time established in Osaka under the Waterworks Law of 1895 and thereafter developed remarkably all over the country. The Law was revised in 1911

to give sanction for the construction of waterworks to private associations as public bodies. By March 1938 places which already obtained permission to construct waterworks were as follows:



## PUBLIC UTILITIES

Established by	No. of Sanctioned	No. of Waterworks in Operation	Established by	No. of Sanctioned	No. of Waterworks in Operation
Cities	120	117	Prefecture	4	4
Towns and Villages	405	368	Private persons	115	108
Town or Village Associations	8	7	Total	652	604

## NUMBER OF WATERWORKS IN OPERATION BY DISTRICTS

(March 1938)

Prefecture	Established by Cities	Established by Towns or Villages	Established by Towns & Village Unions	Established by Prefecture	Established by Private Persons	Total
Hokkaido	5	20	—	—	4	29
Aomori	2	1	—	—	1	4
Iwaté	1	6	—	—	7	14
Miyagi	2	17	—	—	3	22
Akita	1	—	—	—	—	1
Yamagata	4	14	—	—	—	18
Fukushima	4	9	—	—	—	13
Ibaraki	1	1	—	—	3	5
Tochigi	2	4	—	—	—	6
Gumma	3	1	—	—	—	4
Saitama	—	5	1	—	—	6
Chiba	—	2	—	1	—	3
Tokyo	2	5	—	—	4	11
Kanagawa	3	10	1	1	1	16
Nilgata	4	10	—	—	—	14
Toyama	2	3	—	—	—	5
Ishikawa	1	4	—	—	—	5
Fukui	1	2	—	—	—	3
Yamanashi	1	9	1	—	2	13
Nagano	5	27	1	—	—	33
Gifu	2	15	—	—	3	20
Shizuoka	4	19	—	—	1	24
Aichi	6	1	—	—	2	9
Mié	3	4	—	—	—	7
Shiga	1	—	—	—	—	1
Kyoto	2	24	—	—	—	26
Osaka	4	16	—	—	4	24
Hyogo	5	13	—	—	7	25
Nara	1	6	—	—	2	9
Wakayama	2	4	—	—	8	14
Tottori	2	8	—	—	1	11
Shimané	1	7	—	—	7	15
Okayama	3	12	1	1	—	17
Hiroshima	5	6	—	—	14	25
Yamaguchi	4	6	—	1	9	20
Tokushima	1	3	—	—	—	4
Kagawa	2	3	1	—	6	12
Ehimé	3	20	—	—	1	24
Kochi	1	7	—	—	3	11
Fukuoka	10	6	—	—	1	17
Saga	2	4	—	—	—	6
Nagasaki	2	10	—	—	5	17
Kumamoto	1	7	—	—	—	8
Oita	3	4	—	—	1	8

## WATERWORKS

Prefecture	Established by Cities	Established by Towns or Villages	Established by Towns & Village Unions	Established by Prefecture	Established by Private Persons	Total
Miyazaki	1	4	—	—	1	6
Kagoshima	1	8	1	—	2	12
Okinawa	1	—	—	—	—	1
Total	117	367	6	4	108	603

## NUMBER OF HOUSEHOLDS SUPPLIED

Prefecture	Number of Households Supplied	Number of Households Supplied per 100 Households	Prefecture	Number of Households Supplied	Number of Households Supplied per 100 Households
Hokkaido	98,784	18.11	Osaka	632,961	70.50
Aomori	21,675	13.39	Hyogo	251,883	41.23
Iwaté	9,313	5.32	Nara	10,705	8.64
Miyagi	37,692	18.82	Wakayama	24,787	13.42
Akita	9,382	5.35	Tottori	13,656	14.36
Yamagata	19,045	10.30	Shimané	15,708	9.97
Fukushima	29,884	10.96	Okayama	46,867	16.63
Ibaraki	8,223	2.86	Hiroshima	111,290	29.11
Tochigi	14,466	6.79	Yamaguchi	39,615	15.29
Gumma	22,391	9.94	Tokushima	16,121	11.05
Saitama	8,789	3.17	Kagawa	15,861	10.42
Chiba	7,306	2.49	Ehimé	14,758	6.07
Tokyo	933,528	72.78	Kochi	14,458	9.25
Kanagawa	214,101	59.76	Fukuoka	140,131	26.27
Nilgata	45,068	12.67	Saga	10,857	8.50
Toyama	6,661	4.30	Nagasaki	68,550	27.09
Ishikawa	16,731	10.58	Kumamoto	22,760	8.70
Fukui	20,402	15.28	Oita	20,005	10.24
Yamanashi	23,683	19.08	Miyazaki	6,566	4.14
Nagano	47,419	14.25	Kagoshima	23,787	7.15
Gifu	17,404	7.12	Okinawa	3,576	2.83
Shizuoka	35,199	10.11	Total	3,549,831	26.30
Aichi	207,783	36.47			
Mié	18,731	7.81			
Shiga	5,730	3.79			
Kyoto	165,539	46.82			

Note: Percentage is taken on the number of households in prefectures on October 1, 1935.

## NUMBER OF HYDRANTS AND VOLUME OF WATER SUPPLIED

Year	No. of Waterworks	Private	Hydrants without Meters			Fire-hydrants
			Common	Public on Streets	Hydrants with Meters	
1934	546	424,118	41,490	2,055	2,172,284	123,299
1935	553	459,142	34,142	2,041	2,194,401	130,869
1936	600	458,846	32,558	2,468	2,391,338	136,328
1937	631	495,329	31,835	2,813	2,514,355	123,337



PUBLIC UTILITIES

Year	District Water Meters	Total	Volume of Water Supplied (1,000 cubic m.)
1934	3,092	2,766,338	936,287
1935	3,002	2,823,957	1,003,549
1936	2,642	3,024,180	1,068,947
1937	2,460	3,170,129	1,216,393

NUMBER OF HOUSEHOLDS SUPPLIED

Year	Number of Households	Number of Meters	Volume of Water Supplied (1,000 cubic m.)
1934	10,000	3,092	936,287
1935	10,500	3,002	1,003,549
1936	11,000	2,642	1,068,947
1937	11,500	2,460	1,216,393

NUMBER OF HYDRAULIC AND OTHER DEVICES

Year	Number of Devices	Volume of Water Supplied (1,000 cubic m.)
1934	1,000	100,000
1935	1,200	120,000
1936	1,400	140,000
1937	1,600	160,000

CHAPTER XXI  
CHEMICAL INDUSTRY

DAI NIPPON HEIJI KABUSHIKI KAISHA

(Incorporated in Japan)

Head Office: 1-1-1, Maruyama, Chiyoda-ku, Tokyo, Japan

Branch Office: 100, Broadway, New York, N.Y., U.S.A.

Branch Office: 100, Broad Street, New York, N.Y., U.S.A.

Branch Office: 100, Broad Street, New York, N.Y., U.S.A.

Branch Office: 100, Broad Street, New York, N.Y., U.S.A.

Branch Office: 100, Broad Street, New York, N.Y., U.S.A.



# TEIKOKU SANSO

## KABUSHIKI KAISHA

### HEAD OFFICE:

38, Akashi-machi, Kobe-ku, Kobe

CAPITAL: Yen 3,300,000

OXYGEN - ACETYLENE - ARGON  
ELECTRIC WELDING

# DAI NIPPON HEIKI KABUSHIKI KAISHA

(Japan Arms Co., Ltd.)

Established in 1938

President: Masaharu Hibino

CAPITAL ..... ¥30,000,000

### MANUFACTURES:

Arms, Gun Powder, Precision Machine Tools

Head Office: 18, Marunouchi 2-chome, Kojimachi-ku

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## CHAPTER XXI

### CHEMICAL INDUSTRY

#### Paper

##### Historical and General

Paper-making in Japan remained a handicraft for over twelve centuries after a Korean priest, Doncho, introduced the technique in 610 A.D. (Some writers maintain that paper existed in this country prior to that date.) During this long period of time, various grades of paper were produced from fibers of certain shrubs such as "kozo," "mitsumata," "gampi," etc.

Foreign-style paper was made for the first time in the 7th year of Meiji, 1874, in a small mill, the Yukosha, Tokyo, through the assistance of an English engineer. Several more mills were established the following year, but the development of the industry was naturally slow on account of the small demand. In the beginning, the raw materials used for foreign-style paper were chiefly rags, but in 1889, wood pulp was used for the first time in a mill which belonged to the Oji Paper Mills, Ltd. At first, the smallness of quantity required and competition from abroad made the industry struggle severely, but as with all other industries, the wars with China in 1894-95 and with Russia in 1904-5 gave it a great chance of development. In 1910, the Tomakomai Mill of the Oji Paper Mills, Ltd., which had been under construction since 1906 began operation. With the establishment of the Tomakomai Mill Japan became selfsupplying with respect to newsprint. Again, the Oji Paper Mills, Ltd., took the initiative in establishing a pulp mill, in 1912, in Odomari, Saghalien Island, but was quickly followed by the Fuji Paper Mills, Ltd., and the Karafuto Industrial Co., Ltd. The industry was just getting well settled when the Great War broke out and prosperity was forced

upon it. Importations of foreign-style paper was practically stopped. Demand at home advanced, exports increased and the industry expanded at a great speed. The production of foreign-style paper in 1881 was only 3,968,000 lbs., it increased to 327,614,000 lbs. in 1914, 519,141,000 lbs. in 1919, 317,383,000 lbs. in 1924, and 1,418,187,000 lbs. in 1929.

In 1932 the Oji Paper Mills, Fuji Paper Mills and Karafuto Industrial Company were merged into one firm under the name of the Oji Seishi Kabushiki Kaisha (Oji Paper Manufacturing Company, Ltd.). It has a subscribed capital of ¥300,000,000, and is virtually monopolistic having control over 80% of the total paper production in the country and producing about 85% of the total foreign-style paper. The real strength of the Oji Paper Manufacturing Co., Ltd. lies in its almost complete monopoly of pulp production. In 1939 it turned out 1,621,200,000 lbs. of paper and 528,586,000 lbs. of pulp, which was equivalent to 80 per cent of domestic production.

The economic control since 1937 was aimed at the expansion of the heavy industries at the sacrifice of various peacetime industries. But the paper manufacturing industry in Japan is one of the best organized and voluntarily controlled enterprises in the country and it has been able to cope with the emergency period with the minimum amount of sacrifice on its part. The conditions of paper industry and trade in 1940, were steady, and the profits earned by companies increased inspite of further strengthening of State control on the manufacture and consumption of high grade papers in the year. (See Chapter X.)

1 Paper mulberry. 2 Golden flowered Edgeworthia (Edgeworthia chrysantha). 3 An indigenous plant (Wikstroemia sikokiana).

Supply and Demand According to the report of the Japan Paper Manufacturers' Association the production of paper during 1940 by 9 member companies reached 1,961,238,000 lbs., the



quantity sold being 1,935,674,000 lbs., a decrease of 56,432,000 lbs. or 2.7 per cent in the former and 100,226,000 lbs. or 4.9 per cent in the latter as compared with the previous year. But the pro-

duction and sale of printing papers for the publication of books increased, while those of papers for daily press decreased as given in the following table:

#### PRODUCTION AND SALE OF FOREIGN STYLE PAPERS IN THE PAST FIVE YEARS

(9 member companies of the Japan Paper Manufacturers' Association)  
(Unit: 1,000 lbs.)

Year	Printing Paper		Paper for Daily Press		Others		Total	
	Production	Sale	Production	Sale	Production	Sale	Production	Sale
1937	655,573	616,599	825,189	811,291	648,264	604,983	2,129,026	2,032,873
1938	400,799	483,388	857,463	852,896	690,193	694,123	1,948,455	2,030,407
1939	384,839	391,819	873,218	869,757	759,614	774,324	2,017,670	2,035,900
1940	445,437	432,035	815,264	807,003	700,537	696,646	1,961,238	1,935,674
1941	650,686	639,538	726,722	692,921	626,055	610,833	2,003,463	1,943,292

**Decrease of Imports** The imports of paper in 1939 amounted only to 2,730,000 lbs., a remarkable decrease of 81 per cent as compared with the previous year. The main reason is to be found in the strict trade control by the Government over the peace time goods,

especially in the case of imports.

**Increase of Exports** But the exports of paper in 1939 amounted to 418,588,000 lbs., an increase of 27.6 per cent over the previous year. Of the total amount, 371,292,000 lbs. or 88 per cent went to the yen bloc areas.

#### PRODUCTION OF PAPER SINCE 1930

(Factory Statistics by the Ministry of Commerce and Industry)  
(Quantity in 1,000 kg. and value in ¥1,000)

Year	Printing Paper		Copying Paper		Drawing Paper		Wrapping Paper	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1934	379,062	84,167	11,684	4,216	3,402	1,980	39,180	10,327
1935	408,671	90,263	17,854	5,480	6,678	2,126	49,049	11,028
1936	434,743	94,795	19,850	5,770	5,103	1,563	57,079	14,862
1937	519,898	119,355	27,788	8,723	5,511	2,071	70,706	21,234
1938	495,504	121,371	19,229	9,435	2,986	2,069	57,577	21,550

Year	Match Paper		Cigarette Paper		Art Paper		"Hanshi"	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1934	2,787	711	5,658	4,410	15,091	5,655	2,838	6,924
1935	6,815	1,825	10,285	7,480	11,268	3,976	1,953	6,690
1936	5,170	1,405	14,165	9,659	12,537	4,081	3,558	6,080
1937	3,455	1,011	14,281	11,547	14,061	5,381	2,154	9,797
1938	5,808	1,975	16,650	13,978	11,696	5,137	5,000	13,263

Year	"Minogami"		"Torinoko" and Imitation Paper		Board		Others and Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1934	305	1,010	4,174	198,502	20,079	200,923		
1935	339	1,755	6,438	256,336	27,004	224,780		
1936	358	1,410	6,952	265,238	27,973	250,983		
1937	323	1,720	9,853	337,492	38,503	335,046		
1938	758	4,030	9,767	247,558	33,688	364,048		

#### CONSUMPTION OF FOREIGN-STYLE PAPER

(Statistics of the Japan Paper Manufacturers' Association)

(Quantity in 1,000 lbs.)

Year	Production	Imports	Exports	Consumption	Consumption per Capita
1934	1,591,474	138,556	101,523	1,643,542	22.6
1935	1,719,637	167,482	112,899	1,764,976	26.8
1936	1,825,848	193,664	126,559	1,889,641	25.6
1937	2,129,026	135,092	135,653	2,041,665	29.0
1938	1,948,455	14,358	146,101	1,859,566	25.4
1939	2,017,670	2,723	230,454	1,774,168	24.3
1940	1,961,238	—	—	—	—

Note: The figures for consumption are made out by deducting stocks at year end.

#### PRODUCTION OF CELLOPHANE

Year	Production		Year	Production	
	Qty in kg.	Value in yen		Qty in kg.	Value in yen
1931	64,575	176,170	1935	2,382,433	3,940,716
1932	147,000	473,634	1936	3,458,535	6,118,818
1933	574,029	2,008,057	1937	2,395,974	9,645,146
1934	726,842	3,414,839	1938	2,215,865	7,746,403

Note: The value is included in the total of the above table.

#### Production of Hand-Made Japanese Paper

The production of hand-made Japanese paper in 1940 totalled 8,260,495 kwan valued at ¥72,853,427, according to a survey by the Japan Federation of Hand-Made Japanese Paper Industrial Associations. This federation comprises 62 associations with a total membership of 11,609 involving 17,331 manufacturing machines.

The Japanese-style paper industry, although having been greatly oppressed by foreign-style paper, made a remarkable development at the time of the Russo-Japanese War and was very active during the World War I when the domestic demand for Japanese-style paper greatly increased. Compared with foreign-style paper, however, the existence of Japanese-style paper was very insignificant both in production and consumption. The returning prosperity of the Japanese-style paper industry in recent years has been well noted in the

steady increase of the area of fields where paper-mulberry and Edgeworthia corymbosa, two cardinal materials for Japanese-style paper production, are planted. There is little doubt, however, that hand-manufacturing has been steadily replaced by machine-manufacturing in Japanese-style paper circles in general, except in the production of a few particular items such as material paper for mimeograph or Tengu paper. Thus, the production of hand-made Japanese-style paper, which accounted for 79 per cent of the total production of Japanese-style paper in 1925, dropped to 34 per cent in 1932. This tendency is not so remarkable in the case of Kochi Prefecture, the largest Japanese-style paper producing center. In that prefecture, the hand-made Japanese-style paper accounted for 49 per cent of the total Japanese-style paper output in 1933, 39 per cent in 1934, 40 per cent in 1935, 44 per cent in 1936 and 45 per cent in 1937.

Details follow:

#### PRODUCTION OF HAND-MADE JAPANESE-STYLE PAPER, 1940

Items	Quantity in Kwan	Value in Yen
Shoji-gami (Sliding-Screen Paper)	1,459,148	16,482,011
Kaiyoshi (Improved Paper)	912,763	10,312,823
Nishinouchi, Hosokawashi and likes	556,802	5,813,421
Yanliri or Shagoshi	658,480	4,835,896
Tengushi	149,638	4,479,750



Items	Quantity in Kwan	Value in Yen
Kozu Hanshi	405,853	3,504,331
Material Paper for Mimeograph Original	107,318	3,351,530
Toilet Paper	630,231	3,063,400
Paper for Umbrella	259,159	2,542,222
Drawing Paper, etc.	144,489	2,360,350
Hosho	458,580	2,329,052
Senkashi	272,249	2,288,747
Wall Paper	320,741	1,923,629
Remanufactured Paper	533,028	1,456,440
Material Paper for Imitation Leather	117,375	1,212,769
Chinese Drawing Paper and Rice Paper	53,240	620,150
Oil Paper for Japanese Umbrellas and as Substitute for Glass for Green Houses	132,467	943,852
Filter Paper	67,905	604,371
Paper Bags	88,680	371,706
Lantern Paper	17,915	234,907
Others	914,434	4,111,504
Total	8,260,495	72,853,427

## PRODUCTION OF PULP

(Forest Bureau, Ministry of Agriculture and Forestry)

(In tons)

Year	In Japan	In Manchoukuo	Total	Year	In Japan	In Manchoukuo	Total
1934	708,996	13,737	722,733	1937	886,978	15,011	901,989
1935	757,477	13,718	771,195	1938	955,229	37,672	992,901
1936	802,565	13,171	815,736	1939	1,053,619	60,300	1,113,919

## IMPORTS OF PULP

Country of Origin	Quantity (in ton)				Value (in ¥1,000)			
	1936	1937	1938	1939	1936	1937	1938	1939
U.S.A.	153,735	188,115	51,511	49,319	31,758	49,181	15,111	18,767
Canada	27,748	51,929	16,787	9,209	4,150	12,619	5,046	2,034
Sweden	56,228	121,681	24,849	14,064	9,735	26,993	6,276	4,191
Norway	55,778	62,146	18,145	26,731	14,621	17,071	5,400	9,387
Others	32,979	42,737	29,616	68,128	6,842	10,855	9,227	22,159
Total	326,467	466,608	140,908	167,451	67,107	116,720	41,059	56,537

## SUPPLY AND DEMAND OF PULP FOR PAPER

(Forest Bureau, Ministry of Agriculture and Forestry)

(Unit in ton)

	Production	Imports	Consumption		Production	Imports	Consumption
1932	547,520	64,208	676,256	1936	747,355	157,358	900,576
1933	614,139	107,774	738,458	1937	829,684	176,131	1,003,215
1934	691,836	140,261	786,399	1938	851,876	29,705	882,000
1935	724,042	143,534	843,945	1939	896,548	26,733	823,115

## Fertilizers

The problem of food in Japan is a serious one. The Japanese population is increasing yearly by about a million, but the amount of food produced in the country is not enough to feed them.

Besides, the arable land in the country is so small and limited that hardly any space is left to effect any further increase, and the only method left, beyond extending abroad, is to increase the

yield of crops through intensive farming. And, since January 1940, the Government is encouraging the producers of important chemical fertilizers by giving subsidies so that they may produce at least 80 per cent of demand in 1940-41.

## General Condition of the Industry

**Chemical Fertilizers.** Of all the chemical fertilizers, superphosphate of lime and sulphate of ammonia are the two representative ones, and because of the largeness of their demand and supply the market trend of these two is practically the market trend of the rest.

**Superphosphate of Lime** The principal raw material for the manufacture of superphosphate of lime is phosphate rock. During 1930 some 570,000 tons were imported, while some 63,385 tons were produced at home, and during 1937 and 1938 imports were 922,317 and 564,175 tons respectively. This rock is imported from the U.S.A., Egypt, and the South Sea Islands.

Superphosphate production has been gaining steadily, 1939 production reaching 1,460,396 metric tons valued at ¥74,561,922, record high in value. Production during the past few years is reported by the Ministry of Agriculture and Forestry as follows:

1932	1,041,497
1933	1,116,573
1934	1,126,149
1935	1,331,616
1936	1,437,196
1937	1,582,985
1938	1,234,060
1939	1,460,396

Supply and demand of superphosphate in recent years follow:

	Production (1,00 tons)	Exports and Re-exports	Consumption in Japan Proper
1930	957	35	922
1931	862	32	808
1932	1,041	61	960
1933	1,116	106	1,009
1934	1,126	121	1,004
1935	1,331	151	1,150
1936	1,437	168	1,242
1937	1,582	170	1,379
1938	1,234	197	1,036
1939	1,460	191	1,276

**Sulphate of Ammonia** The demand for sulphate of ammonia has steadily increased for years. Consumption in 1930 was 488,000 tons, in 1936 it showed a remarkable increase to 1,050,388 tons. The decrease in imports was made good by the increase in domestic production, which in 1938 passed the 1,000,000 ton mark. Japan, in this manner, has become self-supporting in sulphate of ammonia.

Supply and demand of ammonium sulphate in Japan in recent years follow:

## PRODUCTION OF SUPER-PHOSPHATES

(In metric ton)

1930	957,159
1931	862,401

	Production	Imports	Imports from Territories (In metric ton)	Exports	Exports to Territories	Consumption in Japan Proper
1935	611,751	238,598	71,551	5,992	103,294	812,614
1936	880,262	314,131	56,436	18,417	182,024	1,050,388
1937	931,821	224,208	17,315	7,512	180,840	934,995
1938	1,463,875	295,823	70,504	24	262,398	1,573,780
1939	1,392,814	82,339	129,355	30	197,429	1,407,049

**Lime Nitrogen** While lime nitrogen was a fertilizer difficult to make farmers use it, they now recognize the merit of this nitrogenous fertilizer, and owing perhaps to its reasonableness in price, its consumption increased with a great stride. In 1931 its consumption was 168,448 tons and in 1938 it increased

to 286,583 tons. Production increased rapidly too. While in 1924, it barely amounted to about 121,000 tons, it increased up to 290,398 tons in 1936, more than two times as large. 1939 production was 215,270 tons valued at ¥17,341,340.



SUPPLY AND DEMAND OF LIME  
NITROGEN

(In metric ton)

Year	Quantity	Consumption
1934	197,252	169,071
1935	260,632	223,171
1936	290,398	240,119
1937	323,508	286,251
1938	306,846	286,583
1939	215,270	215,270

**Vegetable Fertilizers** Vegetable fertilizers are many in kind. Bean cake, rape-seed cake, cotton-seed cake, rice bran, etc., come into this class of fer-

tilizers, bean cake being the most important.

**Bean Cake** The domestic production of bean cake is very small when compared with the quantity imported, the greater part of which comes from Manchoukuo. In 1916 the consumption of bean cake was 807,975 tons, which, by 1926, increased to 1,510,088 tons, but since then no increase can be noted as the development of the synthetic nitrogen industry has cut deeply into the development of vegetable fertilizer industry.

Supply and demand of bean cake for 1935-1939 were:

## SUPPLY AND DEMAND OF BEAN CAKE

(In metric ton)

Year	Production	Imports from		Exports to		Consumption in Japan Proper
		Imports	Territories	Exports	Territories	
1935	226,876	431,978	87,051	2,431	368	714,373
1936	248,733	376,783	121,931	2,384	848	722,165
1937	261,738	394,815	41,262	3,747	584	693,484
1938	327,716	629,054	27,152	2,428	432	975,062
1939	364,586	849,202	32,083	2,530	62	1,243,279

**Fish and Animal Fertilizers** In Japan fish is indispensable as food, but at the same time they are caught for oil extraction and the refuse is converted into manure.

In addition to chemical, vegetable and animal fertilizers, a great quantity of self-supplied fertilizers are supplied and consumed.

## VALUE OF FERTILIZERS PRODUCED IN JAPAN PROPER

(Fertilizers which require a licence for production)

(Unit ¥1,000)

Year	Animal	Vegetable	Chemical	Mixed	Miscellaneous	Total
1935	27,612	36,395	150,988	53,528	100	268,625
1936	34,738	41,271	179,178	57,802	113	313,105
1937	38,687	53,676	221,177	70,631	830	385,003
1938	34,525	63,729	239,261	105,895	1,112	444,522
1939	60,685	95,015	210,830	113,558	2,350	482,438

## CONSUMPTION OF FERTILIZERS IN JAPAN PROPER

(Unit: ¥1,000)

Year	Fertilizers Sold on the Market					Self-supplied Fertilizers	Grand Total
	Manufactured under Licence	Manuf'd without Licence	Balance of Exports & Imports	Raw Materials for mfg. Fertilizers	Total		
1935	263,625	22,000	71,014	84,938	276,701	328,560	605,261
1936	313,105	27,000	76,434	91,594	324,945	354,200	679,145
1937	385,003	33,000	70,314	117,524	370,794	387,740	758,534
1938	444,522	48,000	81,847	142,590	431,779	441,530	873,309

## Caustic Soda, Soda Ash, Bleaching Powder

**Soda Ash** Soda ash occurs in its natural state in some parts of the world, but in this country it has to be prepared from salt, and as salt is a Government monopoly the price is high, so when the Asahi Glass Company, in order to attain self-sufficiency, started the production of soda ash after the World War it did so on uneconomic basis, but the Government came along and by granting liberal subsidies to this and other concerns saved the industry and put it on a paying basis. Brunner, Mond and Company (British) and H. Ahrens and Company (German), who used to be the largest importers, were hit hard by this development in home production. The history of the growth of the soda ash industry in Japan is the history of strife between the Asahi Glass Company, backed by

the Mitsubishi interests and protected by the Government, and these foreign concerns.

**Caustic Soda** In the past the commercial production of caustic soda was only possible if a good price was obtained for bleaching powder. The industry, therefore, was greatly dependent on this latter commodity for quantity production. As soda ash is now being produced cheaply, caustic soda is being manufactured from it so domestic production is increasing.

**Bleaching Powder** The demand for bleaching powder has become active since an improvement was registered by the paper manufacturing companies. The business solely depends on the rise and fall of the foreign-style paper manufacturing industry.

## PRODUCTION AND IMPORTS OF SODA ASH

Year	Production		Imports		
	(In metric ton)		(In metric ton)		
1934	170,622	37,139	1937	377,000	46,276
1935	364,613	38,308	1938	331,307	21,584
1936	367,205	40,895	1939	294,931	19,232

## PRODUCTION, IMPORTS AND EXPORTS OF CAUSTIC SODA

Year	Production	Exports		Imports	Supply
		(In metric ton)			
1935	233,288	17,495	19,936	235,729	
1936	284,999	23,911	11,587	272,677	
1937	362,141	3,676	27,429	384,005	
1938	440,316	11,615	266	428,967	
1939	423,182	24,283	0	398,899	

Note: As to the value see the table given at the end of this chapter.

## PRODUCTION AND EXPORTS OF BLEACHING POWDER

Year	Production			Exports			Supply
	(In metric tons)			(In metric tons)			
1934	66,155	4,247	61,908	1937	91,283	6,990	84,293
1935	77,080	6,489	70,591	1938	77,286	2,950	74,336
1936	79,228	8,505	70,723	1939	83,258	6,479	76,779

## Soap Making

## Development and Production

The industry was started early in the Meiji Era, but no great progress was made until after the Russo-Japanese War of 1904-1905, when machinery was introduced from abroad. During the World War, the industry enjoyed great prosperity, but the reaction was also very severe when it came in 1920. However, during those difficult times, the foundation of the industry became more

consolidated and the quality of soap improved a great deal.

Production of soap in Japan is as per the accompanying table. Tokyo and Osaka are the two principal places of production, the former producing about 50% of the total production in the country, while Osaka produces about 30%. Exports of soap amounted to ¥17,413,000 in 1939, against ¥7,837,000 of the previous year.



## CHEMICAL INDUSTRY

## PRODUCTION OF SOAP BY KIND

(In ¥1,000)

Year	Tollet	Industrial	Medical	Laundry	Powdered	Others	Total
1934	21,407	1,932	377	13,756	3,331	2,037	42,843
1935	23,326	3,295	477	15,537	4,127	3,491	50,258
1936	23,249	3,742	306	18,223	3,470	2,915	51,908
1937	27,229	4,527	338	18,410	3,987	594	55,087
1938	29,717	4,524	619	29,355	5,800	2,179	72,196

## Vegetable and Animal Oils and Tallow

## Introduction

For lighting purposes vegetable oils have been used in Japan for centuries. In earlier days perilla oil was used but this was later replaced by rapeseed oil. The production of these oils on an industrial basis only developed after the Russo-Japanese War of 1904-1905.

Production of hardened oil in Japan during 1938 amounted to 108,088 metric tons in contrast to 97,132 metric tons in 1937. It is used mostly for soap making, candles and dietary purposes. Even during the time that Japan was on gold, hardened oil was exported, so after the gold embargo was imposed exports increased.

The principal vegetable oils produced are soya bean and rapeseed oils. Linseed oil, perilla oil, hempseed oil, wood oil, sesame oil, cotton-seed oil, castor oil, groundnut oil, copra oil, camellia oil, etc., are also produced in considerable quantities. The production of soya bean oil in 1938 was 65,710 metric tons and rapeseed oil was 23,674 metric tons.

Of the principal vegetable oils produced in Japan, only wood and camellia oils and vegetable wax are pressed from domestically grown seeds, all the others are pressed from materials from abroad, the amount of imports in 1939 reaching ¥31,982,000.

Statistics for the vegetable and animal oil industry follows:

## PRODUCTION OF VEGETABLE OILS

(Compiled by the Ministry of Commerce and Industry)

(In yen)

Year	Rapeseed Oil	Sesameseed Oil	Groundnut Oil	Cottonseed Oil	Copra Oil	Soya Bean Oil
1934	13,676,703	2,010,393	487,009	3,169,850	2,648,436	14,054,936
1935	20,019,129	2,835,750	595,030	7,129,750	5,376,497	15,329,198
1936	22,722,629	4,093,982	383,134	1,304,904	5,658,785	18,986,848
1937	15,187,205	4,282,440	795,892	11,203,765	6,605,668	21,406,566
1938	14,430,848	3,662,453	3,845,874	4,131,408	8,999,893	22,297,902

(In yen)

Year	Linseed Oil	Perilla Oil	Paulownia Oil	Camellia Oil	Other Oils	Total
1934	3,903,933	4,998,884	250,286	402,232	3,402,745	49,605,407
1935	3,691,897	10,494,970	227,418	439,392	6,743,334	72,882,365
1936	3,874,551	17,929,318	344,452	470,853	9,432,094	91,201,550
1937	2,257,634	10,851,487	362,480	532,615	21,782,918	95,268,660
1938	1,968,843	6,655,260	526,778	502,743	10,612,821	77,634,823

## OILS AND TALLOW

## PRODUCTION OF ANIMAL OILS AND TALLOW

(In yen)

Year	Cod Oil	Herring Oil	Sardine Oil	Whale Oil	Other Fish Oils
1934	300,741	23,547	602,816	672,638	980,416
1935	1,158,270	19,770	829,438	989,018	5,257,055
1936	2,366,108	16,506	6,056,412	1,617,192	4,669,603
1937	1,714,517	41,720	3,549,421	1,956,365	12,792,003
1938	1,627,459	14,814	4,294,824	2,111,815	7,865,834

(In yen)

Year	Puna Oil	Beef Tallow	Pork Tallow	Other Animal Tallow	Total
1934	110,803	630,051	287,470	791,678	4,400,160
1935	200,569	2,696,112	378,103	889,938	12,418,273
1936	262,013	943,558	450,064	387,030	16,768,476
1937	349,630	1,508,276	534,257	411,113	22,857,302
1938	1,174,886	1,174,494	409,128	1,379,296	20,055,550

## PRODUCTION OF VEGETABLE WAX, CANDLES, AND MANUFACTURES OF OILS

(In yen)

Year	Wood Wax	Candles	Boiled Oil	Hardened Oil	Hardened Oleine Wax	Oleine	Stearine	Total of Manufactures
1934	1,705,148	5,095,485	3,373,463	13,223,601	404,608	693,608	3,895,385	21,590,665
1935	2,228,715	5,201,888	5,837,861	19,173,264	254,064	563,137	5,480,962	31,309,288
1936	2,463,958	7,057,847	7,172,709	21,849,043	440,692	605,173	5,028,891	35,096,508
1937	1,694,821	7,250,847	4,337,093	27,545,731	101,094	684,425	7,209,146	39,877,489
1938	2,554,768	9,099,999	6,625,830	30,670,785	434,635	491,444	4,656,372	42,979,066

## IMPORTS OF VEGETABLE AND ANIMAL OILS, TALLOW AND MANUFACTURES THEREOF

(In yen)

Year	Olive Oil	Other Vegetable Oils	Beef Tallow	Hardened Oil	Total including Others
1935	908,625	—	2,340,363	—	—
1936	749,000	6,891,000	1,644,000	124,000	197,509,000
1937	1,234,000	9,720,000	1,949,000	104,000	297,878,000
1938	713,000	2,312,000	431,000	843,000	326,934,000
1939	253,000	2,437,000	117,000	1,281,000	262,518,000

## EXPORTS OF VEGETABLE AND ANIMAL OILS, WAX, AND MANUFACTURES THEREOF

(In yen)

Year	Perilla Oil	Bean Oil	Rapeseed Oil	Fish Oil	Whale Oil	Vegetable Wax	Hardened Oil
1935	10,052,610	1,420,350	11,212,126	6,264,542	628,609	1,444,583	8,920,875
1936	14,951,000	931,000	10,547,000	9,306,000	874,000	1,812,000	10,002,000
1937	5,683,000	1,918,000	3,409,000	14,548,000	751,000	2,244,000	10,195,000
1938	1,287,000	329,000	2,095,000	—	6,902,000	1,475,000	4,651,000
1939	4,259,000	3,546,000	5,101,000	—	5,802,000	2,809,000	4,393,000



## Rubber Industry

The rubber industry in Japan began with the establishment in 1886 of the Mitatsuchi Rubber Company, a limited-partnership concern, in Tokyo. The industry developed steadily through the Sino-Japanese and the Russo-Japanese Wars of 1894-1895, and 1904-1905. In 1909 there were 20 mills, 900 workers and production reached ¥4,000,000 in value. During the World War the industry further developed. The earthquake of 1923 destroyed about 80% of the rubber manufacturing capacity of

Tokyo and Yokohama districts, and many people were gravely doubtful as to whether the rubber factories in those districts would ever revive, but reconstruction quickly took place and the factories rebuilt. In 1937 the total production in the country by mills employing more than 5 persons was as large as ¥184,764,000 in value, but the figure would be much larger if goods produced by people working in their own homes were included.

## PRODUCTION OF RUBBER MANUFACTURES IN JAPAN

## Soft Rubber Manufactures

(Value in ¥1,000)

Year	Shoes and Other Footwear		Toys	Tyres and Accessories	For Machinery
	Pairs	Value			
1934	44,305,294	25,102	3,547	40,588	491
1935	54,802,185	28,973	4,619	45,907	1,132
1936	44,390,727	31,790	4,984	51,066	859
1937	64,636,802	45,820	5,024	75,086	2,521
1938	55,395,702	36,988	4,864	60,459	8,387

Year	Soft Rubber Manufactures			Total	Hard Rubber Manufactures	Grand Total
	Belts	Rubber Pipes	Others			
1934	7,165	3,448	20,159	100,503	2,715	103,218
1935	8,262	4,422	23,113	116,406	2,620	119,026
1936	8,749	5,230	29,047	131,729	3,558	135,287
1937	13,871	7,560	44,011	193,896	7,814	201,710
1938	17,083	10,550	38,387	176,921	7,843	184,764

## IMPORTS OF RAW RUBBER AND EXPORTS OF PRINCIPAL RUBBER MANUFACTURES

(In yen)

Year	Imports of Raw Rubber	Exports of Principal Rubber Manufactures			
		Boots & Shoes	Tires for Rikisha, Bicycles & Other Vehicles	Toys	Belts, Hoses, etc.
1934	57,337,000	3,332,000	9,994,000	6,406,000	5,216,000
1935	51,636,065	2,699,337	9,945,667	4,195,171	6,568,000
1936	72,957,000	1,832,000	9,939,000	4,641,000	7,424,000
1937	99,217,000	2,886,000	12,983,000	4,279,000	10,215,000
1938	51,374,000	1,568,000	7,799,000	2,197,000	9,964,000
1939	57,490,000	563,000	9,562,000	2,383,000	13,823,000

## Celluloid

## General

The Japanese celluloid industry made considerable development during the World War. Owing to a heavy demand coming from European countries, where factories were closed by the War, Japanese celluloid products once dominated the world's markets, but with the termination of the War, foreign products quickly regained their position in the markets captured by Japan during the War, and for some years the industry was in a state of depression. Gradually penetration was effected by traders and exporters, and overseas markets were largely restored, especially after the replacement of the gold embargo in December 1931. The domestic market has been prosperous for many years, without being affected very much by changes in economic conditions.

The Dai Nippon Celluloid Kaisha is the largest manufacturer, with a subscribed capital of ¥20,000,000. 75 per

cent of the total production in Japan comes from this company, while the remaining 25 per cent is divided among about ten small manufacturing concerns. The company, which has a virtual monopoly of celluloid manufacturing in this country, concentrates its energies on exporting. Nearly 80 per cent of Japan's total exports of celluloid are the produce of this company.

The company is also the largest shareholder of the Fuji Photo-Film Company established in 1934 with a capital of ¥10,000,000. This company has a capacity of producing 150 million feet, and nearly monopolizes the manufacture of films in Japan, which amounted to ¥14,270,000 in 1939; the other film producing company being the Oriental Photo Industrial Company capitalized at ¥4,300,000.

Statistics Production of raw celluloid, celluloid manufactures, and exports of the same follow:

## PRODUCTION OF CELLULOID AND MANUFACTURES THEREOF

Year	Raw Celluloid		Toys	Manufactures			Grand Total
	Quantity in metric ton	Value		Combs	Others	Total	
1934	10,393	20,277	1,636	1,000	4,640	7,307	27,644
1935	13,033	24,649	1,975	1,208	6,208	9,392	34,042
1936	13,813	24,439	1,989	1,169	5,796	8,956	33,396
1937	14,227	25,391	3,408	2,486	6,985	12,879	38,270
1938	11,902	24,000	1,833	1,979	8,999	12,812	36,902

## EXPORTS OF RAW CELLULOID AND MANUFACTURES THEREOF

Year	Raw Celluloid		Toys	Manufactures			Total	Grand Total
	Quantity in metric ton	Value		Combs	Armlets	Others		
1934	1,804	3,303	3,708	4,260	—	3,223	11,191	14,494
1935	2,033	3,469	6,054	4,414	1,983	3,089	15,550	19,021
1936	2,242	3,717	6,338	3,857	1,815	4,271	16,280	19,997
1937	2,100	3,952	7,606	4,854	2,711	5,403	20,574	24,576
1938	1,225	2,730	4,841	2,851	1,664	4,044	13,400	16,130
1939	1,203	3,152	4,510	2,596	1,294	4,162	12,562	15,714
1940 (Jan.-Sept.)	1,174	3,714	3,627	1,868	690	2,138	8,323	12,037

## Dyestuffs

Through Governmental protection extending over many years, the Japanese dyestuff industry is now well established. Japan supplies 99 per cent of all sulphuric dyes demanded domestically. Concerning ratios of high-grade dye supplies, Japan can supply 80 per

cent of miscellaneous dyes, 85 per cent of acid dyes, 88 per cent of mordant dyes and 94 per cent of vat dyes for internal use. Research in producing these dyes is under way by the Mitsui Mining and Japan Dyestuff Manufacturing Companies. The Teikoku Senryo-



(Imperial Dyestuffs Manufacturing) Company is another producer of dyestuffs capitalized at ¥5,000,000.

On account of the development of the iron manufacturing industry, Japan is now well provided with coal-tar, material required for the production of dyestuffs. Accordingly, efforts are now being made to promote the dyestuff industry with a view to making the country self-sufficient and self-supplied in dyestuffs.

Imports of dyestuffs are decreasing, because of State control of trade and the advance of the industry in Japan, although somewhat increased in 1939 as shown below:

## IMPORTS OF DYESTUFFS

Colors	1937	1938	1939
	(In ¥1,000)		
Basic	1,246	145	217
Direct	4,708	834	1,308
Acid	2,537	644	803
Mordant and Intermediate	2,651	389	364
Vat	4,079	366	399
Others	1,707	460	416
Total	16,928	2,838	3,507

Note: The total quantity was 2,257 metric tons in 1937, 253 metric tons in 1938 and 306 metric tons in 1939.

The domestic production of dyes during 1938 compared with the preceding four years and exports of Japan-made dyes since 1934, follow:

## PRODUCTION OF SYNTHETIC DYESTUFFS

Year	Basic		Direct		Acid		Mordant	
	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000
1934	765	4,266	2,183	6,816	554	2,091	178	750
1935	677	3,774	2,700	7,726	756	2,781	341	1,400
1936	694	4,569	2,098	8,808	977	3,984	264	1,200
1937	1,058	5,541	3,812	13,584	775	3,831	493	2,000
1938	892	4,908	4,591	18,985	675	4,509	438	2,765

Year	Sulphide		Artificial Indigo		Vat Colors		Others and Total	
	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000	Quantity 1,000kg.	Value ¥1,000
1934	12,144	5,107	1,724	3,803	28	400	27,446	
1935	12,450	4,673	2,816	5,760	26	627	31,265	
1936	11,198	3,684	1,740	4,794	29	506	33,721	
1937	13,160	5,410	2,228	6,264	323	1,303	45,140	
1938	18,879	9,148	1,624	4,170	387	2,080	50,039	

## PRODUCTION OF ANILINE AND INTERMEDIATES

Year	Aniline		Others and Total
	Quantity in 1,000kg.	Value in ¥1,000	
1934	3,821	3,033	8,492
1935	4,043	2,924	12,077
1936	3,943	2,328	13,115
1937	4,788	5,081	25,581
1938	7,050	10,670	44,382
1939 (estim.)	6,143	8,799	—

**Indigo** Indigo is one of the indispensable dyestuffs for dyeing Japanese cloth and the material is obtained from

## EXPORTS OF SYNTHETIC DYESTUFFS

Year	Quantity in metric ton	Value in ¥1,000
	1934	6,423
1935	8,882	7,304
1936	7,000	5,990
1937	6,062	6,269
1938	6,749	7,768
1939	13,218	18,532

various grasses. The production of this natural material was as follows:

## PRODUCTION OF INDIGO BALLS

Year	Coarse Indigo		Indigo Balls		Year	Coarse Indigo		Indigo Balls	
	Quantity Metric Value ton ¥1,000	Quantity Metric Value ton ¥1,000	Quantity Metric Value ton ¥1,000	Quantity Metric Value ton ¥1,000		Quantity Metric Value ton ¥1,000	Quantity Metric Value ton ¥1,000		
1933	1,181	396	298	83	1936	1,169	347	320	109
1934	1,176	314	326	105	1937	1,182	346	322	112
1935	1,128	303	269	87	1938	1,493	408	322	78

## Pyrethrum

Hokkaido is noted for producing the pyrethrum flower, the raw material for anti-insect powder largely used for making mosquito incense and anti-bed bug powder. Pyrethrum was formerly exported through Kobe merchants, but owing to inconvenience the Hokkaido Government encouraged direct shipments from Hokkaido, the first direct shipment being made in September 1933. The Hokkaido Government also caused pyrethrum manufacturers to organize the Manufactured Pyrethrum Industrial Guild, as the first step to the export of manufactured pyrethrum abroad, which had hitherto been exported in the shape of dried flowers. As an international commodity, manufactured pyrethrum is steadily gaining ground, and under the encouragement of their government, the Hokkaido pyrethrum raisers are manufacturing it for

direct export to the United States, Saigon, Bangkok, Rangoon, Manila, Singapore, Sourabaya, Batavia, Calcutta and Bombay, and to such European markets as London, Hamburg and Paris. Wakayama prefecture is also noted for raising pyrethrum flowers. Production and exports of pyrethrum during the last few years follow:

## PRODUCTION AND EXPORTS OF PYRETHRUM

Year	Production		Exports	
	Quantity Value	Quantity Value	Quantity Value	Quantity Value
1934	7,798 10,574	5,630 7,447	—	—
1935	12,746 7,332	7,665 6,400	—	—
1936	11,051 5,710	5,608 3,207	—	—
1937	9,560 8,214	8,844 7,693	—	—
1938	9,477 12,053	4,621 6,103	—	—
1939	9,574 18,340	3,823 7,149	—	—

## VALUE OF PRODUCTION OF CHEMICAL INDUSTRY

(Unit: ¥1,000)

Industrial Chemicals	1936	1937	1938	Industrial Chemicals	1936	1937	1938
	Sulphuric acid	47,870	68,712		71,075	Chlorine	1,765
Hydrochloric acid	4,372	5,775	6,564	Carbon	402	503	606
Soda ash	23,145	29,227	51,353	Others	496	855	1,299
Washing soda	262	227	497	Total	14,386	14,338	22,137
Carbonate of soda	2,253	2,247	1,530	Acetic acid	5,207	6,617	7,554
Caustic soda	34,026	64,197	91,088	Salicylic acid	367	1,128	1,037
Carbide	36,620	43,893	40,572	Tannic acid	323	334	555
Chromic acid	930	1,109	1,278	Naphthalene	2,109	2,005	2,493
Chromic soda	1,738	1,991	2,655	Acetone	426	641	—
Iodine	260	405	488	Methanol	1,352	2,472	—
Iodide of potassium	297	512	498	Alcohol	2,595	3,049	6,766
Bleaching powder	4,256	5,809	6,792	Ether	987	1,179	1,454
Compressed gas:				Glycerine	10,508	23,136	13,697
Oxygen	9,545	9,599	15,447	Phosphorus	1,379	1,442	1,427
Hydrogen	2,177	1,844	2,903	Glauber's salt	1,532	2,484	2,947
				Sulphide soda	2,108	3,894	4,686
				Silicic soda	1,547	1,798	2,573
				Chloride of potash	112	101	254



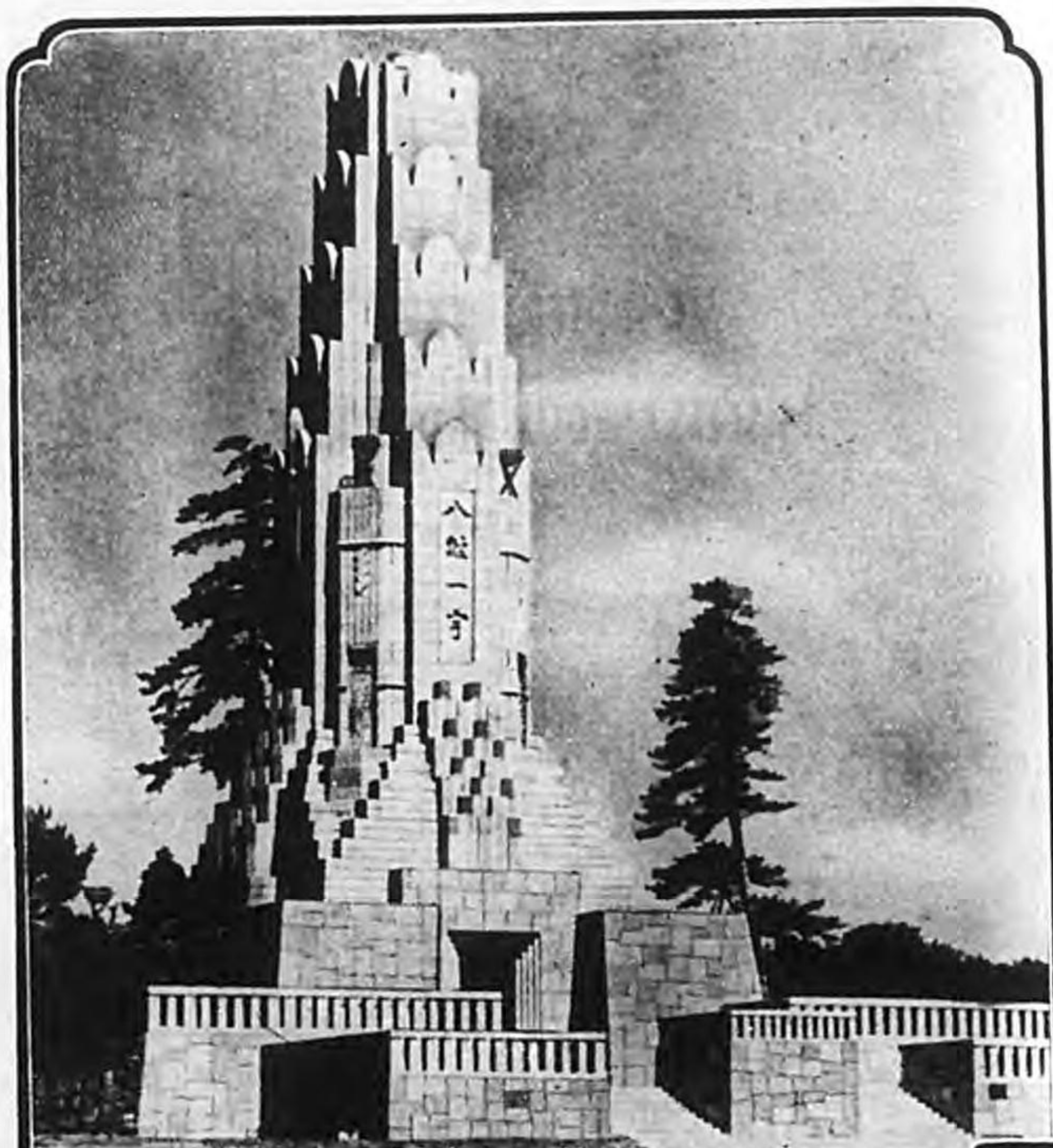
	1936	1937	1938		1936	1937	1938
Niter	1,024	1,522	2,435	Vegetable oil and wax	90,157	100,313	78,951
Ammonium nitrate	536	551	1,632	Camphor	8,931	9,676	8,039
Magnesium carbonate	3,694	4,097	2,868	Camphor oil	1,642	1,281	1,232
Chloride of lead	824	1,738	2,075	Peppermint oil and menthol	9,280	11,149	10,219
Alum	897	1,054	1,414	Other-vegetable volatile oil	876	1,317	1,707
Sulphuric aluminium	1,039	2,112	2,408	Animal oil and wax	16,768	22,857	20,055
Others	119,871	207,359	267,404	Wood-wax	2,463	1,694	2,554
Total of Industrial chemicals	329,467	506,949	621,222	Candles	7,057	7,250	9,099
Medicines	113,319	123,573	155,308	Worked oils	35,096	39,877	42,979
Dyestuffs	46,836	70,730	94,427	Rubber manufactures	135,288	201,710	184,764
Tannin extract	198	388	403	Phenol manufactures	7,447	14,973	19,021
Artificial perfumery	4,943	5,250	5,311	Gramophone disk	19,299	15,263	18,160
Paints:				Pulp	47,796	65,415	81,567
Lacquer	1,072	2,387	2,632	Paper	250,983	335,646	364,048
Varnish	11,318	11,064	16,948	Celluloid	33,396	38,270	36,902
Enamel	6,389	5,940	8,848	Vulcanized fiber	4,017	7,329	8,089
Paint for boats	1,963	2,178	3,384	Rayon yarn	212,974	332,357	407,429
Paint for nitrate cotton	2,383	915	4,078	Film for photograph	4,666	6,715	9,965
Shoe-cream	825	1,222	1,689	Dry-plate	2,042	1,899	3,714
Total including others	37,804	46,105	65,982	Negative paper	4,129	5,546	8,491
Colors:				Fertilizers	291,531	379,883	417,304
Colors for painting	2,771	2,119	2,298	Worked fur	626	1,134	5,336
Indian ink	912	1,347	1,259	Glue and gelatine	5,528	9,084	12,683
Printing ink	8,682	8,967	9,348	Polishing powder	1,860	2,206	2,663
Other ink	4,348	4,844	5,207	Other articles for polishing	3,428	6,247	12,184
Flowers of zinc	6,697	11,208	11,621	Carbon manufactures (Electrode)	12,455	17,441	30,165
Total including others	36,715	45,532	44,743	Coke	(9,581)	12,106	—
Soap	51,908	55,087	72,196		79,278	150,147	203,369
Articles for toilet:				Grand total including others	2,202,362	3,070,245	3,657,418
Perfume	1,297	1,446	2,249				
Perfume oil	3,904	6,093	6,667				
Tooth powder	7,534	11,219	14,865				
Face-paint	7,809	7,871	8,727				
Beauty-wash	3,280	4,684	5,447				
Toilet-cream	9,748	12,217	15,314				
Total including others	43,438	49,292	60,939				
Explosives	25,018	35,918	43,750				

Note: Figures are for production of factories where more than 5 operatives are employed, and do not coincide with figures given elsewhere for certain articles.

## CHAPTER XXII

### MISCELLANEOUS INDUSTRIES





The OHBAYASHI-GUMI and the Board to undertake the Construction of the ATOMIC BOMB MEMORIAL at Miyazaki, Kyushu.

**OHBAYASHI-GUMI, LTD.**

Peerless Builders, Architects and Civil Engineers  
Whose Records Are Unchallenged.

Head Office:

Kyobashi 3-chome, Higashi-ku, Osaka, Nippon

President: YOSHIO OHBAYASHI

**Manshu Ohbayashi-Gumi, Ltd.**

Head Office: MUKDEN

President: YOSHIO OHBAYASHI

ESTABLISHED 1865

**KASHIMA GUMI, LTD.**

**CIVILENGINEERS, CONTRACTORS,  
DESIGNING ARCHITECTS**

Capital Paid-up: ¥3,500,000

Head Office:

3, Maki-cho 2-chome,  
Kyobashi-ku, Tokyo

BRANCHES:

Osaka, Keijo, Sapporo,  
Taiwan



Chairman of the Board  
of Directors:  
SEIICHI KASHIMA

**MANCHOUKUO KASHIMA GUMI, LTD.**

Capital Paid-up: ¥1,500,000

Head Office: 201, Jogoro, Hsinking, Special City